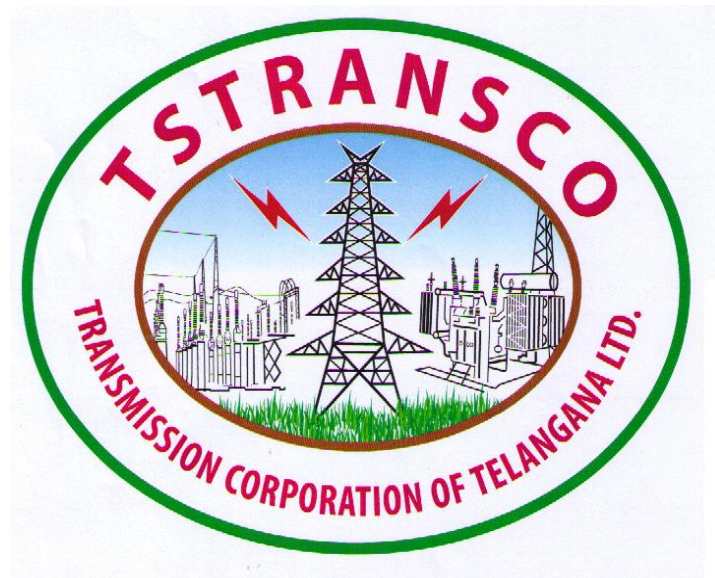


Revised Resource Plan

5th Control Period (FY 2024-25 to FY 2028-29) and
6th Control Period (FY 2029-30 to FY 2033-34)



August - 2023

**BEFORE THE HONOURABLE TELANGANA STATE ELECTRICITY
REGULATORY COMMISSION**

AT ITS OFFICE AT Vth FLOOR, SINGARENI BHAVAN, RED HILLS, HYDERABAD

FILING NO. _____/2023

CASE NO. _____/2023

In the matter of:

Interlocutory Application for filing the revised Resource Plan Petition in O.P.No.09 of 2023 of the Hon'ble TSERC i.e., Resource Plan Petition for 5th Control Period (FY:2024-2029) and 6th Control Period (FY:2029-2034) filed by TSTRANSCO, u/s 32 of TSERC (Conduct of Business) Regulation No. 2 of 2015 and u/s 94(1)(f) & 62 of Electricity Act, 2003 read with TSERC (1st Amendment to Regulation No.2 of 2016, Levy of fees for various services rendered by the Commission) Regulation No.2 of 2022 and TSERC (Adoption) Regulation No.1 of 2014.

In the matter of:


TRANSMISSION CORPORATION OF TELANGANA LIMITED

... Applicant

AFFIDAVIT OF APPLICANT VERIFYING THE INTERLOCUTORY APPLICATION FOR FILING THE REVISED RESOURCE PLAN PETITION IN O.P. NO. 09 OF 2023 OF THE HON'BLE TSERC I.E., RESOURCE PLAN PETITION FOR 5TH CONTROL PERIOD (FY:2024-2029) AND 6TH CONTROL PERIOD (FY:2029-2034) FILED BY TSTRANSCO


I, D. Prabhakar Rao, S/o D. Pashupathi Rao working for gain at the Transmission Corporation of Telangana Limited do solemnly affirm and say as follows:

1. I am the Chairman and Managing Director of TSTransco, the licensee company operating and controlling the Transmission & SLDC business of electricity in Telangana state pursuant to the license granted by the erstwhile Hon'ble APERC and in terms of Government of Telangana State (GoTS) orders vide G.O.Ms.No.1 dated 21-06-2014. I am competent and duly authorized by TSTransco to affirm, swear, execute and file this affidavit in the present proceedings.
2. I have read and understood the contents of the accompanying Interlocutory Application for filing the revised Resource Plan Petition u/s 32 of TSERC (Conduct of Business) Regulation No. 2 of 2015 and u/s 94(1)(f) & 62 of Electricity Act, 2003 in O.P.No.09 of 2023 of the TSERC i.e., Resource Plan Petition for the 5th Control Period (FY:2024-2029) and 6th Control Period (FY:2029-2034) filed by TSTRANSCO. The statements made in the paragraphs of the accompanying application are true to my knowledge, derived from the official records made available to me and are based on information and advice received which I believe to be true and correct.

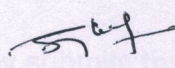

DEPONENT

VERIFICATION:

I, the above named Deponent solemnly affirm at Hyderabad on this the **day 21st of August, 2023** that the contents of the above affidavit are true to my knowledge, no part of it is false and nothing material has been concealed there from.


DEPONENT

Solemnly affirmed and signed before me.


COMPANY SECRETARY
TSTRANSCO/HYDERABAD
RAVI KUMAR SULUVA
2 BCA, FCS
COMPANY SECRETARY, TSTRANSCO,
VIDYUT SOUDHA, HYDERABAD-500 082.

**BEFORE THE HONOURABLE TELANGANA STATE ELECTRICITY
REGULATORY COMMISSION**

AT ITS OFFICE AT Vth FLOOR, SINGARENI BHAVAN, RED HILLS, HYDERABAD.

FILING NO. _____/2023

CASE NO. _____/2023

In the matter of:

Interlocutory Application for filing the revised Resource Plan Petition in O.P.No.09 of 2023 of the Hon'ble TSERC i.e., Resource Plan Petition for 5th Control Period (FY:2024-2029) and 6th Control Period (FY:2029-2034) filed by TSTRANSCO, u/s 32 of TSERC (Conduct of Business) Regulation No. 2 of 2015 and u/s 94(1)(f) & 62 of Electricity Act, 2003 read with TSERC (1st Amendment to Regulation No.2 of 2016, Levy of fees for various services rendered by the Commission) Regulation No.2 of 2022 and TSERC (Adoption) Regulation No.1 of 2014.

In the matter of:

TRANSMISSION CORPORATION OF TELANGANA LIMITED

... Applicant

The Applicant respectfully submits this Interlocutory Application accompanying the revised Resource Plan Petition is necessitated in view of the following changes/corrections in the petitioner's submissions as per the Hon'ble Commission's directions communicated vide it's letter dated 07.06.2023 (for additional information) and letter dated 18.07.2023 (time extension for public hearing on the Resource Plan Petition, O.P. No. 09 of 2023):

- The Resource Plan has been revised to be in line with the Resource Plan of TSDiscoms.
- Transmission Plan has been segregated as per Commission's directions.

Hence, the Applicant respectfully submits that the instant Petition of Interlocutory Application for filing the revised Resource Plan in O.P. No. 09 of 2023,

Resource Plan Petition for the 5th and 6th Control Periods filed by the petitioner (i.e., TSTRANSCO) may be taken into consideration.

The Applicant prays the Hon'ble Commission to set the deadline for submission of Resource Plan petition of the Transmission Licensee (TSTRANSCO) 2 months later after the Resource Plans of the Discoms are filed so as to ensure the Resource Plan of Transmission Licensee will be in line with that of Discoms'.


Prayer:

In the aforesaid circumstances, the applicant respectfully prays the Hon'ble Commission,

- a) to take the instant Interlocutory Application & the accompanying revised Resource Plan Petition filed by TSTRANSCO, on record.
- b) to approve the Resource Plan for the 5th Control Period (FY:2024-2029) and 6th Control Period (FY:2029-2034).
- c) to set the deadline for submission of Resource Plan petition of the Transmission Licensee (TSTRANSCO) 2 months later from that of Discoms' filings, from the next Control Period onwards.
- d) to grant suitable opportunity to TSTRANSCO within a reasonable time frame to file additional information as required.
- e) to pass such an order as the Hon'ble Commission may deem fit and proper in the facts and circumstances of the case.

TRANSMISSION CORPORATION OF TELANGANA LIMITED
(APPLICANT)

Through


D. PRABHAKAR RAO
CHAIRMAN AND MANAGING DIRECTOR

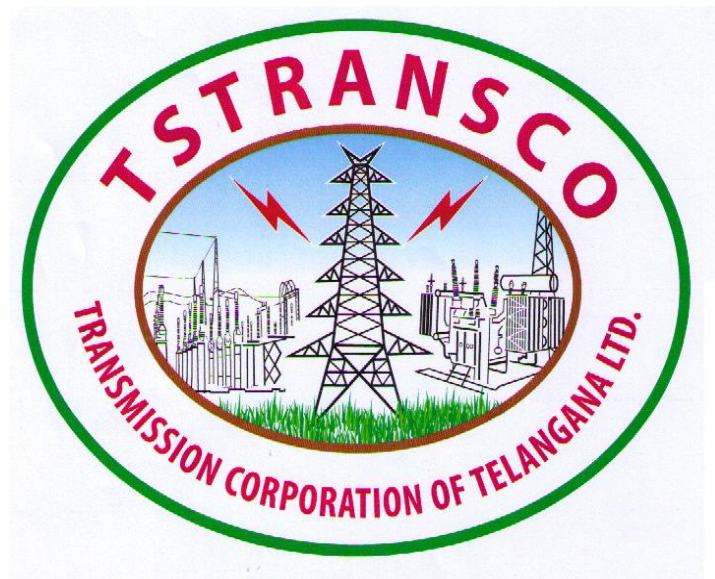
Place: HYDERABAD

Dated: 21st August, 2023

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Chapter 1

Telangana State Load forecast and Power Procurement Plan for 5th Control Period (FY 2024-25 to FY 2028-29) and 6th Control Period (FY 2029-30 to FY 2033-34)



August - 2023

Resource Plan for FY 2024-25 to FY 2033-34

1. State Load forecast and Resource plan of Telangana

1.1 Introduction

The Telangana Electricity Regulatory Commission (TSERC) has directed TSTRANSCO to collect and consolidate the sales forecast from distribution licensees and to file Resource Plan for Hon'ble Commission's approval as specified under clause 9 of APERC Regulation 5 of 2005 and as adopted by Hon'ble TSERC.

The Resource Plan shall contain the following

- Statement of Energy Availability, Energy Requirement and Surplus/Deficit
- Transmission plan of TSTRANSCO for FY 2024-25 to FY 2028-29
- Transmission plan of TSTRANSCO for FY 2029-30 to FY 2033-34

The Guidelines for Load Forecast and Resource Plan states that the licensee shall submit a Resource Plan for a period of two control periods i.e. Load Forecast from the year of commencement from 1st April and ending on the following 31st March including a detailed plan for the Control Period (FY 2024-25 to FY 2028-29) under consideration for tariff review purpose and an indicative plan for the subsequent control period (FY 2029-30 to FY 2033-34).

The fifth control period starts from 01 April, 2024 and ends on 31 March, 2029 while the sixth control period starts from 01 April, 2029 and ends on 31 March, 2034.

TSTRANSCO herewith submits Resource Plan for the two control periods as per directions of the Hon'ble Commission.

The Resource Plan consists of the following:

- Consolidated Sales Forecast
- Loss Trajectory
- Consolidated Load Forecast
- Consolidated Power Procurement Plan
- Capital Investment Plan (Transmission plan) of TSTRANSCO

1.2 Telangana Power Sector:

The total number of consumers in the state as on 31.03.2023 were 178.28 lakhs which includes Domestic, Non-Domestic, Industrial, Agricultural, EV charging Stations and other categories.

The total energy requirement for Telangana State during FY 2022-23 was 75656 MU and the Peak Demand was 15497 MW.

1.3 Generation and Transmission:

The Generation Installed capacity in the state as on 31.03.2023 is 18529 MW comprising of 4042.5 MW of Thermal, 2430.60 MW of Hydel, 11.16 MW of Mini Hydel, 1200 MW of Singareni TPP, 1000 MW of Chattisgarh Power, 76.31 MW of Inter-state Hydel, 24.51MW of APGPCL, 2502 MW of CGS Share, 5595 MW of NCE, 807.31 MW of IPP's and 839.45 MW of Sembcorb (TPCIL).

The present State Transmission infrastructure as on 31.03.2023 consists of 25 Nos. of 400kV Substations, 101 Nos. of 220kV Substations, 250 Nos. of 132kV Substations and 27849 CKM of EHT lines. The Transmission loss during FY 2022-23 were 2.52 %.

1.4 Power Supply Position:

TS DISCOMS have projected the load forecast to provide 24x7 quality and reliable power supply to all the categories of consumers.

1.5 Major Loads and Generation Plants in Telangana:

Major Lift Irrigation schemes are as follows:

a) Existing:

- Kaleshwaram Lift Irrigation Loads (including Link-I of additional 1 TMC loads) - 5068 MW
- Flood Flow Canal Loads - 156 MW.
- Sita Rama Lift Irrigation loads - 650 MW

b) Proposed:

- Palamur - Rangareddy Lift Irrigation loads - 5375 MW
- Additional 1 TMC loads at Link - II and Link - IV of Kaleshwaram Lift Irrigation Scheme including Manchippa, Yacharam Thanda and New Manchippa - 3013 MW

Major Generation plants are as follows:**a) Existing :**

- (i) KTPS - 1800 MW (2x250+1x500+1x800 MW)
- (ii) KTRP - 1100 MW (1x500+1x600 MW)
- (iii) Singareni TPP - 1200 MW (2x600 MW)
- (iv) Srisailem HES - 900 MW (6x150 MW)
- (v) Nagarjuna Sagar HES - 815.6 MW (1x110+7x100.8 MW)
- (vi) Bhadradi Thermal Power Station (BTPS) - 1080 MW (4x270 MW)

b) Proposed:

- (i) Yadadri Thermal Power Station (YTPS) of 4000 MW (5x800 MW)
- (ii) Telangana STPP (CGS station) of 1600 MW (2x800 MW)
(TS Share - 1390.813 MW)

1.6 Consolidated Sales and Load forecast

The consolidated Sales and Load forecast is prepared duly adding the sales and Load forecast of both the TSSPDCL and TSNPDCL. TSDISCOMs prepared sales and load forecast using modified Trend Method and the details of the approaches for sales forecast is as follows:

Approaches to Sales Forecasting adopted by TSDISCOMS

(i) Trend Method

This method is a non-causal model of demand forecasting which assumes that the underlying factors, which drive the demand for electricity, are expected to follow the same trend as in the past. These trends shall continue in the future except in certain categories.

The category wise & voltage wise sales forecast for all categories has been projected for the two control periods FY 2024-25 to FY 2028-29 and FY 2029-30 to FY 2033-34 by considering the following data:

The TSDISCOMs have used a modified trend method wherein the historical trends in usage have been modified based on a case to case basis based on the assessment.

(ii) Econometric analysis

Econometric analysis is based on the identification of correlations between the demand for electricity and the explanatory variables. This method estimates the causal relationships between the energy consumption and the factors influencing consumption. This approach allows the explicit evaluation of the separate impacts of change factors, such as energy prices, real income, population, economic activity and other independent variables. However, under this approach, the implicit assumption is that relationships established in historical time series data and/ or cross-sectional data will persist in the future.

Out of various explanatory variables considered, State GDP and per capita income have statistically significant correlation with energy consumption. Based on the projections of the macro variables, Energy consumption levels can be estimated for next 5 years. Projecting State GDP and per capita income is complicated as they are further dependent on various economic, demographic, regulatory factors. In the absence of reliable source capturing the trend of macro variables, this approach was not carried out to project sales by the TSDISCOMS.

In view of this constraint, TSDISCOMs have felt that the modified trend method is more suitable for projection of sales and system expansion for the control period.

The provisional category wise detailed forecast is placed in the below table:

	2024-25	2025-26	2026-27	2027-28	2028-29
	ENERGY CONSUMPTION -MUs (5th Control Period)				
Domestic	15783.39	16621.07	17508.93	18450.30	19448.76
Commercial	4531.49	4811.60	5112.54	5434.75	5779.17
Public lighting & Public Water Works	2160.40	2239.71	2323.16	2411.08	2503.80
Irrigation (Cat-5 + LI)	26278.31	27819.89	29461.53	31210.51	33074.74
LT Industries	1293.01	1337.63	1384.02	1432.27	1482.47
HT Industries	17602.46	18663.88	19808.22	21043.21	22377.44
Railway Traction	1272.61	1366.71	1405.94	1605.99	1729.32
Bulk Supply to	-	-	-	-	-
a)Non-Industrial Consumers	-	-	-	-	-
b)Private Licensees	-	-	-	-	-
Others	5370.44	5736.48	6126.71	6537.90	6980.59
Total (Energy Consumption)	74292.11	78596.97	83131.05	88126.01	93376.29
Distribution losses	7478.30	7858.55	8260.97	8686.91	9136.88
Energy Requirement at 132kV level in MU	81770.41	86455.52	91392.02	96812.92	102513.17
Transmission losses	2079.47	2180.45	2285.73	2400.96	2520.81
T&D losses -MU	9557.77	10039.00	10546.70	11087.87	11657.69
Energy Requirement at Grid level - MU	83849.88	88635.97	93677.75	99213.88	105033.98
Total External Transmission Losses	1147.00	1131.00	1096.00	1072.00	923.00

Total Energy Requirement (at State Periphery) - MU	84996.88	89766.97	94773.75	100285.88	105956.98
Annual Load Factor - %	55.10%	55.09%	55.08%	55.09%	55.07%
Peak Load in MW (DISCOM periphery)	16941.69	17912.80	18939.54	20062.93	21247.38
Peak Load in MW (at Grid level)	17611	18600	19641	20782	21962

Category wise Sales Forecast (MU) - Telangana State					
	2029-30	2030-31	2031-32	2032-33	2033-34
	ENERGY CONSUMPTION -MUs (6th Control Period)				
Domestic	20508.16	21632.61	22826.56	24094.75	25442.33
Commercial	6137.84	6521.20	6931.09	7369.50	7838.57
Public lighting & Public Water Works	2601.64	2705.01	2814.34	2930.07	3052.69
Irrigation (Cat-5 + LI)					
LT Industries	34962.05	36973.35	39118.03	41406.30	43849.25
HT Industries	1534.69	1589.05	1645.65	1704.60	1766.01
Railway Traction	23820.49	25383.02	27076.92	28915.52	30913.72
Bulk Supply to	-	-	-	-	-
a)Non-Industrial Consumers	-	-	-	-	-
b)Private Licensees	-	-	-	-	-
Others	7457.18	7968.58	8521.97	9129.83	9792.53
Total (Energy Consumption)	98885.63	104782.54	111103.44	117892.85	125186.40

Distribution losses	9600.34	10089.84	10609.04	11159.71	11743.70
Energy Requirement at 132kV level in MU	108485.97	114872.38	121712.48	129052.56	136930.10
Transmission losses	2650.60	2788.57	2935.46	3092.19	3259.41
T&D losses -MU	12250.94	12878.41	13544.50	14251.90	15003.11
Energy Requirement at Grid level - MU	111136.57	117660.95	124647.94	132144.75	140189.51
Total External Transmission Losses	502.00	455.00	453.00	454.00	447.00
Total Energy Requirement (at State Periphery) - MU	111638.57	118115.95	125100.94	132598.75	140636.51
Annual Load Factor - %	55.09%	55.10%	55.11%	55.12%	55.12%
Peak Load in MW (DISCOM periphery)	22479.59	23797.78	25211.29	26727.88	28356.76
Peak Load in MW (at Grid level)	23133	24470	25913	27463	29125

Transmission Losses

Transmission losses will be reduced from 2.48% in FY 2024-25 to 2.33 % by FY 2033-34 and the details are as tabulated below.

FY	2024-25	2025-26	2026-27	2027-28	2028-29
Transmission Loss %	2.48%	2.46%	2.44%	2.42%	2.40%

FY	2029-30	2030-31	2031-32	2032-33	2033-34
Transmission Loss %	2.38%	2.37%	2.36%	2.34%	2.33%

Forecast from FY 2022-23 to FY 2033-34

The Energy required from FY 2022-23 to 2028-29 is as under

FYs	2024-25	2025-26	2026-27	2027-28	2028-29	CAGR 2024-29
Energy Requirement MU	84997	89767	94774	100286	105957	5.67%
Peak Load MW	17611	18600	19641	20782	21962	5.67%

The Energy required from FY 2029-30 to FY 2033-34 is as under.

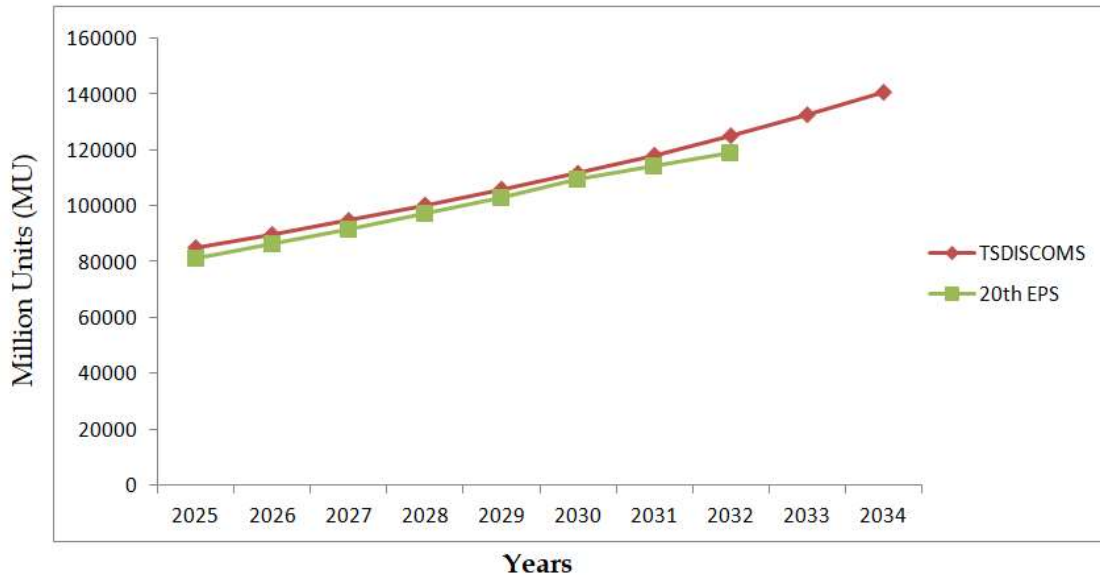
FYs	2029-30	2030-31	2031-32	2032-33	2033-34	CAGR 2029-34
Energy Requirement MU	111639	118116	125101	132599	140637	5.94%
Peak Load MW	23133	24470	25913	27463	29125	5.93%

1.7 Comparison of Load forecasts

Comparison of Consolidated Energy Requirement (MU) of TSDISCOMS with 20th EPS of CEA are shown in below table and graph.

FYs	2024-25	2025-26	2026-27	2027-28	2028-29
TSDISCOMS (MU)	84997	89767	94774	100286	105957
20th EPS (MU)	81328	86365	91852	97395	103130

FYs	2029-30	2030-31	2031-32	2032-33	2033-34	CAGR for (2024-25 to 2033-34)
TSDISCOMS (MU)	111639	118116	125101	132599	140637	5.75 %
20th EPS (MU)	109639	114471	119102	NA	NA	5.60 %



2. Generation Plan

Generation plan for two control periods which includes all the available and possible Generation sources to meet the future energy requirement.

2.1 Energy Availability from various sources

In the following sections, the capacities and availability from various existing and upcoming generating sources along with their expected date of commissioning have been described.

TELANGANA GENCO

The below table shows the capacities of the existing/upcoming Thermal and
Hydel generating stations.

(in MW)

Energy Source	Plant Capacity (MW)	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29
State Thermal Projects						
KTPS V	500	500	500	500	500	500
KTPS VI	500	500	500	500	500	500
RTS-B	62.5	62.5	62.5	62.5	62.5	62.5
KTPP Stage-I	500	500	500	500	500	500
KTPP Stage-II	600	600	600	600	600	600
KTPS Stage-VII	800	800	800	800	800	800
BTPS (4x270 MW)	1080	1080	1080	1080	1080	1080
YTPS (5x800 MW)	4000	4000	4000	4000	4000	4000
Total Thermal	8042.5	8042.5	8042.5	8042.5	8042.5	8042.5
NSHP	815.6	815.6	815.6	815.6	815.6	815.6
NSLCPH	60	60	60	60	60	60
Pulichintala	120	120	120	120	120	120
Pochampad	36	36	36	36	36	36
Nizamsagar	10	10	10	10	10	10
Palair	2	2	2	2	2	2
Mini Hydels (Peddapalli)	9.16	9.16	9.16	9.16	9.16	9.16
Singur	15	15	15	15	15	15
Srisailem LBH ES	900	900	900	900	900	900
Priyadarshini Jurala (TS Share)	234	117	117	117	117	117
Lower Jurala	240	240	240	240	240	240
Total Hydel	2441.76	2324.76	2324.76	2324.76	2324.76	2324.76
Solar PV at Jurala	1	1	1	1	1	1
Total Capacity	10485.26	10368.26	10368.26	10368.26	10368.26	10368.26

Central Generating Stations

The share of the Telangana in the total capacity of the Central Generating Stations is provided below:

Name of the Station	Capacity (MW)	TS Share (MW)	Percentage %
NTPC (SR)-I & II	2100	353.01	16.81
NTPC (SR) Stage-III	500	88.50	17.7
NTPC Talcher StageII	2000	217.40	10.87
NLC Stage-I	630	5.23	0.83
NLC Stage-II	840	6.89	0.82
NPC-MAPS	440	22.04	5.01
NPC-Kaiga Unit-I&II	440	67.72	15.39
NPC-Kaiga Unit-III & IV	440	72.03	16.37
NTPC Simhadri Stage-I	1000	538.90	53.89
NTPC Simhadri Stage-II	1000	256.80	25.68
NTECL Vallur Thermal Power Plant	1500	106.20	7.08
NLC Tamilnadu (Tuticorn) Unit-I & Unit II	1000	147.50	14.75
Kudigi Unit-I, II & III	2400	281.04	11.71
New Neyvelli Thermal Power plant	1000	61.90	6.19
NLC Exp-I	420	5.46	1.3
KKNPP (Kudankulam Nuclear Power Plant) Unit-I	1000	4.30	0.43
KKNPP (Kudankulam Nuclear Power Plant) Unit-II	1000	50.00	5
NLC Exp-II	500	6.50	1.3
NSM Bundled Phase -II	25650	200.00	0.78
Total	43860	2491.42	5.68

Apart from the above CGS stations, Telangana STPP is expected to come during FY 2023-24.

Name of the Station	Capacity (MW)	TS Share (MW)	COD/Expected date of commissioning (COD)
Telangana STPP	1600	1390.813	Unit-I: 31-August-2023 & Unit-II: 30-September-2023

Independent Power Producers (IPPs)

The share of Telangana from the following IPPs:

Project Name	Plant Capacity (MW)	TS Share (MW)	Remarks
GVK	220	118.558	The Natural gas supplies from RIL KG D-6 fields to these IPPs became zero from 01.03.2013 onwards and hence at present there is no Generation from these 4 IPPs
Vemagiri	370	199.393	
Gouthami	464	250.0496	
Konaseema	444.08	239.314712	
APGPCL Stage - I	-	-	Letter addressed to APGPCL to not schedule power from 1 st February 2020
APGPCL Stage - II	-	-	
Total	1498.08	807.315	

Other Sources

The following Generation capacities are available from other sources:

Name of the Station	Capacity (MW)	TS Share (MW)
Thermal Power Tech (Unit-I)	1240	269.45
Thermal Power Tech (Unit-II)		570
Singareni Thermal Power Plant Stage-I	1200	1200
Chattisgarh Power Purchase	1000	1000

2.2 Power Procurement Plan

Power procurement Plan is prepared from the above mentioned Generation sources and surplus/deficit during the year would be arrived.

The energy availability from the following sources has been considered for preparation of Power procurement Plan:

- All existing Generation sources
- Generation sources with which the licensee has signed PPA like Chattisgarh, Singareni and Thermal Power Tech.
- Other future Generating Stations including TSGENCO thermal, CGS and NCE.

Considering the above assumptions, the energy availability from various sources has been computed which is summarized in the below sections.

TSGENCO Thermal

Energy Availability from TSGENCO Thermal Stations (MU)

Energy Source	Plant Capacity	TS Share MW	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32	FY 2032-33	FY 2033-34	PPA Agreement Period/ PPA Expiry Date
KTPS -V	500	500	3511.50	3511.50	3508.80	3521.40	3511.50	3508.80	3511.50	3521.40	3508.80	3511.50	05 Years/ 31.03.2024
KTPS - VI	500	500	3504.00	3519.00	3504.00	3524.58	3504.00	3519.00	3504.00	3529.20	3504.00	3513.60	25 Years/ 22.10.2036
RTS B	62.5	62.5	412.80	412.13	412.13	413.30	412.13	309.38	Proposed to retire the unit by the End of December 2029. Hence, generation is not considered				05 Years/ 31.03.2024
KTPP - I	500	500	3519.00	3504.00	3513.60	3513.60	3519.00	3504.00	3519.00	3513.60	3513.60	3504.00	25 Years/ 13.09.2035
KTPP - II	600	600	4204.80	4222.80	4204.80	4235.04	4204.80	4216.32	4204.80	4235.04	4204.80	4222.80	25 Years/ 23.03.2041
KTPS - VII	800	800	5961.60	5956.80	5961.60	5973.12	5959.68	5956.80	5961.60	5973.12	5961.60	5956.80	25 Years/ 25.12.2043
Bhadradri Thermal Power Station (BTPS)	1080	1080	8044.92	8044.92	8043.62	8067.21	8044.92	8044.92	8044.92	8067.60	8043.62	8043.62	25 Years/ 08.01.2047

Energy Source	Plant Capacity	TS Share MW	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32	FY 2032-33	FY 2033-34	PPA Agreement Period/ PPA Expiry Date
Yadadri Thermal Power Station (Damarcherla) (YTPS)	4000	4000	23810.88	29784.04	29784.05	29784.23	29784.11	29784.38	29784.05	29784.23	29784.11	29784.38	25 Years/ (From last Unit of anticipated COD) Unit#1 Dec'2023 Unit#2 Mar'2024 Unit#3 May'2024 Unit#4 July'2024 Unit#5 Sept'2024
Total	8042.50	8042.50	52969.50	58955.19	58932.60	59032.48	58940.14	58843.60	58529.87	58624.19	58520.53	58536.70	

TSGENCO Hydel

The Energy availability (MU) from Hydel stations is as follows:

Energy Source	Plant Capacity	TS Share MW	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32	FY 2032-33	FY 2033-34	PPA Agreement Period/ PPA Expiry Date
NSHP	815.60	815.60	960.73	955.73	1043.73	1129.73	1224.73	1314.73	1295.73	1299.73	1150.73	1166.73	10 Years / 31.03.2029
NSLCPH	60.00	60.00	64.02	64.99	64.02	64.02	65.96	80.03	77.06	74.10	66.20	67.18	10 Years / 31.03.2029
Pulichintala	120.00	120.00	255.60	287.46	322.30	359.13	397.95	401.92	405.93	410.01	414.08	418.24	35 Years / 07.09.2053
Pochampad	36.00	36.00	74.36	74.36	74.36	74.36	74.37	74.36	74.36	74.36	74.36	74.37	10 Years / 31.03.2029 (Stg-I), 35 Years / 11.10.2045 (Stg-II)
Nizam sagar	10.00	10.00	16.90	16.90	16.90	16.90	16.90	16.90	16.90	16.90	16.90	16.90	10 Years / 31.03.2029
Palair	2.00	2.00	2.76	2.84	2.93	3.02	3.02	2.81	2.79	2.89	2.94	3.03	10 Years / 31.03.2029
Mini Hydels (Peddapalli)	9.16	9.16	2.42	2.79	2.30	2.44	2.44	2.42	2.79	2.30	2.44	2.44	
Singur	15.00	15.00	13.61	13.61	13.61	13.61	13.61	13.61	13.61	13.61	13.61	13.61	10 Years / 31.03.2029
SLBHES	900.00	900.00	1123.94	1123.94	1123.94	1123.94	1123.94	1123.94	1123.94	1123.94	1123.94	1123.94	10 Years / 31.03.2029

Energy Source	Plant Capacity	TS Share MW	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32	FY 2032-33	FY 2033-34	PPA Agreement Period/ PPA Expiry Date
Priyadarshini Jurala	234.00	117.00	241.67	243.88	265.40	271.17	277.00	288.68	285.95	278.09	273.00	266.87	35 Years / 03.08.2046
Lower Jurala	240.00	240.00	242.90	242.90	242.90	242.90	242.90	242.90	242.90	242.90	242.90	242.90	35 Years / 30.09.2051
Total	2441.76	2324.76	2998.91	3029.40	3172.39	3301.22	3442.82	3562.30	3541.96	3538.83	3381.10	3396.21	

Central Generating Stations (CGS)

Energy availability (MU) from CGS Plants

Energy Source	Capacity (MW)	TS Share MW	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32	FY 2032-33	FY 2033-34	PPA Agreement/ PPA Expiry period
NTPC (SR) - I & II	2100	353.01	2666.07	2687.41	2618.33	2683.21	2668.76	2668.42	2618.33	2686.07	2669.43	2669.43	27.9.2018
NTPC (SR) Stage-III	500	88.50	714.90	621.27	-	-	-	-	-	-	-	-	31.01.2026
NTPC Talcher Stage-II	2000	217.40	-	-	-	-	-	-	-	-	-	-	05.04.2023
NLC Stage-I	630	5.23	35.04	35.04	35.04	35.14	35.04	32.12	-	-	-	-	20.02.2030

Energy Source	Capacity (MW)	TS Share MW	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32	FY 2032-33	FY 2033-34	PPA Agreement/ PPA Expiry period
NLC Stage-II	840	6.89	46.16	46.16	46.16	46.29	46.16	27.89	-	-	-	-	20.02.2030
NPC-MAPS	440	22.04	56.00	56.00	42.00	-	-	-	-	-	-	-	23.12.2026
NPC-Kaiga Unit-I&II	440	67.72	427.00	427.00	320.00	-	-	-	-	-	-	-	23.12.2026
NPC-Kaiga Unit-III & IV	440	72.03	463.00	463.00	347.25	-	-	-	-	-	-	-	23.12.2026
NTPC Simhadri Stage-I	1000	538.90	4163.00	4089.71	4089.71	4150.61	-	-	-	-	-	-	28.02.2028
NTPC Simhadri Stage-II	1000	256.80	1983.78	1948.86	1948.86	1977.87	1983.78	1948.86	1948.86	1948.86	1948.86	1948.86	29.09.2037
NTECL Vallur Thermal Power Plant	1500	106.20	697.78	697.74	697.69	697.69	697.73	697.73	697.73	697.73	697.73	697.73	25.02.2040
NLC Tamilnadu (Tuticorn) Unit-I & Unit II	1000	147.50	1098.29	1098.29	1098.29	1101.24	1098.29	1098.29	1098.29	1101.24	1098.29	1101.24	28.08.2040
Kudigi Unit-I, II & III	2400	281.04	2196.33	2095.15	2168.93	2095.15	2196.33	2095.15	2168.93	2074.08	2196.33	2074.08	14.09.2043
New Neyvelli Thermal Power plant	1000	61.90	460.91	460.91	460.91	462.15	460.91	460.91	460.91	462.15	460.91	462.15	09.02.2046
NLC Exp-I	420	5.46	41.00	41.00	41.00	41.00	41.00	41.00	41.00	41.00	41.00	41.00	No PPA exists
KKNPP (Kudankulam Nuclear Power Plant) Unit-I	1000	4.30	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	PPA is yet to be entered for 15 years. Initiated for

Energy Source	Capacity (MW)	TS Share MW	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32	FY 2032-33	FY 2033-34	PPA Agreement/ PPA Expiry period
KKNPP (Kudankulam Nuclear Power Plant) Unit-II	1000	50.00	335.00	335.00	335.00	335.00	335.00	335.00	335.00	335.00	335.00	335.00	signing agreement
NLC Exp-II	500	6.50	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	No PPA exists
NSM Bundled Phase -II	25650	200.00	1390.00	1390.00	1390.00	1394.00	1390.00	1390.00	1390.00	1394.00	1390.00	1390.00	25 Years/2042
Telangana Super Thermal Power Project by NTPC, Phase-I	1600	1390.813	10185.97	10154.67	10618.86	10618.86	10495.42	10464.13	10618.86	10618.86	10495.42	10618.86	25 Years/2048
Total	45460.00	3882.23	27018.22	26705.21	26316.01	25696.20	21506.40	21317.49	21435.89	21416.97	21390.95	21396.33	

Remarks

NTPC (SR) - I & II : The PPA expired by 27.09.2018. However, based on CEA/ SRPC directions as well as PPA article 12.0, the Energy is being purchased and energy has been projected up to FY 2033-34.

NLC Exp-I & II : 1. Before entering into the PPAs, the allocated Power from the TPS Plants to TSDISCOMs was declined and surrendered to MoP,GoI. However, MoP ,GoI has not considered the Telangana request and Power is being allocated to TSDISCOMs.

2. Generally, MoP de-allocates/re-allocates the CGS Power to the any states, when other states/beneficiary seeks such surrender quantum of Power. Since, MoP is allocating Power from the plants, TSDISCOMs are availing such Power under compulsion even if there are no PPAs.

KKNPP Unit-I & II : MoP is allocating un-allocated quota power to TSDISCOMs.

NSM Bundled Phase -II : PSAs are entered for bundled power under NSM for a term of 25 years from the date of CoD of the last unit of the Solar Power Project. Thermal power is allocated as per the allocation letter by MoP, GoI from time to time.

Non Conventional Energy sources (NCE)

PLF of NCE Sources	
Bio-Mass	80%
Bagasse	55%
Mini Hydel	45%
MSW	80%
Wind Power	25%
Solar	25%

The energy availability (MU) from NCE sources:

Energy Source	Capacity in MW	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32	FY 2032-33	FY 2033-34
RE - Bio-Mass	51.00	42.048	42.048	42.048	0.000	0.000	0.000	0.000	0.000	0.000	0.000
RE-Bagasse	74.20	321.360	321.360	196.090	116.590	116.590	0.000	0.000	0.000	0.000	0.000
RE-Industrial	18.50	129.650	129.650	129.650	129.650	105.120	105.120	105.120	52.560	52.560	52.560
RE-MSW	6.60	438.000	438.000	438.000	438.000	438.000	438.000	438.000	438.000	438.000	438.000
RE-Wind Power	100.80	280.540	280.540	280.540	280.540	280.540	280.540	280.539	280.539	280.539	280.539
Mini Hydel	7.55	10.050	7.884	7.884	0.000	0.000	0.000	0.000	0.000	0.000	0.000
RE Solar Competitive Bidding 2012	171.99	376.660	376.660	376.660	376.660	376.660	376.660	376.660	376.660	376.660	376.660
RE Solar Competitive Bidding 2013	189.50	415.005	415.005	415.005	415.005	415.005	415.005	415.005	415.005	415.005	415.005
RE Solar Competitive Bidding 2014	513.00	1123.470	1123.470	1123.470	1123.470	1123.470	1123.470	1123.470	1123.470	1123.470	1123.470
RE Solar Competitive Bidding 2015	1954.50	4280.355	4280.355	4280.355	4280.355	4280.355	4280.355	4280.355	4280.355	4280.355	4280.355

Energy Source	Capacity in MW	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32	FY 2032-33	FY 2033-34
RE - Solar JNNSN (RPSSGP)	4.75	6.240	6.240	6.240	6.240	6.240	6.240	6.240	6.240	6.240	6.240
RE - Solar NTPC - Ramagundam	10.00	21.900	21.900	21.900	21.900	21.900	21.900	21.900	21.900	21.900	21.900
RE Solar NVNNL Bundled Power	45.81	100.320	100.320	100.320	100.320	100.320	100.320	100.324	100.324	100.324	100.324
RE Solar 400MW Bundled Power	400.00	876.000	876.000	876.000	876.000	876.000	876.000	876.000	876.000	876.000	876.000
RE Solar Additions											
a) SECI ISTS Tr-VI		876.000	876.000	876.000	876.000	876.000	876.000	876.000	876.000	876.000	876.000
b) NTPC CPSU Tr-I & II		3705.500	3705.500	3705.500	3705.500	3705.500	3705.500	3705.480	3705.480	3705.480	3705.480
c) NTPC CPSU Tr-III		2288.550	2288.550	2288.550	2288.550	2288.550	2288.550	2288.550	2288.550	2288.550	2288.550
d) NHPC CPSU Tr- III		1095.000	1095.000	1095.000	1095.000	1095.000	1095.000	1095.000	1095.000	1095.000	1095.000
e) SECI ISTS Tr-IX		2190.000	2190.000	2190.000	2190.000	2190.000	2190.000	2190.000	2190.000	2190.000	2190.000
Future Addition:	-	-	867.75	911.14	956.69	1004.53	1054.76	1107.49	1162.87	1221.01	1282.06
Total NCE's	3548.20	18576.65	19442.23	19360.35	19276.47	19299.78	19233.42	19286.14	19288.95	19347.09	19408.14

IPPs

The expected energy availability (MU) from the IPPs is as follows

Energy Source	Plant Capacity	TS Share MW	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32	FY 2032-33	FY 2033-34	PPA Agreement Period / PPA Expiry Date
GVK	220	118.558	-	-	-	-	-	-	-	-	-	-	#
Vemagiri	370	199.393	-	-	-	-	-	-	-	-	-		
Gouthami	464	250.0496	-	-	-	-	-	-	-	-	-		
Kona seema	444.08	239.314712	-	-	-	-	-	-	-	-	-		
APGPCL Stage -I			-	-	-	-	-	-	-	-	-	-	##
APGPCL Stage -II			-	-	-	-	-	-	-	-	-	-	
Total	1498.08	807.315	-	-	-	-	-	-	-	-	-	-	

The Natural gas supplies from RIL KG D-6 fields to these IPPs became zero from 01.03.2013 onwards and hence at present there is no generation from these 4 IPPs

Letter addressed to APGPCL to not schedule power from 1st February 2020

Expiry Date:

GVK Extension	-	13.04.2024
GMR Vemagiri	-	15.09.2029
GVK Gouthami	-	14.06.2024
Konaseema	-	29.06.2025

Other Sources:

The below table shows the energy availability (MU) from the following sources

- Thermal Power Tech
- Singareni Stage - I
- Chattisgarh Power Purchase

Energy Source	Capacity MW	TS Share MW	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32	FY 2032-33	FY 2033-34	PPA Agreement Period / PPA Expiry Date
Thermal Power Tech (Unit - I)	1240	269.45	2360.4	2360.4	2360.4	2366.80	2360.40	2360.40	2360.40	2366.80	2360.40	2360.40	25 years/ 19.04.2040
Thermal Power Tech (Unit - II)		570	-	-	-	-	-	-	-	-	-	-	8 Years / 29.03.2024
Singareni Thermal Power Project Stage-I	1200	1200	9243.89	9243.89	9243.89	9270.49	8911.38	8911.38	8911.38	8937.98	9243.89	9243.89	25 Years/ 2041
Chattisgarh Power Purchase	1000	1000	7055.09	7055.09	7055.09	7074.41	7055.09	676.52	-	-	-	-	12 Years/ 2029
Total	3440	3039.45	18659.38	18659.38	18659.38	18711.70	18326.87	11948.30	11271.78	11304.78	11604.29	11604.29	

Remarks:

Chhattisgarh Power Purchase: CSERC vide order dated 13.04.2022 approved PAF :82% for FY 2023-24 & 85% from FY 2024-25 onwards as per the Production plan of Captive coal mine.

Chhattisgarh State Power Distribution Company Limited (CSPDCL) is scheduling Zero energy to TSDISCOMs. However, the projections has been calculated based on the normative availability as the TSDISCOMs have already considered payment of around Rs.2100 Crores under LPS rules 2022.

Energy Availability

The below table shows the consolidated energy availability in MU from various Energy sources

Energy Source	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32	FY 2032-33	FY 2033-34
Thermal	52969.50	58955.19	58932.60	59032.48	58940.14	58843.60	58529.87	58624.19	58520.53	58536.70
Hydel	2998.91	3029.40	3172.39	3301.22	3442.82	3562.30	3541.96	3538.83	3381.10	3396.21
Total (Thermal + Hydel)	55968.41	61984.59	62104.99	62333.70	62382.96	62405.90	62071.83	62163.02	61901.63	61932.91
CGS	27018.22	26705.21	26316.01	25696.20	21506.40	21317.49	21435.89	21416.97	21390.95	21396.33
NCE	18576.65	19442.23	19360.35	19276.47	19299.78	19233.42	19286.14	19288.95	19347.09	19408.14
IPP&APGPCL	-	-	-	-	-	-	-	-	-	-
Others	18659.38	18659.38	18659.38	18711.70	18326.87	11948.30	11271.78	11304.78	11604.29	11604.29
Total Energy Availability	120222.65	126791.41	126440.73	126018.08	121516.01	114905.10	114065.63	114173.72	114243.96	114341.67

The total energy availability is not similar to TSDICOMS filings due to the following:

1. In CGS data, the energy availability from the Telangana Super Thermal Power Project by NTPC was arrived as per actual Telangana share (1390.813 MW) instead of earlier projections corresponding to full plant capacity of 1600 MW.
2. In NCE data, future addition for FY 2025-26 was considered @ 5% on the total solar energy availability during FY 2024-25. The same was increased @ 5% from FY 2026-27 onwards.

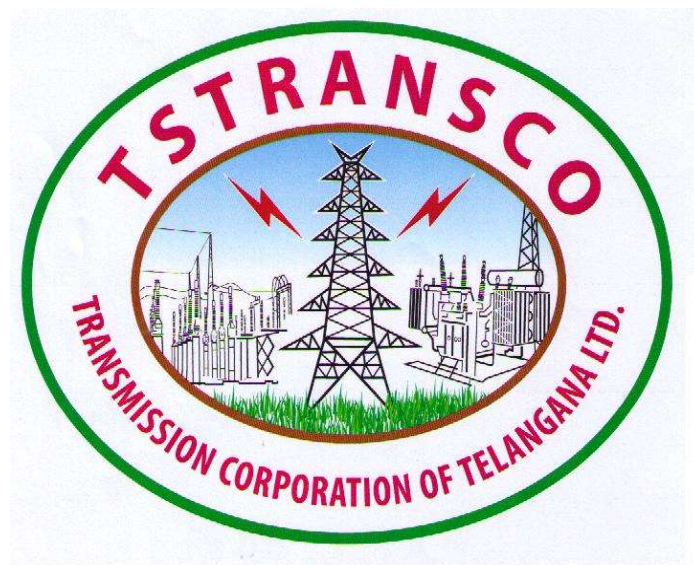
Energy Balance

Energy Source	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32	FY 2032-33	FY 2033-34
Total Energy Availability	120222.65	126791.41	126440.73	126018.08	121516.01	114905.10	114065.63	114173.72	114243.96	114341.67
Total Energy Requirement	84996.88	89766.97	94773.75	100285.88	105956.98	111638.57	118115.95	125100.94	132598.75	140636.51
Energy Surplus/ Deficit	35225.77	37024.44	31666.98	25732.20	15559.03	3266.53	-4050.32	-10927.22	-18354.79	-26294.84

From the above table, it can be observed that the state is expected to experience surplus till FY 2029-30 and come in to deficit from FY 2030-31 onwards.

Chapter 2

TSTRANSCO Transmission Plan for 5th Control Period FY 2024-25 to FY 2028-29



August - 2023

Transmission Plan for 5th Control Period FY 2024-25 to FY 2028-29

2.1 Introduction

The Telangana State had handled 75656 MU of Energy for the FY 2022-23 and met peak demand of 15497 MW. The total Energy may likely to increase to 105957 MU of energy and with an expectation of peak demand by 21962 MW by the end of 5th Control Period during FY 2028-29.

Handling of the above peak demand needs improvement of Transmission System within the State for which TSTRANSCO have planned certain transmission schemes.

Inter Regional Lines (WR-SR corridor):

The PGCIL has started construction of Warora (Maharashtra)-Warangal (Telangana)-Maheshwaram (Telangana)-Kurnool (AP) 765 kV double circuit line and the works are in progress.

2.2 Transmission Resource Plan

The objective of the Transmission Planning is to develop new Transmission Network suitably to handle the increasing demand growth in both TSSPDCL and TSNPDCL and to handle Generation planning.

The purpose of Resource Plan is to present a comprehensive summary of the process, assumptions, methodology, Transmission network expansion plan and investment required to ensure necessary Transmission system suitably to meet the demand growth anticipated during FY 2028-29.

The proposed Transmission system required for the FY 2028-29 ending in the 5th Control Period is accessed for the estimated peak load of 21962 MW and additional Generation evacuation. The system studies will be carried out for the entire Peak Load of 21962 MW.

The load flow studies and short circuit studies would be carried out duly incorporating the schemes mentioned at para 2.5.

2.3 Assumptions and Standards considered for arriving the requirement of additional Substations, Lines, Augmentation of Power Transformer Capacities, Capacitor Banks and Reactors.

The Substations & Lines are arrived to meet load growth and based on achievements of power sector in Telangana State from 02.06.2014. The locations for substations will depend on load growth due to domestic, commercial, agriculture, industrial and IT sector and to provide round the clock supply in the entire state of Telangana. For preparation of schemes, only tentative quantities and costs are proposed.

For Bulk Load consumers, the requirement of substation and lines, augmentation of power transformers will be considered as per the load requirement. Further, location for the substation is as per the location of the bulk load consumer such as LI Pumping Stations, Khammam Steel Plant etc. and the estimated cost is arrived based on the load requirements, voltage level of substations & transmission lines provided in extending the Power Supply.

Power Transformer (PTR) Capacities are augmented to meet future load growth, to avoid overloading of existing PTRs during peak load, to avoid load shedding and to meet exigencies in the GHMC area.

The Capacitor Banks and Reactors are proposed to maintain the voltages as per CEA Transmission Planning criteria, 2023.

The following standards are adopted from CEA Transmission Planning criteria, 2023 for conducting load flows and short circuit studies.

(A) Standard Transformer sizes:

The utility's standard Transformer Sizes

Voltage	Rating (MVA)
765/400 KV	1500
400 / 220 kV	500/315
220 / 132 kV	160/100

(B) Standard Conductor types:

Sl. No	Item	Conductor Type	Configuration
1	765 KV Line	Hexa Zebra	ACSR Zebra, 6/PH, 484 Sq.mm
2	765 KV Line	Quad Bersimis	ACSR Bersimis,4/PH, 724.69 Sq.mm
3	400 kV Lines	Quad Moose	ACSR Moose, 4/PH, 597 Sq.mm
4	400 kV lines	Twin Moose	ACSR Moose, 2/PH, 597 Sq.mm
5	220 kV Lines	Single Moose	ACSR Moose, 1/PH, 597 Sq.mm
6	132 kV Lines	Panther	ACSR Panther, 1/PH, 210 Sq.mm

(C) Thermal Loading Limits of Transmission Lines:

As per the CEA Manual on Transmission Planning criteria, 2023 (applicable from 1st April, 2023), thermal loading limits of transmission lines at different voltage levels are as tabulated below:

Conductor	45°C ambient 75°C Conductor Temperature	
	Amp	MVA
765 KV Hexa Zebra ACSR	3276	4341
765 KV Quad Bersimis ACSR	2824	3742
400 kV Quad Moose ACSR	2456	1702
400 kV Twin Moose ACSR	1228	851
220 kV Zebra ACSR	546	208
220kV Moose ACSR	614	234
132kV Panther ACSR	374	86

(D) Maximum Capacity of Substation

As per the CEA Manual on Transmission Planning criteria, 2023 (applicable from 1st April, 2023), the capacity of any single sub-station at different voltage levels shall not normally exceed as given in column (B) and (C) in the following table:

Voltage Level (A)	Transformation Capacity	
	Load Serving Substation (B)	Generation Pooling substations (C)
765 KV	9000MVA	9000MVA
400 KV	2500 MVA	5000MVA
220KV	1000 MVA	1000 MVA
132kV	500 MVA	500 MVA

(E) Voltage Limits

As per the CEA Manual on Transmission Planning criteria, 2023 (applicable from 1st April, 2023), permitted operational voltage limits are as tabulated below:

Nominal Voltage in kV	Maximum Voltage in kV	Minimum Voltage in kV
765	800	728
400	420	380
220	245	198
132	145	122

(F) Contingency criteria:

As per the CEA Manual on Transmission Planning criteria, 2023 (applicable from 1st April, 2023), all the equipment in the transmission system shall remain within their normal thermal and voltage ratings after outage / loss of any one of the following elements (called single contingency or 'N-1'), but without load shedding / rescheduling of generation:

- Outage of a 132 kV single circuit,
- Outage of a 220kV single circuit,
- Outage of a 400kV single circuit,
- Outage of an Inter-Connecting Transformer(ICT)/power transformer,
- Outage of a 765 KV single circuit

(G) Maximum Short Circuit Level

As per the CEA Manual on Transmission Planning criteria, 2023 (applicable from 1st April, 2023), the rated breaking current capability of switchgear at different voltage levels are as tabulated below:

765 KV breakers :	63 KA
400 kV breakers :	80 KA
220 kV breakers :	63 KA
132kV breakers :	40 KA

2.4 Transmission Schemes

Capital Works of 400kV, 220kV and 132kV Transmission Schemes are being taken up for System improvement i.e. to meet the additional load growth and for improvement of voltage profile, Voltage control and reduction of Transmission Losses.

Capital works are mainly funded by Power Finance Corporation Limited, Rural Electrification Corporation Limited.

2.5 Transmission Resource Plan from FY 2024-25 to FY 2028-29

TSTRANSCO has drawn up investment plans of Rs. **3341.65** Crores for the period FY 2024-25 to FY 2028-29.

The investment includes 1 No. 400kV SS, 12 Nos. 220kV SS and 35 Nos. 132kV SS along with associated lines excluding Lift Irrigation Substations. The investment plan does not include the cost of Lift Irrigation Substations and associated lines, as they are going to be funded by Irrigation Department and are enclosed as Annexure-I.

TSTRANSCO plans to strengthen the network by addition of new Substations, Lines, Reactors, augmentation of Power Transformer Capacities and Capacitor Banks at 400kV, 220kV & 132kV voltage levels. This includes 449 Ckm of 220 kV lines and 1614.23 Ckm of 132 kV lines towards Transmission strengthening and 1320 MVA at 400kV, 4412 MVA at 220 kV & 5342.5 MVA at 132kV level including augmentation of Power Transformer Capacities in existing substations.

400kV Substations Planned from FY 2024-25 to FY 2028-29

Transmission Investment Plan			
Sl.No.	Name of The Sub-Station	Transformer capacity MVA	Estimated cost (Rs. in Crores)
2024-25			
NIL			
2025-26			
System Improvement Plan			
1	220kV and 132kV features at 400/11kV Uddandapur SS	2x500+2x160	114.99
System Expansion Plan			
2	400/220kV Integrated Steel Plant SS in Khammam Dist.	2x500*	202.51*
	Sub Total	1320	114.99
2026-27 to 2028-29			
NIL			
	Grand Total	1320	114.99

*Deposit Contribution work and hence not included in the Investment Plan.

400KV Transmission Lines Planned from FY 2024-25 to FY 2028-29

Sl. No.	Transmission lines	Length CKM	Estimated cost (Rs. in Crores)
2024-25			
NIL			
2025-26			
System Expansion Plan			
1	400kV QMDC Line from Julurupadu SS to 400kV SS at Integrated Steel Plant in Khammam Dist.	100*	212.00*
	Sub Total	0	0
2026-27 to 2028-29			
NIL			
	Grand Total	0	0

*Deposit Contribution work and hence not included in the Investment Plan.

