



**TP WESTERN ODISHA
DISTRIBUTION LIMITED**

(A Joint Venture of Tata Power and Government of Odisha)

CAPEX Plan for FY 24-25 & FY 25-26

Detailed Project Report (DPR)

Volume - I

CORPORATE OFFICE

Burla, Sambalpur, Odisha, Pin - 768017

**BEFORE THE HON'BLE
ODISHA ELECTRICITY REGULATORY COMMISSION
BIDYUT NIYAMAK BHAWAN
PLOT NO.4, CHUNOKOLI, SHAILASHREE VIHAR, CHANDRASEKHARPUR,
BHUBANESWAR-751021**

Filing No: 01

In the matter of: An application on submission for approval of Annual Capex Plan of TPWODL for FY 24-25 & FY 25-26 in line with Board approval & compliance to Hon'ble Commission's direction vide para 39 of the Vesting Order dated 28.12.2020 (Case No. 82 of 2020);

AND

In the matter of:

**M/s. TP Western Odisha Distribution Ltd. (TPWODL)
Regd. Office Burla, Sambalpur, Odisha-768017**

AFFIDAVIT

I, Kshirod Chandra Nanda, aged about 54 years S/o Late Radhanath Nanda, presently working as the GM (RA & Strategy), TP western Odisha Distribution Ltd, Corporate Office, Burla do hereby solemnly affirm, and state as follows: -

1. That, I am the authorized representative of the Applicant.
2. That, I have gone through the contents of the present application and am well versed with the facts laid down there-under.
3. That, the facts stated in the present application are true to the best of my knowledge and belief and the same are basing upon available records.

Kshirod Ch Nanda.

DEPONENT

VERIFICATION

Solemnly affirmed at SAMBALPUR on this 27 day of October 2023 that the contents of the above affidavit are true to my knowledge (as derived from the records), no part of it is false and nothing material has been concealed there from.

Kshirod Ch Nanda.

DEPONENT

PLACE: SAMBALPUR The deponent/declarant

DATE: 27.10.2023 solemnly affirmed before
me the day at 8:15 P.M.

K.P. Mishra
K.P. Mishra
Notary
Reg. No. UN 23/94
Sambalpur



Sl. No. 1418
Dt. 27/10/2023
27/10/2023
K.P. MISHRA
Notary
Reg. No. UN 23/94
Sambalpur, Odisha

**BEFORE THE HON'BLE
ODISHA ELECTRICITY REGULATORY COMMISSION
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AND

In the matter of:

**M/s. TP Western Odisha Distribution Ltd. (TPWODL)
Regd. Office Burla, Sambalpur, Odisha-768017**

Most Respectfully Sheweth,

1. That, TPWODL has taken over the distribution business from erstwhile WESCO utility w.e.f. 01.012021 in accordance with the terms of Vesting Order.
2. That, TPWODL has a vast distribution area in western part of Odisha serving population of 88 lacs with a consumer base of more than 21 lacs and covering 48,373 sq.km, across 9 revenue districts of Odisha such as Bargarh, Bolangir, Deogarh, Jharsuguda Kalahandi, Nuapada, Sambalpur, Sonapur and Sundargarh. For effective operations, license area is divided in 5 circles, which is further sub divided in 17 Divisions, 57 Sub-division and 201 Sections which manages the commercial and O&M activities in order to serve its consumer. Ksh mod Ch Nanda
3. That, as per the commitment and mandate of Vesting Order, TPWODL has to invest Rs.1663 Cr towards CAPEX to ensure reliable power supply to the end customer. Since, such a huge investment would adversely affect tariff, so investment has been staggered in 5 years in following manner:

(Rs. Cr.)

FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	Total
306	500	333	322	202	1663

PART OF AFFIDAVIT

Kishor Chandra Nanda
NOTARY
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4. That, upon proposal of TPWODL regarding CAPEX requirement for FY 21-22, FY 22-23 & FY 23-24, the Hon'ble Commission through regulatory proceedings approved the Capital Expenditure for the 3 years vide Order dated 18.09.2021, 08.07.2022 & 21.06.2023 respectively. The following table provides the CAPEX approvals vis-à-vis the TPWODL proposals in the said years:

S. No.	Particulars	FY 21-22	FY 22-23	FY 23-24
1	CAPEX proposed by TPWODL (Rs. Cr.)	462.42	582.18	398.84
2	CAPEX approved by Hon'ble Commission (Rs. Cr.)	333.13	477.72	381.91

5. That, as can be seen from the above table, the cumulative approval provided by the Hon'ble Commission is Rs. 1192.76 Cr. till FY 23-24 out of the Vesting Order committed CAPEX of Rs. 1663 Cr. for 5 years. Accordingly, leaving a balance of Rs. 470.24 Cr. out of committed CAPEX.
6. That, Hon'ble Commission in para 57-c of CAPEX Order for FY 21-22 vide Case No. 07/2021, para 67-k of CAPEX Order for FY 22-23 vide Case No. 101/2021 and para 49-iv of CAPEX Order for FY 23-24 vide Case No. 97/2022 has directed to submit quarterly progress report of approved capex plans. TPWODL is being complying to the direction consistently.
7. That, the progress of CAPEX for FY 21-22 till October 2023 is appended below:

FY 21-22						
Particulars	Description	OERC Approved Budget	Capitalized out of Actual CAPEX	Actual	WIP	Balance
		(Rs. Cr.)				
STATUTORY, SAFETY AND SECURITY	Earthing, Fencing and boundary wall	55.54	52.57	55.15	0.31	0.08
	Life enhancement of feeder network in respect of maintaining safe horizontal / vertical clearances	20.54	17.52	19.18	0.89	0.47
	Meter Testing Lab	10.35	9.31	9.51	0.65	0.19
	Provision of Safety Equipment & PPEs to workforce	12.05	11.75	12.04	0.00	0.01
SUB - TOTAL		98.48	91.14	95.88	1.85	0.75
LOSS REDUCTION	Energy Meter replacement	4.08	3.14	3.96	0.05	0.07
	Refurbishment /augmentation of 33 kV/ 11 kV/ 0.415 kV network to reduce Losses	38.40	35.60	36.83	1.41	0.16
SUB - TOTAL		42.48	38.74	40.79	1.46	0.23
NETWORK RELIABILITY	Augmentation of LV side protection System along with DT LA	12.45	12.34	12.42	0.03	0.00

Required Ch. Number.

FY 21-22						
Particulars	Description	OERC Approved Budget	Capitalized out of Actual CAPEX	Actual	WIP	Balance
	Installation of AB switches/ Isolators/Insulators on 33 kV and 11 kV Network	14.30	12.26	13.07	0.91	0.32
	Pilot Project for Installation of Fault Passage Indicator (FPI)	2.00	0.00	0.00	2.00	0.00
	Refurbishment/Life enhancement of 33/11 kV Primary Substation /Additional New Substations	20.16	12.52	14.77	2.39	3.00
SUB - TOTAL		48.91	37.12	40.26	5.33	3.32
LOAD GROWTH	Network enhancement / Unforeseen emergency Capex requirement	39.71	32.55	36.32	2.96	0.43
SUB - TOTAL		39.71	32.55	36.32	2.96	0.43
TECHNOLOGY AND CIVIL INFRASTRUCTURE	Infrastructure for Customer Care, Call Centre, Payment Centre, and Section Offices	2.04		0.00	0.00	2.04
	Admin	5.00	4.78	4.84	0.14	0.02
	CIVIL	23.62	23.13	23.22	0.33	0.07
	GIS Implementation	5.00	6.38	6.38	0.31	-1.69
	GSAS	9.52	5.97	6.71	0.58	2.23
	IT & Technology for process efficiency	42.02	45.62	45.62	0.00	-3.60
	SCADA Implementation	15.30	15.16	15.16	0.14	0.00
	Security system in Central stores	1.05	1.01	1.01	0.04	0.00
SUB - TOTAL		103.55	102.04	102.94	1.54	0.00*
GRAND TOTAL		333.13	301.60	316.19	13.14	3.80

* The amount is adjusted within sub-heads of Technology & Civil Infrastructure.

Approved by member.

8. That, the progress of CAPEX for FY 22-23 till October 2023 is appended below:

FY 22-23						
Particulars	Description	OERC Approved Budget	Capitalization	Actual	WIP	Balance
STATUTORY, SAFETY AND SECURITY	Boundary Wall & Infrastructure	17.5	16.03	16.67	0.81	0.02
	Earthing and Fencing	15.5	9.42	11.41	2.03	2.06
	Life Enhancement of Network	15.09	7.63	12.07	1.71	1.31
	Testing and Safety Equipment	4.31	3.93	4.29	0	0.02
SUB - TOTAL		52.4	37.02	44.44	4.55	3.41
LOAD GROWTH	Network Enhancement/unforeseen Emergency	145.57	74.64	90.7	45.71	9.16
SUB - TOTAL		145.57	74.64	90.7	45.71	9.16
LOSS REDUCTION	Energy Audit & Meter Related	13.52	1.26	5.42	3.65	4.45
	Replace-LT Bare conductor/ AB cable	30.08	22.77	25	5.08	0
	Spot Billing	3.2	0.23	1.19	0.01	2
SUB - TOTAL		46.8	24.25	31.61	8.74	6.45

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FY 22-23						
Particulars	Description	OERC Approved Budget	Capitalization	Actual	WIP	Balance
NETWORK RELIABILITY	Network Comp-33/11Kv -Dist-Substation	14.6	5.52	11.18	2.79	0.63
	Network Components-33/11Kv -Lines	52	28.47	34.26	15.1	2.64
	Network Components-33/11Kv -Substation	51.74	20.93	35.57	9.72	6.45
SUB - TOTAL		118.34	54.92	81.01	27.61	9.72
TECHNOLOGY AND CIVIL INFRASTRUCTURE	Infrastructure - Admin	1.5	1.50	1.49	0.01	0
	Infrastructure - Civil	18	13.31	16.47	1.44	0.09
	Infrastructure - Customer Needs	2.78	0.49	1.18	0.13	1.47
	Infrastructure - Stores	4.04	3.31	3.77	0.22	0.05
	IT & Technology	48.19	34.15	37.74	9.51	0.94
	OT-GIS/SCADA	40.1	15.18	15.18	24.79	0.13
SUB - TOTAL		114.61	67.95	75.83	36.1	2.68
GRAND TOTAL		477.72	258.79	323.59	122.71	31.42

9. That, the progress of CAPEX for FY 23-24 till October 2023 is appended below:

FY 23-24						
Particulars	Description	OERC Approved Budget	Capitalization	Actual	WIP	Balance
STATUTORY, SAFETY AND SECURITY	Life enhancement of network and maintaining safe horizontal/ vertical clearances maintaining safe horizontal/vertical clearances	9.02	0.00	0.59	1.64	6.79
	Provision of Testing Equipment & PPEs to workforce	3.79	0.00	0.00	3.72	0.07
	Fencing, Boundary wall and Infrastructure works at Primary & Distribution substation	21.31	2.56	3.63	13.16	4.52
SUB - TOTAL		34.12	2.56	4.22	18.52	11.38
LOSS REDUCTION	Energy Audit & Meter related activity	27.04	0.00	1.76	3.59	21.69
	Replacement of LT Bare conductor with AB cable	31.96	0.34	7.53	5.94	18.49
SUB - TOTAL		59.00	0.34	9.29	9.53	40.18
NETWORK RELIABILITY	Replacement/Addition of network component in 33/11KV Primary Substation	23.37	0.00	0.22	15.47	7.68
	Replacement/Addition of network component in 33KV & 11KV Line	36.08	0.09	1.63	3.13	31.32
	Replacement/ Addition of network component in Distribution Substation	10.03	0.00	0.40	0.32	9.31
SUB - TOTAL		69.48	0.09	2.25	18.92	48.31
LOAD GROWTH	Network Enhancement/unforeseen Emergency	67.82	0.90	7.55	20.39	39.88
SUB - TOTAL		67.82	0.90	7.55	20.39	39.88
	IT & Technology Intervention	67.48	0.00	0.35	53.52	13.61
	OT-GIS Communication Other	62.21	2.07	2.38	41.79	18.04

Approved by members

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FY 23-24						
Particulars	Description	OERC Approved Budget	Capitalization	Actual	WIP	Balance
		(Rs. Cr.)				
TECHNOLOGY AND CIVIL INFRASTRUCTURE	Improvement of Civil Infrastructure	15.65	0.36	2.38	9.98	3.29
	Infrastructure - Stores	4.35	0.01	0.01	0.58	3.76
	Infrastructure - Admin	1.80	0.76	0.94	0.54	0.32
SUB - TOTAL		151.49	3.20	6.06	106.41	39.02
GRAND TOTAL		381.91	7.09	29.37	173.77	178.77

10. That, the below appended table summarizes TPWODLs progress vis-a-vis CAPEX approved till date:

Particulars	FY 21-22	FY 22-23	FY 23-24	FY 24-25	FY 25-26	TOTAL
Requirement of Min. CAPEX as per Vesting Order (Rs. Cr.)	306.00	500.00	333.00	322.00	202.00	1663.00
CAPEX Proposed (BoD Approved) (Rs. Cr.)	351.42	582.18	398.84			1332.44
CAPEX Approved (Rs. Cr.)	333.13	477.72	381.91			1192.76
CAPEX Progress till Q2 (Rs. Cr.)	316.19	323.59	29.37			669.15

11. That, the Hon'ble Commission vide its Order dated 21.06.2023 in Case No. 97 of 2022 had provided certain directions to TPWODL, which has been complied to while preparation of the Detailed Project Report (DPR) for FY 24-25 & FY 25-26.

12. That, the Hon'ble Commission vide its letter No. OERC/Engg- 05/2023/1030 dated 20.07.2023 had observed that the approval of CAPEX proposals of DISCOMs is getting delayed due to late submission of DPRs approved by Board of Directors (BoD). Accordingly, DISCOMs were directed to submit a consolidated proposal on CAPEX (based on Load Flow Study) for subsequent 2 years (FY 24-25 onwards) for consideration of the Hon'ble Commission.

13. That, TPWODL vide its letter No. TPWODL/RA&S/2023/114 dated 08.09.2023 had requested the Hon'ble Commission to grant additional time i.e., extension till 31.10.2023 for filing the consolidated proposal on CAPEX (FY 24-25 & FY 25-26) considering the progress of Load Flow Study due to ODSSP projects & other load growth in the Licensee area.

14. That, the Hon'ble Commission vide letter No. OERC/Engg- 05/2023/1358 dated 21.09.2023 had allowed time extension up to 31.10.2023 for submission of CAPEX proposals for FY 24-25 & FY 25-26. DISCOMs were requested to submit CAPEX plans in line with provisions of OERC Tariff Regulations, 2022 positively within 31.10.2023 without any further delay.

Kishore Ch. Nandan

15. That, the Hon'ble Commission vide its letter No. OERC/Engg-06/2023/1129 dated 05.08.2023 has allowed utilization of unspent CAPEX under any sub-head/activity for utilization under another sub-head/activity of the same head subject to the condition that approved cost of each major head and overall cost do not exceed the CAPEX approved by the Hon'ble Commission for the corresponding Financial Year. TPWODL vide its letter No. TPWODL/RA&S/2023/124 dated 22.09.2023 had requested the Hon'ble Commission to allow/ permit transfer of unspent amount from other head to civil infrastructure head keeping overall approved budget unchanged. However, the Hon'ble Commission vide letter No. OERC/Engg-07/2022/1491 dated 11.10.2023 had disallowed the same and advised TPWODL to submit a proposal on utilization of unspent amount in subsequent year's CAPEX proposal. Accordingly, the Licensee, in compliance to the directions of the Hon'ble Commission, is now submitting the following transfer of unspent amount for kind consideration and approval:

S. No.	FY	Hon'ble Commission's Approval		Request to Shuffle	Amount (Rs. Cr.)
		Category	Sub-Category	Category	
1	21-22	Reliability	PSS Refurbishment	Office Upgradation	1.20
2	22-23	Reliability	Install 11kV & 33kV 400A/200A ABS & Isolator	New Building for Div/ Sub Div/ Section/COM. Office	0.40
3		Reliability	33kV & 11kV Auto Reclosure & Sectionalizer		0.40
4		Load Growth	Addition/Augment 1ph & 3ph DTR 16 & 25KVA		3.20
5		Load Growth	Addition/Augment DTR 63KVA and above		0.99
6		Reliability	Refurbishment work- PSS		1.00
TOTAL					7.19

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16. That, as advised by the Additional Chief Secretary, Department of Energy, Government of Odisha, on one occasion, the major focus in these 2 years i.e., FY 24-25 & FY 25-26 would be on improving reliability by making investment on N-1 and LT network.

17. That, the present CAPEX proposals have been made by the Licensee for FY 24-25 & FY 25-26 majorly based on the following:

- a) Requirement of new 33kV feeders after new GSS at Bhatli, Lakhanpur, Maneswar etc. and requirement of high revenue feeders for N-1 as well as reliability of rural feeders.

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- b) Balance budget of five PSS of TPWODL, which was partially approved in the last CAPEX Order of the Hon'ble Commission and proposing two new PSS at Bhatli and Sambalpur, as suggested by Additional Chief Secretary, Department of Energy, Government of Odisha.
- c) Renovation of field offices up to section level, field training institutes and bachelor hostels under infrastructure development.
- d) Few schemes mandatorily required in IT and Technology.

18. That, the Hon'ble Commission at Para 49 (ii) of the CAPEX Order dated 21.06.2023 in Case No. 97 of 2022 had directed TPWODL to submit CAPEX proposals along with the approval of Board of Director for FY 24-25 onwards for consideration.

19. That, subsequently, considering the decision of the Board of Directors (BoD), the DPRs of CAPEX Plans for FY 24-25 & FY 25-26 are hereby proposed for an amount of Rs. 571.97 Cr. & Rs. 403.13 Cr. respectively. Accordingly, TPWODL is herewith enclosing a correspondence from Company Secretary with regards to Board's Approval as ANNEXURE-A.

20. That, as like of last three years, the Applicant proposes to invest its Capital Expenditure under five major heads in following manner:

S. No.	Particulars	FY 24-25 (Rs. Cr.)	FY 25-26 (Rs. Cr.)
1	Statutory, Safety & Security	51.53	48.29
2	Loss Reduction	54.61	47.12
3	Reliability	156.09	119.53
4	Load Growth	218.27	124.95
5	Technology adoption & infrastructure	91.46	63.24
TOTAL		571.97	403.13

21. That, the details of proposed investment under different categories and sub-categories for FY 24-25 & FY 25-26, as approved by the Board are summarized below:

S. No.	Major Category	Activity	Works to be covered	Proposed Capex FY 24-25 (Rs. Cr.)	Proposed Capex FY 25-26 (Rs. Cr.)
1	Statutory, Safety and Security	i) Life enhancement of network and maintaining safe horizontal / vertical clearances	Intermediate Pole to Increase height for 11 kV and 33 kV Network.	5.74	5.00
			National Highway, SH & River Crossing with Guarding on 13m/14m/M+6 Type Tower- 33kV Pole (For NH & SH Crossing)	2.00	1.98
			Replacement of Open Conductor with Covered Conductor inside forest city and high-density public area.	2.00	2.00

PART OF AFFIDAVIT

K. P. Lakshmi
NOTARY

Regd. No. ON 23/94
SAMBALPUR, ODISHA

Kishore Ch. Nayak

S. No.	Major Category	Activity	Works to be covered	Proposed Capex FY 24-25 (Rs. Cr.)	Proposed Capex FY 25-26 (Rs. Cr.)
		ii) Provision of Testing Equipment & PPEs to workforce	Testing equipment & Software.	6.28	5.00
			Safety Equipment (Discharge Rod, Neon Tester etc.)/ Virtual Reality uses for Switchyard Operation and Safety Training by PSCC Group/Man Lifter/ Tree Pruner (Battery Operated).	4.92	4.20
		iii) Fencing, Boundary Wall and infrastructure works at Primary & Distribution substation	Fencing of Distribution Substation.	8.50	8.50
			Boundary wall of Primary Substation.	9.00	9.00
			Gravel filling for Primary substation.	4.50	4.50
			Access road for inside and outside PSS.	3.00	3.00
			Civil work for control room/other building in PSS.	3.00	3.00
			Practice Yard.	0.60	0.40
			Provision for water supply for PSS/Offices (Watering for Earth pit).	1.00	1.00
		Earthing for PSS & DSS.	0.99	0.71	
Sub Total- Statutory, Safety and Security			51.53	48.29	
2	Loss Reduction	i) Energy Audit & Meter related activity	Installation of 1Ph Smart Meter (Services - Meter Installation, Removal, Cable Installation, Removal, Attending Consumer Complaints, NSC, Shifting of Meters, Field Survey, etc) - This excludes Meter Cost.	12.00	12.00
			Installation of LI connections (3-Ph) with smart meter (Services - Meter Installation, Removal, Cable Installation, Removal, Attending Consumer Complaints, NSC, Shifting of Meters, Field Survey, etc) - This excludes Meter Cost.	5.00	2.50
			Installation of smart meters in place of Defective/faulty meters (BLE) (Services - Meter Installation, Removal, Cable Installation, Removal, Attending Consumer Complaints, NSC, Shifting of Meters, Field Survey, etc) - This excludes Meter Cost.	8.00	8.00
			Installation of CT PT MC MU & Testing.	12.00	12.00
			Installation of Metering Unit, Meters and Modems at PSS Boundary Points.	1.80	1.00
			DTR Smart Metering 100KVA & above.	3.00	0
			High Value Industrial Consumers Audit Point Metering & HT-LT check Metering.	1.00	0
			Printer and associated equipment's for Spot Billing.	0.88	1.62
		ii) Replacement of LT Bare conductor with AB cable	Replacement of LT Bare conductor with AB cable.	10.93	10.00
		Sub Total-Loss Reduction			54.61
3	Reliability	i) Replacement/Addition of network component in 33/11KV Primary Substation.	PSS Modernization (Structure Replacement / Yard Renovation/Civil Foundation for VCB & PTR).	4.10	4.00
			Installation of 11 kV breaker/ Group Breaker to make it suitable for SCADA Operation (Segregation, replacement of obsolete breakers along with CT, PT, civil & control cable).	3.00	2.46
			Installation of 33 kV breaker/ Group Breaker to make it suitable for SCADA Operation (Segregation, replacement of obsolete breakers along with CT, PT, civil & control cable).	4.90	3.00
			Feeder protection-OC Relay & Control (BCPU).	1.56	0
			Replacement of Indoor Switchgear Panels along with associated equipment.	3.91	4.15

Reviewed by Member.

PART OF AFFIDAVIT
K. Lakshmi
NOTARY
 Regd. No. ON 23/94
 KMSAI PDR-02022

S. No.	Major Category	Activity	Works to be covered	Proposed Capex FY 24-25 (Rs. Cr.)	Proposed Capex FY 25-26 (Rs. Cr.)	
			Replacement of Substation Transformer -33/0.4 kV 100 KVA Trf.	1.53	1.06	
			Replacement of Battery & Battery Charger/ACDB Panel/DCDB Panel.	0.73	0.54	
			ERS Tower (Emergency Restoration Tower).	2.00	0	
			Implementation of Automation/SCADA.	3.35	3.05	
			Roof top for Office/ Building lighting/Solar Rooftop generation with Net metering & Emergency lighting.	3.00	0	
			High Mast/Lighting arrangement for PSS/Store.	0.50	0.50	
		ii) Replacement/Addition of network component in 33 kV & 11 kV Line.	Augmentation of old 11 kV line (for aged lines or to mitigate overloading/ undervoltage).	19.60	13.06	
			Augmentation of old 33 kV line (for aged lines or to mitigate overloading/ undervoltage).	30.00	28.31	
			Installation of 11 kV & 33 kV FPI/HIGH VOLTAGE O/H LINE INDICATOR, RLSU.	1.85	1.51	
			Installation of 11 kV & 33 kV AB switches, Isolator & RMU.	14.93	11.34	
			33 kV & 11 kV Polymer Insulator/ LA	3.00	2.91	
			New Tower Addition/Replacement (Joda Tensa).	29.06	19.38	
			Railway Crossing using U/G Cable.	4.00	3.00	
			33 kV & 11 kV Auto Recloser & Sectionalizer.	12.11	12.67	
		iii) Replacement/Addition of network component in Distribution Substation.	Remodelling of DSS (above 100 KVA DTR along with LT Protection, Earthing etc. other than Augmentation).	12.97	8.59	
		Sub Total-Reliability			156.09	119.53
		4	Load Growth	i) Network enhancement / Unforeseen emergency.	Construction of 33 kV New/Link Line.	70.00
Construction of 11 kV New/ Link Line.	27.19				20.00	
Construction of new PSS/Renovation of Aged PSS.	70.00				0	
Addition/Augmentation/Replacement of PTR of various ratings.	8.05				6.36	
Addition/Augmentation/Replacement of DTR of various ratings.	7.19				7.00	
MCCB/ ACB Installation.	9.00				8.59	
Mobile DT & Mini Workshop (DTR, Breaker & Relays).	5.84				0	
Addition of New LT ABC Network.	16.00				15.34	
Unforeseen Emergencies (Network extension for new connection, Kal baisakhi, Special Yatras etc.).	5.00				5.00	
Sub Total- Load Growth					218.27	124.95
5A	IT Infrastructure	i) Technology Intervention-IT & Technology.	Disaster Recovery Centre - HW & SW.	3.75	1.16	
			DC Hardware & DC Software & Licences.	7.98	2.30	
			Front End Devices and End user IT Infrastructure.	3.42	2.15	
			Locational Network Strengthening.	1.48	0.83	
			Sub Total- IT Infrastructure			16.63
5B	OT Infrastructure	ii) Technology Intervention- GIS, Communication	Implementation of GIS.	2.00	2.00	
			Communication Infrastructure.	16.00	6.50	

Kejriwal of Nanda.

