



AP STATE LOAD FORECAST, POWER PROCUREMENT PLAN AND TRANSMISSION RESOURCE PLAN

FOR

5th CONTROL PERIOD (FY 2024-25 TO FY 2028-29)

&

6th CONTROL PERIOD (FY 2029-30 TO FY 2033-34)

April-2023

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Chapter 1

Load forecast

1.1 Introduction

The Regulation 5 of 2005 of Andhra Pradesh Electricity Regulatory Commission (APERC) directs APTRANSCO to collect sales forecast and power procurement from distribution licensees, consolidate and to file Transmission Resource Plan for Hon'ble Commission's approval. The Resource Plan shall contain the following:

Consolidated Sales & Load Forecast
Consolidated Power Procurement Plan
Capital Investment & Transmission plan of APTransco

APTRANSCO and Distribution Licensees shall adopt the approved Resource Plan in the Multi-Year and Annual filings (MYT) for the respective Control period.

The Guidelines for Load Forecast, Resource Plan and Power Procurement state that the licensee shall submit a Resource Plan for a period of two control periods i.e. Load Forecast, Power Procurement from the year of commencement beginning from 1st April and ending on the following 31st March including a detailed plan for the Control Period under consideration for tariff review purpose and an indicative plan for the subsequent control period.

The 5th control period starts from 01 Apr 2024 and ends on 31 March 2029 while the 6th control period starts from 01 Apr 2029 and ends on 31 March 2034.

APTRANSCO submitted Resource Plan for 4th control period (FY 2019-20 to FY 2023-24) and 5th control periods (FY 2024-25 to FY 2028-29) in June 2018 and the same was approved by Hon'ble Commission in April 2019.

As per the Hon'ble APERC guidelines , APTransco is herewith submitting detailed Resource plan for 5thControl period (FY 2024-25 to FY 2028-29) and 6th Control Period (FY 2029-30 to FY 2033-34).

The Resource Plan as submitted by APTransco based on the Discoms and GENCO perspective plan consists of the following sections:

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

1.2 Power for All

Andhra Pradesh is one of the state in the country selected for implementation of 'Power for All'- flagship program of Govt. of India.

The objective of the above program is to supply 24x7 quality, reliable and affordable power supply to all domestic, commercial and industrial consumers within a fixed timeframe. This program covers the entire gamut of power sector, including generation, transmission, distribution, consumer initiatives, renewable energy, energy efficiency measures, financial health of the utilities and support required from Govt. of India to achieve the objectives of the program.

The program would be implemented jointly by Govt. of India & Govt. of Andhra Pradesh as partners. The various ministries of Central Govt. which would be involved in this program are Ministry of Power, Ministry of Coal, Ministry of Petroleum & Natural Gas, Ministry of New & Renewable Energy, Ministry of Environment & Forests and Ministry of Railways.

CEA would be functioning as the nodal authority for implementation & monitoring of the program. The Central PSUs namely NTPC, CIL, MCL, WCL, SCCL, PFC, REC, NHPC, NPCIL, PGCIL, BHEL, EESL, BEE, SECI, ONGC, GAIL, NVVNL along-with the State PSUs APGENCO, APTRANSCO, APDISCOMS, NREDCAP and SECM would be partners in the implementation of the program.

1.3 Andhra Pradesh power Sector at a glance:

The total installed capacity of Andhra Pradesh is 19832 MW as on 31-03-2023. The total number of consumers in the state is 205.89 lakhs which includes 162.39 lakhs of domestic, 19.34 lakhs of commercial, 1.40 lakhs of industrial, 19.12 lakhs of agricultural categories as on 31.01.2023. The total energy consumption (at utility periphery) in Andhra Pradesh during FY 2022-23 was 72,400 MU and the peak demand occurred in April 2022 was 12293 MW.

1.4 Present position of Generation, Transmission & Distribution

The present installed capacity in the state is 19,831 MW , comprising 3410 MW of APGenco thermal, 1,773 MW of APGenco hydel, 2240 MW APPDCL thermal, 216 MW of APDiscom Gas, 1978 MW of CGS Share, 1895 MW of IPP's and 7627 MW of NCE's.

The present transmission infrastructure consists of 17 Nos. of 400 kV substations, 105 Nos. of 220 kV substations, 238 Nos. of 132 kV substations and 5483 ckm of 400

KV ,12307 ckm of 220 KV and 13,875 Ckm of 132 KV lines as on 31.03.2023. The transmission losses during FY 2021-22 was 2.76%.

There are 3247 Nos. of 33/11 kV substations and 29,518 ckm of 33 KV lines as on 31.01.2023

1.5 Present Power Supply Position:

Power is being supplied to Domestic, Commercial & Industrial consumers along with Agricultural consumers in rural areas through mixed feeders. There are 706 Nos. of dedicated/express industrial feeders. 9 hours three phase power supply is being given to agricultural consumers during day time mostly in single/two spells and supply timings are rotated every 7 days.

Three phase supply to rural areas for Domestic, Commercial & Industrial consumers is along with 9 hrs Agricultural supply only. Whereas, balance 15 hrs supply is given to rural areas through single phase power supply. As a result, most of the consumers, other than Agricultural in rural areas on mixed feeders get 24 hours of supply every day.

Agricultural feeders have been separated from Domestic feeders in 14 mandals on a pilot basis during 2011. In these mandals, domestic consumers are being extended 3 phase supply depending upon availability of power. However, there is a system in Andhra Pradesh which enables single phase supply to be extended to all domestic consumers through suitable control mechanism at the substations.

Since 2014, all rural areas have been extended 24 hours single phase/ three phase power supply to all Domestic, Commercial & Industrial consumers. The segregation of Agricultural feeders would enable extension of 24x7, reliable 3 phase supply to all domestic, commercial & industrial consumers.

1.6 Sales and Load forecast

Sales forecast is prepared using trend method and End use method by respective Discoms , taking into consideration various economic and central/state level initiatives which affect the forecasted sales for certain categories. For projecting circle wise sales the Discoms have factored growth in economic conditions due to growth drivers such as increased penetration of decentralized renewable energy, upcoming initiatives for promoting use of electric vehicles, infrastructural requirements for meeting open access consumers coming on to the grid, weather conditions, etc.. Historically, in FY 2022-23 (Apr'22 & May'22), sudden increase in demand and lower

availability on supply side compelled the Discoms to resort to R&C measures for industrial consumers. This has been considerably reduced in recent past and Discoms shall be supplying 24 hr power to non – Agricultural consumers and 9 hours to Agricultural consumers during day time with no load restriction in 5th & 6th control periods. The determinants for future sales are discussed.

The consolidated Sales and Load forecast is prepared by aggregating the discoms sales forecast by taking into account PCPIR (Petroleum, Chemicals and Petrochemical Investment Region) corridor, Vizag Chennai Industrial Corridor (VCIC), Kakinada SEZ, Sri City SEZ, new airports & new sea ports.