400kV Bay Extensions Planned from FY 2024-25 to FY 2028-29

Sl.No.	Name of the Substation at which Bay extension is proposed	Name of line for which the work is proposed	Estimated cost (Rs. in Crores)
2024-25			
NIL			
2025-26			
System Expansion Plan			
1	2 Nos 400kV bays at Julurupadu SS	400kV QMDC Line from Julurupadu SS to Integrated Steel Plant	21.50*
	Sub Total		0
2026-27 to 2028-29			
NIL			
	Grand Total		0

*Deposit Contribution work and hence not included in the Investment Plan.

Augmentation of Power Transformer Capacities Planned at 400kV Substations from FY 2024-25 to FY 2028-29

Sl.No	Name of the Substation at which augmentation of Power Transformer is proposed	Existing capacity of Power Transformer in MVA	Capacity of power transformers after augmentation in MVA	Estimated cost (Rs. in Crores) including cost of erection
2024-25 to 2028-29				
NIL				

400kV Reactors Planned from FY 2024-25 to FY 2028-29

Sl.No.	Name of the Substation at which Reactor is proposed	Capacity of Reactor in MVAR	Estimated cost (Rs. in Crores)
2024-25 to 2028-29			
NIL			

220 kV Substations Planned from FY 2024-25 to FY 2028-29

Sl. No	Name of the Substation	Transformer capacity MVA	Estimated cost (Rs. in Crores)
2024-25			
System Improvement Plan			
1	220/33kV Substation at Kollur	2x50	23.25
2	220/33 kV Substation in the premises of Central Power Research Institute (CPRI) with SAS automation, Hyderabad	2x100	29.13
3	220/33 kV GIS Substation at Nemalinagar in Rangareddy District.	3x100	188.38
4	220/33 kV GIS Substation at Alwal (R.P.Nilayam) in the premises of proposed TIMS (Telangana Institute of Medical Science) super specialty hospital in Medchal-Malkajgiri District instead of 132/33 kV AIS / GIS at R.P.Nilayam in Medchal-Malkajgiri District	3x50	108.95
5	33 kV features at existing 220/132 KV SS Thimmajipet, Marikal (V) in Thimmajipet (M), Nagarkurnool District.	2x16	7.86
	Sub Total	782	357.57

Sl. No	Name of the Substation	Transformer capacity MVA	Estimated cost (Rs. in Crores)
2025-26			
System Improvement Plan			
1	132kV features at existing 220/33kV SS Nagaram	2x100	25.91
	Sub Total	200	25.91
2026-27			
System Improvement Plan			
1	220/33kV SS Sainikpuri	2x100	21.45
2	132 KV & 33 KV features at existing 220 KV SS Switching station, Chalakurthy	2x160+2x80	61.88
	Sub Total	680	83.33
2027-28			
System Improvement Plan			
1	220/132/33kV Substation at Kachavani Singaram	2x100+2x50	41.45
2	Up gradation of existing 132/33kV RC Puram SS to 220/132/33kV SS	2x160	35.37
3	33kV features at 220kV SS Medchal	2x50	15.00
	Sub Total	720.00	91.82
2028-29			
System Improvement Plan			
1	33 KV features at 220/11kV SS Vemnur	2x50	15.00
	Sub Total	100	15.00
	Grand Total	2482	573.63

**220kV New Transmission Lines Planned from FY 2024-25 to
FY 2028-29**

Sl. No	Name of the Transmission Line	Length CKM	Estimated cost (Rs. in Crores)
2024-25			
System Improvement Plan			
1	220kV DC line from 400/220/132kV Narsapur SS to 220/132/33kV Minpur SS	65.00	114.40
2	LILO of one circuit of existing 220kV Gachibowli - Shankarpally DC line at proposed 220/33kV Kollur SS.	3.00	3.62
3	Providing second Source of supply to 220/132kV GIS SS Osmania University from 220kV SS Nagole by Laying of 220kV XLPE UG Cable	14.00	124.40
4	Making LILO of 220KV Shivarampally-Gachibowli OH Line to proposed 220/33KV GIS SS Nemalinagar (with UG cable)	6	Cost included in Substation
5	Making LILO of 220KV Shapurnagar - Moulali over head line (proposed to upgrade from existing 132 kV to 220 kV) with HTLS conductor to proposed 220/33 kV GIS Substation Alwal (R.P. Nilayam)	1	Cost included in Substation
6	Making LILO of one circuit of existing 220 KV Jagital - Nirmal DC line to 400 KV SS Nirmal in karimnagar Dist.	10	17.60
	Sub Total	99.00	260.02
2025-26			
System Improvement Plan			
1	220kV Single Moose DC Line from proposed 400/220/132kV KTPP SS to 220/132kV Manthani SS	98	67.62
2	220kV DC line from 400kV Uddandapur LISS to 220/132kV Kosigi SS.	120.00	85.20
3	220kV DC line from 400kV Uddandapur LISS to 220/132kV Shadnagar SS.	100.00	92.50
	Sub Total	318.00	245.32

Sl. No	Name of the Transmission Line	Length CKM	Estimated cost (Rs. in Crores)
2026-27			
System Improvement Plan			
1	Proposed upgradation of 132kV Moulali-Gunrock line to 220kV line duly making LILO to proposed 220/33kV SS Sainikpuri with 1000Sq.mm XLPE UG Cable	4.00	40.00
	Sub Total	4.00	40.00
2027-28			
System Improvement Plan			
1	Up gradation of existing 132kV Gachibowli-RC Puram DC line to 220kV DC line	20.00	22.83
2	Erection of 220kV DC line for LILO of circuit - II of the existing 220kV Ghanapur SS - 220kV Hayathnagar SS to the proposed 220kV Sub-Station Kachavani Singaram.	4.00	1.54
3	Erection of 220kV DC for LILO of circuit - I of the existing 220kV Ghanapur SS - 220kV Chandrayangutta SS to the proposed 220kV Sub-Station Kachavani Singaram	4.00	1.54
	Sub Total	28.00	25.91
2028-29			
NIL			
	Grand Total	449.00	571.25

220 KV Bay Extension Works Planned from FY 2024-25 to FY 2028-29

Sl.No	Name of the Substation at which Bay extension is proposed	Name of the line for which is work is proposed	Estimated cost (Rs. in Crores)
2024-25			
System Improvement Plan			
1	400/220/132kV Narsapur SS - 2 Nos and 220/132/33kV Minpur SS - 2Nos	Narsapur - Minpur	7.92

2	220/132/33kV Nagole SS - 2 Nos and GIS feeder Bays at 220/132kV GIS Osmania University SS - 2Nos	Osmania University - Nagole	9.52
3	2 Nos at 400/220kV Nirmal	LILO of 220 kV Jagitial - Nirmal line to 400 KV SS Nirmal	3.96
	Sub Total		21.40
2025-26			
System Improvement Plan			
1	220kV Manthani SS - 2 Nos	KTPP- Manthani	3.62
2	220kV Kosigi SS - 2Nos	Uddandapur - Kosigi	3.24
3	220kV Shadnagar SS - 2Nos	Uddandapur - Shadnagar	3.24
	Sub Total		10.10
2026-27			
NIL			
2027-28			
System Improvement Plan			
1	220kV Gachibowli SS - 2 Nos with PASS Module	Up gradation of existing 132 KV Gachibowli-RC Puram DC line to 220 KV DC line	5.00
	Sub Total		5.00
2028-29			
NIL			
	Grand Total		36.50

**Augmentation of Power Transformer Capacities Planned at 220kV
Substations from FY 2024-25 to FY 2028-29**

Sl. No	Name of the Substation at which augmentation of Power Transformer is proposed	Existing capacity of Power Transformer in MVA	Capacity of power transformers after augmentation in MVA	Estimated cost (Rs. in Crores) including cost of erection
2024-25				
System Improvement Plan				
1	220kV Kalwakurthy SS	2x160+1x100	3x160	10
2	220kV Moulali SS	1x100 + 2x160	3x160	10
3	220kV Nagole SS	2x100	1x100+1x160	10
4	220kV Siricilla SS	3x100	1x160+2x100	10
5	220kV Kosgi SS	2x100	1x160+2x100	12
6	220kV Sadasivpet SS	1x160+1x100	2x160	10
			Sub Total	62.00
2025-26				
System Improvement Plan				
1	220kV Shivarampally SS	2x160+2x100	3x160+1x100	10
2	220kV Madgula SS	2x100	3x100	10
3	220/132kV Huzurabad SS	1x160+2x100	2x160+1x100	10
4	220kV Jurala SS	2x160+1x100	3x160+1x100	12
5	220kV Siddipet SS	1x160+2x100	2x160+1x100	10
			Sub Total	52.00
2026-27				
System Improvement Plan				
1	220kV Nagole SS	1x100 +1x160	2x160	10
2	220/132kV Siricilla SS	1x160+2x100	2x160+1x100	10
3	220kV Yeddumailram SS	2x160+1x100	3x160	10

Sl. No	Name of the Substation at which augmentation of Power Transformer is proposed	Existing capacity of Power Transformer in MVA	Capacity of power transformers after augmentation in MVA	Estimated cost (Rs. in Crores) including cost of erection
4	220kV Timmajipet SS	2x100	1x100+1x160	10
5	220kV Nagarkurnool SS	2x100	1x100+1x160	10
Sub Total				50.00
2027-28				
System Improvement Plan				
1	220kV Fabcity SS	3x100	1x160+2x100	12
2	220/132kV Huzurabad SS	2x160+1x100	3x160	10
3	220kV Kosgi SS	1x160+2x100	2x160+1x100	10
4	220kV Sadasivpet SS	2x160	2x160+1x100	10
Sub Total				42.00
2028-29				
System Improvement Plan				
1	220 /33kV GIS Chanchalguda SS	3x50	4x50	5
2	220kV Shadnagar SS	1x160+2x100	2x160+1x100	10
3	220kV Chegur SS	2x160	2x160+1x100	10
4	220kV Shamshabad SS	3x100	2x100+1x160	10
5	400kV Malkaram SS	1x100+1x160	2x160	10
6	220/132kV Siricilla SS	2x160+1x100	3x160	10
7	220kV Siddipet SS	2x160+1x100	3x160	10
Sub Total				65.00
Grand Total				271.00

Capacitor Banks Planned at 220kV Substations from FY 2024-25 to FY 2028-29

Sl. No	Name of the Substation at which Capacitor is proposed	Capacity of Capacitor in MVAR	Estimated cost (Rs. in Crores) including cost of erection
2024-25 to 2026-27			
NIL			

Sl. No	Name of the Substation at which augmentation of Power Transformer is proposed	Existing capacity of Power Transformer in MVA	Capacity of power transformers after augmentation in MVA	Estimated cost (Rs. in Crores) including cost of erection
2027-28				
System Improvement Plan				
1	220/132/33kV SS Waddekothapally	15		0.81
	Sub Total	15		0.81
2028-29				
NIL				
	Grand Total	15		0.81

132kV Substations Planned from FY 2024-25 to FY 2028-29

Sl. No	Name of the Substation	Transformer capacity MVA	Estimated cost (Rs in Crores)
2024-25			
System Improvement Plan			
1	132/33kV SS Puttandoddi (V), Itikyal (M)	1x31.5+1x10/16	11.95
2	132/33kV SS Kanchanpally(V) of Valigonda(M)	2x50	14.96
3	132/33kV SS at Choppadandi	2x31.5	13.61
4	132/33kV SS Dandu Malkapur in Yadadri Bhuvanagiri District	2x50	15.44
5	132/33kV SS K.C Thanda, Maheswram (M)	2x50	15.68
6	132/33kV SS Boinpally	2x31.5	14.28
7	132/33kV SS at Ankampalem(V), Dammamet (M)	2x31.5	14.28

Sl. No	Name of the Substation	Transformer capacity MVA	Estimated cost (Rs in Crores)
8	132/33kV SS at Dilwapur	2x31.5	14.28
9	132/33kV SS Singarajupally	2x50	15.68
10	132/33kV SS Bommalararam	2x31.5	14.28
11	132/33kV SS Aziznagar	2x50	15.68
12	132/33kV SS Abdullapurmet	2x50	15.68
13	132/33 kV Sub-Station at Vemula (V), Addakal (M) in Mahabubnagar District instead of 132/33 kV SS at Addakal (V) & (M) in Mahabubnagar District	2x50	17.86
	Sub Total	1062.50	193.66
2025-26			
System Improvement Plan			
1	132/33kV SS Seetharambagh	2x80	23.81
2	132/33 kV SS at Tallapet.	3x16	8.57
3	132/33 kV SS at Pitlam	2x31.5	12.75
4	Erection of 132/33kV SS at Muthireddy gudem village of Muthkondur Mandal Yadadri bhongir Dist	2x50	21.08
	Sub Total	371.00	66.21
2026-27			
System Improvement Plan			
1	132/33kV Substation at PTO, Petlaburz	2x80	23.82
2	132/33kV SS at Kothanandikonda(V) , Adavidevulapally (M)	2x31.5	14.28
3	132/33kV SS Neredugomma.	2x31.5	14.28
4	132/33 KV SS at Peddapally, Karimnagar Dist	2x50	21.08
5	132/33 KV SS at Pangal, Wanaparthy Dist	2x50	21.08
	Sub Total	486.00	94.54

Sl. No	Name of the Substation	Transformer capacity MVA	Estimated cost (Rs in Crores)
2027-28			
System Improvement Plan			
1	132/33kV IDA Mallapur SS.	1x80+1x50	16.05
2	33kV features at 132/11kV LI SS Kothakota (V) & (M)	2x31.5	14.28
3	132/33kV SS at Enugalu (V) of Parvathagiri (M)	2x31.5	14.28
4	132/33kV SS Kannaigudem(V) & (M)	2x31.5	14.28
5	132/33kV SS Seetharampur (V), Gundala (M)	2x31.5	14.28
6	132/33kV SS Thurkalamaddikunta	2x31.5	14.28
7	132/33kV SS at Burgampahad	2x31.5	14.28
8	132/33kV Nallabelly	2x31.5	14.28
9	132/33kV SS Chada	2x31.5	14.28
10	132/33kV Somaram	2x31.5	14.28
11	132/33 kV SS near around V.M Home, Saroornagar, Rythu Bazar (Kothapet)	2x80	17.41
12	132/33 KV SS at Fruit market Koheda, RR Dist	2x50	21.08
	Sub Total	957.00	183.06
2028-29			
System Improvement Plan			
1	132/33kV Substation at Kondapur (V) & Dhanwada (M).	2x31.5	13.23
	Sub Total	63.00	13.23
	Grand Total	2939.50	550.70

List of 132kV Transmission Lines Planned from FY 2024-25 to FY 2028-29

Sl. No	Name of the Transmission Line	Length CKM	Estimated cost (Rs. in Crores)
2024-25			
System Improvement Plan			
1	132kV LILO of existing 132kV Maddur - Makthal DC/SC line to 132/33kV Narayanpet Sub-Station	2.00	2.87
2	a) 132kV 2 nd circuit from 220/132kV SS Kamareddy to Loc No 33-34 of 132kV DC/SC line of 132kV SS Chippapally	10.00	1.20
	b) 132kV DC/SC line from loc 33-34 of 132kV DC/SC line of 132kV SS Chippapally to 132/33kV SS Domakonda	5.50	2.59
	c) 132kV 2 nd Circuit from 132/33kV SS Domakonda to 132/33kV SS Biknur	9.00	1.08
3	132kV 2 nd circuit stringing from 132/33kV SS Amangal to 132/33kV SS Keshampet	27.63	6.16
4	132kV DC/SC line on Galvanised Towers with Panther ACSR from the existing 132/33kV Sub-Station, Ramannapet to the proposed 132kV Sub-Station at Kanchanpally	15.00	7.40
5	132kV DC/SC line on Galvanised Towers with Panther ACSR for LILO of 132kV Alampur - Gadwal line at the proposed 132/3 kV Puttandoddi Sub-Station.	6.00	1.81
6	132kV DC/SC line from 132/33KV Choutuppal SS to proposed 132/33kV SS at Dandu Malkapur	18.00	18.18
7	2 nd circuit from 220kV Shadnagar to 132kV SS Srirangapur.	13.40	3.35
8	a) Stringing of two circuits on already approved (under construction) 132kV Multi circuit towers from 220/132KV SS Manthani up to Loc. No. 19 of existing 132kV Manthani - Kataram line	10.00	0.95
	b) 132kV DC line from existing Loc. No. 19 upto Loc.No. 34A, of 132kV Manthani - Kataram line	10.00	2.10

Sl. No	Name of the Transmission Line	Length CKM	Estimated cost (Rs. in Crores)
	c) Stringing of 2 nd circuit from newly proposed DC line (from Loc No. 34A of 132kV Manthani – Kataram) to 132/33kV Chennur SS on the existing DC/SC line	19.00	2.28
	d) Stringing of 2 nd circuit from Loc. No. 34A of existing 132kV Manthani – Kataram line to 132/33kV SS Kataram	26.00	3.12
9	132kV DC/SC line for LILO of 132kV line from 220kV Malyalapally SS to 220kV Durshed SS at the proposed 132/33kV Choppadandi SS	26.00	9.25
10	Erection of 132kV DC/SC line from 220/132kV SS Jangaon to proposed 132/33kV SS Singarajupally	28.50	30.78
11	132kV LILO of 132kV Ghanpur-Sanghi to proposed 132/33kV SS Abdullapurmet	6.00	7.20
12	132kV 2 nd circuit stringing from 132/33KV SS Ghanapur to 132/33 KV Abdullapurmet SS	19.00	3.23
13	132 KV DC line from 220/132/33 KV SS Bhongiri to proposed 132/33 KV SS Bommalararam	44.00	26.40
14	132 KV DC line from Kanakamamidi to proposed 132/33 KV SS Aziznagar	22.00	13.20
15	132 kV LILO of 132kV Durshed -Mallaram line to 132/33 kV SS Boinpally	14.00	16.80
16	132 kV LILO of 132kV Sarangapur-132kV SS Bhainsa to 132 kV Dilwapur	16.00	19.20
17	132 kV LILO of 132kV Khammam-132kV SS Peddagopathi to 132 kV Ankampalem	8.00	9.60
18	132 kV LILO of 132kV Shamshabad-132kV SS Kothur to 132 kV K.C.Thanda	12.00	14.40
19	132 kV DC/SC line from 132/33kV SS Khillaghnapur to the proposed 132/33 kV Vemula SS on galvanised towers with panther ACSR Conductor	13	14.04

Sl. No	Name of the Transmission Line	Length CKM	Estimated cost (Rs. in Crores)
20	Erection of 132 kV DC/SC line from 220/132 kV SS Madugula to 132kV Switching station Godakondla in Nalgonda Dist.	16	18.97
21	Making LILO of 132 kV Dharmaram - Godur line to 220/132 KV SS Jagityal in Jagityal District.	2	3.15
22	2nd circuit stringing on existing DC/SC solid tapping line from tapping tower location No. 28 of 132 Kv Pochampad - Nirmal line up to 132/33 KV SS Burgupally in Adilabad Dist.	33	6.49
23	132 kV DC line from 220/132/33kV SS Shapurnagar to 132/33kV SS Chintal (including 1 kM 630 sq mm cable) in Medchal - Malkajgiri Dist	10	14.20
	Sub Total	441.03	260.00
2025-26			
System Improvement Plan			
1	132kV DC/SC line from existing 132/33kV Zaheerabad SS to existing 132/33kV SS Narayankhed	60.00	52.59
2	a) Connecting the existing 132kV Shapurnagar - Bhongir - Aleru line to 400/220/132kV Malkaram SS and 400/220/132kV Ghanapur SS (UG cable)	2.00	14.25
	b) Second circuit stringing of existing 132kV DC/SC line for connecting the existing 132kV Shapurnagar - Bhongir - Aleru idle line to 400/220/132kV Malkaram Sub-Station	5.00	1.83
3	132kV DC/SC line from 220/132/33kV Banswada SS to the proposed 132/33kV Pitlam SS.	26.50	19.81
4	132kV DC line for LILO of upcoming 132kV Dharmapuri - Luxettipet at the proposed 132/33kV SS, Tallapet	30.00	8.02
5	132kV Multi circuit towers with ACSR panther conductor for making LILO of 132kV Warangal-Kamalapur line and 132kV Warangal-Kalvasrampur line to existing 220kV SS Nagaram.	8.80	4.11

Sl. No	Name of the Transmission Line	Length CKM	Estimated cost (Rs. in Crores)
6	132kV DC line with Single Moose from proposed 220/132kV Indravelly SS to 132/33kV Asifabad SS on 220kV Galvanized DC towers	148.00	59.94
7	132kV DC line with 630 Sqmm 132kV UG cable from Asifnagar Sub-Station to the proposed 132/33kV GIS substation at Seetharambagh	8.00	37.98
8	132kV DC line from 132/33kV SS Munugodu to 400/220/132kV SS Choutuppall	42.00	25.20
9	Erection of 132kV DC/SC line from 220/132kV SS Husnabad to 132/33kV SS Mustyal in Jangaon District.	25	29.41
10	Erection of 132kV DC/SC line from 132/33kV SS Mothkur to 132/33kV SS Muthireddygudem in Yadadri Bhuvanagiri District.	26	27.82
11	2 nd circuit stringing from 132/33 kV SS NV puram to 132/33 kV SS Kamalapuram in Warangal Dist.	10	1.70
12	Erection of 132kV DC line from 220/132/33kV SS Renjal to 132/33kV SS Nandipet	54	36.70
13	2 nd circuit Stringing from 132/33kV SS Pudur to 132/33/11 kV SS Gangadhara in Karimnagar Dist.	13	2.21
14	132kV DC line from 400kV Uddandapur LISS to 132kV Balanagar SS.	90.00	49.05
	Sub Total	548.30	370.62
2026-27			
System Improvement Plan			
1	132kV DC Line from proposed 220/132kV Indravelly SS to 132/33 kV Utnoor SS	30.00	7.65
2	a) 2 nd circuit stringing from 132kV SS Nandipet to 132kV LI SS CH. Kondur	7.50	1.27

Sl. No	Name of the Transmission Line	Length CKM	Estimated cost (Rs. in Crores)
	b) LILO of 132kV Nandipet - CH.Kondur line to 132kV LI SS Bagepally	43.00	25.80
3	132kV DC/SC line from 132/33kV SS Wadapally to 132/33 kV Kothanandikonda SS	38.00	41.04
4	132kV DC/SC line from 132/33kV SS Guntipally to 132 kV Neredugomma	25.00	27.00
5	132 kV DC line with 630 Sqmm 132 kV UG cable and 132 kV DC OH line on galvanised double circuit towers with Panther ACSR from the 220 kV GIS substation, Imlibun to the proposed 132/ 33 kV GS SS at Police Transport Organisation (PTO), Petlaburz		
	a) 132 kV DC line with 630 Sqmm 132 kV UG cable	3.00	13.53
	b) 132 kV DC OH line on galvanised double circuit towers with Panther ACSR	7.00	2.58
6	132kV DC/SC line from 132KV SS Kamanpur to proposed 132/33 KV SS at Peddapally	17	16.83
7	132 kV DC line from 220/132/33kV SS Wanaparthy to 132/33kV SS Pangal in Wanaparthy Dist.	32	16.64
	Sub Total	202.50	152.34
2027-28			
System Improvement Plan			
1	LILO of 132kV line from 220kV Fabcity SS to 132kV Mamidipally SS at 132kV MD Pally SS	23.60	22.13
2	132kV DC line on Galvanized Towers with Invar ACSR for LILO of circuit - II of the 132kV Ghanapur - Bandlaguda line to the proposed 220/132/33kV Sub-Station, Kachavani Singaram	2.00	1.01
3	132kV DC line on Galvanized Towers with Panther ACSR for LILO of circuit - II of the 132kV Ghanapur - Moulali line to the proposed 220/132/33kV Sub-Station, Kachavani Singaram.	2.00	0.50

Sl. No	Name of the Transmission Line	Length CKM	Estimated cost (Rs. in Crores)
4	132kV DC OH line on galvanised NB towers with Panther ACSR for LILO of 132kV Ghanapur - Moulali line at the proposed 132kV IDA Mallapur SS	4.00	3.00
5	2 nd circuit stringing from 132kV SS Sirpur-Khagaznagar to 132kV SS Asifabad on existing towers	32.00	5.44
6	133kV DC/SC line from 132/33kV Narsampet SS to the proposed 132/33kV Nallabelly SS.	16.00	17.28
7	132kV DC/SC line from 132/33kV SS Mothkur to proposed 132kV SS Chada	25.00	27.00
8	132kV DC/SC line from 220/132/33kV SS Ammavaripet to proposed 132kV SS Somaram	32.00	34.56
9	132 kV LILO of 132kV Nekkonda-Wardannapet to 132 kV Enugallu	10.00	12.00
10	132kV DC/SC line from 132/33kV SS Kamalapur to 132/33kV SS Kannaigudem	32.00	34.56
11	132kV DC/SC line from 132/33kV SS Mothkur to 132 kV Seetharampur	26.00	28.08
12	LILO of 132kV Durshed-Malyalapalli to 132 kV Thurkalamaddikunta SS	1.00	1.20
13	LILO of 132kV Seetarampatnam-Bhadrachalam to 132 kV Burgampad SS	10.00	12.00
14	LILO of 132kV Chandrayannagutta-Bandlaguda to 132 kV V.M.Home SS	6.00	7.20
15	LILO of Ghanapur-Sanghi line to proposed 132kV SS Koheda	10	5.20
	Sub Total	231.60	211.16
2028-29			
System Improvement Plan			
1	2 nd circuit from 132/33kV SS Yerrabelli to 132/33kV SS Munugodu	42.00	7.14
2	2 nd circuit from Budidampadu to Yellandu	30.00	5.10
3	2 nd circuit stringing from 132kV SS Chelpur to existing 132/33kV SS Regonda in Warangal District	15.00	2.55
4	2 nd circuit stringing from 132kV Ayyagaripally SS to 132kV SS Dornakal	20.00	3.40

Sl. No	Name of the Transmission Line	Length CKM	Estimated cost (Rs. in Crores)
5	2 nd circuit stringing from 132/33kV SS Ayyagaripally to existing 132/33kV SS Nellikuduru in Mahabubabad District	27.00	4.59
6	132kV DC/SC line from 220/132kV SS Janagaon to 132/33kV SS Mustyala in Janagaon District	23.50	25.38
7	2 nd circuit stringing from 220/132kV SS Janagaon to 132/33kV SS Bachannapet in Janagaon District	13.30	2.26
8	132 kV DC/SC Line from 132 kV SS, Maddur to 132/33 kV SS, Kondapur	20.00	21.60
	Sub Total	190.80	72.02
	Grand Total	1614.23	1066.14

132kV Bay Extension Works Planned from FY 2024-25 to FY 2028-29

Sl.No	Name of the Substation at which Bay extension is proposed	Name of the line for which is work is proposed	Estimated cost (Rs. in Crores)
2024-25			
System Improvement Plan			
1	132/33kV Narayanpet Sub-Station - 2 Nos	LILO of Maddur - Makthal to Narayanpet SS	2.28
2	a) 220/132kV SS Kamareddy- 1 No	Kamareddy - Domakonda	0.92
	b) 132/33kV SS Domakonda - 1 No		0.92
	c) 132/33kV SS Domakonda- 1 No and 132/33kV SS Biknur - 1 No	Domakonda-Biknur	1.84
3	132/33kV SS Amangal - 1 No and 132/33kV SS Keshampet - 1No	Amangal-Keshampet	2.52
4	132/33kV SS Ramannapet - 1No	Ramannapet-Kanchanpally	1.11
5	132/33kV Choutuppall SS - 1 No	Choutuppall - Dandu Malkapur	1.11

Sl.No	Name of the Substation at which Bay extension is proposed	Name of the line for which is work is proposed	Estimated cost (Rs. in Crores)
6	220kV SS Shadnagar - 1No and 132kV SS Srirangapur- 1 No	Shadnagar - Srirangapur	2.04
7	220/132kVSS Manthani - 2 Nos, 132kV SS Kataram - 1 No and 132kV SS Chennur - 1 No	Manthani - Kataram and Manthani- Chennur	3.68
8	220/132kV SS Jangaon - 1 No	Jangaon - Singarajupally	1.02
9	132/33kV SS Ghanapur - 1 No and 132/33kV SS Abdullapurmet - 1 No	Ghanapur - Abdullapurmet	2.04
10	132/33 kV Boinpally SS - 2 Nos	LILO of Durshed - Mallaram line to Boinpally	2.04
11	220/132/33 KV SS Bhongiri - 2Nos	Bhongiri - Bommalararam	2.04
12	132/33kV SS Kanakamamidi - 2Nos	Kanakamamidi - Aziznagar	2.04
13	132/33 kV Dilwapur SS - 2 Nos	LILO of Sarangapur - Bhainsa to Dilwapur	2.04
14	132 kV Ankampalem - 2 Nos	LILO of Khammam- Peddagopathi to Ankampalem	2.04
15	132 kV K.C.Thanda - 2 Nos	LILO of Shamshabad- Kothur - K.C.Thanda	2.04
16	132/33 kV SS Khilaghanapur - 1 No.	Khilaghanapur to Vemula	1.02
17	220 kV SS Madugula - 1 No. and 132 kV SWS Godakondla - 1 No	Madgula - Godakondla	2.04
18	220/132 kV SS Jagityal - 2 Nos	LILO of Dharmaram- Goduru to Jagityal	1.97
19	132/33 KV SS Burugupally - 1 No	2nd circuit stringing to Burugupally	0.92
20	220/132/33 KV SS Shapurnagar - 2 Nos and 132/33 kV Chintal SS - 2 Nos	Shapurnagar - Chintal	3.68
		Sub Total	41.35

Sl.No	Name of the Substation at which Bay extension is proposed	Name of the line for which is work is proposed	Estimated cost (Rs. in Crores)
2025-26			
System Improvement Plan			
1	132/33kV Zaheerabad SS - 1 No and 132/33 kV SS Narayankhed-1No	Zaheerabad - Narayankhed	2.28
2	220kV SS Shapurnagar - 1 No and 400kV SS Malkaram - 1 No	Connecting the existing 132 kV Shapurnagar - Bhongir - Aleru line to 400/220/132 kV Malkaram SS and 400/220/132 kV Ghanapur SS	2.28
3	132/33kV Asifabad SS - 2 Nos	Indravelly - Asifabad	1.92
4	132/33kV Asifnagar SS - 2 Nos	Asifnagar - Seetharambagh	1.84
5	132/33kV SS Munugodu - 2 Nos and 400/220/132kV SS Choutuppal - 2 Nos	Munugodu - Choutuppal	4.08
6	220/132/33 KV SS Husbanbad - 1 No & 132/33 kV Mustyal SS - 1 No	Husnabad - Mustyal	1.84
7	132/33 KV SS Mothkur - 1 No	Mothkur - Muthireddygudem	0.92
8	132/33 KV SS NV Puram - 1 No & Kamalapuram - 1 No	NV Puram - Kamalapuram	1.84
9	220/132 KV SS Renzal - 2 Nos & 132/33 kV Nandipet SS - 2 Nos	Renzal - Nandipet	3.68
10	132/33kV SS Pudur - 1 No & 132/33/11 kV SS Gangadhara - 1 No	Pudur - Gangadhara	1.84
11	132kV SS Balanagar - 2 Nos.	Uddandapur - Balanagar	1.90
		Sub Total	24.42
2026-27			
System Improvement Plan			
1	132/33 kV Utnoor SS - 2 Nos	Indravelly - Utnoor	1.92

Sl.No	Name of the Substation at which Bay extension is proposed	Name of the line for which is work is proposed	Estimated cost (Rs. in Crores)
2	a) 132kV SS Nandipet - 1 No and 132kV LI SS CH. Kondur - 1 No	Nandipet - CH. Kondur	2.04
	b) 132kV LI SS Bagepally - 2 Nos	LILO of Nandipet - CH.Kondur line to Bagepally	2.04
3	132/33kV SS Wadapally - 1 No 132/33kV SS Kothanandikonda - 1No	Wadapally - Kothanandikonda	2.04
4	132/33kV SS Guntipally-1 No 132/33kV SS Neredugomma-1 No	Guntipally - Neredugomma	2.04
5	132KV SS Kamanpur SS - 1No.	Kamanpur - Peddapally	0.98
6	220 kV Wanaparthy - 2 Nos	Wanaparthy-Pangal	1.96
Sub Total			13.02
2027-28			
System Improvement Plan			
1	220/132kV RC Puram SS - 6 Nos	Up gradation of existing 132 KV Gachibowli-RC Puram DC line to 220 KV DC line	6.90
2	132/33kV SS MD Pally - 2 Nos	LILO of Fabcity - Mamidipally to MD Pally	1.84
3	132kV SS Sirpur-Khagaznagar - 1 No and 132kV SS Asifabad - 1 No	Sirpur-Khagaznagar - Asifabad	2.04
4	132/33kV Narsampet SS - 1 No and 132/33kV Nallabelly SS - 1 No	Narsampet - Nallabelly	2.04
5	132/33kV SS Mothkur - 1No	Mothkur - Chada	1.02
6	220/132/33kV SS Ammavaripet - 1 No	Ammavaripet - Somaram	1.02
7	132kV Enugallu - 2 Nos	LILO of Nekkonda-Wardannapet to Enugallu	2.04
8	132/33kV SS Kamalapur-1 No 132/33kV SS Kannaigudem - 1 No	Kamalapur - Kannaigudem	2.04
9	132/33KV SS Mothkur -1 No 132/33 kV Seetharampur -1 No	Mothkur - Seetharampur	2.04
10	132 kV Thurkalamaddikunta SS - 2 Nos	LILO of Durshed-Malyalapalli to Thurkalamaddikunta	2.04

Sl.No	Name of the Substation at which Bay extension is proposed	Name of the line for which is work is proposed	Estimated cost (Rs. in Crores)
11	132 kV Burgampad SS - 2 Nos	LILO of Seetarampatnam-Bhadrachalam to Burgampad	2.04
12	132 kV V.M.Home SS -2 Nos	LILO of Chandrayangutta-Bandlaguda to V.M.Home	2.04
		Sub Total	27.10
2028-29			
System Improvement Plan			
1	132/33kV SS Yerrabelli - 1 No and 132/33kV SS Munugodu - 1No	Yerrabelli - Munugodu	2.04
2	220kV Budidampadu SS - 1No and 132kV Yellandu SS - 1No	Budidampadu - Yellandu	2.04
5	132kV SS Ayyagaripally - 1 No 132kV SS Nellikuduru - 1 No	Ayyagaripally - Nellikuduru	2.04
6	220kV SS Janagaon - 1 No 132kV SS Mustyala- 1 No	Janagaon - Mustyala	2.04
7	132kV SS Ayyagaripally - 1 No 132kV SS Dornakal - 1 No	Ayyagaripally - Dornakal	2.04
8	132kV SS Chelpur - 1 No 132kV SS Regonda - 1 No	Chelpur- Regonda	2.04
9	220kV SS Janagaon - 1 No 132kV SS Bachannapet- 1 No	Janagaon - Bachannapet	2.04
10	132 kV SS, Maddur - 1 No 132/33 kV SS, Kondapur - 1 No	Maddur - Kondapur	2.04
		Sub Total	16.32
		Grand Total	122.21

**Augmentation of Power Transformer Capacities Planned at 132kV
Substations from FY 2024-25 to FY 2028-29**

Sl. No	Name of the Substation at which augmentation of Power Transformer is proposed	Existing capacity of Power Transformer in MVA	Capacity of power transformers after augmentation in MVA	Estimated cost (Rs. in Crores) including cost of erection
2024-25				
System Improvement Plan				
1	132kV IDPL SS	1x80+1x50	2x80	3.00
2	132kV Gudur SS	1x31.5+1x16	2x31.5	4.00
3	132kV Kothur SS	3x50	1x80+2x50	6.00
4	132kV Bhiknoor SS	1x31.5+1x16	2x31.5	4.00
5	132kV Alwal (Keshampet) SS	2x31.5	3x31.5	4.50
6	132kV Srirangapur SS	1x31.5+1x50	2x31.5+1x50	4.50
7	132kV Mothkur SS	2x50	2x50+1x31.5	5.00
8	132kV NimmapallySS	2x16	1x31.5+1x16	4.00
9	132kV Ch. Kondur SS	2x16	1x16+1x31.5	4.00
10	132kV LGM Pet SS	2x50	1x80+1x50	6.00
11	132kV Dharmasagar LIS	1x50	1x50+1x31.5	4.50
12	132kV Balanagar SS	2x50+1x80	2x80+1x50	6.00
13	132/33kV Sirikonda SS	1x31.5+1x50	2x50	5.00
14	220kV Bheemgal SS	1x80+1x50	2x80	6.00
15	132/33kV Lingampet SS	2x31.5	1x31.5 +1x50	5.00
16	132/33kV Marikal SS	3x31.5	2x50 +1x31.5	5.00
17	220kV Moulali SS	1x50 + 2x80	2x50 + 2x80	5.50
18	220kV Nagole SS	1x31.5+1x80	2x80	6.00
			Sub Total	88.00

Sl. No	Name of the Substation at which augmentation of Power Transformer is proposed	Existing capacity of Power Transformer in MVA	Capacity of power transformers after augmentation in MVA	Estimated cost (Rs. in Crores) including cost of erection
2025-26				
System Improvement Plan				
1	220 /132/33kV GIS Osmania University	2x80	3x80	4.50
2	132kV MD Pally SS	1x80+2x50	2x80+1x50	6.00
3	220kV Shamshabad SS	2x50	3x50	5.50
4	132kV Mamidipally SS	2x50+1x31.5	3x50	5.00
5	220kV Madgula SS	2x31.5	2x50	10.00
6	132kV ZTS Moulali SS	2x50	1x50+1x80	6.00
7	132/33kV Mulkanoor SS	2x31.5	1x31.5+1x50	5.00
8	132/33kV Jangapally SS	3x16	2x31.5+1x16	8.00
9	132/33kV Kachapur SS	3x16	2x31.5+1x16	8.00
10	132kV Maddur SS	2x31.5+1x50	1x31.5+2x50	5.00
11	132kV Midjil SS	2x31.5	3x31.5	4.50
12	132kV Pashamylaram SS	4x50	3x50+1x80	6.00
13	132kV Kowdipally SS	2x50	1x80+1x50	6.00
14	132kV Medak SS	3x50	2x50+1x80	6.00
15	132kV Narayankhed SS	2x50	1x80+1x50	6.00
16	132kV Aitipamula SS	1x80+1x31.5	1x80+1x50	5.00
17	132kV Choutuppal SS	3x50	1x80+2x50	6.00
18	132/33kV Karimnagar SS	2x31.5+1x50	1x31.5+2x50	5.00
19	132/33kV Water works SS	2x31.5	3x31.5	4.50
20	132kV Mahabubnagar SS	2x50+1x80	1x50+2x80	6.00
			Sub Total	118.00
2026-27				
System Improvement Plan				
1	132kV Jubilee Hills SS	2x80+2x50	4x80	8.00

Sl. No	Name of the Substation at which augmentation of Power Transformer is proposed	Existing capacity of Power Transformer in MVA	Capacity of power transformers after augmentation in MVA	Estimated cost (Rs. in Crores) including cost of erection
2	400kV Malkaram SS	2x80	2x80+1x50	5.50
3	220kV Fabcity SS	3x50	2x50+1x80	6.00
4	132/33kV Gangadhara SS	1x31.5+2x16	3x31.5	8.00
5	132/33kV Kamanpur SS	2x16	1x16+1x31.5	4.00
6	132/33kV Korutla SS	1x31.5+1x50	2x50	5.00
7	132kV Gadwal SS	1x50+1x80	1x80+2x50	5.50
8	132kV Alampur SS	2x31.5	3x31.5	4.50
9	132kV Peddadagada SS	2x31.5	1x50+1x31.5	5.00
10	132kV Narsapur SS	2x50	1x80+1x50	6.00
11	132kV Zaheerabad SS	1x80+1x50+1x31.5	2x80+1x31.5	6.00
12	132kV Siddipet SS	2x31.5+1x50	1x31.5+2x50	5.00
13	132kV Chegunta SS	1x80+1x50	2x80	6.00
14	132kV Ramannapet SS	3x50	2x80+1x50	12.00
			Sub Total	86.50
2027-28				
System Improvement Plan				
1	132kV Mamidipally SS	3x50	1x80+2x50	6.00
2	132kV Amangal SS	1x50+2x31.5	3x50	10.00
3	132/33kV Pudur SS	2x31.5+1x16	3x31.5	4.00
4	132/33kV Raikal SS	1x16+1x31.5	2x31.5	4.00
5	132/33kV Mallaram SS	1x31.5+1x50	2x50	5.00
6	132kV Thirumalaipally SS	3x31.5	2x31.5+1x50	5.00
7	132kV Jadcherla SS	3x50	1x80+2x50	6.00
8	132kV Khillaghanapur SS	2x31.5	3x31.5	4.50
9	132kV Thukkapur SS	2x50	1x80+1x50	6.00
10	132kV Kalwakurthy SS	3x50	1x50+2x80	12.00
11	132kV Makthal SS	2x31.5+1x50	1x31.5+2x50	5.00
12	132kV Kandi SS	3x50	2x50+1x80	6.00

Sl. No	Name of the Substation at which augmentation of Power Transformer is proposed	Existing capacity of Power Transformer in MVA	Capacity of power transformers after augmentation in MVA	Estimated cost (Rs. in Crores) including cost of erection
13	132kV Peddashankarampet SS	2x31.5	1x31.5+1x50	5.00
14	132kV Gummadidala SS	1x80+1x50	2x80	6.00
			Sub Total	84.50
2028-29				
System Improvement Plan				
1	132kV Gunrock SS	2x80+2x50	4x80	12.00
2	132kV Alwal SS	3x31.5	1x50+2x31.5	5.00
3	132kV Nimmapally SS	1x16+1x31.5	2x31.5	4.00
4	132kV Kathalapur SS	2x31.5+1x16	3x31.5	4.00
5	132kV Chippalapally SS	2x16+1x31.5	3x31.5	8.00
6	132kV Amarchinta SS	2x31.5	3x31.5	4.50
7	132kV Ganganpally SS	1x31.5+1x16	2x31.5	4.00
8	132kV Narayanpet SS	2x31.5	3x31.5	4.50
9	132kV Duddeda SS	2x31.5	1x31.5+1x50	5.00
10	132kV Angadikistapur SS	2x31.5	1x31.5+1x50	5.00
11	132kV Chinna Shankarampet SS	2x10/16	2x31.5	7.00
12	220kV SS Narketpally SS	1x50+1x31.5	1x80+1x50	6.00
13	132kV Habsipur SS	2x50	1x80+1x50	6.00
14	132kV Doultabad SS	1x31.5+1x16	2x31.5	4.00
15	132kV SS Choutuppall SS	1x80+2x50	2x80+1x50	6.00
			Sub Total	85.00
			Grand Total	462.00

Capacitor Banks Planned at 132kV Substations from FY 2024-25 to FY 2028-29

Sl. No	Name of the Substation at which Capacitor is proposed	Capacity of Capacitor in MVAR	Estimated cost (Rs. in Crores) including cost of erection
2024-25			
System Improvement Plan			
1	132/33kV Takkalapally SS	5	0.27
2	132/33kV Ch.Shankarampet SS	10	0.54
3	132/33kV Chandulapur SS	5	0.27
4	132/33kV Balnagar-2 SS	10	0.54
5	132/33kV Jogipet SS	5	0.27
6	132/33kV Polepally (Jadcherla) SS	10	0.54
7	132/33kV Gudur SS	5	0.27
8	132kV Yadagirigutta SS	5	0.27
	Sub Total	55	2.97
2025-26			
System Improvement Plan			
1	132/33kV Kowdipalli SS	5	0.27
2	132/33kV Doulothabad SS	5	0.27
3	132/33kV Halia SS	10	0.54
4	132/33kV Godur SS	5	0.27
5	132/33kV Bhiknoor SS	5	0.27
6	132/33kV Peddanagaram SS	5	0.27
7	132kV Aitipamula SS	5	0.27
	Sub Total	40	2.16
2026-27			
System Improvement Plan			
1	132/33kV Duddeda SS	5	0.27
2	132/33kV Minpur SS	10	0.54
3	132/33kV Makthal SS	5	0.27
4	132/33kV Chityal SS	5	0.27
5	132/33kV Burgupally SS	5	0.27
6	132/33kV Dornakal SS	5	0.27

Sl. No	Name of the Substation at which Capacitor is proposed	Capacity of Capacitor in MVAR	Estimated cost (Rs. in Crores) including cost of erection
7	132kV Kanagal SS	5	0.27
	Sub Total	40	2.16
2027-28			
System Improvement Plan			
1	132/33kV Palamakula SS	10	0.54
2	132/33kV Pashamailaram SS	5	0.27
3	132/33kV Narayanpet SS	10	0.54
4	132/33kV Mothkur SS	5	0.27
5	132/33kV CH Kondur SS	5	0.27
6	132kV Yerrabelli SS	5	0.27
	Sub Total	40	2.16
2028-29			
System Improvement Plan			
1	132/33kV Tukkapur SS	5	0.27
2	132/33kV Yeldurthy SS	10	0.54
3	132/33kV Zaheerabad SS	10	0.54
4	132/33kV Regonda SS	5	0.27
5	132/33kV Chennur SS	5	0.27
6	132/33kV Musthyal SS	15	0.81
7	132kV Munugodu SS	5	0.27
	Sub Total	55	2.97
	Grand Total	230	12.42

2.7 Total Transmission Investments

The total investments (Rs. in Crores) required for 132kV, 220kV and 400kV systems from FY2024-25 to FY 2028-29 are tabulated as detailed below.

FYs	Sub-Stations			Lines			Power Transformer Augmentation			Reactors/ Capacitors			Bay Extensions		
	(Nos.)			Ckm			Nos.			Nos.			Nos.		
	400kV	220kV	132kV	400kV	220kV	132kV	400kV	220kV	132kV	400kV	220kV	132kV	400kV	220kV	132kV
2024-25	0	5	13	0	99.00	441.03	0	6	19	0	0	8	0	10	41
2025-26	1	1	4	0	318.00	548.30	0	5	23	0	0	7	0	6	25
2026-27	0	2	5	0	4.00	202.50	0	5	17	0	0	7	0	0	13
2027-28	0	3	12	0	28.00	231.60	0	4	16	0	1	6	0	2	26
2028-29	0	1	1	0	0	190.80	0	7	18	0	0	7	0	0	16
Total	1	12	35	0	449.00	1614.23	0	27	93	0	1	35	0	18	121

The statement of MVA capacity of planned substations and improvement of MVA capacity of PTRs in existing substations, MVAR of Reactors/Capacitors

STATEMENT

FYs	MVA capacity planned in new substations			Augmentation			Reactors/Capacitors		
	MVA			MVA			MVAR		
	400kV	220kV	132kV	400kV	220kV	132kV	400kV	220kV	132kV
2024-25	0	782	1062.50	0	460	510.5	0	0	55
2025-26	1320	200	371.00	0	440	624.5	0	0	40
2026-27	0	680	486.00	0	300	473.5	0	0	40
2027-28	0	720	957.00	0	280	383.5	0	15	40
2028-29	0	100	63.00	0	450	411.0	0	0	55
Total	1320	2482	2939.50	0	1930	2403	0	15	230

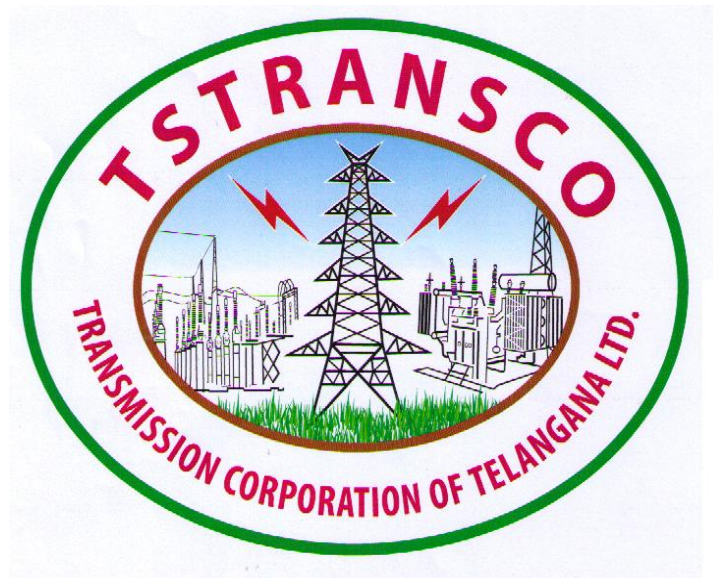
Cash Flows in Rs. Crores.

FYs	Sub-Stations			Lines			Power Transformer Augmentation			Reactors/ Capacitors			Bay Extensions			Total
	400kV	220kV	132kV	400kV	220kV	132kV	400kV	220kV	132kV	400kV	220kV	132kV	400kV	220kV	132kV	INV
2024-25	0	357.57	193.66	0	260.02	260.00	0	62.00	88.00	0	0	2.97	0	21.40	41.35	1286.97
2025-26	114.99	25.91	66.21	0	245.32	370.62	0	52.00	118.00	0	0	2.16	0	10.10	24.42	1029.73
2026-27	0	83.33	94.54	0	40.00	152.34	0	50.00	86.50	0	0	2.16	0	0	13.02	521.89
2027-28	0	91.82	183.06	0	25.91	211.16	0	42.00	84.50	0	0.81	2.16	0	5.00	27.10	673.52
2028-29	0	15.00	13.23	0	0	72.02	0	65.00	85.00	0	0	2.97	0	0	16.32	269.54
Total	114.99	573.63	550.70	0	571.25	1066.14	0	271.00	462.00	0	0.81	12.42	0	36.50	122.21	3781.65

FYs	Voltage wise				Year wise			
	132 kV	220 kV	400 kV	Total	Prev FY	Cur FY	Fut FY	Investment
					0.3	0.5	0.2	
2024-25	585.98	700.99	0.00	1286.97	0.00	643.49	257.39	900.88
2025-26	581.41	333.33	114.99	1029.73	308.92	514.87	205.95	1029.73
2026-27	348.56	173.33	0.00	521.89	156.57	260.95	104.38	521.89
2027-28	507.98	165.54	0.00	673.52	202.06	336.76	134.70	673.52
2028-29	189.54	80.00	0.00	269.54	80.86	134.77	0.00	215.63
Total	2213.47	1453.19	114.99	3781.65	748.40	1890.83	702.42	3341.65

Chapter 3

TSTRANSCO Transmission Plan for 6th Control Period FY 2029-30 to FY 2033-34



August - 2023

Transmission Plan for FY 2029-30 to FY 2033-34

3.1 Resource Plan for 6th control period from FY 2029-30 to FY2033-34 (Tentative)

The purpose of this report was to present a comprehensive summary of transmission network expansion plan and investment required to ensure the transmission system to meet the loads up to 2033-34. This plan consists of No. of Substations, CKM of lines, No. of Bay Extensions and Augmentations required up to 2033-34 at 400kV, 220kV and 132kV level.

3.2 Investment plan for 400kV, 220kV and 132kV

The year wise No. of Substations, CKM of lines, No. of Bay Extensions, Augmentations and corresponding investments (Rs. in Crores) required for 400kV, 220kV and 132kV system are shown below.

FYs	2029-30	2030-31	2031-32	2032-33	2033-34	Total
Substations						
400kV						
No of Substations	0	0	0	0	0	0
Cost (Rs. in Crores)	0	0	0	0	0	0
220kV						
No of Substations	1	1	1	1	1	5
Cost (Rs. in Crores)	31.44	31.44	31.44	31.44	31.44	157.20
132kV						
No of Substations	1	2	1	1	2	7
Cost (Rs. in Crores)	15.68	31.36	15.68	15.68	31.36	109.76
Lines						
400kV						
Line CKM	0	0	0	0	0	0
Cost (Rs. in Crores)	0	0	0	0	0	0
220kV						
Line CKM	110.00	90.00	120.00	100.00	120.00	540.00
Cost (Rs. in Crores)	96.80	79.20	105.60	88.00	105.60	475.20
132kV						
Line CKM	30.00	45.00	30.00	30.00	50.00	185.00
Cost (Rs. in Crores)	32.40	48.60	32.40	32.40	54.00	199.80
Bay Extensions						
400kV						
No. of Bays	0	0	0	0	0	0
Cost (Rs. in Crores)	0	0	0	0	0	0

220kV						
No. of Bays	2	2	4	2	2	12
Cost (Rs. in Crores)	3.96	3.96	7.92	3.96	3.96	23.76
132kV						
No. of Bays	4	2	4	2	2	14
Cost (Rs. in Crores)	4.08	2.04	4.08	2.04	2.04	14.28
Augmentations						
400kV						
Cost (Rs. in Crores)	0	0	0	0	0	0
220kV						
Cost (Rs. in Crores)	68.25	71.66	75.25	79.01	82.96	377.13
132kV						
Cost (Rs. in Crores)	89.25	93.71	98.40	103.32	108.48	493.16
Total Cost (Rs. in Crores)	341.86	361.97	370.77	355.85	419.84	1850.29

3.3 Total Transmission Investments for the period FY 2029-30 to FY 2033-34

The total investments (Rs. in Crores) required for 132kV, 220kV and 400kV systems from FY 2029-30 to FY 2033-34 are shown below.