PART OF AFFIDAVIT

NOTARY
 Regd. No. OH 2379a
 SAMBALPUR-ORISSA

S. No.	Major Category	Activity	Works to be covered	Proposed Capex FY 24-25 (Rs. Cr.)	Proposed Capex FY 25-26 (Rs. Cr.)	
		& Others Implementation.				
		Sub Total- OT Infrastructure		18.00	8.50	
5C	Civil, Admin and Other Infrastructure	iii) Improvement of Civil Infrastructure.	Additional Material Storage area platform & road.	3.00	2.00	
			New store building/shed/HOTT & Energy meter Section in 5 circles for safety training.	3.00	3.50	
			New Scrap Yard, Pole Storage location/MMG/Other Department Store.	2.00	1.50	
			New Building for Division/ Subdivision/Section/Commercial Office,/ including toilet facility/Guest House/Major Buildings/Furniture for New Building / renovated old building.	30.00	30.00	
			Remodelling of Old Office Building including Toilet/Boundary Wall of Office Building /Peripheral Development work of Offices	8.00	7.00	
			Fuse Call Centre / Customer Care.	1.00	1.00	
			iv) Store Infrastructure & EV Vehicles.	Store infrastructure, Security System and fire Hydrant System in Store.	4.76	3.30
			Purchase of EV Vehicles and other vehicles for employees.	1.65	0	
		v) Ready to use assets for Offices.	Ready to Use assets for Offices.	3.42	0	
		Sub Total- Civil & Admin Infrastructure			56.83	48.30
		Sub Total-Technology & Infrastructure			91.46	63.24
GRAND TOTAL			571.97	403.13		

Kajand Chandra

22. That, in addition to the above, the Hon'ble Commission has provided certain directions vide para no. 49 of the CAPEX Order dated 21.06.2023 for FY 23-24, regarding submission of CAPEX DPR for future period. In compliance to the said directions, the Applicant has covered all such aspects while preparing the Detailed Project Report (DPR) for FY 24-25 & FY 25-26.

However, considering the field conditions and available information, one of the prescribed formats (i.e. Annexure-1) of Hon'ble Commission has been suitably amended, which may kindly be considered.

23. That, considering the voluminous nature of the CAPEX plan for FY 24-25 & FY 25-26, the Licensee has divided the CAPEX Plan into 2 volumes (Volume-1: Affidavit & CAPEX DPR and Volume-2: Annexures to the DPR).

24. That, all the expenditures are estimated based on comprehensive field studies, which may vary on actual.

PART OF AFFIDAVIT

 NOTARY
 Regd. No. ON 23194
 SAMBALPUR-ORISSA

PRAYER

In view of the above and pursuant to the direction of the Honb'le Commission vide suo motu proceeding in case no 82/2020 dated 28.12.2020, para 39, TPWODL is hereby submitting the CAPEX Plans for FY 24-25 & FY 25-26 and prayed as follows to:

- Admit the CAPEX Plans for FY 24-25 & FY 25-26 along with Annexures in Volume-2.
- Approve the CAPEX plans to the extent of Rs. 571.97 Cr. for FY 24-25 & Rs. 403.13 Cr. for FY 25-26 excluding IDC and employee cost capitalization.
- It is submitted that these expenses are estimated based on comprehensive field visit by the team across the utility area and may vary on actual.
- Grant any other relief as deemed fit & proper in the facts and circumstances of this submission.

Place: *SAMBALPUR*

Date: *27.10.2023*

Kehimod Chanda.

Applicant

For & On Behalf of TPWODL

PART OF AFFIDAVIT
K. Chanda
NOTARY *27/10/2023*
Road. No. ON 23/94
SAMBALPUR, ORISSA



TPWODL/CS/FY24/080

Date: 27.10.2023

To,
The Secretary
Odisha Electricity Regulatory Commission
Plot No-04,
Chunokoli, Sailashree Vihar, Chandrasekharpur
Bhubaneswar, Odisha - 751021

Sub: Regarding Board approval on Capex for FY25 and FY26

Respected Sir,

We are pleased to inform you that the Capital Expenditure of ₹ 571.97 crore for FY 25 and ₹ 403.13 crore for FY26, was approved by the Board of Directors in its 19th meeting held on 20th October 2023, as under:

(₹ in crore)

Sr. No	Major Category	FY25	FY26	Description of activity covered
1	Statutory & Safety	51.53	48.29	Intermediate Poles, Testing Instruments, Safety equipment, Boundary Wall & Fencing, Practice yards, Earthing for PSS & DSS.
2	Loss Reduction	54.61	47.12	Replacement of LT Bare to LT AB Cable, LT/HT check metering, DT smart metering for energy audit (100 KVA & above), Replacement of service cables, Services for replacement of defective/faulty meters (BLE), Services for installation of Smart Meters at LI points, Printer & associated equipment for spot billing.
3	Reliability	156.10	119.53	33KV Network strengthening (Feeder augmentation and refurbishment, Aged Equipment replacement, refurbishment work at PSS- yard, Replacement/ Segregation of Old 33 kv breaker/ Group Breaker with new, Replacement of Battery & Battery Charger/ACDB Panel/DCDB Panel,)
				11KV Network Strengthening (Feeder augmentation and refurbishment, Aged Equipment replacement, refurbishment work at DSS, Replacement/ Segregation of Old 11 kv breaker/ Group Breaker with new, Installation of 11KV & 33 KV FPI/High Voltage O/H Line indicators, RLSU, Auto recloser & Sectionalizers)
4	Load Growth	218.27	124.95	Construction of 33 KV & 11 KV New/Link Line, Construction of new PSS, Addition/ Augmentation/ Replacement of PTR & DTR, Addition of New LT ABC Network)
5	IT Infrastructure	16.63	6.44	Disaster Recovery Centre - HW & SW, DC Hardware & DC Software & Licences, Front End Devices and End user IT Infrastructure.
6	OT Infrastructure	18	8.50	Communication Infrastructure, GIS implementation of incremental network
7	Civil, Admin and Other Infrastructure	56.83	48.30	New Building for Division/ Subdivision/ Section/ Commercial Office/ including toilet facility/Guest House/Major Buildings /Furniture for New Building/ renovated old building, Store infrastructure, Security System and fire Hydrant System in Store.
	Total*	571.97	403.13	

*excluding GRIDCO Contribution in kind ₹ 104.73 crore and ₹ 73.81 crore for FY25 & FY26, respectively.

*excluding Staff Cost & IDC ₹35.75 crore & and 25.20 crore for FY25 & FY26, respectively.

TP WESTERN ODISHA DISTRIBUTION LIMITED

(A Joint Venture of Tata Power and Government of Odisha)

Regd./Corp Office: Burla, Dist-Sambalpur, Odisha - 768017

Website: www.tpwesternodisha.com, Email: tpwodl@tpwesternodisha.com

Corporate Identification Number (CIN): U40109OR2020PLC035130, Telephone No, 0663-2431984, Fax No: 0663-2422113

Page 1 of 2





Further, the Board has severally authorized the Chief Executive Officer and Chief Financial Officer of the Company to take all necessary steps in this regard.

Please note that the aforesaid approval may be amended, in case of any comments received from the Chairman/director in the draft minutes.

Since the minutes are in the preparation stage, this letter may be considered as a reference document for further necessary action.

Yours faithfully,

For TP Western Odisha Distribution Limited



Shishir Dudeja
Company Secretary
FCS 9578

Regd./Corporate Office: Wesco Corporate Building Burla,
Besides Burla Police Station, Burla - 768017, Sambalpur, Odisha

TP WESTERN ODISHA DISTRIBUTION LIMITED

(A Joint Venture of Tata Power and Government of Odisha)

Regd./Corp. Office: Burla, Dist-Sambalpur, Odisha -768 017

Website: www.tpwesternodisha.com, Email: tpwdl@tpwesternodisha.com

Corporate Identification Number (CIN): U40109OR2020PLC035230, Telephone No. 0663-2431984, Fax No. 0663-2432113

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Received by Mr. ...

INTRODUCTION

TP Western Odisha Distribution Limited (TPWODL) emerged as a result of a collaborative effort under the Public-Private Partnership (PPP) model, with Tata Power taking the majority stake of 51% and the remaining 49% owned by the Government of Odisha. The transformation occurred on January 1, 2021, following a rigorous competitive bidding process.

The operations of TPWODL's utility business are conducted in accordance with the licensing terms prescribed by the Hon'ble Odisha Electricity Regulatory Commission (OERC). OERC plays a pivotal role in regulating the entire power sector in the state of Odisha. This oversight encompasses determining tariffs for end-users and establishing performance standards that primarily focus on loss reduction, ensuring the security and reliability of power supply, and delivering quality services to consumers.

TPWODL's power supply is secured through its association with GRIDCO, a state-owned enterprise tasked with procuring electricity in bulk from various generators located within Odisha, as well as the state's allocation of power from central generators. The transmission process starts with TPWODL receiving electrical power at a sub-transmission voltage of 33KV, originating from the 220/132/33 kV Grid Substations managed by the Odisha Power Transmission Company Limited (OPTCL). TPWODL subsequently tailors the distribution to meet consumer demands, offering various voltage levels such as 33KV, 11KV, 440V, and 230V as required by its diverse customer base.

With the objective of ensuring reliable power supply and ensuring best customer services to the end consumers, TPWODL, in the last 3-year Capex submission, has come up with capital investment plan in five major heads viz Statutory and Safety, Reliability, Loss reduction, Load Growth and Infrastructure and Technology adoption, same heading will continue for this year Capex plan also. The details of each head are subsequently mentioned along with estimated Capex requirement and associated activities.

TPWODL, in compliance with the Vesting Order has to seek the approval of the Capital Expenditure Plan in line with the regulations. The extracts from the Vesting Order in its Bid submitted in response to the RFP, TPWODL committed capital expenditure of Rs. 1,663 crores (Indian Rupee One Thousand Six Hundred and Sixty-Three crore) only for period FY 2022 to FY 2026 as follows:

TPWODL	FY21-22	FY22-23	FY23-24	FY24-25	FY25-26
Year wise Committed	306	500	333	322	202
Cumulative	306	806	1139	1461	1663

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TPWODL has proposed capital expenditure of Rs. 1443.44 Cr in FY 21-22, FY 22-23 & FY23-24 and Hon'ble OERC has approved the Capital expenditure of Rs 1192.76 Cr, details are mentioned in table shows the FY21-22, FY22-23 & FY23-24 expenditure details.

TPWODL	FY21-22	FY22-23	FY23-24	Total
Proposal submitted	462.42	582.18	398.84	1443.44
OERC Approved CAPEX	333.13	477.72	381.91	1192.76

As per the order received dated 21.06.2023 compliance to previous year requirement is mentioned in following Annexure of Volume-II

1. Annexure-1 Division wise details of various network parameters FY 24-26
2. Annexure -2 Basic information of existing Sub-stations.
3. Annexure -3 Proposed new substation (based on load flow study of Distribution network)
4. Annexure -4 Basic information of existing overhead lines (33 kV & 11 kV)
5. Annexure -5 Proposed new lines at 33 KV & 11 KV level based on load flow study

TPWODL proposes to invest Capital Expenditure of Rs.571.97 Cr. in FY 24-25 and Rs.403.13 Cr. in FY25-26 under five proposed major categories i.e.

1. Statutory, Safety and Security
2. Loss Reduction
3. Reliability
4. Load Growth
5. Technology adoption & Infrastructure

Left hand side Member.

Proposed Capex Plan FY25 & FY26

S. No	Major Category	Activity	Works to be covered	Proposed Capex FY 24-25 (Rs. Cr)	Proposed Capex FY 25-26 (Rs. Cr)
1	Statutory, Safety and Security	i) Life enhancement of network and maintaining safe horizontal / vertical clearances	Intermediate Pole to Increase height for 11 kV and 33 kV Network	5.74	5.00
			National Highway, SH & River Crossing with Guarding on 13m/14m/M+6 Type Tower-33kV Pole (For NH & SH Crossing)	2.00	1.98
			Replacement of Open Conductor with Covered Conductor inside forest city and high-density public area	2.00	2.00
		ii) Provision of Testing Equipment & PPEs to workforce	Testing equipment & Software	6.28	5.00
			Safety Equipment (Discharge Rod, Neon Tester etc.)/ Virtual Reality uses for Switchyard Operation and Safety Training by PSCC Group/Man Lifter/ Tree Pruner(Battery Operated)	4.92	4.20
		iii) Fencing, Boundary Wall and infrastructure works at Primary & Distribution substation	Fencing of Distribution Substation	8.50	8.50
			Boundary wall of Primary Substation	9.00	9.00
			Gravel filling for Primary substation	4.50	4.50
			Access road for inside and outside PSS.	3.00	3.00
			Civil work for control room/other building in PSS	3.00	3.00
			Practice Yard	0.60	0.40
			Provision for water supply for PSS/Offices (Watering for Earth pit)	1.00	1.00
		Earthing for PSS & DSS	0.99	0.71	
		Sub Total- Statutory, Safety and Security	51.53	48.29	

Key word of Module.

S. No	Major Category	Activity	Works to be covered	Proposed Capex FY 24-25 (Rs. Cr)	Proposed Capex FY 25-26 (Rs. Cr)
2	Loss Reduction	i) Energy Audit & Meter related activity	Installation of 1Ph Smart Meter (Services - Meter Installation, Removal, Cable Installation, Removal, Attending Consumer Complaints, NSC, Shifting of Meters, Field Survey, etc.) - This excludes Meter Cost.	12.00	12.00
			Installation of LI connections (3-Ph) with smart meter (Services - Meter Installation, Removal, Cable Installation, Removal, Attending Consumer Complaints, NSC, Shifting of Meters, Field Survey, etc.) - This excludes Meter Cost	5.00	2.50
			Installation of Smart Meters in place of Defective/faulty meters (BLE) (Services - Meter Installation, Removal, Cable Installation, Removal, Attending Consumer Complaints, NSC, Shifting of Meters, Field Survey, etc.) - This excludes Meter Cost	8.00	8.00
			Installation of CT PT MC MU & Testing	12.00	12.00
			Installation of Metering Unit, Meters and Modems at PSS Boundary Points	1.80	1.00
			DTR Smart Metering 100KVA & above	3.00	
			High Value Industrial Audit Point Metering & HT-LT check Metering	1.00	
			Printer and associated equipment's for Spot Billing.	0.88	1.62
			ii) Replacement of LT Bare conductor with AB cable	Replacement of LT Bare conductor with AB cable	10.93
				Sub Total-Loss Reduction	54.61

Kishore Chandra

S. No	Major Category	Activity	Works to be covered	Proposed Capex FY 24-25 (Rs. Cr)	Proposed Capex FY 25-26 (Rs. Cr)
3	Reliability	i) Replacement/Addition of network component in 33/11KV Primary Substation.	PSS Modernization (Structure Replacement / Yard Renovation/Civil Foundation for VCB & PTR)	4.10	4.00
			Installation of 11 kV breaker/ Group Breaker to make it suitable for SCADA operation (Segregation, replacement of obsolete breakers along with CT,PT, civil & control cable)	3.00	2.46
			Installation of 33 kV breaker/ Group Breaker to make it suitable for SCADA operation (Segregation, replacement of obsolete breakers along with CT,PT, civil & control cable)	4.90	3.00
			Feeder protection-OC Relay & Control (BCPU)	1.56	0.00
			Replacement of Indoor Switchgear Panels along with associated equipment	3.91	4.15
			Replacement of Substation Transformer -33/0.4KV 100KVA Trf.	1.53	1.06
			Replacement of Battery & Battery Charger/ACDB Panel/DCDB Panel	0.73	0.54
			ERS Tower (Emergency Restoration Tower)	2.00	0.00
			Implementation of Automation/Scada	3.35	3.05
			Roof top for Office/ Building lighting/Solar Rooftop generation with Net metering Emergency lighting	3.00	

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S. No	Major Category	Activity	Works to be covered	Proposed Capex FY 24-25 (Rs. Cr)	Proposed Capex FY 25-26 (Rs. Cr)
			High Mast/Lighting arrangement for PSS/Store	0.50	0.50
		ii) Replacement/Addition of network component in 33KV & 11KV Line.	Augmentation of old 11kV line (for aged lines or to mitigate overloading/under voltage)	19.60	13.06
			Augmentation of old 33kV line (for aged lines or to mitigate overloading/under voltage)	30.00	28.31
			Installation of 11KV & 33 KV FPI/HIGH VOLTAGE O/H LINE INDICATOR,RLSU	1.85	1.51
			Installation of 11KV & 33 KV AB switches, Isolator & RMU	14.93	11.34
			33kV & 11kV Polymer Insulator/LA	3.00	2.91
			New Tower Addition/Replacement (Joda Tensa)	29.06	19.38
			Railway Crossing using U/G Cable	4.00	3.00
			33KV & 11kV Auto Recloser & Sectionalizer	12.11	12.67
			iii) Replacement/Addition of network component in Distribution Substation.	Remodelling of DSS (above 100 KVA DTR along with LT Protection, Earthing etc. , Other than Augmentation)	12.97
			Sub Total-Reliability	156.09	119.53
4	Load Growth	i) Network enhancement / Unforeseen emergency.	Construction of 33 KV New/Link Line	70.00	62.66
			Construction of 11KV New/ Link Line	27.19	20.00
			Construction of new PSS/Renovation of Aged PSS.	70.00	0.00
			Addition/Augmentation/Replacement of PTR of various ratings	8.05	6.36

Approved by Member.

S. No	Major Category	Activity	Works to be covered	Proposed Capex FY 24-25 (Rs. Cr)	Proposed Capex FY 25-26 (Rs. Cr)
			Addition/Augmentation/Replacement of DTR of various ratings	7.19	7.00
			MCCB/ACB Installation	9.00	8.59
			Mobile DT & Mini Workshop (DTR, Breaker & Relays)	5.84	0.00
			Addition of New LT ABC Network	16.00	15.34
			Unforeseen Emergencies (Network extension for new connection, Kal baisakhi, Special Yatras etc.)	5.00	5.00
			Sub Total- Load Growth	218.27	124.95
5A	IT Infrastructure	i) Technology Intervention-IT & Technology.	Disaster Recovery Centre - HW & SW	3.75	1.16
			DC Hardware & DC Software & Licences	7.98	2.30
			Front End Devices and End user IT Infrastructure	3.42	2.15
			Locational Network Strengthening	1.48	0.83
			Sub Total- IT Infrastructure	16.63	6.44
5B	OT Infrastructure	ii) Technology Intervention-GIS, Communication & Others Implementation	Implementation of GIS	2.00	2.00
			Communication Infrastructure	16.00	6.50
			Sub Total- OT Infrastructure	18.00	8.50
5C	Civil, Admin and Other Infrastructure	iii) Improvement of Civil Infrastructure	Additional Material Storage area platform & road	3.00	2.00
			New store building/shed/HOTT & Energy meter Section in 5 circles for safety training	3.00	3.50
			New Scrap Yard, Pole Storage location/MMG/Other Department Store	2.00	1.50

K&S road Capex

S. No	Major Category	Activity	Works to be covered	Proposed Capex FY 24-25 (Rs. Cr)	Proposed Capex FY 25-26 (Rs. Cr)
			New Building for Division/ Subdivision/Section/Commercial Office./ including toilet facility/Guest House/Major Buildings/Furniture for New Building / renovated old building	30.00	30.00
			Remodelling of Old Office Building including Toilet/Boundary Wall of Office Building /Peripheral Development work of Offices	8.00	7.00
			Fuse Call Centre / Customer Care	1.00	1.00
		iv) Store Infrastructure & EV Vehicles	Store infrastructure, Security System and fire Hydrant System in Store	4.76	3.30
			Purchase of EV Vehicles and other vehicles for employees	1.65	
		v) Ready to use assets for Offices	Ready to Use assets for Offices	3.42	
			Sub Total- Civil & Admin Infrastructure	56.83	48.30
			Sub Total-Technology & Infrastructure	91.46	63.24
			Grand Total	571.97	403.13
			TOTAL FY25+FY26	975.10	

Keshwadee Ch. Nondla.

*The Grand Total cost is exclusive of Employee Cost @5% of total CAPEX requirement, which is Rs 48.76 Cr. and Interest during Construction (IDC) @1.25 % of total CAPEX, which is Rs 12.19 Cr., and GRIDCO contribution of equity Rs 178.54 Cr.

TPWODL Area

TP Western Odisha Distribution Limited (TPWODL) is a joint venture between Tata Power and Government of Odisha with the majority stake being held by The Tata Power Company Limited (51%). The Discom TPWODL serves a population of 88 lacs with a Customer Base of more than 21 lacs. It has a vast Distribution Area in the Western part of Odisha covering 48,373 sq. km across nine revenue districts of Odisha. For making reliable power supply, along with prompt service to its consumers, this power distribution company in Odisha has divided its area of power distribution into 5 Circles and 17 Divisions as under.

high road ch number.

Table 1 indicates the details of Circle, Division & Sub- Divisions

Circle Name	Division Name	District Name	Sub Division Name
Sambalpur Circle	SED – SAMBALPUR	Sambalpur	SDO-I, AINTHAPALI, SBP
			SDO-II, KHETRAJPUR, SBP
			ELECTRICAL SUB DIVISION, BURLA
			ELECTRICAL SUB-DIVISION, HIRAKUD
	SEED – SAMBALPUR	Sambalpur	SDO-I, BHUTAPARA

Circle Name	Division Name	District Name	Sub Division Name
			SDO-II, DHANUPALI
			SDO-RENGALI
			SDO, RAIRAKHOL
	JED – JHARSUGUDA	Jharsuguda	SDO No-1, JHARSUGUDA
			SDO No-2, JHARSUGUDA
			SDO, KUCHINDA
	BED – BRAJRAJNAGAR	Jharsuguda	SDO, BRAJRAJNAGAR
			SDO, BELPAHAR
	DED – DEOGARH	Deogarh	SDO, DEOGARH
	Rourkela Circle	RSED – ROURKELA	Sundargarh
SDO No -5, ROURKELA			
SDO No -7, ROURKELA			
RED – ROURKELA		Sundargarh	SDO No -2, ROURKELA
			SDO. No-3, ROURKELA
			SDO No – 4, ROURKELA
			SDO No -6, ROURKELA
SED – SUNDARGARH		Sundargarh	SDO, SUNDARGARH
			SDO, UJALPUR
SED – RAJGANGPUR		Sundargarh	SDO-I, RAJGANGPUR
			SDO-II, Rajgangpur
			SDO, KALUNGA
			SDO, KUARMUNDA
Bargarh Circle	BED –BARGARH	Bargarh	SDO No-I, BARGARH
			SDO No-II, BARGARH
			SDO, BHATLI
			SDO, BHEDEN

Kishor Chandra Mohanty

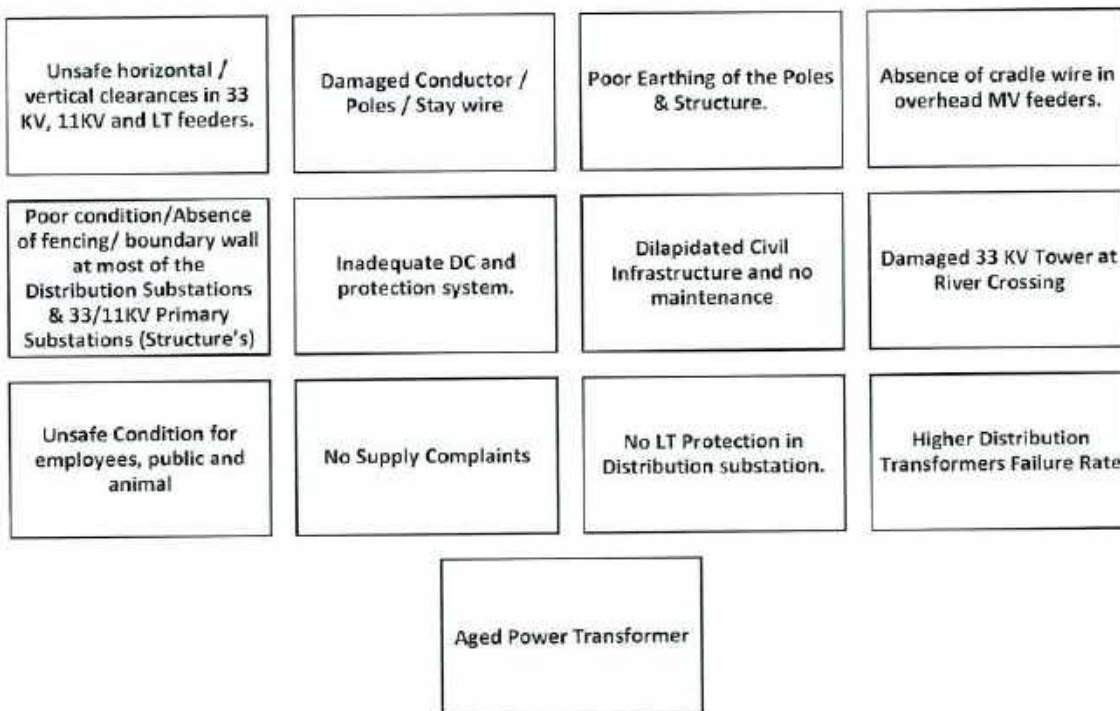
Circle Name	Division Name	District Name	Sub Division Name
	BWED – BARGARH	Bargarh	SDO, ATABIRA
			SDO, BARPALLI
			SDO, PADAMPUR
			SDO, PAIKMAL
			SDO, SOHELA
Bolangir Circle,	BED – BOLANGIR	Bolangir	SDO – I, BOLANGIR
			SDO – II, BOLANGIR
			SDO, TUSURA
			SDO, LOISINGHA
	SED – SONEPUR	Sonepur	SDO, SONEPUR
			SDO, BINKA
			SDO, B.M.PUR
	TED – TITILAGARH	Bolangir	SDO-I, TITILAGARH
			SDO-II, TITILAGARH
			SDO, KANTABANJI
			SDO, PATNAGARH
	Bhawani-Patna Circle	NED – NUAPARA	Nuapada
SDO, KHARIAR ROAD			
SDO, KHARIAR			
KEED –KALAHANDI		Kalahandi	SDO NO-I, BHAWANIPATNA
			SDO NO-II, BHAWANIPATNA
			SDO, NARLA
			SDO, KESINGA
KWED –KALAHANDI		Kalahandi	SDO, JUNAGARH
			SDO, DHARMAGARH
			SDO, CHARBAHAL

Kalyan Ch. Mondal

Existing Network Conditions

In TPWODL, the network conditions in different areas possess different challenges related to lengthy, dilapidated and unsafe networks for our employees, public and animals.