There are 916 nos Lift irrigation projects irrigating 6,90,183 acres in the state. New lift irrigation schemes i.e Chintalapudi, Hiramandalam etc will further contribute in increasing demand.

1.7 Transmission Losses

Transmission losses will be reduced from present (FY2021-22) level of 2.8 % to 2.7% during 5th control period and will further come down to 2.6% during 6th control period, the details are tabulated below.

FY	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY 34
APTransco Transmission loss %	2.75	2.75	2.75	2.75	2.70	2.70	2.70	2.65	2.65	2.65	2.60	2.60
PGCIL loss %	0.80	0.80	0.80	0.90	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95

1.8 Solar Roof Top

The rooftop installations in the State have been undertaken in different consumer categories both in LT and HT. Category-wise Solar rooftop projects installed MW have been shown below:

Consumer Category	FY18	FY19	FY20	FY21	FY22	FY23	CAGR
LT I	10.165	16.861	29.932	39.959	56.245	79.384	50.84%
LT II	32.15	55.68	73.73	95.785	122.286	154.117	36.82%
LT III	6.053	8.696	14.047	17.045	21.472	28.271	36.11%
LT IV	13.682	25.157	63.824	71.573	78.062	87.539	44.95%
HT I	0.36	1.176	1.286	2.392	2.602	2.602	48.53%
HT II	35.776	46.086	57.382	60.936	63.377	65.468	12.85%

HT III	41.516	44.363	51.9	57.505	61.52	63.621	8.91%
HT IV	10.45	9.41	13.11	8.87	9.02	9.23	-2.45%
Total	150.152	207.429	305.211	354.065	414.584	490.232	26.70%

Historical growth in Solar rooftop installations is high due to Low base and APDiscoms expect moderation in growth in 5th and 6th control periods. The Dicoms have projected that installed capacity & generation from solar roof top installations would increase at a CAGR of 10% for 5th and 6th control periods. The Energy generation from Solar roof top installation in MU in the 5th and 6th control periods is shown in the table below.

Categorie s	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
LT I	27.958	30.73	33.73	37.01	40.6	44.56	48.9	53.67	58.9	64.66	70.97
LT II	23.549	25.93	28.43	31.16	34.17	37.48	41.1	45.07	49.44	54.24	59.5
LT III	7.604	8.38	9.19	10.08	11.05	12.11	13.29	14.58	16	17.54	19.24
LT IV	8.496	9.34	10.26	11.26	12.38	13.59	14.94	16.41	18.03	19.8	21.77
HT I	1.9478	2.03	2.12	2.21	2.32	2.44	2.55	2.69	2.84	2.99	3.16
HT II	64.465 6	68.61	73.11	78.01	83.36	89.18	95.52	102.4 2	109.9 7	118.1 9	127.1 8
HT III	110.27 1	121.1 2	132.9 5	145.9 5	160.2 2	175.9	193.1 3	212.0 5	232.8 2	255.6 6	280.7 3
HT IV	31.726 6	34.72	38.03	41.65	45.65	50.02	54.84	60.12	65.93	72.32	79.33
Total	276.02	300.8 6	327.8 2	357.3 3	389.7 5	425.2 8	464.2 7	507.0 1	553.9 3	605.4	661.8 8

1.9 Electric Vehicles

GoI has set an ambitious target of 100% incremental EV sales by 2040. It is estimated that the EV penetration would increase through conversion of conventional vehicles. The projections for Electric Vehicles in **Numbers** in the State are given below.

No of Electric Vehicles Year wise.

Year	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034
2W	52,334	80,386	1,23,474	1,89,658	2,91,317	4,47,468	6,87,318	7,38,550	7,93,602	8,52,757	9,16,322
3W	6,951	9,664	13,435	18,677	25,965	36,097	50,184	53,924	57,944	62,263	66,904
4W	9,318	11,845	15,056	19,138	24,327	30,923	39,307	44,269	49,858	56,153	63,242
Goods	239	397	661	1,101	1,834	3,054	5,086	5,833	6,691	7,674	8,802
Buses	133	178	238	319	427	572	766	882	1,016	1,170	1,348
Total vehicles	68,975	1,02,469	1,52,864	2,28,893	3,43,871	5,18,114	7,82,660	8,43,459	9,09,111	9,80,017	10,56,617

The year wise **energy required in MU** by the Electric vehicles for regular charging at consumer level is tabulated below.

Energy required for charging the EV in MU

EV Vehicle Category	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30	FY 31	FY 32	FY 33	FY 34
2W	3	5	7	11	17	26	39	60	93	100	107	115	124
3W	1	1	2	2	3	4	6	8	11	12	13	14	15
4W	4	6	7	9	12	15	19	24	30	34	38	43	48
Goods	4	7	12	19	32	54	89	149	248	284	326	373	428
Buses	3	5	6	8	11	15	19	26	35	40	46	53	61
Total	16	23	33	50	74	113	173	267	417	470	531	599	677

1.10 State Level Load Factors

For FY2022-23, the average and peak demand observed at state level are 8265 MW and 12293 MW respectively. Thus, the state level load factor for FY2022-23 is 67.2%.

The load factor is expected to reduce in future by following assumption:

Currently, at state level the average daily demand from agriculture is 4000 MW that is being supplied in various phases for total duration of around 13 hours in a day for different groups at different time slots. With the infusion of solar and wind power, the peak power availability is observed during 11am to 13 pm.

The available solar power is expected to increase in FY 2024-25, FY 2025-26 and FY 2026-27 as mentioned in the table below:

Solar Capacity Forecast

	FY25	FY26	FY27
Solar Capacity (MW)	3000	3000	1000

Due to high solar power infusion in the state power portfolio, the agriculture demand which is currently being catered over a period of 12 hours in the entire day, a part of it can be shifted to the time slot from 11am to 13pm (peak hours) and hence the overall peak availability is expected to be high.

This agriculture demand shift in the mid-day time will increase the state peak demand and will reduce the state overall load factor.

For future years, once agriculture demand is not flexible, state will need more round the clock power instead of solar power and in that case the peak demand arriving at mid-day will be distributed will be in the entire day and the peak demand will reduce resulting into increase in load factor. However, licensee assumes that the load factor will remain same for the forecasted years.

Forecast of the state load factor

FY	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Load factor %	66	64	63.85	63.85	63.85	63.85	63.75	63.65	63.6	63.5	62.4

1.11 Load Forecast for 5th control period from FY2024-25 to FY2028-29

The Categorywise sales forecast in MU and state level load forecast arrived by consolidating the forecast of the APDiscoms for 5th is tabulated in the below table.