(Rs. in Crores)

FYs	2029-30	2030-31	2031-32	2032-33	2033-34	Total
132kV	141.41	175.71	150.56	153.44	195.88	817.00
220kV	200.45	186.26	220.21	202.41	223.96	1033.29
400kV	0	0	0	0	0	0
Total	341.86	361.97	370.77	355.85	419.84	1850.29

Annexure-I

Lift Irrigation Schemes for 5th Control Period (FY 2024-25 to FY 2028-29) and 6th Control Period (FY 2029-30 to FY 2033-34)

TSTRANSCO planned Transmission network required for Kaleshwaram Lift Irrigation Scheme to meet power supply demand required for lifting of water from Godavari Basin (2 TMC and additional 1 TMC) and also for Palamuru -Ranga Reddy Lift Irrigation Scheme for lifting 2 TMC of water from Krishna River and for Sita Rama Lift Irrigation Scheme for lifting of water from Godavari River. The Transmission network related to the Lift Irrigation Schemes is as follows:

Lift Irrigation Schemes for 5th Control Period

400 kV LIS Substations from FY 2024-25 to FY 2028-29

S.No.	Name of the Substation	Transformer capacity (MVA)	Total Transformer capacity (MVA)	Estimated cost (Rs. in Crores)
2024-25				
System Expansion Plan				
1	400/11kV SS at Uddandapur	3x165+2x25	545	115.72
Sub Total			545	115.72
2025-26 to 2028-29				
NIL				
Grand Total			545	115.72

400 kV LIS Transmission Lines from FY 2024-25 to FY 2028-29

S.No.	Name of the Transmission line	Length CKM	Estimated cost (Rs. in Crores)
2024-25			
System Expansion Plan			
1	400kV Uddandapur-Maheshwaram QMDC Line	130	252.85
2	400kV Uddandapur-Vattem QMDC Line	100	194.50
Sub Total		230	447.35
2025-26 to 2028-29			
NIL			
Grand Total		230	447.35

400 kV LIS Bay Extension Works from FY 2024-25 to FY 2028-29

S.No.	Name of the Substation at which Bay extension is proposed	Name of line for which the work is proposed	Estimated cost (Rs. in Crores)
2024-25 to 2025-26			
NIL			
2026-27			
System Expansion Plan			
1	5 nos.400kV, 165 MVA PTR Bay extensions at 400/11kV Narlapur Sub-station	5x165 MVA PTRs	57.05
2	5nos.400kV, 165 MVA PTR Bay extensions at 400/11kV Yedula Sub-station	5x165 MVA PTRs	57.05
3	5nos.400kV, 165 MVA PTR Bay extensions at 400/11kV Vattem Sub-station	5x165 MVA PTRs	57.05
4	3nos.400kV, 165 MVA PTR Bay extensions at 400/11kV Uddandapur SS	3x165 MVA PTRs	34.23
Sub Total			205.38
2027-28 to 2028-29			
NIL			
Grand Total			205.38

400 kV Reactor Details from FY 2024-25 to FY 2028-29

S.No.	Name of Substation at which Reactor is proposed	Capacity of Reactor (MVAR)	Estimated cost (Rs. in Crores)
2024-25			
System Improvement Plan			
1	400/11kV Uddandapur Sub-station	125 MVAR	Cost included in the SS
Sub Total		125	-
2025-26 to 2028-29			
NIL			
Grand Total		125	-

220 kV LI Substations from FY 2024-25 to FY 2028-29

S.No.	Name of the Substation	Transformer capacity (MVA)	Total Transformer capacity (MVA)	Estimated cost (Rs. in Crores)
2024-25				
System Expansion Plan				
1	220/132/11kV SS Chelmeda	2x160+3x60	500	75.23
2	220/132/11kV SS Borancha	2x100+2x60	320	72.37
3	220/11kV SS Pokkur	2x25	50	44.15
4	132 kV Features at existing 220/11 kV Medigadda SS	2x160	320	16.00
Sub Total			1190	207.75
2025-26 to 2028-29				
NIL				
Grand Total			1190	207.75

220 kV LI Transmission Lines from FY 2024-25 to FY 2028-29

S.No.	Name of the Transmission line	Length CKM	Estimated cost (Rs. in Crores)
2024-25			
System Expansion Plan			
1	220kV DC line from existing 220/132kV Sadasivapet SS to now proposed 220/132/11kV SS at Chelmeda Pump House	25	19.09
2	Replacement of existing 220kV DC line of Single Moose conductor from 400/220kV Shankarpally SS to 220/132kV Sadasivapet SS with HTLS Conductor (520 Sq.mm ACCC)	76	62.11
3	220kV SMDC line from existing 400/220kV Narsapur SS to now proposed 220/132/11kV SS at Borancha	146	129.98
4	220kV SMDC line from proposed 220 /132/11kV SS Chelmeda to now proposed 220/132/11kV SS at Borancha	80	73.15
5	LILO of 220kV Sundilla - Medigadda TMDC Line at Pokkur 220/11KVSS	6	6.95

S.No.	Name of the Transmission line	Length CKM	Estimated cost (Rs. in Crores)
Sub Total		333	291.28
2025-26 to 2028-29			
NIL			
Grand Total		333	291.28

220 kV LIS Bay Extension Works from FY 2024-25 to FY 2028-29

S.No.	Name of the Substation at which Bay extension is proposed	Name of line for which the work is proposed	Estimated cost (Rs. in Crores)
2024-25			
System Expansion Plan			
1	2 Nos 220kV Feeder Bays at 220kV SS Sadasivapet	220/132kV Sadasivapet SS to now proposed 220/132/11kV SS at Chelmeda Pump House	2.77
2	2 Nos 220kV Feeder Bays at 400/220kV SS Narsapur	400/220kV Narsapur SS to now proposed 220/132/11kV SS at Borancha	7.44
3	2 No's 220 kV PTR Bay Extensions at 220/11 kV Medigadda SS	132 KV DC line from LILO point Loc.no. 83 of 132 /11 kV Beersagar SS-132/33 kV SS Kataram line to 220/11 KV Medigadda SS	10.00
4	1 No. Transformer Bay at 220/132kV Ashwaraopeta	220/132kV Ashwaraopeta SS	7.47
Sub Total			27.68
2025-26 to 2028-29			
NIL			
Grand Total			27.68

132 kV LIS Substations from FY 2024-25 to FY 2028-29

S.No.	Name of the Substation	Transformer capacity (MVA)	Total Transformer capacity (MVA)	Estimated cost (Rs. in Crores)
2024-25				
System Expansion Plan				
1	132/11kV SS Ambabhavani	2x16	32	14.42
2	132/11kV SS Kambalapally	2x16	32	14.59
3	132/11kV SS Nellikal	2x25	50	16.21
4	132/11kV SS Hoti-Khurd	2x16	32	18.15
5	132/11kV SS Chityala	2x25	50	7.46
6	132/11kV SS Wadapally	2x25	50	7.46
7	132/11kV SS Ramthirth	2x16	32	25.02
8	132/11kV SS Nallasomanadri (Gattu)	2x31.5	63	26.64
9	132/33/11kV SS Waddepally	4x10/16	64	25.85
10	132/11 kV Vellatur SS	4x25+2x10/16	132	35
11	132/11kV SS Dibbagudem (Up to metering point)	-	-	4.73
Sub Total			537	195.53
2025-26 to 2028-29				
NIL				
Grand Total			537	195.53

132 kV LI Transmission Lines from FY 2024-25 to FY 2028-29

S.No.	Name of the Transmission line	Length CKM	Estimated cost (Rs. in Crores)
2024-25			
System Expansion Plan			
1	132kV DC Line to proposed 132/11kV Kambalapally LI SS from existing 220/132kV K.M.Pally SS	96	76.06
2	132kV LILO Line to the proposed 132kV Amba Bhavani LI SS from the proposed one Ckt of 132kV DC line from the existing 220/132kV K.M.Pally Sub-Station to now proposed 132/11kV Kambalapally	2	1.86

S.No.	Name of the Transmission line	Length CKM	Estimated cost (Rs. in Crores)
	LIS		
3	Erection of 132KV LILO to the proposed Nellikal LIS from the existing 132KV SC line from 220/132/11KV Nagarjuna Sagar receiving station to 132KV Nagarjuna Sagar Left canal SS under Nellikal LIS	3	3.423
4	Erection of 132kV DC line from proposed 220/132/11kV LI SS at Chelmeda Khurd Pump House to now proposed 132/11kV LI SS at Hoti-khurd SS	56	19.31
5	Erection of 132 KV DC/SC line from existing 132/33 KV Haliya SS to proposed 132/11 KV Chityala SS	28	17.84
6	Erection of 132 KV DC/SC line from existing 132/33 KV New Wadapally SS to proposed 132/11 KV Wadapally LIS SS	12	7.65
7	Erection of 132 KV DC/SC line from Proposed 132/11 KV Chityala SS to proposed 132/11 KV Wadapally LIS SS	22	14.02
8	Erection of 132kV DC line from proposed 220/132/11kV SS at Borancha to now proposed 132/11kV SS at Ramthirth	70	39.82
9	LILO of 132 kV DC/SC line of 220/132 kV Jurala SS - 132/33 kV Ieeja SS to now proposed 132/11kV Nallasomanadri (Gattu) LI SS	23	19.239
10	2 nd circuit stringing on the existing 132 kV DC/SC line from 220/132 kV Jurala SS to 132/33 kV Ieeja	36.27	8.926
11	LILO of existing 220/132kV Banswada SS - 132/33kV Nizamsagar SS to 132/33/11kV Waddepally SS	2	3.85
12	132 kV DC Line to Proposed 132/11 kV Vellatur SS from existing	30	20

S.No.	Name of the Transmission line	Length CKM	Estimated cost (Rs. in Crores)
	220/132 kV Sithapuram SS		
13	132 KV DC line from LILO point Loc.no. 83 of 132 /11 kV Beersagar SS-132/33 kV SS Kataram line to 220/11 KV Medigadda SS	5.2	5.817
14	Stringing of 2nd Circuit on existing 132 KV DC/SC Kataram-Beersagar line	18.007	2.555
15	132kV LILO line to 132/11kV Dibbagudem SS from 132kV Ashwaraopeta - Gangaram	15	5.05
16	132kV LILO Line to 132/33kV Gangaram SS from 132kV Penuballi - Kalluru	70	20.35
Sub Total		488.477	265.77
2025-26 to 2028-29			
NIL			
Grand Total		488.477	265.77

132 kV LIS Bay Extension Works from FY 2024-25 to FY 2028-29

S.No.	Name of the Substation at which Bay extension is proposed	Name of line for which the work is proposed	Estimated cost (Rs. in Crores)
2024-25			
System Expansion Plan			
1	2 Nos Bay extensions at 220/132kV K.M.Pally SS	220/132kV K.M.Pally SS to now proposed 132/11kV Kambalapally LI SS	2.77
2	1 No. Bay extension at existing 132/33kV Haliya SS	132/33kV Haliya SS to proposed 132/11 KV Chityala SS	1.27
3	1 No. 132 kV Bay extension at existing 132/33 KV New Wadapally SS	132/33kV New Wadapally SS to proposed 132/11 KV Wadapally LIS SS	1.27
4	1 No. 132 kV Bay extension at 220kV Jurala	2nd circuit stringing on the existing 132 kV DC/SC line from 220/132 kV Jurala SS to 132/33 kV Ieeja	1.4189
5	1 No. 132 kV Bay extension at 132kV Ieeja		1.4185
6	2 No's 132 kV Feeder Bay Extensions at existing 220/132 kV Sithapuram SS	132 kV DC Line to Proposed 132/11 kV Vellatur SS from existing	3.00

		220/132 kV Sithapuram SS	
7	1 No. 132 kV Bay extension at 132/11kV Beersagar SS	Stringing of 2nd Circuit on existing 132 KV DC/SC Kataram-Beersagar line	1.152
8	1 No. 132 kV Bay extension at 132/33 kV Kataram SS	Stringing of 2nd Circuit on existing 132 KV DC/SC Kataram-Beersagar line	1.835
9	2 No's 132 kV PTR at existing 220/11 kV Medigadda SS	132 KV DC line from LILO point Loc.no. 83 of 132 /11 kV Beersagar SS-132/33 kV SS Kataram line to 220/11 KV Medigadda SS	4.5
10	2 No's 132 kV Feeder Bay Extensions at existing 220/11 kV Medigadda SS	132 KV DC line from LILO point Loc.no. 83 of 132 /11 kV Beersagar SS-132/33 kV SS Kataram line to 220/11 KV Medigadda SS	5.4
9	2 Nos. 132kV Bays at existing 132/33kV SS Gangaram	LILO of 132kV Penuballi - Kalluru	2.08
Sub Total			26.1144
2025-26 to 2028-29			
NIL			
Grand Total			26.1144

Lift Irrigation Schemes for 6th Control Period

	2029-30	2030-31	2031-32	2032-33	2033-34	Total
LIS Substation	0	0	0	0	0	0
Cost of SS in Rs.Crores	0	0	0	0	0	0
LIS Lines	0	0	0	0	0	0
Cost of Lines in Rs. Crores	0	0	0	0	0	0

Annexure - IIA

Transmission Plan for FY 2023-24

400kV Substations during FY 2023-24

Transmission Investment Plan			
Sl.No.	Name of The Sub-Station	Transformer capacity MVA	Estimated cost (Rs. in Crores)
2023-24			
System Improvement Plan			
1	400/220/132kV KTPP SS	2x500+2x160	155.80
Grand Total		1320	155.80

400KV Transmission Lines during FY 2023-24

Sl. No.	Transmission lines	Length CKM	Estimated cost (Rs. in Crores)
2023-24			
Generation Evacuation Plan			
1	400kV QMDC line from Yadadri TPP (Damaracherla) Switchyard to proposed 400/220/132kV Choutuppall SS	184.754	342.10
2	400kV QMDC line from Yadadri TPP Switchyard to 400/220kV Dindi SS	207.580	373.20
3	400kV QMDC line from Yadadri TPP Switchyard to 400/220kV Jangoan SS	278	466.50
Grand Total		670.334	1181.80

400kV Bay Extensions during FY 2023-24

Sl.No.	Name of the Substation at which Bay extension is proposed	Name of line for which the work is proposed	Estimated cost (Rs. in Crores)
2023-24			
Generation Evacuation Plan			
1	2 Nos 400kV bays at Dindi SS	400kV QMDC line from Yadadri TPP Switchyard to 400/220kV Dindi SS	15.86
2	2 Nos 400kV bays at Jangoan SS	400kV QMDC line from Yadadri TPP Switchyard to 400/220kV Jangoan SS	15.86
Grand Total			31.72

Augmentation of Power Transformer Capacities at 400kV Substations during FY 2023-24

Sl.No	Name of the Substation at which augmentation of Power Transformer is proposed	Existing capacity of Power Transformer in MVA	Capacity of power transformers after augmentation in MVA	Estimated cost (Rs. in Crores) including cost of erection
2023-24				
System Improvement Plan				
1	400/220kV Veltoor SS (1x500 MVA ICT commissioned on 08.02.2023, in place of 315 MVA ICT)	4x315	2x315+2x500	53.78
2	400/220kV Asupaka SS	1x315	2x315	2.14
3	400/220kV Suryapet SS	2x315	2x315+1x500	35.45
4	400/220kV Dichpally SS	3x315	3x315+1x500	33.5929
5	400/220/11kV Kamalapuram SS	2x315	3x315	2.13
Grand Total				127.0929

400kV Reactors during FY 2023-24

Sl. No.	Name of the Substation at which Reactor is proposed	Capacity of Reactor in MVAR	Estimated cost (Rs. in Crores)	Remarks
2023-24				
System Improvement Plan				
1	400kV Asupaka SS	1x80+1x63	28.22	These proposals are under PSDF grant and hence cost not included in the Investment Plan
2	400kV Maheshwaram SS	1x125	16.31	
3	400kV Suryapet SS	1x125	16.31	
4	400kV Dindi SS	2x125	32.62	
5	400kV Janagaon SS	1x125	16.31	
6	400kV Kethireddypalli SS	1x125	16.31	
7	400kV Narsapur SS	1x125	16.31	
8	400kV Choutuppal SS	1x125	Cost included in SS	
9	400kV KTPP SS	1x125	Cost included in SS	
	Grand Total	250	0	

220 kV Substations during FY 2023-24

Sl. No	Name of the Substation	Transformer capacity MVA	Estimated cost (Rs. in Crores)
2023-24			
System Improvement Plan			
1	220kV SS at Husnabad in Karimnagar Dist	2x100+2x50	31.08
2	Erection of 220/132kV Sub-Station at Ammavaripet in Warangal-Urban District	2x100	32.82
3	220/132/33kV Substation at Borampet in Ranga Reddy district	2x160+2x80	40.37
4	Upgradation of 132/33kV Kathalapur SS to 220/132/33kV SS Kathalapur in Jagityal District	2x100	28.13
	Grand Total	1180	132.40

220KV Transmission Lines during FY 2023-24

Sl. No.	Transmission lines	Length CKM	Estimated cost (Rs. in Crores)
2023-24			
System Improvement Plan			
1	LILO of existing 220kV Pudukurthy-Bhimghanapur SC line to proposed 400/220/132kV KTPP SS at Ramappa point with Twin Moose DC Line (charged on 22.06.2023)	50	54.50
2	220kV DC line from 400/220kV Substation Jangaon to proposed 220/132/33kV Substation Husnabad	120	41.19
3	Erection of 220kV DC Line on Galvanized Towers with Moose ACSR Conductor for LILO of one circuit of 220kV Mahabubabad - Warangal line to proposed 220kV Ammavaripet SS	62	30.38
4	a) 220kV DC (OH) line on Multi Circuit Towers with ACSR Moose conductor from 400kV Narsapur SS to proposed 220kV Borampet SS	152	79.80
	b) 220kV DC line with UG Cable from 400kV Narsapur SS to proposed 220kV Borampet SS	10	89.23
5	LILO of 220kV Medaram - Dichpally line to proposed Upgradation of 132/33kV Kathalapur SS to 220/132/33kV SS Kathalapur in Jagityal District	3.7	2.91
6	LILO of existing 220kV Salivagu-Bhimghanapur SC line to proposed 400/220/132kV KTPP SS at Ramappa point with Twin Moose DC Line	50	54.50
7	220kV SMDC line from 400/220kV SS Damarcherla to 220kV Huzurnagar SS	90	62.10
	Grand Total	537.70	414.61

220kV Bay Extensions during FY 2023-24

Sl.No.	Name of the Substation at which Bay extension is proposed	Name of line for which the work is proposed	Estimated cost (Rs. in Crores)
2023-24			
System Improvement Plan			
1	220kV Bays at 400kV Narsapur SS - 2 Nos	Narsapur- Borampet	2.80
	Grand Total		2.80

Augmentation of Power Transformer Capacities at 220kV Substations during FY 2023-24

Sl. No	Name of the Substation at which augmentation of Power Transformer is proposed	Existing capacity of Power Transformer in MVA	Capacity of power transformers after augmentation in MVA	Estimated cost (Rs. in Crores) including cost of erection
2023-24				
System Improvement Plan				
1	220kV Manthani SS	2x100	3x100	6.26
2	400kV Narsapur SS	1x160 + 1x100	1x160 + 2x100	3.63
3	220kV Mahabubabad SS	2x100	3x100	5.83
4	220kV Bheemgal SS	1x100 +1x160	2x160+1x100	7.35
5	220kV Jagityal SS	3x100	3 x 100+1x 160	7.35
6	220kV Fabcity SS	2x100	3x100	7.57
7	220kV Jurala SS	3x100	2x160+1x100	20
8	220kV Wanaparthy SS	2x160	3x160	10

Sl. No	Name of the Substation at which augmentation of Power Transformer is proposed	Existing capacity of Power Transformer in MVA	Capacity of power transformers after augmentation in MVA	Estimated cost (Rs. in Crores) including cost of erection
9	220kV Renjal SS	2x100	1x160+1x100	10
10	400kV Suryapet SS	1x160+2x100	3x160	18.41
Grand Total				96.40

Capacitor Banks at 220kV Substations during FY 2023-24

Sl.No	Name of the Substation at which Capacitor is proposed	Capacity of Capacitor in MVAR	Estimated cost (Rs. in Crores) including cost of erection
2023-24			
System Improvement Plan			
1	220kV Tandur SS	10	0.54
Grand Total			0.54

132kV Substations during FY 2023-24

Sl. No	Name of the Substation	Transformer capacity MVA	Estimated cost (Rs. in Crores)
2023-24			
System Improvement Plan			
1	132/33kV SS at Padmanagar in Karimnagar District (Charged on 15.05.2023)	2x31.5	19.61
2	132/33kV GIS Substation at Manikonda in Ranga Reddy District	2x80	45.53
3	132/33kV SS at Nuthankal in Nalgonda district	2x50+1x16	15.58
4	132/33kV SS at Peechara in Warangal Dist	2x31.5	14.14

5	132/33kV SS at Pammy in Khammam District	2x31.5	13.40
6	33kV features at 132 KV RTSS Kothagudem, Kothagudem Bhadradi District	2x16	9.02
7	132/33kV SS at Salkunoor in Nalgonda District	2x16	10.18
8	132/33kV SS Raparthy in Medak District	3x16	13.87
9	132/33kV SS Koutala in Komaram Bheem Asifabad District	2x16	11.05
	Grand Total	609.00	152.38

132KV Transmission Lines during FY 2023-24

Sl. No.	Transmission lines	Length CKM	Estimated cost (Rs. in Crores)
2023-24			
System Improvement Plan			
1	132kV DC line from 220/132/33kV Pedagopathi SS to 132kV SS Madira (Charged on 26.05.2023)	80	19.24
2	LILO of 132kV Durshed - Siricilla line to proposed 132/33kV SS Padmanagar (Charged on 15.05.2023)	14	9.39
3	Stringing of 2 nd Ckt on existing 132kV DC/SC line from 220/132/33kV Boothpur to 132/33kV SS Marikal in Mahaboobnagar District	42	9.18
4	132kV 2 nd circuit stringing on existing 132kV DC/SC Husnabad-Palamaukula line	35	3.50
5	132kV line with MC towers for making Double LILO of 132kV Palamakula-Husnabad DC line to proposed 220/132/33kV Substation Husnabad	8	2.88
6	Stringing of 2 nd circuit from Loc.No.16 to Loc.No.75 (Tapping Tower) on existing 132kV DC/SC line from 400/220/132 kV SS Suryapet to 132/33kV SS Thungathurthy towers with Panther ACSR conductor	16.5	2.64
	Erection of 132kV DC/SC line from Loc.No.75 (Tapping tower) to proposed to 132/33kV SS Nuthankal on Galvanised towers with Panther ACSR conductor	9.5	9.28

Sl. No.	Transmission lines	Length CKM	Estimated cost (Rs. in Crores)
7	132kV DC line with HTLS conductor on Galvanised towers by making LILO of existing 132kV line from 220/132/33kV Warangal SS to 132/33kV Jangoan SS at proposed 132/33kV Peechara SS	24	25.80
8	132kV DC line for LILO of 132kV Kusumanchi-Chilakallu line at the proposed 132/33kV Pammy SS	16	8.26
9	Erection of 132kV DC line for making one circuit LILO of 132kV DC line from 220/132kV substation Miryalaguda to 132/33kV substation Suryapet line at the proposed 132kV Sub-Station, Salkanoor	6	2.20
10	132kV DC line from 220kV Thimmajipet SS to 132kV SS Jadcherla	36	10.48
11	2 nd circuit stringing on existing 132kV DC/SC line from 220/132/33kV Kalwakurthy SS to 132/33kV SS Achampet in Nagarkurnool District	38	7.76
12	2 nd circuit stringing on existing 132kV DC/SC line from 220/132/33kV SS Chegur to 132/33kV SS Kothur in Rangareddy District	7	1.24
13	Erection of 132kV DC line from 400/220/132kV SS Narsapur to 132/33kV SS Yeldurthy in Medak District	46	24.99
14	132kV DC/SC line from existing 132kV Sirpur Kagaznagar SS to proposed 132kV SS Koutala	43.528	40.67
15	Erection of 132kV DC/SC line from 132kV SS Pedda Shankarampet to the proposed 132/33kV SS Raparthy	16	6.92
16	2 nd circuit stringing on existing 132kV DC/SC line from 132/33kV Shaligowraram SS to 132/33kV Mothkur SS in Nalgonda District	22	4.27
	Grand Total	459.528	188.70

132kV Bay Extensions during FY 2023-24

Sl. No.	Name of the Substation at which Bay extension is proposed	Name of line for which the work is proposed	Estimated cost (Rs. in Crores)
2023-24			
System Improvement Plan			
1	132/33kV Madhira Substation - 2 Nos (Charged on 26.05.2023)	Pedagopathi - Madhira	1.80
2	220/132/33kV Boothpur SS - 1 No. and 132kV Marikal SS - 1 No	Boothpur - Marikal	2.52
3	132kV Palamakula SS - 1No 132kV Husnabad SS - 1No	Husnabad - Palamakula	1.74
4	400kV Suryapet SS - 1 No	Suryapet - Nuthankal	0.95
5	132kV Jadcherla SS - 2 Nos	Thimmajipet -Jadcherla	1.84
6	220kV Kalwakurthy SS - 1 No and 132kV Achampet SS - 1 No	Kalwakurthy - Achampet	1.92
7	220kV Chegur SS - 1 No, 132kV Kothur SS - 1No	Chegur-Kothur	1.92
8	400/220/132kV Narsapur SS - 2 Nos and 132/33kV Yeldurthy SS - 2 Nos	Narsapur- Yeldurthy	3.88
9	132KV Sirpur Kagaznagar SS - 1No	Sirpur Kagaznagar- Koutala	0.94
10	132/33kV Peddashankarampet SS - 1 No	Peddashankarampet - Raparthy	0.92
11	132kV Shaligowraram SS - 1No, 132/33kV Motkur SS - 1No	Shaligowraram-Mothkur	1.94
		Grand Total	20.37

**Augmentation of Power Transformer Capacities at 132kV Substations
during FY 2023-24**

Sl.No	Name of the Substation at which augmentation of Power Transformer is proposed	Existing capacity of Power Transformer in MVA	Capacity of power transformers after augmentation in MVA	Estimated cost (Rs. in Crores) including cost of erection
2023-24				
System Improvement Plan				
1	132kV Wardhannapet SS (PTR charged on 11.05.2023)	2x50	3x50	0.93
2	132kV Kataram SS (PTR charged on 12.05.2023)	1x50+1x31.5	2x50	2.71
3	220kV SS Bhongir (PTR charged on 16.05.2023)	2x50	1x80+1x50	0.27
4	132kV Luxittepet SS (PTR charged on 26.05.2023)	1x31.5+1x16	1x31.5+1x50	2.13
5	132kV Munagala SS (PTR charged on 26.05.2023)	1x16+2x31.5	3x31.5	0.16
6	132kV Burgupally SS (PTR charged on 10.06.2023)	1x31.5+1x16	2x31.5	0.13
7	132kV Ramayampet SS (PTR charged on 20.06.2023)	2x31.5	1x50+1x31.5	2.13
8	132kV Chintal SS	2x50	1x80+1x50	0.69
9	132kV Mamidipally SS	1x50+1x31.5	2x50+1x31.5	2.74
10	132kV Turkayamjal SS	1x50+1x31.5	1x50+1x80	2.47
11	220kV Ghanapur SS	1x31.5+1x80	2x80	2.51
12	132/33kV Gachibowli SS	2x80	3x80	3
13	132kV Bandlaguda SS	2x80	3x80	3
14	220kV Mahabubnagar SS	1x31.5+1x50	2x50	5.00

Sl.No	Name of the Substation at which augmentation of Power Transformer is proposed	Existing capacity of Power Transformer in MVA	Capacity of power transformers after augmentation in MVA	Estimated cost (Rs. in Crores) including cost of erection
15	132kV Achampet SS	1x50+1x80	2x80	3.58
16	132kV Godur SS	2x31.5	1x50+1x31.5	1.97
17	132kV Medak SS	2x50	3x50	2.93
18	132kV Manoharabad SS	1x80+1x50	1x80+2x50	2.93
19	132kV Bachannapet SS	3x16	1x31.5+2x16	0.13
20	132kV Padmajiwadi SS	1x31.5+1x16	2x31.5	1.54
21	132kV Munugodu SS	1x31.5+1x10/16	2x31.5	0.13
22	132kV Thirumalaipally SS	2x31.5+1x10/16	3x31.5	1.54
23	132kV Pudur SS	2x31.5	2x31.5+1x16	1.20
24	132kV Dharmaram SS	2x31.5	2x31.5+1x16	1.15
25	132kV Kathlapur SS	2x31.5	2x31.5+1x16	1.25
26	132kV Chippalapally SS	1x31.5+1x16	1x31.5+2x16	1.13
27	132kV Mudhole SS	2x16	3x16	1.03
28	132kV Nekkonda SS	1x50+1x31.5	2x50	0.16
29	132kV Nellikuduru SS	1x31.5+1x16	1x50 +1x31.5	0.16
30	132kV Mustyal SS	2 x 50	3x50	1.27
31	132kV Thallada SS	1x50+1x31.5	2x50	0.16
32	220kV Fabcity SS	2x50	3x50	1.45
33	220kV Kosigi SS	1x16+1x31.5	1x31.5+1x50	0.16
34	132kV Kodad SS	2x50	3x50	1.26

Sl.No	Name of the Substation at which augmentation of Power Transformer is proposed	Existing capacity of Power Transformer in MVA	Capacity of power transformers after augmentation in MVA	Estimated cost (Rs. in Crores) including cost of erection
35	132kV Yellandu SS	1x50+1x31.5	2x50	0.16
36	132kV Jadcherla SS	2x50	3x50	1.54
37	220kV Nagarkurnool SS	1x50+2x31.5	2x50+1x31.5	0.16
Grand Total				54.86

Capacitor Banks at 132kV Substations during FY 2023-24

Sl.No	Name of the Substation at which Capacitor is proposed	Capacity of Capacitor in MVAR	Estimated cost (Rs. in Crores) including cost of erection
2023-24			
System Improvement Plan			
1	132kV Puttapahad SS	10	0.54
Grand Total			0.54

Investment plan for FY 2023-24

The total investments (Rs. in Crores) required for 132kV, 220kV and 400kV systems for FY 2023-24 are tabulated as detailed below.

TABLE

FYs	Sub-Stations			Lines			Power Transformer Augmentation			Reactors/ Capacitors			Bay Extensions		
	Nos.			Ckm			Nos.			Nos.			Nos.		
	400kV	220kV	132kV	400kV	220kV	132kV	400kV	220kV	132kV	400kV	220kV	132kV	400kV	220kV	132kV
2023-24	1	4	9	670.334	537.70	459.528	6	12	37	2	1	1	4	2	21

The statement of MVA capacity of planned substations and improvement of MVA capacity of PTRs in existing substations, MVAR of Reactors/Capacitors

STATEMENT

FYs	MVA capacity planned in new substations			Augmentation			Reactors/Capacitors		
	MVA			MVA			MVAR		
	400kV	220kV	132kV	400kV	220kV	132kV	400kV	220kV	132kV
2023-24	1320	1180	609	2000	1180	1170	250	10	10

Cash Flows in Rs. Crores.

FYs	Sub-Stations			Lines			Power Transformer Augmentation			Reactors/ Capacitors			Bay Extensions			Total
	400kV	220kV	132kV	400kV	220kV	132kV	400kV	220kV	132kV	400kV	220kV	132kV	400kV	220kV	132kV	INV
2023-24	155.80	132.40	152.38	1181.80	414.61	188.70	127.0929	96.40	54.86	0	0.54	0.54	31.72	2.80	20.37	2702.403

Annexure-IIB

Lift Irrigation Schemes for FY 2023-24

400 kV LIS Substations during FY 2023-24

S.No.	Name of the Substation	Transformer capacity (MVA)	Total Transformer capacity (MVA)	Estimated cost (Rs. in Crores)
2023-24				
System Expansion Plan				
1	400/11 kV Velgatoor Sub-station.	5x160+2x25	850	235.52
2	400/11 kV Pegadapally (Namapur) Sub-station.	4x160+2x25	690	203.71
3	400KV Kachapur Switching Station	-	-	152.30
4	400 /11 kV Veljipur Sub-Station	4x160+2x25	690	151.12
5	400/11 kV Chinagundavelli (Yellaipally) Sub-Station	6x160+2x25	1010	187.39
6	400/11 KV New Tukkapur SS	4x120+2x25	530	139.18
7	400/220 kV Annaram Sub-Station	3x500	1500	170.06
8	400/11kV Narlapur Sub-station	4x165+2x25	710	118.71
9	400/11kV Yedula Sub-station.	5x165+2x25	875	159.85
10	400/11kV Vатtem Sub-station.	5x165+2x25	875	123.92
Grand Total			7730	1641.76

400 kV LIS Transmission Lines during FY 2023-24

S.No.	Name of the Transmission line	Length CKM	Estimated cost (Rs. in Crores)
2023-24			
System Expansion Plan			
1	400 kV QMDC line from SCCL(Jaipur) to proposed 400/220kV Annaram Substation	40.00	67.20
2	LILO of 400kV QMDC Line from STPP Jaipur- Gajwel 400/220/132kV SS to Kachapur Switching station	20.00	33.60
3	LILO of 400kV QMDC Line from Telangana STPP NTPC (2x800MW)- 400/220/132kV Narsapur SS to Kachapur Switching station	20.00	33.60
4	400kV QMDC Line from 400kV Kachapur Switching station to 400/220kV Ramadugu SS	36.00	60.48
5	400kV QMDC Line from 400kV Kachapur Switching station to 400/11kV Pegadapally (Namapur) SS	64.00	107.52
6	400kV QMDC Line from 400kV Velgatoor Swichyard to 400/11kV Pegadapally (Namapur) SS	58.00	97.44
7	400kV QMDC Line from 400kV Kachapur Switching station to 400/11kV Velgatoor SS	70.00	117.60
8	400kV QMDC Line from 400/11 kV Tippapur Substation to 400/11kV Veljipur Switchyard	10.00	16.80
9	400kV QMDC Line from 400/13.8/11 kV Chandlapur Substation to 400/11 KV Chinnagundevalli (Yellaipally) SS	20.00	16.80
10	400kV QMDC Line from 765/400kV Nizamabad Substation (PGCIL) to existing 400/13.8/11kV Chandlapur Substation	240.00	403.20
11	400kV TMDC Line from 400/11 kV Tukkapur Substation to 400/11kV New Tukkapur Switchyard	1.00	0.99
12	400kV Narlapur-Yedula QMDC Line	60	126.00
13	400kV Yedula-Dindi QMDC Line	120	252.00
14	400kV Yedula-Veltoor QMDC Line	100	210.00
15	400kV Vатtem-Yedula QMDC Line	120	252.00
Grand Total		979	1795.23

400 kV LIS Bay Extension Works during FY 2023-24

S.No.	Name of the Substation at which Bay extension is proposed	Name of line for which the work is proposed	Estimated cost (Rs. in Crores)
2023-24			
System Expansion Plan			
1	2 Nos. 400kV Feeder Bay Extensions at 400 kV Switchyard at SCCL(Jaipur)	400 kV QMDC line from SCCL(Jaipur) to proposed 400/220 kV Annaram Substation	18.69
2	2 Nos. 400 kV Bay extensions at 400/11 kV Tippapur Substation	400kV QMDC Line from 400/11kV Tippapur Substation to 400/11kV Veljipur Switchyard	18.69
3	4 Nos. 400 kV Bay extensions at 400/13.8/11 kV Chandlapur Substation	(i) 400kV QMDC Line from 400/13.8/11 kV Chandlapur Substation to 400/11kV Chinnagundevalli (Yellaipally) Switchyard (ii) 400kV QMDC Line from 765/400kV Nizamabad Substation (PGCIL) to existing 400/13.8/11kV Chandlapur Substation.	32.87
4	2 Nos. 400 kV GIS Bay Extensions at Nizamabad 765/400 kV existing Substation (PGCIL)	400kV QMDC Line from 765/400kV Nizamabad Substation (PGCIL) to existing 400/13.8/11kV Chandlapur Substation.	60.86
5	2 Nos 400 kV Bay extensions at 400/11 kV Tukkapur Substation	400kV TMDC Line from 400/11 kV Tukkapur Substation to 400/11kV New Tukkapur Switchyard	18.69
6	2 Nos at 400kV Veltoor SS	400kV QMDC line from Veltoor SS to Yedula LISS.	22.67
7	2 Nos at 400kV Vatterem SS.	400kV QMDC line from Vatterem LISS to Uddandapur LISS.	9.92
Grand Total			182.39

400 kV Reactor Details during FY 2023-24

S.No.	Name of Substation at which Reactor is proposed	Capacity of Reactor (MVAR)	Estimated cost (Rs. in Crores)
2023-24			
System Improvement Plan			
1	400/11 kV Kachapur Switching Station	2x125 MVAR	13.2156
2	400/220 kV Annaram substation	125 MVAR	6.60781
3	400/11 kV Velgatoor Sub-station.	125 MVAR	6.60781
4	400/11 KV Tukkapur SS	125 MVAR	6.60781
5	400/11 kV Namapur Sub-station.	125 MVAR	6.60781
6	400/220/11kV Ramadugu SS	125 MVAR	6.60781
7	400/11kV Narlapur Sub-station	125 MVAR	Cost included in the SS
8	400/11kV Yedula Sub-station.	125 MVAR	
9	400/11kV Vattem Sub-station.	125 MVAR	
Grand Total		1250	46.25465

220 kV LIS Substations during FY 2023-24

S.No.	Name of the Substation	Transformer capacity (MVA)	Total Transformer capacity (MVA)	Estimated cost (Rs. in Crores)
2023-24				
System Expansion Plan				
1	220/11kV Devannapet Sub-Station (Substation up to Metering Bay charged on 12.04.2023 and PTR's commissioned on 19.06.2023)	3x40+2x25	170	40.59
2	220/11kV V.K. Ramavaram LIS (Commissioned on 28.04.2023)	-	-	24.64
3	220/11 KV Yacharam Thanda Sub-station.	3x40+2x25	170	39.58

S.No.	Name of the Substation	Transformer capacity (MVA)	Total Transformer capacity (MVA)	Estimated cost (Rs. in Crores)
4	220/11 KV Manichippa Sub-station.	2x40+2x10/16	112	35.93
5	Additional Load 16 MW at Manichippa for New Manichippa PH	2x31.5	63	28.59
Grand Total			515	169.33

220 kV LIS Transmission Lines during FY 2023-24

S.No.	Name of the Transmission line	Length CKM	Estimated cost (Rs. in Crores)
2023-24			
System Expansion Plan			
1	220kV TMDC line from 400/220kV Jangaon to Devannapet (Line charged on 12.04.2023)	108.62	81.75
2	220kV DC line from 400/220kV Dichpally SS to 220/11kV Yacharam Thanda SS	53.7	33.91
3	220 kV TMDC Line from 400/220 KV Annaram SS to 220/11 KV SS at Medigadda	96	90.00
4	220 kV DC line from 400/220 kV Dichpally SS to proposed 220/11 kV Manchippa LIS SS	46	20.02
Grand Total		304.32	225.68

220 kV LIS Bay Extension Works during FY 2023-24

S.No.	Name of the Substation at which Bay extension is proposed	Name of line for which the work is proposed	Estimated cost (Rs. in Crores)
2023-24			
System Expansion Plan			
1	2 Nos 220kV Bay Extensions at 400/220 kV Dichpally Substation	220kV DC line from 400/220kV Dichpally Substation to proposed Yacharam Thanda 220/11kV LIS SS	6.23
2	2 Nos 220 kV Bay Extensions at Medigadda 220/11 kV Substation	220 kV TMDC line from Medigadda to proposed 400/220 kV Annaram Substation	6.83
Grand Total			13.06

Annexure - IIIA

SUMMARY

X-- AREA --X	FROM -----AT AREA BUSES-----					AREA TOTALS IN MW/MVAR					-NET INTERCHANGE-		DESIRED NET INT
	GENE- RATION	FROM IND GENERATN	TO IND MOTORS	TO LOAD	TO BUS SHUNT	TO GNE BUS DEVICES	TO LINE SHUNT	TO XFRMR MAGNE- TIZING	FROM CHARGING	TO LOSSES	TO TIE LINES	TO TIES + LOADS	
4201	13794.2	0.0	0.0	21491.2	0.0	0.0	0.0	0.0	0.0	446.8	-8143.8	-8143.8	0.0
TELANGANA	85.2	0.0	0.0	3495.4	3468.8	0.0	1903.4	-0.0	11386.9	3416.1	-811.6	-811.6	
4202	2210.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.0	2186.0	2186.0	2186.0	0.0
RGM-TPS	-260.0	0.0	0.0	0.0	-0.0	0.0	-0.0	-0.0	608.3	265.4	83.0	83.0	
COLUMN	16004.2	0.0	0.0	21491.2	0.0	0.0	0.0	0.0	470.8	-5957.8	-5957.8	-5957.8	0.0
TOTALS	-174.8	0.0	0.0	3495.4	3468.8	0.0	1903.4	0.0	11995.2	3681.5	-728.7	-728.7	

Annexure - IIIB

Bus Report

BUS 422001	TANDUR	220.00	CKT	MW	MVAR	MVA	% 0.9884PU	-33.36	X---	LOSSES	---	X----	AREA	-----	X	X----	ZONE	-----	X	422001
							217.45KV			MW	MVAR	4201	TELANGANA		X	X----	4201	TS_SPDCL		
TO 421066	TANDUR	132.00	1	16.1	-2.1	16.3	16	1.0000LK		0.07	0.34	4201	TELANGANA		X	X----	4201	TS_SPDCL		
TO 421066	TANDUR	132.00	2	16.1	-2.1	16.3	16	1.0000LK		0.07	0.34	4201	TELANGANA		X	X----	4201	TS_SPDCL		
TO 421066	TANDUR	132.00	3	16.1	-2.1	16.3	16	1.0000LK		0.07	0.34	4201	TELANGANA		X	X----	4201	TS_SPDCL		
TO 422054	SHANKARPALLY	220.00	Z1	-48.4	6.2	48.8	23			0.27	1.77	4201	TELANGANA		X	X----	4201	TS_SPDCL		
BUS 422002	CHNDRYNGUTTA	220.00	CKT	MW	MVAR	MVA	% 0.9833PU	-31.79	X---	LOSSES	---	X----	AREA	-----	X	X----	ZONE	-----	X	422002
							216.33KV			MW	MVAR	4201	TELANGANA		X	X----	4201	TS_SPDCL		
TO 421011	CHGUTTA	132	132.00	1	76.6	12.9	77.7	49	1.0000LK	0.98	4.92	4201	TELANGANA		X	X----	4201	TS_SPDCL		
TO 421011	CHGUTTA	132	132.00	2	76.6	12.9	77.7	49	1.0000LK	0.98	4.92	4201	TELANGANA		X	X----	4201	TS_SPDCL		
TO 421413	CHGUTTA-2	132.00	3	76.6	12.9	77.7	49	1.0000LK		0.98	4.92	4201	TELANGANA		X	X----	4201	TS_SPDCL		
TO 421413	CHGUTTA-2	132.00	4	76.6	12.9	77.7	49	1.0000LK		0.98	4.92	4201	TELANGANA		X	X----	4201	TS_SPDCL		
TO 422003	GHANAPUR	220.00	Z1	-54.4	-39.8	67.4	32			0.24	1.27	4201	TELANGANA		X	X----	4201	TS_SPDCL		
TO 422031	MMP 220 BUS	220.00	Z1	-101.1	10.8	101.6	49			0.38	1.95	4201	TELANGANA		X	X----	4201	TS_SPDCL		
TO 422037	HIAL	220.00	Z1	-96.9	14.0	97.9	47			0.29	1.54	4201	TELANGANA		X	X----	4201	TS_SPDCL		
TO 422068	BONGLUR	220.00	Z1	-86.9	3.8	87.0	42			0.17	0.87	4201	TELANGANA		X	X----	4201	TS_SPDCL		
TO 422068	BONGLUR	220.00	Z2	-86.9	3.8	87.0	42			0.17	0.87	4201	TELANGANA		X	X----	4201	TS_SPDCL		
TO 422091	IMLIBUN GIS	220.00	C2	48.9	0.2	48.9	17			0.03	0.19	4201	TELANGANA		X	X----	4201	TS_SPDCL		
TO 422131	CHANCHALGUDA	220.00	C1	112.4	-6.8	112.6	38			0.04	0.33	4201	TELANGANA		X	X----	4201	TS_SPDCL		
TO 422155	KACHA SINGAR	220.00	Z1	-41.6	-37.6	56.1	27			0.16	0.83	4201	TELANGANA		X	X----	4201	TS_SPDCL		
BUS 422003	GHANAPUR	220.00	CKT	MW	MVAR	MVA	% 0.9970PU	-31.01	X---	LOSSES	---	X----	AREA	-----	X	X----	ZONE	-----	X	422003
							219.34KV			MW	MVAR	4201	TELANGANA		X	X----	4201	TS_SPDCL		
TO 421015	GHANAPUR	132.00	1	67.6	6.0	67.8	42	1.0000LK		0.72	3.65	4201	TELANGANA		X	X----	4201	TS_SPDCL		
TO 421015	GHANAPUR	132.00	2	67.6	6.0	67.8	42	1.0000LK		0.72	3.65	4201	TELANGANA		X	X----	4201	TS_SPDCL		
TO 421015	GHANAPUR	132.00	3	42.3	3.8	42.4	42	1.0000LK		0.45	2.28	4201	TELANGANA		X	X----	4201	TS_SPDCL		
TO 422002	CHNDRYNGUTTA	220.00	Z1	54.6	36.3	65.6	32			0.24	1.27	4201	TELANGANA		X	X----	4201	TS_SPDCL		
TO 422020	MOULALI	220.00	Z1	105.3	-41.6	113.2	54			0.14	0.89	4201	TELANGANA		X	X----	4201	TS_SPDCL		
TO 422075	NAGOLE	220.00	M1	121.4	-3.5	121.4	52			0.37	2.28	4201	TELANGANA		X	X----	4201	TS_SPDCL		
TO 422075	NAGOLE	220.00	M2	121.4	-3.5	121.4	52			0.37	2.28	4201	TELANGANA		X	X----	4201	TS_SPDCL		
TO 422076	HAYATHNAGAR	220.00	MC	40.1	2.6	40.2	17			0.05	0.26	4201	TELANGANA		X	X----	4201	TS_SPDCL		
TO 422092	POCHARAM	220.00	Z1	88.0	-31.0	93.3	45			0.07	0.38	4201	TELANGANA		X	X----	4201	TS_SPDCL		
TO 422155	KACHA SINGAR	220.00	M1	49.4	12.5	51.0	22			0.04	0.22	4201	TELANGANA		X	X----	4201	TS_SPDCL		
TO 422155	KACHA SINGAR	220.00	Z2	88.4	23.3	91.4	44			0.07	0.40	4201	TELANGANA		X	X----	4201	TS_SPDCL		
TO 422166	CPRI	220.00	M1	3.0	-0.2	3.0	1			0.00	0.00	4201	TELANGANA		X	X----	4201	TS_SPDCL		
TO 424003	GHANAPUR	400.00	1	-185.1	-2.4	185.1	59	1.0000UN		0.68	13.67	4201	TELANGANA		X	X----	4201	TS_SPDCL		
TO 424003	GHANAPUR	400.00	2	-185.1	-2.4	185.1	59	1.0000UN		0.68	13.67	4201	TELANGANA		X	X----	4201	TS_SPDCL		
TO 424003	GHANAPUR	400.00	3	-185.1	-2.4	185.1	59	1.0000UN		0.68	13.67	4201	TELANGANA		X	X----	4201	TS_SPDCL		
TO 424003	GHANAPUR	400.00	4	-293.7	-3.7	293.8	59	1.0000UN		1.09	21.70	4201	TELANGANA		X	X----	4201	TS_SPDCL		

BUS 422004	HWP	220.00	CKT	MW	MVAR	MVA	% 1.0008PU	-24.12	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422004
FROM GENERATION				59.5	-7.0L	59.9	73	220.17KV					MW	MVAR	4201	TELANGANA	4203	TS_NPDCL
TO 422007	MANUGURU	220.00	Z1	29.8	-3.5	30.0	14			0.01	0.06	4201	TELANGANA	4203	TS_NPDCL			
TO 422007	MANUGURU	220.00	Z2	29.8	-3.5	30.0	14			0.01	0.06	4201	TELANGANA	4203	TS_NPDCL			
BUS 422005	KTPS-ABC	220.00	CKT	MW	MVAR	MVA	% 0.9999PU	-25.26	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422005
							219.98KV						MW	MVAR	4201	TELANGANA	4203	TS_NPDCL
TO 412038	NUNNA	220.00	Z1	42.8	16.3	45.8	22			0.20	1.13	4101	ANDRAPRADESH	4115	AP-KRISHNA			
TO 421031	KOTAGDEM	132.00	1	22.2	-1.7	22.2	44	1.0000LK		0.25	0.96	4201	TELANGANA	4203	TS_NPDCL			
TO 421031	KOTAGDEM	132.00	2	22.2	-1.7	22.2	44	1.0000LK		0.25	0.96	4201	TELANGANA	4203	TS_NPDCL			
TO 422006	MIRYALAGUDA	220.00	Z1	4.6	-6.1	7.7	4			0.02	0.08	4201	TELANGANA	4201	TS_SPDCL			
TO 422007	MANUGURU	220.00	Z1	-48.5	4.6	48.7	23			0.16	0.87	4201	TELANGANA	4203	TS_NPDCL			
TO 422028	WKP 220KV SS220.00	Z1	38.2	-7.1	38.9	19				0.34	1.80	4201	TELANGANA	4203	TS_NPDCL			
TO 422085	KTPS-V	220.00	Z1	-18.6	-11.5	21.9	11			0.00	0.00	4201	TELANGANA	4203	TS_NPDCL			
TO 422085	KTPS-V	220.00	Z2	-18.6	-11.5	21.9	11			0.00	0.00	4201	TELANGANA	4203	TS_NPDCL			
TO 422130	VK RAMAVARAM	220.00	M1	-35.2	19.5	40.2	17			0.04	0.25	4201	TELANGANA	4205	TS_LIS			
TO 422137	BGKOTHUR	220.00	Z1	-9.1	-0.9	9.2	4			0.00	0.02	4201	TELANGANA	4205	TS_LIS			
BUS 422006	MIRYALAGUDA	220.00	CKT	MW	MVAR	MVA	% 0.9898PU	-25.56	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422006
							217.77KV						MW	MVAR	4201	TELANGANA	4201	TS_SPDCL
TO 421034	MIRYALAGUDA	132.00	1	107.8	23.9	110.5	69	1.0000LK		1.95	9.81	4201	TELANGANA	4201	TS_SPDCL			
TO 421034	MIRYALAGUDA	132.00	2	67.4	15.0	69.1	69	1.0000LK		1.22	6.14	4201	TELANGANA	4201	TS_SPDCL			
TO 421034	MIRYALAGUDA	132.00	3	67.4	15.0	69.1	69	1.0000LK		1.22	6.14	4201	TELANGANA	4201	TS_SPDCL			
TO 421034	MIRYALAGUDA	132.00	4	107.8	23.9	110.5	69	1.0000LK		1.95	9.81	4201	TELANGANA	4201	TS_SPDCL			
TO 422005	KTPS-ABC	220.00	Z1	-4.6	-17.8	18.4	9			0.02	0.08	4201	TELANGANA	4203	TS_NPDCL			
TO 422035	CHALAKURTHY	220.00	Z1	-46.8	-13.1	48.6	23			0.19	1.02	4201	TELANGANA	4201	TS_SPDCL			
TO 422074	SURYAPET	220.00	Z1	42.6	-19.4	46.8	22			0.18	0.97	4201	TELANGANA	4201	TS_SPDCL			
TO 422074	SURYAPET	220.00	Z2	42.6	-19.4	46.8	22			0.18	0.97	4201	TELANGANA	4201	TS_SPDCL			
TO 422146	DAMARACHERLA	220.00	T1	-192.1	-4.0	192.1	41			0.54	5.43	4201	TELANGANA	4201	TS_SPDCL			
TO 422146	DAMARACHERLA	220.00	T2	-192.1	-4.0	192.1	41			0.54	5.43	4201	TELANGANA	4201	TS_SPDCL			
BUS 422007	MANUGURU	220.00	CKT	MW	MVAR	MVA	% 1.0006PU	-24.24	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422007
							220.13KV						MW	MVAR	4201	TELANGANA	4203	TS_NPDCL
TO 421037	MANUGURU	132.00	1	44.9	2.4	44.9	28	1.0000LK		0.32	1.59	4201	TELANGANA	4203	TS_NPDCL			
TO 421037	MANUGURU	132.00	2	44.9	2.4	44.9	28	1.0000LK		0.32	1.59	4201	TELANGANA	4203	TS_NPDCL			
TO 422004	HWP	220.00	Z1	-29.7	2.4	29.8	14			0.01	0.06	4201	TELANGANA	4203	TS_NPDCL			
TO 422004	HWP	220.00	Z2	-29.7	2.4	29.8	14			0.01	0.06	4201	TELANGANA	4203	TS_NPDCL			
TO 422005	KTPS-ABC	220.00	Z1	48.7	-9.9	49.7	24			0.16	0.87	4201	TELANGANA	4203	TS_NPDCL			
TO 422137	BGKOTHUR	220.00	Z1	98.9	-15.5	100.1	48			0.29	1.53	4201	TELANGANA	4205	TS_LIS			
TO 422138	BTPS	220.00	M1	-88.9	7.9	89.2	38			0.22	1.39	4201	TELANGANA	4203	TS_NPDCL			
TO 422138	BTPS	220.00	M2	-88.9	7.9	89.2	38			0.22	1.39	4201	TELANGANA	4203	TS_NPDCL			