The following issues are observed and the same needs urgent attention to strengthen network and make network safe, reliable, and statutory compliant.



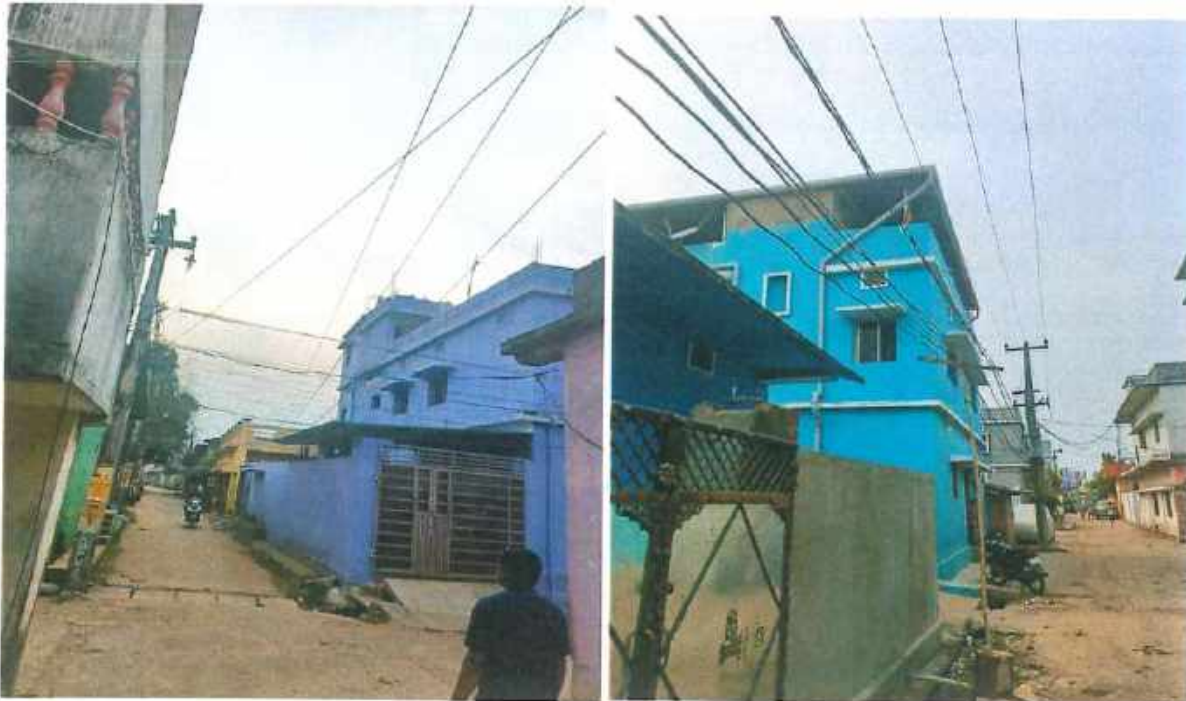
Key word on Network.

Unsafe horizontal / vertical clearances in 33 KV, 11KV and LT feeders

Power distribution utility is bound to comply all statutory compliance and any non-compliance attracts penalties apart from damage to brand image. Most of the network are very old and laid on 8 Mtrs / 9 Mtrs poles with lengthy span. As per construction practice, 1/6th of the total pole length is erected below the ground and thus only available length is approx. 7.5 Mtrs above ground. Considering the fittings and accessories installation, there is hardly any room to account for increased sag or rise in road level. To further worsen the problem; the span length varies from 60-120 Mtrs. More span length causes high sag. In WESCO licensed areas, there are many locations, which are not complying with the statutory guidelines and hence require huge funds and efforts to make the network safe. At some places, due to re- construction of the roads, vertical clearances of the lines have reduced to the dangerous level

causing violation of statutory guidelines. TPWODL proposes to take up installation of mid pole, refurbishment/life enhancement work for lines to rectify all such defects. Since the volume of such locations are high, huge investment spread across many years would be required to rectify all the deficiencies.

Feeders having Unsafe horizontal / vertical clearances Photos are as follows:



Kshirod Ch. Nanda

Damaged Poles / Conductors / Stay

Due to vast geography widespread network and absence of Capex expenditure in past the existing network has become very weak due to ageing and repeated trippings. Major element, which resulted into weak network, includes damaged pole, worn out conductors, and damaged stay wires. At some locations, poles or support structure are damaged, rusted or tilted. Major factors causing damage to the poles includes structural deterioration of poles, flood, Kalbaisakhi, heavy vegetation etc. Tilting of poles has resulted in increase in conductor sag and if replacement /refurbishment of the tilted or broken pole is not done, mechanical strength of the line will reduce and may result into falling of line during high-speed winds / storms. Falling of line can cause fatal accident. It is also a major concern for ensuring reliable power supply to the consumers as restoration may take many days depending upon the location and severity of damage to the line. To prevent tilting of any pole from its normal position due to abnormal wind pressure, installation of Stay wire is required. At many places egg (stay/guy) insulators are either missing or damaged, which may cause major safety concern not only for the safety

of Public but animal also in case of leakage current. Moreover, there are other reasons, which have resulted into depletion of existing network such as use of undersized conductor in overhead feeders, poor condition of the conductor, multiple joints in a single span in many sections, poor binding wire joints etc. witnessed in the sections causing hot spot and may result into jumper parting. Under the refurbishment/life enhancement activity TPWODL has planned to replace damaged poles, replacement of worn-out conductor, re-sagging of the conductor, installation of mid-span pole, introduction of stay-wire at start, end and at every H- pole with at least two stays together.

Condition of Damaged Conductors & Poles Photos are as follows:



Rightward Ch. Mandap.

Poor Earthing of the Poles & Structure

Further, according to rule 42, installation with connected load of above 5 kW, and voltage exceeding 250 V shall have a suitable earth leakage protective device to isolate the load in case of earth fault or leakage in the circuit. In case the earthing of any power equipment or network becomes weak or defective due to corroded connections or damaged connection, clearance of fault may take more time and putting stress on the equipment connected in the network.

During the site visits, it is observed that at most of the places, proper earthing was not evident and at some of the 33/11KV primary substation, earthing is not adequate. This situation is dangerous for the stability of power system and there are chances of electric shock to the human beings and animals. TPWODL proposes to strengthen the earthing system by introducing fresh earthing in both DSS and PSS

as part of refurbishment activity. This will enhance life not only of equipment but shall also help in proper functioning of protection relays.

Condition of Poor Earthing of the pole Photos are as follows:



Absence of Cradle/Guard wire in Overhead MV feeders crossing the road

Guarding is an arrangement provided in overhead MV/HV/LV feeders, by which a live conductor, when accidentally gets broken, is prevented to come in contact with public or animals and vehicles moving beneath the road. By having cradle guards in place, immediately after a live conductor breaks, it first touches the cradle guard thus completing the electrical circuits necessary for the operation of the protection relays installed at substations. This in-turn trips the circuit breaker and danger to any living object is averted. At present, most of the network is overhead and there is no provision of guard or cradle wire installed beneath the overhead conductors this pose serious safety threat to the public since the network is in dilapidated condition and possibility of conductor parting cannot be ruled out. In such scenario, cradle guard will help in avoiding accidents caused by snapping of conductors of overhead MV feeders TPWODL proposes to put in place the cradle wire/guard wire on National Highway and State Highway crossings near school, college, Hospitals and market area.

High road C/o Nanda.



Poor condition/ Absence of fencing/ boundary wall at Distribution Substations & 33/11KV Primary Substations

Absence of boundary walls and fencing around the Primary Substation and Distribution Substations has exposed the live power distribution equipment to the human beings and animals, who are not aware of the consequences of coming in direct contact or in the arching zone of high voltage equipment. There are high chances of entry of unauthorized persons or animals in high voltage switchyards. There are information's regarding electrocution of human beings and animals at substations in the past. TPWODL proposes to put up fencing/build boundary wall under the DSS and PSS Refurbishment.

Absence of boundary wall at Distribution substation (Before & After) Photos are as follows:



before and after.

Inadequate DC, non-availability of protection system for breaker & relay:

Many PSS does not have adequate protection system as many feeders are running on group breaker, many PTRs and feeders are in use without breaker. Battery and Battery charges are not operational and needs immediate replacement at various PSS.



Poor Civil Infrastructure and no maintenance:

TPWODL currently have offices in all the five circles and subdivisions. Some of them are owned and various offices are on rented property. TPWODL is facing challenge while accommodating additional new employees in current office buildings and infrastructure. The current existing infrastructure are old and needs modernization to provide hygienic, well ventilated and spacious work environment. These office locations are touch base points between end consumers and utility. Hence aesthetic along with safety of each stakeholders needs to be focused.

Condition of some no maintenance building Photos are as follows:



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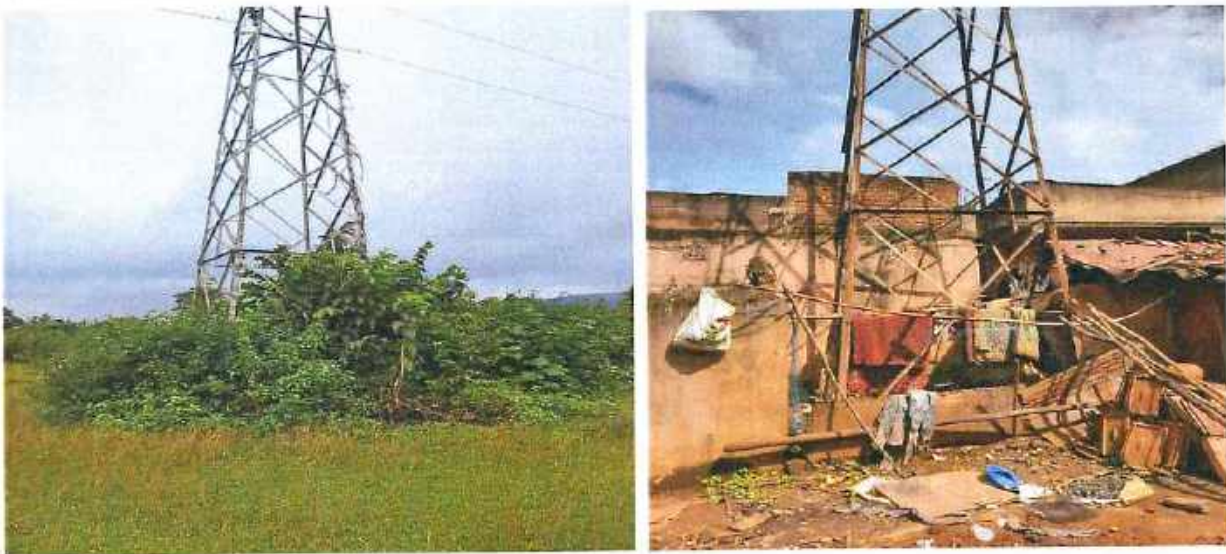
Damaged 33KV Tower

Presently TPWODL network consists of 645 Nos tower. Most of these towers are more than 50 years old and crossing rivers, forest & serving critical load requirement of Rourkela, Sambalpur & other areas. Corporate civil design team were engaged to inspect foundation of these towers. TPWODL in FY25 & FY26 has considered tower replacement in Joda-Tensa 33 KV line. The 136 Nos. towers on Joda-Tensa circuits are rusted & require repair and strengthening.

Condition of some damaged Towers Photos are as follows:



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Unsafe Condition for employees, public and animal

It is observed that most of the accident happened either due to deficiency in the network infrastructure or easy accessibility of the live parts to the Public and Animals. It is pertinent to mention here that the number of fatal accidents outgo the number of non-fatal accident, for both Human and Animals. Below figure shows the detailed accident analysis of Humans. Hence, potentially unsafe locations need to be addressed and attended time to time to ensure safe network for employees, Public and Animals.

Table below shows Year wise details of Fatal / Non-fatal Electrical accidents occurred under TPWODL operational area during Calendar Year 2018-2023.

YEAR WISE FATAL/NON-FATAL ACCIDENT REPORT							
FY	Human		Total Human	Animal		Total Animal	Total Victim
	Human Fatal	Human Non-Fatal		Fatal	Non-Fatal		
18-19	12	1	13	3	0	3	16
19-20	20	6	26	7	8	15	41
20-21	14	11	25	10	2	12	37
21-22	56	23	79	52	0	52	131
22-23	42	19	61	23	0	23	84
23-24 till Oct'23	29	33	62	39	0	39	101
Total	173	93	266	134	10	144	410

Number of Victim

5 YEAR ACCIDENT DETAILS



No Power Supply Complaints:

TPWODL has introduced Call Centre, Telephone Operator to register the consumer complaints so that TPWODL can act on various types of problems. List of Various types of No power Complaints received from 01-Apr-2022 to 31-Mar-2023 in TPWODL area are listed in below table.

COMPLAINT NATURE	NO OF COMPLAINTS REGISTRATION	PERCENTAGE
AB SWITCH REPLACEMENT	30	0.008%
CABLE SPARK	246	0.069%
EARTH LEAKAGE IN PREMISESS	223	0.063%
FIRE IN HOUSE	5	0.001%
FIRE IN METER/SERVICE CABLE	388	0.109%
FIRE ON POLE/TRANSFORMER	395	0.111%
LEAKAGE IN POLE	163	0.046%
LT BREAKDOWN	2286	0.644%
LT CABLE SAGGING	52	0.015%
MCCB TRIP	169	0.048%
NEUTRAL NOT COMING	249	0.070%
NEW POLE REQUIRED	7	0.002%
POLE - RUSTED/DAMAGED	107	0.030%
POLE BROKEN	82	0.023%
POLE FELL DOWN	162	0.046%
POLE SHIFTING	30	0.008%
REPAIR OF CAPACITOR	3	0.001%
REPAIR OF HT SYSTEM	11	0.003%
REPAIR OF LT SYSTEM	12	0.003%
REVERSE PHASE COMING	385	0.108%
SC-WIRE LOOSE CONNECTION	4424	1.246%
SERVICE CABLE CHANGE	5082	1.431%
SERVICE WIRE BROKEN	8217	2.314%
SERVICE WIRE DAMAGED	2859	0.805%
SPARKING IN METER	1146	0.323%
SPARKING IN SERVICE LINE	1039	0.293%
SPARKING ON POLE	991	0.279%
SPARKING ON TRANSFORMER	779	0.219%
SUPPLY FAILED - 1 PHASE OUT	91333	25.725%

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COMPLAINT NATURE	NO OF COMPLAINTS REGISTRATION	PERCENTAGE
SUPPLY FAILED - INDIVIDUAL	83121	23.412%
SUPPLY FAILED - TOTAL AREA	104471	29.425%
TRANSFORMER - CABLE/LUGS BURNT	264	0.074%
TRANSFORMER - SMOKE/FLAMES	62	0.017%
TRANSFORMER FENCING	52	0.015%
TRANSFORMER LEAKAGE	78	0.022%
TREE FALLEN ON WIRES	1175	0.331%
VF TAP OF TRANSFORMER	73	0.021%
VOLTAGE VARIATION(HIGH/LOW)	44870	12.638%

Higher Distribution Transformers Failure Rate:

Apart from high number of Accidents, other major problem is high number of DT failure and extremely high number of interruptions at 33 kV and 11 kV level due to poor network conditions. This affects the supply system very badly.

Power Transformer:

Over the period of operations of these PTRs, based on the various conditions, there are instances of failures which are attributable to multiple reasons. Some of these include overloading due to growth demand, insufficient protection schemes, multiple fault feedings on distribution network, ageing of the transformers leading to natural deterioration of the winding insulation.

lightning of number.

TPWODL has taken prudent steps to ensure that external factors leading to these failures are arrested and eradicated. These include upgrading the protection schemes by having the latest numerical relays, ensuring coordinated tripping based on the fault, proactive replacement of protective elements like lightning arrestors across 33kV and 11 kV system and proactive steps of off-line testing of the equipment to have data and future trending to see the deterioration over time if any.

While the above-mentioned measures will help in ensuring a healthy and reliable system in the future, factors owing to ageing and load augmentation still needs to be addressed. Additionally, to ensure that system reliability is ensured through the (n-1) philosophy, there is a requirement of installing additional PTRs of suitable ratings. This will also ensure the availability of spare capacity to have in place necessary maintenance practices which will help in increasing the life of the asset.

- **Reasons for replacement of PTR**

The major reasons to carry out the replacement of PTRs are brought out below:

a. Ageing:

One of the most important reasons for failure of PTR is due to the natural ageing. Many of the PTRs in TPWODL system have been in service for more than 25 years before and have served their useful life. These PTRs have been in service for long and would have experienced many hostile operating conditions during their lifetime. This may be abnormal conditions like heavy fault in line and multiple charging of PTRs. Over the years this would lead to gradual degradation of the winding insulation causing PTR failures. Repairs to these transformers would not yield the same kind of efficiency and quality leading to future failures. Considering the overall cost benefit and incremental losses from these aged transformers, it becomes worthwhile to procure new transformers to replace the aged asset. This will help in improving the reliability and reduction in the losses.

b. Repaired PTRs:

During field verification & system reliability inspection it has been observed that many PTRs are already rewound multiple times after having failed in the past. It is observed that the failure rate in such rewound / repaired PTRs are high. Additionally, rewinding doesn't guarantee the same losses and the overall efficiency of the transformer is also reduced (which is much lesser than a newly designed transformer). Considering the deterioration of winding insulation of these repaired transformers and combined with external factors like overloading and system conditions, such PTRs are more prone to failure.

c. Over loading:

With increase in the load demand, many of the PTRs are reaching or exceeding the rated capacity. This phenomenon is further aggravated with the use of ageing asset leading to an increase in the failure. Multiple schemes proposed by the Government ensures addition of distribution transformers (DTR) across the system. These ultimately is fed through the existing PTRs which would have reached the load limit. Every Year 20000 new connections given to our new consumer in various TPWODL area in Existing Distribution Transformer adding load to PTRS.

d. Deteriorating testing parameters:

During testing of PTRs, it is observed that some of the PTRs test results indicate deteriorating winding insulation and high core loss. It is recommended to replace such PTRs in a planned and phased manner in order to avoid loss of supply to consumers.

e. Improving System Reliability:

Many of the PSS across the various circles are not provided with the requisite redundancy at the PTR level. There are close to >40 stations where the load is catered to by a single PTR. Non availability of the PTR in these substations will lead to load diversions or load shedding. To prevent the same and ensuring the necessary (n-1) redundancy, critical substations need to be augmented with additional PTR of suitable capacity. This will help in catering to preventive maintenance while having the continuity of supply to consumers.

Load Flow Analysis

Hon'ble OERC has advised TPWODL to submit the Capex investment Plan based on Load flow studies. TPWODL has completed the load flow studies for 33KV & 11KV network after modelling the existing SLDs received from sites in CYMDIST Software and have prioritize the proposals based on load flow studies. Load flow studies Consists of 33KV feeder loading report, PTR Loading Report, 11KV feeder loading Report, DT Loading Report, Abnormalities observed in 33KV & 11KV Feeders, sections. Load Flow studies is also used to calculate the technical loss in the 33KV & 11KV network. Load flow studies is done on existing network, Base-2 (Existing network with Approved scheme after considering Load growth).

The main objective of this study is to evaluate the 33KV & 11KV network in TPWODL area for following objectives:

- Modelling of detailed electrical network of 33KV & 11KV network with all relevant technical details for Base-1 & base-2 Study.
- Identification of abnormal conditions (Under Voltage, Over Voltage, over loading, N-1 redundancy of high revenues) in 33KV & 11KV network as per loading of year 2023 & future load growth of 5 Yrs.
- Calculation of accurate technical losses with different loading condition on Network (For Lines, Cables and distribution transformers etc.)
- Plan mitigation proposals for identified abnormalities for catering future (next 5 years) load demand.
- Prepare & submit detailed study report after load flow study to mitigate over loading, under voltage and N-1 of High revenue feeder.
- Ensuring adequacy of the Network to serve the objectives of schemes like 24 x 7 Power for all, which mandates uninterrupted power supply to consumers.

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A power system built on any electrical network develops gradually, in response to the growth in demand for electrical energy in the area it serves. The load growth is witnessed not only in terms of increment in its value at a given point, but also geographically, over the years. The unpredictable nature of load growth impacts the operation and performance of the distribution network.

In order to improve the performance of the network one needs to analyze the existing electrical network and optimize them, such that they can cater the future load with high reliability and decreased losses.

The Pre-requisite for this study is:

- Electrical Network data/SLDs/Diagram for considered voltage levels. (If Geo-reference network data is available, it will be added advantage for future planning of network)
- Interconnections details with (NO & NC) points.
- Actual peak load details of 11kV s and DTRs.
- Accurate load growth estimation for next 5 years.
- Electrical network connectivity of approved proposals with major equipment details.

Salient Points of the Load Flow Study

- The present study report includes the electrical network starting from 33/11KV Substation, Transformers 11KV feeders up to Distribution Transformer.
- TPWODL PSCC team / Circle Team shared network NOC / topography of the network and the related technical data.
- The Study involves usage of technical data of network as currently available with the Power distribution utility (TPWODL) and updating of this technical data to reflect contemporary situation (year 2021).
- The complete details pertaining to the 11KV network were procured from the existing repository, which was already created and maintained over the period till date. This network data was updated after recording the changes in the network since the end of aforesaid period and before being used in CYMDIST Software for system studies.
- The reports of various analysis performed on this network are based on the available technical data from various locations and offices. More detailed analyses can be performed and thorough assessment can be done based on input data.
- The practice of study of power electrical network is meaningful and serves its intended purpose only if it is carried out periodically/regularly for a given area of interest, considering periodic changes in load conditions, which are seldom static.
- This purpose of this Study is largely to evaluate the performance of the power electrical network and verify how healthy network is to face any complex changes in the systems.

Kept in mind
for
update

Modes of studies:

Under this study it is planned to perform following assessment:

- Model detailed electrical network of existing 33KV & 11KV with all relevant technical details.
- Assessment of present network conditions & evaluate network adequacy for Distribution network.
- Identify the abnormal conditions in the network as per present loading conditions.
- Use method of Load allocation as per 'Actual KVA method' to allocate loading on DTR Loads & PTR Loads.
- Perform Load Flow Analysis on the existing network and identify the abnormal conditions (Over voltage, Under Voltage, Overloading of equipment's) in the network. Generate study report for loading and technical losses in the system.
- Apply Load Growth on the 33KV & 11KV Distribution network from Year 2021 to 2023 year. Again, performed Load Flow Analysis on the network and identified the abnormal conditions.
- Model detailed electrical network of approved (YTS & WIP proposals) 11KV s with all relevant technical details.
- Perform Load Flow Analysis on base-2 network and identify the abnormal conditions (Over voltage, Under Voltage, Overloading of equipment's) in the network. Generate study report for loading and technical losses in the system.
- Identify network reinforcement for catering future 5-year load demand.
- Discuss with field team and model the plan network after finalisation of proposals.
- Prepare & submit detailed study report on various System studies.

both mod of Network

Following voltage limits are used as specified in Electricity Supply Code for Study.

Voltage variation:

The Licensee shall maintain the voltage at the point of commencement of supply to a consumer within the limits stipulated here under, with reference to declared voltage.

In case of High Voltage (30.03kV to 33 kV), +6% and -9%

For simulating the Power Flow analysis, the following assumptions were considered.

1. Peak demand of FY 2024 assigned to the Distribution transformers.
2. Power Factor is considered 87.5%
3. LLF considered is 0.4504

The load flow analysis has been simulated using the Newton-Raphson-Unbalanced method for Power flow for the current network in 2023 and for the network with forecasted load growth for 5 year.