FY	2023	2024	2025	2026	2027	2028	2029
Low Tension							
Domestic	17267	18262	19398	20597	21696	22856	24079
Commercial & Others	3417	3637	3822	4018	4224	4444	4683
LT Industry	1531	1624	1678	1734	1793	1855	1919
LT Agriculture	14083	15147	16030	16991	17994	19064	20206
LT Institutional	1577	1676	1800	1936	2082	2240	2411
LT Total	37876	40345	42728	45276	47789	50458	53298
High Tension							
Domestic	62.1	64.7	66.9	69.2	71.6	74.1	76.8
Industry	20172	21012	23076	24459	29545	31144	32864
Commercial & Others	1865	2009	2130	2261	2401	2552	2715
HT Agriculture	927	1746	2290	2816	2847	2884	2901
Institutional	2741	2951	3122	3309	3516	3748	4395
RESCOs	435	459	484	511	539	568	600
HT Total	26202	28241	31170	33425	38919	40970	43551
Total Sales MU	64078	68586	73898	78700	86708	91429	96849

Total Losses	10.5%	11.5%	11.3%	11.3%	11.0%	11.0%	11.0%
discom loss	6.9%	7.9%	7.7%	7.6%	7.3%	7.3%	7.3%
PGCIL loss	0.80%	0.80%	0.80%	0.90%	0.95%	0.95%	0.95%
Transmission loss	2.75%	2.75%	2.75%	2.75%	2.70%	2.70%	2.70%
Energy Purchase MU	71116	77487	83275	88713	97396	102700	108765
Open access MU	1284	1985	2090	2211	2334	2478	2613
System Energy (MU)	72400	79472	85365	90924	99731	105179	111378
Load factor	67.2%	66.0%	64.0%	63.85%	63.85%	63.85%	63.85%
Peak Demand	12075	13402	14854	15861	17413	18361	19446

(Excl OA) MW							
Open access MW	218	343	373	395	417	443	467
System Demand (MW)	12293	13746	15226	16256	17831	18805	19913

1.12 Load Forecast for 6th Control Period from FY2029-30 to FY 2033-34

The category wise sales forecast in MU and load forecast for 6th Control Period from FY2029-30 to FY2033-34 is as under:

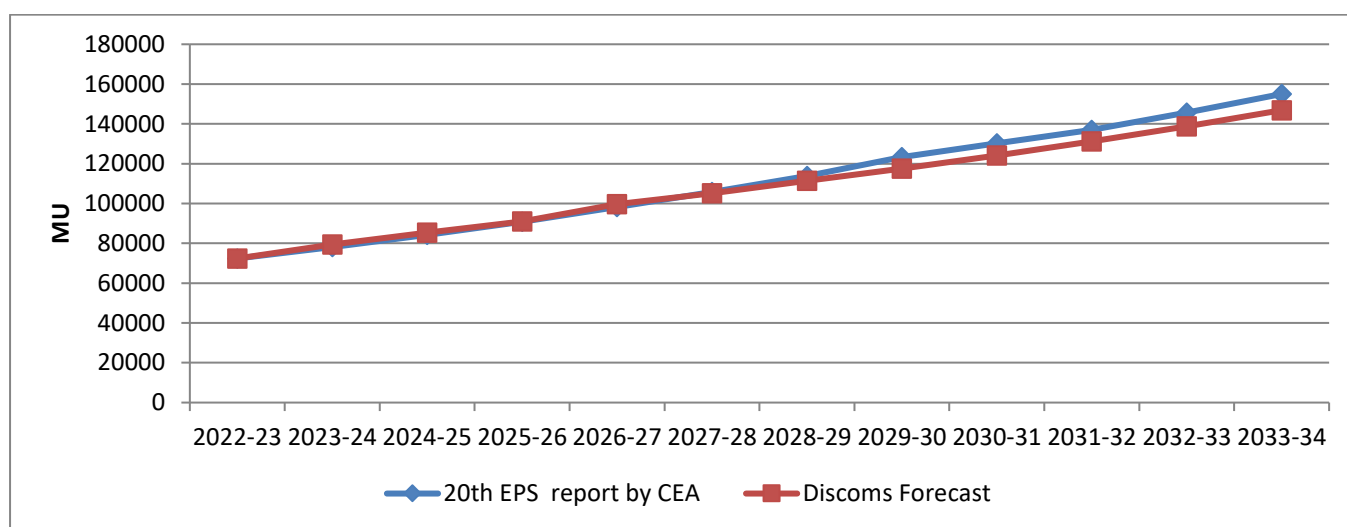
FY	2030	2031	2032	2033	2034
Low Tension					
Domestic	25369	26730	28165	29679	31277
Commercial & Others	4946	5198	5465	5747	6044
LT Industry	1986	2056	2129	2206	2286
LT Agriculture	21426	22729	24122	25612	27208
LT Institutional	2596	2797	3014	3250	3506
LT Total	56323	59510	62896	66495	70322
High Tension					
Domestic	79.5	82.4	85.4	88.5	91.8
Industry	34719	36718	38877	41211	43735
Commercial & Others	2891	3081	3288	3514	3763
HT Agriculture	2914	2928	2943	2959	2976
Institutional	4623	4886	5341	5675	6059
RESCOs	633	668	705	743	784
HT Total	45858	48364	51239	54191	57410
Total Sales MU	102181	107873	114135	120686	127732

Total Losses	10.9%	10.9%	10.9%	10.8%	10.8%
discom loss	7.3%	7.3%	7.3%	7.3%	7.3%
PGCIL loss	0.95%	0.95%	0.95%	0.95%	0.95%
Transmission loss	2.65%	2.65%	2.65%	2.60%	2.60%
Energy Purchase MU	114730	121095	128085	135336	143200
Open access MU	2780	2971	3183	3416	3677
System Energy (MU)	117510	124067	131269	138753	146877
Load factor	63.75%	63.65%	63.60%	63.50%	62.40%
Peak Demand (Excl OA) MW	20544	21718	22990	24330	26197
Open access MW	498	533	571	614	673
System Demand (MW)	21042	22251	23561	24944	26870