BUS 422008	NGRJNA SAGAR	220.00	CKT	MW	MVAR	MVA	% 1.0000PU	-23.58	X---	LOSSES	---	X----	AREA	-----	X	X----	ZONE	-----	X 422008
FROM GENERATION				570.9	-71.0R	575.3	60	220.00KV					MW	MVAR	4201	TELANGANA	4201	TS_SPDCL	
TO 412020	SRISAILAM RB	220.00	Z1	59.3	-4.9	59.5	29			0.51	2.31	4101	ANDRAPRADESH	4117	AP-KURNOOL				
TO 412021	TALLAPLLI	220.00	T1	98.0	-23.7	100.8	22			0.04	0.59	4101	ANDRAPRADESH	4114	AP-GUNTUR				
TO 412021	TALLAPLLI	220.00	T2	98.0	-23.7	100.8	22			0.04	0.59	4101	ANDRAPRADESH	4114	AP-GUNTUR				
TO 412021	TALLAPLLI	220.00	Z3	66.6	-23.3	70.6	34			0.07	0.41	4101	ANDRAPRADESH	4114	AP-GUNTUR				
TO 421043	NAGRJGAR	132.00	1	65.0	5.3	65.2	65	1.0000LK		1.06	5.36	4201	TELANGANA	4201	TS_SPDCL				
TO 421043	NAGRJGAR	132.00	2	65.0	5.3	65.2	65	1.0000LK		1.06	5.36	4201	TELANGANA	4201	TS_SPDCL				
TO 422035	CHALAKURTHY	220.00	H1	119.1	-6.0	119.3	22			0.31	1.73	4201	TELANGANA	4201	TS_SPDCL				
BUS 422009	RSS 220KV SS	220.00	CKT	MW	MVAR	MVA	% 0.9927PU	-27.48	X---	LOSSES	---	X----	AREA	-----	X	X----	ZONE	-----	X 422009
							218.40KV						MW	MVAR	4201	TELANGANA	4203	TS_NPDCL	
TO 421051	RSS 132KV SS	132.00	1	32.4	0.0	32.4	20	1.0000LK		0.17	0.84	4201	TELANGANA	4203	TS_NPDCL				
TO 421051	RSS 132KV SS	132.00	2	32.4	0.0	32.4	20	1.0000LK		0.17	0.84	4201	TELANGANA	4203	TS_NPDCL				
TO 422010	RAMGUTPC	220.00	M1	-169.6	-0.0	169.6	72			0.06	0.29	4201	TELANGANA	4203	TS_NPDCL				
TO 422010	RAMGUTPC	220.00	M2	-169.6	-0.0	169.6	72			0.06	0.29	4201	TELANGANA	4203	TS_NPDCL				
TO 422021	DURSHED	220.00	Z1	103.6	17.8	105.1	51			0.92	4.79	4201	TELANGANA	4203	TS_NPDCL				
TO 422021	DURSHED	220.00	Z2	103.6	17.8	105.1	51			0.92	4.79	4201	TELANGANA	4203	TS_NPDCL				
TO 422034	NTPC 220	BUS220.00	T3	-215.2	2.0	215.2	46			0.05	0.24	4201	TELANGANA	4203	TS_NPDCL				
TO 422034	NTPC 220	BUS220.00	T4	-215.2	2.0	215.2	46			0.05	0.24	4201	TELANGANA	4203	TS_NPDCL				
TO 422036	JAGTYALA	220.00	Z1	56.7	-7.0	57.2	27			0.35	1.83	4201	TELANGANA	4203	TS_NPDCL				
TO 422036	JAGTYALA	220.00	Z2	58.5	-4.9	58.7	28			0.29	1.89	4201	TELANGANA	4203	TS_NPDCL				
TO 422036	JAGTYALA	220.00	Z3	54.8	-5.3	55.0	26			0.27	1.77	4201	TELANGANA	4203	TS_NPDCL				
TO 422055	MANDAMARRI	220.00	M1	47.3	-6.8	47.8	20			0.11	0.69	4201	TELANGANA	4203	TS_NPDCL				
TO 422056	MEDARAM	220.00	Z1	79.9	-1.0	79.9	38			0.09	0.79	4201	TELANGANA	4205	TS_LIS				
TO 422057	VEMANOOR	220.00	Z1	77.5	0.8	77.5	37			0.26	1.28	4201	TELANGANA	4205	TS_LIS				
TO 422077	MANTHANI	220.00	Z1	8.9	-2.1	9.2	4			0.00	0.03	4201	TELANGANA	4203	TS_NPDCL				
TO 422078	MURMUR	220.00	M1	48.8	-5.1	49.0	21			0.05	0.31	4201	TELANGANA	4206	TS_WW				
TO 422122	RFCL	220.00	Z1	7.2	-6.3	9.5	5			0.00	0.01	4201	TELANGANA	4203	TS_NPDCL				
TO 422125	RAMPUR_LIS	220.00	Z1	58.2	-1.8	58.2	28			0.36	1.91	4201	TELANGANA	4205	TS_LIS				
BUS 422010	RAMGUTPC	220.00	CKT	MW	MVAR	MVA	% 0.9931PU	-27.38	X---	LOSSES	---	X----	AREA	-----	X	X----	ZONE	-----	X 422010
							218.48KV						MW	MVAR	4201	TELANGANA	4203	TS_NPDCL	
TO 422009	RSS 220KV SS	220.00	M1	169.7	0.1	169.7	73			0.06	0.29	4201	TELANGANA	4203	TS_NPDCL				
TO 422009	RSS 220KV SS	220.00	M2	169.7	0.1	169.7	73			0.06	0.29	4201	TELANGANA	4203	TS_NPDCL				
TO 424002	RSTPS NTPC	400.00	2	-169.7	-0.1	169.7	68	1.0000UN		0.58	14.60	4202	RGM-TPS	4202	RGM-TPS				
TO 424002	RSTPS NTPC	400.00	3	-169.7	-0.1	169.7	68	1.0000UN		0.58	14.60	4202	RGM-TPS	4202	RGM-TPS				
BUS 422011	SHAPURNGR	220.00	CKT	MW	MVAR	MVA	% 0.9677PU	-33.27	X---	LOSSES	---	X----	AREA	-----	X	X----	ZONE	-----	X 422011
							212.89KV						MW	MVAR	4201	TELANGANA	4201	TS_SPDCL	
TO 421060	SHAURGAR	132.00	1	94.6	22.8	97.3	61	1.0000LK		1.58	7.97	4201	TELANGANA	4201	TS_SPDCL				
TO 421060	SHAURGAR	132.00	2	94.6	22.8	97.3	61	1.0000LK		1.58	7.97	4201	TELANGANA	4201	TS_SPDCL				
TO 421060	SHAURGAR	132.00	3	94.6	22.8	97.3	61	1.0000LK		1.58	7.97	4201	TELANGANA	4201	TS_SPDCL				
TO 422017	GACIBWLI	220.00	Z2	-23.8	-17.2	29.3	14			0.03	0.16	4201	TELANGANA	4201	TS_SPDCL				

TO 422024	MALKARAM	220.00	H1	-161.7	-21.5	163.1	31			0.85	4.54	4201	TELANGANA	4201	TS_SPDCL						
TO 422024	MALKARAM	220.00	H2	-161.7	-21.5	163.1	31			0.85	4.54	4201	TELANGANA	4201	TS_SPDCL						
TO 422072	ERRAGADDA	220.00	Z1	96.1	7.8	96.4	46			0.19	1.06	4201	TELANGANA	4201	TS_SPDCL						
TO 422073	MIYAPUR	220.00	Z1	67.8	1.9	67.8	33			0.06	0.34	4201	TELANGANA	4201	TS_SPDCL						
TO 422123	JANGOAN	220.00	Z1	-96.2	-10.2	96.7	46			1.60	8.75	4201	TELANGANA	4203	TS_NPDCL						
TO 422144	RAIDURG	220.00	Z1	-35.2	-19.2	40.1	19			0.05	0.29	4201	TELANGANA	4204	TS_GHMC						
TO 422165	ALWAL	220.00	H1	31.0	11.3	32.9	6			0.02	0.09	4201	TELANGANA	4201	TS_SPDCL						
BUS 422012	STRMPTNM	220.00	CKT							0.9999PU	-25.33	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422012
										219.98KV											
TO 421062	STRMPTNM	132.00	1	29.8	-3.1	30.0	30	1.0000LK		0.22	1.13	4201	TELANGANA	4203	TS_NPDCL						
TO 421062	STRMPTNM	132.00	2	29.8	-3.1	30.0	30	1.0000LK		0.22	1.13	4201	TELANGANA	4203	TS_NPDCL						
TO 422085	KTPS-V	220.00	Z1	-29.8	3.1	30.0	14			0.01	0.04	4201	TELANGANA	4203	TS_NPDCL						
TO 422085	KTPS-V	220.00	Z2	-29.8	3.1	30.0	14			0.01	0.04	4201	TELANGANA	4203	TS_NPDCL						
BUS 422013	WARANGAL	220.00	CKT							0.9841PU	-28.60	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422013
										216.50KV											
TO 421070	WARANGAL	132.00	1	78.3	20.4	80.9	51	1.0000LK		1.06	5.32	4201	TELANGANA	4203	TS_NPDCL						
TO 421070	WARANGAL	132.00	2	78.3	20.4	80.9	51	1.0000LK		1.06	5.32	4201	TELANGANA	4203	TS_NPDCL						
TO 421070	WARANGAL	132.00	3	78.3	20.4	80.9	51	1.0000LK		1.06	5.32	4201	TELANGANA	4203	TS_NPDCL						
TO 422040	NAGARAM	220.00	H1	-138.8	-35.8	143.3	27			0.47	2.41	4201	TELANGANA	4203	TS_NPDCL						
TO 422040	NAGARAM	220.00	H2	-138.8	-35.8	143.3	27			0.47	2.41	4201	TELANGANA	4203	TS_NPDCL						
TO 422106	MAHABUBAD	220.00	M2	-8.8	-3.0	9.3	4			0.01	0.06	4201	TELANGANA	4203	TS_NPDCL						
TO 422149	AMMAVARIPET	220.00	M1	51.6	13.3	53.3	23			0.27	1.91	4201	TELANGANA	4203	TS_NPDCL						
BUS 422014	YEDUMRAM	220.00	CKT							0.9841PU	-31.62	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422014
										216.50KV											
TO 421071	YEDUMRAM	132.00	1	59.9	7.3	60.4	38	1.0000LK		0.59	2.97	4201	TELANGANA	4201	TS_SPDCL						
TO 421071	YEDUMRAM	132.00	2	59.9	7.3	60.4	38	1.0000LK		0.59	2.97	4201	TELANGANA	4201	TS_SPDCL						
TO 421071	YEDUMRAM	132.00	3	59.9	7.3	60.4	38	1.0000LK		0.59	2.97	4201	TELANGANA	4201	TS_SPDCL						
TO 422054	SHANKARPALLY	220.00	M2	-69.6	-11.0	70.5	30			0.06	0.40	4201	TELANGANA	4201	TS_SPDCL						
TO 422054	SHANKARPALLY	220.00	Z1	-73.1	-8.1	73.6	35			0.08	0.42	4201	TELANGANA	4201	TS_SPDCL						
TO 422116	KETHIREDDYPA	220.00	Z1	-37.0	-2.9	37.1	18			0.06	0.36	4201	TELANGANA	4201	TS_SPDCL						
BUS 422015	DICHPALLY	220.00	CKT							0.9996PU	-28.79	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422015
										219.91KV											
TO 421077	DICHPALLY	132.00	1	81.4	15.0	82.7	52	1.0000LK		1.07	5.40	4201	TELANGANA	4203	TS_NPDCL						
TO 421077	DICHPALLY	132.00	2	81.4	15.0	82.7	52	1.0000LK		1.07	5.40	4201	TELANGANA	4203	TS_NPDCL						
TO 421077	DICHPALLY	132.00	3	50.9	9.4	51.7	52	1.0000LK		0.67	3.38	4201	TELANGANA	4203	TS_NPDCL						
TO 421077	DICHPALLY	132.00	4	81.4	15.0	82.7	52	1.0000LK		1.07	5.40	4201	TELANGANA	4203	TS_NPDCL						
TO 422016	DCPL 220 BUS	220.00	T1	-135.4	-37.3	140.4	30			0.04	0.49	4201	TELANGANA	4203	TS_NPDCL						
TO 422016	DCPL 220 BUS	220.00	T2	-135.4	-37.3	140.4	30			0.04	0.49	4201	TELANGANA	4203	TS_NPDCL						
TO 422016	DCPL 220 BUS	220.00	Z1	-102.6	-16.0	103.8	50			0.07	0.35	4201	TELANGANA	4203	TS_NPDCL						
TO 422016	DCPL 220 BUS	220.00	Z2	-102.6	-16.0	103.8	50			0.07	0.35	4201	TELANGANA	4203	TS_NPDCL						

TO 422032	BHEEMGAL	220.00	Z1	142.2	39.5	147.6	71		0.94	4.89	4201	TELANGANA	4203	TS_NPDCL				
TO 422151	KATHALAPUR	220.00	Z1	38.7	12.8	40.7	20		0.15	0.88	4201	TELANGANA	4203	TS_NPDCL				
BUS 422016	DCPL 220	BUS220.00	CKT	MW	MVAR	MVA	% 1.0007PU	-28.60	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422016
							220.16KV			MW	MVAR	4201	TELANGANA	4203	TS_NPDCL			
TO 422015	DICHPALLY220	220.00	T1	135.4	36.9	140.3	30		0.04	0.49	4201	TELANGANA	4203	TS_NPDCL				
TO 422015	DICHPALLY220	220.00	T2	135.4	36.9	140.3	30		0.04	0.49	4201	TELANGANA	4203	TS_NPDCL				
TO 422015	DICHPALLY220	220.00	Z1	102.6	15.8	103.8	50		0.07	0.35	4201	TELANGANA	4203	TS_NPDCL				
TO 422015	DICHPALLY220	220.00	Z2	102.6	15.8	103.8	50		0.07	0.35	4201	TELANGANA	4203	TS_NPDCL				
TO 422094	RENEW_DCPL	220.00	M1	-60.6	10.3	61.5	26		0.15	1.00	4201	TELANGANA	4203	TS_NPDCL				
TO 422094	RENEW_DCPL	220.00	M2	-60.6	10.3	61.5	26		0.15	1.00	4201	TELANGANA	4203	TS_NPDCL				
TO 422127	BANSWADA	220.00	M1	60.3	6.3	60.7	26		0.40	2.56	4201	TELANGANA	4203	TS_NPDCL				
TO 422127	BANSWADA	220.00	M2	60.3	6.3	60.7	26		0.40	2.56	4201	TELANGANA	4203	TS_NPDCL				
TO 422159	YACHARAM THA	220.00	M1	18.0	-3.8	18.4	8		0.01	0.07	4201	TELANGANA	4205	TS_LIS				
TO 422159	YACHARAM THA	220.00	M2	18.0	-3.8	18.4	8		0.01	0.07	4201	TELANGANA	4205	TS_LIS				
TO 422160	MANCHIPPA	220.00	M1	20.3	-1.5	20.4	9		0.01	0.08	4201	TELANGANA	4205	TS_LIS				
TO 422164	MENTRAJPALLY	220.00	M1	20.1	-0.8	20.1	9		0.01	0.04	4201	TELANGANA	4205	TS_LIS				
TO 424007	DICHIPALLI	400.00	1	-120.3	-28.1	123.5	39	1.0000UN	0.30	6.05	4201	TELANGANA	4203	TS_NPDCL				
TO 424007	DICHIPALLI	400.00	2	-120.3	-28.1	123.5	39	1.0000UN	0.30	6.05	4201	TELANGANA	4203	TS_NPDCL				
TO 424007	DICHIPALLI	400.00	3	-120.3	-28.1	123.5	39	1.0000UN	0.30	6.05	4201	TELANGANA	4203	TS_NPDCL				
TO 424007	DICHIPALLI	400.00	4	-191.0	-44.5	196.1	39	1.0000UN	0.48	9.60	4201	TELANGANA	4203	TS_NPDCL				
BUS 422017	GACIBWLI	220.00	CKT	MW	MVAR	MVA	% 0.9715PU	-33.04	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422017
							213.73KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO 421088	GACIBWLI	132.00	1	48.8	8.5	49.6	31	1.0000LK	0.41	2.05	4201	TELANGANA	4201	TS_SPDCL				
TO 421088	GACIBWLI	132.00	2	48.8	8.5	49.6	31	1.0000LK	0.41	2.05	4201	TELANGANA	4201	TS_SPDCL				
TO 421412	GCBL-2	132.00	3	48.8	8.5	49.6	31	1.0000LK	0.41	2.05	4201	TELANGANA	4204	TS_GHMC				
TO 421412	GCBL-2	132.00	4	48.8	8.5	49.6	31	1.0000LK	0.41	2.05	4201	TELANGANA	4204	TS_GHMC				
TO 422011	SHAPURNGR	220.00	Z2	23.8	14.4	27.8	13		0.03	0.16	4201	TELANGANA	4201	TS_SPDCL				
TO 422054	SHANKARPALLY	220.00	H2	-160.7	-44.5	166.7	31		0.97	5.54	4201	TELANGANA	4201	TS_SPDCL				
TO 422144	RAIDURG	220.00	Z1	-12.8	-2.7	13.1	6		0.00	0.03	4201	TELANGANA	4204	TS_GHMC				
TO 422144	RAIDURG	220.00	Z2	-18.5	-3.0	18.7	9		0.01	0.04	4201	TELANGANA	4204	TS_GHMC				
TO 422144	RAIDURG	220.00	Z3	-24.2	-3.5	24.4	12		0.01	0.05	4201	TELANGANA	4204	TS_GHMC				
TO 422144	RAIDURG	220.00	Z4	-13.4	-2.7	13.7	7		0.00	0.03	4201	TELANGANA	4204	TS_GHMC				
TO 422153	KOLLUR	220.00	H1	-170.3	-46.7	176.6	33		0.41	2.36	4201	TELANGANA	4201	TS_SPDCL				
TO 422156	RC PURAM	220.00	H1	105.7	28.0	109.3	21		0.15	0.84	4201	TELANGANA	4201	TS_SPDCL				
TO 422156	RC PURAM	220.00	H2	105.7	28.0	109.3	21		0.15	0.84	4201	TELANGANA	4201	TS_SPDCL				
TO 422167	NEMALINAGAR	220.00	Z1	-30.7	-1.1	30.7	15		0.02	0.10	4201	TELANGANA	4201	TS_SPDCL				
BUS 422018	KALWAKURTHY	220.00	CKT	MW	MVAR	MVA	% 0.9912PU	-26.25	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422018
							218.07KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO 421023	KWK 132 BUS	132.00	1	64.1	12.1	65.2	41	1.0000LK	0.68	3.41	4201	TELANGANA	4201	TS_SPDCL				
TO 421023	KWK 132 BUS	132.00	2	64.1	12.1	65.2	41	1.0000LK	0.68	3.41	4201	TELANGANA	4201	TS_SPDCL				
TO 421023	KWK 132 BUS	132.00	3	64.1	12.1	65.2	41	1.0000LK	0.68	3.41	4201	TELANGANA	4201	TS_SPDCL				

TO 422033	DINDI SS	220.00	Z1	-36.2	2.1	36.3	17		0.05	0.27	4201	TELANGANA	4201	TS_SPDCL					
TO 422033	DINDI SS	220.00	Z2	-36.2	2.1	36.3	17		0.05	0.27	4201	TELANGANA	4201	TS_SPDCL					
TO 422096	THIMMAJIPET	220.00	Z1	-17.5	-9.8	20.1	10		0.02	0.11	4201	TELANGANA	4201	TS_SPDCL					
TO 422096	THIMMAJIPET	220.00	Z2	-17.5	-9.8	20.1	10		0.02	0.11	4201	TELANGANA	4201	TS_SPDCL					
TO 422105	AZURE_SOLAR	220.00	M1	-84.9	-20.7	87.4	37		0.10	0.61	4201	TELANGANA	4201	TS_SPDCL					
BUS 422019	MBNR 220KVSS	220.00	CKT		MW	MVAR	MVA	% 0.9923PU	-26.24	X---	LOSSES	---	X----	AREA	-----X	X----	ZONE	-----X	422019
								218.31KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO 421084	BHOTHPUR	132.00	1	88.8	11.1	89.5	56	1.0000LK		1.27	6.41	4201	TELANGANA	4201	TS_SPDCL				
TO 421084	BHOTHPUR	132.00	2	88.8	11.1	89.5	56	1.0000LK		1.27	6.41	4201	TELANGANA	4201	TS_SPDCL				
TO 421084	BHOTHPUR	132.00	3	88.8	11.1	89.5	56	1.0000LK		1.27	6.41	4201	TELANGANA	4201	TS_SPDCL				
TO 422049	VLT 220 BUS	220.00	Z1	-99.9	-7.5	100.2	48		0.53	2.76	4201	TELANGANA	4201	TS_SPDCL					
TO 422049	VLT 220 BUS	220.00	Z2	-99.9	-7.5	100.2	48		0.53	2.76	4201	TELANGANA	4201	TS_SPDCL					
TO 422096	THIMMAJIPET	220.00	Z1	-33.3	-9.2	34.6	17		0.03	0.17	4201	TELANGANA	4201	TS_SPDCL					
TO 422096	THIMMAJIPET	220.00	Z2	-33.3	-9.2	34.6	17		0.03	0.17	4201	TELANGANA	4201	TS_SPDCL					
BUS 422020	MOULALI	220.00	CKT		MW	MVAR	MVA	% 0.9978PU	-31.48	X---	LOSSES	---	X----	AREA	-----X	X----	ZONE	-----X	422020
								219.52KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO 421035	MOULALI	132.00	1	60.3	-3.2	60.4	38	1.0000LK		0.57	2.89	4201	TELANGANA	4201	TS_SPDCL				
TO 421035	MOULALI	132.00	2	60.3	-3.2	60.4	38	1.0000LK		0.57	2.89	4201	TELANGANA	4201	TS_SPDCL				
TO 421035	MOULALI	132.00	3	60.3	-3.2	60.4	38	1.0000LK		0.57	2.89	4201	TELANGANA	4201	TS_SPDCL				
TO 422003	GHANAPUR	220.00	Z1	-105.1	13.0	106.0	51		0.14	0.89	4201	TELANGANA	4201	TS_SPDCL					
TO 422092	POCHARAM	220.00	Z1	-75.8	-3.3	75.9	36		0.04	0.32	4201	TELANGANA	4201	TS_SPDCL					
BUS 422021	DURSHED	220.00	CKT		MW	MVAR	MVA	% 0.9761PU	-29.96	X---	LOSSES	---	X----	AREA	-----X	X----	ZONE	-----X	422021
								214.74KV			MW	MVAR	4201	TELANGANA	4203	TS_NPDCL			
TO 421030	DURSHED	132.00	1	90.7	23.1	93.5	58	1.0000LK		1.44	7.24	4201	TELANGANA	4203	TS_NPDCL				
TO 421030	DURSHED	132.00	2	90.7	23.1	93.5	58	1.0000LK		1.44	7.24	4201	TELANGANA	4203	TS_NPDCL				
TO 421030	DURSHED	132.00	3	90.7	23.1	93.5	58	1.0000LK		1.44	7.24	4201	TELANGANA	4203	TS_NPDCL				
TO 422009	RSS 220KV SS	220.00	Z1	-102.6	-20.1	104.6	50		0.92	4.79	4201	TELANGANA	4203	TS_NPDCL					
TO 422009	RSS 220KV SS	220.00	Z2	-102.6	-20.1	104.6	50		0.92	4.79	4201	TELANGANA	4203	TS_NPDCL					
TO 422128	RAMADUGU_220	220.00	M2	-66.7	-29.0	72.7	31		0.19	1.19	4201	TELANGANA	4203	TS_NPDCL					
BUS 422022	SIDDIPET	220.00	CKT		MW	MVAR	MVA	% 0.9765PU	-31.93	X---	LOSSES	---	X----	AREA	-----X	X----	ZONE	-----X	422022
								214.83KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO 421059	SIDDIPET	132.00	1	60.1	14.0	61.7	39	1.0000LK		0.62	3.15	4201	TELANGANA	4201	TS_SPDCL				
TO 421059	SIDDIPET	132.00	2	60.1	14.0	61.7	39	1.0000LK		0.62	3.15	4201	TELANGANA	4201	TS_SPDCL				
TO 421059	SIDDIPET	132.00	3	60.1	14.0	61.7	39	1.0000LK		0.62	3.15	4201	TELANGANA	4201	TS_SPDCL				
TO 422041	GJWL 220 BUS	220.00	M1	-57.6	-17.6	60.2	26		0.17	1.20	4201	TELANGANA	4201	TS_SPDCL					
TO 422041	GJWL 220 BUS	220.00	M2	-57.6	-17.6	60.2	26		0.17	1.20	4201	TELANGANA	4201	TS_SPDCL					
TO 422064	MALLARAM	220.00	Z1	-18.0	-3.0	18.3	9		0.01	0.07	4201	TELANGANA	4206	TS_WW					
TO 422139	DURSHED-2	220.00	Z1	-47.1	-4.0	47.2	23		0.24	1.28	4201	TELANGANA	4203	TS_NPDCL					

BUS 422023	BPD 220KV SS220.00 CKT	MW	MVAR	MVA	% 0.9973PU	-25.95	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422023
					219.41KV			MW	MVAR	4201	TELANGANA	4203	TS_NPDCL			
TO 421106	BPD 132 BUS 132.00 1	57.8	7.4	58.3	36 1.0000LK			0.53	2.69	4201	TELANGANA	4203	TS_NPDCL			
TO 421106	BPD 132 BUS 132.00 2	57.8	7.4	58.3	36 1.0000LK			0.53	2.69	4201	TELANGANA	4203	TS_NPDCL			
TO 422028	WKP 220KV SS220.00 Z1	128.6	6.0	128.7	62			0.85	4.52	4201	TELANGANA	4203	TS_NPDCL			
TO 422028	WKP 220KV SS220.00 Z2	128.6	6.0	128.7	62			0.85	4.52	4201	TELANGANA	4203	TS_NPDCL			
TO 422059	NBEIL 220.00 M1	-63.3	1.4	63.4	27			0.40	2.08	4201	TELANGANA	4203	TS_NPDCL			
TO 422059	NBEIL 220.00 M2	-63.3	1.4	63.4	27			0.40	2.08	4201	TELANGANA	4203	TS_NPDCL			
TO 422074	SURYAPET 220.00 Z1	23.3	-3.8	23.6	11			0.06	0.34	4201	TELANGANA	4201	TS_SPDCL			
TO 422074	SURYAPET 220.00 Z2	23.3	-3.8	23.6	11			0.06	0.34	4201	TELANGANA	4201	TS_SPDCL			
TO 422085	KTPS-V 220.00 T1	-38.8	-10.6	40.3	9			0.05	0.48	4201	TELANGANA	4203	TS_NPDCL			
TO 422085	KTPS-V 220.00 T2	-38.8	-10.6	40.3	9			0.05	0.48	4201	TELANGANA	4203	TS_NPDCL			
TO 422106	MAHABUBAD 220.00 M1	116.8	22.0	118.9	51			0.76	4.95	4201	TELANGANA	4203	TS_NPDCL			
TO 422106	MAHABUBAD 220.00 M2	116.8	22.0	118.9	51			0.76	4.95	4201	TELANGANA	4203	TS_NPDCL			
TO 424004	KHAMMAM 400.00 1	-125.1	-12.5	125.7	40 1.0000UN			0.31	6.30	4201	TELANGANA	4203	TS_NPDCL			
TO 424004	KHAMMAM 400.00 2	-125.1	-12.5	125.7	40 1.0000UN			0.31	6.30	4201	TELANGANA	4203	TS_NPDCL			
TO 424004	KHAMMAM 400.00 3	-198.5	-19.8	199.5	40 1.0000UN			0.50	10.00	4201	TELANGANA	4203	TS_NPDCL			
BUS 422024	MALKARAM 220.00 CKT	MW	MVAR	MVA	% 0.9764PU	-31.74	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422024
					214.80KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO 421182	MALKARAM 132.00 1	86.4	15.7	87.9	55 1.0000LK			1.27	6.38	4201	TELANGANA	4201	TS_SPDCL			
TO 421182	MALKARAM 132.00 2	86.4	15.7	87.9	55 1.0000LK			1.27	6.38	4201	TELANGANA	4201	TS_SPDCL			
TO 422011	SHAPURNGR 220.00 H1	162.6	23.4	164.2	31			0.85	4.54	4201	TELANGANA	4201	TS_SPDCL			
TO 422011	SHAPURNGR 220.00 H2	162.6	23.4	164.2	31			0.85	4.54	4201	TELANGANA	4201	TS_SPDCL			
TO 422027	BHONGIR 220.00 Z1	-45.4	2.4	45.4	22			0.11	0.59	4201	TELANGANA	4201	TS_SPDCL			
TO 422027	BHONGIR 220.00 Z2	-45.4	2.4	45.4	22			0.11	0.59	4201	TELANGANA	4201	TS_SPDCL			
TO 422029	MEDCHAL 220.00 Z1	102.0	17.5	103.5	50			0.25	1.30	4201	TELANGANA	4201	TS_SPDCL			
TO 422029	MEDCHAL 220.00 Z2	102.0	17.5	103.5	50			0.25	1.30	4201	TELANGANA	4201	TS_SPDCL			
TO 422058	GUNROCK 220.00 C1	124.3	18.0	125.6	43			0.13	1.00	4201	TELANGANA	4201	TS_SPDCL			
TO 422058	GUNROCK 220.00 C2	124.3	18.0	125.6	43			0.13	1.00	4201	TELANGANA	4201	TS_SPDCL			
TO 422145	CHOUTUPPAL 220.00 M1	-95.1	-4.1	95.2	41			1.04	7.28	4201	TELANGANA	4201	TS_SPDCL			
TO 422145	CHOUTUPPAL 220.00 M2	-95.1	-4.1	95.2	41			1.04	7.28	4201	TELANGANA	4201	TS_SPDCL			
TO 424011	MALKARAM 400.00 1	-167.4	-36.5	171.4	54 1.0000UN			0.61	12.22	4201	TELANGANA	4201	TS_SPDCL			
TO 424011	MALKARAM 400.00 2	-167.4	-36.5	171.4	54 1.0000UN			0.61	12.22	4201	TELANGANA	4201	TS_SPDCL			
TO 424011	MALKARAM 400.00 3	-167.4	-36.5	171.4	54 1.0000UN			0.61	12.22	4201	TELANGANA	4201	TS_SPDCL			
TO 424011	MALKARAM 400.00 4	-167.4	-36.5	171.4	54 1.0000UN			0.61	12.22	4201	TELANGANA	4201	TS_SPDCL			
BUS 422025	NIRMAL 220.00 CKT	MW	MVAR	MVA	% 0.9954PU	-29.87	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422025
					218.99KV			MW	MVAR	4201	TELANGANA	4203	TS_NPDCL			
TO 421075	NIRMAL 132.00 1	73.7	15.6	75.3	75 1.0000LK			1.43	7.22	4201	TELANGANA	4203	TS_NPDCL			
TO 421075	NIRMAL 132.00 2	73.7	15.6	75.3	75 1.0000LK			1.43	7.22	4201	TELANGANA	4203	TS_NPDCL			
TO 421075	NIRMAL 132.00 3	73.7	15.6	75.3	75 1.0000LK			1.43	7.22	4201	TELANGANA	4203	TS_NPDCL			
TO 422036	JAGTYALA 220.00 Z1	-13.3	8.8	15.9	8			0.03	0.22	4201	TELANGANA	4203	TS_NPDCL			
TO 422111	NIRMAL_NEW 220.00 1	-57.3	-16.3	59.6	25			0.02	0.17	4201	TELANGANA	4203	TS_NPDCL			

TO 422111	NIRMAL_NEW	220.00	M1	-75.3	-19.6	77.8	33		0.04	0.23	4201	TELANGANA	4203	TS_NPDCL					
TO 422111	NIRMAL_NEW	220.00	M2	-75.3	-19.6	77.8	33		0.04	0.23	4201	TELANGANA	4203	TS_NPDCL					
BUS 422026	NKP 220KVSS	220.00	CKT		MW	MVAR	MVA	% 0.9797PU	-28.72	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422026
								215.54KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO 421103	NARATLLY	132.00	1	64.5	17.0	66.7	42	1.0000LK	0.73	3.66	4201	TELANGANA	4201	TS_SPDCL					
TO 421103	NARATLLY	132.00	2	64.5	17.0	66.7	42	1.0000LK	0.73	3.66	4201	TELANGANA	4201	TS_SPDCL					
TO 421103	NARATLLY	132.00	3	40.4	10.6	41.7	42	1.0000LK	0.45	2.29	4201	TELANGANA	4201	TS_SPDCL					
TO 421103	NARATLLY	132.00	4	40.4	10.6	41.7	42	1.0000LK	0.45	2.29	4201	TELANGANA	4201	TS_SPDCL					
TO 422074	SURYAPET	220.00	M1	-58.2	-18.1	61.0	26		0.33	2.17	4201	TELANGANA	4201	TS_SPDCL					
TO 422109	UDAYASAMUDRA	220.00	Z1	12.8	-1.3	12.9	6		0.00	0.01	4201	TELANGANA	4205	TS_LIS					
TO 422117	HUZURNAGAR	220.00	M1	-59.5	-7.9	60.0	26		0.43	2.80	4201	TELANGANA	4201	TS_SPDCL					
TO 422145	CHOUTUPPAL	220.00	M1	-52.4	-14.0	54.2	23		0.19	1.32	4201	TELANGANA	4201	TS_SPDCL					
TO 422145	CHOUTUPPAL	220.00	M2	-52.4	-14.0	54.2	23		0.19	1.32	4201	TELANGANA	4201	TS_SPDCL					
BUS 422027	BHONGIR	220.00	CKT		MW	MVAR	MVA	% 0.9775PU	-30.99	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422027
								215.06KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO 421104	BHONGIR	132.00	1	43.4	11.7	45.0	45	1.0000LK	0.53	2.67	4201	TELANGANA	4201	TS_SPDCL					
TO 421104	BHONGIR	132.00	2	43.4	11.7	45.0	45	1.0000LK	0.53	2.67	4201	TELANGANA	4201	TS_SPDCL					
TO 421104	BHONGIR	132.00	3	43.4	11.7	45.0	45	1.0000LK	0.53	2.67	4201	TELANGANA	4201	TS_SPDCL					
TO 422024	MALKARAM	220.00	Z1	45.5	-6.2	45.9	22		0.11	0.59	4201	TELANGANA	4201	TS_SPDCL					
TO 422024	MALKARAM	220.00	Z2	45.5	-6.2	45.9	22		0.11	0.59	4201	TELANGANA	4201	TS_SPDCL					
TO 422123	JANGOAN	220.00	Z1	-110.6	-11.3	111.2	53		0.95	5.53	4201	TELANGANA	4203	TS_NPDCL					
TO 422123	JANGOAN	220.00	Z2	-110.6	-11.3	111.2	53		0.95	5.53	4201	TELANGANA	4203	TS_NPDCL					
BUS 422028	WKP 220KV SS	220.00	CKT		MW	MVAR	MVA	% 0.9882PU	-27.94	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422028
								217.39KV			MW	MVAR	4201	TELANGANA	4203	TS_NPDCL			
TO 421067	WADEKLLY	132.00	1	91.2	22.6	94.0	59	1.0000LK	1.41	7.13	4201	TELANGANA	4203	TS_NPDCL					
TO 421067	WADEKLLY	132.00	2	91.2	22.6	94.0	59	1.0000LK	1.41	7.13	4201	TELANGANA	4203	TS_NPDCL					
TO 421067	WADEKLLY	132.00	3	91.2	22.6	94.0	59	1.0000LK	1.41	7.13	4201	TELANGANA	4203	TS_NPDCL					
TO 422005	KTPS-ABC	220.00	Z1	-37.9	-11.5	39.6	19		0.34	1.80	4201	TELANGANA	4203	TS_NPDCL					
TO 422023	BPD 220KV SS	220.00	Z1	-127.7	-13.0	128.4	62		0.85	4.52	4201	TELANGANA	4203	TS_NPDCL					
TO 422023	BPD 220KV SS	220.00	Z2	-127.7	-13.0	128.4	62		0.85	4.52	4201	TELANGANA	4203	TS_NPDCL					
TO 422123	JANGOAN	220.00	Z1	5.9	-10.1	11.7	6		0.01	0.04	4201	TELANGANA	4203	TS_NPDCL					
TO 422123	JANGOAN	220.00	Z2	5.9	-10.1	11.7	6		0.01	0.04	4201	TELANGANA	4203	TS_NPDCL					
TO 422123	JANGOAN	220.00	Z3	7.8	-10.1	12.8	6		0.01	0.05	4201	TELANGANA	4203	TS_NPDCL					
BUS 422029	MEDCHAL	220.00	CKT		MW	MVAR	MVA	% 0.9720PU	-32.42	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422029
								213.83KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO 421127	MEDCHAL1	132.00	1	97.3	22.4	99.9	62	1.0000LK	1.65	8.32	4201	TELANGANA	4201	TS_SPDCL					
TO 421127	MEDCHAL1	132.00	2	97.3	22.4	99.9	62	1.0000LK	1.65	8.32	4201	TELANGANA	4201	TS_SPDCL					
TO 421127	MEDCHAL1	132.00	3	97.3	22.4	99.9	62	1.0000LK	1.65	8.32	4201	TELANGANA	4201	TS_SPDCL					
TO 422024	MALKARAM	220.00	Z1	-101.8	-18.1	103.4	50		0.25	1.30	4201	TELANGANA	4201	TS_SPDCL					
TO 422024	MALKARAM	220.00	Z2	-101.8	-18.1	103.4	50		0.25	1.30	4201	TELANGANA	4201	TS_SPDCL					

TO 422041	GJWL 220	BUS220.00	Z1	-44.2	-15.5	46.9	23		0.26	1.35	4201	TELANGANA	4201	TS_SPDCL				
TO 422041	GJWL 220	BUS220.00	Z2	-44.2	-15.5	46.9	23		0.26	1.35	4201	TELANGANA	4201	TS_SPDCL				
BUS 422030	MINPUR	220.00	CKT	MW	MVAR	MVA	% 0.9856PU	-31.69	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422030
							216.83KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO 421101	MINPUR	132.00	1	71.9	11.3	72.8	45 1.0000LK		0.85	4.30	4201	TELANGANA	4201	TS_SPDCL				
TO 421101	MINPUR	132.00	2	71.9	11.3	72.8	45 1.0000LK		0.85	4.30	4201	TELANGANA	4201	TS_SPDCL				
TO 421101	MINPUR	132.00	3	71.9	11.3	72.8	45 1.0000LK		0.85	4.30	4201	TELANGANA	4201	TS_SPDCL				
TO 422041	GJWL 220	BUS220.00	Z1	-18.6	-0.5	18.6	9		0.05	0.28	4201	TELANGANA	4201	TS_SPDCL				
TO 422041	GJWL 220	BUS220.00	Z2	-18.6	-0.5	18.6	9		0.05	0.28	4201	TELANGANA	4201	TS_SPDCL				
TO 422093	NARSARPUR	220.00	M1	-61.7	-9.2	62.4	27		0.15	1.04	4201	TELANGANA	4201	TS_SPDCL				
TO 422093	NARSARPUR	220.00	M2	-61.7	-9.2	62.4	27		0.15	1.04	4201	TELANGANA	4201	TS_SPDCL				
TO 422095	RENEW_MNP	220.00	M1	-55.2	-14.5	57.1	24		0.06	0.37	4201	TELANGANA	4201	TS_SPDCL				
BUS 422031	MMP 220	BUS 220.00	CKT	MW	MVAR	MVA	% 0.9848PU	-30.67	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422031
							216.66KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO 422002	CHNDRYNGUTTA	220.00	Z1	101.4	-11.9	102.1	49		0.38	1.95	4201	TELANGANA	4201	TS_SPDCL				
TO 422037	HIAL	220.00	H1	162.0	12.5	162.5	30		0.11	0.57	4201	TELANGANA	4201	TS_SPDCL				
TO 422037	HIAL	220.00	H2	162.0	12.5	162.5	30		0.11	0.57	4201	TELANGANA	4201	TS_SPDCL				
TO 422039	SIVARAMPALLI	220.00	H1	199.9	34.0	202.8	38		1.19	6.33	4201	TELANGANA	4201	TS_SPDCL				
TO 422047	SHAMSHABAD	220.00	Z1	130.9	20.1	132.4	64		0.29	1.36	4201	TELANGANA	4201	TS_SPDCL				
TO 422071	FABCITY	220.00	M1	-29.5	-4.5	29.8	13		0.01	0.04	4201	TELANGANA	4201	TS_SPDCL				
TO 422071	FABCITY	220.00	M2	-29.5	-4.5	29.8	13		0.01	0.04	4201	TELANGANA	4201	TS_SPDCL				
TO 422134	CHEGUR	220.00	M1	56.8	4.3	57.0	24		0.14	0.87	4201	TELANGANA	4201	TS_SPDCL				
TO 424006	MAMIDIPALLI	400.00	1	-188.6	-15.7	189.2	60 1.0000UN		0.73	14.65	4201	TELANGANA	4201	TS_SPDCL				
TO 424006	MAMIDIPALLI	400.00	2	-188.6	-15.7	189.2	60 1.0000UN		0.73	14.65	4201	TELANGANA	4201	TS_SPDCL				
TO 424006	MAMIDIPALLI	400.00	3	-188.6	-15.7	189.2	60 1.0000UN		0.73	14.65	4201	TELANGANA	4201	TS_SPDCL				
TO 424006	MAMIDIPALLI	400.00	4	-188.6	-15.7	189.2	60 1.0000UN		0.73	14.65	4201	TELANGANA	4201	TS_SPDCL				
BUS 422032	BHEEMGAL	220.00	CKT	MW	MVAR	MVA	% 0.9847PU	-30.53	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422032
							216.63KV			MW	MVAR	4201	TELANGANA	4203	TS_NPDCL			
TO 421006	BHEEMGAL	132.00	1	69.7	13.5	71.0	44 1.0000LK		0.81	4.10	4201	TELANGANA	4203	TS_NPDCL				
TO 421006	BHEEMGAL	132.00	2	43.6	8.4	44.4	44 1.0000LK		0.51	2.56	4201	TELANGANA	4203	TS_NPDCL				
TO 421006	BHEEMGAL	132.00	3	69.7	13.5	71.0	44 1.0000LK		0.81	4.10	4201	TELANGANA	4203	TS_NPDCL				
TO 422015	DICHPALLY	220.00	Z1	-141.2	-38.4	146.4	70		0.94	4.89	4201	TELANGANA	4203	TS_NPDCL				
TO 422125	RAMPUR_LIS	220.00	Z1	-41.8	2.9	41.9	20		0.16	0.85	4201	TELANGANA	4205	TS_LIS				
BUS 422033	DINDI SS	220.00	CKT	MW	MVAR	MVA	% 0.9919PU	-25.82	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422033
							218.22KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO 412020	SRISAILAM RB	220.00	Z2	8.1	53.3	53.9	26		0.00	0.01	4101	ANDRAPRADESH	4117	AP-KURNOOL				
TO 422018	KALWAKURTHY	220.00	Z1	36.3	-5.2	36.6	18		0.05	0.27	4201	TELANGANA	4201	TS_SPDCL				
TO 422018	KALWAKURTHY	220.00	Z2	36.3	-5.2	36.6	18		0.05	0.27	4201	TELANGANA	4201	TS_SPDCL				
TO 422051	KMPALLY	220.00	M1	0.1	-5.6	5.6	2		0.00	0.00	4201	TELANGANA	4201	TS_SPDCL				
TO 422051	KMPALLY	220.00	M2	0.1	-5.6	5.6	2		0.00	0.00	4201	TELANGANA	4201	TS_SPDCL				

TO 422118	NAGARKURNOOL	220.00	M1	44.3	2.7	44.4	19		0.10	0.66	4201	TELANGANA	4201	TS_SPDCL					
TO 422118	NAGARKURNOOL	220.00	M2	44.3	2.7	44.4	19		0.10	0.66	4201	TELANGANA	4201	TS_SPDCL					
TO 422120	DOMALAPENTA	220.00	Z1	0.1	-5.5	5.5	3		0.00	0.00	4201	TELANGANA	4201	TS_SPDCL					
TO 424019	DINDI	400.00	1	-84.7	-15.8	86.2	27	1.0000UN	0.15	2.99	4201	TELANGANA	4201	TS_SPDCL					
TO 424019	DINDI	400.00	2	-84.7	-15.8	86.2	27	1.0000UN	0.15	2.99	4201	TELANGANA	4201	TS_SPDCL					
BUS 422034	NTPC 220 BUS	220.00	CKT																
				MW	MVAR	MVA	%	0.9929PU	-27.42	X---	LOSSES	---	X----	AREA	-----X	X----	ZONE	-----X	422034
								218.45KV											
TO 422009	RSS 220KV SS	220.00	T3	215.3	-1.9	215.3	46		0.05	0.24	4201	TELANGANA	4203	TS_NPDCL					
TO 422009	RSS 220KV SS	220.00	T4	215.3	-1.9	215.3	46		0.05	0.24	4201	TELANGANA	4203	TS_NPDCL					
TO 424002	RSTPS NTPC	400.00	4	-215.3	1.9	215.3	68	1.0000UN	0.93	18.65	4202	RGM-TPS	4202	RGM-TPS					
TO 424002	RSTPS NTPC	400.00	5	-215.3	1.9	215.3	68	1.0000UN	0.93	18.65	4202	RGM-TPS	4202	RGM-TPS					
BUS 422035	CHALAKURTHY	220.00	CKT																
				MW	MVAR	MVA	%	0.9981PU	-24.42	X---	LOSSES	---	X----	AREA	-----X	X----	ZONE	-----X	422035
								219.58KV											
TO 412021	TALLAPLLI	220.00	Z1	-131.7	-18.1	132.9	57		0.21	1.21	4101	ANDRAPRADESH	4114	AP-GUNTUR					
TO 421466	CHALAKURTHY	132.00	1	9.9	3.3	10.4	7	1.0000LK	0.02	0.09	4201	TELANGANA	4201	TS_SPDCL					
TO 421466	CHALAKURTHY	132.00	2	9.9	3.3	10.4	7	1.0000LK	0.02	0.09	4201	TELANGANA	4201	TS_SPDCL					
TO 422006	MIRYALAGUDA	220.00	Z1	47.0	6.9	47.5	23		0.19	1.02	4201	TELANGANA	4201	TS_SPDCL					
TO 422008	NGRJNA SAGAR	220.00	H1	-118.8	5.7	118.9	22		0.31	1.73	4201	TELANGANA	4201	TS_SPDCL					
TO 422038	PUTTAMGANDI	220.00	Z1	20.8	-3.3	21.0	10		0.01	0.07	4201	TELANGANA	4205	TS_LIS					
TO 422051	KMPALLY	220.00	M1	75.0	2.5	75.1	32		0.29	1.87	4201	TELANGANA	4201	TS_SPDCL					
TO 422051	KMPALLY	220.00	M2	75.0	2.5	75.1	32		0.29	1.87	4201	TELANGANA	4201	TS_SPDCL					
TO 422079	PULIYATHANDA	220.00	Z1	12.9	-2.9	13.2	6		0.00	0.03	4201	TELANGANA	4205	TS_LIS					
BUS 422036	JAGTYALA	220.00	CKT																
				MW	MVAR	MVA	%	0.9885PU	-29.34	X---	LOSSES	---	X----	AREA	-----X	X----	ZONE	-----X	422036
								217.47KV											
TO 421134	JAGTYAL1	132.00	1	40.8	8.8	41.7	42	1.0000LK	0.44	2.24	4201	TELANGANA	4203	TS_NPDCL					
TO 421134	JAGTYAL1	132.00	2	40.8	8.8	41.7	42	1.0000LK	0.44	2.24	4201	TELANGANA	4203	TS_NPDCL					
TO 421134	JAGTYAL1	132.00	3	40.8	8.8	41.7	42	1.0000LK	0.44	2.24	4201	TELANGANA	4203	TS_NPDCL					
TO 421134	JAGTYAL1	132.00	4	65.2	14.1	66.7	42	1.0000LK	0.71	3.59	4201	TELANGANA	4203	TS_NPDCL					
TO 422009	RSS 220KV SS	220.00	Z1	-56.4	-0.6	56.4	27		0.35	1.83	4201	TELANGANA	4203	TS_NPDCL					
TO 422009	RSS 220KV SS	220.00	Z2	-58.2	-2.3	58.3	28		0.29	1.89	4201	TELANGANA	4203	TS_NPDCL					
TO 422009	RSS 220KV SS	220.00	Z3	-54.5	-2.8	54.6	26		0.27	1.77	4201	TELANGANA	4203	TS_NPDCL					
TO 422025	NIRMAL	220.00	Z1	13.3	-18.5	22.8	11		0.03	0.22	4201	TELANGANA	4203	TS_NPDCL					
TO 422057	VEMANOOR	220.00	Z1	-40.3	3.4	40.5	19		0.12	0.65	4201	TELANGANA	4205	TS_LIS					
TO 422111	NIRMAL_NEW	220.00	M2	8.7	-19.7	21.6	9		0.03	0.18	4201	TELANGANA	4203	TS_NPDCL					
BUS 422037	HIAL	220.00	CKT																
				MW	MVAR	MVA	%	0.9839PU	-30.87	X---	LOSSES	---	X----	AREA	-----X	X----	ZONE	-----X	422037
								216.45KV											
TO LOAD-PQ				17.3	2.5	17.5													
TO 422002	CHNDRYNGUTTA	220.00	Z1	97.2	-15.0	98.3	47		0.29	1.54	4201	TELANGANA	4201	TS_SPDCL					
TO 422031	MMP 220 BUS	220.00	H1	-161.9	-12.3	162.4	30		0.11	0.57	4201	TELANGANA	4201	TS_SPDCL					
TO 422031	MMP 220 BUS	220.00	H2	-161.9	-12.3	162.4	30		0.11	0.57	4201	TELANGANA	4201	TS_SPDCL					

TO 422039	SIVARAMPALLI	220.00	H1	209.4	37.2	212.6	40		1.12	5.90	4201	TELANGANA	4201	TS_SPDCL					
BUS 422038	PUTTAMGANDI	220.00	CKT		MW	MVAR	MVA	% 0.9978PU 219.52KV	-24.60	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422038
TO LOAD-PQ				28.8	0.0	28.8													
TO 422035	CHALAKURTHY	220.00	Z1	-20.8	0.8	20.8	10		0.01	0.07	4201	TELANGANA	4201	TS_SPDCL					
TO 422079	PULIYATHANDA	220.00	Z1	-8.0	-0.8	8.1	4		0.00	0.01	4201	TELANGANA	4205	TS_LIS					
BUS 422039	SIVARAMPALLI	220.00	CKT		MW	MVAR	MVA	% 0.9742PU 214.33KV	-32.39	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422039
TO 421065	SIVARAMPALLY	132.00	1	49.7	9.8	50.7	51	1.0000LK	0.68	3.41	4201	TELANGANA	4201	TS_SPDCL					
TO 421065	SIVARAMPALLY	132.00	2	79.5	15.6	81.0	51	1.0000LK	1.08	5.45	4201	TELANGANA	4201	TS_SPDCL					
TO 421065	SIVARAMPALLY	132.00	3	79.5	15.6	81.0	51	1.0000LK	1.08	5.45	4201	TELANGANA	4201	TS_SPDCL					
TO 421065	SIVARAMPALLY	132.00	4	79.5	15.6	81.0	51	1.0000LK	1.08	5.45	4201	TELANGANA	4201	TS_SPDCL					
TO 422031	MMP 220 BUS	220.00	H1	-198.8	-30.1	201.0	38		1.19	6.33	4201	TELANGANA	4201	TS_SPDCL					
TO 422037	HIAL	220.00	H1	-208.2	-33.3	210.9	40		1.12	5.90	4201	TELANGANA	4201	TS_SPDCL					
TO 422144	RAIDURG	220.00	Z1	63.3	2.1	63.4	30		0.11	0.60	4201	TELANGANA	4204	TS_GHMC					
TO 422167	NEMALINAGAR	220.00	Z1	55.5	4.7	55.7	27		0.08	0.45	4201	TELANGANA	4201	TS_SPDCL					
BUS 422040	NAGARAM	220.00	CKT		MW	MVAR	MVA	% 0.9914PU 218.10KV	-27.71	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422040
TO LOAD-PQ				26.4	6.9	27.2													
TO 421445	NAGARAM	132.00	1	60.3	16.6	62.6	63	1.0000LK	1.00	5.02	4201	TELANGANA	4203	TS_NPDCL					
TO 421445	NAGARAM	132.00	2	60.3	16.6	62.6	63	1.0000LK	1.00	5.02	4201	TELANGANA	4203	TS_NPDCL					
TO 422013	WARANGAL	220.00	H1	139.2	36.3	143.9	27		0.47	2.41	4201	TELANGANA	4203	TS_NPDCL					
TO 422013	WARANGAL	220.00	H2	139.2	36.3	143.9	27		0.47	2.41	4201	TELANGANA	4203	TS_NPDCL					
TO 422044	PULAKURTHY	220.00	Z1	-40.9	-9.3	41.9	20		0.02	0.09	4201	TELANGANA	4205	TS_LIS					
TO 422044	PULAKURTHY	220.00	Z2	-40.9	-9.3	41.9	20		0.02	0.09	4201	TELANGANA	4205	TS_LIS					
TO 422052	OGLAPUR	220.00	T1	-169.2	-39.3	173.7	37		0.28	1.59	4201	TELANGANA	4203	TS_NPDCL					
TO 422052	OGLAPUR	220.00	T2	-169.2	-39.3	173.7	37		0.28	1.59	4201	TELANGANA	4203	TS_NPDCL					
TO 422077	MANTHANI	220.00	Z1	-1.2	-7.6	7.7	4		0.00	0.00	4201	TELANGANA	4203	TS_NPDCL					
TO 422122	RFCL	220.00	Z1	-4.1	-8.0	9.0	4		0.00	0.02	4201	TELANGANA	4203	TS_NPDCL					
BUS 422041	GJWL 220 BUS	220.00	CKT		MW	MVAR	MVA	% 0.9843PU 216.54KV	-30.86	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422041
TO 421100	GAJWEL132BUS	132.00	1	105.6	30.1	109.8	69	1.0000LK	1.95	9.81	4201	TELANGANA	4201	TS_SPDCL					
TO 421100	GAJWEL132BUS	132.00	2	105.6	30.1	109.8	69	1.0000LK	1.95	9.81	4201	TELANGANA	4201	TS_SPDCL					
TO 421100	GAJWEL132BUS	132.00	3	105.6	30.1	109.8	69	1.0000LK	1.95	9.81	4201	TELANGANA	4201	TS_SPDCL					
TO 422022	SIDDIPET	220.00	M1	57.8	13.3	59.3	25		0.17	1.20	4201	TELANGANA	4201	TS_SPDCL					
TO 422022	SIDDIPET	220.00	M2	57.8	13.3	59.3	25		0.17	1.20	4201	TELANGANA	4201	TS_SPDCL					
TO 422029	MEDCHAL	220.00	Z1	44.5	6.7	45.0	22		0.26	1.35	4201	TELANGANA	4201	TS_SPDCL					
TO 422029	MEDCHAL	220.00	Z2	44.5	6.7	45.0	22		0.26	1.35	4201	TELANGANA	4201	TS_SPDCL					
TO 422030	MINPUR	220.00	Z1	18.6	-11.1	21.7	10		0.05	0.28	4201	TELANGANA	4201	TS_SPDCL					
TO 422030	MINPUR	220.00	Z2	18.6	-11.1	21.7	10		0.05	0.28	4201	TELANGANA	4201	TS_SPDCL					

TO 422045	KAMAREDDY	220.00	Z1	42.8	-7.1	43.3	21		0.16	0.73	4201	TELANGANA	4203	TS_NPDCL				
TO 422067	KONDAPAKKA	220.00	M1	38.4	-4.1	38.6	16		0.05	0.33	4201	TELANGANA	4206	TS_WW				
TO 422135	AKKARAM	220.00	T1	73.2	-2.2	73.3	16		0.03	0.23	4201	TELANGANA	4205	TS_LIS				
TO 422135	AKKARAM	220.00	T2	73.2	-2.2	73.3	16		0.03	0.23	4201	TELANGANA	4205	TS_LIS				
TO 424008	GAJWEL	400.00	1	-152.0	-17.9	153.0	49	1.0000UN	0.48	9.59	4201	TELANGANA	4201	TS_SPDCL				
TO 424008	GAJWEL	400.00	2	-152.0	-17.9	153.0	49	1.0000UN	0.48	9.59	4201	TELANGANA	4201	TS_SPDCL				
TO 424008	GAJWEL	400.00	3	-241.2	-28.3	242.9	49	1.0000UN	0.76	15.22	4201	TELANGANA	4201	TS_SPDCL				
TO 424008	GAJWEL	400.00	4	-241.2	-28.3	242.9	49	1.0000UN	0.76	15.22	4201	TELANGANA	4201	TS_SPDCL				
BUS 422042	BHIMGANAPUR	220.00	CKT	MW	MVAR	MVA	% 0.9954PU	-27.39	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422042
							218.98KV			MW	MVAR	4201	TELANGANA			4205	TS_LIS	
TO LOAD-PQ				41.4	5.3	41.7												
TO 422043	GANGARAM	220.00	M1	27.8	3.5	28.0	12		0.06	0.29	4201	TELANGANA	4205	TS_LIS				
TO 422043	GANGARAM	220.00	M2	27.8	3.5	28.0	12		0.06	0.29	4201	TELANGANA	4205	TS_LIS				
TO 422147	KTPP	220.00	M1	-48.5	-6.2	48.9	21		0.06	0.76	4201	TELANGANA	4203	TS_NPDCL				
TO 422147	KTPP	220.00	M2	-48.5	-6.2	48.9	21		0.06	0.76	4201	TELANGANA	4203	TS_NPDCL				
BUS 422043	GANGARAM	220.00	CKT	MW	MVAR	MVA	% 0.9913PU	-27.92	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422043
							218.08KV			MW	MVAR	4201	TELANGANA			4205	TS_LIS	
TO LOAD-PQ				55.4	18.3	58.4												
TO 422042	BHIMGANAPUR	220.00	M1	-27.7	-9.1	29.2	12		0.06	0.29	4201	TELANGANA	4205	TS_LIS				
TO 422042	BHIMGANAPUR	220.00	M2	-27.7	-9.1	29.2	12		0.06	0.29	4201	TELANGANA	4205	TS_LIS				
BUS 422044	PULAKURTHY	220.00	CKT	MW	MVAR	MVA	% 0.9923PU	-27.60	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422044
							218.30KV			MW	MVAR	4201	TELANGANA			4205	TS_LIS	
TO LOAD-PQ				4.8	1.6	5.1												
TO 422040	NAGARAM	220.00	Z1	40.9	8.1	41.7	20		0.02	0.09	4201	TELANGANA	4203	TS_NPDCL				
TO 422040	NAGARAM	220.00	Z2	40.9	8.1	41.7	20		0.02	0.09	4201	TELANGANA	4203	TS_NPDCL				
TO 422053	SALIVAGU	220.00	M1	-42.0	-9.5	43.0	18		0.03	0.19	4201	TELANGANA	4205	TS_LIS				
TO 422147	KTPP	220.00	M1	-44.6	-8.4	45.4	19		0.13	0.88	4201	TELANGANA	4203	TS_NPDCL				
BUS 422045	KAMAREDDY	220.00	CKT	MW	MVAR	MVA	% 0.9818PU	-31.85	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422045
							215.99KV			MW	MVAR	4201	TELANGANA			4203	TS_NPDCL	
TO 421188	KMRDY 132 B	132.00	1	15.5	2.0	15.7	16	1.0000LK	0.06	0.32	4201	TELANGANA	4203	TS_NPDCL				
TO 421188	KMRDY 132 B	132.00	2	15.5	2.0	15.7	16	1.0000LK	0.06	0.32	4201	TELANGANA	4203	TS_NPDCL				
TO 421188	KMRDY 132 B	132.00	3	24.8	3.2	25.0	16	1.0000LK	0.10	0.51	4201	TELANGANA	4203	TS_NPDCL				
TO 422041	GJWL 220 BUS	220.00	Z1	-42.6	-1.3	42.6	20		0.16	0.73	4201	TELANGANA	4201	TS_SPDCL				
TO 422067	KONDAPAKKA	220.00	M1	-13.3	-5.9	14.6	6		0.02	0.12	4201	TELANGANA	4206	TS_WW				
BUS 422046	WANAPARTHY	220.00	CKT	MW	MVAR	MVA	% 0.9948PU	-25.29	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422046
							218.85KV			MW	MVAR	4201	TELANGANA			4201	TS_SPDCL	
TO 412074	BRAHMANKTKUR	220.00	M1	-108.4	21.3	110.5	47		0.37	1.98	4101	ANDRAPRADESH	4117	AP-KURNOOL				
TO 421068	WANPATHY	132.00	1	53.5	6.4	53.9	34	1.0000LK	0.46	2.31	4201	TELANGANA	4201	TS_SPDCL				
TO 421068	WANPATHY	132.00	2	53.5	6.4	53.9	34	1.0000LK	0.46	2.31	4201	TELANGANA	4201	TS_SPDCL				