Load flow Study Outcome:

a) Existing Network Analysis Report for:

- Voltage Regulation
- Technical Losses
- Overloading both Conductor/ Cable and Power Transformers
- N-1 redundancy at Lines, Power Transformers & Sources (OPTCL/Other Discom)
- Network inadequacy

b) Base-2 Network Analysis Report for:

- Voltage Regulation
- Technical Losses
- Overloading both Conductor/ Cable and Power Transformers
- N-1 redundancy at Lines, Power Transformers & Sources (OPTCL/Other Discom)
- Network Inadequacy.

c) Mitigation Plan & Recommendations

d) Planned Network Analysis Report for:

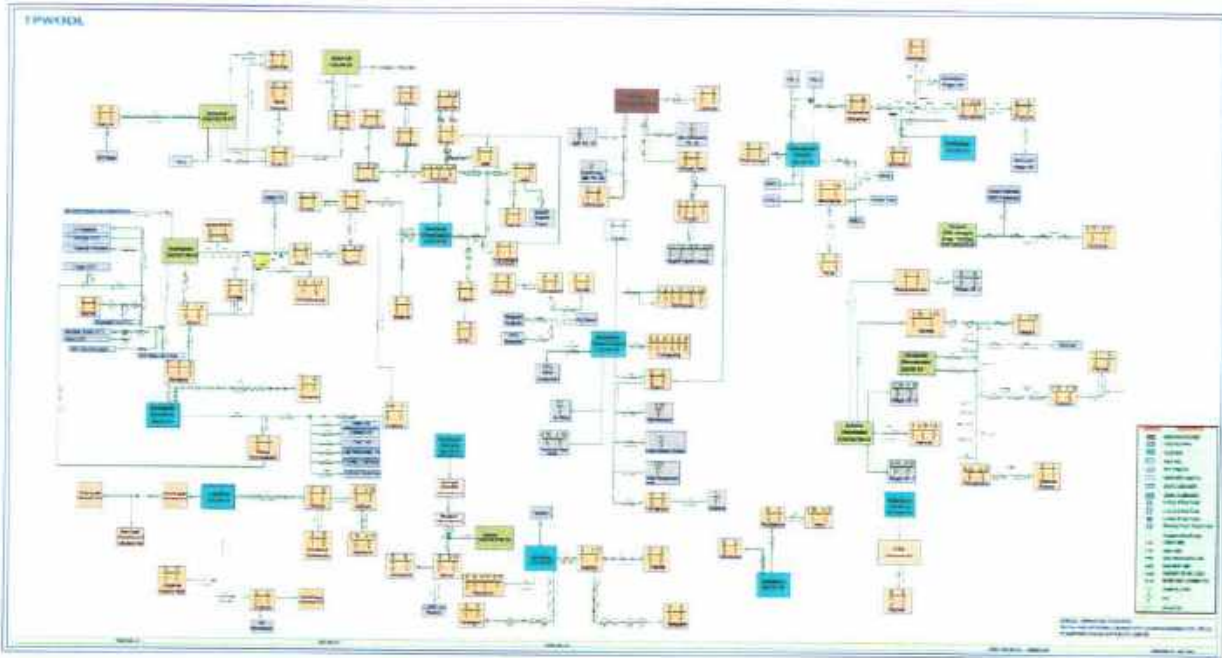
- Voltage Regulation
- Technical Losses
- Overloading both Conductor/ Cable and Power Transformers
- N-1 redundancy at Lines, Power Transformers & Sources (OPTCL/Other Discom)

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33 KV Network Topology:

Network Topology of Sambalpur Circle

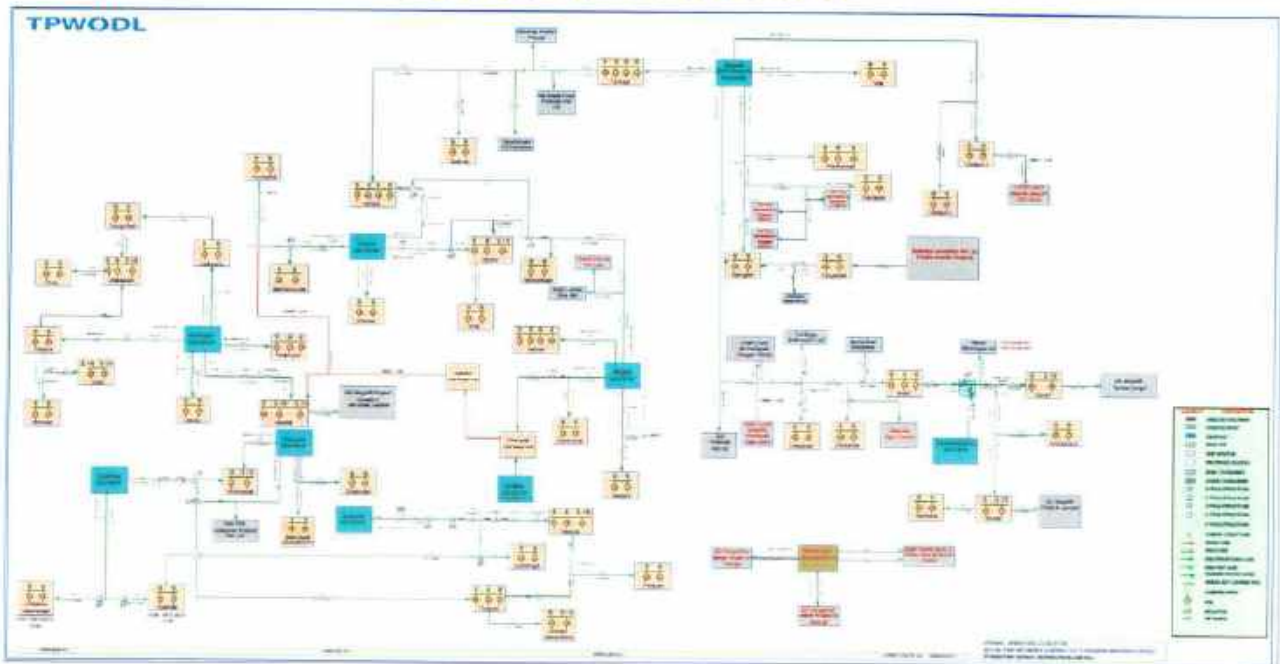
SAMBALPUR CIRCLE-R21



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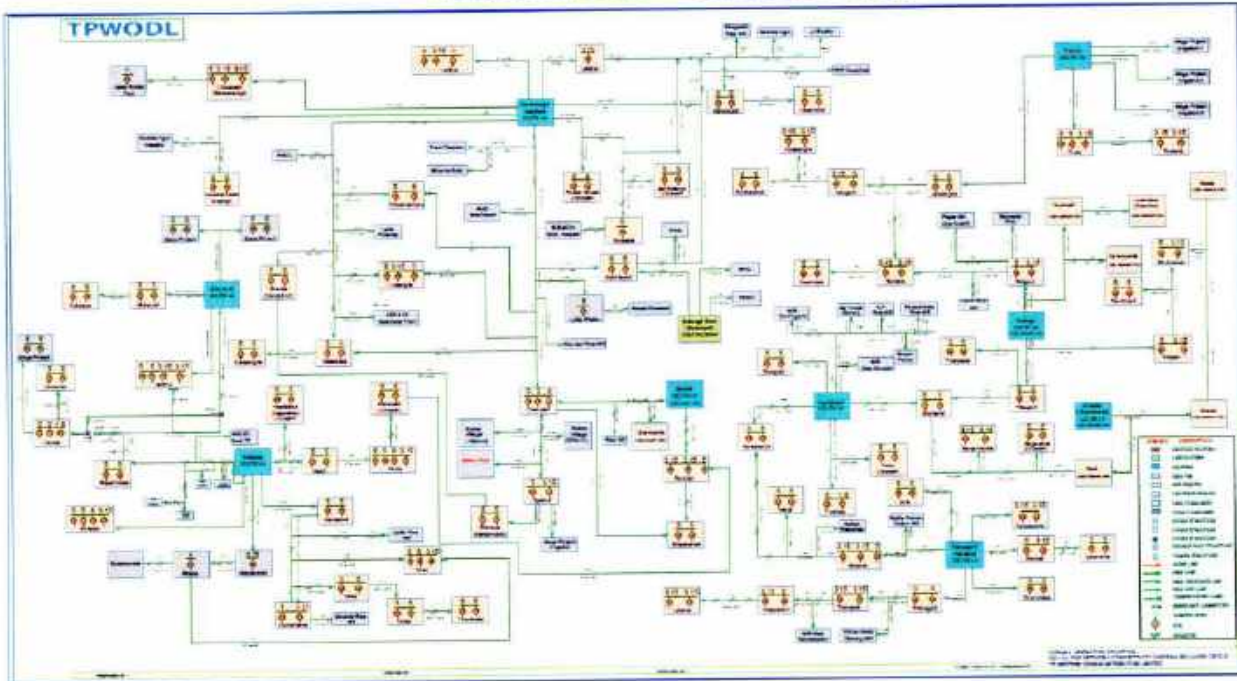
Network Topology of Bargarh Circle

BARGARH CIRCLE-R11



Network Topology of Bolangir Circle

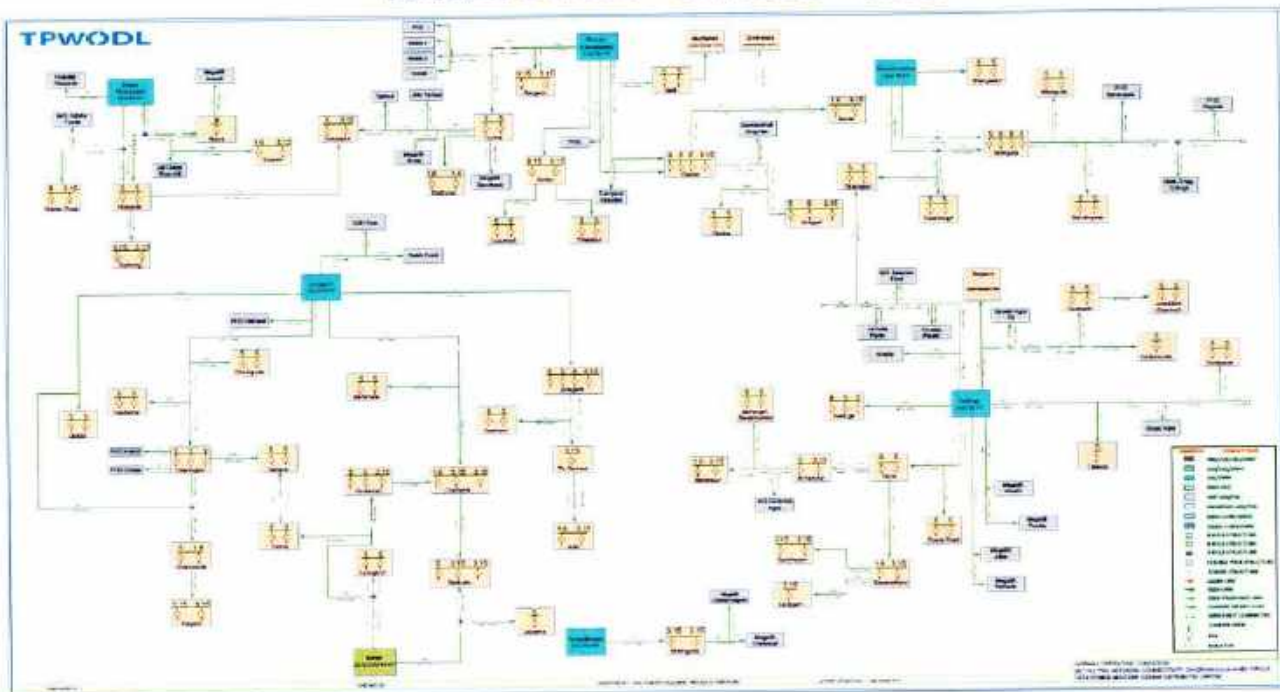
BOLANGIR CIRCLE -R16



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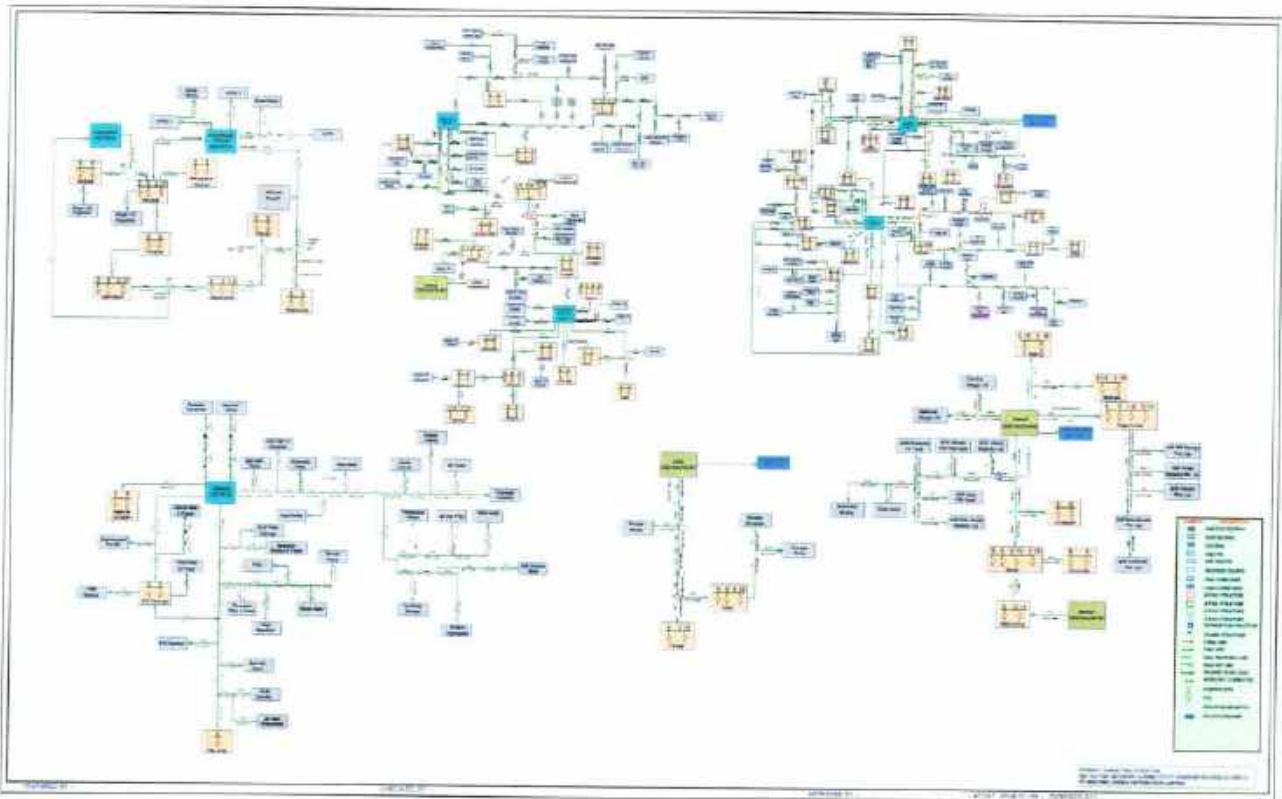
Network Topology of Kalahandi Circle

KALAHANDI CIRCLE - R10



Network Topology of Rourkela Circle

ROURKELA CIRCLE -R17



Legend of Symbols

> 33KV Feeders:

• Summary of 33KV Feeder Loading Report:

Circle Name	No. of Feeder	Total Load (KW)	Total loss (KW)	Total Feeder Length (KM)	Average Feeder Length (KM)	Loss% (At Peak Loading)	Loss% (At Average Loading)
Bargarh	22	296238	26201	662	30	8.84%	3.98%
Bolangir	39	244762	17941	1091	28	7.33%	3.30%
Kalahandi	25	160153	13386	1192	48	8.36%	3.76%
Rourkela	54	409419	16584	1280	24	4.05%	1.82%
Sambalpur	51	291880	11800	1217	24	4.04%	1.82%
Total	191	1402452	85912	5442	28	6.13%	2.76%

- 33KV Feeders Loading Report:

Circle	GSS Name	33kV Feeder Name	Total Load (KVA)	Total Load (KW)	Current (A)	Total Losses (KW)	Loss %	Length (K m)
Sambalpur	Barkote	BARKOTE	1825	1596	32	24	1.5	6
Sambalpur	Barkote	BHAKTABADKUDAR	2851	2495	50	45	1.8	16
Sambalpur	Barkote	DEOGARH	7200	6298	126	166	2.6	7
Sambalpur	Barkote	MEGALIFT-II (AMBAKATA)	6723	5882	118	34	0.6	3
Sambalpur	Barkote	MEGALIFT-I (JANGLA & MASHINTA)	5227	4574	91	10	0.2	1
Sambalpur	Brajrajnagar	BRAJRAJNAGAR	9343	8164	163	90	1.1	2
Sambalpur	Brajrajnagar	OCPL	1877	1642	33	18	1.1	17
Sambalpur	Brajrajnagar	OPGC	6531	5710	114	426	7.5	35
Sambalpur	Brajrajnagar	TRL-1	6873	6011	120	214	3.6	15
Sambalpur	Brajrajnagar	TRL-2	6866	6001	120	271	4.5	18
Sambalpur	Buddhipadar	AIRPORT	8876	7762	155	576	7.4	23
Sambalpur	Buddhipadar	BAGDEHI	7264	6348	127	191	3.0	44
Sambalpur	Buddhipadar	INDUSTRIAL-I	11257	9840	197	227	2.3	36
Sambalpur	Buddhipadar	INDUSTRIAL-II	3192	2792	56	22	0.8	8
Sambalpur	Chiplima	DHAMA_1	7490	6554	131	839	12.8	108
Sambalpur	Hirakud	BURLA HIRAKUD	17	0.00	0.30	0.00	99.9	0
Sambalpur	Hirakud	HIRAKUD	17	0.00	0.30	0.00	99.9	0
Sambalpur	Hirakud	REMED	30	26	1	12	44.4	6
Sambalpur	Sarasmal	AIRPORT SARASMAL	68	0.0	1	0.0	100	17
Sambalpur	Sarasmal	JHARSUGUDA FDR	17755	15513	311	97	0.6	0
Sambalpur	Sarasmal	KOLABIRA	16048	14036	281	1420	10.1	26
Sambalpur	Sarasmal	SARBAHAL	7493	6546	131	99	1.5	3
Sambalpur	Katapali	BURLA FDR	9540	8339	167	246	2.9	18
Sambalpur	Katapali	CHAURPUR	6008	5252	105	164	3.1	47
Sambalpur	Katapali	GM MCL	1628	1425	28	3	0.2	3
Sambalpur	Katapali	JYOTI VIHAR.	2160	1889	38	23	1.2	5
Sambalpur	Katapali	MEDICAL	2566	2244	45	25	1.1	7
Sambalpur	Khandakata	KHANDAKATA	8222	7190	144	242	3.4	84

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Circle	GSS Name	33kV Feeder Name	Total Load (KVA)	Total Load (KW)	Current (A)	Total Losses (KW)	Loss %	Length (K m)
Sambalpur	Khandakata	KUCHINDA	9599	8397	168	677	8.1	90
Sambalpur	Khandakata	LAIKERA	9767	8542	171	769	9.0	49
Sambalpur	Khandakata	MEGALIFT	3092	2705	54	21	0.8	7
Sambalpur	Lapanga	KATARBAGA	3325	2909	58	46	1.6	26
Sambalpur	Lapanga	LAPANGA	2510	2194	44	22	1.0	2
Sambalpur	Lapanga	RENGALI FDR	7499	6551	131	229	3.5	24
Sambalpur	Maneswar	MANESWAR	2566	2244	45	22	1.0	6
Sambalpur	Maneswar	PADIABAHAL	3823	3342	67	53	1.6	20
Sambalpur	Punjipathar	LAKHANPUR	377	338	7	12	3.5	4
Sambalpur	Punjipathar	PANCHGAON	10129	8846	177	1031	11.7	88
Sambalpur	Rairakhhol	KADALIGARH	1497	1309	26	22	1.7	14
Sambalpur	Rairakhhol	NAKTIDEUL	3625	3169	63	154	4.9	72
Sambalpur	Rairakhhol	RAIRAKHOL FDR	4667	4078	82	61	1.5	3
Sambalpur	Ainthapali	AINTHAPALI	26850	23458	470	524	2.2	4
Sambalpur	Ainthapali	CHEDUAPADA	12963	11330	227	245	2.2	20
Sambalpur	Ainthapali	IOCL	2926	2560	51	21	0.8	15
Sambalpur	Ainthapali	PUTIBANDH	29859	26089	522	1440	5.5	9
Sambalpur	Ainthapali	SASON	9591	8382	168	233	2.8	33
Sambalpur	Ainthapali	VEDANT	6219	5438	109	196	3.6	20
Sambalpur	Sunamunda	DEOGARH SUNAMUNDA	6971	6091	122	240	3.9	22
Sambalpur	Sunamunda	REAMAL SUNAMUNDA	5025	4395	88	173	3.9	68
Sambalpur	Rengali	BUDHAPALI	1103	965	19	15	1.6	25
Sambalpur	Bamra	JHARIABAHAL	4989	4364	87	63	1.5	39
Bolangir	B M Pur	BM PUR - NEW	5909	5166	103	55	1.1	2
Bolangir	B M Pur	MEGALIFT SUBALAYA	866	758	15	1	0.2	5
Bolangir	B M Pur	SUBALAYA - NEW	4805	4202	84	104	2.5	14
Bolangir	B M Pur	ULLUNDA - NEW	8385	7333	147	605	8.3	55
Bolangir	Barpali	AGALPUR (MELECHHAM UNDA)	18921	16538	331	2652	16.0	57
Bolangir	Barpali	PANDIKITAL	17140	14984	300	1077	7.2	43
Bolangir	Kantabanji	GUDIGHAT	2864	2504	50	43	1.7	15
Bolangir	Kantabanji	INDUSTRIAL	605	530	11	2	0.4	5
Bolangir	Kantabanji	KANTABHANJHI	7281	6364	127	90	1.4	4
Bolangir	Kantabanji	MURIBAHAL	3965	3468	69	168	4.8	34
Bolangir	Kantabanji	TUREKELA	4627	4046	81	169	4.2	25
Bolangir	Kesinga	TITLAGARGH(KE SINGA)	18530	16195	324	985	6.1	83

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Circle	GSS Name	33kV Feeder Name	Total Load (KVA)	Total Load (KW)	Current (A)	Total Losses (KW)	Loss %	Length (Km)
Bolangir	Sadeipali	BPCL	376	329	7	1	0.3	4
Bolangir	Sadeipali	MADHIAPALI	11242	9828	197	452	4.6	37
Bolangir	Sadeipali	MEDICAL-BBMCH	763	668	13	1	0.2	7
Bolangir	Old Bolangir	BARPALI(BOLANGIR)	16438	14362	288	1997	13.9	47
Bolangir	Old Bolangir	BOLANGIR	8063	7048	141	43	0.6	0
Bolangir	Old Bolangir	BOUDH	12857	11237	225	249	2.2	18
Bolangir	Old Bolangir	DUMERBAHAL	467	409	8	5	1.1	3
Bolangir	Old Bolangir	DUNGRI PALI	16787	14668	294	2305	15.7	47
Bolangir	Old Bolangir	IDCO	24	0.0	0.4	0.0	100	6
Bolangir	Old Bolangir	PATNAGARH	6594	5765	115	297	5.1	26
Bolangir	Old Bolangir	TITLAGARH(BOLANGIR)	9134	7983	160	158	2.0	5
Bolangir	Rampur(Patnagarh)	DHUMABHATA	4056	3543	71	94	2.6	24
Bolangir	Rampur(Patnagarh)	GHUMER	5575	4874	98	194	4.0	24
Bolangir	Rampur(Patnagarh)	JURIA (PADAMPUR)	1140	998	20	20	2.0	22
Bolangir	Rampur(Patnagarh)	KHAPARAKHOL	6285	5497	110	424	7.7	43
Bolangir	Rampur(Patnagarh)	PATNAGARH RAMPUR	20560	17970	360	1346	7.5	56
Bolangir	Rampur(Patnagarh)	TENDAPADAR	3206	2803	56	35	1.2	3
Bolangir	Sonepur	BINKA	15547	13588	272	1083	8.0	37
Bolangir	Sonepur	BIRAMAHARIPUR	1139	997	20	14	1.4	7
Bolangir	Sonepur	DUMBERHAL(SONEPUR)	468	410	8	72	17.6	87
Bolangir	Sonepur	NANDANMAL	902	790	16	8	1.0	89
Bolangir	Sonepur	SONEPUR	9523	8325	167	62	0.7	1
Bolangir	Tusra	DEOGAON	11439	10000	200	492	4.9	64
Bolangir	Tusra	MEGA PROJECT IRRIGATION-3	3126	2735	55	55	2.0	15
Bolangir	Tusra	MEGA PROJECT IRRIGATION-1	10077	8806	176	2489	28.3	65

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Circle	GSS Name	33kV Feeder Name	Total Load (KVA)	Total Load (KW)	Current (A)	Total Losses (KW)	Loss %	Length (Km)
Bolangir	Tusra	MEGA PROJECT IRRIGATION-2	871	763	15	3	0.4	10
Bolangir	Tusra	TUSURA	9474	8278	166	90	1.1	2
Bargarh	Barpali	BARPALI	19112	16704	334	713	4.3	5
Bargarh	Barpali	SARANDAPALI	13873	12125	243	751	6.2	46
Bargarh	Chiplima	GOSHALA	19032	16632	333	865	5.2	17
Bargarh	Chorgrindola	BHUKTA	13206	11551	231	1199	10.4	84
Bargarh	Ghenss	BIJEPUR	24255	21212	424	3439	16.2	29
Bargarh	Ghenss	GHENSS	13500	11809	236	115	1.0	1
Bargarh	Ghenss	MELCHHAMUNDA	12796	11187	224	903	8.1	28
Bargarh	Ghenss	SOHELA	25737	22514	450	3452	15.3	23
Bargarh	Katapali	ATTABIRA	17416	15238	305	1376	9.0	39
Bargarh	Desh Bhatli	KHUNTLIPALI	3998	3493	70	69	2.0	10
Bargarh	Desh Bhatli	MAHULPALI	5077	4440	89	64	1.4	12
Bargarh	Desh Bhatli	THUAPALI	10883	9510	190	442	4.6	32
Bargarh	Padampur	DAHITA	2053	1796	36	27	1.5	12
Bargarh	Padampur	GAISLET	8799	7693	154	969	12.6	40
Bargarh	Padampur	LAKHMARA	14217	12423	249	1283	10.3	54
Bargarh	Padampur	PADAMPUR	10183	8899	178	100	1.1	3
Bargarh	Padampur	PAIKMAL	15548	13593	272	3561	26.2	91
Bargarh	Pradhanpali	4 POLE	19316	16882	338	629	3.7	47
Bargarh	Pradhanpali	DUNGURI	24394	21320	427	1601	7.5	41
Bargarh	Pradhanpali	TORA	8016	7006	140	121	1.7	5
Bargarh	Pradhanpali	TOWN	25767	22539	451	460	2.0	3
Bargarh	Pradhanpali	TURUNGA	31598	27673	553	4062	14.7	41
Kalahandi	Bhangbari	BHANGBARI	1824	1595	32	16	1.0	5
Kalahandi	Bhangbari	TOWN FEEDER 1	11886	10397	208	307	3.0	36
Kalahandi	Bhangbari	TOWN FEEDER 2	9361	8178	164	96	1.2	3
Kalahandi	Nuapada	BISORA	8766	7663	153	494	6.4	36
Kalahandi	Nuapada	KHARIAR ROAD	16598	14507	290	707	4.9	33
Kalahandi	Nuapada	NEW MEDICAL	171	150	3	5	3.1	9
Kalahandi	Junagarh	BHAWANIPATNA	753	128	13	8	6.0	6
Kalahandi	Junagarh	CHARBAHAL	7998	6992	140	497	7.1	36
Kalahandi	Junagarh	DASPUR	5828	5092	102	178	3.5	25
Kalahandi	Junagarh	DHARMAGARH	11885	10390	208	1115	10.7	104
Kalahandi	Junagarh	JUNAGARH	8157	7132	143	283	4.0	72
Kalahandi	Kesinga	BELGAON	7314	6400	128	373	5.8	121