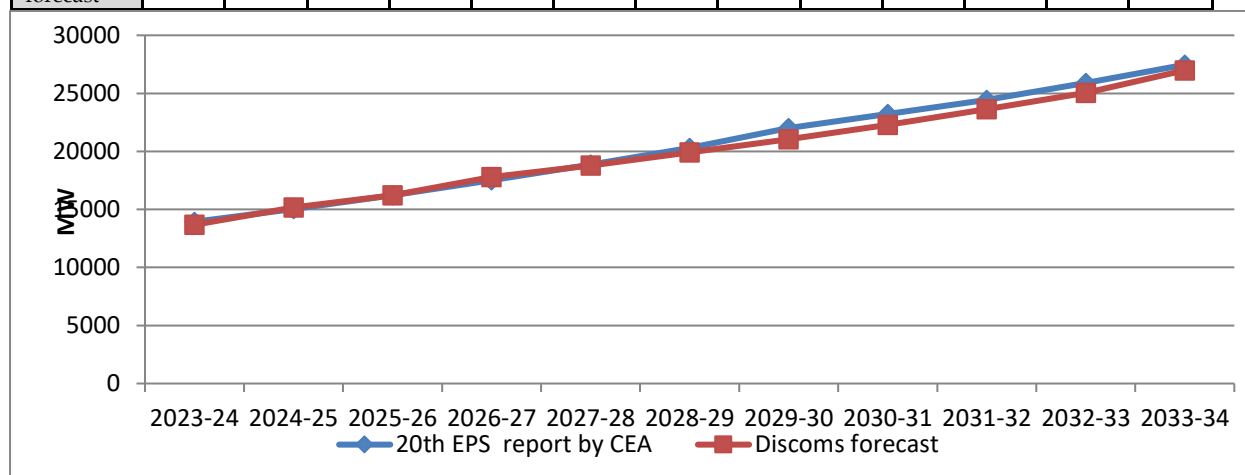
1.13 Comparison of Load forecasts

Comparison of Energy (MU) forecast and Demand Forecast (MW) by Discoms with the 20th EPS projections by CEA are shown below in table and figure 1 and figure 2. Discoms energy forecast is almost in line with 20th EPS by CEA in 5th Control period and slightly lower in the 6th control period. (T10)

Energy Requirement (MU)	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33	2033-34	CAGR 2023-34
20th EPS report by CEA	72400	78134	84245	90889	98162	105792	113859	123361	130196	137022	145746	155026	7.17%
Discoms Forecast	72400	79472	85365	90924	99731	105179	111378	117510	124067	131269	138753	146877	6.64%



Demand (MW)	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33	2033-34	CAGR 2023-34
20th EPS report by CEA	12293	13937	15027	16212	17509	18870	20309	22004	23223	24440	25907	27461	7.58%
Discoms forecast	12293	13746	15226	16256	17831	18805	19913	21042	22251	23561	24944	26870	7.37%



Chapter-2

Power Procurement Plan

2.1 INTRODUCTION

In pursuant to the provisions of Electricity Act-2003, Bulk Power purchase activity has been vested with APDISCOMs through a transfer scheme notified by the State Govt in June 2005.

With effect from 1st April 2020, a new distribution licensee by the name of Central Power DISCOM (APCPDCL) has been carved out of APSPDCL to serve three erstwhile Districts of Krishna, Guntur and Prakasam. Consequent to formation of APCPDCL the State Govt vide GO Ms No 13, dt 6th April 2020 have specified sharing Ratios to the three DISCOMs for the purpose of procurement of power through PPAs. These ratios are applicable for all the existing Power Purchase Agreements (PPAs) of combined purchases in respect of all on going and under construction Generation Stations for which PPAs have been signed except for the projects exclusively allocated on the basis of geographical location by the Government of Andhra Pradesh and other PPAs entered into by individual DISCOMs.

Further vide GO Rt No. 146, dated 02.12.2022 the geographical allocation of NCE PPAs prevailing thereto was changed to proportionate allocation. Presently the ratios of APEPDCL, APSPDCL and APCPDCL (Distribution Licensees in AP) in the Power Purchase Agreements (PPAs) in pursuant to the above, are indicated as below:

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

In accordance with the GoAP letter dated 29.06.2022, the APCPDCL has been designated as Lead Procurer on behalf of APDISCOMs in respect of bulk power purchase activity from all shared power projects.

The details of capacities being availed by APDISCOMs from various power stations as on 31st March 2023 is indicated below:

SOURCE	APDISCOMs CONTRACTED CAPACITY(MW)
APGENCO-THERMAL	3410
APGENCO-HYDEL	1773.6
JOINT SECTOR	2456.824
CGS	1978.628
IPPs (Thermal)	1895.55
IPPs (Gas)	690.8
NCE	7626.94
TOTAL	19832.3

2.2 peak demand of AP Grid system :

Projected

The AP State Grid Demand is expected to increase from the existing level of 12,293 MW to 26870 MW by 2033-34 at a compounded annual growth rate (CAGR) of 7.37%.

As per 20th Electric Power Survey (EPS) conducted by the Central Electricity Authority (CEA) the expected peak demand to be met in AP is 27,461 MW by the horizon year at a CAGR of 7.58%.

Minimum Grid Demand incident on the system (100% Base Load) is expected to increase from the existing level of 5600 MW to 9200 MW by 2034 at a CAGR of 4.6%.

2.3 Existing Installed/Contracted Capacity from various sources

The abstract of existing contracted capacities from various sources of generation held by APDISCOMs is presented as below:

Plant wise / Unit wise details of various generating stations are explained in the following sub-sections.

2.3.1APGENCO Thermal

APGENCO Thermal Sources

Sl. No.	Source of Power	COD DD/MM/YYYY	AP Share MW	Aux Consumption	PLF	PPA Expiry DD/MM/YYYY
1	VTPS I	10/10/1980	420	9%	80%	31/3/2024
2	VTPS II	23/8/1990	420	9%	80%	31/3/2024
3	VTPS III	24/2/1995	420	9%	80%	31/3/2024
4	VTPS IV	28/1/2010	500	7.50%	80%	27/1/2024
5	RTPP I	25/2/1995	420	9.00%	80%	31/3/2024
6	RTPP Stage-II	29/3/2008	420	9.00%	80%	28/3/2033
7	RTPP Stage-III	10/2/2011	210	9.00%	80%	28/11/2035
8	Rayalaseema TPP Stage IV Unit- 6 (600MW)	28/3/2018	600	5.75%	85%	28/3/2043

2.3.2APGENCO Hydel

Sl. No.	Source of Power	COD DD/MM/YYYY	AP Share MW	Aux Consumption	PLF	PPA Expiry DD/MM/YYYY
1	MACHKUND PH AP Share	8/8/1959	60	1.0%	45.00%	31/3/2024
2	TUNGBHADRA PH AP Share	19/6/1964	58	1.0%	15.00%	31/3/2024
3	USR	14/10/1967 - First stage & 21/3/1995 - 2 nd stage	240	1.0%	16.00%	31/3/2024
4	LSR	28/03/1976 - First Unit & 13/6/1978 - Last Unit	460	1.0%	22.00%	31/3/2024
5	DONKARAYI	4/10/1983	25	1.0%	31.00%	31/3/2024
6	SRBEHS	19/3/1987	770	1.0%	9.00%	31/3/2024
7	NSRCPH	10/9/1990	90	1.0%	11.00%	31/3/2024
8	PABM	23/1/1994	20	1.0%	3.00%	31/3/2024
9	MINI HYDRO (Chettipetta)	-	1	1.0%	30.00%	31/3/2024
10	Nagarjunasagar Tail pond (1x25 MW) Unit-1	5/1/2017	25	1.0%	23.52%	28/1/2052
11	Nagarjunasagar Tail pond (1x25 MW) Unit-2	29/1/2017	25	1.0%	23.52%	28/1/2052