TO 421068	WANPATHY	132.00	3	53.5	6.4	53.9	34	1.0000LK		0.46	2.31	4201	TELANGANA	4201	TS_SPDCL				
TO 422049	VLT 220 BUS	220.00	M1	-68.3	-18.9	70.9	30			0.13	0.80	4201	TELANGANA	4201	TS_SPDCL				
TO 422049	VLT 220 BUS	220.00	M2	-68.3	-18.9	70.9	30			0.13	0.80	4201	TELANGANA	4201	TS_SPDCL				
TO 422080	SINGOTTAM	220.00	Z1	84.5	-2.8	84.5	41			0.35	1.74	4201	TELANGANA	4201	TS_SPDCL				
BUS 422047	SHAMSHABAD	220.00	CKT		MW	MVAR	MVA	% 0.9811PU	-31.23	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422047
								215.85KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO 421148	SHAMSHABAD	132.00	1	28.7	6.9	29.5	29	1.0000LK		0.23	1.14	4201	TELANGANA	4201	TS_SPDCL				
TO 421148	SHAMSHABAD	132.00	2	28.7	6.9	29.5	29	1.0000LK		0.23	1.14	4201	TELANGANA	4201	TS_SPDCL				
TO 421148	SHAMSHABAD	132.00	3	45.8	11.1	47.1	29	1.0000LK		0.36	1.82	4201	TELANGANA	4201	TS_SPDCL				
TO 422031	MMP 220 BUS	220.00	Z1	-130.6	-20.5	132.2	64			0.29	1.36	4201	TELANGANA	4201	TS_SPDCL				
TO 422134	CHEGUR	220.00	M1	27.5	-4.3	27.8	12			0.02	0.14	4201	TELANGANA	4201	TS_SPDCL				
BUS 422048	SHADNAGAR	220.00	CKT		MW	MVAR	MVA	% 0.9817PU	-31.49	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422048
								215.97KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO 421179	SHADNAGAR	132.00	1	34.5	7.2	35.3	35	1.0000LK		0.32	1.61	4201	TELANGANA	4201	TS_SPDCL				
TO 421179	SHADNAGAR	132.00	2	54.8	11.5	55.9	35	1.0000LK		0.51	2.56	4201	TELANGANA	4201	TS_SPDCL				
TO 421179	SHADNAGAR	132.00	3	54.8	11.5	55.9	35	1.0000LK		0.51	2.56	4201	TELANGANA	4201	TS_SPDCL				
TO 422116	KETHIREDDYPA	220.00	M1	-28.4	-13.1	31.3	13			0.04	0.25	4201	TELANGANA	4201	TS_SPDCL				
TO 422134	CHEGUR	220.00	M1	9.0	6.8	11.3	5			0.00	0.01	4201	TELANGANA	4201	TS_SPDCL				
TO 422168	UDDANDAPUR	220.00	1	-62.3	-11.9	63.5	27			0.24	1.66	4201	TELANGANA	4201	TS_SPDCL				
TO 422168	UDDANDAPUR	220.00	2	-62.3	-11.9	63.5	27			0.24	1.66	4201	TELANGANA	4201	TS_SPDCL				
BUS 422049	VLT 220 BUS	220.00	CKT		MW	MVAR	MVA	% 0.9994PU	-24.69	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422049
								219.86KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO 422019	MBNR 220KVSS	220.00	Z1	100.5	5.7	100.6	48			0.53	2.76	4201	TELANGANA	4201	TS_SPDCL				
TO 422019	MBNR 220KVSS	220.00	Z2	100.5	5.7	100.6	48			0.53	2.76	4201	TELANGANA	4201	TS_SPDCL				
TO 422046	WANAPARTHY	220.00	M1	68.4	16.9	70.5	30			0.13	0.80	4201	TELANGANA	4201	TS_SPDCL				
TO 422046	WANAPARTHY	220.00	M2	68.4	16.9	70.5	30			0.13	0.80	4201	TELANGANA	4201	TS_SPDCL				
TO 422060	JURLA-SS	220.00	M1	-8.0	-1.4	8.1	3			0.00	0.02	4201	TELANGANA	4201	TS_SPDCL				
TO 422061	LOWER JURALA	220.00	M1	-26.0	-0.7	26.0	11			0.02	0.15	4201	TELANGANA	4201	TS_SPDCL				
TO 422081	GPGATTU	220.00	M1	89.6	0.2	89.6	38			0.46	3.00	4201	TELANGANA	4205	TS_LIS				
TO 422081	GPGATTU	220.00	M2	89.6	0.2	89.6	38			0.46	3.00	4201	TELANGANA	4205	TS_LIS				
TO 422090	AKSHAY_VLT	220.00	M1	-84.9	3.9	85.0	36			0.08	0.53	4201	TELANGANA	4201	TS_SPDCL				
TO 422096	THIMMAJIPET	220.00	T1	95.7	8.0	96.0	21			0.23	2.19	4201	TELANGANA	4201	TS_SPDCL				
TO 422096	THIMMAJIPET	220.00	T2	95.7	8.0	96.0	21			0.23	2.19	4201	TELANGANA	4201	TS_SPDCL				
TO 422097	TRANFRM_VLT	220.00	M1	-85.0	-20.2	87.3	37			0.02	0.14	4201	TELANGANA	4201	TS_SPDCL				
TO 422100	SUZLON_VLT	220.00	M1	-84.9	4.0	85.0	36			0.08	0.51	4201	TELANGANA	4201	TS_SPDCL				
TO 422103	RENEW_VLT_2	220.00	M1	-84.9	4.7	85.0	36			0.09	0.57	4201	TELANGANA	4201	TS_SPDCL				
TO 424001	VELTOOR	400.00	1	-102.6	-15.9	103.9	21	1.0000UN		0.13	2.70	4201	TELANGANA	4201	TS_SPDCL				
TO 424001	VELTOOR	400.00	2	-102.6	-15.9	103.9	21	1.0000UN		0.13	2.70	4201	TELANGANA	4201	TS_SPDCL				
TO 424001	VELTOOR	400.00	3	-64.7	-10.0	65.4	21	1.0000UN		0.08	1.70	4201	TELANGANA	4201	TS_SPDCL				
TO 424001	VELTOOR	400.00	4	-64.7	-10.0	65.4	21	1.0000UN		0.08	1.70	4201	TELANGANA	4201	TS_SPDCL				

BUS 422050	UPPER JURALA	220.00	CKT	MW	MVAR	MVA	% 1.0000	PU	-24.52	X---	LOSSES	---	X---	AREA	-----	X	X---	ZONE	-----	X	422050
FROM GENERATION				163.8	52.0R	171.9	62	220.00KV						MW	MVAR	4201	TELANGANA	4201	TS_SPDCL		
TO 422060	JURLA-SS	220.00	M1	81.9	26.0	85.9	37				0.01	0.10	4201	TELANGANA	4201	TS_SPDCL					
TO 422060	JURLA-SS	220.00	M2	81.9	26.0	85.9	37				0.01	0.10	4201	TELANGANA	4201	TS_SPDCL					
BUS 422051	KMPALLY	220.00	CKT	MW	MVAR	MVA	% 0.9928	PU	-25.83	X---	LOSSES	---	X---	AREA	-----	X	X---	ZONE	-----	X	422051
						218.41KV								MW	MVAR	4201	TELANGANA	4201	TS_SPDCL		
TO 421187	KONAMLI1	132.00	1	37.4	2.7	37.5	37	1.0000LK			0.36	1.80	4201	TELANGANA	4201	TS_SPDCL					
TO 421187	KONAMLI1	132.00	2	37.4	2.7	37.5	37	1.0000LK			0.36	1.80	4201	TELANGANA	4201	TS_SPDCL					
TO 421187	KONAMLI1	132.00	3	37.4	2.7	37.5	37	1.0000LK			0.36	1.80	4201	TELANGANA	4201	TS_SPDCL					
TO 421187	KONAMLI1	132.00	4	37.4	2.7	37.5	37	1.0000LK			0.36	1.80	4201	TELANGANA	4201	TS_SPDCL					
TO 422033	DINDI SS	220.00	M1	-0.1	1.0	1.0	0				0.00	0.00	4201	TELANGANA	4201	TS_SPDCL					
TO 422033	DINDI SS	220.00	M2	-0.1	1.0	1.0	0				0.00	0.00	4201	TELANGANA	4201	TS_SPDCL					
TO 422035	CHALAKURTHY	220.00	M1	-74.7	-6.3	75.0	32				0.29	1.87	4201	TELANGANA	4201	TS_SPDCL					
TO 422035	CHALAKURTHY	220.00	M2	-74.7	-6.3	75.0	32				0.29	1.87	4201	TELANGANA	4201	TS_SPDCL					
BUS 422052	OGLAPUR	220.00	CKT	MW	MVAR	MVA	% 0.9950	PU	-27.23	X---	LOSSES	---	X---	AREA	-----	X	X---	ZONE	-----	X	422052
						218.89KV								MW	MVAR	4201	TELANGANA	4203	TS_NPDCL		
TO 422040	NAGARAM	220.00	T1	169.5	40.0	174.1	37				0.28	1.59	4201	TELANGANA	4203	TS_NPDCL					
TO 422040	NAGARAM	220.00	T2	169.5	40.0	174.1	37				0.28	1.59	4201	TELANGANA	4203	TS_NPDCL					
TO 422065	BOMMAKAL	220.00	M1	58.3	1.4	58.3	25				0.29	1.90	4201	TELANGANA	4206	TS_WW					
TO 422099	HUZURABAD	220.00	M1	167.8	29.7	170.4	73				1.53	9.88	4201	TELANGANA	4203	TS_NPDCL					
TO 424010	WARANGAL	400.00	1	-157.5	-31.0	160.5	51	1.0000UN			0.00	10.33	4201	TELANGANA	4203	TS_NPDCL					
TO 424010	WARANGAL	400.00	2	-157.5	-31.0	160.5	51	1.0000UN			0.00	10.33	4201	TELANGANA	4203	TS_NPDCL					
TO 424010	WARANGAL	400.00	3	-250.0	-49.2	254.8	51	1.0000UN			0.00	16.39	4201	TELANGANA	4203	TS_NPDCL					
BUS 422053	SALIVAGU	220.00	CKT	MW	MVAR	MVA	% 0.9938	PU	-27.36	X---	LOSSES	---	X---	AREA	-----	X	X---	ZONE	-----	X	422053
						218.64KV								MW	MVAR	4201	TELANGANA	4205	TS_LIS		
TO LOAD-PQ				10.0	3.3	10.5															
TO 422044	PULAKURTHY	220.00	M1	42.0	7.9	42.7	18				0.03	0.19	4201	TELANGANA	4205	TS_LIS					
TO 422147	KTPP	220.00	M1	-52.0	-11.2	53.2	23				0.06	0.81	4201	TELANGANA	4203	TS_NPDCL					
BUS 422054	SHANKARPALLY	220.00	CKT	MW	MVAR	MVA	% 0.9858	PU	-31.31	X---	LOSSES	---	X---	AREA	-----	X	X---	ZONE	-----	X	422054
						216.87KV								MW	MVAR	4201	TELANGANA	4201	TS_SPDCL		
TO 422001	TANDUR	220.00	Z1	48.7	-16.2	51.3	25				0.27	1.77	4201	TELANGANA	4201	TS_SPDCL					
TO 422014	YEDUMRAM	220.00	M2	69.7	10.1	70.4	30				0.06	0.40	4201	TELANGANA	4201	TS_SPDCL					
TO 422014	YEDUMRAM	220.00	Z1	73.2	7.2	73.6	35				0.08	0.42	4201	TELANGANA	4201	TS_SPDCL					
TO 422017	GACIBWLI	220.00	H2	161.6	47.0	168.3	32				0.97	5.54	4201	TELANGANA	4201	TS_SPDCL					
TO 422063	SADASIVPET	220.00	H1	36.9	-12.3	38.8	7				0.10	0.47	4201	TELANGANA	4201	TS_SPDCL					
TO 422063	SADASIVPET	220.00	H2	36.9	-12.3	38.8	7				0.10	0.47	4201	TELANGANA	4201	TS_SPDCL					
TO 422083	PARIGI 220KV	220.00	M1	16.7	3.6	17.1	7				0.02	0.12	4201	TELANGANA	4201	TS_SPDCL					
TO 422083	PARIGI 220KV	220.00	M2	16.7	3.6	17.1	7				0.02	0.12	4201	TELANGANA	4201	TS_SPDCL					
TO 422116	KETHIREDDYPA	220.00	M1	-15.9	0.4	15.9	7				0.01	0.06	4201	TELANGANA	4201	TS_SPDCL					
TO 422153	KOLLUR	220.00	H1	181.3	53.2	189.0	35				0.65	3.71	4201	TELANGANA	4201	TS_SPDCL					

TO 424013	SHANKARPALLI400.00	1	-136.4	-18.4	137.7	44	1.0000UN		0.39	7.74	4201	TELANGANA	4201	TS_SPDCL				
TO 424013	SHANKARPALLI400.00	2	-136.4	-18.4	137.7	44	1.0000UN		0.39	7.74	4201	TELANGANA	4201	TS_SPDCL				
TO 424013	SHANKARPALLI400.00	3	-136.4	-18.4	137.7	44	1.0000UN		0.39	7.74	4201	TELANGANA	4201	TS_SPDCL				
TO 424013	SHANKARPALLI400.00	4	-216.6	-29.2	218.5	44	1.0000UN		0.61	12.28	4201	TELANGANA	4201	TS_SPDCL				
BUS 422055	MANDAMARRI	220.00	CKT	MW	MVAR	MVA	% 0.9919PU	-28.32	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422055
							218.22KV											
TO 421007	MNDMRRI_132	132.00	1	27.0	-1.4	27.0	27	1.0000LK		0.19	0.93	4201	TELANGANA	4203	TS_NPDCL			
TO 421007	MNDMRRI_132	132.00	2	27.0	-1.4	27.0	27	1.0000LK		0.19	0.93	4201	TELANGANA	4203	TS_NPDCL			
TO 421007	MNDMRRI_132	132.00	3	27.0	-1.4	27.0	27	1.0000LK		0.19	0.93	4201	TELANGANA	4203	TS_NPDCL			
TO 422009	RSS 220KV	SS220.00	M1	-47.2	2.4	47.3	20			0.11	0.69	4201	TELANGANA	4203	TS_NPDCL			
TO 422078	MURMUR	220.00	M1	-33.7	1.8	33.7	14			0.04	0.27	4201	TELANGANA	4206	TS_WW			
BUS 422056	MEDARAM	220.00	CKT	MW	MVAR	MVA	% 0.9916PU	-28.04	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422056
							218.15KV											
TO LOAD-PQ				25.3	8.3	26.6												
TO 422009	RSS 220KV	SS220.00	Z1	-79.8	-1.5	79.8	38			0.09	0.79	4201	TELANGANA	4203	TS_NPDCL			
TO 422151	KATHALAPUR	220.00	Z1	54.5	-6.8	55.0	26			0.29	1.67	4201	TELANGANA	4203	TS_NPDCL			
BUS 422057	VEMANOOR	220.00	CKT	MW	MVAR	MVA	% 0.9890PU	-28.42	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422057
							217.59KV											
TO LOAD-PQ				36.8	12.1	38.8												
TO 422009	RSS 220KV	SS220.00	Z1	-77.2	-3.2	77.3	37			0.26	1.28	4201	TELANGANA	4203	TS_NPDCL			
TO 422036	JAGTYALA	220.00	Z1	40.4	-9.0	41.4	20			0.12	0.65	4201	TELANGANA	4203	TS_NPDCL			
BUS 422058	GUNROCK	220.00	CKT	MW	MVAR	MVA	% 0.9742PU	-32.18	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422058
							214.32KV											
TO 421081	GUNROCK	132.00	1	76.1	12.7	77.2	48	1.0000LK		0.98	4.95	4201	TELANGANA	4201	TS_SPDCL			
TO 421081	GUNROCK	132.00	2	76.1	12.7	77.2	48	1.0000LK		0.98	4.95	4201	TELANGANA	4201	TS_SPDCL			
TO 421081	GUNROCK	132.00	3	76.1	12.7	77.2	48	1.0000LK		0.98	4.95	4201	TELANGANA	4201	TS_SPDCL			
TO 422024	MALKARAM	220.00	C1	-124.2	-19.2	125.7	43			0.13	1.00	4201	TELANGANA	4201	TS_SPDCL			
TO 422024	MALKARAM	220.00	C2	-124.2	-19.2	125.7	43			0.13	1.00	4201	TELANGANA	4201	TS_SPDCL			
TO 422154	SAINIKPURI	220.00	MC	20.0	0.1	20.0	9			0.01	0.03	4201	TELANGANA	4201	TS_SPDCL			
BUS 422059	NBEIL	220.00	CKT	MW	MVAR	MVA	% 1.0014PU	-24.06	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422059
	FROM GENERATION			127.5	-15.0L	128.4	73	220.30KV										
TO 422023	BPD 220KV	SS220.00	M1	63.8	-7.5	64.2	27			0.40	2.08	4201	TELANGANA	4203	TS_NPDCL			
TO 422023	BPD 220KV	SS220.00	M2	63.8	-7.5	64.2	27			0.40	2.08	4201	TELANGANA	4203	TS_NPDCL			
BUS 422060	JURLA-SS	220.00	CKT	MW	MVAR	MVA	% 0.9995PU	-24.58	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422060
							219.89KV											
TO 421213	JURALA 132	B132.00	1	43.1	7.1	43.7	44	1.0000LK		0.48	2.41	4201	TELANGANA	4201	TS_SPDCL			
TO 421213	JURALA 132	B132.00	2	69.0	11.4	69.9	44	1.0000LK		0.76	3.85	4201	TELANGANA	4201	TS_SPDCL			
TO 421213	JURALA 132	B132.00	3	69.0	11.4	69.9	44	1.0000LK		0.76	3.85	4201	TELANGANA	4201	TS_SPDCL			

TO 421213	JURALA 132 B132.00	4	69.0	11.4	69.9	44	1.0000LK	0.76	3.85	4201	TELANGANA	4201	TS_SPDCL				
TO 422049	VLT 220 BUS 220.00	M1	8.0	-2.9	8.5	4		0.00	0.02	4201	TELANGANA	4201	TS_SPDCL				
TO 422050	UPPER JURALA220.00	M1	-81.9	-26.1	86.0	37		0.01	0.10	4201	TELANGANA	4201	TS_SPDCL				
TO 422050	UPPER JURALA220.00	M2	-81.9	-26.1	86.0	37		0.01	0.10	4201	TELANGANA	4201	TS_SPDCL				
TO 422061	LOWER JURALA220.00	M1	-47.1	0.7	47.1	20		0.03	0.18	4201	TELANGANA	4201	TS_SPDCL				
TO 422061	LOWER JURALA220.00	M2	-47.7	0.8	47.7	20		0.03	0.19	4201	TELANGANA	4201	TS_SPDCL				
TO 422061	LOWER JURALA220.00	M3	-47.1	0.7	47.1	20		0.03	0.18	4201	TELANGANA	4201	TS_SPDCL				
TO 422069	NETTEMPADU 220.00	Z1	31.7	8.5	32.8	16		0.01	0.05	4201	TELANGANA	4205	TS_LIS				
TO 422086	NETTEMPADU-2220.00	Z1	15.9	3.1	16.2	8		0.01	0.03	4201	TELANGANA	4205	TS_LIS				
BUS 422061	LOWER JURALA220.00	CKT	MW	MVAR	MVA	% 1.0000PU	-24.35	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422061
FROM GENERATION			168.0	-9.1R	168.2	61	220.00KV		MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO 422049	VLT 220 BUS 220.00	M1	26.0	-3.2	26.2	11		0.02	0.15	4201	TELANGANA	4201	TS_SPDCL				
TO 422060	JURLA-SS 220.00	M1	47.1	-2.0	47.2	20		0.03	0.18	4201	TELANGANA	4201	TS_SPDCL				
TO 422060	JURLA-SS 220.00	M2	47.7	-2.1	47.8	20		0.03	0.19	4201	TELANGANA	4201	TS_SPDCL				
TO 422060	JURLA-SS 220.00	M3	47.1	-2.0	47.2	20		0.03	0.18	4201	TELANGANA	4201	TS_SPDCL				
BUS 422063	SADASIVPET 220.00	CKT	MW	MVAR	MVA	% 0.9865PU	-32.03	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422063
						217.03KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO 421056	SADSIPET 132.00	1	25.6	-4.0	25.9	16	1.0000LK	0.11	0.54	4201	TELANGANA	4201	TS_SPDCL				
TO 421056	SADSIPET 132.00	2	25.6	-4.0	25.9	16	1.0000LK	0.11	0.54	4201	TELANGANA	4201	TS_SPDCL				
TO 421056	SADSIPET 132.00	3	16.0	-2.5	16.2	16	1.0000LK	0.07	0.34	4201	TELANGANA	4201	TS_SPDCL				
TO 422054	SHANKARPALLY220.00	H1	-36.8	7.7	37.5	7		0.10	0.47	4201	TELANGANA	4201	TS_SPDCL				
TO 422054	SHANKARPALLY220.00	H2	-36.8	7.7	37.5	7		0.10	0.47	4201	TELANGANA	4201	TS_SPDCL				
TO 422161	CHELMEDA 220.00	M1	3.1	-2.5	4.0	2		0.00	0.00	4201	TELANGANA	4205	TS_LIS				
TO 422161	CHELMEDA 220.00	M2	3.1	-2.5	4.0	2		0.00	0.00	4201	TELANGANA	4205	TS_LIS				
BUS 422064	MALLARAM 220.00	CKT	MW	MVAR	MVA	% 0.9774PU	-31.72	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422064
						215.03KV			MW	MVAR	4201	TELANGANA	4206	TS_WW			
TO LOAD-PQ			25.0	3.8	25.3												
TO 422022	SIDDIPET 220.00	Z1	18.0	-0.1	18.0	9		0.01	0.07	4201	TELANGANA	4201	TS_SPDCL				
TO 422139	DURSHED-2 220.00	Z1	-43.0	-3.7	43.2	21		0.19	1.01	4201	TELANGANA	4203	TS_NPDCL				
BUS 422065	BOMMAKAL 220.00	CKT	MW	MVAR	MVA	% 0.9871PU	-29.05	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422065
						217.17KV			MW	MVAR	4201	TELANGANA	4206	TS_WW			
TO LOAD-PQ			58.0	9.0	58.7												
TO 422052	OGLAPUR 220.00	M1	-58.0	-9.0	58.7	25		0.29	1.90	4201	TELANGANA	4203	TS_NPDCL				
BUS 422066	OSMANIA 220.00	CKT	MW	MVAR	MVA	% 0.9942PU	-32.19	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422066
						218.73KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO 421205	OSMANIA 132.00	1	73.8	10.7	74.6	47	1.0000LK	0.88	4.44	4201	TELANGANA	4201	TS_SPDCL				
TO 421205	OSMANIA 132.00	2	73.8	10.7	74.6	47	1.0000LK	0.88	4.44	4201	TELANGANA	4201	TS_SPDCL				
TO 422075	NAGOLE 220.00	C1	-73.8	-10.7	74.6	25		0.02	0.13	4201	TELANGANA	4201	TS_SPDCL				
TO 422075	NAGOLE 220.00	C2	-73.8	-10.7	74.6	25		0.02	0.13	4201	TELANGANA	4201	TS_SPDCL				

BUS 422067	KONDAPAKKA	220.00	CKT	MW	MVAR	MVA	% 0.9835PU	-31.35	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422067
							216.38KV			MW	MVAR	4201	TELANGANA		4206	TS_WW		
TO LOAD-PQ				25.0	3.8	25.3												
TO 422041	GJWL 220	BUS220.00	M1	-38.3	0.8	38.3	16			0.05	0.33	4201	TELANGANA		4201	TS_SPDCL		
TO 422045	KAMAREDDY	220.00	M1	13.3	-4.6	14.1	6			0.02	0.12	4201	TELANGANA		4203	TS_NPDCL		
BUS 422068	BONGLUR	220.00	CKT	MW	MVAR	MVA	% 0.9848PU	-31.21	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422068
							216.65KV			MW	MVAR	4201	TELANGANA		4201	TS_SPDCL		
TO 421206	BONGLUR	132.00	1	57.4	12.4	58.7	59	1.0000LK		0.89	4.48	4201	TELANGANA		4201	TS_SPDCL		
TO 421206	BONGLUR	132.00	2	57.4	12.4	58.7	59	1.0000LK		0.89	4.48	4201	TELANGANA		4201	TS_SPDCL		
TO 422002	CHNDRYNGUTTA	220.00	Z1	87.0	-4.8	87.2	42			0.17	0.87	4201	TELANGANA		4201	TS_SPDCL		
TO 422002	CHNDRYNGUTTA	220.00	Z2	87.0	-4.8	87.2	42			0.17	0.87	4201	TELANGANA		4201	TS_SPDCL		
TO 422098	MAHES_220	220.00	Z1	-144.4	-7.6	144.6	70			0.93	5.02	4201	TELANGANA		4201	TS_SPDCL		
TO 422098	MAHES_220	220.00	Z2	-144.4	-7.6	144.6	70			0.93	5.02	4201	TELANGANA		4201	TS_SPDCL		
BUS 422069	NETTEMPADU	220.00	CKT	MW	MVAR	MVA	% 0.9988PU	-24.66	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422069
							219.73KV			MW	MVAR	4201	TELANGANA		4205	TS_LIS		
TO LOAD-PQ				27.2	9.0	28.6												
TO 422060	JURLA-SS	220.00	Z1	-31.7	-9.3	33.0	16			0.01	0.05	4201	TELANGANA		4201	TS_SPDCL		
TO 422086	NETTEMPADU-	220.00	Z1	4.5	0.3	4.5	2			0.00	0.00	4201	TELANGANA		4205	TS_LIS		
BUS 422070	REGIMANUGADD	220.00	CKT	MW	MVAR	MVA	% 0.9911PU	-27.06	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422070
							218.04KV			MW	MVAR	4201	TELANGANA		4205	TS_LIS		
TO LOAD-PQ				60.0	0.0	60.0												
TO 422080	SINGOTTAM	220.00	Z1	-51.8	9.0	52.6	25			0.11	0.53	4201	TELANGANA		4201	TS_SPDCL		
TO 422082	JBOGUDA	220.00	Z1	-2.7	-6.1	6.7	3			0.00	0.00	4201	TELANGANA		4205	TS_LIS		
TO 422101	YELLUR	220.00	Z1	-5.5	-2.9	6.2	3			0.00	0.00	4201	TELANGANA		4206	TS_WW		
BUS 422071	FABCITY	220.00	CKT	MW	MVAR	MVA	% 0.9852PU	-30.59	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422071
							216.74KV			MW	MVAR	4201	TELANGANA		4201	TS_SPDCL		
TO 421207	FABCITY	132.00	1	52.6	9.9	53.6	54	1.0000LK		0.74	3.73	4201	TELANGANA		4201	TS_SPDCL		
TO 421207	FABCITY	132.00	2	52.6	9.9	53.6	54	1.0000LK		0.74	3.73	4201	TELANGANA		4201	TS_SPDCL		
TO 421207	FABCITY	132.00	3	84.2	15.9	85.7	54	1.0000LK		1.18	5.96	4201	TELANGANA		4201	TS_SPDCL		
TO 422031	MMP 220	BUS 220.00	M1	29.5	3.7	29.7	13			0.01	0.04	4201	TELANGANA		4201	TS_SPDCL		
TO 422031	MMP 220	BUS 220.00	M2	29.5	3.7	29.7	13			0.01	0.04	4201	TELANGANA		4201	TS_SPDCL		
TO 422098	MAHES_220	220.00	M1	-124.2	-21.6	126.1	54			0.47	3.08	4201	TELANGANA		4201	TS_SPDCL		
TO 422098	MAHES_220	220.00	M2	-124.2	-21.6	126.1	54			0.47	3.08	4201	TELANGANA		4201	TS_SPDCL		
BUS 422072	ERRAGADDA	220.00	CKT	MW	MVAR	MVA	% 0.9648PU	-33.89	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422072
							212.26KV			MW	MVAR	4201	TELANGANA		4201	TS_SPDCL		
TO 421283	ERGD GIS	132132.00	1	73.4	13.0	74.5	47	1.0000LK		0.93	4.70	4201	TELANGANA		4201	TS_SPDCL		
TO 421283	ERGD GIS	132132.00	2	73.4	13.0	74.5	47	1.0000LK		0.93	4.70	4201	TELANGANA		4201	TS_SPDCL		
TO 421283	ERGD GIS	132132.00	3	73.4	13.0	74.5	47	1.0000LK		0.93	4.70	4201	TELANGANA		4201	TS_SPDCL		

TO 422011	SHAPURNGR	220.00	Z1	-95.9	-9.3	96.3	46		0.19	1.06	4201	TELANGANA	4201	TS_SPDCL					
TO 422144	RAIDURG	220.00	Z1	-124.2	-29.6	127.7	61		0.43	2.30	4201	TELANGANA	4204	TS_GHMC					
BUS 422073	MIYAPUR	220.00	CKT		MW	MVAR	MVA	% 0.9666PU	-33.55	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422073
								212.65KV											
TO 421208	MIYAPUR	132.00	1	70.9	13.1	72.1	45	1.0000LK	0.87	4.38	4201	TELANGANA	4201	TS_SPDCL					
TO 421208	MIYAPUR	132.00	2	70.9	13.1	72.1	45	1.0000LK	0.87	4.38	4201	TELANGANA	4201	TS_SPDCL					
TO 422011	SHAPURNGR	220.00	Z1	-67.7	-2.9	67.8	33		0.06	0.34	4201	TELANGANA	4201	TS_SPDCL					
TO 422144	RAIDURG	220.00	Z1	-74.0	-23.2	77.6	37		0.17	0.93	4201	TELANGANA	4204	TS_GHMC					
BUS 422074	SURYAPET	220.00	CKT		MW	MVAR	MVA	% 0.9936PU	-26.79	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422074
								218.59KV											
TO 412044	CHILLAKALLU	220.00	M1	-44.3	-8.5	45.1	19		0.04	0.22	4101	ANDRAPRADESH	4115	AP-KRISHNA					
TO 421214	SURYAPET BUS	132.00	1	83.8	19.1	86.0	54	1.0000LK	1.17	5.90	4201	TELANGANA	4201	TS_SPDCL					
TO 421214	SURYAPET BUS	132.00	2	83.8	19.1	86.0	54	1.0000LK	1.17	5.90	4201	TELANGANA	4201	TS_SPDCL					
TO 421214	SURYAPET BUS	132.00	3	83.8	19.1	86.0	54	1.0000LK	1.17	5.90	4201	TELANGANA	4201	TS_SPDCL					
TO 422006	MIRYALAGUDA	220.00	Z1	-42.4	12.3	44.1	21		0.18	0.97	4201	TELANGANA	4201	TS_SPDCL					
TO 422006	MIRYALAGUDA	220.00	Z2	-42.4	12.3	44.1	21		0.18	0.97	4201	TELANGANA	4201	TS_SPDCL					
TO 422023	BPD 220KV SS	220.00	Z1	-23.3	-6.9	24.3	12		0.06	0.34	4201	TELANGANA	4203	TS_NPDCL					
TO 422023	BPD 220KV SS	220.00	Z2	-23.3	-6.9	24.3	12		0.06	0.34	4201	TELANGANA	4203	TS_NPDCL					
TO 422026	NKP 220KVSS	220.00	M1	58.6	10.5	59.5	25		0.33	2.17	4201	TELANGANA	4201	TS_SPDCL					
TO 424016	SURYAPET	400.00	1	-37.5	-19.5	42.3	13	1.0000UN	0.04	0.72	4201	TELANGANA	4203	TS_NPDCL					
TO 424016	SURYAPET	400.00	2	-37.5	-19.5	42.3	13	1.0000UN	0.04	0.72	4201	TELANGANA	4203	TS_NPDCL					
TO 424016	SURYAPET	400.00	3	-59.5	-30.9	67.1	13	1.0000UN	0.06	1.14	4201	TELANGANA	4203	TS_NPDCL					
BUS 422075	NAGOLE	220.00	CKT		MW	MVAR	MVA	% 0.9945PU	-32.09	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422075
								218.78KV											
TO 421212	NAGOLE 132 B	132.00	1	47.2	6.3	47.6	30	1.0000LK	0.36	1.80	4201	TELANGANA	4201	TS_SPDCL					
TO 421212	NAGOLE 132 B	132.00	2	47.2	6.3	47.6	30	1.0000LK	0.36	1.80	4201	TELANGANA	4201	TS_SPDCL					
TO 422003	GHANAPUR	220.00	M1	-121.0	3.0	121.0	52		0.37	2.28	4201	TELANGANA	4201	TS_SPDCL					
TO 422003	GHANAPUR	220.00	M2	-121.0	3.0	121.0	52		0.37	2.28	4201	TELANGANA	4201	TS_SPDCL					
TO 422066	OSMANIA	220.00	C1	73.8	-9.2	74.4	25		0.02	0.13	4201	TELANGANA	4201	TS_SPDCL					
TO 422066	OSMANIA	220.00	C2	73.8	-9.2	74.4	25		0.02	0.13	4201	TELANGANA	4201	TS_SPDCL					
BUS 422076	HAYATHNAGAR	220.00	CKT		MW	MVAR	MVA	% 0.9952PU	-31.37	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422076
								218.94KV											
TO LOAD-PQ				55.4	3.7	55.6													
TO 422003	GHANAPUR	220.00	MC	-40.0	-5.7	40.4	17		0.05	0.26	4201	TELANGANA	4201	TS_SPDCL					
TO 422155	KACHA SINGAR	220.00	M1	-15.4	2.0	15.5	7		0.01	0.04	4201	TELANGANA	4201	TS_SPDCL					
BUS 422077	MANTHANI	220.00	CKT		MW	MVAR	MVA	% 0.9919PU	-27.66	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422077
								218.22KV											
TO 421210	MNTHNI 132 B	132.00	1	37.0	9.0	38.1	38	1.0000LK	0.37	1.85	4201	TELANGANA	4203	TS_NPDCL					
TO 421210	MNTHNI 132 B	132.00	2	37.0	9.0	38.1	38	1.0000LK	0.37	1.85	4201	TELANGANA	4203	TS_NPDCL					

TO 421210	MNTHNI 132 B132.00	3	37.0	9.0	38.1	38	1.0000LK		0.37	1.85	4201	TELANGANA	4203	TS_NPDCL		
TO 422009	RSS 220KV SS220.00	Z1	-8.9	-3.9	9.7	5			0.00	0.03	4201	TELANGANA	4203	TS_NPDCL		
TO 422040	NAGARAM 220.00	Z1	1.2	-6.8	6.9	3			0.00	0.00	4201	TELANGANA	4203	TS_NPDCL		
TO 422147	KTPP 220.00	M1	-51.6	-8.1	52.3	22			0.15	1.08	4201	TELANGANA	4203	TS_NPDCL		
TO 422147	KTPP 220.00	M2	-51.6	-8.1	52.3	22			0.15	1.08	4201	TELANGANA	4203	TS_NPDCL		
BUS 422078	MURMUR 220.00	CKT					MVA % 0.9923PU 218.30KV	-27.85	X---	LOSSES	---X	X----	AREA -----X	X----	ZONE -----X	422078
TO LOAD-PQ			15.0	2.3	15.2											
TO 422009	RSS 220KV SS220.00	M1	-48.7	3.2	48.8	21			0.05	0.31	4201	TELANGANA	4203	TS_NPDCL		
TO 422055	MANDAMARRI 220.00	M1	33.7	-5.5	34.2	15			0.04	0.27	4201	TELANGANA	4203	TS_NPDCL		
BUS 422079	PULIYATHANDA220.00	CKT					MVA % 0.9980PU 219.55KV	-24.53	X---	LOSSES	---X	X----	AREA -----X	X----	ZONE -----X	422079
TO LOAD-PQ			4.8	1.6	5.1											
TO 422035	CHALAKURTHY 220.00	Z1	-12.8	0.3	12.9	6			0.00	0.03	4201	TELANGANA	4201	TS_SPDCL		
TO 422038	PUTTAMGANDI 220.00	Z1	8.0	-1.9	8.3	4			0.00	0.01	4201	TELANGANA	4205	TS_LIS		
BUS 422080	SINGOTTAM 220.00	CKT					MVA % 0.9911PU 218.04KV	-26.48	X---	LOSSES	---X	X----	AREA -----X	X----	ZONE -----X	422080
TO LOAD-PQ			32.2	11.5	34.2											
TO 422046	WANAPARTHY 220.00	Z1	-84.1	0.3	84.1	40			0.35	1.74	4201	TELANGANA	4201	TS_SPDCL		
TO 422070	REGIMANUGADD220.00	Z1	51.9	-11.8	53.2	26			0.11	0.53	4201	TELANGANA	4205	TS_LIS		
BUS 422081	GPGATTU 220.00	CKT					MVA % 0.9936PU 218.59KV	-26.60	X---	LOSSES	---X	X----	AREA -----X	X----	ZONE -----X	422081
TO LOAD-PQ			60.0	0.0	60.0											
TO 422049	VLT 220 BUS 220.00	M1	-89.2	-3.4	89.2	38			0.46	3.00	4201	TELANGANA	4201	TS_SPDCL		
TO 422049	VLT 220 BUS 220.00	M2	-89.2	-3.4	89.2	38			0.46	3.00	4201	TELANGANA	4201	TS_SPDCL		
TO 422082	JBOGUDA 220.00	Z1	62.8	1.9	62.8	30			0.09	0.49	4201	TELANGANA	4205	TS_LIS		
TO 422102	GOURIDEVPALL220.00	Z1	55.5	4.9	55.7	27			0.02	0.09	4201	TELANGANA	4206	TS_WW		
BUS 422082	JBOGUDA 220.00	CKT					MVA % 0.9919PU 218.22KV	-27.05	X---	LOSSES	---X	X----	AREA -----X	X----	ZONE -----X	422082
TO LOAD-PQ			60.0	0.0	60.0											
TO 422070	REGIMANUGADD220.00	Z1	2.7	3.5	4.4	2			0.00	0.00	4201	TELANGANA	4205	TS_LIS		
TO 422081	GPGATTU 220.00	Z1	-62.7	-3.5	62.8	30			0.09	0.49	4201	TELANGANA	4205	TS_LIS		
BUS 422083	PARIGI 220KV220.00	CKT					MVA % 0.9823PU 216.11KV	-31.65	X---	LOSSES	---X	X----	AREA -----X	X----	ZONE -----X	422083
TO 421209	PARIGI 132 N132.00	1	24.0	2.7	24.1	24	1.0000LK		0.15	0.76	4201	TELANGANA	4201	TS_SPDCL		
TO 421209	PARIGI 132 N132.00	2	24.0	2.7	24.1	24	1.0000LK		0.15	0.76	4201	TELANGANA	4201	TS_SPDCL		
TO 422054	SHANKARPALLY220.00	M1	-16.7	-9.7	19.3	8			0.02	0.12	4201	TELANGANA	4201	TS_SPDCL		
TO 422054	SHANKARPALLY220.00	M2	-16.7	-9.7	19.3	8			0.02	0.12	4201	TELANGANA	4201	TS_SPDCL		

TO 422084	KOSIGI	220.00	M1	-7.2	7.0	10.1	4		0.01	0.05	4201	TELANGANA	4201	TS_SPDCL				
TO 422084	KOSIGI	220.00	M2	-7.2	7.0	10.1	4		0.01	0.05	4201	TELANGANA	4201	TS_SPDCL				
BUS 422084	KOSIGI	220.00	CKT	MW	MVAR	MVA	% 0.9795PU	-31.48	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422084
							215.48KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO 421215	KOSIGI	132	B132.00	1	21.4	13.4	25.2	25	1.0000LK	0.17	0.83	4201	TELANGANA	4201	TS_SPDCL			
TO 421215	KOSIGI	132	B132.00	2	34.1	21.4	40.3	25	1.0000LK	0.26	1.33	4201	TELANGANA	4201	TS_SPDCL			
TO 421215	KOSIGI	132	B132.00	3	34.1	21.4	40.3	25	1.0000LK	0.26	1.33	4201	TELANGANA	4201	TS_SPDCL			
TO 422083	PARIGI	220KV	220.00	M1	7.3	-12.4	14.4	6		0.01	0.05	4201	TELANGANA	4201	TS_SPDCL			
TO 422083	PARIGI	220KV	220.00	M2	7.3	-12.4	14.4	6		0.01	0.05	4201	TELANGANA	4201	TS_SPDCL			
TO 422168	UDDANDAPUR	220.00	1	-52.1	-15.7	54.4	23			0.21	1.44	4201	TELANGANA	4201	TS_SPDCL			
TO 422168	UDDANDAPUR	220.00	2	-52.1	-15.7	54.4	23			0.21	1.44	4201	TELANGANA	4201	TS_SPDCL			
BUS 422085	KTPS-V	220.00	CKT	MW	MVAR	MVA	% 1.0000PU	-25.26	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422085
FROM GENERATION				425.0	8.9R	425.1	72	220.00KV			MW	MVAR	4201	TELANGANA	4203	TS_NPDCL		
TO 422005	KTPS-ABC	220.00	Z1	18.6	11.3	21.8	10			0.00	0.00	4201	TELANGANA	4203	TS_NPDCL			
TO 422005	KTPS-ABC	220.00	Z2	18.6	11.3	21.8	10			0.00	0.00	4201	TELANGANA	4203	TS_NPDCL			
TO 422012	STRMPTNM	220.00	Z1	29.8	-3.8	30.1	14			0.01	0.04	4201	TELANGANA	4203	TS_NPDCL			
TO 422012	STRMPTNM	220.00	Z2	29.8	-3.8	30.1	14			0.01	0.04	4201	TELANGANA	4203	TS_NPDCL			
TO 422023	BPD	220KV	SS220.00	T1	38.9	-2.4	39.0	8		0.05	0.48	4201	TELANGANA	4203	TS_NPDCL			
TO 422023	BPD	220KV	SS220.00	T2	38.9	-2.4	39.0	8		0.05	0.48	4201	TELANGANA	4203	TS_NPDCL			
TO 422137	BGKOTHUR	220.00	Z1	-8.2	-0.7	8.3	4			0.00	0.02	4201	TELANGANA	4205	TS_LIS			
TO 424012	KTPS-VI	400.00	1	258.5	-0.7	258.5	82	1.0000UN		1.32	26.53	4201	TELANGANA	4203	TS_NPDCL			
BUS 422086	NETTEMPADU-2220.00	CKT	MW	MVAR	MVA	% 0.9987PU	-24.68	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422086	
							219.70KV			MW	MVAR	4201	TELANGANA	4205	TS_LIS			
TO LOAD-PQ				20.4	6.7	21.5												
TO 422060	JURLA-SS	220.00	Z1	-15.9	-5.1	16.7	8			0.01	0.03	4201	TELANGANA	4201	TS_SPDCL			
TO 422069	NETTEMPADU	220.00	Z1	-4.5	-1.6	4.7	2			0.00	0.00	4201	TELANGANA	4205	TS_LIS			
BUS 422087	SITAPURAM	220.00	CKT	MW	MVAR	MVA	% 0.9953PU	-26.42	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422087
							218.97KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO 421178	SITAPURAM	132.00	1	31.8	3.5	32.0	32	1.0000LK		0.26	1.30	4201	TELANGANA	4201	TS_SPDCL			
TO 421178	SITAPURAM	132.00	2	31.8	3.5	32.0	32	1.0000LK		0.26	1.30	4201	TELANGANA	4201	TS_SPDCL			
TO 422088	PULICHINTALA	220.00	M1	-42.5	-34.1	54.5	23			0.03	0.18	4201	TELANGANA	4201	TS_SPDCL			
TO 422117	HUZURNAGAR	220.00	M1	-21.1	27.1	34.3	15			0.05	0.31	4201	TELANGANA	4201	TS_SPDCL			
BUS 422088	PULICHINTALA	220.00	CKT	MW	MVAR	MVA	% 0.9978PU	-26.29	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422088
FROM GENERATION				84.0	48.0H	96.7	69	219.51KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL		
TO 412044	CHILLAKALLU	220.00	M1	41.5	14.8	44.1	19			0.04	0.21	4101	ANDRAPRADESH	4115	AP-KRISHNA			
TO 422087	SITAPURAM	220.00	M1	42.5	33.2	53.9	23			0.03	0.18	4201	TELANGANA	4201	TS_SPDCL			

BUS 422089	SIRICILLA	220.00	CKT	MW	MVAR	MVA	% 0.9658PU	-31.38	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422089
							212.47KV			MW	MVAR	4201	TELANGANA	4203	TS_NPDCL			
TO 421218	SIRICILLA	132132.00	1	60.8	20.3	64.1	40 1.0000LK			0.69	3.47	4201	TELANGANA	4203	TS_NPDCL			
TO 421218	SIRICILLA	132132.00	2	60.8	20.3	64.1	40 1.0000LK			0.69	3.47	4201	TELANGANA	4203	TS_NPDCL			
TO 421218	SIRICILLA	132132.00	3	60.8	20.3	64.1	40 1.0000LK			0.69	3.47	4201	TELANGANA	4203	TS_NPDCL			
TO 422128	RAMADUGU_220	220.00	M1	-91.2	-30.4	96.1	41			0.64	4.13	4201	TELANGANA	4203	TS_NPDCL			
TO 422128	RAMADUGU_220	220.00	M2	-91.2	-30.4	96.1	41			0.64	4.13	4201	TELANGANA	4203	TS_NPDCL			
BUS 422090	AKSHAY_VLT	220.00	CKT	MW	MVAR	MVA	% 1.0000PU	-24.33	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422090
FROM GENERATION				85.0	-4.6R	85.1	72 220.00KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO 422049	VLT 220 BUS	220.00	M1	85.0	-4.6	85.1	36			0.08	0.53	4201	TELANGANA	4201	TS_SPDCL			
BUS 422091	IMLIBUN GIS	220.00	CKT	MW	MVAR	MVA	% 0.9826PU	-32.01	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422091
							216.17KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO 421324	GIS IMLIBUN	132.00	1	61.1	9.4	61.9	39 1.0000LK			0.62	3.12	4201	TELANGANA	4201	TS_SPDCL			
TO 421324	GIS IMLIBUN	132.00	2	61.1	9.4	61.9	39 1.0000LK			0.62	3.12	4201	TELANGANA	4201	TS_SPDCL			
TO 422002	CHNDRYNGUTTA	220.00	C2	-48.9	-1.3	48.9	17			0.03	0.19	4201	TELANGANA	4201	TS_SPDCL			
TO 422131	CHANCHALGUDA	220.00	C1	-73.4	-17.5	75.4	26			0.01	0.07	4201	TELANGANA	4201	TS_SPDCL			
BUS 422092	POCHARAM	220.00	CKT	MW	MVAR	MVA	% 0.9976PU	-31.24	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422092
							219.48KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO LOAD-PQ				12.1	2.4	12.3												
TO 422003	GHANAPUR	220.00	Z1	-87.9	28.1	92.3	44			0.07	0.38	4201	TELANGANA	4201	TS_SPDCL			
TO 422020	MOULALI	220.00	Z1	75.8	-30.5	81.7	39			0.04	0.32	4201	TELANGANA	4201	TS_SPDCL			
BUS 422093	NARSARPUR	220.00	CKT	MW	MVAR	MVA	% 0.9899PU	-30.75	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422093
							217.79KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO 421332	NRSR_I32	132.00	1	56.6	14.1	58.4	58 1.0000LK			0.87	4.38	4201	TELANGANA	4201	TS_SPDCL			
TO 421332	NRSR_I32	132.00	2	90.6	22.5	93.3	58 1.0000LK			1.39	7.00	4201	TELANGANA	4201	TS_SPDCL			
TO 421332	NRSR_I32	132.00	3	56.6	14.1	58.4	58 1.0000LK			0.87	4.38	4201	TELANGANA	4201	TS_SPDCL			
TO 422030	MINPUR	220.00	M1	61.9	5.7	62.1	27			0.15	1.04	4201	TELANGANA	4201	TS_SPDCL			
TO 422030	MINPUR	220.00	M2	61.9	5.7	62.1	27			0.15	1.04	4201	TELANGANA	4201	TS_SPDCL			
TO 422121	MINAJIPET	220.00	M1	8.5	7.7	11.5	5			0.00	0.03	4201	TELANGANA	4201	TS_SPDCL			
TO 422121	MINAJIPET	220.00	M2	8.5	7.7	11.5	5			0.00	0.03	4201	TELANGANA	4201	TS_SPDCL			
TO 422150	BORAMPET	220.00	M	9.3	-21.7	23.7	10			0.02	0.11	4201	TELANGANA	4201	TS_SPDCL			
TO 422150	BORAMPET	220.00	MC	9.3	-21.7	23.7	10			0.02	0.11	4201	TELANGANA	4201	TS_SPDCL			
TO 422162	BORANCHA	220.00	M1	29.3	-6.3	30.0	13			0.07	0.52	4201	TELANGANA	4205	TS_LIS			
TO 422162	BORANCHA	220.00	M2	29.3	-6.3	30.0	13			0.07	0.52	4201	TELANGANA	4205	TS_LIS			
TO 424017	NARSARPUR	400.00	1	-140.6	-7.2	140.8	45 1.0000UN			0.40	8.02	4201	TELANGANA	4201	TS_SPDCL			
TO 424017	NARSARPUR	400.00	2	-140.6	-7.2	140.8	45 1.0000UN			0.40	8.02	4201	TELANGANA	4201	TS_SPDCL			
TO 424017	NARSARPUR	400.00	3	-140.6	-7.2	140.8	45 1.0000UN			0.40	8.02	4201	TELANGANA	4201	TS_SPDCL			

BUS 422094	RENEW_DCPL	220.00	CKT	MW	MVAR	MVA	% 1.0000PU	-27.67	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422094
FROM GENERATION				121.6	-27.8R	124.7	74 220.00KV			MW	MVAR	4201	TELANGANA	4203	TS_NPDCL			
TO 422016	DCPL 220	BUS220.00	M1	60.8	-13.9	62.3	27			0.15	1.00	4201	TELANGANA	4203	TS_NPDCL			
TO 422016	DCPL 220	BUS220.00	M2	60.8	-13.9	62.3	27			0.15	1.00	4201	TELANGANA	4203	TS_NPDCL			
BUS 422095	RENEW_MNP	220.00	CKT	MW	MVAR	MVA	% 0.9881PU	-31.34	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422095
FROM GENERATION				55.3	13.0H	56.8	75 217.38KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO 422030	MINPUR	220.00	M1	55.3	13.0	56.8	24			0.06	0.37	4201	TELANGANA	4201	TS_SPDCL			
BUS 422096	THIMMAJIPET	220.00	CKT	MW	MVAR	MVA	% 0.9944PU	-25.97	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422096
							218.77KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO 421439	THIMMAJIPET	132.00	1	44.6	1.9	44.6	45 1.0000LK			0.50	2.53	4201	TELANGANA	4201	TS_SPDCL			
TO 421439	THIMMAJIPET	132.00	2	44.6	1.9	44.6	45 1.0000LK			0.50	2.53	4201	TELANGANA	4201	TS_SPDCL			
TO 422018	KALWAKURTHY	220.00	Z1	17.5	4.9	18.2	9			0.02	0.11	4201	TELANGANA	4201	TS_SPDCL			
TO 422018	KALWAKURTHY	220.00	Z2	17.5	4.9	18.2	9			0.02	0.11	4201	TELANGANA	4201	TS_SPDCL			
TO 422019	MBNR 220KVSS220.00		Z1	33.4	6.9	34.0	16			0.03	0.17	4201	TELANGANA	4201	TS_SPDCL			
TO 422019	MBNR 220KVSS220.00		Z2	33.4	6.9	34.0	16			0.03	0.17	4201	TELANGANA	4201	TS_SPDCL			
TO 422049	VLT 220 BUS	220.00	T1	-95.4	-13.7	96.4	21			0.23	2.19	4201	TELANGANA	4201	TS_SPDCL			
TO 422049	VLT 220 BUS	220.00	T2	-95.4	-13.7	96.4	21			0.23	2.19	4201	TELANGANA	4201	TS_SPDCL			
BUS 422097	TRANFRM _VLT220.00	CKT	MW	MVAR	MVA	% 1.0000PU	-24.61	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422097	
FROM GENERATION				85.0	20.0H	87.3	74 220.00KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO 422049	VLT 220 BUS	220.00	M1	85.0	20.0	87.3	37			0.02	0.14	4201	TELANGANA	4201	TS_SPDCL			
BUS 422098	MAHES_220	220.00	CKT	MW	MVAR	MVA	% 0.9930PU	-29.25	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422098
							218.45KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO 422068	BONGLUR	220.00	Z1	145.3	8.6	145.6	70			0.93	5.02	4201	TELANGANA	4201	TS_SPDCL			
TO 422068	BONGLUR	220.00	Z2	145.3	8.6	145.6	70			0.93	5.02	4201	TELANGANA	4201	TS_SPDCL			
TO 422071	FABCITY	220.00	M1	124.7	21.5	126.5	54			0.47	3.08	4201	TELANGANA	4201	TS_SPDCL			
TO 422071	FABCITY	220.00	M2	124.7	21.5	126.5	54			0.47	3.08	4201	TELANGANA	4201	TS_SPDCL			
TO 422110	MADGULA	220.00	Z1	23.7	9.5	25.6	12			0.04	0.20	4201	TELANGANA	4201	TS_SPDCL			
TO 422110	MADGULA	220.00	Z2	23.7	9.5	25.6	12			0.04	0.20	4201	TELANGANA	4201	TS_SPDCL			
TO 424022	MAH SEC-A	400.00	1	-195.8	-26.4	197.6	40 1.0000UN			0.49	9.90	4201	TELANGANA	4201	TS_SPDCL			
TO 424022	MAH SEC-A	400.00	2	-195.8	-26.4	197.6	40 1.0000UN			0.49	9.90	4201	TELANGANA	4201	TS_SPDCL			
TO 424022	MAH SEC-A	400.00	3	-195.8	-26.4	197.6	40 1.0000UN			0.49	9.90	4201	TELANGANA	4201	TS_SPDCL			
BUS 422099	HUZURABAD	220.00	CKT	MW	MVAR	MVA	% 0.9768PU	-30.44	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422099
							214.89KV			MW	MVAR	4201	TELANGANA	4203	TS_NPDCL			
TO 421355	HUZURBD NEW	132.00	1	56.8	13.2	58.3	36 1.0000LK			0.56	2.78	4201	TELANGANA	4203	TS_NPDCL			
TO 421355	HUZURBD NEW	132.00	2	56.8	13.2	58.3	36 1.0000LK			0.56	2.78	4201	TELANGANA	4203	TS_NPDCL			
TO 421355	HUZURBD NEW	132.00	3	56.8	13.2	58.3	36 1.0000LK			0.56	2.78	4201	TELANGANA	4203	TS_NPDCL			
TO 422052	OGLAPUR	220.00	M1	-166.2	-25.5	168.2	72			1.53	9.88	4201	TELANGANA	4203	TS_NPDCL			
TO 422139	DURSHED-2	220.00	M1	-4.1	-14.2	14.8	6			0.01	0.06	4201	TELANGANA	4203	TS_NPDCL			