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Circle	GSS Name	33kV Feeder Name	Total Load (KVA)	Total Load (KW)	Current (A)	Total Losses (KW)	Loss %	Length (K m)
Kalahandi	Kesinga	BHAWANIPATN A 1	2969	2597	52	87	3.3	28
Kalahandi	Kesinga	BHAWANIPATN A-2	4669	4083	82	230	5.6	39
Kalahandi	Kesinga	KESINGA	8971	7840	157	103	1.3	2
Kalahandi	Kesinga	MEGA LIFT 1	228	200	4	0.2	0.1	10
Kalahandi	Kesinga	MEGA LIFT 2	228	200	4	10	4.8	23
Kalahandi	Kesinga	NARLA	15955	13941	279	3882	27.8	162
Kalahandi	Khariar	BARGOAN(OLD NUAPADA)	9589	8384	168	1037	12.4	100
Kalahandi	Khariar	BODEN	3771	3299	66	183	5.6	49
Kalahandi	Khariar	KHARIAR 1	10508	9190	184	810	8.8	43
Kalahandi	Khariar	KHARIAR 2	16866	14752	295	2005	13.6	104
Kalahandi	Tentlikhunti	MUKHIGUNDA	1600	1401	28	82	5.9	65
Kalahandi	Baner	BADKUTRU	8204	7169	144	239	3.3	21
Kalahandi	Baner	LADUGAON	9693	8475	170	641	7.6	58
Rourkela	Anulabahal	LEPHRIPADA	7597	6643	133	290	4.4	40
Rourkela	Anulabahal	SARGIPALI ANULABAHAL	7793	6810	136	258	3.8	59
Rourkela	Kuarmunda	BIRMITRAPUR KUARMUNDA	35	0	1	0.0	100.0	8
Rourkela	Kuarmunda	KUARMUNDA-PURUNAPANI FEEDER	11782	10065	206	625	6.2	44
Rourkela	Sundargarh	COLLEGE	5138	4490	90	52	1.2	5
Rourkela	Sundargarh	KUNDUKELA	1911	1671	33	31	1.9	17
Rourkela	Sundargarh	MAJHAPADA	2874	2514	50	62	2.5	24
Rourkela	Sundargarh	MEGA LIFT	3898	3412	68	17	0.5	21
Rourkela	Sundargarh	NTPC MEDICAL	599	525	10	0.02	0.0	0
Rourkela	Sundargarh	SADAR(UJALPUR)	3114	2723	54	38	1.4	13
Rourkela	Sundargarh	SANKARA	11981	10469	210	87	0.8	1
Rourkela	Sundargarh	SARGIPALI (KFM)	600	525	10	2	0.4	15
Rourkela	Sundargarh	SUBDEGA	9589	8393	168	1166	13.9	93
Rourkela	Sundargarh	SUNDARGARH(BADAGAON)	9706	8487	170	692	8.1	57
Rourkela	Barkote	MAHULDIHA	1712	1498	30	32	2.1	35
Rourkela	Bonai	BONAI	9597	8388	168	314	3.7	58
Rourkela	Bonai	K BALANG	1329	1163	23	34	2.9	45
Rourkela	Bonai	MEGALIFT	959	840	17	1	0.2	14
Rourkela	Bonai	RAJAMUNDA	5986	5235	105	50	1.0	7
Rourkela	Brajrajnagar	ARYAN	3933	3440	69	170	4.9	55

Kalahandi of Rourkela

Circle	GSS Name	33kV Feeder Name	Total Load (KVA)	Total Load (KW)	Current (A)	Total Losses (KW)	Loss %	Length (K m)
Rourkela	Brajrajnagar	NTPC-1	83	0	1	0	100.0	21
Rourkela	Brajrajnagar	NTPC-2	84	0	1	0	100.0	21
Rourkela	Brajrajnagar	SARGIPALI	1956	1914	34	51	2.6	28
Rourkela	Chhend	BASANTI	7806	6821	137	65	1.0	3
Rourkela	Chhend	BIRAMITRAPUR	19509	17058	341	1491	8.7	57
Rourkela	Chhend	CHHEND	7780	6801	136	54	0.8	3
Rourkela	Chhend	HOCKEY DEDICATED	645	564	11	7	1.2	3
Rourkela	Chhend	INDUSTRIAL(KUARMUNDA)	19194	16776	336	1045	6.2	29
Rourkela	Chhend	KALINGA VIHAR	5877	5137	103	43	0.8	2
Rourkela	Chhend	KOELNAGAR	21598	18868	378	892	4.7	25
Rourkela	Chhend	PURUNAPANI	3799	3323	66	152	4.6	33
Rourkela	Chhend	REC	16798	14681	294	799	5.4	57
Rourkela	Chhend	VEDVAYAS	16797	14679	294	531	3.6	23
Rourkela	Joda	TENSA 33KV	11987	10487	210	1094	10.4	40
Rourkela	Kalunga	BALANDA	2395	2094	42	28	1.3	7
Rourkela	Kalunga	IDC INDUSTRIAL	21566	18858	377	292	1.6	12
Rourkela	Kalunga	IDC KALUNGA	15561	13610	272	88	0.6	4
Rourkela	Kalunga	KALUNGA	16777	14669	294	254	1.7	14
Rourkela	Kalunga	MAHAVIR	8481	7420	148	95	1.3	4
Rourkela	Kalunga	RELIABLE	14363	12563	251	74	0.6	2
Rourkela	Rajgangpur	KUTRA	21594	18894	378	1869	9.9	68
Rourkela	Rajgangpur	RAJGANGPUR	8387	7330	147	73	1.0	2
Rourkela	Rajgangpur	ROURKELA-1	20398	17828	357	1016	5.7	35
Rourkela	Rajgangpur	ROURKELA-2	16989	14850	297	393	2.6	22
Rourkela	Rajgangpur	SUNDARGARH	10545	9224	184	257	2.8	48
Rourkela	Rourkela	BONAI INDUSTRIAL	19289	16860	337	1264	7.5	33
Rourkela	Rourkela	DIVISIONAL ENGINEER	2094	1832	37	11	0.6	8
Rourkela	Rourkela	IDC	7189	6285	126	97	1.5	13
Rourkela	Rourkela	INDUSTRIAL ESTATE	1171	1024	20	7	0.7	7
Rourkela	Rourkela	LATHIKATA	9597	8389	168	318	3.8	19
Rourkela	Rourkela	PHD	7189	6283	126	74	1.2	6
Rourkela	Rourkela	PILOT PROJECT	4491	3927	79	40	1.0	10
Rourkela	Rourkela	RK TOWN 1 BONDUMUNDA	7186	6283	126	78	1.2	11
Rourkela	Rourkela	RKL TOWN POWER HOUSE	19198	16793	336	113	0.7	0

Kuprad ch Nanda

Load Flow study Observation on Existing Network:

- 33KV Overloaded Feeder/Sections:
- Summary of Circle wise 33 KV Overloaded Feeders:

Circle	No. of GSS	No. of 33kV Feeders	No. of overload feeder	No. of Section with Over Load
BARGARH	5	22	5	7
BOLANGIR	8	39	2	3
KALAHANDI	7	25	2	2
ROURKELA	9	54	1	1
SAMBALPUR	16	51	2	4
Total	45	191	12	17

- List Of Over Load Feeders & Sections:

Circle	GSS Name	33kV Feeder Name	Conductor Size (Sq.mm)	Length (Km)	Peak Load (A)	Loading (%)
Bargarh	KATAPALI	ATTABIRA	100	0.7	305	107
Bargarh	BARPALI	BARPALI	100	4.5	334	117
Bargarh	GHENSS	BIJEPUR	148	21	424	115
Bargarh	BARPALI	SARANDAPALI	55	0.3	239	123
Bargarh	BARPALI	SARANDAPALI	55	0.25	239	123
Bargarh	BARPALI	SARANDAPALI	55	0.1	239	123
Bargarh	PRADHANPALI	TURUNGA	232	22	553	113
Bolangir	BARPALI	AGALPUR (MELECHHAMUNDA)	80	12	331	133
Bolangir	OLD BOLANGIR	BARPALI(BOLANGIR)	100	8	288	101
Bolangir	OLD BOLANGIR	BARPALI(BOLANGIR)	80	10	279	112
Kalahandi	KHARIAR	KHARIAR 2	100	1.2	295	103
Kalahandi	KHARIAR	KHARIAR ROAD	100	2.5	290	102
Rourkela	CHHEND	BIRAMITRAPUR	100	1	342	119
Sambalpur	JHARSUGUDA	KOLABIRA	80	2.1	281	113
Sambalpur	JHARSUGUDA	KOLABIRA	80	4.2	281	113
Sambalpur	JHARSUGUDA	KOLABIRA	80	2.1	281	113
Sambalpur	SAMBALPUR (GANESH NAGAR)	PUTIBANDH	232	9	522	107

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- List Of Under Voltage Feeders & Section:

Circle	Name	33kV Feeder Name	Section Name	Conductor Size (Sq.mm)	V (kVLL)	Length (Km)	IBal (A)
Bargarh	PRADHANPALI	4 POLE	4POLE_NUZIVEEDU SEEDS T-OFF TO TANGERPALI PSS	100	29.9	5.0	60.3
Bargarh	PRADHANPALI	4 POLE	4POLE_TANGERPALI PSS TO KIPL HYDRO ELECTRIC PROJECT	100	29.9	10.0	0.7
Bargarh	PRADHANPALI	4 POLE	4POLE_KAKATIYA 33KV BUS TO KAKTIYA STN TRF.	100	29.9	0.0	0.7
Bargarh	KATAPALI	ATTABIRA	ATTABIRA_GODBHAGA PSS T-OFF TO NEAR MADA BHATI.	232	29.2	10.6	305.1
Bargarh	KATAPALI	ATTABIRA	ATTABIRA_NEAR MADA BHATI TO END OF MADA BHATI.	100	29.0	0.7	305.4
Bargarh	KATAPALI	ATTABIRA	ATTABIRA_NEAR MADA BHATI TO ATTABIRA PSS.	232	28.8	1.5	305.5
Bargarh	KATAPALI	ATTABIRA	ATTABIRA_ATTABIRA PSS TO PATRAPALI PSS T-OFF.	173	28.5	7.0	72.1
Bargarh	KATAPALI	ATTABIRA	ATTABIRA_PATRAPALI PSS T-OFF TO KAPABADI.	173	28.5	4.0	0.4
Bargarh	KATAPALI	ATTABIRA	ATTABIRA_KAPABADI TO THUAPALI PSS.	55	28.5	2.0	0.1
Bargarh	KATAPALI	ATTABIRA	ATTABIRA_PATRAPALI PSS T-OFF TO PATRAPALI PSS.	148	28.4	0.9	72.4
Bargarh	CHORGRINDOLA	BHUKTA	DUNGURI_DUNGURI_BHUKTA FDR TAP PT(SUKUDA) TO DUNGURI PSS T-OFF	173	29.8	12.0	231.4
Bargarh	CHORGRINDOLA	BHUKTA	DUNGURI_DUNGURI PSS T-OFF TO AMBHABHONA PSS T-OFF	173	29.2	5.0	170.5
Bargarh	CHORGRINDOLA	BHUKTA	DUNGURI_AMBHABHONA PSS T-OFF TO AMBHABHONA PSS	148	29.2	0.8	36.3
Bargarh	CHORGRINDOLA	BHUKTA	DUNGURI_AMBHABHONA PSS T-OFF TO BHUKTA PSS	173	29.0	3.0	134.4
Bargarh	CHORGRINDOLA	BHUKTA	DUNGURI_BHUKTA PSS TO JAMPALI.MEGALIFT	100	28.9	8.0	6.6

High mod ch. Nanda.

Circle	Name	33kV Feeder Name	Section Name	Conductor Size (Sq.mm)	V (kVLL)	Length (Km)	IBal (A)
Bargarh	CHORGRINDOLA	BHUKTA	DUNGURI_ BHUKTA PSS TO KANDPALA PSS	148	28.7	7.0	61.5
Bargarh	CHORGRINDOLA	BHUKTA	LOCAL LOAD.BHUKTA	232	29.0	0.0	0.4
Bargarh	CHORGRINDOLA	BHUKTA	DUNGURI_ DUNGURI PSS T-OFF TO DUNGURI PSS	55	27.7	25.0	61.3
Bargarh	CHORGRINDOLA	BHUKTA	DUNGURI_MEGA.IRRIGATION	100	27.7	12.0	2.9
Bargarh	GHENSS	BIJEPUR	BIJEPUR_132/33KV GHENSS GSS TO BIJEPUR PSS.	148	26.7	21.0	424.3
Bargarh	GHENSS	BIJEPUR	BIJEPUR_BIJEPUR PSS TO ARDA PSS.	148	25.8	8.2	161.6
Bargarh	GHENSS	BIJEPUR	LOCAL LOAD.AARDA	232	25.8	0.0	0.4
Bargarh	PRADHANPALI	DUNGURI	DUNGURI_UDEYPALI PSS & TULI ENGG T-OFF TO RAISOBHA PSS T-OFF	232	29.8	5.0	320.5
Bargarh	PRADHANPALI	DUNGURI	DUNGURI_RAISOBHA PSS T-OFF TO RAISOBHA PSS	148	29.3	6.0	115.4
Bargarh	PRADHANPALI	DUNGURI	DUNGURI_RAISOBHA T-OFF TO GURUJI RICE IND. T-OFF	232	29.6	1.0	205.3
Bargarh	PRADHANPALI	DUNGURI	DUNGURI_GURUJI RICE IND. T-OFF TO BHATLI PSS	232	29.2	4.0	203.6
Bargarh	PRADHANPALI	DUNGURI	DUNGURI_ BHATLI PSS TO 33KV BHUKTA FDR TAP PT.(CHORGRINDOLA GSS)	232	29.2	5.0	0.3
Bargarh	PRADHANPALI	DUNGURI	DUNGURI_GURUJI RICE IND. T-OFF TO GURUJI RICE IND. XLPE CABLE	55	29.6	0.2	1.8
Bargarh	PRADHANPALI	DUNGURI	DUNGURI_GURUJI RICE IND. XLPE CABLE TO GURUJI RICE MILL IND.	AL_18 5 _XLPE	29.6	0.1	1.8
Bargarh	PRADHANPALI	DUNGURI	DUNGURI_UDEYPALI PSS & TULI ENGG. T-OFF TO UDEYPALI PSS	148	30.0	9.0	100.8
Bargarh	PADAMPUR	GAISILET	GAISILET_132/33KV PADAMPUR GSS TO GAISILET PSS.	100	28.4	31.5	154.0
Bargarh	PADAMPUR	GAISILET	GAISILET_GAISILET PSS TO JAMUTPALI	100	28.4	8.0	6.4

log mod ch. Amdr.

Circle	Name	33kV Feeder Name	Section Name	Conductor Size (Sq.mm)	V (kVLL)	Length (Km)	IBal (A)
			MEGALIFT IRRIGATION.				
Bargarh	CHIPLIMA	GOSHALA	GOSHALA_GOSHALA PSS TO GODBHAGA PSS	80	30.0	5.0	164.3
Bargarh	CHIPLIMA	GOSHALA	ATTABIRA FDR & GOSALA FDR INTERCONN. PT. NEAR GODBHAGA PSS	232	30.0	0.0	0.0
Bargarh	PADAMPUR	LAKHMARA	LAKHMARA_LAKHMARA PSS TO DUNGURIPALI PSS	232	28.1	25.0	165.5
Bargarh	PADAMPUR	LAKHMARA	LAKHMARA_DUNGURIPALI PSS 33KV BUS TO BAY DP	AL_400_XLPE	28.1	0.1	93.6
Bargarh	PADAMPUR	LAKHMARA	LAKHMARA_DUNGURIPALI PSS TO JHARBANDH PSS.	148	27.2	14.0	93.6
Bargarh	GHENSS	MELCHHAMUNDA	MELCHHAMUNDA_KUNDAKHAI PSS T-OFF TO CHARCHOWK.	55	29.2	7.5	99.9
Bargarh	GHENSS	MELCHHAMUNDA	MELCHHAMUNDA_KUNDAKHAI.	148	29.1	2.5	100.1
Bargarh	PADAMPUR	PAIKMAL	PAIKMAL_132/33KV PADAMPUR GSS TO PAIKMAL PSS_100SQMM SEC-1.	100	28.9	16.0	272.0
Bargarh	PADAMPUR	PAIKMAL	PAIKMAL_132/33KV PADAMPUR GSS TO PAIKMAL PSS_173SQMM SEC-2.	173	27.5	8.3	272.5
Bargarh	PADAMPUR	PAIKMAL	PAIKMAL_132/33KV PADAMPUR GSS TO PAIKMAL PSS_100SQMM SEC-3.	100	26.8	2.5	272.7
Bargarh	PADAMPUR	PAIKMAL	PAIKMAL_132/33KV PADAMPUR GSS TO PAIKMAL PSS_173SQMM SEC-4.	173	26.1	4.3	272.8
Bargarh	PADAMPUR	PAIKMAL	PAIKMAL_132/33KV PADAMPUR GSS TO PAIKMAL PSS_100SQMM SEC-5.	100	25.6	2.0	272.9
Bargarh	PADAMPUR	PAIKMAL	PAIKMAL_PAIKMAL PSS TO JHITKI PSS T-OFF.	148	25.4	6.0	62.3
Bargarh	PADAMPUR	PAIKMAL	PAIKMAL_JHITKI PSS T-OFF TO JHITKI PSS.	148	25.3	8.0	18.1

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Circle	Name	33kV Feeder Name	Section Name	Conductor Size (Sq.mm)	V (kVLL)	Length (Km)	IBal (A)
Bargarh	PADAMPUR	PAIKMAL	PAIKMAL_JHITKI PSS T-OFF TO MANDOSIL PSS.	148	25.0	12.0	44.4
Bargarh	PADAMPUR	PAIKMAL	PAIKMAL_PAIKMAL PSS TO JHARBANDH PSS.	55	21.8	20.0	131.1
Bargarh	PADAMPUR	PAIKMAL	PAIKMAL_JHARBANDH PSS TO DOVA PSS	148	20.7	12.0	131.5
Bargarh	PADAMPUR	PAIKMAL	LOCAL.LOAD.PAIKMAL	232	20.7	0.0	0.3
Bargarh	GHENSS	SOHELA	SOHELA_132/33KV GHENSS GSS TO SOHELA PSS.	173	26.4	23.0	450.3
Bargarh	PRADHANPALI	TURUNGA	TURUNGA_132/33KV PRADHANPALI TO TURUNGA PSS	232	26.5	22.0	552.8
Bargarh	PRADHANPALI	TURUNGA	LOCAL.LOAD.TURUNGA	232	26.5	0.0	0.5
Bargarh	PRADHANPALI	TURUNGA	T.OFF.TURUNGA	232	26.5	0.1	97.6
Bargarh	PRADHANPALI	TURUNGA	TURUNGA_TURUNGA PSS TO BAL GOPAL FOOD	232	26.1	4.0	247.8
Bargarh	PRADHANPALI	TURUNGA	75	232	25.9	1.7	236.6
Bargarh	PRADHANPALI	TURUNGA	76	100	25.9	0.0	6.4
Bargarh	PRADHANPALI	TURUNGA	77	AL_18 5 _XLPE	25.9	0.1	6.4
Bargarh	PRADHANPALI	TURUNGA	TURUNGA_BAL GOPAL FOOD T-OFF TO DEOSWARWALI OIL MILL T-OFF.	232	25.8	0.8	230.2
Bargarh	PRADHANPALI	TURUNGA	TURUNGA_DEOSWARWALI OIL MILL T-OFF TO DASHMILE PSS T-OFF.	232	25.3	4.5	219.4
Bargarh	PRADHANPALI	TURUNGA	TURUNGA_DASHMILE PSS T-OFF TO DASHMILE PSS.	148	25.3	0.2	219.6
Bargarh	PRADHANPALI	TURUNGA	TURUNGA_DASHMILE PSS T-OFF TO SOHELA PSS.	232	25.3	7.0	0.4
Bargarh	PRADHANPALI	TURUNGA	TURUNGA_DEOSWARWALI OIL MILL T-OFF TO DEOSWARWALI OIL MILL.	CU_18 5 _XLPE	25.8	0.3	10.9

Registered Ch. Member

Circle	Name	33kV Feeder Name	Section Name	Conductor Size (Sq.mm)	V (kVLL)	Length (Km)	IBal (A)
Bargarh	PRADHANPALI	TURUNGA	TURUNGA_BAL GOPAL FOOD T-OFF TO BALGOPAL FOOD	3X1CL _185 _XLPE	26.1	0.2	11.3
Bolangir	BARPALI	AGALPUR (MELECHH AMUNDA)	TO CHARMUNDA (MELECHHAMUNDA)	80	29.0	12.0	331.0
Bolangir	BARPALI	AGALPUR (MELECHH AMUNDA)	CHARMUNDA_RICE MILL	80	28.5	3.5	144.2
Bolangir	BARPALI	AGALPUR (MELECHH AMUNDA)	RICE MILL- SUKHA VILLAGE	80	27.4	8.5	133.2
Bolangir	BARPALI	AGALPUR (MELECHH AMUNDA)	RICE MILL- SUKHA VILLAGE.	80	26.8	4.0	133.4
Bolangir	BARPALI	AGALPUR (MELECHH AMUNDA)	RICE MILL- SUKHA VILLAGE..	80	26.5	2.0	133.5
Bolangir	BARPALI	AGALPUR (MELECHH AMUNDA)	SUKHA VILLAGE_SUKHA VILAGE_2.	100	26.4	0.5	128.3
Bolangir	BARPALI	AGALPUR (MELECHH AMUNDA)	T OFF SUKHA VILAGE_2	80	26.4	0.1	5.3
Bolangir	BARPALI	AGALPUR (MELECHH AMUNDA)	T OFF SUKHA VILAGE_2_AGALPUR	100	24.3	18.0	122.9
Bolangir	BARPALI	AGALPUR (MELECHH AMUNDA)	AGALPUR_BHARSUJA KENDUMUNDI	148	24.2	7.0	22.7
Bolangir	BARPALI	AGALPUR (MELECHH AMUNDA)	AGLPUR_MEGALIFT PROJECT	100	24.3	0.1	17.9
Bolangir	BARPALI	AGALPUR (MELECHH AMUNDA)	T OFF SUKHA VILAGE_1.	80	26.5	0.1	5.3
Bolangir	BARPALI	AGALPUR (MELECHH AMUNDA)	T OFF RICE MILL.	100	28.5	0.4	11.2
Bolangir	BARPALI	AGALPUR (MELECHH AMUNDA)	T OFF RICE MILL	AL_12 0 _XLPE	28.5	0.1	11.2
Bolangir	BARPALI	AGALPUR (MELECHH AMUNDA)	T OFF CHARMUNDA	148	29.0	0.3	187.3
Bolangir	OLD BOLANGIR	BARPALI(BO LANGIR)	PGCIL_CHHATMAKHNA	80	28.3	10.0	278.9
Bolangir	OLD BOLANGIR	BARPALI(BO LANGIR)	CHHATMAKHNA_LALIT A FOMAX	100	27.9	5.0	111.9

Kshirod Ch. Nanda

Circle	Name	33kV Feeder Name	Section Name	Conductor Size (Sq.mm)	V (kVLL)	Length (Km)	IBal (A)
Bolangir	OLD BOLANGIR	BARPALI(BO LANGIR)	LALITA FOAMX_BHADRA KANDAJHURI	100	27.5	4.0	102.9
Bolangir	OLD BOLANGIR	BARPALI(BO LANGIR)	BHADRA(KANDAJHURI)_LOI SINGHA	100	27.5	1.0	6.7
Bolangir	OLD BOLANGIR	BARPALI(BO LANGIR)	LOISINGHA_SALEBHATA A TOWN	148	27.5	8.9	6.7
Bolangir	OLD BOLANGIR	BARPALI(BO LANGIR)	SALEBHATA TOWN_SALEBHATA	148	27.5	0.2	0.0
Bolangir	OLD BOLANGIR	BARPALI(BO LANGIR)	T OFF SALEBHATA TOWN.	100	27.5	0.1	6.9
Bolangir	OLD BOLANGIR	BARPALI(BO LANGIR)	T OFF LOI SINGHA.	100	27.5	0.5	0.0
Bolangir	OLD BOLANGIR	BARPALI(BO LANGIR)	T OFF BHADRA KANDAJHURI PSS	148	26.9	9.0	96.4
Bolangir	OLD BOLANGIR	BARPALI(BO LANGIR)	T OFF LALITA FOMAX.	55	27.9	0.0	9.1
Bolangir	OLD BOLANGIR	BARPALI(BO LANGIR)	T OFF CHHATMAKHNA PSS	80	28.3	0.1	167.3
Bolangir	SONEPUR	BINKA	SALEDI_BINKA	232	29.5	9.0	210.5
Bolangir	SONEPUR	BINKA	BINKA_BISHALPALI	148	28.5	10.0	130.5
Bolangir	OLD BOLANGIR	DUNGRI PALI	TOWARDS CHHATAMAKHANA PSS TAPING POINT	100	29.9	8.0	266.3
Bolangir	OLD BOLANGIR	DUNGRI PALI	T OFF CHATMAKHNA.	232	29.9	0.1	0.0
Bolangir	OLD BOLANGIR	DUNGRI PALI	TOWARDS LOISINGHA PSS TAPING POINT	100	27.4	10.0	266.6
Bolangir	OLD BOLANGIR	DUNGRI PALI	T OFF LOISINGHA.	100	27.4	0.5	90.5
Bolangir	OLD BOLANGIR	DUNGRI PALI	TO CHERUPALI	100	26.2	8.5	176.4
Bolangir	OLD BOLANGIR	DUNGRI PALI	FROM RAMPUR SCHOOL	232	26.1	0.5	176.6
Bolangir	OLD BOLANGIR	DUNGRI PALI	CHERUPALI_BARPALI(BOLANGIR)	100	26.1	0.2	80.1
Bolangir	OLD BOLANGIR	DUNGRI PALI	TO.CHERUPALI	100	25.5	7.0	96.5
Bolangir	TUSURA	MEGA PROJECT IRRIGATION-1	TO MEGA PROJECT IRRIGATION-1	100	22.3	65.0	176.3