2.3.3 Joint Sector Projects

Sl. No.	Source of Power	COD DD/MM/YYYY	AP Share MW	Aux Consumption	PLF	PPA Expiry DD/MM/YYYY
1	Krishnapatnam TPP (JVP) Stage I (2X800MW) Unit-1	5/2/2015	720	6.50%	85%	23/8/2040
2	Krishnapatnam TPP (JVP) Stage I (2X800MW) Unit-2	24/8/2015	720	6.50%	85%	23/8/2040
3	Krishnapatnam TPP (JVP) Stage II (1X800MW) Unit-3	10/3/2023	800	6.50%	85%	PPA is yet to be approved
4	Godavari Gas Power Plant (GGPP)	20/6/1997	216	3.97%	0.0%	Owned by DISCOMs

2.3.4 Central Generating Stations

APDISCOMS have been purchasing power from Central Generating Stations owned/controlled by Central Public Sector Undertakings (CPSUs) based on the long term PPAs. The list of the Stations along with the APDISCOMs' share of power from these Stations (as on 31st March 2023) are indicated in the following table:

Central Generating Stations (CGS) Sources.

SL	Station	Allocated Capacity (MW)	PPA expiry date DD/MM/YYYY
1	NTPC-(SR) Ramagundam I & II	276.26	31/10/2017*
2	NTPC-(SR) Ramagundam- III	69.461	24/03/2030
3	NTPC-Talcher-II	176.25	31/07/2030
4	NTPCSimhadri Stage-I	461.1000	28/02/2028
5	NTPC Simhadri Stage-II	213.851	29/09/2037
6	NLC TS II Stage-I	46.797	31/03/2021*
7	NLC TS II Stage-II	85.721	
8	NPC-MAPS	18.136	23/12/2026
9	NPC-Kaiga 1 & 2	55.287	
10	NPC-Kaiga 3 & 4	58.977	
11	Vallur (JV) NTPC with TANGEDCO	86.288	25/02/2040
12	NLC-TNPL Tuticorin	121.449	28/08/2040
13	NTPC-Kudigi	210.733	14/09/2043
14	NTPC JNNSM Phase I	39.19	-
15	NNTPS	52.699	09/02/2046
16	Kudankulam unit 1	1.71	No PPAs but MoP Allocation from Unallocated share
17	NLC TPS I Exp	2.155	
18	NLC TPS II Exp	2.565	
19	Total CGS	1978.628	

2.3.5 IPP Gas

Sl. No.	Source of Power	COD DD/MM/YYYY	AP Share MW	Aux Consumption	PLF	PPA Expiry DD/MM/YYYY
1	M/s GVK Extn	14/04/2009	101.4	3.97%	0.0%	13/04/2024
2	M/s GVK Gouthami (GGPL)	05/06/2009	214	3.97%	0.0%	04/06/2024
3	M/s GMR Vemagiri (GVPGL)	16/09/2006	170.6	3.97%	0.0%	15/09/2029
4	M/s Konaseema (KGPL)	30/06/2010	204.8	3.97%	0.0%	29/06/2025

2.3.6 IPPs-Thermal

Sl. No.	Source of Power	COD DD/MM/YYYY	AP Share MW	Aux Consumption	PLF	PPA Expiry DD/MM/YYYY
1	HNPCL	03/07/2016	1040	6%	90%	02/07/2041
2	M/s SEMBCORP ENERGY INDIA LIMITED(SEIL)	1/3/2013	230.55	6%	90%	29/02/2038
3	M/s SEMBCORP ENERGY INDIA LIMITED(SEIL)	1/2/2023	625	6%	90%	31/01/2035

2.3.7 Non-Conventional/Renewable Energy Sources.

Sr. No.	Source of Power	AP Share MW	Aux Consumption	PLF
1	NCE Biomass	72	10%	As per individual Plant PLF
2	NCE Bagasse	74	10%	
3	NCE - Industrial Waste based power project	21.66	10%	
4	NCE - Municipal Solid Waste Projects	36.15	10%	
5	NCE- Wind	3638.95	0.5%	
6	NCE - Solar	3755.626	0.1%	
7	NCE- Mini Hydel	28.55	1.0%	
Total		7626.936		

Key Assumptions:

2.4 Expiry of certain existing PPAs & Way ahead:

2.4.1 Old APGENCO Stations:

The composite PPA with AP Genco which covers several old stations both in Thermal & Hydel category is expiring by the end of the present fourth control period. This PPA majorly covers the following plants.

NTTPS -1 to 6 units (1260 MW)

RTPP-stage I (420 MW)

Hydel – 1723.60 MW, which covers Inter State projects such as Machkund PH, Tungbhadra PH, and other State projects including USL, LSR, Donkarayi, SRBPH, NSRCPH, NSTPHES, PABM, Mini Hydro (Chettipetta).

Further, it is noted that the Ministry of Power, Govt. of India vide letter dated 20.01.2023 have communicated that in pursuant to the meeting held on 06.12.2022, the Hon'ble Minister of Power & NRE instructed not to retire any thermal units till 2030 and urged for carrying out R&M for life extension and improve the flexibility and reliability of thermal units considering the expected demand scenario and availability of capacity in future. Further, APGENCO vide letter dated 11.04.2023 has requested APPCC/APDISCOMs to extend the validity of composite PPAs for a period of 10 years i.e. upto FY 2033-34. Accordingly, APDISCOMs subject to the approval of Hon'ble APERC are provisionally considering the power procurement from these plants upto FY 2033-34 upto the end of 6th control period upto which the present planning exercise is done in accordance with the directions of MoP, GoI.

Further, the PPA with RTPP Stage II- (2*210MW) is going to expire on 28.03.2033. Even then this plant is also considered till the horizon of 6th control period.

In view of long gestation period required for the construction of new thermal capacities and impending retirement of old inefficient thermal plants, it would be prudent to continue to operate the existing efficient thermal capacities.

2.4.2 Expiry of PPAs of certain CGS:

Expiry schedule of the existing CGS Stations is furnished as below.

Ramagundam Stage-I&II – 289.17 MW expired on 31.10.2017.

NLC TPS-II Stage-I & Stage-II 132.573 MW expired on 31.03.2021

Kaiga 1 to 4 units – 114.264 MW & MAPS -18.136 MW are going to expire during FY2026-27.

Simhadri Stage-I - 461.1 MW will expire during FY 2027-28.

Ramagundam Stage-III – 72.572 MW will expire during FY2029-30

Talcher Stage-II – 181.103 MW will expire during FY2030-31.