BUS 422100	SUZLON_VLT	220.00	CKT	MW	MVAR	MVA	% 1.0000PU	-24.34	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422100
FROM GENERATION				85.0	-4.7R	85.1	72 220.00KV			MW	MVAR	4201	TELANGANA		4201	TS_SPDCL		
TO 422049	VLT 220 BUS	220.00	M1	85.0	-4.7	85.1	36			0.08	0.51	4201	TELANGANA		4201	TS_SPDCL		
BUS 422101	YELLUR	220.00	CKT	MW	MVAR	MVA	% 0.9913PU	-27.04	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422101
TO LOAD-PQ				20.0	3.1	20.2	218.10KV			MW	MVAR	4201	TELANGANA		4206	TS_WW		
TO 422070	REGIMANUGADD	220.00	Z1	5.5	1.6	5.7	3			0.00	0.00	4201	TELANGANA		4205	TS_LIS		
TO 422102	GOURIDEVPALL	220.00	Z1	-25.5	-4.7	25.9	12			0.03	0.16	4201	TELANGANA		4206	TS_WW		
BUS 422102	GOURIDEVPALL	220.00	CKT	MW	MVAR	MVA	% 0.9932PU	-26.70	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422102
TO LOAD-PQ				30.0	4.6	30.4	218.49KV			MW	MVAR	4201	TELANGANA		4206	TS_WW		
TO 422081	GPGATTU	220.00	Z1	-55.5	-5.4	55.8	27			0.02	0.09	4201	TELANGANA		4205	TS_LIS		
TO 422101	YELLUR	220.00	Z1	25.5	0.7	25.5	12			0.03	0.16	4201	TELANGANA		4206	TS_WW		
BUS 422103	RENEW_VLT_2	220.00	CKT	MW	MVAR	MVA	% 1.0000PU	-24.31	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422103
FROM GENERATION				85.0	-5.4R	85.2	72 220.00KV			MW	MVAR	4201	TELANGANA		4201	TS_SPDCL		
TO 422049	VLT 220 BUS	220.00	M1	85.0	-5.4	85.2	36			0.09	0.57	4201	TELANGANA		4201	TS_SPDCL		
BUS 422104	JULURPADU2	220.00	CKT	MW	MVAR	MVA	% 0.9991PU	-24.88	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422104
TO 422112	KALLUR	220.00	M1	32.9	-1.4	32.9	14			0.06	0.37	4201	TELANGANA		4201	TS_SPDCL		
TO 422112	KALLUR	220.00	M2	32.9	-1.4	32.9	14			0.06	0.37	4201	TELANGANA		4203	TS_NPDCL		
TO 422119	PEDDAGOPATHI	220.00	M1	48.0	1.1	48.0	21			0.13	0.83	4201	TELANGANA		4203	TS_NPDCL		
TO 422119	PEDDAGOPATHI	220.00	M2	48.0	1.1	48.0	21			0.13	0.83	4201	TELANGANA		4203	TS_NPDCL		
TO 424023	JULURPADU	400.00	1	-80.9	0.3	80.9	26 1.0000UN			0.13	2.60	4201	TELANGANA		4201	TS_SPDCL		
TO 424023	JULURPADU	400.00	2	-80.9	0.3	80.9	26 1.0000UN			0.13	2.60	4201	TELANGANA		4201	TS_SPDCL		
BUS 422105	AZURE_SOLAR	220.00	CKT	MW	MVAR	MVA	% 0.9940PU	-25.87	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422105
FROM GENERATION				85.0	20.0H	87.3	74 218.67KV			MW	MVAR	4201	TELANGANA		4201	TS_SPDCL		
TO 422018	KALWAKURTHY	220.00	M1	85.0	20.0	87.3	37			0.10	0.61	4201	TELANGANA		4201	TS_SPDCL		
BUS 422106	MAHABUBAD	220.00	CKT	MW	MVAR	MVA	% 0.9832PU	-28.23	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422106
TO 421211	MAHABUBABAD	132.00	1	54.1	14.4	55.9	56 1.0000LK			0.81	4.08	4201	TELANGANA		4203	TS_NPDCL		
TO 421211	MAHABUBABAD	132.00	2	54.1	14.4	55.9	56 1.0000LK			0.81	4.08	4201	TELANGANA		4203	TS_NPDCL		
TO 421211	MAHABUBABAD	132.00	3	54.1	14.4	55.9	56 1.0000LK			0.81	4.08	4201	TELANGANA		4203	TS_NPDCL		
TO 422013	WARANGAL	220.00	M2	8.8	-8.2	12.1	5			0.01	0.06	4201	TELANGANA		4203	TS_NPDCL		
TO 422023	BPD 220KV SS	220.00	M1	-116.1	-23.0	118.3	51			0.76	4.95	4201	TELANGANA		4203	TS_NPDCL		
TO 422023	BPD 220KV SS	220.00	M2	-116.1	-23.0	118.3	51			0.76	4.95	4201	TELANGANA		4203	TS_NPDCL		
TO 422149	AMMAVARIPET	220.00	M1	61.1	10.9	62.1	27			0.36	2.54	4201	TELANGANA		4203	TS_NPDCL		

BUS 422107	ASUPAKA	220.00	CKT	MW	MVAR	MVA	% 0.9947PU	-24.80	X---	LOSSES	---	X----	AREA	-----X	X----	ZONE	-----X	422107
							218.84KV			MW	MVAR	4201	TELANGANA	4203	TS_NPDCL			
TO 412200	LWERSLR_SPLT	220.00	M1	30.9	-13.7	33.8	14			0.15	0.82	4101	ANDRAPRADESH	4119	AP-RAJMUNDRY			
TO 422108	ASHWARAOPET	220.00	M1	37.5	4.3	37.7	16			0.04	0.24	4201	TELANGANA	4203	TS_NPDCL			
TO 422108	ASHWARAOPET	220.00	M2	37.5	4.3	37.7	16			0.04	0.24	4201	TELANGANA	4203	TS_NPDCL			
TO 422130	VK RAMAVARAM	220.00	M1	4.5	-11.5	12.4	5			0.01	0.04	4201	TELANGANA	4205	TS_LIS			
TO 424020	ASUPAKA	400.00	1	-55.2	8.3	55.8	18	1.0000UN		0.06	1.25	4201	TELANGANA	4203	TS_NPDCL			
TO 424020	ASUPAKA	400.00	2	-55.2	8.3	55.8	18	1.0000UN		0.06	1.25	4201	TELANGANA	4203	TS_NPDCL			
BUS 422108	ASHWARAOPET	220.00	CKT	MW	MVAR	MVA	% 0.9929PU	-25.14	X---	LOSSES	---	X----	AREA	-----X	X----	ZONE	-----X	422108
							218.43KV			MW	MVAR	4201	TELANGANA	4203	TS_NPDCL			
TO 421377	ASWRPT_132	132.00	1	37.4	6.9	38.1	38	1.0000LK		0.37	1.85	4201	TELANGANA	4203	TS_NPDCL			
TO 421377	ASWRPT_132	132.00	2	37.4	6.9	38.1	38	1.0000LK		0.37	1.85	4201	TELANGANA	4203	TS_NPDCL			
TO 422107	ASUPAKA	220.00	M1	-37.4	-6.9	38.1	16			0.04	0.24	4201	TELANGANA	4203	TS_NPDCL			
TO 422107	ASUPAKA	220.00	M2	-37.4	-6.9	38.1	16			0.04	0.24	4201	TELANGANA	4203	TS_NPDCL			
BUS 422109	UDAYASAMUDRA	220.00	CKT	MW	MVAR	MVA	% 0.9796PU	-28.78	X---	LOSSES	---	X----	AREA	-----X	X----	ZONE	-----X	422109
							215.51KV			MW	MVAR	4201	TELANGANA	4205	TS_LIS			
TO LOAD-PQ				12.8	0.0	12.8												
TO 422026	NKP 220KVSS	220.00	Z1	-12.8	0.0	12.8	6			0.00	0.01	4201	TELANGANA	4201	TS_SPDCL			
BUS 422110	MADGULA	220.00	CKT	MW	MVAR	MVA	% 0.9884PU	-29.60	X---	LOSSES	---	X----	AREA	-----X	X----	ZONE	-----X	422110
							217.45KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO 421171	MADUGULA	132.00	1	15.8	9.4	18.4	18	1.0000LK		0.09	0.44	4201	TELANGANA	4201	TS_SPDCL			
TO 421171	MADUGULA	132.00	2	15.8	9.4	18.4	18	1.0000LK		0.09	0.44	4201	TELANGANA	4201	TS_SPDCL			
TO 421171	MADUGULA	132.00	3	15.8	9.4	18.4	18	1.0000LK		0.09	0.44	4201	TELANGANA	4201	TS_SPDCL			
TO 422098	MAHES_220	220.00	Z1	-23.7	-14.1	27.6	13			0.04	0.20	4201	TELANGANA	4201	TS_SPDCL			
TO 422098	MAHES_220	220.00	Z2	-23.7	-14.1	27.6	13			0.04	0.20	4201	TELANGANA	4201	TS_SPDCL			
BUS 422111	NIRMAL_NEW	220.00	CKT	MW	MVAR	MVA	% 0.9966PU	-29.72	X---	LOSSES	---	X----	AREA	-----X	X----	ZONE	-----X	422111
							219.24KV			MW	MVAR	4201	TELANGANA	4203	TS_NPDCL			
TO 422025	NIRMAL	220.00	1	57.4	15.6	59.4	25			0.02	0.17	4201	TELANGANA	4203	TS_NPDCL			
TO 422025	NIRMAL	220.00	M1	75.3	19.2	77.7	33			0.04	0.23	4201	TELANGANA	4203	TS_NPDCL			
TO 422025	NIRMAL	220.00	M2	75.3	19.2	77.7	33			0.04	0.23	4201	TELANGANA	4203	TS_NPDCL			
TO 422036	JAGTYALA	220.00	M2	-8.6	9.5	12.8	5			0.03	0.18	4201	TELANGANA	4203	TS_NPDCL			
TO 422132	RENJAL	220.00	M1	52.5	10.6	53.5	23			0.26	1.66	4201	TELANGANA	4203	TS_NPDCL			
TO 422133	MUPPKAL	220.00	M1	67.3	15.7	69.1	30			0.11	0.73	4201	TELANGANA	4205	TS_LIS			
TO 422143	INDRAVELLI	220.00	M1	41.2	-5.9	41.7	18			0.26	1.41	4201	TELANGANA	4203	TS_NPDCL			
TO 422143	INDRAVELLI	220.00	M2	41.2	-5.9	41.7	18			0.26	1.41	4201	TELANGANA	4203	TS_NPDCL			
TO 424027	NIRMAL	400.00	1	-133.9	-26.0	136.3	43	1.0000UN		0.37	7.43	4201	TELANGANA	4203	TS_NPDCL			
TO 424027	NIRMAL	400.00	2	-133.9	-26.0	136.3	43	1.0000UN		0.37	7.43	4201	TELANGANA	4203	TS_NPDCL			
TO 424027	NIRMAL	400.00	3	-133.9	-26.0	136.3	43	1.0000UN		0.37	7.43	4201	TELANGANA	4203	TS_NPDCL			

BUS 422112	KALLUR	220.00	CKT	MW	MVAR	MVA	% 0.9970PU	-25.52	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422112
							219.33KV			MW	MVAR	4201	TELANGANA	4203	TS_NPDCL			
TO 421379	KALLUR132	132.00	1	32.8	4.1	33.1	33 1.0000LK			0.28	1.39	4201	TELANGANA	4203	TS_NPDCL			
TO 421379	KALLUR132	132.00	2	32.8	4.1	33.1	33 1.0000LK			0.28	1.39	4201	TELANGANA	4203	TS_NPDCL			
TO 422104	JULURPADU2	220.00	M1	-32.8	-4.1	33.1	14			0.06	0.37	4201	TELANGANA	4201	TS_SPDCL			
TO 422104	JULURPADU2	220.00	M2	-32.8	-4.1	33.1	14			0.06	0.37	4201	TELANGANA	4201	TS_SPDCL			
BUS 422113	MEDIGADDA	220.00	CKT	MW	MVAR	MVA	% 0.9956PU	-29.56	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422113
							219.04KV			MW	MVAR	4201	TELANGANA	4203	TS_NPDCL			
TO 422115	SUNDILLA	220.00	T1	-63.0	-10.2	63.8	14			0.13	1.74	4201	TELANGANA	4203	TS_NPDCL			
TO 422141	MEDIGADDA_LI	220.00	2	316.9	23.2	317.8				0.00	0.00	4201	TELANGANA	4205	TS_LIS			
TO 422157	ANNARAM 4	220.00	T1	-103.2	-2.4	103.2	22			0.30	2.98	4201	TELANGANA	4205	TS_LIS			
TO 422157	ANNARAM 4	220.00	T2	-103.2	-2.4	103.2	22			0.30	2.98	4201	TELANGANA	4205	TS_LIS			
TO 422163	POKKUR	220.00	T1	-47.6	-8.3	48.3	10			0.04	0.45	4201	TELANGANA	4205	TS_LIS			
BUS 422114	ANNARAM	220.00	CKT	MW	MVAR	MVA	% 0.9982PU	-27.93	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422114
							219.61KV			MW	MVAR	4201	TELANGANA	4203	TS_NPDCL			
TO 422115	SUNDILLA	220.00	T1	6.3	-9.5	11.4	2			0.00	0.01	4201	TELANGANA	4203	TS_NPDCL			
TO 422115	SUNDILLA	220.00	T2	6.3	-9.5	11.4	2			0.00	0.01	4201	TELANGANA	4203	TS_NPDCL			
TO 422140	ANNARAM-LIS	220.00	2	192.0	-0.0	192.0				0.00	0.00	4201	TELANGANA	4205	TS_LIS			
TO 422157	ANNARAM 4	220.00	T1	-102.3	9.5	102.7	22			0.00	0.03	4201	TELANGANA	4205	TS_LIS			
TO 422157	ANNARAM 4	220.00	T2	-102.3	9.5	102.7	22			0.00	0.03	4201	TELANGANA	4205	TS_LIS			
BUS 422115	SUNDILLA	220.00	CKT	MW	MVAR	MVA	% 0.9993PU	-28.00	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422115
							219.84KV			MW	MVAR	4201	TELANGANA	4203	TS_NPDCL			
TO 422113	MEDIGADDA	220.00	T1	63.1	-2.7	63.2	13			0.13	1.74	4201	TELANGANA	4203	TS_NPDCL			
TO 422114	ANNARAM	220.00	T1	-6.3	3.7	7.3	2			0.00	0.01	4201	TELANGANA	4203	TS_NPDCL			
TO 422114	ANNARAM	220.00	T2	-6.3	3.7	7.3	2			0.00	0.01	4201	TELANGANA	4203	TS_NPDCL			
TO 422142	SUNDILLA_LIS	220.00	2	224.0	0.0	224.0				0.00	0.00	4201	TELANGANA	4205	TS_LIS			
TO 422163	POKKUR	220.00	T1	56.0	-5.4	56.3	12			0.10	1.02	4201	TELANGANA	4205	TS_LIS			
TO 424026	SUNDILLA	400.00	1	-82.7	0.2	82.7	26 1.0000UN			0.14	2.71	4201	TELANGANA	4201	TS_SPDCL			
TO 424026	SUNDILLA	400.00	2	-82.7	0.2	82.7	26 1.0000UN			0.14	2.71	4201	TELANGANA	4201	TS_SPDCL			
TO 424026	SUNDILLA	400.00	3	-82.7	0.2	82.7	26 1.0000UN			0.14	2.71	4201	TELANGANA	4201	TS_SPDCL			
TO 424026	SUNDILLA	400.00	4	-82.7	0.2	82.7	26 1.0000UN			0.14	2.71	4201	TELANGANA	4201	TS_SPDCL			
BUS 422116	KETHIREDDYPA	220.00	CKT	MW	MVAR	MVA	% 0.9858PU	-31.08	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422116
							216.88KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO 421385	KETHIREDDYPAL	132.00	1	31.2	6.8	32.0	32 1.0000LK			0.26	1.33	4201	TELANGANA	4201	TS_SPDCL			
TO 421385	KETHIREDDYPAL	132.00	2	31.2	6.8	32.0	32 1.0000LK			0.26	1.33	4201	TELANGANA	4201	TS_SPDCL			
TO 422014	YEDUMRAM	220.00	Z1	37.1	-0.9	37.1	18			0.06	0.36	4201	TELANGANA	4201	TS_SPDCL			
TO 422048	SHADNAGAR	220.00	M1	28.4	9.1	29.8	13			0.04	0.25	4201	TELANGANA	4201	TS_SPDCL			
TO 422054	SHANKARPALLY	220.00	M1	15.9	-4.3	16.4	7			0.01	0.06	4201	TELANGANA	4201	TS_SPDCL			
TO 422134	CHEGUR	220.00	M1	43.3	17.5	46.7	20			0.07	0.44	4201	TELANGANA	4201	TS_SPDCL			
TO 424029	KETIREDDYPAL	400.00	1	-93.6	-17.5	95.2	30 1.0000UN			0.18	3.70	4201	TELANGANA	4201	TS_SPDCL			

TO 424029	KETIREDDYPAL	400.00	2	-93.6	-17.5	95.2	30	1.0000	UN	0.18	3.70	4201	TELANGANA	4201	TS_SPDCL					
BUS 422117	HUZURNAGAR	220.00	CKT	MW	MVAR	MVA	%	0.9892	PU	-26.06	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422117
								217.62	KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO 421387	HUZURNAGAR	132.00	1	58.4	14.7	60.2	60	1.0000	LK	0.93	4.66	4201	TELANGANA	4201	TS_SPDCL					
TO 421387	HUZURNAGAR	132.00	2	58.4	14.7	60.2	60	1.0000	LK	0.93	4.66	4201	TELANGANA	4201	TS_SPDCL					
TO 422026	NKP 220KVSS	220.00	M1	59.9	-1.9	60.0	26			0.43	2.80	4201	TELANGANA	4201	TS_SPDCL					
TO 422087	SITAPURAM	220.00	M1	21.1	-30.8	37.3	16			0.05	0.31	4201	TELANGANA	4201	TS_SPDCL					
TO 422146	DAMARACHERLA	220.00	M1	-98.9	1.6	98.9	42			0.52	3.64	4201	TELANGANA	4201	TS_SPDCL					
TO 422146	DAMARACHERLA	220.00	M2	-98.9	1.6	98.9	42			0.52	3.64	4201	TELANGANA	4201	TS_SPDCL					
BUS 422118	NAGARKURNOOL	220.00	CKT	MW	MVAR	MVA	%	0.9880	PU	-26.65	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422118
								217.36	KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO 421107	NAGRKOOL	132.00	1	34.0	5.8	34.5	34	1.0000	LK	0.30	1.54	4201	TELANGANA	4201	TS_SPDCL					
TO 421107	NAGRKOOL	132.00	2	54.4	9.3	55.1	34	1.0000	LK	0.49	2.46	4201	TELANGANA	4201	TS_SPDCL					
TO 422033	DINDI SS	220.00	M1	-44.2	-7.5	44.8	19			0.10	0.66	4201	TELANGANA	4201	TS_SPDCL					
TO 422033	DINDI SS	220.00	M2	-44.2	-7.5	44.8	19			0.10	0.66	4201	TELANGANA	4201	TS_SPDCL					
BUS 422119	PEDDAGOPATHI	220.00	CKT	MW	MVAR	MVA	%	0.9952	PU	-25.85	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422119
								218.94	KV			MW	MVAR	4201	TELANGANA	4203	TS_NPDCL			
TO 421390	PEDDAGOPATHI	132.00	1	47.9	6.3	48.3	48	1.0000	LK	0.59	2.97	4201	TELANGANA	4203	TS_NPDCL					
TO 421390	PEDDAGOPATHI	132.00	2	47.9	6.3	48.3	48	1.0000	LK	0.59	2.97	4201	TELANGANA	4203	TS_NPDCL					
TO 422104	JULURPADU2	220.00	M1	-47.9	-6.3	48.3	21			0.13	0.83	4201	TELANGANA	4201	TS_SPDCL					
TO 422104	JULURPADU2	220.00	M2	-47.9	-6.3	48.3	21			0.13	0.83	4201	TELANGANA	4201	TS_SPDCL					
BUS 422120	DOMALAPENTA	220.00	CKT	MW	MVAR	MVA	%	0.9918	PU	-25.82	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422120
								218.19	KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO LOAD-PQ				1.3	0.4	1.3														
TO 412020	SRISAILAM RB	220.00	Z1	-1.2	5.6	5.7	3			0.00	0.00	4101	ANDRAPRADESH	4117	AP-KURNOOL					
TO 422033	DINDI SS	220.00	Z1	-0.1	-6.0	6.0	3			0.00	0.00	4201	TELANGANA	4201	TS_SPDCL					
BUS 422121	MINAJIPET	220.00	CKT	MW	MVAR	MVA	%	0.9878	PU	-30.83	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422121
								217.32	KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO 421404	MINAJIPET LV	132.00	1	8.5	11.0	13.9	14	1.0000	LK	0.05	0.25	4201	TELANGANA	4201	TS_SPDCL					
TO 421404	MINAJIPET LV	132.00	2	8.5	11.0	13.9	14	1.0000	LK	0.05	0.25	4201	TELANGANA	4201	TS_SPDCL					
TO 422093	NARSARPUR	220.00	M1	-8.5	-11.0	13.9	6			0.00	0.03	4201	TELANGANA	4201	TS_SPDCL					
TO 422093	NARSARPUR	220.00	M2	-8.5	-11.0	13.9	6			0.00	0.03	4201	TELANGANA	4201	TS_SPDCL					
BUS 422122	RFCL	220.00	CKT	MW	MVAR	MVA	%	0.9933	PU	-27.55	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422122
								218.53	KV			MW	MVAR	4201	TELANGANA	4203	TS_NPDCL			
TO LOAD-PQ				3.0	0.6	3.1														
TO 422009	RSS 220KV SS	220.00	Z1	-7.2	3.9	8.2	4			0.00	0.01	4201	TELANGANA	4203	TS_NPDCL					
TO 422040	NAGARAM	220.00	Z1	4.2	-4.5	6.1	3			0.00	0.02	4201	TELANGANA	4203	TS_NPDCL					

BUS 422123	JANGOAN	220.00	CKT	MW	MVAR	MVA	% 0.9905PU	-28.21	X---	LOSSES	---	X----	AREA	-----X	X----	ZONE	-----X	422123
							217.91KV			MW	MVAR	4201	TELANGANA		X----	TS_NPDCL		
TO 422011	SHAPURNGR	220.00	Z1	97.8	4.6	97.9	47			1.60	8.75	4201	TELANGANA		4201	TS_SPDCL		
TO 422027	BHONGIR	220.00	Z1	111.5	9.7	112.0	54			0.95	5.53	4201	TELANGANA		4201	TS_SPDCL		
TO 422027	BHONGIR	220.00	Z2	111.5	9.7	112.0	54			0.95	5.53	4201	TELANGANA		4201	TS_SPDCL		
TO 422028	WKP 220KV	SS220.00	Z1	-5.9	-1.3	6.0	3			0.01	0.04	4201	TELANGANA		4203	TS_NPDCL		
TO 422028	WKP 220KV	SS220.00	Z2	-5.9	-1.3	6.0	3			0.01	0.04	4201	TELANGANA		4203	TS_NPDCL		
TO 422028	WKP 220KV	SS220.00	Z3	-7.8	1.6	8.0	4			0.01	0.05	4201	TELANGANA		4203	TS_NPDCL		
TO 422124	JANGOAN_NEW	220.00	M1	97.8	22.3	100.3	43			0.05	0.31	4201	TELANGANA		4203	TS_NPDCL		
TO 422124	JANGOAN_NEW	220.00	M2	97.8	22.3	100.3	43			0.05	0.31	4201	TELANGANA		4203	TS_NPDCL		
TO 422148	HUSNABAD	220.00	M1	50.7	6.6	51.1	22			0.19	1.33	4201	TELANGANA		4203	TS_NPDCL		
TO 422148	HUSNABAD	220.00	M2	50.7	6.6	51.1	22			0.19	1.33	4201	TELANGANA		4203	TS_NPDCL		
TO 422158	DEVANNAPET	220.00	T1	19.2	-10.6	21.9	5			0.01	0.13	4201	TELANGANA		4205	TS_LIS		
TO 422158	DEVANNAPET	220.00	T2	19.2	-10.6	21.9	5			0.01	0.13	4201	TELANGANA		4205	TS_LIS		
TO 424034	JANGOAN	400.00	1	-212.2	-19.9	213.2	43	1.0000UN		0.58	11.58	4201	TELANGANA		4203	TS_NPDCL		
TO 424034	JANGOAN	400.00	2	-212.2	-19.9	213.2	43	1.0000UN		0.58	11.58	4201	TELANGANA		4203	TS_NPDCL		
TO 424034	JANGOAN	400.00	3	-212.2	-19.9	213.2	43	1.0000UN		0.58	11.58	4201	TELANGANA		4203	TS_NPDCL		
BUS 422124	JANGOAN_NEW	220.00	CKT	MW	MVAR	MVA	% 0.9893PU	-28.37	X---	LOSSES	---	X----	AREA	-----X	X----	ZONE	-----X	422124
							217.66KV			MW	MVAR	4201	TELANGANA		X----	TS_NPDCL		
TO 421183	JANGAON	132.00	1	54.3	12.5	55.8	56	1.0000LK		0.79	4.00	4201	TELANGANA		4203	TS_NPDCL		
TO 421183	JANGAON	132.00	2	54.3	12.5	55.8	56	1.0000LK		0.79	4.00	4201	TELANGANA		4203	TS_NPDCL		
TO 421183	JANGAON	132.00	3	86.9	20.0	89.2	56	1.0000LK		1.27	6.40	4201	TELANGANA		4203	TS_NPDCL		
TO 422123	JANGOAN	220.00	M1	-97.8	-22.5	100.3	43			0.05	0.31	4201	TELANGANA		4203	TS_NPDCL		
TO 422123	JANGOAN	220.00	M2	-97.8	-22.5	100.3	43			0.05	0.31	4201	TELANGANA		4203	TS_NPDCL		
BUS 422125	RAMPUR_LIS	220.00	CKT	MW	MVAR	MVA	% 0.9855PU	-29.36	X---	LOSSES	---	X----	AREA	-----X	X----	ZONE	-----X	422125
							216.80KV			MW	MVAR	4201	TELANGANA		X----	TS_LIS		
TO LOAD-PQ				20.8	6.9	21.9												
TO 422009	RSS 220KV	SS220.00	Z1	-57.8	-5.4	58.1	28			0.36	1.91	4201	TELANGANA		4203	TS_NPDCL		
TO 422032	BHEEMGAL	220.00	Z1	41.9	-9.6	43.0	21			0.16	0.85	4201	TELANGANA		4203	TS_NPDCL		
TO 422126	RAJESWARAPET	220.00	M1	20.8	2.2	20.9	9			0.02	0.13	4201	TELANGANA		4205	TS_LIS		
TO 422128	RAMADUGU_220	220.00	M1	-12.9	3.0	13.2	6			0.01	0.05	4201	TELANGANA		4203	TS_NPDCL		
TO 422128	RAMADUGU_220	220.00	M2	-12.9	3.0	13.2	6			0.01	0.05	4201	TELANGANA		4203	TS_NPDCL		
BUS 422126	RAJESWARAPET	220.00	CKT	MW	MVAR	MVA	% 0.9832PU	-29.70	X---	LOSSES	---	X----	AREA	-----X	X----	ZONE	-----X	422126
							216.31KV			MW	MVAR	4201	TELANGANA		X----	TS_LIS		
TO LOAD-PQ				20.8	6.9	21.9												
TO 422125	RAMPUR_LIS	220.00	M1	-20.8	-6.9	21.9	9			0.02	0.13	4201	TELANGANA		4205	TS_LIS		
BUS 422127	BANSWADA	220.00	CKT	MW	MVAR	MVA	% 0.9870PU	-30.90	X---	LOSSES	---	X----	AREA	-----X	X----	ZONE	-----X	422127
							217.14KV			MW	MVAR	4201	TELANGANA		X----	TS_NPDCL		
TO 421166	BANSWADA	132.00	1	59.9	15.2	61.8	62	1.0000LK		0.98	4.95	4201	TELANGANA		4203	TS_NPDCL		
TO 421166	BANSWADA	132.00	2	59.9	15.2	61.8	62	1.0000LK		0.98	4.95	4201	TELANGANA		4203	TS_NPDCL		

TO 422016	DCPL 220 BUS220.00	M1	-59.9	-15.2	61.8	26			0.40	2.56	4201	TELANGANA	4203	TS_NPDCL			
TO 422016	DCPL 220 BUS220.00	M2	-59.9	-15.2	61.8	26			0.40	2.56	4201	TELANGANA	4203	TS_NPDCL			
BUS 422128	RAMADUGU_220220.00	CKT	MW	MVAR	MVA	% 0.9846PU	-29.15	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422128
						216.62KV			MW	MVAR	4201	TELANGANA	4203	TS_NPDCL			
TO 422021	DURSHED 220.00	M2	66.9	26.6	72.0	31			0.19	1.19	4201	TELANGANA	4203	TS_NPDCL			
TO 422089	SIRICILLA 220.00	M1	91.9	27.5	95.9	41			0.64	4.13	4201	TELANGANA	4203	TS_NPDCL			
TO 422089	SIRICILLA 220.00	M2	91.9	27.5	95.9	41			0.64	4.13	4201	TELANGANA	4203	TS_NPDCL			
TO 422125	RAMPUR_LIS 220.00	M1	12.9	-7.3	14.8	6			0.01	0.05	4201	TELANGANA	4205	TS_LIS			
TO 422125	RAMPUR_LIS 220.00	M2	12.9	-7.3	14.8	6			0.01	0.05	4201	TELANGANA	4205	TS_LIS			
TO 422139	DURSHED-2 220.00	M1	95.0	-2.0	95.0	41			0.32	2.04	4201	TELANGANA	4203	TS_NPDCL			
TO 424025	RAMADUGU 400.00	1	-185.7	-32.6	188.5	38	1.0000UN		0.46	9.16	4201	TELANGANA	4201	TS_SPDCL			
TO 424025	RAMADUGU 400.00	2	-185.7	-32.6	188.5	38	1.0000UN		0.46	9.16	4201	TELANGANA	4201	TS_SPDCL			
BUS 422129	KAMALAPUR 220.00	CKT	MW	MVAR	MVA	% 0.9975PU	-24.63	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422129
						219.46KV			MW	MVAR	4201	TELANGANA	4205	TS_LIS			
TO LOAD-PQ			104.0	0.0	104.0												
TO 422130	VK RAMAVARAM220.00	T1	63.4	-10.3	64.2	14			0.03	0.34	4201	TELANGANA	4205	TS_LIS			
TO 422130	VK RAMAVARAM220.00	T2	63.4	-10.3	64.2	14			0.03	0.34	4201	TELANGANA	4205	TS_LIS			
TO 424035	KAMALAPUR 400.00	1	-76.9	6.8	77.2	25	1.0000UN		0.12	1.50	4201	TELANGANA	4205	TS_LIS			
TO 424035	KAMALAPUR 400.00	2	-76.9	6.8	77.2	25	1.0000UN		0.12	1.50	4201	TELANGANA	4205	TS_LIS			
TO 424035	KAMALAPUR 400.00	3	-76.9	6.8	77.2	25	1.0000UN		0.12	1.50	4201	TELANGANA	4205	TS_LIS			
BUS 422130	VK RAMAVARAM220.00	CKT	MW	MVAR	MVA	% 0.9978PU	-24.93	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422130
						219.51KV			MW	MVAR	4201	TELANGANA	4205	TS_LIS			
TO LOAD-PQ			96.0	0.0	96.0												
TO 422005	KTPS-ABC 220.00	M1	35.2	-21.5	41.2	18			0.04	0.25	4201	TELANGANA	4203	TS_NPDCL			
TO 422107	ASUPAKA 220.00	M1	-4.5	5.9	7.5	3			0.01	0.04	4201	TELANGANA	4203	TS_NPDCL			
TO 422129	KAMALAPUR 220.00	T1	-63.3	7.8	63.8	14			0.03	0.34	4201	TELANGANA	4205	TS_LIS			
TO 422129	KAMALAPUR 220.00	T2	-63.3	7.8	63.8	14			0.03	0.34	4201	TELANGANA	4205	TS_LIS			
BUS 422131	CHANCHALGUDA220.00	CKT	MW	MVAR	MVA	% 0.9829PU	-31.95	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422131
						216.24KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO LOAD-PQ			38.9	4.2	39.1												
TO 422002	CHNDRYNGUTTA220.00	C1	-112.3	-11.9	112.9	38			0.04	0.33	4201	TELANGANA	4201	TS_SPDCL			
TO 422091	IMLIBUN GIS 220.00	C1	73.4	7.8	73.8	25			0.01	0.07	4201	TELANGANA	4201	TS_SPDCL			
BUS 422132	RENJAL 220.00	CKT	MW	MVAR	MVA	% 0.9839PU	-31.33	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422132
						216.47KV			MW	MVAR	4201	TELANGANA	4203	TS_NPDCL			
TO 421078	RENZAL 132.00	1	37.9	13.4	40.2	40	1.0000LK		0.42	2.10	4201	TELANGANA	4203	TS_NPDCL			
TO 421078	RENZAL 132.00	2	60.6	21.4	64.2	40	1.0000LK		0.67	3.36	4201	TELANGANA	4203	TS_NPDCL			
TO 422111	NIRMAL_NEW 220.00	M1	-52.2	-18.3	55.3	24			0.26	1.66	4201	TELANGANA	4203	TS_NPDCL			
TO 422133	MUPPKAL 220.00	M1	-46.3	-16.5	49.1	21			0.15	0.97	4201	TELANGANA	4205	TS_LIS			

BUS 422133	MUPPKAL	220.00	CKT	MW	MVAR	MVA	% 0.9925PU	-30.28	X---	LOSSES	---	X----	AREA	-----X	X----	ZONE	-----X	422133
							218.35KV			MW	MVAR	4201	TELANGANA		4205	TS_LIS		
TO LOAD-PQ				20.8	6.9	21.9												
TO 422111	NIRMAL_NEW	220.00	M1	-67.2	-17.5	69.5	30			0.11	0.73	4201	TELANGANA		4203	TS_NPDCL		
TO 422132	RENJAL	220.00	M1	46.4	10.7	47.6	20			0.15	0.97	4201	TELANGANA		4203	TS_NPDCL		
BUS 422134	CHEGUR	220.00	CKT	MW	MVAR	MVA	% 0.9809PU	-31.53	X---	LOSSES	---	X----	AREA	-----X	X----	ZONE	-----X	422134
							215.80KV			MW	MVAR	4201	TELANGANA		4201	TS_SPDCL		
TO 421405	CHEGUR	132.00	1	52.0	13.2	53.6	34 1.0000LK			0.47	2.35	4201	TELANGANA		4201	TS_SPDCL		
TO 421405	CHEGUR	132.00	2	52.0	13.2	53.6	34 1.0000LK			0.47	2.35	4201	TELANGANA		4201	TS_SPDCL		
TO 421405	CHEGUR	132.00	3	32.5	8.3	33.5	34 1.0000LK			0.29	1.47	4201	TELANGANA		4201	TS_SPDCL		
TO 422031	MMP 220 BUS	220.00	M1	-56.7	-7.8	57.2	24			0.14	0.87	4201	TELANGANA		4201	TS_SPDCL		
TO 422047	SHAMSHABAD	220.00	M1	-27.4	1.5	27.5	12			0.02	0.14	4201	TELANGANA		4201	TS_SPDCL		
TO 422048	SHADNAGAR	220.00	M1	-9.0	-8.3	12.2	5			0.00	0.01	4201	TELANGANA		4201	TS_SPDCL		
TO 422116	KETHIREDDYPA	220.00	M1	-43.2	-20.2	47.7	20			0.07	0.44	4201	TELANGANA		4201	TS_SPDCL		
BUS 422135	AKKARAM	220.00	CKT	MW	MVAR	MVA	% 0.9840PU	-31.04	X---	LOSSES	---	X----	AREA	-----X	X----	ZONE	-----X	422135
							216.48KV			MW	MVAR	4201	TELANGANA		4205	TS_LIS		
TO LOAD-PQ				64.8	0.0	64.8												
TO 422041	GJWL 220 BUS	220.00	T1	-73.2	1.1	73.2	16			0.03	0.23	4201	TELANGANA		4201	TS_SPDCL		
TO 422041	GJWL 220 BUS	220.00	T2	-73.2	1.1	73.2	16			0.03	0.23	4201	TELANGANA		4201	TS_SPDCL		
TO 422136	MARKOOK	220.00	M1	40.8	-1.1	40.8	17			0.02	0.13	4201	TELANGANA		4205	TS_LIS		
TO 422136	MARKOOK	220.00	M2	40.8	-1.1	40.8	17			0.02	0.13	4201	TELANGANA		4205	TS_LIS		
BUS 422136	MARKOOK	220.00	CKT	MW	MVAR	MVA	% 0.9835PU	-31.23	X---	LOSSES	---	X----	AREA	-----X	X----	ZONE	-----X	422136
							216.38KV			MW	MVAR	4201	TELANGANA		4205	TS_LIS		
TO LOAD-PQ				81.6	0.0	81.6												
TO 422135	AKKARAM	220.00	M1	-40.8	0.0	40.8	17			0.02	0.13	4201	TELANGANA		4205	TS_LIS		
TO 422135	AKKARAM	220.00	M2	-40.8	0.0	40.8	17			0.02	0.13	4201	TELANGANA		4205	TS_LIS		
BUS 422137	BGKOTHUR	220.00	CKT	MW	MVAR	MVA	% 1.0000PU	-25.13	X---	LOSSES	---	X----	AREA	-----X	X----	ZONE	-----X	422137
							220.01KV			MW	MVAR	4201	TELANGANA		4205	TS_LIS		
TO LOAD-PQ				60.0	0.0	60.0												
TO 412200	LWERSLR_SPLT	220.00	Z1	21.2	-7.6	22.5	11			0.08	0.44	4101	ANDRAPRADESH		4119	AP-RAJMUNDRY		
TO 422005	KTPS-ABC	220.00	Z1	9.1	-3.3	9.7	5			0.00	0.02	4201	TELANGANA		4203	TS_NPDCL		
TO 422007	MANUGURU	220.00	Z1	-98.6	14.4	99.6	48			0.29	1.53	4201	TELANGANA		4203	TS_NPDCL		
TO 422085	KTPS-V	220.00	Z1	8.3	-3.5	9.0	4			0.00	0.02	4201	TELANGANA		4203	TS_NPDCL		
BUS 422138	BTPS	220.00	CKT	MW	MVAR	MVA	% 1.0015PU	-23.34	X---	LOSSES	---	X----	AREA	-----X	X----	ZONE	-----X	422138
							220.33KV			MW	MVAR	4201	TELANGANA		4203	TS_NPDCL		
TO 422007	MANUGURU	220.00	M1	89.1	-9.5	89.6	38			0.22	1.39	4201	TELANGANA		4203	TS_NPDCL		
TO 422007	MANUGURU	220.00	M2	89.1	-9.5	89.6	38			0.22	1.39	4201	TELANGANA		4203	TS_NPDCL		
TO 424030	BTPS	400.00	1	-178.2	19.0	179.2	57 1.0000UN			0.63	12.71	4201	TELANGANA		4203	TS_NPDCL		

BUS 422139	DURSHED-2	220.00	CKT	MW	MVAR	MVA	% 0.9816PU	-30.38	X---	LOSSES	---	X----	AREA	-----	X	X----	ZONE	-----	X	422139
							215.96KV			MW	MVAR	4201	TELANGANA				4203	TS_NPDCL		
TO 422022	SIDDIPET	220.00	Z1	47.3	-3.8	47.5	23			0.24	1.28	4201	TELANGANA				4201	TS_SPDCL		
TO 422064	MALLARAM	220.00	Z1	43.2	-3.9	43.4	21			0.19	1.01	4201	TELANGANA				4206	TS_WW		
TO 422099	HUZURABAD	220.00	M1	4.1	7.3	8.4	4			0.01	0.06	4201	TELANGANA				4203	TS_NPDCL		
TO 422128	RAMADUGU_220	220.00	M1	-94.7	0.4	94.7	40			0.32	2.04	4201	TELANGANA				4203	TS_NPDCL		
BUS 422140	ANNARAM-LIS	220.00	CKT	MW	MVAR	MVA	% 0.9982PU	-27.93	X---	LOSSES	---	X----	AREA	-----	X	X----	ZONE	-----	X	422140
							219.61KV			MW	MVAR	4201	TELANGANA				4205	TS_LIS		
TO LOAD-PQ				192.0	0.0	192.0														
TO 422114	ANNARAM	220.00	2	-192.0	0.0	192.0				0.00	0.00	4201	TELANGANA				4203	TS_NPDCL		
BUS 422141	MEDIGADDA_LI	220.00	CKT	MW	MVAR	MVA	% 0.9956PU	-29.56	X---	LOSSES	---	X----	AREA	-----	X	X----	ZONE	-----	X	422141
							219.04KV			MW	MVAR	4201	TELANGANA				4205	TS_LIS		
TO LOAD-PQ				272.0	0.0	272.0														
TO 421496	MEDIGADDA	132.00	1	22.5	11.6	25.3	16 1.0000LK			0.10	0.51	4201	TELANGANA				4205	TS_LIS		
TO 421496	MEDIGADDA	132.00	2	22.5	11.6	25.3	16 1.0000LK			0.10	0.51	4201	TELANGANA				4205	TS_LIS		
TO 422113	MEDIGADDA	220.00	2	-316.9	-23.2	317.8				0.00	0.00	4201	TELANGANA				4203	TS_NPDCL		
BUS 422142	SUNDILLA_LIS	220.00	CKT	MW	MVAR	MVA	% 0.9993PU	-28.00	X---	LOSSES	---	X----	AREA	-----	X	X----	ZONE	-----	X	422142
							219.84KV			MW	MVAR	4201	TELANGANA				4205	TS_LIS		
TO LOAD-PQ				224.0	0.0	224.0														
TO 422115	SUNDILLA	220.00	2	-224.0	-0.0	224.0				0.00	0.00	4201	TELANGANA				4203	TS_NPDCL		
BUS 422143	INDRAVELLI	220.00	CKT	MW	MVAR	MVA	% 0.9899PU	-31.67	X---	LOSSES	---	X----	AREA	-----	X	X----	ZONE	-----	X	422143
							217.78KV			MW	MVAR	4201	TELANGANA				4203	TS_NPDCL		
TO 421420	INDRAVELLI	132.00	1	41.0	6.6	41.5	41 1.0000LK			0.44	2.21	4201	TELANGANA				4203	TS_NPDCL		
TO 421420	INDRAVELLI	132.00	2	41.0	6.6	41.5	41 1.0000LK			0.44	2.21	4201	TELANGANA				4203	TS_NPDCL		
TO 422111	NIRMAL_NEW	220.00	M1	-41.0	-6.6	41.5	18			0.26	1.41	4201	TELANGANA				4203	TS_NPDCL		
TO 422111	NIRMAL_NEW	220.00	M2	-41.0	-6.6	41.5	18			0.26	1.41	4201	TELANGANA				4203	TS_NPDCL		
BUS 422144	RAIDURG	220.00	CKT	MW	MVAR	MVA	% 0.9721PU	-32.93	X---	LOSSES	---	X----	AREA	-----	X	X----	ZONE	-----	X	422144
							213.85KV			MW	MVAR	4201	TELANGANA				4204	TS_GHMC		
TO 421424	RAIDURG	132.00	1	96.8	21.7	99.2	62 1.0000LK			1.63	8.20	4201	TELANGANA				4204	TS_GHMC		
TO 421424	RAIDURG	132.00	2	96.8	21.7	99.2	62 1.0000LK			1.63	8.20	4201	TELANGANA				4204	TS_GHMC		
TO 422011	SHAPURNGR	220.00	Z1	35.3	16.6	39.0	19			0.05	0.29	4201	TELANGANA				4201	TS_SPDCL		
TO 422017	GACIBWLI	220.00	Z1	12.8	0.4	12.8	6			0.00	0.03	4201	TELANGANA				4201	TS_SPDCL		
TO 422017	GACIBWLI	220.00	Z2	18.5	1.5	18.5	9			0.01	0.04	4201	TELANGANA				4201	TS_SPDCL		
TO 422017	GACIBWLI	220.00	Z3	24.2	2.3	24.3	12			0.01	0.05	4201	TELANGANA				4201	TS_SPDCL		
TO 422017	GACIBWLI	220.00	Z4	13.4	0.5	13.4	6			0.00	0.03	4201	TELANGANA				4201	TS_SPDCL		
TO 422039	SIVARAMPALLI	220.00	Z1	-63.2	-3.8	63.3	30			0.11	0.60	4201	TELANGANA				4201	TS_SPDCL		
TO 422072	ERRAGADDA	220.00	Z1	124.6	29.8	128.2	62			0.43	2.30	4201	TELANGANA				4201	TS_SPDCL		
TO 422073	MIYAPUR	220.00	Z1	74.2	21.8	77.4	37			0.17	0.93	4201	TELANGANA				4201	TS_SPDCL		
TO 424042	RAIDURG_GIS	400.00	1	-216.7	-56.2	223.8	45 1.0000UN			0.66	13.26	4201	TELANGANA				4204	TS_GHMC		

TO 424042	RAIDURG_GIS	400.00	2	-216.7	-56.2	223.8	45	1.0000UN		0.66	13.26	4201	TELANGANA	4204	TS_GHMC				
BUS 422145	CHOUTUPPAL	220.00	CKT		MW	MVAR	MVA	% 0.9880PU	-27.38	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422145
								217.36KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO 421430	CHOUTUPPAL-4132.00	1		93.1	27.2	97.0	61	1.0000LK		1.51	7.60	4201	TELANGANA	4201	TS_SPDCL				
TO 421430	CHOUTUPPAL-4132.00	2		93.1	27.2	97.0	61	1.0000LK		1.51	7.60	4201	TELANGANA	4201	TS_SPDCL				
TO 422024	MALKARAM	220.00	M1	96.1	-1.7	96.1	41			1.04	7.28	4201	TELANGANA	4201	TS_SPDCL				
TO 422024	MALKARAM	220.00	M2	96.1	-1.7	96.1	41			1.04	7.28	4201	TELANGANA	4201	TS_SPDCL				
TO 422026	NKP 220KVSS	220.00	M1	52.6	7.7	53.2	23			0.19	1.32	4201	TELANGANA	4201	TS_SPDCL				
TO 422026	NKP 220KVSS	220.00	M2	52.6	7.7	53.2	23			0.19	1.32	4201	TELANGANA	4201	TS_SPDCL				
TO 424045	CHOUTUPPAL	400.00	1	-241.8	-33.2	244.1	49	1.0000UN		0.76	15.26	4201	TELANGANA	4201	TS_SPDCL				
TO 424045	CHOUTUPPAL	400.00	2	-241.8	-33.2	244.1	49	1.0000UN		0.76	15.26	4201	TELANGANA	4201	TS_SPDCL				
BUS 422146	DAMARACHERLA	220.00	CKT		MW	MVAR	MVA	% 0.9933PU	-23.95	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422146
								218.52KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO 422006	MIRYALAGUDA	220.00	T1	192.6	4.6	192.7	41			0.54	5.43	4201	TELANGANA	4201	TS_SPDCL				
TO 422006	MIRYALAGUDA	220.00	T2	192.6	4.6	192.7	41			0.54	5.43	4201	TELANGANA	4201	TS_SPDCL				
TO 422117	HUZURNAGAR	220.00	M1	99.4	-4.3	99.5	43			0.52	3.64	4201	TELANGANA	4201	TS_SPDCL				
TO 422117	HUZURNAGAR	220.00	M2	99.4	-4.3	99.5	43			0.52	3.64	4201	TELANGANA	4201	TS_SPDCL				
TO 424046	DAMARACHERLA	400.00	1	-292.0	-0.2	292.0	58	1.0000UN		1.08	21.61	4201	TELANGANA	4201	TS_SPDCL				
TO 424046	DAMARACHERLA	400.00	2	-292.0	-0.2	292.0	58	1.0000UN		1.08	21.61	4201	TELANGANA	4201	TS_SPDCL				
BUS 422147	KTPP	220.00	CKT		MW	MVAR	MVA	% 0.9969PU	-26.49	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422147
								219.32KV			MW	MVAR	4201	TELANGANA	4203	TS_NPDCL			
TO 421431	KTPP	132.00	1	54.4	10.3	55.4	35	1.0000LK		0.48	2.43	4201	TELANGANA	4203	TS_NPDCL				
TO 421431	KTPP	132.00	2	54.4	10.3	55.4	35	1.0000LK		0.48	2.43	4201	TELANGANA	4203	TS_NPDCL				
TO 422042	BHIMGANAPUR	220.00	M1	48.5	-3.9	48.7	21			0.06	0.76	4201	TELANGANA	4205	TS_LIS				
TO 422042	BHIMGANAPUR	220.00	M2	48.5	-3.9	48.7	21			0.06	0.76	4201	TELANGANA	4205	TS_LIS				
TO 422044	PULAKURTHY	220.00	M1	44.7	-0.5	44.7	19			0.13	0.88	4201	TELANGANA	4205	TS_LIS				
TO 422053	SALIVAGU	220.00	M1	52.1	2.2	52.1	22			0.06	0.81	4201	TELANGANA	4205	TS_LIS				
TO 422077	MANTHANI	220.00	M1	51.8	2.3	51.8	22			0.15	1.08	4201	TELANGANA	4203	TS_NPDCL				
TO 422077	MANTHANI	220.00	M2	51.8	2.3	51.8	22			0.15	1.08	4201	TELANGANA	4203	TS_NPDCL				
TO 424009	KAKATIYA TPS	400.00	1	-203.1	-9.5	203.3	41	1.0000UN		0.52	10.40	4201	TELANGANA	4203	TS_NPDCL				
TO 424009	KAKATIYA TPS	400.00	2	-203.1	-9.5	203.3	41	1.0000UN		0.52	10.40	4201	TELANGANA	4203	TS_NPDCL				
BUS 422148	HUSNABAD	220.00	CKT		MW	MVAR	MVA	% 0.9820PU	-29.61	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422148
								216.04KV			MW	MVAR	4201	TELANGANA	4203	TS_NPDCL			
TO 421433	HUSNABAD-2	132.00	1	50.5	13.6	52.3	52	1.0000LK		0.71	3.57	4201	TELANGANA	4203	TS_NPDCL				
TO 421433	HUSNABAD-2	132.00	2	50.5	13.6	52.3	52	1.0000LK		0.71	3.57	4201	TELANGANA	4203	TS_NPDCL				
TO 422123	JANGOAN	220.00	M1	-50.5	-13.6	52.3	22			0.19	1.33	4201	TELANGANA	4203	TS_NPDCL				
TO 422123	JANGOAN	220.00	M2	-50.5	-13.6	52.3	22			0.19	1.33	4201	TELANGANA	4203	TS_NPDCL				