Keshav Chandra Mondal

Circle	Name	33kV Feeder Name	Section Name	Conductor Size (Sq.mm)	V (kVLL)	Length (Km)	IBal (A)
Bolangir	BARPALI	PANDIKITAL	TO PANKITAL PSS	100	29.4	10.0	165.4
Bolangir	BARPALI	PANDIKITAL	PANDIKITAL_BHATABAHALI	100	28.2	20.0	66.6
Bolangir	RAMPUR (PATNAGARH)	PATNAGARH RAMPUR	T OFF M/S. MANASA MATA GINNING_THAKPADA	100	29.1	12.0	178.6
Bolangir	RAMPUR (PATNAGARH)	PATNAGARH RAMPUR	THAKPADA_MAA SAMLESWARI	100	28.5	7.0	85.9
Bolangir	RAMPUR (PATNAGARH)	PATNAGARH RAMPUR	MAA SAMLESWARI_KHAPRAKHOL	100	28.0	7.0	83.5
Bolangir	RAMPUR (PATNAGARH)	PATNAGARH RAMPUR	KHAPRAKHOL_LATHORA	100	27.5	20.0	24.6
Bolangir	RAMPUR (PATNAGARH)	PATNAGARH RAMPUR	T OFF MAA SAMLESWARI	AL_120_XLPE	28.5	0.1	2.6
Bolangir	KESINGA	TITLAGARH(KESINGA)	T OFF KHOLAN	173	30.0	11.0	120.3
Bolangir	KESINGA	TITLAGARH(KESINGA)	KHOLAN_PANDRIPANI	100	29.0	18.0	55.5
Bolangir	KESINGA	TITLAGARH(KESINGA)	PANDRIPANI_SINDHEK ELA	100	29.0	5.0	0.3
Bolangir	KESINGA	TITLAGARH(KESINGA)	T OFF PANDRIPANI	148	29.0	0.7	56.2
Bolangir	B.M PUR	ULLUNDA - NEW	ULLUNDA_AINLACHHAT	148	29.9	6.0	39.3
Bolangir	B.M PUR	ULLUNDA - NEW	771	148	29.8	5.0	33.3
Bolangir	B.M PUR	ULLUNDA - NEW	772	148	29.7	5.0	27.7
Bolangir	B.M PUR	ULLUNDA - NEW	738	100	29.4	13.0	61.9
Kalahandi	KHARIAR(CHN ABEDA).	BARGOAN(OLD NUAPADA)	T.OFF.KOMNA..	100	29.8	8.0	144.6
Kalahandi	KHARIAR(CHN ABEDA).	BARGOAN(OLD NUAPADA)	T.OFF.RWSS(KOMNA)	100	29.8	1.0	7.6
Kalahandi	KHARIAR(CHN ABEDA).	BARGOAN(OLD NUAPADA)	T.OFF.RWSS(KOMNA).	100	29.8	0.5	7.6

Left hand of Nandan

Circle	Name	33kV Feeder Name	Section Name	Conductor Size (Sq.mm)	V (kVLL)	Length (Km)	IBal (A)
Kalahandi	KHARIAR(CHN ABEDA).	BARGOAN(OLD NUAPADA)	TO.RWSS HT LOAD	100	29.8	0.6	5.0
Kalahandi	KHARIAR(CHN ABEDA).	BARGOAN(OLD NUAPADA)	RWSS1	100	29.8	0.6	2.6
Kalahandi	KHARIAR(CHN ABEDA).	BARGOAN(OLD NUAPADA)	TO. KOMNA PSS	100	28.4	11.0	137.3
Kalahandi	KHARIAR(CHN ABEDA).	BARGOAN(OLD NUAPADA)	KOMNA PSS_DEODHARA(C)	148	28.4	14.5	7.1
Kalahandi	KHARIAR(CHN ABEDA).	BARGOAN(OLD NUAPADA)	KOMNA PSS_BHATIBAHAL	100	28.3	13.5	10.3
Kalahandi	KHARIAR(CHN ABEDA).	BARGOAN(OLD NUAPADA)	KOMNA PSS_KURUMPURI	100	28.1	6.0	55.9
Kalahandi	KHARIAR(CHN ABEDA).	BARGOAN(OLD NUAPADA)	KOMNA PSS_KURUMPURI.	100	27.8	11.0	35.7
Kalahandi	KHARIAR(CHN ABEDA).	BARGOAN(OLD NUAPADA)	KOMNA PSS_KURUMPURI..	100	27.7	0.2	36.0
Kalahandi	KHARIAR(CHN ABEDA).	BARGOAN(OLD NUAPADA)	KOMNA PSS_KURUMPURI...	100	27.7	1.0	31.3
Kalahandi	KHARIAR(CHN ABEDA).	BARGOAN(OLD NUAPADA)	KURUMPURI PSS	100	27.3	12.8	31.3
Kalahandi	KHARIAR(CHN ABEDA).	BARGOAN(OLD NUAPADA)	T.OFF.TARBOD	100	27.7	0.0	4.7
Kalahandi	KHARIAR(CHN ABEDA).	BARGOAN(OLD NUAPADA)	T.OFF.JNV	80	27.8	0.4	0.0
Kalahandi	KHARIAR(CHN ABEDA).	BARGOAN(OLD NUAPADA)	T.OFF.BHELA	100	28.1	3.5	20.4
Kalahandi	JUNAGARH.	DHARMAGARH	CHICHIGUDA_KASIBAHAL(DHARAMGARH)..	100	30.0	7.0	162.7
Kalahandi	JUNAGARH.	DHARMAGARH	KASIBAHAL_DARMAGARH	100	28.9	8.0	149.2
Kalahandi	JUNAGARH.	DHARMAGARH	TO.DARMAGARH PSS	100	28.8	0.0	149.4
Kalahandi	JUNAGARH.	DHARMAGARH	TO.PHD CHILPA	100	28.8	5.0	1.1
Kalahandi	JUNAGARH.	DHARMAGARH	TO .PHD KEBIDI	100	28.8	3.5	1.2

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Circle	Name	33kV Feeder Name	Section Name	Conductor Size (Sq.mm)	V (kVLL)	Length (Km)	IBal (A)
Kalahandi	JUNAGARH.	DHARMAGARH	DARMAGARH_BHEHRA	148	28.9	20.3	1.3
Kalahandi	JUNAGARH.	DHARMAGARH	DARMAGARH_GOLAMUNDA	100	28.2	14.0	50.8
Kalahandi	JUNAGARH.	DHARMAGARH	DARMAGARH_GOLAMUNDA.	148	27.8	11.0	51.2
Kalahandi	JUNAGARH.	DHARMAGARH	GOLAMUNDA_KEYGAON	100	26.9	22.0	40.2
Kalahandi	JUNAGARH.	DHARMAGARH	T.OFF.KASIBAHAL PSS	100	29.9	1.4	13.7
Kalahandi	KHARIAR(CHN ABEDA).	KHARIAR 1	GANDABAHALI GRAPHITE_CHALANA	100	28.8	11.5	118.2
Kalahandi	KHARIAR(CHN ABEDA).	KHARIAR 1	T.OFF.CHALANA	148	28.8	6.3	15.4
Kalahandi	KHARIAR(CHN ABEDA).	KHARIAR 1	T.OFF.SINAPALI	100	28.6	2.0	103.2
Kalahandi	KHARIAR(CHN ABEDA).	KHARIAR 2	KHARIAR 2_BORDA	34	26.7	20.0	135.3
Kalahandi	KHARIAR(CHN ABEDA).	KHARIAR 2	33KV CHANDUTURA T OFF BORDA	148	26.1	6.0	136.0
Kalahandi	KHARIAR(CHN ABEDA).	KHARIAR 2	33KV T OFF BORDA	80	25.8	3.0	102.6
Kalahandi	KHARIAR(CHN ABEDA).	KHARIAR 2	T.OFF.BORDA.	55	24.3	10.0	102.6
Kalahandi	KHARIAR(CHN ABEDA).	KHARIAR 2	MEGALIFT MAHALING	148	24.2	13.0	13.7
Kalahandi	KHARIAR(CHN ABEDA).	KHARIAR 2	204	148	23.5	16.0	70.8
Kalahandi	KHARIAR(CHN ABEDA).	KHARIAR 2	TO.SINDEKHELA	100	26.1	1.0	33.6
Kalahandi	KHARIAR(CHN ABEDA).	KHARIAR 2	KHARIAR 2_BORDA.	55	26.7	7.0	0.4
Kalahandi	BANER.	LADUGAON	LADUGAON_TEMRA	148	30.0	5.7	114.1
Kalahandi	BANER.	LADUGAON	TEMRA_GODRAMAL	148	29.9	1.0	65.0
Kalahandi	BANER.	LADUGAON	T.OFF.TEMRA	148	29.6	11.0	49.2
Kalahandi	BANER.	LADUGAON	TEMRA_BHEHRA	173	29.5	5.0	26.9
Kalahandi	BANER.	LADUGAON	TEMRA_BHEHRA.	173	29.4	5.0	27.0

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Circle	Name	33kV Feeder Name	Section Name	Conductor Size (Sq.mm)	V (kVLL)	Length (Km)	IBal (A)
Kalahandi	BANER.	LADUGAON	TEMRA_BHEHRA..	173	29.3	5.0	27.1
Kalahandi	BANER.	LADUGAON	TEMRA_BHEHRA PSS	173	29.3	5.0	27.3
Kalahandi	KESINGA.	NARLA	TO.RUPRA ROAD(NARLA).	100	27.3	12.0	279.5
Kalahandi	KESINGA.	NARLA	TO.RUPRA ROAD(NARLA)..	100	26.2	4.0	279.8
Kalahandi	KESINGA.	NARLA	TO.RUPRA ROAD(NARLA)...	100	26.1	0.5	279.9
Kalahandi	KESINGA.	NARLA	TO.RUPRA ROAD(NARLA)....	100	25.7	1.5	279.9
Kalahandi	KESINGA.	NARLA	NARLA_RUPRA ROAD	148	25.6	3.0	43.8
Kalahandi	KESINGA.	NARLA	T.OFF.NARLA	100	24.2	7.0	236.2
Kalahandi	KESINGA.	NARLA	NARLA_BISWANATHPUR	100	24.0	3.0	83.3
Kalahandi	KESINGA.	NARLA	NARLA_BISWANATHPUR.	100	23.0	12.0	83.3
Kalahandi	KESINGA.	NARLA	NARLA_BISWANATHPUR PSS	55	21.2	16.5	83.6
Kalahandi	KESINGA.	NARLA	BISWANATHPUR PSS_BANDHPARI	100	20.8	13.0	29.8
Kalahandi	KESINGA.	NARLA	BISWANATHPUR PSS_LANJIGARAH	55	21.0	7.0	25.1
Kalahandi	KESINGA.	NARLA	BISWANATHPUR PSS_LANJIGARAH.	55	20.3	18.0	25.2
Kalahandi	KESINGA.	NARLA	NARLA_M.RAMPUR	100	23.3	12.0	84.5
Kalahandi	KESINGA.	NARLA	NARLA_M.RAMPUR.	100	22.5	10.0	84.8
Kalahandi	KESINGA.	NARLA	NARLA_M.RAMPUR..	55	22.3	2.0	85.0
Kalahandi	KESINGA.	NARLA	NARLA_M.RAMPUR...	55	22.0	2.0	85.0
Kalahandi	KESINGA.	NARLA	M.RAMPUR_M/S HARI PRIYA	55	21.8	4.0	37.3
Kalahandi	KESINGA.	NARLA	M/S HARA PRIYA_BANJAMUNDA(MOHANGIRI)	55	21.7	2.5	30.8
Kalahandi	KESINGA.	NARLA	BANKEBIHARI BANJAMUNDA(MOHANGIRI) TAPPING	55	21.7	0.5	24.2

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Circle	Name	33kV Feeder Name	Section Name	Conductor Size (Sq.mm)	V (kVLL)	Length (Km)	IBal (A)
Kalahandi	KESINGA.	NARLA	T.OFF.BANJAMUNDA(MOHANGIRI)	100	21.6	9.0	13.4
Kalahandi	KESINGA.	NARLA	T.OFF.MADANPUR	55	21.6	9.0	10.8
Kalahandi	KESINGA.	NARLA	184	100	21.7	0.4	6.7
Kalahandi	KESINGA.	NARLA	T.OFF.M/S HARIPRIYA	55	21.8	3.0	6.5
Rourkela	CHHEND	BIRAMITRAPUR	TO BIRAMITRAPUR PSS_(BIRAMITRAPUR)-.	100	29.7	3.0	209.9
Rourkela	CHHEND	BIRAMITRAPUR	T OFF_ MAA GIRIJA ISPAT	AL_120_XLPE	29.7	0.3	54.5
Rourkela	CHHEND	BIRAMITRAPUR	TO GOBIRA PSS(P) PSS_(BIRAMITRAPUR)	100	27.9	12.0	155.5
Rourkela	CHHEND	BIRAMITRAPUR	TO BIRAMITRAPUR PSS_(BIRAMITRAPUR)-.	100	27.8	1.0	155.8
Rourkela	CHHEND	BIRAMITRAPUR	T OFF_ BSL COMPANY.	100	27.7	2.0	35.5
Rourkela	CHHEND	BIRAMITRAPUR	T OFF_ BSL COMPANY	AL_300_XLPE	27.7	0.1	21.3
Rourkela	CHHEND	BIRAMITRAPUR	TO HATIBARI PSS_(BIRAMITRAPUR)-	100	27.8	3.0	0.5
Rourkela	CHHEND	BIRAMITRAPUR	TO HATIBARI PSS_(BIRAMITRAPUR)-	100	27.8	4.8	0.3
Rourkela	CHHEND	BIRAMITRAPUR	BIRAMITRAPUR PSS_ RAIBOGA PSS	100	27.4	12.0	35.7
Rourkela	ROURKELA	BONAI INDUSTRIAL	TO LATHIKATA PSS_(BONAI INDUSTRIAL)-	232	29.9	9.0	329.7
Rourkela	ROURKELA	BONAI INDUSTRIAL	T OFF_ JYOTI BALAJI STEEL_(BONAI INDUSTRIAL)	232	29.0	4.9	316.7
Rourkela	ROURKELA	BONAI INDUSTRIAL	TAKE UP CABLE REXON STRIP	3X1CL_400_XLPE	29.9	0.2	13.4
Rourkela	ROURKELA	BONAI INDUSTRIAL	T OFF_ REXON STRIP_(BONAI INDUSTRIAL)	100	29.8	8.0	13.5
Rourkela	CHHEND	INDUSTRIAL (KUARMUNDA)	TP SAW AND SON UNIT 3	232	30.0	1.0	297.0
Rourkela	CHHEND	INDUSTRIAL (TOFF_TP SAW AND SON UNIT 3-	AL_70_XLPE	30.0	0.1	10.3

Keghmod Ch. Nondra

Circle	Name	33kV Feeder Name	Section Name	Conductor Size (Sq.mm)	V (kVLL)	Length (Km)	IBal (A)
		KUARMUNDA)					
Rourkela	CHHEND	INDUSTRIAL (KUARMUNDA)	TP SAW AND SON UNIT 3_BAJRANG ISPAT OPEN	232	29.9	0.3	286.8
Rourkela	CHHEND	INDUSTRIAL (KUARMUNDA)	JAI JAGANNATH(KUARMUNDA INDUSTRIAL FDR)	232	29.9	0.5	226.4
Rourkela	CHHEND	INDUSTRIAL (KUARMUNDA)	CHUN CHUN ISPAT(KUARMUNDA FDR)	232	29.8	0.1	226.4
Rourkela	CHHEND	INDUSTRIAL (KUARMUNDA)	TOFF CONGENT STEEL	232	29.7	1.5	186.6
Rourkela	CHHEND	INDUSTRIAL (KUARMUNDA)	STERLING INDUSTRY(KUARMUNDA FDR)	232	29.5	3.0	133.7
Rourkela	CHHEND	INDUSTRIAL (KUARMUNDA)	TOFF STERLING INDUSTRY	232	29.5	0.4	53.0
Rourkela	CHHEND	INDUSTRIAL (KUARMUNDA)	162	AL_300_XLPE	29.5	0.0	0.0
Rourkela	CHHEND	INDUSTRIAL (KUARMUNDA)	TO STERLING INDUSTRY	AL_300_XLPE	29.5	0.5	53.0
Rourkela	CHHEND	INDUSTRIAL (KUARMUNDA)	TOFF_RAMCO	232	29.5	0.6	80.8
Rourkela	CHHEND	INDUSTRIAL (KUARMUNDA)	TOFF_RAMCO & PAWANJAY	232	29.5	0.1	80.8
Rourkela	CHHEND	INDUSTRIAL (KUARMUNDA)	TOFF PAWANJAY	232	29.5	0.1	16.2
Rourkela	CHHEND	INDUSTRIAL (KUARMUNDA)	TOFF RAMCO	AL_185_XLPE	29.5	0.0	64.6

Keshavnandan

Circle	Name	33kV Feeder Name	Section Name	Conductor Size (Sq.mm)	V (kVLL)	Length (Km)	IBal (A)
Rourkela	CHHEND	INDUSTRIAL (KUARMUNDA)	T OFF_CONGENT STEEL	232	29.7	0.8	52.9
Rourkela	CHHEND	INDUSTRIAL (KUARMUNDA)	TOFF_CHUN CHUN ISPAT	AL_185_XLPE	29.8	0.2	39.8
Rourkela	CHHEND	INDUSTRIAL (KUARMUNDA)	TOFF_BAJRANG ISPAT	232	29.9	0.2	60.4
Rourkela	CHHEND	INDUSTRIAL (KUARMUNDA)	137	AL_95_XLPE	29.9	0.1	7.9
Rourkela	CHHEND	INDUSTRIAL (KUARMUNDA)	140	232	29.9	0.4	52.5
Rourkela	CHHEND	INDUSTRIAL (KUARMUNDA)	TO MS KHEDRIA	AL_95_XLPE	29.9	0.1	52.5
Rourkela	KUARMUNDA	KUARMUND A-PURUNAPANI FEEDER	TOFF_NUAGAON PSS	148	29.7	12.0	118.9
Rourkela	KUARMUNDA	KUARMUND A-PURUNAPANI FEEDER	33KV MEGALIFT FDR NUAGAON	100	29.6	7.0	23.0
Rourkela	RAJGANGPUR	KUTRA	UNI PROFILE_TISCO COLONY	232	29.6	4.8	354.7
Rourkela	RAJGANGPUR	KUTRA	TO KUTRA PSS_(KUTRA).	232	29.0	3.0	354.8
Rourkela	RAJGANGPUR	KUTRA	TO BIRANGATALI PSS_(KUTRA FDR)	232	28.5	4.0	239.4
Rourkela	RAJGANGPUR	KUTRA	TO BIRANGATALI PSS_(KUTRA FDR).	232	27.8	6.0	231.7
Rourkela	RAJGANGPUR	KUTRA	TO BIRANGATALI PSS_(KUTRA FDR).	148	27.7	2.0	87.9
Rourkela	RAJGANGPUR	KUTRA	TO BADGAON PSS_(KUTRA)	232	27.5	5.0	66.9
Rourkela	RAJGANGPUR	KUTRA	TO BADGAON PSS_(KUTRA).	232	27.5	9.0	0.6
Rourkela	RAJGANGPUR	KUTRA	TOFF_SCAN STEEL BAI BAI	AL_95_XLPE	27.5	0.3	67.3

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Circle	Name	33kV Feeder Name	Section Name	Conductor Size (Sq.mm)	V (kVLL)	Length (Km)	IBal (A)
Rourkela	RAJGANGPUR	KUTRA	TOFF_ BIRANGATALI PSS_(KUTRA FDR)	148	27.6	2.0	21.0
Rourkela	RAJGANGPUR	KUTRA	TOFF_SCAN STEEL GANGAJAL	100	27.4	3.0	144.0
Rourkela	RAJGANGPUR	KUTRA	TOFF SITA CEMENT	100	28.5	0.4	7.8
Rourkela	RAJGANGPUR	KUTRA	299	3X1CL _185 _XLPE	28.5	0.1	7.8
Rourkela	RAJGANGPUR	KUTRA	TO GARPOSH SAMBALPUR CIRCLE_(KUTRA FDR)	148	28.4	15.8	53.9
Rourkela	RAJGANGPUR	KUTRA	TOFF_TISCO COLONY	232	29.6	0.0	0.0
Rourkela	CHHEND	REC	BIRSA PSS_MAA FOOD	148	29.8	5.5	54.4
Rourkela	CHHEND	REC	BISRA PSS_JAREIKELA PSS	148	29.6	9.5	43.8
Rourkela	CHHEND	REC	TO MEGALIFT	100	29.3	12.0	27.0
Rourkela	CHHEND	REC	TOFF_MAA FOOD_OVER HEAD	100	29.8	0.2	10.8
Rourkela	CHHEND	REC	TOFF_MAA FOOD_CABLE	AL_30 0 _XLPE	29.8	0.1	10.8
Rourkela	RAJGANGPUR	ROURKELA-1	MANDIAKUDAR PSS_MAA FOUNDRY	100	29.8	4.0	196.5
Rourkela	RAJGANGPUR	ROURKELA-1	MAA ALLOY_SRISRI AIRLT AKHANDALAMANI PRODUCT	100	29.8	0.1	124.7
Rourkela	RAJGANGPUR	ROURKELA-1	TO SRISRI AIRLT AKHANDALAMANI PRODUCT.	100	29.8	0.2	124.7
Rourkela	RAJGANGPUR	ROURKELA-1	SRISRI AIRLT AKHANDALAMANI PRODUCT_REFULGENT ISPAT	100	29.7	1.0	121.6
Rourkela	RAJGANGPUR	ROURKELA-1	REFULGENT ISPAT_BAJRANG STEEL AND ALLOY	100	29.6	1.0	78.7
Rourkela	RAJGANGPUR	ROURKELA-1	TOFF_REFULGENT ISPAT-	100	29.6	0.5	42.9
Rourkela	RAJGANGPUR	ROURKELA-1	TOFF_SRISRI AIRLT AKHANDALAMANI PRODUCT	100	29.8	0.1	3.1

By Mad Ch. A. Saha.

Circle	Name	33kV Feeder Name	Section Name	Conductor Size (Sq.mm)	V (kVLL)	Length (Km)	IBal (A)
Rourkela	RAJGANGPUR	ROURKELA-1	MANDIAKUDAR PSS_MAA FOUNDRY.	100	29.8	0.2	71.9
Rourkela	RAJGANGPUR	ROURKELA-1	TO MAA FOUNDRY-	100	29.8	0.1	64.1
Rourkela	RAJGANGPUR	ROURKELA-1	MAA FOUNDRY_ BEE PEE ROLLER	100	29.8	0.1	25.6
Rourkela	RAJGANGPUR	ROURKELA-1	TOFF_ MAA FOUNDRY	100	29.8	0.1	38.4
Rourkela	RAJGANGPUR	ROURKELA-1	TOFF_ MAA ALLOY	100	29.8	0.2	7.9
Rourkela	SUNDARGARH (SANKARA)	SUBDEGA	TO SUBDEGA PSS_(SUBDEGA)	55	27.4	22.0	96.1
Rourkela	SUNDARGARH (SANKARA)	SUBDEGA	TOFF_KINJIRKELA PSS	148	27.1	22.0	22.0
Rourkela	SUNDARGARH (SANKARA)	SUBDEGA	TO BALISHANKARA PSS_(SUBDEGA)	148	27.1	14.0	34.7
Rourkela	SUNDARGARH (SANKARA)	SUBDEGA	TO BANDEGA PSS	148	27.0	22.0	7.1
Rourkela	SUNDARGARH (SANKARA)	SUBDEGA	33KV TO MEGA LIFT	100	27.1	2.2	12.9
Rourkela	SUNDARGARH (SANKARA)	SUNDARGARH(BADAGAON)	TO SADGURU	100	29.9	2.0	150.3
Rourkela	SUNDARGARH (SANKARA)	SUNDARGARH(BADAGAON)	TO BARGAON PSS	100	29.4	5.5	110.6
Rourkela	SUNDARGARH (SANKARA)	SUNDARGARH(BADAGAON)	BADGAON PSS_SAHAJBAHAL PSS	100	29.0	22.0	20.8
Rourkela	SUNDARGARH (SANKARA)	SUNDARGARH(BADAGAON)	TOFF_IRON REFRACTORY	100	29.9	0.5	39.7
Rourkela	SUNDARGARH (SANKARA)	SUNDARGARH(BADAGAON)	TO IRON REFRACTORY	100	29.9	0.5	8.6
Rourkela	SUNDARGARH (SANKARA)	SUNDARGARH(BADAGAON)	TO SADGURU METALS	100	29.9	0.5	31.1
Rourkela	JODA	TENSA 33KV	TO KOIRA AND TENSA_RUNGTA MINES	100	29.9	18.0	209.9
Rourkela	JODA	TENSA 33KV	TENSA FEEDER_CABLE 2	AL_300_XLPE	29.8	1.0	210.5
Rourkela	JODA	TENSA 33KV	TENSA FEEDER	100	29.3	3.0	211.2