The Ministry of Power, Govt. of India has notified on 20th April 2023, a Scheme for Pooling of Tariff of those CGS plants whose PPAs have expired. This scheme is effective from 1st July 2023 onwards. Mainly designed for CGS stations who have completed 25 years of service. Common pool will be created with total Installed capacity with uniform F.C and V.C by deallocating power from the original beneficiaries.

As per the scheme, the beneficiaries have to requisition power for the required quantum within 15 days from the announcement of common pool website. Priority will be given to the original beneficiaries thereafter first come first serve. Beneficiaries have to enter separate PPA'S for a minimum period of 5 years for requisitioning power from common pool after obtaining proper consent for entering PPAs and for the quantum of power. The CGS plants after completion of 25 years will be added to the common pool subsequently. One year prior intimation will be given to the beneficiaries before completion of 5 years agreement period.

A single Window System shall be created through which the desiring State(s)/Discoms including the existing beneficiaries shall submit their willingness for power allocation (quantum as well as period) within 15 days from the formation of Common Pool. The minimum requisition period for power from the Common Pool shall be 5 years. The States/DISCOM shall have to enter a contract (PPA) for a minimum period of 5 years from the intended date of Start of drawl of power from the Common Pool.

In accordance with the scheme APDISCOMs are expected to loose allocation from Ramagundam stage 1&2 immediately. To get power to the extent of share from

Ramagundam stage 1 and 2 we have to apply in the common pool portal spontaneously at that time.

With due regard to the impact of the scheme on the beneficiaries, which is yet to be studied in depth, APDISCOMs considering the entire allocated capacity as is available now from the existing central generating stations through out the fifth & sixth control periods.

Continuing procurement from four CGS stations which were disallowed by the APERC:

In Retail Supply Tariff Order (RSTO) FY2022-23, at Para 100, the Hon'ble Commission has mentioned that since there is no consent of the Commission for the PPA's with CGS, there is no obligation to take power from them unless the Commission approves the same on case-to-case basis. The Commission further stated that the Ministry of Power (MoP), GoI vide its letter dated 28.08.2006 had clarified that the PPAs the DISCOMs enter into with interstate projects shall have the approval of the State Electricity Regulatory Commission (SERC) concerned as they only have the powers to regulate electricity purchases and procurement process of distribution licensees under section 86(1)(b) of the Electricity Act, 2003 except the tariff and tariff related matters of the PPAs.

Accordingly, the Commission has disallowed the dispatch from the following four CGSs whose AP share of contracted capacity is indicated below:

NTPC-Kudgi	:	244.56 MW
NTECL -Vallur	:	86.15 MW
NTPL	:	121.33 MW
NNTPS	:	52.70 MW
Total		504.74 MW

APSLDC/APDISCOMs are of the opinion that the existing base generation capacity from Intra State & Central generating stations without these four CGS stations aggregating to about 500 MW, will not be sufficient to meet the minimum load persistent on the system for all time blocks in an year with a stringent requirement to comply to the above Hon'ble CERC Regulations. If the power procurement from these base load plants is not approved, DISCOMs have to rely on market purchases even to meet the base load, which is more susceptible to surplus availability across States, Demand conditions across Nation and Coal logistics, leaving the fulfilment of the objective of 24X7 power supply in question.

After thorough testing of adequacy of the "Base Load" thermal capacity requirement and in order to meet the Grid demand to provide uninterrupted supply

to the end users, APSLDC/APDISCOMs have scheduled power from these four CGS plants to their entitlement treating this power as most viable when compared to prices in Power Markets. This is to extend 24X7 reliable, secured and cost effective power supply to the Consumers in the State. Procurement of power from these four CGS stations is continued and also proposed in the ARR Filings of APDISCOMs for the ensuing Financial Year for FY 2023-24, filed in November 2022 with the following justification.

In view of existing PPAs with the subject central generating plants, APDISCOMs cannot get away with the fixed cost obligation, even though the plants are not dispatched or procurement is not approved by the Hon'ble Commission. The annual fixed cost liability is to the tune of Rs 500 Crs. on AP DISCOMs.

The new DSM Regulations, IEGC, RE Curtailment Guidelines issued by Forum of Regulators (FOR) cast lot of responsibility on DISCOMs and are very stringent are trying to force the beneficiaries to strictly adhere to the schedule drawals / injections as the case maybe.

Further APDISCOMs are seeking the approval of Hon'ble Commission for all existing PPAs with Central Generating Stations (CGS) within a short time by filing individual petitions duly justifying the need and necessity.

2.4.3 Expiry schedule of Gas (IPPs):

The existing tenure of PPAs with four Gas based IPPs is to be completed as shown below:

GVK Extns & GVK Gautami will expire in FY FY2024-25

KonaSeema will expire in FY 2025-26

GMR Vemagiri will expire in FY2028-29

Presently these plants are stranded due to unavailability of gas and are not scheduled. Hence these are not considered for 5th and 6th Control periods.

2.4.4 Expiry of PPAs of Non Conventional Energy Sources (NCEs) :

The APDISCOMS are having PPAs with Non-Conventional/Renewable Energy plants for 7626.936 MW (Solar : 3755.626 MW; Wind: 3638.95 MW ; Other NCE: 232.36 MW) as on 31.03.2023.

However, there are certain PPAs of solar power plants which are going to expire viz., Yaswanth Solar Energy Pvt Ltd (1 MW) expires on 30.09.2026 , Sri Power Generation Pvt Ltd (Chervi) (2MW) expires on 17.03.2031 and SB Energy Pvt Ltd (3MW) expires on 20.03.2031.

Also, there are certain PPAs of wind power plants are going to expire viz., 2.5 MW during FY2023-24, 10.85 MW during FY2025-26, 4.5 MW during FY2026-27, 83.55 MW during FY2030-31, 34.25 MW during FY2031-32 and 28.9 MW during FY2023-33.

Further, there are also certain PPAs of other NCEs are going to expire viz., 78.5 MW during FY2023-24, 24.7 MW during FY2024-25, 36 MW during FY2025-26, 10 MW during FY 2026-27, 2 MW during FY2027-28, 14.66 MW during FY2028-29, 20 MW during FY2029-30, 1.2 MW during FY2031-32

Future Capacities:

2.5 Committed/Known future Capacity additions:

APGENCO Thermal-VTPS-Stage V-1X800 MW:

APDISCOMs have entered into an amended and restated power purchase agreement on 14-10-2022 with APGENCO for procurement of 100% power from its VTPS-Stage V having an installed capacity of 800 MW for a period of 25 years from the date of COD and the signed PPA was submitted to the Hon'ble Commission for consent vide letter dated 17-10-2022. The plant is expected to achieve Commercial Operation Date (COD) by 1st September 2023. Accordingly, APDISCOMs have considered the power procurement for the ensuing financial year FY 2023-24 and throughout 5th and 6th control periods.