BUS 422149	AMMAVARIPET	220.00	CKT	MW	MVAR	MVA	% 0.9684PU	-30.40	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422149
							213.05KV			MW	MVAR	4201	TELANGANA	4203	TS_NPDCL			
TO 421432	AMMAVARIPET	132.00	1	56.0	20.3	59.6	60 1.0000LK			0.95	4.77	4201	TELANGANA	4203	TS_NPDCL			
TO 421432	AMMAVARIPET	132.00	2	56.0	20.3	59.6	60 1.0000LK			0.95	4.77	4201	TELANGANA	4203	TS_NPDCL			
TO 422013	WARANGAL	220.00	M1	-51.3	-21.8	55.7	24			0.27	1.91	4201	TELANGANA	4203	TS_NPDCL			
TO 422106	MAHABUBAD	220.00	M1	-60.8	-18.7	63.6	27			0.36	2.54	4201	TELANGANA	4203	TS_NPDCL			
BUS 422150	BORAMPET	220.00	CKT	MW	MVAR	MVA	% 0.9950PU	-31.14	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422150
							218.91KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO 421434	BORAMPET	132.00	1	9.3	3.2	9.8	6 1.0000LK			0.02	0.08	4201	TELANGANA	4201	TS_SPDCL			
TO 421434	BORAMPET	132.00	2	9.3	3.2	9.8	6 1.0000LK			0.02	0.08	4201	TELANGANA	4201	TS_SPDCL			
TO 422093	NARSARPUR	220.00	M	-9.3	-3.2	9.8	4			0.02	0.11	4201	TELANGANA	4201	TS_SPDCL			
TO 422093	NARSARPUR	220.00	MC	-9.3	-3.2	9.8	4			0.02	0.11	4201	TELANGANA	4201	TS_SPDCL			
BUS 422151	KATHALAPUR	220.00	CKT	MW	MVAR	MVA	% 0.9881PU	-29.81	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422151
							217.38KV			MW	MVAR	4201	TELANGANA	4203	TS_NPDCL			
TO 421361	KATHATLAPUR	132.00	1	46.4	10.5	47.6	48 1.0000LK			0.58	2.92	4201	TELANGANA	4203	TS_NPDCL			
TO 421361	KATHATLAPUR	132.00	2	46.4	10.5	47.6	48 1.0000LK			0.58	2.92	4201	TELANGANA	4203	TS_NPDCL			
TO 422015	DICHPALLY220	220.00	Z1	-38.5	-20.2	43.5	21			0.15	0.88	4201	TELANGANA	4203	TS_NPDCL			
TO 422056	MEDARAM	220.00	Z1	-54.3	-0.7	54.3	26			0.29	1.67	4201	TELANGANA	4205	TS_LIS			
BUS 422152	I-STEELPLANT	220.00	CKT	MW	MVAR	MVA	% 0.9746PU	-26.83	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422152
							214.42KV			MW	MVAR	4201	TELANGANA	4203	TS_NPDCL			
TO LOAD-PQ				399.0	132.0	420.3												
TO 424047	I-STEELPLANT	400.00	1	-199.5	-66.0	210.1	42 1.0000UN			0.58	11.62	4201	TELANGANA	4203	TS_NPDCL			
TO 424047	I-STEELPLANT	400.00	2	-199.5	-66.0	210.1	42 1.0000UN			0.58	11.62	4201	TELANGANA	4203	TS_NPDCL			
BUS 422153	KOLLUR	220.00	CKT	MW	MVAR	MVA	% 0.9772PU	-32.34	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422153
							214.97KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO LOAD-PQ				10.0	3.3	10.5												
TO 422017	GACIBWLI	220.00	H1	170.7	47.9	177.3	33			0.41	2.36	4201	TELANGANA	4201	TS_SPDCL			
TO 422054	SHANKARPALLY	220.00	H1	-180.7	-51.2	187.8	35			0.65	3.71	4201	TELANGANA	4201	TS_SPDCL			
BUS 422154	SAINIKPURI	220.00	CKT	MW	MVAR	MVA	% 0.9737PU	-32.26	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422154
							214.22KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO LOAD-PQ				20.0	6.6	21.1												
TO 422058	GUNROCK	220.00	MC	-20.0	-6.6	21.1	9			0.01	0.03	4201	TELANGANA	4201	TS_SPDCL			
BUS 422155	KACHA SINGAR	220.00	CKT	MW	MVAR	MVA	% 0.9951PU	-31.24	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422155
							218.93KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO 421446	KACHA SINGAR	132.00	1	40.3	4.0	40.5	40 1.0000LK			0.41	2.08	4201	TELANGANA	4201	TS_SPDCL			
TO 421446	KACHA SINGAR	132.00	2	40.3	4.0	40.5	40 1.0000LK			0.41	2.08	4201	TELANGANA	4201	TS_SPDCL			
TO 422002	CHNDRYNGUTTA	220.00	Z1	41.8	34.0	53.8	26			0.16	0.83	4201	TELANGANA	4201	TS_SPDCL			
TO 422003	GHANAPUR	220.00	M1	-49.4	-13.7	51.2	22			0.04	0.22	4201	TELANGANA	4201	TS_SPDCL			

TO 422003	GHANAPUR	220.00	Z2	-88.3	-23.7	91.5	44		0.07	0.40	4201	TELANGANA	4201	TS_SPDCL					
TO 422076	HAYATHNAGAR	220.00	M1	15.4	-4.5	16.0	7		0.01	0.04	4201	TELANGANA	4201	TS_SPDCL					
BUS 422156	RC PURAM	220.00	CKT		MW	MVAR	MVA	% 0.9683PU	-33.45	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422156
								213.03KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO 421050	R.CPURAM	132.00	1	105.5	28.2	109.2	68	1.0000LK		1.99	10.03	4201	TELANGANA	4201	TS_SPDCL				
TO 421050	R.CPURAM	132.00	2	105.5	28.2	109.2	68	1.0000LK		1.99	10.03	4201	TELANGANA	4201	TS_SPDCL				
TO 422017	GACIBWLI	220.00	H1	-105.5	-28.2	109.2	20			0.15	0.84	4201	TELANGANA	4201	TS_SPDCL				
TO 422017	GACIBWLI	220.00	H2	-105.5	-28.2	109.2	20			0.15	0.84	4201	TELANGANA	4201	TS_SPDCL				
BUS 422157	ANNARAM 4	220.00	CKT		MW	MVAR	MVA	% 0.9982PU	-27.91	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422157
								219.61KV			MW	MVAR	4201	TELANGANA	4205	TS_LIS			
TO 422113	MEDIGADDA	220.00	T1	103.5	-4.2	103.6	22			0.30	2.98	4201	TELANGANA	4203	TS_NPDCL				
TO 422113	MEDIGADDA	220.00	T2	103.5	-4.2	103.6	22			0.30	2.98	4201	TELANGANA	4203	TS_NPDCL				
TO 422114	ANNARAM	220.00	T1	102.3	-9.5	102.7	22			0.00	0.03	4201	TELANGANA	4203	TS_NPDCL				
TO 422114	ANNARAM	220.00	T2	102.3	-9.5	102.7	22			0.00	0.03	4201	TELANGANA	4203	TS_NPDCL				
TO 424055	ANNARAM	400.00	1	-137.2	9.2	137.5	27	1.0000UN		0.24	4.74	4201	TELANGANA	4205	TS_LIS				
TO 424055	ANNARAM	400.00	2	-137.2	9.2	137.5	27	1.0000UN		0.24	4.74	4201	TELANGANA	4205	TS_LIS				
TO 424055	ANNARAM	400.00	3	-137.2	9.2	137.5	27	1.0000UN		0.24	4.74	4201	TELANGANA	4205	TS_LIS				
BUS 422158	DEVANNAPET	220.00	CKT		MW	MVAR	MVA	% 0.9916PU	-28.57	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422158
								218.15KV			MW	MVAR	4201	TELANGANA	4205	TS_LIS			
TO LOAD-PQ				38.4	0.0	38.4													
TO 422123	JANGOAN	220.00	T1	-19.2	-0.0	19.2	4			0.01	0.13	4201	TELANGANA	4203	TS_NPDCL				
TO 422123	JANGOAN	220.00	T2	-19.2	-0.0	19.2	4			0.01	0.13	4201	TELANGANA	4203	TS_NPDCL				
BUS 422159	YACHARAM THA	220.00	CKT		MW	MVAR	MVA	% 1.0006PU	-28.83	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422159
								220.13KV			MW	MVAR	4201	TELANGANA	4205	TS_LIS			
TO LOAD-PQ				36.0	0.0	36.0													
TO 422016	DCPL 220 BUS	220.00	M1	-18.0	0.0	18.0	8			0.01	0.07	4201	TELANGANA	4203	TS_NPDCL				
TO 422016	DCPL 220 BUS	220.00	M2	-18.0	0.0	18.0	8			0.01	0.07	4201	TELANGANA	4203	TS_NPDCL				
BUS 422160	MANCHIPPA	220.00	CKT		MW	MVAR	MVA	% 1.0002PU	-28.82	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422160
								220.04KV			MW	MVAR	4201	TELANGANA	4205	TS_LIS			
TO LOAD-PQ				30.4	2.1	30.5													
TO 422016	DCPL 220 BUS	220.00	M1	-20.3	-1.7	20.4	9			0.01	0.08	4201	TELANGANA	4203	TS_NPDCL				
TO 422164	MENTRAJPALLY	220.00	M2	-10.1	-0.4	10.1	4			0.00	0.02	4201	TELANGANA	4205	TS_LIS				
BUS 422161	CHELMEDA	220.00	CKT		MW	MVAR	MVA	% 0.9866PU	-32.05	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422161
								217.06KV			MW	MVAR	4201	TELANGANA	4205	TS_LIS			
TO 421481	CHELMEDA	132.00	1	18.3	5.0	18.9	12	1.0000LK		0.06	0.29	4201	TELANGANA	4205	TS_LIS				
TO 421481	CHELMEDA	132.00	2	18.3	5.0	18.9	12	1.0000LK		0.06	0.29	4201	TELANGANA	4205	TS_LIS				
TO 422063	SADASIVPET	220.00	M1	-3.1	0.7	3.2	1			0.00	0.00	4201	TELANGANA	4201	TS_SPDCL				
TO 422063	SADASIVPET	220.00	M2	-3.1	0.7	3.2	1			0.00	0.00	4201	TELANGANA	4201	TS_SPDCL				

TO 422162	BORANCHA	220.00	M1	-15.1	-5.7	16.2	7			0.01	0.08	4201	TELANGANA	4205	TS_LIS			
TO 422162	BORANCHA	220.00	M2	-15.1	-5.7	16.2	7			0.01	0.08	4201	TELANGANA	4205	TS_LIS			
BUS 422162	BORANCHA	220.00	CKT	MW	MVAR	MVA	% 0.9883PU	-31.77	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422162
							217.43KV			MW	MVAR	4201	TELANGANA	4205	TS_LIS			
TO 421482	BORANCHA	132.00	1	14.1	3.2	14.4	14	1.0000LK		0.05	0.27	4201	TELANGANA	4205	TS_LIS			
TO 421482	BORANCHA	132.00	2	14.1	3.2	14.4	14	1.0000LK		0.05	0.27	4201	TELANGANA	4205	TS_LIS			
TO 422093	NARSARPUR	220.00	M1	-29.2	-3.4	29.4	13			0.07	0.52	4201	TELANGANA	4201	TS_SPDCL			
TO 422093	NARSARPUR	220.00	M2	-29.2	-3.4	29.4	13			0.07	0.52	4201	TELANGANA	4201	TS_SPDCL			
TO 422161	CHELMEDA	220.00	M1	15.1	0.2	15.2	6			0.01	0.08	4201	TELANGANA	4205	TS_LIS			
TO 422161	CHELMEDA	220.00	M2	15.1	0.2	15.2	6			0.01	0.08	4201	TELANGANA	4205	TS_LIS			
BUS 422163	POKKUR	220.00	CKT	MW	MVAR	MVA	% 0.9975PU	-29.04	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422163
							219.46KV			MW	MVAR	4201	TELANGANA	4205	TS_LIS			
TO LOAD-PQ				8.3	2.7	8.8												
TO 422113	MEDIGADDA	220.00	T1	47.6	2.1	47.6	10			0.04	0.45	4201	TELANGANA	4203	TS_NPDCL			
TO 422115	SUNDILLA	220.00	T1	-55.9	-4.8	56.1	12			0.10	1.02	4201	TELANGANA	4203	TS_NPDCL			
BUS 422164	MENTRAJPALLY	220.00	CKT	MW	MVAR	MVA	% 1.0003PU	-28.72	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422164
							220.07KV			MW	MVAR	4201	TELANGANA	4205	TS_LIS			
TO LOAD-PQ				10.0	3.3	10.5												
TO 422016	DCPL 220 BUS	220.00	M1	-20.1	-1.0	20.1	9			0.01	0.04	4201	TELANGANA	4203	TS_NPDCL			
TO 422160	MANCHIPPA	220.00	M2	10.1	-2.3	10.4	4			0.00	0.02	4201	TELANGANA	4205	TS_LIS			
BUS 422165	ALWAL	220.00	CKT	MW	MVAR	MVA	% 0.9662PU	-33.40	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422165
							212.57KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO LOAD-PQ				30.9	12.4	33.3												
TO 422011	SHAPURNGR	220.00	H1	-30.9	-12.4	33.3	6			0.02	0.09	4201	TELANGANA	4201	TS_SPDCL			
BUS 422166	CPRI	220.00	CKT	MW	MVAR	MVA	% 0.9970PU	-31.02	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422166
							219.33KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO LOAD-PQ				3.0	1.0	3.1												
TO 422003	GHANAPUR	220.00	M1	-3.0	-1.0	3.1	1			0.00	0.00	4201	TELANGANA	4201	TS_SPDCL			
BUS 422167	NEMALINAGAR	220.00	CKT	MW	MVAR	MVA	% 0.9721PU	-32.84	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422167
							213.86KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO LOAD-PQ				24.7	6.9	25.6												
TO 422017	GACIBWLI	220.00	Z1	30.7	-0.5	30.7	15			0.02	0.10	4201	TELANGANA	4201	TS_SPDCL			
TO 422039	SIVARAMPALLI	220.00	Z1	-55.4	-6.5	55.8	27			0.08	0.45	4201	TELANGANA	4201	TS_SPDCL			
BUS 422168	UDDANDAPUR	220.00	CKT	MW	MVAR	MVA	% 0.9892PU	-30.03	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	422168
							217.62KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO 421495	UDDANDAPUR	132.00	1	28.8	2.1	28.9	18	1.0000LK		0.13	0.67	4201	TELANGANA	4201	TS_SPDCL			
TO 421495	UDDANDAPUR	132.00	2	28.8	2.1	28.9	18	1.0000LK		0.13	0.67	4201	TELANGANA	4201	TS_SPDCL			

TO 422048	SHADNAGAR	220.00	1	62.6	6.6	62.9	27		0.24	1.66	4201	TELANGANA	4201	TS_SPDCL		
TO 422048	SHADNAGAR	220.00	2	62.6	6.6	62.9	27		0.24	1.66	4201	TELANGANA	4201	TS_SPDCL		
TO 422084	KOSIGI	220.00	1	52.3	8.8	53.0	23		0.21	1.44	4201	TELANGANA	4201	TS_SPDCL		
TO 422084	KOSIGI	220.00	2	52.3	8.8	53.0	23		0.21	1.44	4201	TELANGANA	4201	TS_SPDCL		
TO 424059	UDDANDAPUR	400.00	1	-143.7	-17.5	144.7	29	1.0000UN	0.27	5.35	4201	TELANGANA	4205	TS_LIS		
TO 424059	UDDANDAPUR	400.00	2	-143.7	-17.5	144.7	29	1.0000UN	0.27	5.35	4201	TELANGANA	4205	TS_LIS		
BUS 424001	VELTOOR	400.00	CKT	MW	MVAR	MVA	% 1.0049PU	-23.24	X---	LOSSES	---X	X----	AREA -----X	X----	ZONE -----X	424001
							401.98KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL	
TO SHUNT				0.0	114.5	114.5										
TO 414007	TALLAPALLI	400.00	T1	-34.6	-68.2	76.5	9		0.05	0.56	4801	SR_ISTS_AP	4101	ANDRAPRADESH		
TO 414038	URAVAKONDA4	400.00	Q1	-351.8	-81.4	361.1	21		1.41	24.28	4101	ANDRAPRADESH	4101	ANDRAPRADESH		
TO 414038	URAVAKONDA4	400.00	Q2	-351.8	-81.4	361.1	21		1.41	24.28	4101	ANDRAPRADESH	4101	ANDRAPRADESH		
TO 422049	VLT 220 BUS	220.00	1	102.8	18.6	104.4	21	1.0000LK	0.13	2.70	4201	TELANGANA	4201	TS_SPDCL		
TO 422049	VLT 220 BUS	220.00	2	102.8	18.6	104.4	21	1.0000LK	0.13	2.70	4201	TELANGANA	4201	TS_SPDCL		
TO 422049	VLT 220 BUS	220.00	3	64.8	11.7	65.8	21	1.0000LK	0.08	1.70	4201	TELANGANA	4201	TS_SPDCL		
TO 422049	VLT 220 BUS	220.00	4	64.8	11.7	65.8	21	1.0000LK	0.08	1.70	4201	TELANGANA	4201	TS_SPDCL		
TO 424021	MHSWRM-PG	400.00	T1	68.8	-92.8	115.5	14		0.15	1.63	4201	TELANGANA	4201	TS_SPDCL		
TO 424021	MHSWRM-PG	400.00	T2	68.8	-92.8	115.5	14		0.15	1.63	4201	TELANGANA	4201	TS_SPDCL		
TO 424057	YEDULA	400.00	Q1	561.7	50.7	564.0	33		1.46	25.08	4201	TELANGANA	4205	TS_LIS		
TO 424057	YEDULA	400.00	Q2	561.7	50.7	564.0	33		1.46	25.08	4201	TELANGANA	4205	TS_LIS		
TO 434006	RAICHUR TPS	400.00	H1	-857.7	140.1	869.0	51		10.34	115.27	4301	KARNATAKA	4314	GESCOM		
BUS 424003	GHANAPUR	400.00	CKT	MW	MVAR	MVA	% 1.0043PU	-26.80	X---	LOSSES	---X	X----	AREA -----X	X----	ZONE -----X	424003
							401.73KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL	
TO SHUNT				0.0	57.6	57.6										
TO 414007	TALLAPALLI	400.00	T1	-235.4	-39.0	238.6	28		1.59	17.69	4801	SR_ISTS_AP	4101	ANDRAPRADESH		
TO 422003	GHANAPUR	220.00	1	185.8	16.0	186.4	59	1.0000LK	0.68	13.67	4201	TELANGANA	4201	TS_SPDCL		
TO 422003	GHANAPUR	220.00	2	185.8	16.0	186.4	59	1.0000LK	0.68	13.67	4201	TELANGANA	4201	TS_SPDCL		
TO 422003	GHANAPUR	220.00	3	185.8	16.0	186.4	59	1.0000LK	0.68	13.67	4201	TELANGANA	4201	TS_SPDCL		
TO 422003	GHANAPUR	220.00	4	294.8	25.4	295.9	59	1.0000LK	1.09	21.70	4201	TELANGANA	4201	TS_SPDCL		
TO 423001	GHANAPUR	37.000	1	-0.0	-200.9	200.9	43	1.0000LK	0.00	17.06	4201	TELANGANA	4201	TS_SPDCL		
TO 424002	RSTPS NTPC	400.00	T3	-178.4	-23.5	180.0	21		1.22	13.63	4202	RGM-TPS	4202	RGM-TPS		
TO 424002	RSTPS NTPC	400.00	T4	-178.4	-23.5	180.0	21		1.22	13.63	4202	RGM-TPS	4202	RGM-TPS		
TO 424006	MAMIDIPALLI	400.00	T1	-82.3	64.3	104.5	12		0.12	1.20	4201	TELANGANA	4201	TS_SPDCL		
TO 424008	GAJWEL	400.00	T1	70.1	71.4	100.1	12		0.10	1.05	4201	TELANGANA	4201	TS_SPDCL		
TO 424011	MALKARAM	400.00	T1	179.9	84.9	198.9	23		0.35	3.73	4201	TELANGANA	4201	TS_SPDCL		
TO 424021	MHSWRM-PG	400.00	T1	-427.6	-65.0	432.5	51		1.92	21.40	4201	TELANGANA	4201	TS_SPDCL		
BUS 424004	KHAMMAM	400.00	CKT	MW	MVAR	MVA	% 1.0060PU	-23.13	X---	LOSSES	---X	X----	AREA -----X	X----	ZONE -----X	424004
							402.40KV			MW	MVAR	4201	TELANGANA	4203	TS_NPDCL	
TO SWITCHED SHUNT				0.0	-0.0	0.0										
TO 414007	TALLAPALLI	400.00	T1	-40.8	-63.5	75.5	9		0.05	0.56	4801	SR_ISTS_AP	4101	ANDRAPRADESH		
TO 414007	TALLAPALLI	400.00	T2	-37.7	-58.8	69.9	8		0.05	0.52	4801	SR_ISTS_AP	4101	ANDRAPRADESH		

TO 414007	TALLAPALLI	400.00	T3	-40.8	-63.5	75.5	9		0.05	0.56	4801	SR_ISTS_AP	4101	ANDRAPRADESH				
TO 414008	NUNNA	400.00	T1	-9.2	-12.5	15.5	2		0.01	0.11	4801	SR_ISTS_AP	4101	ANDRAPRADESH				
TO 414011	KALAPAKA4	400.00	T2	-46.2	30.2	55.2	6		0.34	4.64	4101	ANDRAPRADESH	4101	ANDRAPRADESH				
TO 422023	BPD 220KV SS220.00	1		125.4	18.8	126.8	40	1.0000LK	0.31	6.30	4201	TELANGANA	4203	TS_NPDCL				
TO 422023	BPD 220KV SS220.00	2		125.4	18.8	126.8	40	1.0000LK	0.31	6.30	4201	TELANGANA	4203	TS_NPDCL				
TO 422023	BPD 220KV SS220.00	3		199.0	29.8	201.2	40	1.0000LK	0.50	10.00	4201	TELANGANA	4203	TS_NPDCL				
TO 424010	WARANGAL	400.00	T1	36.8	-3.7	37.0	4		0.04	0.39	4201	TELANGANA	4203	TS_NPDCL				
TO 424012	KTPS-VI	400.00	T1	-242.6	46.9	247.1	29		0.79	8.78	4201	TELANGANA	4203	TS_NPDCL				
TO 424020	ASUPAKA	400.00	T1	36.5	74.3	82.8	10		0.11	0.98	4201	TELANGANA	4203	TS_NPDCL				
TO 424024	KTPS-VII	400.00	T1	-206.4	45.1	211.3	25		0.59	6.55	4201	TELANGANA	4203	TS_NPDCL				
TO 424045	CHOUTUPPAL	400.00	T1	50.4	-30.9	59.1	7		0.07	0.73	4201	TELANGANA	4201	TS_SPDCL				
TO 424045	CHOUTUPPAL	400.00	T2	50.4	-30.9	59.1	7		0.07	0.73	4201	TELANGANA	4201	TS_SPDCL				
BUS 424005	SRISAILMLB	400.00	CKT	MW	MVAR	MVA	% 1.0000PU	-21.22	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	424005
FROM GENERATION				630.0	-169.7R	652.4	62 400.00KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO 414010	KURNOOL4	400.00	T1	-65.0	-32.3	72.6	9		0.21	2.81	4101	ANDRAPRADESH	4101	ANDRAPRADESH				
TO 414021	SATENAPALI4	400.00	T1	40.9	-24.9	47.9	6		0.12	1.68	4101	ANDRAPRADESH	4101	ANDRAPRADESH				
TO 414021	SATENAPALI4	400.00	T2	40.9	-24.9	47.9	6		0.12	1.68	4101	ANDRAPRADESH	4101	ANDRAPRADESH				
TO 424019	DINDI	400.00	T1	306.6	-43.8	309.7	36		1.29	14.33	4201	TELANGANA	4201	TS_SPDCL				
TO 424019	DINDI	400.00	T2	306.6	-43.8	309.7	36		1.29	14.33	4201	TELANGANA	4201	TS_SPDCL				
BUS 424006	MAMIDIPALLI	400.00	CKT	MW	MVAR	MVA	% 0.9978PU	-26.32	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	424006
							399.11KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO 422031	MMP 220 BUS	220.00	1	189.3	30.3	191.7	61 1.0000LK		0.73	14.65	4201	TELANGANA	4201	TS_SPDCL				
TO 422031	MMP 220 BUS	220.00	2	189.3	30.3	191.7	61 1.0000LK		0.73	14.65	4201	TELANGANA	4201	TS_SPDCL				
TO 422031	MMP 220 BUS	220.00	3	189.3	30.3	191.7	61 1.0000LK		0.73	14.65	4201	TELANGANA	4201	TS_SPDCL				
TO 422031	MMP 220 BUS	220.00	4	189.3	30.3	191.7	61 1.0000LK		0.73	14.65	4201	TELANGANA	4201	TS_SPDCL				
TO 424003	GHANAPUR	400.00	T1	82.4	-90.9	122.7	14		0.12	1.20	4201	TELANGANA	4201	TS_SPDCL				
TO 424045	CHOUTUPPAL	400.00	T1	-316.7	46.0	320.0	38		1.25	13.39	4201	TELANGANA	4201	TS_SPDCL				
TO 424045	CHOUTUPPAL	400.00	T2	-316.7	-10.9	316.9	37		1.25	13.39	4201	TELANGANA	4201	TS_SPDCL				
TO 424060	MAH SEC-B	400.00	T1	-103.1	-32.7	108.2	13		0.05	0.51	4201	TELANGANA	4201	TS_SPDCL				
TO 424060	MAH SEC-B	400.00	T2	-103.1	-32.7	108.2	13		0.05	0.51	4201	TELANGANA	4201	TS_SPDCL				
BUS 424007	DICHIPALLI	400.00	CKT	MW	MVAR	MVA	% 1.0153PU	-25.94	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	424007
							406.14KV			MW	MVAR	4201	TELANGANA	4203	TS_NPDCL			
TO 422016	DCPL 220 BUS	220.00	1	120.6	34.1	125.4	40 1.0000LK		0.30	6.05	4201	TELANGANA	4203	TS_NPDCL				
TO 422016	DCPL 220 BUS	220.00	2	120.6	34.1	125.4	40 1.0000LK		0.30	6.05	4201	TELANGANA	4203	TS_NPDCL				
TO 422016	DCPL 220 BUS	220.00	3	120.6	34.1	125.4	40 1.0000LK		0.30	6.05	4201	TELANGANA	4203	TS_NPDCL				
TO 422016	DCPL 220 BUS	220.00	4	191.5	54.1	199.0	40 1.0000LK		0.48	9.60	4201	TELANGANA	4203	TS_NPDCL				
TO 424002	RSTPS NTPC	400.00	T1	-192.9	31.1	195.4	23		1.14	12.69	4202	RGM-TPS	4202	RGM-TPS				
TO 424018	NIZAMABAD	400.00	I1	-329.6	-111.0	347.8	20		0.09	1.01	4201	TELANGANA	4203	TS_NPDCL				
TO 424018	NIZAMABAD	400.00	I2	-329.6	-111.0	347.8	20		0.09	1.01	4201	TELANGANA	4203	TS_NPDCL				
TO 424027	NIRMAL	400.00	Q1	149.5	17.2	150.4	9		0.13	2.21	4201	TELANGANA	4203	TS_NPDCL				
TO 424027	NIRMAL	400.00	Q2	149.5	17.2	150.4	9		0.13	2.21	4201	TELANGANA	4203	TS_NPDCL				

BUS 424008	GAJWEL	400.00	CKT	MW	MVAR	MVA	% 0.9964PU	-27.36	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	424008
							398.57KV			MW	MVAR	4201	TELANGANA		4201	TS_SPDCL		
TO SHUNT				0.0	112.6	112.6												
TO 422041	GJWL 220	BUS220.00	1	152.4	27.5	154.9	49 1.0000LK			0.48	9.59	4201	TELANGANA		4201	TS_SPDCL		
TO 422041	GJWL 220	BUS220.00	2	152.4	27.5	154.9	49 1.0000LK			0.48	9.59	4201	TELANGANA		4201	TS_SPDCL		
TO 422041	GJWL 220	BUS220.00	3	242.0	43.6	245.8	49 1.0000LK			0.76	15.22	4201	TELANGANA		4201	TS_SPDCL		
TO 422041	GJWL 220	BUS220.00	4	242.0	43.6	245.8	49 1.0000LK			0.76	15.22	4201	TELANGANA		4201	TS_SPDCL		
TO 424002	RSTPS NTPC	400.00	T1	-300.1	-10.8	300.3	35			2.30	25.60	4202	RGM-TPS		4202	RGM-TPS		
TO 424003	GHANAPUR	400.00	T1	-70.0	-68.5	98.0	12			0.10	1.05	4201	TELANGANA		4201	TS_SPDCL		
TO 424017	NARSARPUR	400.00	T1	29.1	-25.6	38.8	5			0.01	0.09	4201	TELANGANA		4201	TS_SPDCL		
TO 424017	NARSARPUR	400.00	T2	29.1	-25.6	38.8	5			0.01	0.09	4201	TELANGANA		4201	TS_SPDCL		
TO 424031	CHANDULAPUR	400.00	T1	-67.2	-52.9	85.5	10			0.07	0.65	4201	TELANGANA		4205	TS_LIS		
TO 424031	CHANDULAPUR	400.00	T2	-67.2	-52.9	85.5	10			0.07	0.65	4201	TELANGANA		4205	TS_LIS		
TO 424050	KACHAPUR-A	400.00	Q1	-171.3	-9.1	171.5	10			0.15	2.63	4201	TELANGANA		4205	TS_LIS		
TO 424050	KACHAPUR-A	400.00	Q2	-171.3	-9.1	171.5	10			0.15	2.63	4201	TELANGANA		4205	TS_LIS		
BUS 424009	KAKATIYA TPS	400.00	CKT	MW	MVAR	MVA	% 1.0031PU	-23.59	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	424009
FROM GENERATION				935.0	-110.0L	941.4	73 401.25KV			MW	MVAR	4201	TELANGANA		4203	TS_NPDCL		
TO SHUNT				0.0	114.1	114.1												
TO 422147	KTPP	220.00	1	203.6	19.9	204.6	41 1.0000LK			0.52	10.40	4201	TELANGANA		4203	TS_NPDCL		
TO 422147	KTPP	220.00	2	203.6	19.9	204.6	41 1.0000LK			0.52	10.40	4201	TELANGANA		4203	TS_NPDCL		
TO 424010	WARANGAL	400.00	T1	7.5	-84.4	84.7	10			0.04	0.44	4201	TELANGANA		4203	TS_NPDCL		
TO 424010	WARANGAL	400.00	T2	7.5	-84.4	84.7	10			0.04	0.44	4201	TELANGANA		4203	TS_NPDCL		
TO 424031	CHANDULAPUR	400.00	T1	256.4	-47.6	260.8	31			1.55	14.95	4201	TELANGANA		4205	TS_LIS		
TO 424031	CHANDULAPUR	400.00	T2	256.4	-47.6	260.8	31			1.55	14.95	4201	TELANGANA		4205	TS_LIS		
BUS 424010	WARANGAL	400.00	CKT	MW	MVAR	MVA	% 1.0093PU	-23.66	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	424010
							403.71KV			MW	MVAR	4201	TELANGANA		4203	TS_NPDCL		
TO 422052	OGLAPUR	220.00	1	157.5	41.3	162.8	52 1.0000LK			0.00	10.33	4201	TELANGANA		4203	TS_NPDCL		
TO 422052	OGLAPUR	220.00	2	157.5	41.3	162.8	52 1.0000LK			0.00	10.33	4201	TELANGANA		4203	TS_NPDCL		
TO 422052	OGLAPUR	220.00	3	250.0	65.6	258.4	52 1.0000LK			0.00	16.39	4201	TELANGANA		4203	TS_NPDCL		
TO 424002	RSTPS NTPC	400.00	T1	-96.3	26.6	99.9	12			0.22	2.46	4202	RGM-TPS		4202	RGM-TPS		
TO 424004	KHAMMAM	400.00	T1	-36.8	-16.0	40.1	5			0.04	0.39	4201	TELANGANA		4203	TS_NPDCL		
TO 424009	KAKATIYA TPS	400.00	T1	-7.4	56.8	57.2	7			0.04	0.44	4201	TELANGANA		4203	TS_NPDCL		
TO 424009	KAKATIYA TPS	400.00	T2	-7.4	56.8	57.2	7			0.04	0.44	4201	TELANGANA		4203	TS_NPDCL		
TO 424061	WARANGAL NEW	400.00	Q1	-208.6	-136.2	249.1	15			0.23	4.04	4201	TELANGANA		4203	TS_NPDCL		
TO 424061	WARANGAL NEW	400.00	Q2	-208.6	-136.2	249.1	15			0.23	4.04	4201	TELANGANA		4203	TS_NPDCL		
BUS 424011	MALKARAM	400.00	CKT	MW	MVAR	MVA	% 0.9969PU	-27.86	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	424011
							398.74KV			MW	MVAR	4201	TELANGANA		4201	TS_SPDCL		
TO 422024	MALKARAM	220.00	1	168.1	48.7	175.0	56 1.0000LK			0.61	12.22	4201	TELANGANA		4201	TS_SPDCL		
TO 422024	MALKARAM	220.00	2	168.1	48.7	175.0	56 1.0000LK			0.61	12.22	4201	TELANGANA		4201	TS_SPDCL		
TO 422024	MALKARAM	220.00	3	168.1	48.7	175.0	56 1.0000LK			0.61	12.22	4201	TELANGANA		4201	TS_SPDCL		

TO 422024	MALKARAM	220.00	4	168.1	48.7	175.0	56	1.0000LK		0.61	12.22	4201	TELANGANA	4201	TS_SPDCL				
TO 424002	RSTPS NTPC	400.00	T1	-238.1	-32.1	240.2	28			2.13	22.44	4202	RGM-TPS	4202	RGM-TPS				
TO 424003	GHANAPUR	400.00	T1	-179.6	-68.0	192.0	23			0.35	3.73	4201	TELANGANA	4201	TS_SPDCL				
TO 424016	SURYAPET	400.00	T1	-125.7	-47.7	134.4	16			0.40	4.24	4201	TELANGANA	4203	TS_NPDCL				
TO 424016	SURYAPET	400.00	T2	-128.9	-46.9	137.2	16			0.41	4.35	4201	TELANGANA	4203	TS_NPDCL				
BUS 424012	KTPS-VI	400.00	CKT		MW	MVAR	MVA	% 1.0004PU	-21.14	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	424012
FROM GENERATION				425.0		-50.0L	427.9	73 400.17KV			MW	MVAR	4201	TELANGANA	4203	TS_NPDCL			
TO 422085	KTPS-V	220.00	1	-257.2	27.2	258.7	82	1.0000LK	10.00HI	1.32	26.53	4201	TELANGANA	4203	TS_NPDCL				
TO 424004	KHAMMAM	400.00	T1	243.4	-76.0	254.9	30			0.79	8.78	4201	TELANGANA	4203	TS_NPDCL				
TO 424024	KTPS-VII	400.00	T1	438.9	-1.2	438.9	52			0.19	2.12	4201	TELANGANA	4203	TS_NPDCL				
BUS 424013	SHANKARPALLI	400.00	CKT		MW	MVAR	MVA	% 0.9974PU	-28.17	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	424013
								398.96KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO SHUNT				0.0		112.8	112.8												
TO 422054	SHANKARPALLY	220.00	1	136.8	26.1	139.3	44	1.0000LK		0.39	7.74	4201	TELANGANA	4201	TS_SPDCL				
TO 422054	SHANKARPALLY	220.00	2	136.8	26.1	139.3	44	1.0000LK		0.39	7.74	4201	TELANGANA	4201	TS_SPDCL				
TO 422054	SHANKARPALLY	220.00	3	136.8	26.1	139.3	44	1.0000LK		0.39	7.74	4201	TELANGANA	4201	TS_SPDCL				
TO 422054	SHANKARPALLY	220.00	4	217.2	41.4	221.1	44	1.0000LK		0.61	12.28	4201	TELANGANA	4201	TS_SPDCL				
TO 424017	NARSARPUR	400.00	T1	-88.7	-6.8	88.9	10			0.09	1.01	4201	TELANGANA	4201	TS_SPDCL				
TO 424017	NARSARPUR	400.00	T2	-88.7	-6.8	88.9	10			0.09	1.01	4201	TELANGANA	4201	TS_SPDCL				
TO 424018	NIZAMABAD	400.00	T1	-162.0	-94.4	187.5	22			0.73	7.84	4201	TELANGANA	4203	TS_NPDCL				
TO 424018	NIZAMABAD	400.00	T2	-162.0	-94.4	187.5	22			0.73	7.84	4201	TELANGANA	4203	TS_NPDCL				
TO 424029	KETIREDDYPAL	400.00	Q1	162.9	-2.8	162.9	10			0.13	2.18	4201	TELANGANA	4201	TS_SPDCL				
TO 424029	KETIREDDYPAL	400.00	Q2	162.9	-2.8	162.9	10			0.13	2.18	4201	TELANGANA	4201	TS_SPDCL				
TO 424060	MAH SEC-B	400.00	T1	-226.0	-12.3	226.4	27			0.78	8.32	4201	TELANGANA	4201	TS_SPDCL				
TO 424060	MAH SEC-B	400.00	T2	-226.0	-12.3	226.4	27			0.78	8.32	4201	TELANGANA	4201	TS_SPDCL				
BUS 424015	SINGARENI	400.00	CKT		MW	MVAR	MVA	% 1.0000PU	-25.56	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	424015
FROM GENERATION				1020.0		-33.2R	1020.5	72 400.00KV			MW	MVAR	4201	TELANGANA	4203	TS_NPDCL			
TO SHUNT				0.0		57.1	57.1												
TO 424026	SUNDILLA	400.00	Q1	217.8	-53.5	224.3	13			0.13	2.18	4201	TELANGANA	4201	TS_SPDCL				
TO 424026	SUNDILLA	400.00	Q2	217.8	-53.5	224.3	13			0.13	2.18	4201	TELANGANA	4201	TS_SPDCL				
TO 424050	KACHAPUR-A	400.00	Q1	86.0	-28.3	90.6	5			0.08	1.42	4201	TELANGANA	4205	TS_LIS				
TO 424050	KACHAPUR-A	400.00	Q2	86.0	-28.3	90.6	5			0.08	1.42	4201	TELANGANA	4205	TS_LIS				
TO 424055	ANNARAM	400.00	Q1	206.2	36.6	209.4	12			0.08	1.40	4201	TELANGANA	4205	TS_LIS				
TO 424055	ANNARAM	400.00	Q2	206.2	36.6	209.4	12			0.08	1.40	4201	TELANGANA	4205	TS_LIS				
BUS 424016	SURYAPET	400.00	CKT		MW	MVAR	MVA	% 1.0022PU	-25.95	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	424016
								400.89KV			MW	MVAR	4201	TELANGANA	4203	TS_NPDCL			
TO SHUNT				0.0		113.9	113.9												
TO 414013	VTS-IV	400.00	T1	-122.0	10.4	122.4	14			0.47	6.30	4101	ANDRAPRADESH	4101	ANDRAPRADESH				
TO 414013	VTS-IV	400.00	T2	-122.0	10.4	122.4	14			0.47	6.30	4101	ANDRAPRADESH	4101	ANDRAPRADESH				
TO 414042	K V KOTA4	400.00	Q1	70.2	4.7	70.4	4			0.05	0.89	4101	ANDRAPRADESH	4101	ANDRAPRADESH				

TO 414042	K V KOTA4	400.00	Q2	70.2	4.7	70.4	4		0.05	0.89	4101	ANDRAPRADESH	4101	ANDRAPRADESH					
TO 422074	SURYAPET	220.00	1	37.5	20.2	42.6	14	1.0000LK	0.04	0.72	4201	TELANGANA	4201	TS_SPDCL					
TO 422074	SURYAPET	220.00	2	37.5	20.2	42.6	14	1.0000LK	0.04	0.72	4201	TELANGANA	4201	TS_SPDCL					
TO 422074	SURYAPET	220.00	3	59.6	32.1	67.7	14	1.0000LK	0.06	1.14	4201	TELANGANA	4201	TS_SPDCL					
TO 424011	MALKARAM	400.00	T1	126.1	-31.3	129.9	15		0.40	4.24	4201	TELANGANA	4201	TS_SPDCL					
TO 424011	MALKARAM	400.00	T2	129.3	-30.0	132.8	16		0.41	4.35	4201	TELANGANA	4201	TS_SPDCL					
TO 424023	JULURPADU	400.00	Q1	-292.3	-9.7	292.5	17		0.87	14.91	4201	TELANGANA	4201	TS_SPDCL					
TO 424023	JULURPADU	400.00	Q2	-292.3	-9.7	292.5	17		0.87	14.91	4201	TELANGANA	4201	TS_SPDCL					
TO 424029	KETIREDDYPAL	400.00	Q1	149.0	-68.0	163.8	10		0.47	7.80	4201	TELANGANA	4201	TS_SPDCL					
TO 424029	KETIREDDYPAL	400.00	Q2	149.0	-68.0	163.8	10		0.47	7.80	4201	TELANGANA	4201	TS_SPDCL					
BUS 424017	NARSARPUR	400.00	CKT	MW	MVAR	MVA	%	0.9972PU 398.88KV	-27.52	X---	LOSSES	---	X X----	AREA	-----X	X----	ZONE	-----X	424017
TO SHUNT				0.0	112.7	112.7													
TO 422093	NARSARPUR	220.00	1	141.0	15.2	141.8	45	1.0000LK	0.40	8.02	4201	TELANGANA	4201	TS_SPDCL					
TO 422093	NARSARPUR	220.00	2	141.0	15.2	141.8	45	1.0000LK	0.40	8.02	4201	TELANGANA	4201	TS_SPDCL					
TO 422093	NARSARPUR	220.00	3	141.0	15.2	141.8	45	1.0000LK	0.40	8.02	4201	TELANGANA	4201	TS_SPDCL					
TO 424008	GAJWEL	400.00	T1	-29.1	-3.3	29.3	3		0.01	0.09	4201	TELANGANA	4201	TS_SPDCL					
TO 424008	GAJWEL	400.00	T2	-29.1	-3.3	29.3	3		0.01	0.09	4201	TELANGANA	4201	TS_SPDCL					
TO 424013	SHANKARPALLI	400.00	T1	88.7	-25.8	92.4	11		0.09	1.01	4201	TELANGANA	4201	TS_SPDCL					
TO 424013	SHANKARPALLI	400.00	T2	88.7	-25.8	92.4	11		0.09	1.01	4201	TELANGANA	4201	TS_SPDCL					
TO 424032	TUKKAPUR	400.00	T1	-26.3	-25.9	36.9	4		0.01	0.08	4201	TELANGANA	4201	TS_SPDCL					
TO 424032	TUKKAPUR	400.00	T2	-26.3	-25.9	36.9	4		0.01	0.08	4201	TELANGANA	4201	TS_SPDCL					
TO 424051	KACHAPUR-B	400.00	Q1	-244.8	-24.1	245.9	14		0.70	12.01	4201	TELANGANA	4205	TS_LIS					
TO 424051	KACHAPUR-B	400.00	Q2	-244.8	-24.1	245.9	14		0.70	12.01	4201	TELANGANA	4205	TS_LIS					
BUS 424018	NIZAMABAD	400.00	CKT	MW	MVAR	MVA	%	1.0165PU 406.62KV	-25.79	X---	LOSSES	---	X X----	AREA	-----X	X----	ZONE	-----X	424018
TO 424007	DICHIPALLI	400.00	I1	329.7	109.2	347.4	20		0.09	1.01	4201	TELANGANA	4203	TS_NPDCL					
TO 424007	DICHIPALLI	400.00	I2	329.7	109.2	347.4	20		0.09	1.01	4201	TELANGANA	4203	TS_NPDCL					
TO 424013	SHANKARPALLI	400.00	T1	162.7	17.0	163.6	19		0.73	7.84	4201	TELANGANA	4201	TS_SPDCL					
TO 424013	SHANKARPALLI	400.00	T2	162.7	17.0	163.6	19		0.73	7.84	4201	TELANGANA	4201	TS_SPDCL					
TO 424031	CHANDULAPUR	400.00	Q1	112.8	31.5	117.2	7		0.20	3.43	4201	TELANGANA	4205	TS_LIS					
TO 424031	CHANDULAPUR	400.00	Q2	112.8	31.5	117.2	7		0.20	3.43	4201	TELANGANA	4205	TS_LIS					
TO 427001	NIZAMABAD	765.00	1	-403.6	-105.1	417.0	28	1.0000UN	0.00	14.02	4802	SR_ISTS_TS	4001	SR-IR					
TO 427001	NIZAMABAD	765.00	2	-403.6	-105.1	417.0	28	1.0000UN	0.00	14.02	4802	SR_ISTS_TS	4001	SR-IR					
TO 427001	NIZAMABAD	765.00	3	-403.6	-105.1	417.0	28	1.0000UN	0.00	14.02	4802	SR_ISTS_TS	4001	SR-IR					
BUS 424019	DINDI	400.00	CKT	MW	MVAR	MVA	%	1.0005PU 400.20KV	-23.90	X---	LOSSES	---	X X----	AREA	-----X	X----	ZONE	-----X	424019
TO 422033	DINDI SS	220.00	1	84.9	18.8	86.9	28	1.0000LK	0.15	2.99	4201	TELANGANA	4201	TS_SPDCL					
TO 422033	DINDI SS	220.00	2	84.9	18.8	86.9	28	1.0000LK	0.15	2.99	4201	TELANGANA	4201	TS_SPDCL					
TO 424005	SRISAILMLB	400.00	T1	-305.3	17.6	305.8	36		1.29	14.33	4201	TELANGANA	4201	TS_SPDCL					
TO 424005	SRISAILMLB	400.00	T2	-305.3	17.6	305.8	36		1.29	14.33	4201	TELANGANA	4201	TS_SPDCL					

TO 424044	YADADRI TPP	400.00	Q1	-453.3	8.3	453.4	27			1.98	34.06	4201	TELANGANA	4201	TS_SPDCL				
TO 424044	YADADRI TPP	400.00	Q2	-453.3	8.3	453.4	27			1.98	34.06	4201	TELANGANA	4201	TS_SPDCL				
TO 424057	YEDULA	400.00	Q1	342.5	-9.1	342.7	20			0.65	11.14	4201	TELANGANA	4205	TS_LIS				
TO 424057	YEDULA	400.00	Q2	342.5	-9.1	342.7	20			0.65	11.14	4201	TELANGANA	4205	TS_LIS				
TO 424060	MAH SEC-B	400.00	T1	331.2	-35.6	333.1	39			1.24	12.47	4201	TELANGANA	4201	TS_SPDCL				
TO 424060	MAH SEC-B	400.00	T2	331.2	-35.6	333.1	39			1.24	12.47	4201	TELANGANA	4201	TS_SPDCL				
BUS 424020	ASUPAKA	400.00	CKT		MW	MVAR	MVA	% 0.9928PU	-23.52	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	424020
								397.12KV			MW	MVAR	4201	TELANGANA	4203	TS_NPDCL			
TO SHUNT				0.0	71.0	71.0													
TO 414011	KALAPAKA4	400.00	T1	-74.1	37.4	83.0	10			0.58	7.86	4101	ANDRAPRADESH	4101	ANDRAPRADESH				
TO 422107	ASUPAKA	220.00	1	55.2	-7.0	55.7	18	1.0000LK		0.06	1.25	4201	TELANGANA	4203	TS_NPDCL				
TO 422107	ASUPAKA	220.00	2	55.2	-7.0	55.7	18	1.0000LK		0.06	1.25	4201	TELANGANA	4203	TS_NPDCL				
TO 424004	KHAMMAM	400.00	T1	-36.4	-94.3	101.1	12			0.11	0.98	4201	TELANGANA	4203	TS_NPDCL				
BUS 424021	MHSWRM-PG	400.00	CKT		MW	MVAR	MVA	% 1.0157PU	-24.03	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	424021
								406.28KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO 414010	KURNOOL4	400.00	T1	-86.8	-8.8	87.2	10			0.56	7.52	4101	ANDRAPRADESH	4101	ANDRAPRADESH				
TO 424001	VELTOOR	400.00	T1	-68.6	33.6	76.4	9			0.15	1.63	4201	TELANGANA	4201	TS_SPDCL				
TO 424001	VELTOOR	400.00	T2	-68.6	33.6	76.4	9			0.15	1.63	4201	TELANGANA	4201	TS_SPDCL				
TO 424003	GHANAPUR	400.00	T1	429.5	54.6	433.0	51			1.92	21.40	4201	TELANGANA	4201	TS_SPDCL				
TO 424022	MAH SEC-A	400.00	Q	552.7	170.8	578.5	34			0.10	25.28	4201	TELANGANA	4201	TS_SPDCL				
TO 424022	MAH SEC-A	400.00	Q1	552.7	170.8	578.5	34			0.10	25.28	4201	TELANGANA	4201	TS_SPDCL				
TO 427002	MAHESWARAM	765.00	1	-437.0	-151.6	462.5	31	1.0000UN		0.00	17.28	4201	TELANGANA	4203	TS_NPDCL				
TO 427002	MAHESWARAM	765.00	2	-437.0	-151.6	462.5	31	1.0000UN		0.00	17.28	4201	TELANGANA	4203	TS_NPDCL				
TO 427002	MAHESWARAM	765.00	3	-437.0	-151.6	462.5	31	1.0000UN		0.00	17.28	4201	TELANGANA	4203	TS_NPDCL				
BUS 424022	MAH SEC-A	400.00	CKT		MW	MVAR	MVA	% 1.0033PU	-26.45	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	424022
								401.32KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO SHUNT				0.0	114.1	114.1													
TO 422098	MAHES_220	220.00	1	196.3	36.3	199.6	40	1.0000LK		0.49	9.90	4201	TELANGANA	4201	TS_SPDCL				
TO 422098	MAHES_220	220.00	2	196.3	36.3	199.6	40	1.0000LK		0.49	9.90	4201	TELANGANA	4201	TS_SPDCL				
TO 422098	MAHES_220	220.00	3	196.3	36.3	199.6	40	1.0000LK		0.49	9.90	4201	TELANGANA	4201	TS_SPDCL				
TO 424021	MHSWRM-PG	400.00	Q	-552.6	-146.5	571.7	34			0.10	25.28	4201	TELANGANA	4201	TS_SPDCL				
TO 424021	MHSWRM-PG	400.00	Q1	-552.6	-146.5	571.7	34			0.10	25.28	4201	TELANGANA	4201	TS_SPDCL				
TO 424059	UDDANDAPUR	400.00	Q1	258.1	34.9	260.5	15			0.42	7.16	4201	TELANGANA	4205	TS_LIS				
TO 424059	UDDANDAPUR	400.00	Q2	258.1	34.9	260.5	15			0.42	7.16	4201	TELANGANA	4205	TS_LIS				
BUS 424023	JULURPADU	400.00	CKT		MW	MVAR	MVA	% 1.0012PU	-23.04	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	424023
								400.47KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO 422104	JULURPADU2	220.00	1	81.0	2.3	81.1	26	1.0000LK		0.13	2.60	4201	TELANGANA	4201	TS_SPDCL				
TO 422104	JULURPADU2	220.00	2	81.0	2.3	81.1	26	1.0000LK		0.13	2.60	4201	TELANGANA	4201	TS_SPDCL				
TO 424016	SURYAPET	400.00	Q1	293.2	-56.0	298.5	18			0.87	14.91	4201	TELANGANA	4203	TS_NPDCL				
TO 424016	SURYAPET	400.00	Q2	293.2	-56.0	298.5	18			0.87	14.91	4201	TELANGANA	4203	TS_NPDCL				

TO 424024	KTPS-VII	400.00	Q1	-455.1	37.4	456.6	27		0.75	12.94	4201	TELANGANA	4203	TS_NPDCL				
TO 424024	KTPS-VII	400.00	Q2	-455.1	37.4	456.6	27		0.75	12.94	4201	TELANGANA	4203	TS_NPDCL				
TO 424030	BTPS	400.00	Q1	-368.1	7.1	368.2	22		1.47	24.34	4201	TELANGANA	4203	TS_NPDCL				
TO 424030	BTPS	400.00	Q2	-368.1	7.1	368.2	22		1.47	24.34	4201	TELANGANA	4203	TS_NPDCL				
TO 424034	JANGOAN	400.00	Q1	133.0	-61.0	146.4	9		0.29	4.89	4201	TELANGANA	4203	TS_NPDCL				
TO 424034	JANGOAN	400.00	Q2	133.0	-61.0	146.4	9		0.29	4.89	4201	TELANGANA	4203	TS_NPDCL				
TO 424035	KAMALAPUR	400.00	T1	115.7	25.5	118.4	14		0.11	1.09	4201	TELANGANA	4205	TS_LIS				
TO 424035	KAMALAPUR	400.00	T2	115.7	25.5	118.4	14		0.11	1.09	4201	TELANGANA	4205	TS_LIS				
TO 424047	I-STEELPLANT	400.00	Q1	200.3	44.6	205.2	12		0.20	3.48	4201	TELANGANA	4203	TS_NPDCL				
TO 424047	I-STEELPLANT	400.00	Q2	200.3	44.6	205.2	12		0.20	3.48	4201	TELANGANA	4203	TS_NPDCL				
BUS 424024	KTPS-VII	400.00	CKT	MW	MVAR	MVA	% 1.0000PU	-21.42	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	424024
FROM GENERATION				680.0	-69.2R	683.5	73 400.00KV			MW	MVAR	4201	TELANGANA			4203	TS_NPDCL	
TO SHUNT				0.0	113.4	113.4												
TO 424004	KHAMMAM	400.00	T1	207.0	-76.7	220.7	26		0.59	6.55	4201	TELANGANA	4203	TS_NPDCL				
TO 424012	KTPS-VI	400.00	T1	-438.7	0.4	438.7	52		0.19	2.12	4201	TELANGANA	4203	TS_NPDCL				
TO 424023	JULURPADU	400.00	Q1	455.8	-53.1	458.9	27		0.75	12.94	4201	TELANGANA	4201	TS_SPDCL				
TO 424023	JULURPADU	400.00	Q2	455.8	-53.1	458.9	27		0.75	12.94	4201	TELANGANA	4201	TS_SPDCL				
BUS 424025	RAMADUGU	400.00	CKT	MW	MVAR	MVA	% 0.9964PU	-26.46	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	424025
						398.54KV				MW	MVAR	4201	TELANGANA			4201	TS_SPDCL	
TO SHUNT				0.0	112.6	112.6												
TO 422128	RAMADUGU_220	220.00	1	186.1	41.7	190.7	38 1.0000LK		0.46	9.16	4201	TELANGANA	4203	TS_NPDCL				
TO 422128	RAMADUGU_220	220.00	2	186.1	41.7	190.7	38 1.0000LK		0.46	9.16	4201	TELANGANA	4203	TS_NPDCL				
TO 424028	MEDARAM	400.00	Q1	174.8	-13.8	175.3	10		0.06	0.99	4201	TELANGANA	4205	TS_LIS				
TO 424028	MEDARAM	400.00	Q2	174.8	-13.8	175.3	10		0.06	0.99	4201	TELANGANA	4205	TS_LIS				
TO 424033	TIPPAPUR	400.00	Q1	60.0	-74.1	95.3	6		0.03	0.51	4201	TELANGANA	4201	TS_SPDCL				
TO 424033	TIPPAPUR	400.00	Q2	60.0	-74.1	95.3	6		0.03	0.51	4201	TELANGANA	4201	TS_SPDCL				
TO 424036	TSTPP_NTPC	400.00	Q1	-627.3	-1.2	627.3	37		2.44	42.08	4201	TELANGANA	4203	TS_NPDCL				
TO 424036	TSTPP_NTPC	400.00	Q2	-627.3	-1.2	627.3	37		2.44	42.08	4201	TELANGANA	4203	TS_NPDCL				
TO 424037	RAMADUGU_LIS	400.00	2	389.2	-0.0	389.2			0.00	0.00	4201	TELANGANA	4205	TS_LIS				
TO 424050	KACHAPUR-A	400.00	Q1	11.8	-9.0	14.9	1		0.00	0.00	4201	TELANGANA	4205	TS_LIS				
TO 424050	KACHAPUR-A	400.00	Q2	11.8	-9.0	14.9	1		0.00	0.00	4201	TELANGANA	4205	TS_LIS				
BUS 424026	SUNDILLA	400.00	CKT	MW	MVAR	MVA	% 1.0014PU	-26.12	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	424026
						400.55KV				MW	MVAR	4201	TELANGANA			4201	TS_SPDCL	
TO SHUNT				0.0	113.7	113.7												
TO 422115	SUNDILLA	220.00	1	82.8	2.6	82.8	26 1.0000LK		0.14	2.71	4201	TELANGANA	4203	TS_NPDCL				
TO 422115	SUNDILLA	220.00	2	82.8	2.6	82.8	26 1.0000LK		0.14	2.71	4201	TELANGANA	4203	TS_NPDCL				
TO 422115	SUNDILLA	220.00	3	82.8	2.6	82.8	26 1.0000LK		0.14	2.71	4201	TELANGANA	4203	TS_NPDCL				
TO 422115	SUNDILLA	220.00	4	82.8	2.6	82.8	26 1.0000LK		0.14	2.71	4201	TELANGANA	4203	TS_NPDCL				
TO 424015	SINGARENI	400.00	Q1	-217.7	35.2	220.5	13		0.13	2.18	4201	TELANGANA	4203	TS_NPDCL				
TO 424015	SINGARENI	400.00	Q2	-217.7	35.2	220.5	13		0.13	2.18	4201	TELANGANA	4203	TS_NPDCL				
TO 424027	NIRMAL	400.00	Q1	52.1	-97.2	110.3	6		0.06	1.05	4201	TELANGANA	4203	TS_NPDCL				