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Circle	Name	33kV Feeder Name	Section Name	Conductor Size (Sq.mm)	V (kVLL)	Length (Km)	IBal (A)
Rourkela	JODA	TENSA 33KV	TENSA FEEDER_CABLE_3	AL_300_XLPE	29.2	1.0	211.2
Rourkela	JODA	TENSA 33KV	TO TENSA PSS_(TENSA FDR)	100	29.1	1.0	93.5
Rourkela	JODA	TENSA 33KV	T OFF GEETA RANI	AL_400_XLPE	29.1	1.2	9.5
Rourkela	JODA	TENSA 33KV	TO BARSUAN MINES	100	28.7	6.0	84.2
Rourkela	JODA	TENSA 33KV	T OFF BARSUAN IRON MINES	AL_400_XLPE	28.7	0.0	51.7
Rourkela	JODA	TENSA 33KV	TOFF_KOIRA PSS(TENSA)	100	29.2	0.2	118.3
Rourkela	JODA	TENSA 33KV	33KV O/G FEEDER	100	28.9	7.0	45.1
Rourkela	JODA	TENSA 33KV	TOFF_RUNGTA SONS	100	28.9	0.1	38.2
Rourkela	JODA	TENSA 33KV	TOFF_SHIVAM MINERALS	100	28.9	1.0	7.1
Sambalpur	CHIPILIMA	DHAMA_1	TO DHAMA_(DHAMA)	100	29.1	32.0	131.0
Sambalpur	CHIPILIMA	DHAMA_1	DHAMA_GUNDERPUR	232	28.9	8.0	35.4
Sambalpur	CHIPILIMA	DHAMA_1	DHAMA_GUNDERPUR..	232	28.7	8.0	35.6
Sambalpur	CHIPILIMA	DHAMA_1	DHAMA_GUNDERPUR.	232	28.7	3.0	35.9
Sambalpur	CHIPILIMA	DHAMA_1	GUNDERPUR_SEWAGE BOARD	100	28.7	7.0	4.0
Sambalpur	CHIPILIMA	DHAMA_1	DHAMA_HATIBADI	100	27.4	38.0	46.2
Sambalpur	CHIPILIMA	DHAMA_1	HATIBADI_JUJUMORA(DHAMA)	148	27.2	12.0	25.9
Sambalpur	CHIPILIMA	DHAMA_1	TO HATIBARI_JUJUMORA.	AL_120_XLPE	27.2	0.1	26.2
Sambalpur	JHARSUGUDA	KOLABIRA	TO_KOLABIRA..	80	29.9	3.0	150.0
Sambalpur	JHARSUGUDA	KOLABIRA	TO_KOLABIRA.	80	29.1	5.1	150.1
Sambalpur	JHARSUGUDA	KOLABIRA	TO-KOLABIRA.	80	28.8	5.0	56.0

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Circle	Name	33kV Feeder Name	Section Name	Conductor Size (Sq.mm)	V (kVLL)	Length (Km)	IBal (A)
Sambalpur	JHARSUGUDA	KOLABIRA	T OFF_KOSHAL CERAMICS	100	29.0	0.3	94.2
Sambalpur	JHARSUGUDA	KOLABIRA	TO KOSHAL CERAMICS.	100	29.0	0.4	82.5
Sambalpur	JHARSUGUDA	KOLABIRA	TO KOSHAL CERAMICS..	100	29.0	0.2	75.2
Sambalpur	JHARSUGUDA	KOLABIRA	TO KOSHAL CERAMICS..	100	29.0	0.3	29.4
Sambalpur	JHARSUGUDA	KOLABIRA	TO_KOSHAL CERAMICS.	100	29.0	0.3	16.3
Sambalpur	JHARSUGUDA	KOLABIRA	TO_KOSHAL CERAMICS..	100	29.0	0.3	8.5
Sambalpur	KUCHINDA(K HANDAKATA)	KUCHINDA	KUCHINDA_ARDABAHA L	55	29.9	15.0	54.7
Sambalpur	KUCHINDA(K HANDAKATA)	KUCHINDA	KUCHINDA_ARDABAHA L	100	29.9	0.5	24.2
Sambalpur	KUCHINDA(K HANDAKATA)	KUCHINDA	ARDABAHAL_GOCHAR A	148	29.8	8.0	12.3
Sambalpur	KUCHINDA(K HANDAKATA)	KUCHINDA	T OFF_KESAIBAHAL	55	29.9	1.0	31.0
Sambalpur	KUCHINDA(K HANDAKATA)	KUCHINDA	T OFF-KESAIBAHAL.	55	29.7	4.0	31.0
Sambalpur	KUCHINDA(K HANDAKATA)	KUCHINDA	KESIABAHAL TO RANGIATIKRA	100	29.5	17.0	9.0
Sambalpur	KUCHINDA(K HANDAKATA)	LAIKERA	TO-LAIKERA.	80	29.8	9.0	146.2
Sambalpur	KUCHINDA(K HANDAKATA)	LAIKERA	LAIKERA_BAGDEHI	100	29.8	9.9	0.6
Sambalpur	KUCHINDA(K HANDAKATA)	LAIKERA	LAIKERA_KIRMIRA	148	29.7	3.5	33.8
Sambalpur	PUNJIPATHAR	PANCHGAON	MUCHBAHAL_- _JHARUAPADA.	100	29.0	17.0	139.6
Sambalpur	PUNJIPATHAR	PANCHGAON	JHARUAPADA_DHULUNDA	100	27.1	25.0	79.9

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Circle	Name	33kV Feeder Name	Section Name	Conductor Size (Sq.mm)	V (kVLL)	Length (Km)	IBal (A)
Sambalpur	PUNJIPATHAR	PANCHGAON	DHULUNDA_MAHULPALI MEGALIFT	100	27.1	0.0	9.2
Sambalpur	PUNJIPATHAR	PANCHGAON	DHULUNDA_MAHULPALI MEGALIFT.	100	27.0	10.0	9.2

• **33KV Areas identified with Low Voltage**

Low Voltage Area			
Circle Name	No. of Low Voltage Area	Area Affected	Lowest Voltage(KV)
Bargarh	57	Tangarpali, Debrigarh, Lachaida, Hatisar, Niljee, Udaypali, Tejagola, Gopalpur, Jiratora, Raisobha, Badmal, Sukunda, Tamren, Bartunda, Bhatli, Kendugudia, Lakhanpur, Dunguri, Banjipali, Ambhabhona, Jampali, Megalift, Bhukta, Ruchida, Darlipali, Kapasira, Kumbha, kalmi, Kandapala, Ambapali, Deogaon, Turunga, Bishalipali, Dasmile, Sirgida, Kendipali, Bijepur, Jaring, Baramunda, Kharmunda, M. Gandpali, Arda, Saipali, Sohela, Luhrachhati, Churiapali, Kundakhai, Gaislet, Godbhaga, Attabira, Patrapali, Paikmal, Mandosil, Jhitki, harbandh, Dova, Dunguripali, Jagdalpur	20.7
Bolangir	27	Kholari, Pandripani, Sindhkela, Lathora, Khaprakhol, Thakapada, Ainlachhat, Sindhol, Hingma, Thengo, Maraloi, Pandikital, Bhatibahal, Chhatmakhna, Bhadra, Loisingha, Salebhata, Cherupali, Sukha Village, Agalpur Megalift, Agalpur, Roth, Regali, Nagaon, Bharsuja, Bindhapali, Khaliapali	22.3
Kalahandi	21	Komna, Batibahal, Kurumpuri, Borda, Sinapali, Chalna, Ruraroad, Narla, Bishwanathpur, Lanjigarh, Bandhpari, M. Rampur, Madanpur, Banjamunda, Kesabahal, Dharamgarh, Bhera, Golamunda, Keygaon, Godarmal, Temra	20.3
Rourkela	26	Tensa, Koira, Birmitrapur, Nuagaon, Raiboga, Jharbeda, Bijabahal, Kadobahal, Jareikela, Bhalulata, Brutabahal, Bandega, Bali Shankara, Kijirkela, Sundega, Rauldega, Jamuna, Lulkidih, Sikajore, Karuabahal, Bargaoon, Sahjabahal, Bargaon Megalift, Birangtali, Kutra	27.0
Sambalpur	16	Kolabira, Purna, Laikra, Kirmira, Ardabahal, Kesabahal, Gochara, Rangiatikira, Garposh, Jharupada, Dhulunda, Mahulpali Megalift, Dhama, Hatibari, Gunderpur, Jujumura	27.0

➤ **33kV Radial Network (Single 33KV Source):**

Most of the 33kV networks are radial and highly unreliable. A major drawback of a radial distribution system is that in case of permanent fault, power supply failure is experienced by all consumers as there is no alternate feeder to feed consumers. It is one of the major concerns for maintaining reliable power supply in the city. In ideal scenario, there must be at least two nos. of 33 kV sources available to each PSS, so that in case if any source fails, other source can restore full or partial load.

Sr. No.	Circle	GSS Name	33 kV Fdr Name	Pss Name	Installed Capacity (MVA)	Loading (MVA)
1	Bargarh	Padampur	DAHITA	DAHITA	10	3
2	Bargarh	Padampur	GAISILET	GAISILET	11	7
3	Bargarh	Ghenss	GHENSS	GHENSS	13	15
4	Sambalpur	Barkote	BARKOTE	BARKOTE	7	1
5	Sambalpur	Barkote	BHAKTABADKUDAR	BHAKTABADKUD	10	2
6	Bargarh	Barpali	BARPALI	BARPALI	31	21
7	Kalahandi	Bhera (Nuapada)	NEW MEDICAL	NEW MEDICAL	2	0
8	Rourkela	Bonai	K BALANG	K.BALANG	6	1
9	Rourkela	Bonai	K BALANG	BARSUAN	10	0
10	Rourkela	Bonai	RAJAMUNDA	RAJAMUNDA	15	4
11	Sambalpur	Brajrajnagar Remja	BRAJRAJNAGAR	BRAJRAJNAGAR	16	11
12	Bargarh	Padampur	PADAMPUR	PADAMPUR	21	14
13	Bargarh	Pradhanpali	TORA	TORA	16	8
14	Sambalpur	Jharsuguda	SARBAHAL	SARBAHAL	10	9
15	Sambalpur	Lapanga	KATARBAGA	KATARBAGA	10	3
16	Sambalpur	Lapanga	LAPANGA	LAPANGA	10	2
17	Sambalpur	Regali	BUDHAPALI	BUDHAPALI	6	1
18	Sambalpur	Maneswar	MANESWAR	MANESWAR	10	3
19	Sambalpur	Sambalpur (Ganesh Nagar)	AINTHAPALI	AINTHAPALI	57	32
20	Sambalpur	Sambalpur (Ganesh Nagar)	PUTIBANDH	PUTIBANDH	56	31
21	Sambalpur	Rairakhhol	RAIRAKHOL FDR	RAIRAKHOL	16	4
22	Rourkela	Rourkela	RKL TOWN POWER HOUSE	POWERHOUSE	24	22
23	Rourkela	Chhend	VEDVAYAS	VEDVAYAS	16	7
24	Rourkela	Kalunga	BALANDA	BALANDA	10	3
25	Rourkela	Sundargarh (Sankara)	KUNDUKELA	KUNDUKELA	10	2
26	Rourkela	Sundargarh (Sankara)	SANKARA	SANKARA	23	13
27	Rourkela	Sundargarh (Sankara)	MAJHAPADA	MAJHAPADA	10	2

Refered Cap. Manda

Sr. No.	Circle	GSS Name	33 kV Fdr Name	Pss Name	Installed Capacity (MVA)	Loading (MVA)
28	Rourkela	Sundargarh (Sankara)	COLLEGE	COLLEGE	8	5
29	Bolangir	Sonepur	SONEPUR	SONEPUR	21	8
30	Bolangir	Rampur (Patnagarh)	DHUMABHATA	DHUMABHATA	10	4
31	Bolangir	Rampur (Patnagarh)	PADAMPUR	JURIA	10	2
32	Bolangir	Rampur (Patnagarh)	TENDAPADAR	TANDAPADAR	6	2
33	Bolangir	Kantabanji	GUDIGHAT	GUDIGHAT	10	3
34	Bolangir	Tusra	TUSURA	TUSURA	13	11
35	Bolangir	Old Bolangir	PATNAGARH	BARAPUDUGIA	11	7
36	Kalahandi	Kesinga	KESINGA	KESINGA	18	9
37	Sambalpur	Brajrajnagar Remja	OPGC	Bandhbahal	10	7
38	Sambalpur	Brajrajnagar Remja	OPGC	Pandri	10	1
39	Sambalpur	Maneswar	Padiabahal	Hero	6	4
40	Sambalpur	Maneswar	Padiabahal	Padiabahal	16	5
41	Sambalpur	Sambalpur (Ganesh Nagar)	Cheruapada	Kainsir	10	2
42	Sambalpur	Sambalpur (Ganesh Nagar)	Cheruapada	Cheduapada	16	8
43	Sambalpur	Sambalpur (Ganesh Nagar)	Cheruapada	Bad Bazar	16	6
44	Sambalpur	Rairakhoh	Kadligarh	KADLIGARH	10	1
45	Sambalpur	Rairakhoh	Naktiduel	NAKTIDUEL	8	2
46	Sambalpur	Rairakhoh	Naktiduel	KISINDA	10	1
47	Sambalpur	Rairakhoh	Naktiduel	BATGAON	10	0
48	Sambalpur	Jharsuguda	JHARSUGUDA	SARASMAL	24	20
49	Bargarh	NEW DESH BHATLI	MAHULPALI	DHATUKPALI	10	4
50	Bargarh	NEW DESH BHATLI	MAHULPALI	MAHULPALI	10	3
51	Bargarh	Ghenss	MELCHAMUNDA	MELCHAMUNDA	10	7

Ughmool of Nandhu

Sr. No.	Circle	GSS Name	33 kV Fdr Name	Pss Name	Installed Capacity (MVA)	Loading (MVA)
52	Bargarh	Ghenss	MELCHAMUNDA	KUNDAKHAI	10	5
53	Bargarh	Ghenss	BIJEPUR	BIJEPUR	18	19
54	Bargarh	Ghenss	BIJEPUR	ARDA	10	12
55	Bargarh	Barpali	PANDKITAL	BALTIKRA	10	7
56	Bargarh	Pradhanpali	TOWN	DIVISION-1	13	10
57	Bargarh	Pradhanpali	TOWN	DIVISION-2	16	17
58	Bargarh	Pradhanpali	4 POLE	PRADHANPALI	18	12
59	Bargarh	Pradhanpali	4 POLE	KAMGAON	10	5
60	Bargarh	Pradhanpali	4 POLE	KHEDAPALI	10	5
61	Bargarh	Pradhanpali	4 POLE	TANGARPALI	10	5
62	Bolangir	Barpali	PANDKITAL	BHATIBAHAL	10	3
63	Bolangir	Barpali	PANDKITAL	PANDKITAL	11	5
64	Bolangir	Sonepur	BINKA	HEDTIKIRA	10	1
65	Bolangir	Sonepur	BINKA	SALEDI	10	3
66	Bolangir	Sonepur	BINKA	BINKA	21	4
67	Bolangir	Sonepur	BINKA	BISHALPALI	16	7
68	Bolangir	Kantabanji	TUREIKELA	DABRI	10	2
69	Bolangir	Kantabanji	TUREIKELA	TUREKELA	7	3
70	Bolangir	Rampur (Patnagarh)	GHUMER	GHUMER	8	3
71	Bolangir	Rampur (Patnagarh)	GHUMER	LARAMBHA	10	2
72	Bolangir	Old Bolangir	TITLAGARH BOLANGIR	INDUSTRIAL ESTATE	16	9
73	Bolangir	Rampur (Patnagarh)	PATNAGARH RAMPUR	PATNAGARH	16	10
74	Bolangir	Rampur (Patnagarh)	PATNAGARH RAMPUR	THAKAPADA	6	5
75	Bolangir	Rampur (Patnagarh)	PATNAGARH RAMPUR	KHAPRAKHOL	8	4
76	Bolangir	Rampur (Patnagarh)	PATNAGARH RAMPUR	LATHORE	6	2
77	Kalahandi	Kesinga	BHAWANIPATNA-1	UTKELA	5	2
78	Kalahandi	Kesinga	BHAWANIPATNA-1	KARLAPADA	10	1
79	Kalahandi	Kesinga	NARLA	RUPRA ROAD	10	3
80	Kalahandi	Kesinga	NARLA	NARLA	13	4
81	Kalahandi	Kesinga	NARLA	BISHWANATHPUR	5	2
82	Kalahandi	Kesinga	NARLA	LANJIGARH	3	2
83	Kalahandi	Kesinga	NARLA	BANDHPARI	6	2

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Sr. No.	Circle	GSS Name	33 kV Fdr Name	Pss Name	Installed Capacity (MVA)	Loading (MVA)
84	Kalahandi	Kesinga	NARLA	M.RAMPUR	8	3
85	Kalahandi	Kesinga	NARLA	MADANPUR	5	1
86	Kalahandi	Kesinga	NARLA	BANJAMUNDA	6	1
87	Kalahandi	Kesinga	MUKHIGUDA	MUKHIGUDA	6	2
88	Kalahandi	Kesinga	JUNAGARH	JUNAGARH	21	8
89	Kalahandi	Kesinga	JUNAGARH	KALAMPUR	10	2
90	Kalahandi	Kesinga	JUNAGARH	TH.RAMPUR	3	2
91	Kalahandi	Kesinga	JUNAGARH	ADRI	5	1
92	Kalahandi	Kesinga	BODEN	LEHSUNPALI	10	1
93	Kalahandi	Kesinga	BODEN	BODEN	6	2
94	Kalahandi	Kesinga	BODEN	TIMANPUR	10	2
95	Rourkela	Joda	JODA	Koira	13	6
96	Rourkela	Joda	JODA	TENSA	8	2
97	Rourkela	Chhend	KALINGA VIHAR	KALINGA VIHAR	16	6
98	Rourkela	BARKOTE	MAHULDIHA	MAHULDIHA	8	2
99	Rourkela	Bonai	BONAI	TUNIAPALI	10	4
100	Rourkela	Bonai	BONAI	BONAI	16	5
101	Rourkela	Bonai	BONAI	GURUNDIA	10	1

Kalahandi Ch. Sphandla.

➤ N-1 issue in 33kV Feeder:

There are very few 33/11kV primary substations with second 33kV source connectivity.

However, during exigencies, the second source is unable to take entire load of PSS due to overloading. The reason of overloading is mainly attributable to lower conductor size in the feeder, poor circuit configuration, and lower size bus bar used at PSS and interconnecting points.

➤ T-OFF NETWORK:

There are many 33kV feeders feeding 33/11kV PSS along with some 33kV HT consumers. All these PSS and HT consumer power supply are tapped directly from the trunk section of the feeder through either DP / 4Pole / 6pole without any circuit breaker / HT protection arrangement.

In the eventuality of fault in any of the branch, the feeder is tripped at the OPTCL grid end and all the consumers feeding from the feeder experience power supply failure, until such time, the faulty

section is identified and isolated. Time duration for identification of fault is very high since it requires physical inspection of complete feeder. Sometimes, for normal changeover operation wherever dual source is available at 4 Pole / 6 Pole structure, shutdown down of both the feeders is required to operate isolators / AB switches and they cannot be operated under load condition. The whole changeover process takes long time even for a small operation.

➤ **Primary Substation with single power transformer:**

As primary substations are distantly apart, and since there is not much interconnectors available at 11kV system level, outage of this single power transformer due to periodic maintenance or in case of breakdown results in loss of power supply to all consumers connected to the same primary substation. Ideally, each 33/11kV PSS should have at least two power transformers of same rating to provide N-1 redundancy.

The PSS with a Single Power Transformer are as follows:

Circle	Gss Name	Feeder Name	PSS Name	Installed PTR Capacity
Bolangir	132/33 kV Old Bolangir	BOUDH	SUDPADA	5
Rourkela	132/33 kV Kalunga	OTTO INDIA	OTTO INDIA	5
Kalahandi	132/33 kV Behra	BISORA	BISORA	8
Kalahandi	132/33 kV Kesinga	NARLA	LANJIGARH	3.15
Kalahandi	132/33 kV Kesinga	BHAWANIPATNA -I	UTKELA	5
Kalahandi	132/33 kV Kesinga	BELGAON	KARLAMUND A	5
Kalahandi	132/33 kV Junagarh	JUNAGARH	TH. RAMPUR	3.15
Kalahandi	132/33 kV Baner	BADKUTRU	JAIPATNA	5

Left hand side Member.

TPWODL ALL CIRCLE 11KV LINE FEEDER LOADING REPORT

SI.No	Circle	Name of the PSS	Name of the Feeder	Total Load (kW)	Current (A)	Total Losses (kW)	Loss(in %)	Feeder Length (km)
1	BARGARH	ATTABIRA	ATTABIRA TOWN	2698	162	121	4.5	12
2	BARGARH	ATTABIRA	KANDPALI	2536	152	243	9.6	87
3	BARGARH	ATTABIRA	SARANDA	1500	90	199	13.3	45
4	BARGARH	ATTABIRA	RANGALI CAMP	3710	223	652	17.6	69
5	BARGARH	GODBHAGA	GODBHAGA	2775	167	200	7.2	74
6	BARGARH	GODBHAGA	LARAMBHA	3522	211	448	12.7	160
7	BARGARH	PATRAPALI	DUNGURIPALI	732	44	22	3.1	13
8	BARGARH	PATRAPALI	JANHAPADA/RENGALI	832	50	27	3.2	20
9	BARGARH	PATRAPALI	KHIRAPALI	933	56	51	5.4	54
10	BARGARH	PATRAPALI	PATRAPALI	716	43	19	2.6	8
11	BARGARH	TANGERPALI	DEBRIGARH	1321	79	132	10.0	74
12	BARGARH	TANGERPALI	TANGERPALI	516	31	20	3.9	41
13	BARGARH	TANGERPALI	LACHIDA	2166	130	194	9.0	34
14	BARGARH	DIVISION-2	BANDHUTIKRA	3047	183	121	4.0	4
15	BARGARH	DIVISION-2	PRIVATE BUS STAND	3398	204	166	4.9	12
16	BARGARH	DIVISION-2	GOVINDPALI	2948	177	123	4.2	6
17	BARGARH	DIVISION-2	TOWN-2	5265	316	299	5.7	7
18	BARGARH	DIVISION-1	ASHAKIRAN	2598	156	104	4.0	7
19	BARGARH	DIVISION-1	BARGARH TOWN-1	5664	340	527	9.3	12
20	BARGARH	TORA	REMUNDA	2270	136	208	9.2	56
21	BARGARH	TORA	GAISIMA	1967	118	200	10.1	56
22	BARGARH	TORA	SUGARMILL	1931	116	66	3.4	12
23	BARGARH	TORA	TORA	1149	69	40	3.5	7
24	BARGARH	TURUNGA	AMBAPALI	2532	152	120	4.7	33

Kept record of Name.

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Sl.No	Circle	Name of the PSS	Name of the Feeder	Total Load (kW)	Current (A)	Total Losses (kW)	Loss(in %)	Feeder Length (km)
25	BARGARH	TURUNGA	NEW INDUSTRIAL	2315	139	89	3.9	5
26	BARGARH	TURUNGA	BARPALI	3082	185	374	12.1	58
27	BARGARH	TURUNGA	DEOGAON	2091	126	136	6.5	63
28	BARGARH	TURUNGA	OLD INDUSTRIAL	4191	251	387	9.2	35
29	BARGARH	TURUNGA	SOHELA	2015	121	85	4.2	29
30	BARGARH	KAMGAON	LANDIJURI	950	57	47	5.0	31
31	BARGARH	KAMGAON	KAMGAON	2083	125	121	5.8	41
32	BARGARH	KAMGAON	BONDA	1499	90	76	5.1	32
33	BARGARH	KHEDAPALI	KAMAGAON OLD	83	5	2	2.7	7
34	BARGARH	KHEDAPALI	BARDOL	2667	160	250	9.4	43
35	BARGARH	KHEDAPALI	KATAPALI	1998	120	73	3.7	9
36	BARGARH	PRADHANPALI	ATTABIRA	2354	141	213	9.1	37
37	BARGARH	PRADHANPALI	INDUSTRIAL_I	4099	246	328	8.0	33
38	BARGARH	PRADHANPALI	INDUSTRIAL_II	2683	161	146	5.4	11
39	BARGARH	PRADHANPALI	OLD KATAPALI	999	60	42	4.2	14
40	BARGARH	AMBABHONA	AMBABHONA	1316	79	54	4.1	46
41	BARGARH	AMBABHONA	BANJIPALI	225	13	9	4.1	26
42	BARGARH	AMBABHONA	SAMBALPURI	665	40	46	6.9	33
43	BARGARH	BHATLI	BARTUNDA	1867	112	207	11.1	40
44	BARGARH	BHATLI	KENDUGUDIA	3951	237	733	18.5	69
45	BARGARH	BHATLI	SAGY	1116	67	66	6.0	31
46	BARGARH	BHATLI	SUKUDA	2566	154	278	10.8	47
47	BARGARH	BHATLI	BADMAL(BHATLI)	1449	87	87	6.0	9
48	BARGARH	BHATLI	BHATLI TOWN	2192	132	146	6.7	18
49	BARGARH	BHATLI	TEMREN	1133	68	104	9.2	17
50	BARGARH	BHUKTA	DARLIPALI	499	30	17	3.5	6
51	BARGARH	BHUKTA	KAPASIRA	1199	72	57	4.7	51
52	BARGARH	BHUKTA	BHUKTA	749	45	21	2.8	8

Refered to number.