APGENCO Hydro- Additional two Units at Lower Sileru 2X115 MW:

There is a proposal from AP Genco for installing additional two 115 MW Units at Lower Sileru hydel power during FY 2024-25. These two units would not entail any additional energy but are helpful in meeting the peak demand within existing water discharge capability. These Units are considered in resource planning for 5th and 6th control periods.

APGENCO Hydro- Polavaram Hydro Project 12X80 MW:

AP Genco is developing 960 MW Hydro power project at Polavaram Irrigation project. The configuration of the project is 12X80 MW. Polavaram hydel power (7*80MW) during FY2024-25 and (5*80MW) during FY2025-26.

APGENCO Hydro- Upper Sileru Pumped Storage Hydro Project 9X150 MW

There is a proposal by AP Genco to develop Upper Sileru Pumped Storage Power Plant with the aggregate installed capacity of 1350 MW to be set up during FY2027-28 (8x150 MW) and during FY2028-29 1x150 MW. Hence, the power from this plant is considered from FY2027-28, FY2028-29 and entire 6th control period. Also there is a proposal for addition of

CGS-Nuclear-Bhavini-100 MW

APDISCOMs sought an allocation of 100 MW from the proposed BHAVINI Nuclear Plant. The plant is expected to be commissioned in the year FY 2024-25.

CGS-Talcher-Stage-III -264 MW.

APDISCOMs sought an allocation of 264 MW from the proposed Talcher-Stage-III Thermal. The The plant is expected to be commissioned in the year FY 2027-28.

CGS-Telangana Super Thermal Power Station Phase I

APDISCOMs are allocated 8 MW minimal share from the SR pool unallocated quota from the C.O.D of Telangana STPS Phase-I Unit-I, 1x800 MW plant. The C.O.D of Unit-I is going to be declared during April/May'2023. APDISCOMs are expected to get further 1% share of 8 MW from the SR pool unallocated quota from Telangana STPS Phase-I Unit-II, 1x800 MW plant i.e., from the C.O.D of 2nd unit which is expected during FY 2023-24.

SECI-Solar 7000 MW:

The Govt of Andhra Pradesh intends to supply 9 hrs day time uninterrupted power supply to the Agricultural farming consumers in the state on sustainable basis through a separate nodal agency (Andhra Pradesh Rural Agricultural Power Supply Company - APRAPSCo).

M/S SECI, a GOI undertaking made an offer to APDISCOMs in 2021 for procurement of 9000 MW Solar power from the projects being set up at Rajasthan vide Manufacturing linked scheme, with a tariff @ Rs. 2.49 per unit with a waiver of ISTS charges and losses to Andhra Pradesh.

APDISCOMs submitted interim power procurement plan for the 5th control period to the Hon'ble APERC and sought approval for procurement of 7000 MW Solar power from SECI manufacturing linked scheme. Hon'ble APERC vide orders dt 11.11.2021 issued consent for procurement of 7000 MW Solar Power from SECI.

As per the instructions of Govt of A.P, All the three APDISCOMs and Govt of AP had entered into PSA with SECI on dated 01.12.2021 for procurement of 7000 MW (17000 MU) from 2024 September onwards.(3000 MW as on 2024, 6000 MW as on 2025 and 7000 MW as on Sept'2026.).

Upon fully establishment of APRAPSCoM, the aforesaid Power Sale Agreement will be transferred from APDISCOMs to APRAPSCoM for supply of power to the Agricultural consumers.

Wind Projects

There will be also an addition of 774.9 MW wind power from M/s AXIS and 400MW wind power from M/s AXIS Bundling, Balancing & Banking (BBB) scheme, totaling to 1174.9 MW during FY2025-26.

2.6 Gist of expected net capacity additions:

The following Table summarizes the expected / committed capacity additions year wise, after considering expiry of existing PPAs.

Source	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	Total
APGENCO							
Hydro Plants							
Polavaram (12x80MW)		560	400				960
Lower Sileru (2X115MW)		230					230
Upper sileru Pumped storage (9X150)					1200	150	1350
Thermal Plants							
Vijayawada TPS Stage V (1x800 MW)	800						800
APGENCO Total	800	790	400		1200	150	3340
CGS							
Telangana Super Thermal Power Station Phase I (Unit-1&2)	16						16
Bhavani		100					100
Talcher stg=III					264		264
Private Projects							
Wind	-2.5	0	1164.5	-4.5			1157.5
Solar (SECI from Rajasthan)		3000	3000	999			6999
Gas (GVK extn. Gouthami, Konaseema, Vemagiri)		-315.4		-204.8		-170.9	-691.1
Other NCE	-77.3	-4.7	-27	-10	-2	-14.66	-135.66
Total Capacity addition	736.2	3569.9	4537.5	779.7	1462	-35.56	11049.74

2.7 Contracted Capacities for 5th & 6th Control Periods:

The summary of year-wise available plant capacities in MW for 5th Control period is shown below.

2.8 Year wise available plant capacities (MW) – 5th Control Period (FY2024-25 to FY 2028-29)

Source	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
APGENCO & APPDCL THERMAL	5650	6,450	6,450	6,450	6,450	6,450	6,450
APGENCO Hydel	1,773.6	1,773.6	2563.6	2,963.6	2,963.6	4163.6	4,313.6
AP Discom Gas	0	0	0	0	0	0	0
CGS	1978.628	1994.628	2094.628	2094.628	2094.628	2358.628	2358.628
IPPs(Gas)	0	0	0	0	0	0	0
IPPs - Others	1895.55	1895.55	1895.55	1895.55	1895.55	1895.55	1895.55
NCE Sources	7626.94	7547.14	10,542.4	14679.5	15,664	15,662	15,647.3
MW Availability	18,924.72	19,660.92	23,546.18	28,083.28	29,067.78	30,529.78	30,665.08

2.9 Year wise available plant capacities (MW) – 6th Control Period:

Source	2029-30	2030-31	2031-32	2032-33	2033-34
APGENCO Coal	6,450	6,450	6,450	6,450	6,450
APGENCO Hydel	4,313.6	4,313.6	4,313.6	4,313.6	4,313.6
AP Discom Gas	0	0	0	0	0
CGS	2358.628	2358.628	2358.628	2358.628	2358.628
IPPs(Gas)	0	0	0	0	0
IPPs - Others	1895.55	1895.55	1895.55	1895.55	1895.55
NCE Sources	15,627.3	15,538.8	15,503.3	15,474.4	15,474.4
MW Availability	30,645.08	30,556.58	30,521.08	30,492.18	30,492.18

2.10 Renewable Power Purchase Obligation (RPPO)

In view of geographical allocation of NCE projects till September 2022, APSPDCL has been surpassing RPPO obligation since almost entire Wind & Solar capacities are installed in the SPDCL territorial area. The necessary adjustments are being made in DISCOM-DISCOM energy flow and settlement transactions, as per the directions of Hon'ble APERC, to ensure that deficit RPPO DISCOMs Viz APEPDCL & APCPDCL are procuring the required NCE/RE power from APSPDCL to meet RPPO. The surplus energy procured by APSPDCL after netting off for RPPO obligation of deficit DISCOMs, is availed for obtaining RECs as per the Regulations in vogue.