TO 424027	NIRMAL	400.00	Q2	52.1	-97.2	110.3	6		0.06	1.05	4201	TELANGANA	4203	TS_NPDCL				
BUS 424027	NIRMAL	400.00	CKT	MW	MVAR	MVA	% 1.0109PU	-26.72	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	424027
							404.38KV			MW	MVAR	4201	TELANGANA	4203	TS_NPDCL			
TO 422111	NIRMAL_NEW	220.00	1	134.2	33.4	138.3	44 1.0000LK		0.37	7.43	4201	TELANGANA	4203	TS_NPDCL				
TO 422111	NIRMAL_NEW	220.00	2	134.2	33.4	138.3	44 1.0000LK		0.37	7.43	4201	TELANGANA	4203	TS_NPDCL				
TO 422111	NIRMAL_NEW	220.00	3	134.2	33.4	138.3	44 1.0000LK		0.37	7.43	4201	TELANGANA	4203	TS_NPDCL				
TO 424007	DICHIPALLI	400.00	Q1	-149.3	-58.0	160.2	9		0.13	2.21	4201	TELANGANA	4203	TS_NPDCL				
TO 424007	DICHIPALLI	400.00	Q2	-149.3	-58.0	160.2	9		0.13	2.21	4201	TELANGANA	4203	TS_NPDCL				
TO 424026	SUNDILLA	400.00	Q1	-52.0	8.0	52.6	3		0.06	1.05	4201	TELANGANA	4201	TS_SPDCL				
TO 424026	SUNDILLA	400.00	Q2	-52.0	8.0	52.6	3		0.06	1.05	4201	TELANGANA	4201	TS_SPDCL				
BUS 424028	MEDARAM	400.00	CKT	MW	MVAR	MVA	% 0.9962PU	-26.78	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	424028
							398.50KV			MW	MVAR	4201	TELANGANA	4205	TS_LIS			
TO LOAD-PQ				349.4	0.0	349.4												
TO 424025	RAMADUGU	400.00	Q1	-174.7	0.0	174.7	10		0.06	0.99	4201	TELANGANA	4201	TS_SPDCL				
TO 424025	RAMADUGU	400.00	Q2	-174.7	0.0	174.7	10		0.06	0.99	4201	TELANGANA	4201	TS_SPDCL				
BUS 424029	KETIREDDYPAL	400.00	CKT	MW	MVAR	MVA	% 0.9954PU	-28.93	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	424029
							398.16KV			MW	MVAR	4201	TELANGANA	4201	TS_SPDCL			
TO SHUNT				0.0	112.3	112.3												
TO 422116	KETHIREDDYPA	220.00	1	93.8	21.2	96.1	31 1.0000LK		0.18	3.70	4201	TELANGANA	4201	TS_SPDCL				
TO 422116	KETHIREDDYPA	220.00	2	93.8	21.2	96.1	31 1.0000LK		0.18	3.70	4201	TELANGANA	4201	TS_SPDCL				
TO 424013	SHANKARPALLI	400.00	Q1	-162.7	-32.2	165.9	10		0.13	2.18	4201	TELANGANA	4201	TS_SPDCL				
TO 424013	SHANKARPALLI	400.00	Q2	-162.7	-32.2	165.9	10		0.13	2.18	4201	TELANGANA	4201	TS_SPDCL				
TO 424016	SURYAPET	400.00	Q1	-148.5	-88.0	172.6	10		0.47	7.80	4201	TELANGANA	4203	TS_NPDCL				
TO 424016	SURYAPET	400.00	Q2	-148.5	-88.0	172.6	10		0.47	7.80	4201	TELANGANA	4203	TS_NPDCL				
TO 424042	RAIDURG_GIS	400.00	C1	217.5	42.8	221.7	22		0.20	3.37	4201	TELANGANA	4204	TS_GHMC				
TO 424042	RAIDURG_GIS	400.00	C2	217.5	42.8	221.7	22		0.20	3.37	4201	TELANGANA	4204	TS_GHMC				
BUS 424030	BTPS	400.00	CKT	MW	MVAR	MVA	% 1.0000PU	-19.27	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	424030
FROM GENERATION				918.0	6.1R	918.0	72 400.00KV			MW	MVAR	4201	TELANGANA	4203	TS_NPDCL			
TO SHUNT				0.0	113.4	113.4												
TO 422138	BTPS	220.00	1	178.8	-6.3	179.0	57 1.0000LK		0.63	12.71	4201	TELANGANA	4203	TS_NPDCL				
TO 424023	JULURPADU	400.00	Q1	369.6	-50.5	373.0	22		1.47	24.34	4201	TELANGANA	4201	TS_SPDCL				
TO 424023	JULURPADU	400.00	Q2	369.6	-50.5	373.0	22		1.47	24.34	4201	TELANGANA	4201	TS_SPDCL				
BUS 424031	CHANDULAPUR	400.00	CKT	MW	MVAR	MVA	% 1.0012PU	-26.94	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	424031
							400.46KV			MW	MVAR	4201	TELANGANA	4205	TS_LIS			
TO SHUNT				0.0	113.6	113.6												
TO 424008	GAJWEL	400.00	T1	67.3	16.9	69.4	8		0.07	0.65	4201	TELANGANA	4201	TS_SPDCL				
TO 424008	GAJWEL	400.00	T2	67.3	16.9	69.4	8		0.07	0.65	4201	TELANGANA	4201	TS_SPDCL				
TO 424009	KAKATIYA TPS	400.00	T1	-254.9	-11.9	255.2	30		1.55	14.95	4201	TELANGANA	4203	TS_NPDCL				
TO 424009	KAKATIYA TPS	400.00	T2	-254.9	-11.9	255.2	30		1.55	14.95	4201	TELANGANA	4203	TS_NPDCL				

TO 424018	NIZAMABAD	400.00	Q1	-112.7	-117.6	162.9	10		0.20	3.43	4201	TELANGANA	4203	TS_NPDCL				
TO 424018	NIZAMABAD	400.00	Q2	-112.7	-117.6	162.9	10		0.20	3.43	4201	TELANGANA	4203	TS_NPDCL				
TO 424032	TUKKAPUR	400.00	T1	167.3	35.5	171.0	20		0.14	1.35	4201	TELANGANA	4201	TS_SPDCL				
TO 424032	TUKKAPUR	400.00	T2	167.3	35.5	171.0	20		0.14	1.35	4201	TELANGANA	4201	TS_SPDCL				
TO 424033	TIPPAPUR	400.00	Q1	-124.9	27.2	127.8	8		0.03	0.51	4201	TELANGANA	4201	TS_SPDCL				
TO 424033	TIPPAPUR	400.00	Q2	-124.9	27.2	127.8	8		0.03	0.51	4201	TELANGANA	4201	TS_SPDCL				
TO 424038	CHANDULAPUR	400.00	2	215.7	-0.0	215.7			0.00	0.00	4201	TELANGANA	4205	TS_LIS				
TO 424052	YELLAI[PALLY	400.00	Q1	150.0	-7.0	150.2	9		0.02	0.35	4201	TELANGANA	4205	TS_LIS				
TO 424052	YELLAI[PALLY	400.00	Q2	150.0	-7.0	150.2	9		0.02	0.35	4201	TELANGANA	4205	TS_LIS				
BUS 424032	TUKKAPUR	400.00	CKT	MW	MVAR	MVA	% 0.9984PU	-27.37	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	424032
							399.38KV			MW	MVAR	4201	TELANGANA			4201	TS_SPDCL	
TO SHUNT				0.0	113.0	113.0												
TO 424017	NARSARPUR	400.00	T1	26.3	-7.3	27.3	3		0.01	0.08	4201	TELANGANA	4201	TS_SPDCL				
TO 424017	NARSARPUR	400.00	T2	26.3	-7.3	27.3	3		0.01	0.08	4201	TELANGANA	4201	TS_SPDCL				
TO 424031	CHANDULAPUR	400.00	T1	-167.1	-48.9	174.2	20		0.14	1.35	4201	TELANGANA	4205	TS_LIS				
TO 424031	CHANDULAPUR	400.00	T2	-167.1	-48.9	174.2	20		0.14	1.35	4201	TELANGANA	4205	TS_LIS				
TO 424039	TUKKAPUR_LIS	400.00	2	137.6	-0.0	137.6			0.00	0.00	4201	TELANGANA	4205	TS_LIS				
TO 424054	NEW TUKKAPUR	400.00	T1	72.0	-0.3	72.0	8		0.00	0.00	4201	TELANGANA	4205	TS_LIS				
TO 424054	NEW TUKKAPUR	400.00	T2	72.0	-0.3	72.0	8		0.00	0.00	4201	TELANGANA	4205	TS_LIS				
BUS 424033	TIPPAPUR	400.00	CKT	MW	MVAR	MVA	% 1.0004PU	-26.72	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	424033
							400.15KV			MW	MVAR	4201	TELANGANA			4201	TS_SPDCL	
TO SWITCHED SHUNT				0.0	-0.0	0.0												
TO 424025	RAMADUGU	400.00	Q1	-60.0	42.6	73.6	4		0.03	0.51	4201	TELANGANA	4201	TS_SPDCL				
TO 424025	RAMADUGU	400.00	Q2	-60.0	42.6	73.6	4		0.03	0.51	4201	TELANGANA	4201	TS_SPDCL				
TO 424031	CHANDULAPUR	400.00	Q1	124.9	-40.0	131.2	8		0.03	0.51	4201	TELANGANA	4205	TS_LIS				
TO 424031	CHANDULAPUR	400.00	Q2	124.9	-40.0	131.2	8		0.03	0.51	4201	TELANGANA	4205	TS_LIS				
TO 424034	JANGOAN	400.00	Q1	-249.7	1.0	249.7	15		0.42	6.89	4201	TELANGANA	4203	TS_NPDCL				
TO 424034	JANGOAN	400.00	Q2	-249.7	1.0	249.7	15		0.42	6.89	4201	TELANGANA	4203	TS_NPDCL				
TO 424040	TIPPAPUR_LIS	400.00	2	169.6	0.0	169.6			0.00	0.00	4201	TELANGANA	4205	TS_LIS				
TO 424053	VELJIPUR	400.00	Q1	100.0	-3.6	100.1	6		0.00	0.08	4201	TELANGANA	4205	TS_LIS				
TO 424053	VELJIPUR	400.00	Q2	100.0	-3.6	100.1	6		0.00	0.08	4201	TELANGANA	4205	TS_LIS				
BUS 424034	JANGOAN	400.00	CKT	MW	MVAR	MVA	% 0.9996PU	-25.15	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	424034
							399.86KV			MW	MVAR	4201	TELANGANA			4203	TS_NPDCL	
TO SHUNT				0.0	113.3	113.3												
TO 422123	JANGOAN	220.00	1	212.8	31.5	215.1	43	1.0000LK	0.58	11.58	4201	TELANGANA	4203	TS_NPDCL				
TO 422123	JANGOAN	220.00	2	212.8	31.5	215.1	43	1.0000LK	0.58	11.58	4201	TELANGANA	4203	TS_NPDCL				
TO 422123	JANGOAN	220.00	3	212.8	31.5	215.1	43	1.0000LK	0.58	11.58	4201	TELANGANA	4203	TS_NPDCL				
TO 424023	JULURPADU	400.00	Q1	-132.7	-55.8	144.0	8		0.29	4.89	4201	TELANGANA	4201	TS_SPDCL				
TO 424023	JULURPADU	400.00	Q2	-132.7	-55.8	144.0	8		0.29	4.89	4201	TELANGANA	4201	TS_SPDCL				
TO 424033	TIPPAPUR	400.00	Q1	250.1	-42.2	253.7	15		0.42	6.89	4201	TELANGANA	4201	TS_SPDCL				
TO 424033	TIPPAPUR	400.00	Q2	250.1	-42.2	253.7	15		0.42	6.89	4201	TELANGANA	4201	TS_SPDCL				

TO 424044	YADADRI TPP	400.00	Q1	-436.6	-5.9	436.7	26			2.46	42.39	4201	TELANGANA	4201	TS_SPDCL				
TO 424044	YADADRI TPP	400.00	Q2	-436.6	-5.9	436.7	26			2.46	42.39	4201	TELANGANA	4201	TS_SPDCL				
BUS 424035	KAMALAPUR	400.00	CKT		MW	MVAR	MVA	% 0.9975PU	-23.51	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	424035
								399.02KV			MW	MVAR	4201	TELANGANA		4205	TS_LIS		
TO SHUNT				0.0		112.8	112.8												
TO 422129	KAMALAPUR	220.00	1	77.0	-5.3	77.2	25	1.0000LK			0.12	1.50	4201	TELANGANA		4205	TS_LIS		
TO 422129	KAMALAPUR	220.00	2	77.0	-5.3	77.2	25	1.0000LK			0.12	1.50	4201	TELANGANA		4205	TS_LIS		
TO 422129	KAMALAPUR	220.00	3	77.0	-5.3	77.2	25	1.0000LK			0.12	1.50	4201	TELANGANA		4205	TS_LIS		
TO 424023	JULURPADU	400.00	T1	-115.5	-48.4	125.3	15				0.11	1.09	4201	TELANGANA		4201	TS_SPDCL		
TO 424023	JULURPADU	400.00	T2	-115.5	-48.4	125.3	15				0.11	1.09	4201	TELANGANA		4201	TS_SPDCL		
BUS 424036	TSTPP_NTPC	400.00	CKT		MW	MVAR	MVA	% 1.0000PU	-22.62	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	424036
FROM GENERATION						1360.0	109.1R	1364.4	72								4203	TS_NPDCL	
TO SHUNT				0.0		113.4	113.4												
TO 424002	RSTPS NTPC	400.00	Q1	-526.0	-7.0	526.0	31				0.08	1.31	4202	RGM-TPS		4202	RGM-TPS		
TO 424002	RSTPS NTPC	400.00	Q2	-526.0	-7.0	526.0	31				0.08	1.31	4202	RGM-TPS		4202	RGM-TPS		
TO 424025	RAMADUGU	400.00	Q1	629.8	-5.6	629.8	37				2.44	42.08	4201	TELANGANA		4201	TS_SPDCL		
TO 424025	RAMADUGU	400.00	Q2	629.8	-5.6	629.8	37				2.44	42.08	4201	TELANGANA		4201	TS_SPDCL		
TO 424051	KACHAPUR-B	400.00	Q1	576.2	10.4	576.3	34				1.22	21.05	4201	TELANGANA		4205	TS_LIS		
TO 424051	KACHAPUR-B	400.00	Q2	576.2	10.4	576.3	34				1.22	21.05	4201	TELANGANA		4205	TS_LIS		
BUS 424037	RAMADUGU_LIS	400.00	CKT		MW	MVAR	MVA	% 0.9964PU	-26.46	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	424037
								398.54KV									4205	TS_LIS	
TO LOAD-PQ				389.2		0.0	389.2												
TO 424025	RAMADUGU	400.00	2	-389.2		0.0	389.2				0.00	0.00	4201	TELANGANA		4201	TS_SPDCL		
BUS 424038	CHANDULAPUR_	400.00	CKT		MW	MVAR	MVA	% 1.0012PU	-26.94	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	424038
								400.46KV									4205	TS_LIS	
TO LOAD-PQ				215.7		0.0	215.7												
TO 424031	CHANDULAPUR	400.00	2	-215.7		0.0	215.7				0.00	0.00	4201	TELANGANA		4205	TS_LIS		
BUS 424039	TUKKAPUR_LIS	400.00	CKT		MW	MVAR	MVA	% 0.9984PU	-27.37	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	424039
								399.38KV									4205	TS_LIS	
TO LOAD-PQ				137.6		0.0	137.6												
TO 424032	TUKKAPUR	400.00	2	-137.6		0.0	137.6				0.00	0.00	4201	TELANGANA		4201	TS_SPDCL		
BUS 424040	TIPPAPUR_LIS	400.00	CKT		MW	MVAR	MVA	% 1.0004PU	-26.72	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	424040
								400.15KV									4205	TS_LIS	
TO LOAD-PQ				169.6		0.0	169.6												
TO 424033	TIPPAPUR	400.00	2	-169.6		-0.0	169.6				0.00	0.00	4201	TELANGANA		4201	TS_SPDCL		

BUS 424042	RAIDURG_GIS	400.00	CKT	MW	MVAR	MVA	% 0.9908PU	-29.75	X---	LOSSES	---	X---	AREA	-----X	X----	ZONE	-----X	424042
							396.34KV			MW	MVAR	4201	TELANGANA		4204	TS_GHMC		
	TO SWITCHED SHUNT			0.0	-0.0	0.0												
	TO 422144	RAIDURG	220.00	1	217.3	69.5	228.2	46	1.0000LK	0.66	13.26	4201	TELANGANA		4204	TS_GHMC		
	TO 422144	RAIDURG	220.00	2	217.3	69.5	228.2	46	1.0000LK	0.66	13.26	4201	TELANGANA		4204	TS_GHMC		
	TO 424029	KETIREDDYPAL	400.00	C1	-217.3	-69.5	228.2	23		0.20	3.37	4201	TELANGANA		4201	TS_SPDCL		
	TO 424029	KETIREDDYPAL	400.00	C2	-217.3	-69.5	228.2	23		0.20	3.37	4201	TELANGANA		4201	TS_SPDCL		
BUS 424044	YADADRI TPP	400.00	CKT	MW	MVAR	MVA	% 1.0000PU	-19.60	X---	LOSSES	---	X---	AREA	-----X	X----	ZONE	-----X	424044
	FROM GENERATION			3400.0	-276.6R	3411.2	72	400.00KV		MW	MVAR	4201	TELANGANA		4201	TS_SPDCL		
	TO 424019	DINDI	400.00	Q1	455.3	-50.3	458.1	27		1.98	34.06	4201	TELANGANA		4201	TS_SPDCL		
	TO 424019	DINDI	400.00	Q2	455.3	-50.3	458.1	27		1.98	34.06	4201	TELANGANA		4201	TS_SPDCL		
	TO 424034	JANGOAN	400.00	Q1	439.1	-53.5	442.3	26		2.46	42.39	4201	TELANGANA		4203	TS_NPDCL		
	TO 424034	JANGOAN	400.00	Q2	439.1	-53.5	442.3	26		2.46	42.39	4201	TELANGANA		4203	TS_NPDCL		
	TO 424045	CHOUTUPPAL	400.00	Q1	512.5	-53.3	515.3	30		2.23	38.44	4201	TELANGANA		4201	TS_SPDCL		
	TO 424045	CHOUTUPPAL	400.00	Q2	512.5	-53.3	515.3	30		2.23	38.44	4201	TELANGANA		4201	TS_SPDCL		
	TO 424046	DAMARACHERLA	400.00	Q1	293.2	18.9	293.8	17		0.04	0.67	4201	TELANGANA		4201	TS_SPDCL		
	TO 424046	DAMARACHERLA	400.00	Q2	293.2	18.9	293.8	17		0.04	0.67	4201	TELANGANA		4201	TS_SPDCL		
BUS 424045	CHOUTUPPAL	400.00	CKT	MW	MVAR	MVA	% 1.0013PU	-23.90	X---	LOSSES	---	X---	AREA	-----X	X----	ZONE	-----X	424045
							400.53KV			MW	MVAR	4201	TELANGANA		4201	TS_SPDCL		
	TO 422145	CHOUTUPPAL	220.00	1	242.6	48.4	247.4	49	1.0000LK	0.76	15.26	4201	TELANGANA		4201	TS_SPDCL		
	TO 422145	CHOUTUPPAL	220.00	2	242.6	48.4	247.4	49	1.0000LK	0.76	15.26	4201	TELANGANA		4201	TS_SPDCL		
	TO 424004	KHAMMAM	400.00	T1	-50.3	-55.2	74.7	9		0.07	0.73	4201	TELANGANA		4203	TS_NPDCL		
	TO 424004	KHAMMAM	400.00	T2	-50.3	-55.2	74.7	9		0.07	0.73	4201	TELANGANA		4203	TS_NPDCL		
	TO 424006	MAMIDIPALLI	400.00	T1	318.0	-17.2	318.4	37		1.25	13.39	4201	TELANGANA		4201	TS_SPDCL		
	TO 424006	MAMIDIPALLI	400.00	T2	318.0	-17.2	318.4	37		1.25	13.39	4201	TELANGANA		4201	TS_SPDCL		
	TO 424044	YADADRI TPP	400.00	Q1	-510.3	24.0	510.8	30		2.23	38.44	4201	TELANGANA		4201	TS_SPDCL		
	TO 424044	YADADRI TPP	400.00	Q2	-510.3	24.0	510.8	30		2.23	38.44	4201	TELANGANA		4201	TS_SPDCL		
BUS 424046	DAMARACHERLA	400.00	CKT	MW	MVAR	MVA	% 0.9997PU	-19.73	X---	LOSSES	---	X---	AREA	-----X	X----	ZONE	-----X	424046
							399.88KV			MW	MVAR	4201	TELANGANA		4201	TS_SPDCL		
	TO 422146	DAMARACHERLA	220.00	1	293.1	21.8	293.9	59	1.0000LK	1.08	21.61	4201	TELANGANA		4201	TS_SPDCL		
	TO 422146	DAMARACHERLA	220.00	2	293.1	21.8	293.9	59	1.0000LK	1.08	21.61	4201	TELANGANA		4201	TS_SPDCL		
	TO 424044	YADADRI TPP	400.00	Q1	-293.1	-21.8	293.9	17		0.04	0.67	4201	TELANGANA		4201	TS_SPDCL		
	TO 424044	YADADRI TPP	400.00	Q2	-293.1	-21.8	293.9	17		0.04	0.67	4201	TELANGANA		4201	TS_SPDCL		
BUS 424047	I-STEELPLANT	400.00	CKT	MW	MVAR	MVA	% 0.9954PU	-23.93	X---	LOSSES	---	X---	AREA	-----X	X----	ZONE	-----X	424047
							398.16KV			MW	MVAR	4201	TELANGANA		4203	TS_NPDCL		
	TO 422152	I-STEELPLANT	220.00	1	200.1	77.6	214.6	43	1.0000LK	0.58	11.62	4201	TELANGANA		4203	TS_NPDCL		
	TO 422152	I-STEELPLANT	220.00	2	200.1	77.6	214.6	43	1.0000LK	0.58	11.62	4201	TELANGANA		4203	TS_NPDCL		
	TO 424023	JULURPADU	400.00	Q1	-200.1	-77.6	214.6	13		0.20	3.48	4201	TELANGANA		4201	TS_SPDCL		
	TO 424023	JULURPADU	400.00	Q2	-200.1	-77.6	214.6	13		0.20	3.48	4201	TELANGANA		4201	TS_SPDCL		

BUS 424048	VELGATOOR	400.00	CKT	MW	MVAR	MVA	% 0.9944PU	-25.76	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	424048
							397.76KV			MW	MVAR	4201	TELANGANA		4205	TS_LIS		
TO LOAD-PQ				290.0	0.0	290.0												
TO SHUNT				0.0	112.1	112.1												
TO 424049	NAMAPUR	400.00	Q1	184.2	-19.5	185.2	11			0.09	1.58	4201	TELANGANA		4205	TS_LIS		
TO 424049	NAMAPUR	400.00	Q2	184.2	-19.5	185.2	11			0.09	1.58	4201	TELANGANA		4205	TS_LIS		
TO 424051	KACHAPUR-B	400.00	Q1	-329.2	-36.6	331.2	19			0.35	6.10	4201	TELANGANA		4205	TS_LIS		
TO 424051	KACHAPUR-B	400.00	Q2	-329.2	-36.6	331.2	19			0.35	6.10	4201	TELANGANA		4205	TS_LIS		
BUS 424049	NAMAPUR	400.00	CKT	MW	MVAR	MVA	% 0.9944PU	-26.25	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	424049
							397.74KV			MW	MVAR	4201	TELANGANA		4205	TS_LIS		
TO LOAD-PQ				220.8	0.0	220.8												
TO SHUNT				0.0	112.1	112.1												
TO 424048	VELGATOOR	400.00	Q1	-184.1	0.0	184.1	11			0.09	1.58	4201	TELANGANA		4205	TS_LIS		
TO 424048	VELGATOOR	400.00	Q2	-184.1	0.0	184.1	11			0.09	1.58	4201	TELANGANA		4205	TS_LIS		
TO 424050	KACHAPUR-A	400.00	Q1	73.7	-56.1	92.6	5			0.02	0.38	4201	TELANGANA		4205	TS_LIS		
TO 424050	KACHAPUR-A	400.00	Q2	73.7	-56.1	92.6	5			0.02	0.38	4201	TELANGANA		4205	TS_LIS		
BUS 424050	KACHAPUR-A	400.00	CKT	MW	MVAR	MVA	% 0.9964PU	-26.48	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	424050
							398.56KV			MW	MVAR	4201	TELANGANA		4205	TS_LIS		
TO SHUNT				0.0	112.6	112.6												
TO 424008	GAJWEL	400.00	Q1	171.4	-29.0	173.9	10			0.15	2.63	4201	TELANGANA		4201	TS_SPDCL		
TO 424008	GAJWEL	400.00	Q2	171.4	-29.0	173.9	10			0.15	2.63	4201	TELANGANA		4201	TS_SPDCL		
TO 424015	SINGARENI	400.00	Q1	-85.9	-56.4	102.8	6			0.08	1.42	4201	TELANGANA		4203	TS_NPDCL		
TO 424015	SINGARENI	400.00	Q2	-85.9	-56.4	102.8	6			0.08	1.42	4201	TELANGANA		4203	TS_NPDCL		
TO 424025	RAMADUGU	400.00	Q1	-11.8	-4.1	12.5	1			0.00	0.00	4201	TELANGANA		4201	TS_SPDCL		
TO 424025	RAMADUGU	400.00	Q2	-11.8	-4.1	12.5	1			0.00	0.00	4201	TELANGANA		4201	TS_SPDCL		
TO 424049	NAMAPUR	400.00	Q1	-73.7	33.2	80.8	5			0.02	0.38	4201	TELANGANA		4205	TS_LIS		
TO 424049	NAMAPUR	400.00	Q2	-73.7	33.2	80.8	5			0.02	0.38	4201	TELANGANA		4205	TS_LIS		
BUS 424051	KACHAPUR-B	400.00	CKT	MW	MVAR	MVA	% 0.9970PU	-24.71	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	424051
							398.78KV			MW	MVAR	4201	TELANGANA		4205	TS_LIS		
TO SHUNT				0.0	112.7	112.7												
TO 424017	NARSARPUR	400.00	Q1	245.5	-55.0	251.6	15			0.70	12.01	4201	TELANGANA		4201	TS_SPDCL		
TO 424017	NARSARPUR	400.00	Q2	245.5	-55.0	251.6	15			0.70	12.01	4201	TELANGANA		4201	TS_SPDCL		
TO 424036	TSTPP_NTPC	400.00	Q1	-575.0	-18.6	575.3	34			1.22	21.05	4201	TELANGANA		4203	TS_NPDCL		
TO 424036	TSTPP_NTPC	400.00	Q2	-575.0	-18.6	575.3	34			1.22	21.05	4201	TELANGANA		4203	TS_NPDCL		
TO 424048	VELGATOOR	400.00	Q1	329.5	17.3	330.0	19			0.35	6.10	4201	TELANGANA		4205	TS_LIS		
TO 424048	VELGATOOR	400.00	Q2	329.5	17.3	330.0	19			0.35	6.10	4201	TELANGANA		4205	TS_LIS		
BUS 424052	YELLAI[PALLY	400.00	CKT	MW	MVAR	MVA	% 1.0011PU	-27.08	X---	LOSSES	---X	X----	AREA	-----X	X----	ZONE	-----X	424052
							400.42KV			MW	MVAR	4201	TELANGANA		4205	TS_LIS		
TO LOAD-PQ				300.0	0.0	300.0												
TO 424031	CHANDULAPUR	400.00	Q1	-150.0	-0.0	150.0	9			0.02	0.35	4201	TELANGANA		4205	TS_LIS		

TO 424031	CHANDULAPUR	400.00	Q2	-150.0	-0.0	150.0	9		0.02	0.35	4201	TELANGANA	4205	TS_LIS					
BUS 424053	VELJIPUR	400.00	CKT		MW	MVAR	MVA	% 1.0003PU 400.13KV	-26.77	X---	LOSSES MW	---X MVAR	X----	AREA 4201	-----X TELANGANA	X----	ZONE 4205	-----X TS_LIS	424053
TO LOAD-PQ				200.0	0.0	200.0													
TO 424033	TIPPAPUR	400.00	Q1	-100.0	0.0	100.0	6		0.00	0.08	4201	TELANGANA	4201	TS_SPDCL					
TO 424033	TIPPAPUR	400.00	Q2	-100.0	0.0	100.0	6		0.00	0.08	4201	TELANGANA	4201	TS_SPDCL					
BUS 424054	NEW TUKKAPUR	400.00	CKT		MW	MVAR	MVA	% 0.9984PU 399.38KV	-27.37	X---	LOSSES MW	---X MVAR	X----	AREA 4201	-----X TELANGANA	X----	ZONE 4205	-----X TS_LIS	424054
TO LOAD-PQ				144.0	0.0	144.0													
TO 424032	TUKKAPUR	400.00	T1	-72.0	0.0	72.0	8		0.00	0.00	4201	TELANGANA	4201	TS_SPDCL					
TO 424032	TUKKAPUR	400.00	T2	-72.0	0.0	72.0	8		0.00	0.00	4201	TELANGANA	4201	TS_SPDCL					
BUS 424055	ANNARAM	400.00	CKT		MW	MVAR	MVA	% 0.9983PU 399.30KV	-25.93	X---	LOSSES MW	---X MVAR	X----	AREA 4201	-----X TELANGANA	X----	ZONE 4205	-----X TS_LIS	424055
TO SHUNT				0.0	113.0	113.0													
TO 422157	ANNARAM 4	220.00	1	137.4	-4.4	137.5	27	1.0000LK	0.24	4.74	4201	TELANGANA	4205	TS_LIS					
TO 422157	ANNARAM 4	220.00	2	137.4	-4.4	137.5	27	1.0000LK	0.24	4.74	4201	TELANGANA	4205	TS_LIS					
TO 422157	ANNARAM 4	220.00	3	137.4	-4.4	137.5	27	1.0000LK	0.24	4.74	4201	TELANGANA	4205	TS_LIS					
TO 424015	SINGARENI	400.00	Q1	-206.1	-49.9	212.1	12		0.08	1.40	4201	TELANGANA	4203	TS_NPDCL					
TO 424015	SINGARENI	400.00	Q2	-206.1	-49.9	212.1	12		0.08	1.40	4201	TELANGANA	4203	TS_NPDCL					
BUS 424056	NARLAPUR	400.00	CKT		MW	MVAR	MVA	% 0.9949PU 397.98KV	-26.47	X---	LOSSES MW	---X MVAR	X----	AREA 4201	-----X TELANGANA	X----	ZONE 4205	-----X TS_LIS	424056
TO LOAD-PQ				522.0	0.0	522.0													
TO SHUNT				0.0	112.2	112.2													
TO 424057	YEDULA	400.00	Q1	-261.0	-56.1	267.0	16		0.20	3.36	4201	TELANGANA	4205	TS_LIS					
TO 424057	YEDULA	400.00	Q2	-261.0	-56.1	267.0	16		0.20	3.36	4201	TELANGANA	4205	TS_LIS					
BUS 424057	YEDULA	400.00	CKT		MW	MVAR	MVA	% 0.9979PU 399.16KV	-25.76	X---	LOSSES MW	---X MVAR	X----	AREA 4201	-----X TELANGANA	X----	ZONE 4205	-----X TS_LIS	424057
TO LOAD-PQ				580.0	0.0	580.0													
TO SHUNT				0.0	112.9	112.9													
TO 424001	VELTOOR	400.00	Q1	-560.2	-62.4	563.7	33		1.46	25.08	4201	TELANGANA	4201	TS_SPDCL					
TO 424001	VELTOOR	400.00	Q2	-560.2	-62.4	563.7	33		1.46	25.08	4201	TELANGANA	4201	TS_SPDCL					
TO 424019	DINDI	400.00	Q1	-341.9	-23.7	342.7	20		0.65	11.14	4201	TELANGANA	4201	TS_SPDCL					
TO 424019	DINDI	400.00	Q2	-341.9	-23.7	342.7	20		0.65	11.14	4201	TELANGANA	4201	TS_SPDCL					
TO 424056	NARLAPUR	400.00	Q1	261.2	37.6	263.9	16		0.20	3.36	4201	TELANGANA	4205	TS_LIS					
TO 424056	NARLAPUR	400.00	Q2	261.2	37.6	263.9	16		0.20	3.36	4201	TELANGANA	4205	TS_LIS					
TO 424058	VATTEM	400.00	Q1	350.9	-8.0	351.0	21		0.68	11.76	4201	TELANGANA	4205	TS_LIS					
TO 424058	VATTEM	400.00	Q2	350.9	-8.0	351.0	21		0.68	11.76	4201	TELANGANA	4205	TS_LIS					

BUS 424058	VATTEM	400.00	CKT	MW	MVAR	MVA	% 0.9952PU	-27.68	X---	LOSSES	---	X----	AREA	-----X	X----	ZONE	-----X	424058
							398.08KV			MW	MVAR	4201	TELANGANA		4205	TS_LIS		
TO LOAD-PQ				580.0	0.0	580.0												
TO SHUNT				0.0	112.3	112.3												
TO 424057	YEDULA	400.00	Q1	-350.2	-23.9	351.0	21			0.68	11.76	4201	TELANGANA		4205	TS_LIS		
TO 424057	YEDULA	400.00	Q2	-350.2	-23.9	351.0	21			0.68	11.76	4201	TELANGANA		4205	TS_LIS		
TO 424059	UDDANDAPUR	400.00	Q1	60.2	-32.3	68.3	4			0.02	0.31	4201	TELANGANA		4205	TS_LIS		
TO 424059	UDDANDAPUR	400.00	Q2	60.2	-32.3	68.3	4			0.02	0.31	4201	TELANGANA		4205	TS_LIS		
BUS 424059	UDDANDAPUR	400.00	CKT	MW	MVAR	MVA	% 0.9961PU	-27.95	X---	LOSSES	---	X----	AREA	-----X	X----	ZONE	-----X	424059
							398.42KV			MW	MVAR	4201	TELANGANA		4205	TS_LIS		
TO LOAD-PQ				348.0	0.0	348.0												
TO SHUNT				0.0	112.5	112.5												
TO 422168	UDDANDAPUR	220.00	1	143.9	22.9	145.7	29	1.0000LK		0.27	5.35	4201	TELANGANA		4201	TS_SPDCL		
TO 422168	UDDANDAPUR	220.00	2	143.9	22.9	145.7	29	1.0000LK		0.27	5.35	4201	TELANGANA		4201	TS_SPDCL		
TO 424022	MAH SEC-A	400.00	Q1	-257.7	-75.3	268.5	16			0.42	7.16	4201	TELANGANA		4201	TS_SPDCL		
TO 424022	MAH SEC-A	400.00	Q2	-257.7	-75.3	268.5	16			0.42	7.16	4201	TELANGANA		4201	TS_SPDCL		
TO 424058	VATTEM	400.00	Q1	-60.2	-3.8	60.3	4			0.02	0.31	4201	TELANGANA		4205	TS_LIS		
TO 424058	VATTEM	400.00	Q2	-60.2	-3.8	60.3	4			0.02	0.31	4201	TELANGANA		4205	TS_LIS		
BUS 424060	MAH SEC-B	400.00	CKT	MW	MVAR	MVA	% 0.9994PU	-26.06	X---	LOSSES	---	X----	AREA	-----X	X----	ZONE	-----X	424060
							399.77KV			MW	MVAR	4201	TELANGANA		4201	TS_SPDCL		
TO 424006	MAMIDIPALLI	400.00	T1	103.2	18.6	104.8	12			0.05	0.51	4201	TELANGANA		4201	TS_SPDCL		
TO 424006	MAMIDIPALLI	400.00	T2	103.2	18.6	104.8	12			0.05	0.51	4201	TELANGANA		4201	TS_SPDCL		
TO 424013	SHANKARPALLI	400.00	T1	226.8	-29.8	228.8	27			0.78	8.32	4201	TELANGANA		4201	TS_SPDCL		
TO 424013	SHANKARPALLI	400.00	T2	226.8	-29.8	228.8	27			0.78	8.32	4201	TELANGANA		4201	TS_SPDCL		
TO 424019	DINDI	400.00	T1	-330.0	11.2	330.2	39			1.24	12.47	4201	TELANGANA		4201	TS_SPDCL		
TO 424019	DINDI	400.00	T2	-330.0	11.2	330.2	39			1.24	12.47	4201	TELANGANA		4201	TS_SPDCL		
BUS 424061	WARANGAL NEW	400.00	CKT	MW	MVAR	MVA	% 1.0186PU	-22.86	X---	LOSSES	---	X----	AREA	-----X	X----	ZONE	-----X	424061
							407.46KV			MW	MVAR	4201	TELANGANA		4203	TS_NPDCL		
TO 424010	WARANGAL	400.00	Q1	208.8	106.3	234.3	14			0.23	4.04	4201	TELANGANA		4203	TS_NPDCL		
TO 424010	WARANGAL	400.00	Q2	208.8	106.3	234.3	14			0.23	4.04	4201	TELANGANA		4203	TS_NPDCL		
TO 427003	WARANGAL	765.00	1	-208.8	-106.3	234.3	16	1.0000UN		0.00	4.41	4201	TELANGANA		4203	TS_NPDCL		
TO 427003	WARANGAL	765.00	2	-208.8	-106.3	234.3	16	1.0000UN		0.00	4.41	4201	TELANGANA		4203	TS_NPDCL		
BUS 424002	RSTPS NTPC	400.00	CKT	MW	MVAR	MVA	% 1.0002PU	-22.48	X---	LOSSES	---	X----	AREA	-----X	X----	ZONE	-----X	424002
FROM GENERATION				2210.0	-260.0L	2225.2	73	400.07KV		MW	MVAR	4202	RGM-TPS		4202	RGM-TPS		
TO SWITCHED SHUNT				0.0	-0.0	0.0												
TO 414007	TALLAPALLI	400.00	T1	-0.6	-51.0	51.0	6			0.02	0.27	4801	SR_ISTS_AP		4101	ANDRAPRADESH		
TO 414007	TALLAPALLI	400.00	T2	-0.6	-51.0	51.0	6			0.02	0.27	4801	SR_ISTS_AP		4101	ANDRAPRADESH		
TO 421054	RAMGUTPC	132.00	1	170.8	18.1	171.7	86	1.0000LK		0.74	18.42	4201	TELANGANA		4203	TS_NPDCL		
TO 422010	RAMGUTPC	220.00	2	170.3	14.7	170.9	68	1.0000LK		0.58	14.60	4201	TELANGANA		4203	TS_NPDCL		
TO 422010	RAMGUTPC	220.00	3	170.3	14.7	170.9	68	1.0000LK		0.58	14.60	4201	TELANGANA		4203	TS_NPDCL		

TO 422034	NTPC 220 BUS220.00	4	216.2	16.7	216.8	69	1.0000LK	0.93	18.65	4201	TELANGANA	4203	TS_NPDCL
TO 422034	NTPC 220 BUS220.00	5	216.2	16.7	216.8	69	1.0000LK	0.93	18.65	4201	TELANGANA	4203	TS_NPDCL
TO 424003	GHANAPUR 400.00	T3	179.7	-75.1	194.7	23		1.22	13.63	4201	TELANGANA	4201	TS_SPDCL
TO 424003	GHANAPUR 400.00	T4	179.7	-75.1	194.7	23		1.22	13.63	4201	TELANGANA	4201	TS_SPDCL
TO 424007	DICHIPALLI 400.00	T1	194.1	-101.9	219.2	26		1.14	12.69	4201	TELANGANA	4203	TS_NPDCL
TO 424008	GAJWEL 400.00	T1	302.4	-38.3	304.8	36		2.30	25.60	4201	TELANGANA	4201	TS_SPDCL
TO 424010	WARANGAL 400.00	T1	96.5	-79.5	125.0	15		0.22	2.46	4201	TELANGANA	4203	TS_NPDCL
TO 424011	MALKARAM 400.00	T1	240.2	-60.9	247.8	29		2.13	22.44	4201	TELANGANA	4201	TS_SPDCL
TO 424014	BHADRAWATHI 400.00	T1	-488.5	89.8	496.7	58		8.54	95.03	4802	SR_ISTS_TS	4001	SR-IR
TO 424014	BHADRAWATHI 400.00	T2	-488.5	89.8	496.7	58		8.54	95.03	4802	SR_ISTS_TS	4001	SR-IR
TO 424036	TSTPP_NTPC 400.00	Q1	526.1	6.1	526.1	31		0.08	1.31	4201	TELANGANA	4203	TS_NPDCL
TO 424036	TSTPP_NTPC 400.00	Q2	526.1	6.1	526.1	31		0.08	1.31	4201	TELANGANA	4203	TS_NPDCL

Note:

- The line loadings and transformer loadings at 220kV & 400kV voltage levels are within limits.
- The Bus Voltages at 220kV & 400kV voltage levels are within limits.

Annexure - IIIC

Voltage Violations Report

400kv

BUSES WITH VOLTAGE GREATER THAN 1.0300:

BUS#-SCT X--	NAME --X	BASKV AREA	V(PU)	V(KV)	BUS#-SCT X--	NAME --X	BASKV AREA	V(PU)	V(KV)
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* NONE *

BUSES WITH VOLTAGE LESS THAN 0.9700:

BUS#-SCT X--	NAME --X	BASKV AREA	V(PU)	V(KV)	BUS#-SCT X--	NAME --X	BASKV AREA	V(PU)	V(KV)
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* NONE *

220kv

BUSES WITH VOLTAGE GREATER THAN 1.0900:

BUS#-SCT X--	NAME --X	BASKV AREA	V(PU)	V(KV)	BUS#-SCT X--	NAME --X	BASKV AREA	V(PU)	V(KV)
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* NONE *

BUSES WITH VOLTAGE LESS THAN 0.9200:

BUS#-SCT X--	NAME --X	BASKV AREA	V(PU)	V(KV)	BUS#-SCT X--	NAME --X	BASKV AREA	V(PU)	V(KV)
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* NONE *

Annexure - IV

Short Circuit Levels

Bus No	Bus Name	3-Phase Fault Current (kA)
422001	[TANDUR 220.00]	3.52
422002	[CHNDRYNGUTTA220.00]	33.17
422003	[GHANAPUR 220.00]	30.63
422004	[HWP 220.00]	14.61
422005	[KTPS-ABC 220.00]	38.97
422006	[MIRYALAGUDA 220.00]	29.34
422007	[MANUGURU 220.00]	17.57
422008	[NGRJNA SAGAR220.00]	39.23
422009	[RSS 220KV SS220.00]	38.86
422010	[RAMGUTPC 220.00]	37.23
422011	[SHAPURNGR 220.00]	37.18
422012	[STRMPTNM 220.00]	30.23
422013	[WARANGAL 220.00]	22.05
422014	[YEDUMRAM 220.00]	29.76
422015	[DICHPALLY220220.00]	28.97
422016	[DCPL 220 BUS220.00]	30.04
422017	[GACIBWLI 220.00]	40.21
422018	[KALWAKURTHY 220.00]	23.10
422019	[MBNR 220KVSS220.00]	22.13
422020	[MOULALI 220.00]	20.48
422021	[DURSHED 220.00]	19.07
422022	[SIDDIPET 220.00]	17.23
422023	[BPD 220KV SS220.00]	43.28
422024	[MALKARAM 220.00]	41.43
422025	[NIRMAL 220.00]	20.41
422026	[NKP 220KVSS 220.00]	16.58
422027	[BHONGIR 220.00]	20.35
422028	[WKP 220KV SS220.00]	23.39
422029	[MEDCHAL 220.00]	27.74
422030	[MINPUR 220.00]	17.96
422031	[MMP 220 BUS 220.00]	47.03
422032	[BHEEMGAL 220.00]	13.03
422033	[DINDI SS 220.00]	37.64
422034	[NTPC 220 BUS220.00]	38.17
422035	[CHALAKURTHY 220.00]	32.47
422036	[JAGTYALA 220.00]	18.96
422037	[HIAL 220.00]	42.40
422038	[PUTTAMGANDI 220.00]	14.26
422039	[SIVARAMPALLI220.00]	33.16
422040	[NAGARAM 220.00]	30.56
422041	[GJWL 220 BUS220.00]	37.42
422042	[BHIMGANAPUR 220.00]	10.18
422043	[GANGARAM 220.00]	6.07
422044	[PULAKURTHY 220.00]	26.11

422045	[KAMAREDDY 220.00]	10.03
422046	[WANAPARTHY 220.00]	24.90
422047	[SHAMSHABAD 220.00]	24.71
422048	[SHADNAGAR 220.00]	22.80
422049	[VLT 220 BUS 220.00]	39.25
422050	[UPPER JURALA220.00]	19.72
422051	[KMPALLY 220.00]	22.54
422052	[OGLAPUR 220.00]	31.60
422053	[SALIVAGU 220.00]	16.80
422054	[SHANKARPALLY220.00]	42.59
422055	[MANDAMARRI 220.00]	12.60
422056	[MEDARAM 220.00]	15.85
422057	[VEMANOOR 220.00]	12.74
422058	[GUNROCK 220.00]	28.02
422059	[NBEIL 220.00]	9.42
422060	[JURLA-SS 220.00]	20.45
422061	[LOWER JURALA220.00]	20.01
422063	[SADASIVPET 220.00]	17.26
422064	[MALLARAM 220.00]	9.87
422065	[BOMMAKAL 220.00]	4.18
422066	[OSMANIA 220.00]	15.56
422067	[KONDAPAKKA 220.00]	10.91
422068	[BONGLUR 220.00]	26.89
422069	[NETTEMPADU 220.00]	15.78
422070	[REGIMANUGADD220.00]	10.14
422071	[FABCITY 220.00]	38.66
422072	[ERRAGADDA 220.00]	24.14
422073	[MIYAPUR 220.00]	24.47
422074	[SURYAPET 220.00]	40.84
422075	[NAGOLE 220.00]	16.73
422076	[HAYATHNAGAR 220.00]	15.82
422077	[MANTHANI 220.00]	17.38
422078	[MURMUR 220.00]	15.74
422079	[PULIYATHANDA220.00]	14.26
422080	[SINGOTTAM 220.00]	10.63
422081	[GPGATTU 220.00]	12.72
422082	[JBOGUDA 220.00]	9.83
422083	[PARIGI 220KV220.00]	16.13
422084	[KOSIGI 220.00]	14.22
422085	[KTPS-V 220.00]	39.15
422086	[NETTEMPADU-2220.00]	13.92
422087	[SITAPURAM 220.00]	17.27
422088	[PULICHINTALA220.00]	19.37
422089	[SIRICILLA 220.00]	10.03
422090	[AKSHAY_VLT 220.00]	18.78
422091	[IMLIBUN GIS 220.00]	25.36
422092	[POCHARAM 220.00]	22.12
422093	[NARSARPUR 220.00]	24.49

422094	[RENEW_DCPL 220.00]	12.09
422095	[RENEW_MNP 220.00]	10.23
422096	[THIMMAJIPET 220.00]	25.28
422097	[TRANFRM_VLT220.00]	30.93
422098	[MAHES_220 220.00]	37.36
422099	[HUZURABAD 220.00]	12.22
422100	[SUZLON_VLT 220.00]	19.05
422101	[YELLUR 220.00]	9.19
422102	[GOURIDEVPALL220.00]	11.48
422103	[RENEW_VLT_2 220.00]	18.13
422104	[JULURPADU2 220.00]	14.26
422105	[AZURE_SOLAR 220.00]	13.61
422106	[MAHABUBAD 220.00]	16.60
422107	[ASUPAKA 220.00]	14.15
422108	[ASHWARAOPET 220.00]	10.42
422109	[UDAYASAMUDRA220.00]	11.10
422110	[MADGULA 220.00]	13.79
422111	[NIRMAL_NEW 220.00]	21.83
422112	[KALLUR 220.00]	8.63
422113	[MEDIGADDA 220.00]	14.92
422114	[ANNARAM 220.00]	22.64
422115	[SUNDILLA 220.00]	22.29
422116	[KETHIREDDYPA220.00]	29.23
422117	[HUZURNAGAR 220.00]	17.91
422118	[NAGARKURNOOL220.00]	12.37
422119	[PEDDAGOPATHI220.00]	9.07
422120	[DOMALAPENTA 220.00]	34.84
422121	[MINAJIPET 220.00]	12.78
422122	[RFCL 220.00]	14.87
422123	[JANGOAN 220.00]	35.52
422124	[JANGOAN_NEW 220.00]	29.97
422125	[RAMPUR_LIS 220.00]	17.58
422126	[RAJESWARAPET220.00]	6.00
422127	[BANSWADA 220.00]	8.04
422128	[RAMADUGU_220220.00]	29.56
422129	[KAMALAPUR 220.00]	26.37
422130	[VK RAMAVARAM220.00]	25.92
422131	[CHANCHALGUDA220.00]	26.75
422132	[RENJAL 220.00]	8.98
422133	[MUPPKAL 220.00]	11.27
422134	[CHEGUR 220.00]	26.33
422135	[AKKARAM 220.00]	28.78
422136	[MARKOOK 220.00]	20.33
422137	[BGKOTHUR 220.00]	19.43
422138	[BTPS 220.00]	14.30
422139	[DURSHED-2 220.00]	15.71
422140	[ANNARAM-LIS 220.00]	22.64
422141	[MEDIGADDA_LI220.00]	14.92

422142	[SUNDILLA_LIS220.00]	22.29
422143	[INDRAVELLI 220.00]	6.33
422144	[RAIDURG 220.00]	41.83
422145	[CHOUTUPPAL 220.00]	26.10
422146	[DAMARACHERLA220.00]	31.41
422147	[KTPP 220.00]	26.26
422148	[HUSNABAD 220.00]	10.30
422149	[AMMAVARIPET 220.00]	7.31
422150	[BORAMPET 220.00]	6.19
422151	[KATHALAPUR 220.00]	9.20
422152	[I-STEELPLANT220.00]	13.05
422153	[KOLLUR 220.00]	28.04
422154	[SAINIKPURI 220.00]	15.98
422155	[KACHA SINGAR220.00]	25.64
422156	[RC PURAM 220.00]	27.44
422157	[ANNARAM 4 220.00]	22.76
422158	[DEVANNAPET 220.00]	11.38
422159	[YACHARAM THA220.00]	13.48
422160	[MANCHIPPA 220.00]	13.42
422161	[CHELMEDA 220.00]	14.83
422162	[BORANCHA 220.00]	12.30
422163	[POKKUR 220.00]	10.50
422164	[MENTRAJPALLY220.00]	15.56
422165	[ALWAL 220.00]	17.43
422166	[CPRI 220.00]	16.66
422167	[NEMALINAGAR 220.00]	22.59
422168	[UDDANDAPUR 220.00]	24.09
424001	[VELTOOR 400.00]	43.17
424003	[GHANAPUR 400.00]	39.84
424004	[KHAMMAM 400.00]	40.62
424005	[SRISAILAMLB 400.00]	21.98
424006	[MAMIDIPALLI 400.00]	38.53
424007	[DICHIPALLI 400.00]	43.58
424008	[GAJWEL 400.00]	43.91
424009	[KAKATIYA TPS400.00]	31.01
424010	[WARANGAL 400.00]	36.80
424011	[MALKARAM 400.00]	25.51
424012	[KTPS-VI 400.00]	30.69
424013	[SHANKARPALLI400.00]	38.72
424015	[SINGARENI 400.00]	24.00
424016	[SURYAPET 400.00]	33.38
424017	[NARSARPUR 400.00]	40.08
424018	[NIZAMABAD 400.00]	46.46
424019	[DINDI 400.00]	43.13
424020	[ASUPAKA 400.00]	9.17
424021	[MHSWRM-PG 400.00]	50.10
424022	[MAH SEC-A 400.00]	32.22
424023	[JULURPADU 400.00]	36.18

424024	[KTPS-VII 400.00]	33.71
424025	[RAMADUGU 400.00]	45.79
424026	[SUNDILLA 400.00]	21.70
424027	[NIRMAL 400.00]	25.59
424028	[MEDARAM 400.00]	30.48
424029	[KETIREDDYPAL400.00]	28.00
424030	[BTPS 400.00]	17.64
424031	[CHANDULAPUR 400.00]	47.36
424032	[TUKKAPUR 400.00]	34.42
424033	[TIPPAPUR 400.00]	44.92
424034	[JANGOAN 400.00]	35.02
424035	[KAMALAPUR 400.00]	21.61
424036	[TSTPP_NTPC 400.00]	58.78
424037	[RAMADUGU_LIS400.00]	45.79
424038	[CHANDULAPUR_400.00]	47.36
424039	[TUKKAPUR_LIS400.00]	34.42
424040	[TIPPAPUR_LIS400.00]	44.92
424042	[RAIDURG_GIS 400.00]	20.63
424044	[YADADRI TPP 400.00]	50.02
424045	[CHOUTUPPAL 400.00]	33.71
424046	[DAMARACHERLA400.00]	45.02
424047	[I-STEELPLANT400.00]	18.33
424048	[VELGATOOR 400.00]	31.10
424049	[NAMAPUR 400.00]	32.55
424050	[KACHAPUR-A 400.00]	44.23
424051	[KACHAPUR-B 400.00]	37.89
424052	[YELLAI[PALLY400.00]	37.79
424053	[VELJIPUR 400.00]	40.10
424054	[NEW TUKKAPUR400.00]	34.03
424055	[ANNARAM 400.00]	19.63
424056	[NARLAPUR 400.00]	23.09
424057	[YEDULA 400.00]	36.78
424058	[VATTEM 400.00]	24.89
424059	[UDDANDAPUR 400.00]	25.42
424060	[MAH SEC-B 400.00]	37.75
424061	[WARANGAL NEW400.00]	34.97
424002	[RSTPS NTPC 400.00]	59.85

Note

The short circuit levels at all 220kV & 400kV Buses are within limits as per CEA Transmission Planning Criteria 2023