Sl.No	Circle	Name of the PSS	Name of the Feeder	Total Load (kW)	Current (A)	Total Losses (kW)	Loss(in %)	Feeder Length (km)
53	BARGARH	BHUKTA	RUCHIDA	2501	150	231	9.3	60
54	BARGARH	BHUKTA	AGRICULTURE(BHUKTA)	250	15	7	2.8	8
55	BARGARH	DUNGRI	BADMAL(DUNGURI PSS)	316	19	10	3.0	18
56	BARGARH	DUNGRI	LAKHANPUR	4400	264	403	9.2	124
57	BARGARH	DUNGRI	DUNGRI	349	21	9	2.5	4
58	BARGARH	KANDAPALA	KALMI	1382	83	48	3.5	30
59	BARGARH	KANDAPALA	KANDAPALA	516	31	13	2.6	6
60	BARGARH	KANDAPALA	KUMBHO	1765	106	64	3.6	38
61	BARGARH	RAISOBHA	GOPALPUR	2516	151	196	7.8	43
62	BARGARH	RAISOBHA	JIRATORA	3699	222	241	6.5	65
63	BARGARH	RAISOBHA	TEJAGOLA	1860	112	128	6.9	33
64	BARGARH	UDAYAPALI	HATISAR	3918	235	1233	31.5	97
65	BARGARH	UDAYAPALI	NILJEE	3333	200	308	9.2	59
66	BARGARH	BHEDEN	BARPADAR	917	55	66	7.2	72
67	BARGARH	BHEDEN	BHEDEN	1586	95	151	9.5	30
68	BARGARH	BHEDEN	SAHARA TIKRA	1266	76	60	4.8	41
69	BARGARH	BHEDEN	AGRICULTURE(BHEDEN)	250	15	10	3.8	26
70	BARGARH	DHATKUPALI	JAMTIKRA	200	12	7	3.7	4
71	BARGARH	DHATKUPALI	KAMGAON	832	50	76	9.1	2
72	BARGARH	DHATKUPALI	PAPANGA 2	1583	95	92	5.8	26
73	BARGARH	DHATKUPALI	TILKINDA(RUSUDA)	899	54	33	3.7	22
74	BARGARH	KHUNTULIPALI	GARVANA	1000	60	59	5.9	37
75	BARGARH	KHUNTULIPALI	INDUSTRIAL	416	25	10	2.3	10
76	BARGARH	KHUNTULIPALI	KHUNTULIPALI	1499	90	60	4.0	28
77	BARGARH	KHUNTULIPALI	SANKARDA	866	52	51	5.8	45
78	BARGARH	MAHULPALI(GANDTURUM)	MAHULPALI	866	52	37	4.3	33
79	BARGARH	MAHULPALI(GANDTURUM)	SIALKHANDATA	1100	66	63	5.7	48
80	BARGARH	MAHULPALI(GANDTURUM)	TURUM	666	40	24	3.7	14

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SI.No	Circle	Name of the PSS	Name of the Feeder	Total Load (kW)	Current (A)	Total Losses (kW)	Loss(in %)	Feeder Length (km)
81	BARGARH	THUAPALI	KHUTULIPALI	183	11	5	2.8	11
82	BARGARH	THUAPALI	PAPANGA NEW	684	41	114	16.6	62
83	BARGARH	THUAPALI	PAPANGA OLD	2583	155	306	11.8	59
84	BARGARH	THUAPALI	REMMUNDA	2266	136	131	5.8	26
85	BARGARH	THUAPALI	THUAPALI	1782	107	96	5.4	5
86	BARGARH	BARPALI	AGALPUR_B	589	35	21	3.5	9
87	BARGARH	BARPALI	BADGAON	3665	220	451	12.3	54
88	BARGARH	BARPALI	BANDHAPALI	3299	198	382	11.6	36
89	BARGARH	BARPALI	LENDA	559	34	21	3.8	14
90	BARGARH	BARPALI	PHULAPALI	2079	125	288	13.9	67
91	BARGARH	BARPALI	RAMPUR	2649	159	417	15.7	94
92	BARGARH	BARPALI	TOWN	5615	337	382	6.8	29
93	BARGARH	BALITIKRA	REASAMA	2416	145	207	8.6	90
94	BARGARH	BALITIKRA	TULUNDI	3299	198	406	12.3	112
95	BARGARH	BALITIKRA	INDUSTRIAL(BALITIKRA)	499	30	9	1.7	1
96	BARGARH	CHARMUNDA	AGALPUR	1416	85	77	5.5	20
97	BARGARH	CHARMUNDA	SUJIA	2178	131	160	7.4	47
98	BARGARH	CHARMUNDA	TINKANI	1083	65	56	5.2	23
99	BARGARH	DAHITA	DANGACHHANCHA	1082	65	54	5.0	63
100	BARGARH	DAHITA	JAMARTALA	366	22	17	4.6	33
101	BARGARH	DAHITA	SLETPALI	733	44	41	5.6	54
102	BARGARH	GAISILET	BUROMUNDA	1116	67	66	5.9	19
103	BARGARH	GAISILET	FRINGIMAL	1109	66	93	8.3	86
104	BARGARH	GAISILET	GAISILAT	1496	90	106	7.1	53
105	BARGARH	GAISILET	LEBEDI	1166	70	76	6.5	71
106	BARGARH	GAISILET	TALPALI	1092	65	104	9.5	46
107	BARGARH	KUNDAKHAI	JAMUDPALI	2102	126	194	9.2	44
108	BARGARH	KUNDAKHAI	KUNDAKHAI	2383	143	134	5.6	48

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Sl.No	Circle	Name of the PSS	Name of the Feeder	Total Load (kW)	Current (A)	Total Losses (kW)	Loss(in %)	Feeder Length (km)
109	BARGARH	LAKHMARA	BADIKATA	2935	176	697	23.7	117
110	BARGARH	LAKHMARA	SAMBALPURI	666	40	35	5.3	77
111	BARGARH	MELCHAMUNDA	BELMUNDA	608	36	23	3.7	22
112	BARGARH	MELCHAMUNDA	GHESS	1448	87	157	10.9	59
113	BARGARH	MELCHAMUNDA	MELCHAMUNDA	2051	123	158	7.7	72
114	BARGARH	MELCHAMUNDA	SARGIBAHAL	1725	103	207	12.0	87
115	BARGARH	PADAMPUR	BARIKEL	1712	103	244	14.3	142
116	BARGARH	PADAMPUR	BUDEN	200	12	14	7.2	4
117	BARGARH	PADAMPUR	GAISILET	1100	66	66	6.0	85
118	BARGARH	PADAMPUR	LAKHMARA	999	60	57	5.7	56
119	BARGARH	PADAMPUR	MELCHAMUNDA	3103	186	682	22.0	101
120	BARGARH	PADAMPUR	TOWN1	4028	242	134	3.3	46
121	BARGARH	PADAMPUR	TOWN2	915	55	21	2.3	12
122	BARGARH	DOVA	PALSADA	2711	163	436	16.1	41
123	BARGARH	DOVA	DOVA	3276	196	577	17.6	41
124	BARGARH	DOVA	KRULIPALI	4268	256	735	17.2	147
125	BARGARH	DUNGURIPALI	BHAISADHARA	2426	146	260	10.7	31
126	BARGARH	DUNGURIPALI	DUNGURIPALI	733	44	28	3.9	17
127	BARGARH	DUNGURIPALI	JAGDALPUR	984	59	107	10.8	30
128	BARGARH	JHARBANDH	JHARBANDH	416	25	9	2.1	2
129	BARGARH	JHARBANDH	OLD DUNGURIPALI(CHANDIVHATA)	1000	60	113	11.3	29
130	BARGARH	JHARBANDH	SARGUL	2200	132	287	13.1	43
131	BARGARH	JHARBANDH	TAPEN	1941	116	229	11.8	105
132	BARGARH	JHITIKI	BARPALI	308	18	12	3.9	34
133	BARGARH	JHITIKI	BHUBANESWARPUR	316	19	15	4.6	30
134	BARGARH	JHITIKI	CHHETAGAON	483	29	18	3.7	40
135	BARGARH	MANDOSIL	CHHINEKELA	433	26	31	7.2	89
136	BARGARH	MANDOSIL	BARTUNDA	416	25	25	6.0	48

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Sl.No	Circle	Name of the PSS	Name of the Feeder	Total Load (kW)	Current (A)	Total Losses (kW)	Loss(in %)	Feeder Length (km)
137	BARGARH	MANDOSIL	MANDOSIL	499	30	23	4.6	47
138	BARGARH	PAIKAMAL	PAIKAMAL TOWN	715	43	16	2.2	14
139	BARGARH	PAIKAMAL	CHUHAPALI	316	19	15	4.8	25
140	BARGARH	PAIKAMAL	JHARMUNDA	701	42	82	11.6	72
141	BARGARH	PAIKAMAL	JHITIKI	1867	112	217	11.6	44
142	BARGARH	PAIKAMAL	MANDOSIL_PAIKAMAL	499	30	20	4.1	42
143	BARGARH	PAIKAMAL	NURSINGHANATH	832	50	25	3.0	14
144	BARGARH	ARDA	JOKIAPALI	2947	177	755	25.6	76
145	BARGARH	ARDA	LAUMUNDA	4553	273	1290	28.3	71
146	BARGARH	ARDA	SAIPALI	2891	173	392	13.5	137
147	BARGARH	BIJEPUR	BARAMUNDA	5288	317	831	15.7	182
148	BARGARH	BIJEPUR	BIJEPUR TOWN	1583	95	80	5.0	16
149	BARGARH	BIJEPUR	JARING	3382	203	364	10.8	69
150	BARGARH	BIJEPUR	KHARMUNDA	3754	225	552	14.7	52
151	BARGARH	BIJEPUR	M.GANDAPALI(SARANDAPALI)	2295	138	343	14.9	68
152	BARGARH	DASMILE	BISIPALI	4280	257	1058	24.7	90
153	BARGARH	DASMILE	DASMILE	1700	102	105	6.2	15
154	BARGARH	DASMILE	KENDPALI	3298	198	443	13.4	54
155	BARGARH	DASMILE	SRIGIDA	3064	184	457	14.9	56
156	BARGARH	GHENSS	GHENSS	666	40	18	2.8	10
157	BARGARH	GHENSS	JAMPALI	4245	255	629	14.8	49
158	BARGARH	GHENSS	JHAR	4750	285	329	6.9	79
159	BARGARH	GHENSS	KUCHIPALI	3536	212	615	17.4	74
160	BARGARH	SARANDAPALI	BANBASPALI	4211	253	579	13.7	94
161	BARGARH	SARANDAPALI	KATAPALI	1849	111	107	5.8	13
162	BARGARH	SARANDAPALI	S.DUMERPALI	4567	274	1319	28.9	109
163	BARGARH	SARANDAPALI	SARANDAPALI FFEDER	2944	177	315	10.7	60
164	BARGARH	SOHELA	CHHURIAPALI	4928	296	1814	36.8	79

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Sl.No	Circle	Name of the PSS	Name of the Feeder	Total Load (kW)	Current (A)	Total Losses (kW)	Loss(in %)	Feeder Length (km)
165	BARGARH	SOHELA	GRINJEL	4651	279	1278	27.5	68
166	BARGARH	SOHELA	INDUSTRIAL	2166	130	113	5.2	26
167	BARGARH	SOHELA	KANGAON	1916	115	195	10.2	34
168	BARGARH	SOHELA	LUHURACHATI	4585	275	1041	22.7	141
169	BARGARH	SOHELA	PADAMPUR	6980	419	2031	29.1	114
170	BARGARH	SOHELA	SOHELA TOWN	3115	187	171	5.5	29
171	KALAHANDI	BORDA	ARTAL	417	25	34	8.1	42
172	KALAHANDI	BORDA	MAHALING	502	30	54	10.8	64
173	KALAHANDI	BORDA	SEINPUR	586	35	52	8.8	57
174	KALAHANDI	BORDA	TOWN(BORDA)	166	10	10	6.2	12
175	KALAHANDI	KESINGA	BORINGPADAR	2130	128	313	14.7	112
176	KALAHANDI	KESINGA	DURGALAXMI(RICE MILL)	216	13	4	1.9	2
177	KALAHANDI	KESINGA	KASURPADA	904	54	91	10.1	139
178	KALAHANDI	KESINGA	NEW JAGNATHAPADA	1133	68	33	2.9	8
179	KALAHANDI	KESINGA	OLD JAGANATHPADA	1050	63	41	3.9	15
180	KALAHANDI	KESINGA	PHD	167	10	3	1.8	0
181	KALAHANDI	KESINGA	TOWN	2555	153	109	4.3	12
182	KALAHANDI	NUNMATH	BELKHANDI	651	39	38	5.8	37
183	KALAHANDI	NUNMATH	PALAM	233	14	10	4.1	15
184	KALAHANDI	NUNMATH	TUNDLA	990	59	72	7.3	21
185	KALAHANDI	UTKELA	KUNDABANDHA	621	37	66	10.7	70
186	KALAHANDI	UTKELA	PASTIKUDA	534	32	51	9.6	169
187	KALAHANDI	UTKELA	UTKELA	751	45	23	3.0	3
188	KALAHANDI	KARLAPADA	CHHELIALMAL	183	11	11	6.1	20
189	KALAHANDI	KARLAPADA	MADING	150	9	7	4.9	16
190	KALAHANDI	KARLAPADA	CHAHAGON	183	11	20	10.7	30
191	KALAHANDI	KARLAPADA	KARLAPADA	83	5	4	4.5	7
192	KALAHANDI	ATTANGUDA	JUGSAIPATNA	165	10	17	10.0	32

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Sl.No	Circle	Name of the PSS	Name of the Feeder	Total Load (kW)	Current (A)	Total Losses (kW)	Loss(in %)	Feeder Length (km)
193	KALAHANDI	ATTANGUDA	KERUKUNDA	90	5	6	6.5	17
194	KALAHANDI	ATTANGUDA	SAGADA	128	8	10	7.4	42
195	KALAHANDI	ATTANGUDA	SAIDHAM	108	6	4	4.1	6
196	KALAHANDI	BANDHOPALA (KANDABANDHAPALA)	BANDHOPALA (KANDABANDHAPALA)	1056	63	135	12.8	199
197	KALAHANDI	BANDHOPALA (KANDABANDHAPALA)	TOWN (BANDHOPALA)	200	12	4	2.2	4
198	KALAHANDI	BHANGABARI	KAMATHANA	735	44	56	7.7	55
199	KALAHANDI	BHANGABARI	OMFED	684	41	21	3.0	0
200	KALAHANDI	NAKTIGUDA	DOORDARSHAN	100	6	3	3.1	2
201	KALAHANDI	NAKTIGUDA	MEDICAL-	3197	192	115	3.6	8
202	KALAHANDI	NAKTIGUDA	N.SAGADA	533	32	22	4.2	32
203	KALAHANDI	NAKTIGUDA	TOWN 1	1906	114	90	4.7	5
204	KALAHANDI	NAKTIGUDA	TOWN 2	2303	138	86	3.7	14
205	KALAHANDI	NAKTIGUDA	TOWN 3	100	6	2	2.4	2
206	KALAHANDI	NAKTIGUDA	HILL TOWN	1132	68	44	3.9	15
207	KALAHANDI	BANDHAPARI	BANDHAPARI	250	15	7	2.7	3
208	KALAHANDI	BANDHAPARI	BIJEPUR	486	29	56	11.6	140
209	KALAHANDI	BANDHAPARI	HATISAL	167	10	16	9.6	86
210	KALAHANDI	BANDHAPARI	MUSANAL	150	9	7	4.9	27
211	KALAHANDI	BISWANATHPUR	BISWANATHPUR	408	24	9	2.2	3
212	KALAHANDI	BISWANATHPUR	DUMENMUNDA	250	15	7	2.7	4
213	KALAHANDI	BISWANATHPUR	OLD LANJIGARH	619	37	51	8.3	67
214	KALAHANDI	BISWANATHPUR	POKHARIBANDH	501	30	23	4.6	19
215	KALAHANDI	JURADUBRA	KUSURLA	484	29	32	6.6	56
216	KALAHANDI	JURADUBRA	REGEDA	803	48	62	7.7	60
217	KALAHANDI	KARLAMUNDA	KARLAMUNDA	367	22	18	5.0	27
218	KALAHANDI	KARLAMUNDA	PUTIGAON	584	35	27	4.6	44
219	KALAHANDI	KARLAMUNDA	RISIDA	1667	100	252	15.1	91
220	KALAHANDI	LANJIGARH	LANJIGARH	1637	98	73	4.4	62

Keshav Ch. Nanda.

Sl.No	Circle	Name of the PSS	Name of the Feeder	Total Load (kW)	Current (A)	Total Losses (kW)	Loss(in %)	Feeder Length (km)
221	KALAHANDI	M.RAMPUR	URLADANI	434	26	41	9.4	219
222	KALAHANDI	M.RAMPUR	AMBAGAON	635	38	51	8.0	102
223	KALAHANDI	M.RAMPUR	BARABANDHA	451	27	39	8.7	95
224	KALAHANDI	M.RAMPUR	BLOCK	500	30	13	2.6	14
225	KALAHANDI	M.RAMPUR	TOWN	590	35	22	3.7	6
226	KALAHANDI	MADANPUR	BORIGHAT	217	13	22	9.9	55
227	KALAHANDI	MADANPUR	DANGABAHAL	217	13	17	7.8	32
228	KALAHANDI	MADANPUR	OLD REGEDA	200	12	13	6.3	31
229	KALAHANDI	MOHANGIRI BANJAMUNDA	D.KARLAKHUNTA	317	19	15	4.8	21
230	KALAHANDI	MOHANGIRI BANJAMUNDA	MOHANGIRI	503	30	47	9.3	65
231	KALAHANDI	NARLA	BALIPADA	982	59	217	22.1	169
232	KALAHANDI	NARLA	CHHATIKUDA	1264	76	250	19.7	135
233	KALAHANDI	NARLA	KAMARDHA	519	31	57	11.1	159
234	KALAHANDI	NARLA	NVODAYA	800	48	23	2.9	10
235	KALAHANDI	RUPRA ROAD	BALBASPUR	705	42	71	10.0	51
236	KALAHANDI	RUPRA ROAD	MANDEL	333	20	12	3.6	23
237	KALAHANDI	RUPRA ROAD	RUPRA	939	56	89	9.4	57
238	KALAHANDI	RUPRA ROAD	RUPRA ROAD-	234	14	8	3.4	8
239	KALAHANDI	BHANGABARI	OUAT	755	46	60	8.0	6
240	KALAHANDI	BHANGABARI	PARAMANADAPUR	50	3	1	2.8	6
241	KALAHANDI	KUSADANGAR	BHATANGPADAR	333	20	15	4.4	36
242	KALAHANDI	KUSADANGAR	COLLEGE	3411	205	166	4.9	15
243	KALAHANDI	KUSADANGAR	JALESWAR	2589	156	142	5.5	12
244	KALAHANDI	KUSADANGAR	MEDINIPUR	1096	66	128	11.7	101
245	KALAHANDI	RASINGPUR	DUNGURIPADAR	17	1	1	3.7	1
246	KALAHANDI	RASINGPUR	LINK_3	1113	67	38	3.4	14
247	KALAHANDI	RASINGPUR	RAISINGPUR	301	18	11	3.8	20
248	KALAHANDI	BADAKUTRU	BANER	1231	74	214	17.4	97

highlight of Nanda.

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Sl.No	Circle	Name of the PSS	Name of the Feeder	Total Load (kW)	Current (A)	Total Losses (kW)	Loss(in %)	Feeder Length (km)
249	KALAHANDI	BADAKUTRU	DHANPUR	1501	90	257	17.1	125
250	KALAHANDI	BADAKUTRU	PANIGAON	366	22	20	5.5	40
251	KALAHANDI	CHARBAHAL	CHARBAHAL	333	20	11	3.2	10
252	KALAHANDI	CHARBAHAL	DEUNDI	1189	71	134	11.2	75
253	KALAHANDI	CHARBAHAL	MOTER	599	36	23	3.9	26
254	KALAHANDI	CHARBAHAL	RANAMAL	1099	66	56	5.1	60
255	KALAHANDI	GODRAMAL	CHIKILI	1630	98	437	26.8	260
256	KALAHANDI	GODRAMAL	CHILIGUDA	833	50	58	7.0	62
257	KALAHANDI	GODRAMAL	KOKSARA	766	46	33	4.3	54
258	KALAHANDI	GODRAMAL	OLMA	749	45	33	4.4	9
259	KALAHANDI	JAIPATNA	11KA-JAIPATNA	1666	100	97	5.8	31
260	KALAHANDI	JAIPATNA	BANJIBAHAL	584	35	72	12.4	83
261	KALAHANDI	JAIPATNA	KHALIBATA	550	33	22	4.0	29
262	KALAHANDI	JAIPATNA	NEW BANER	200	12	6	3.2	7
263	KALAHANDI	LADUGAON	AMPANI	884	53	72	8.2	99
264	KALAHANDI	LADUGAON	INDUSTRIAL	983	59	49	5.0	23
265	KALAHANDI	LADUGAON	LODUGAON	965	58	32	3.4	16
266	KALAHANDI	MAHICALA	KALOPADA	883	53	50	5.6	59
267	KALAHANDI	MAHICALA	MAHICALA	566	34	26	4.6	34
268	KALAHANDI	MAHICALA	NANDIGAON	233	14	9	4.0	21
269	KALAHANDI	MUKHIGUDA	MAHULPATNA	467	28	30	6.4	77
270	KALAHANDI	MUKHIGUDA	MANGLAPUR	917	55	143	15.6	92
271	KALAHANDI	MUKHIGUDA	MUKHIGUDA	733	44	25	3.5	3
272	KALAHANDI	MUKHIGUDA	SOLAR	1	25	1	100.0	1
273	KALAHANDI	TEMRA	KENDUGUDA	416	25	23	5.4	69
274	KALAHANDI	TEMRA	KULERGUDA	400	24	26	6.6	40
275	KALAHANDI	TEMRA	TEMRA	283	17	11	3.7	21
276	KALAHANDI	BHERA	CHHANCHANBAHALI	583	35	38	6.5	68

Left hand side -

Sl.No	Circle	Name of the PSS	Name of the Feeder	Total Load (kW)	Current (A)	Total Losses (kW)	Loss(in %)	Feeder Length (km)
277	KALAHANDI	BHERA	BEHERA(DHARAMGARH)	383	23	15	4.0	40
278	KALAHANDI	BHERA	PARLA	350	21	21	6.1	54
279	KALAHANDI	DASPUR	BRUNDHAMAL	543	33	31	5.6	50
280	KALAHANDI	DASPUR	DASPUR	313	19	11	3.7	29
281	KALAHANDI	DASPUR	KUMARI	442	27	30	6.8	36
282	KALAHANDI	DHARMAGARH	BEHERA	767	46	77	10.1	79
283	KALAHANDI	DHARMAGARH	CHHENDIA	884	53	154	17.5	86
284	KALAHANDI	DHARMAGARH	CHILPA	1267	76	137	10.8	111
285	KALAHANDI	DHARMAGARH	DHARAMGARH	3101	186	372	12.0	36
286	KALAHANDI	GOLAMUNDA	CHAPERIA	599	36	32	5.3	47
287	KALAHANDI	GOLAMUNDA	GOLAMUNDA	350	21	14	4.0	17
288	KALAHANDI	GOLAMUNDA	KHALIAKANI	684	41	74	10.7	116
289	KALAHANDI	GOLAMUNDA	TAMIRA	250	15	7	2.9	25
290	KALAHANDI	KASIBAHAL	BASUL	216	13	10	4.8	19
291	KALAHANDI	KASIBAHAL	BODEN	200	12	9	4.5	22
292	KALAHANDI	KASIBAHAL	INDRAVATI	299	18	7	2.3	8
293	KALAHANDI	KASIBAHAL	KASIBHAL	150	9	5	3.3	9
294	KALAHANDI	KEGAON	BADCHERGAON	1581	95	246	15.5	116
295	KALAHANDI	KEGAON	BARACK	8	0	0	3.9	0
296	KALAHANDI	KEGAON	KEGAON	1305	78	133	10.2	23
297	KALAHANDI	KEGAON	LANJI	882	53	49	5.6	15
298	KALAHANDI	DASPUR	FARAUNG	711	43	55	7.7	50
299	KALAHANDI	ADRI	ADRI	167	10	6	3.9	3
300	KALAHANDI	ADRI	DALGUDA	100	6	4	3.7	9
301	KALAHANDI	ADRI	GOPINATHPUR	117	7	5	4.3	21
302	KALAHANDI	ADRI	MALIGAON	266	16	12	4.4	41
303	KALAHANDI	CHICHIGUDA	BALDHIAMAL	966	58	49	5.1	30
304	KALAHANDI	CHICHIGUDA	CHICHEGUDA	1300	78	103	7.9	55

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SI.No	Circle	Name of the PSS	Name of the Feeder	Total Load (kW)	Current (A)	Total Losses (kW)	Loss(in %)	Feeder Length (km)
305	KALAHANDI	CHICHIGUDA	S.KUNDAMAL	700	42	40	5.8	35
306	KALAHANDI	JUNAGARH	DASIGAON	2359	141	442	18.7	196
307	KALAHANDI	JUNAGARH	KASTURA	1548	93	53	3.4	23
308	KALAHANDI	JUNAGARH	KURUGUDA	1484	89	186	12.5	125
309	KALAHANDI	JUNAGARH	TOWN	1281	77	49	3.8	18
310	KALAHANDI	JUNAGARH	TULASIPALI	451	27	58	12.8	165
311	KALAHANDI	K.SINGHPUR(TPSODL)	HATIMUNDA	92	5	3	3.2	17
312	KALAHANDI	KALAMPUR	BANDHAKANA	450	27	39	8.7	73
313	KALAHANDI	KALAMPUR	BANKAPALA	550	33	42	7.6	45
314	KALAHANDI	KALAMPUR	KALAMPUR	499	30	14	2.8	7
315	KALAHANDI	KALAMPUR	PANDIGAON	383	23	15	4.0	23
316	KALAHANDI	KASHIPUR(TPSODL)	SUNGER	188	11	7	3.6	21
317	KALAHANDI	T RAMPUR	BADCHATRANG	417	25	21	5.1	40
318	KALAHANDI	T RAMPUR	DUMERPADAR	500	30	28	5.7	38
319	KALAHANDI	T RAMPUR	GOPALPUR	667	40	120	18.0	250
320	KALAHANDI	T RAMPUR	T RAMPUR	416	25	12	2.8	17
321	KALAHANDI	TETELKUNTI(TPSODL)	GOUD -DEOPALI	62	4	2	3.2	9
322	KALAHANDI	TETELKUNTI(TPSODL)	MURAN	18	1	1	3.1	6
323	KALAHANDI	BADI	AREDA	664	40	34	5.1	36
324	KALAHANDI	BADI	CHHELIAPADA	2458	148	232	9.4	12
325	KALAHANDI	BADI	SIKUAN	1941	116	186	9.6	82
326	KALAHANDI	BARGAON	LAXMIPUR	466	28	20	4.3	29
327	KALAHANDI	BARGAON	NEW BARGAON	216	13	7	3.2	17
328	KALAHANDI	BARGAON	RAJAMUNDA	550	33	36	6.5	57
329	KALAHANDI	BARGAON	SANMAHESWAR	167	10	9	5.6	32
330	KALAHANDI	BODEN	BODEN (KHARIAR)	549	33	16	2.8	13
331	KALAHANDI	BODEN	BOIRGAON	433	26	24	5.5	59
332	KALAHANDI	BODEN	LARKA	733	44	57	7.7	101

68th road str. Narda.