The exiting RPPO Regulation issued by the Hon'ble APERC expired by FY 2022. Further, the Hon'ble APERC notified Regulation No. 5 of 2022, Dt 29.09.2022 duly specifying RPPO targets to be met by designated entities for next five years i.e part of FY 2022-23 till 2026-27. In the new Regulations, the classification of Solar / Non-Solar obligations which were present in previous regulation is dispensed with. The RPPO as specified in the new Regulation is as following:

2.10.1 RPPO specified by Hon'ble APERC:

FY 2022-23 (2nd Half)	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27
18%	19%	20%	22%	24%

In the absence of any specified RPPO by the appropriate authority beyond FY 2027, the APDISCOMs consider the same percentage of 24% specified for FY 2027 for the period beyond till the horizon of 6th Control Period i.e FY 2024.

The expected RPPO compliance by APDISCOMs for the time period during 5th & 6th Control Periods is expected to be as indicated below:

Year	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33	2033-34
RPPO Compliance	27.41%	37.20%	38.16%	36.16%	33.95%	32.13%	30.25%	28.50%	26.89%	25.15%

2.11 Power Surplus /Deficit Analysis (Energy (Mus) and Power (MW))

The Licensees have analysed surplus/deficit situation based on projections for both demand and supply side taking into account following avenues:

MU analysis – This is based on Energy Input Requirements and energy supplied by the existing and upcoming capacities.

MW analysis – This is based on average hourly demand in MW and hourly available capacities projected based on time series in MW for each year of the control periods. Both of the above methods have been discussed in detail in subsequent sub-sections.

MU Analysis:

MU Availability

Based on existing and future planned installed capacities, energy availability in MUs has been determined for each power station, based on formula shown below:

Energy generation in MUs = Plant capacity (MW) * AP Share (%) * (1- Auxiliary power consumption in %) * Plant load factor (%) *24*365/1000

Energy Despatch is based on hourly expected dispatch of the generators taking into account projected hourly demand.

The table below summarizes projected energy generation despatch have been shown below:

Projected energy generation Despatch for 5th Control Period (MUs)

Station	2024	2025	2026	2027	2028	2029
APGenco/APPDCI	32358	34500	33087	34084	35828	37356
CGS	11780	12643	12074	12476	14839	15533
IPPs-T	11416	12164	11675	11912	12256	12853
Gas	749	749	749	749	749	749
Wind	7211	7205	9513	9503	9503	9503
Solar	6007	6007	6007	6007	6007	6007
Others	665	665	665	665	665	665
Hydel	4482	4482	4563	4563	4563	4563
Raj Solar	579	3195	10143	15128	16500	16500
Despatch	75246	81610	88476	95086	100910	103729

Energy Despatch at state for 6th Control Period (MUs)

Station	2030	2031	2032	2033	2034
APGenco/APPDCL	38398	39164	39576	36489	36489
CGS	16006	16354	16541	15140	15140
IPPs-T	13281	13491	13699	13607	13607
Gas	749	749	749	749	749
Wind	9503	9503	9503	9503	9503
Solar	6007	6007	6007	6007	6007
Others	665	665	665	665	665
Hydel	4563	4563	4563	4563	4563
Raj Solar	16500	16500	16500	16500	16500
Despatch	105673	106995	107802	103223	103223

MU Demand

The total MU demand is the total Energy Input at state level for power procurement determined in section 4.2 above. For discom level energy requirement, energy requirement corresponding to Open Access sales has not been considered.

Energy Balance (MUs)

Based on the energy generation and energy input for power procurement the table below summarises Energy (MUs) balance at state level:

Energy Surplus/Deficit Summary for 5th Control Period

Year /MUs	FY23	FY24	FY25	FY26	FY27	FY28	FY29
Energy Requirement	71,116	77,487	83,275	88,713	97,396	102,700	108,765
Energy Despatch	68,189	75,246	81,610	88,476	95,086	100,910	103,729
Surplus/(Deficit)	-2,927	-2,241	-1,665	-237	-2,310	-1,790	-5,036

Energy Surplus/Deficit Summary for 6th Control Period

FY	2029-30	2030-31	2031-32	2032-33	2033-34
Energy (MU)	114730	121095	128085	135336	143200
Energy Despatch	105673	106995	107802	103223	103223
Deficit MU (-)	-9057	-14100	-20283	-32113	-39977

2.12 Time Series based Approach for MW analysis

Hourly surplus/Deficit MW

The equation considered for time series analysis for demand forecast is $Y = (A + B \cdot X) \cdot S$

Where,

Y = future demand as per chosen time variable X in hour.

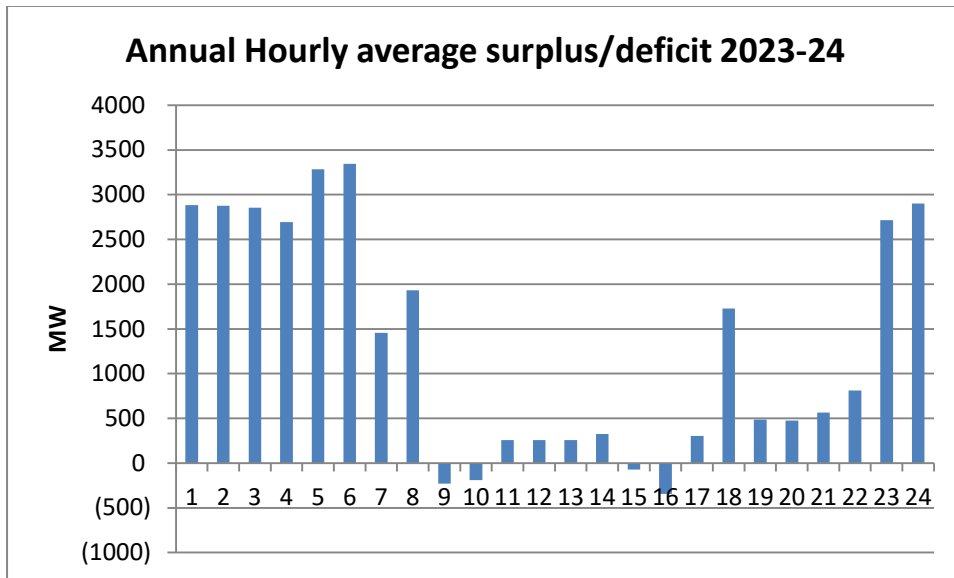
A= Intercept of linear regression in MW determined from historical demand from FY 2016-17 to FY 2022-23.

B= slope of the linear regression determined from historical demand from FY 2016-17 to FY 2022-23.

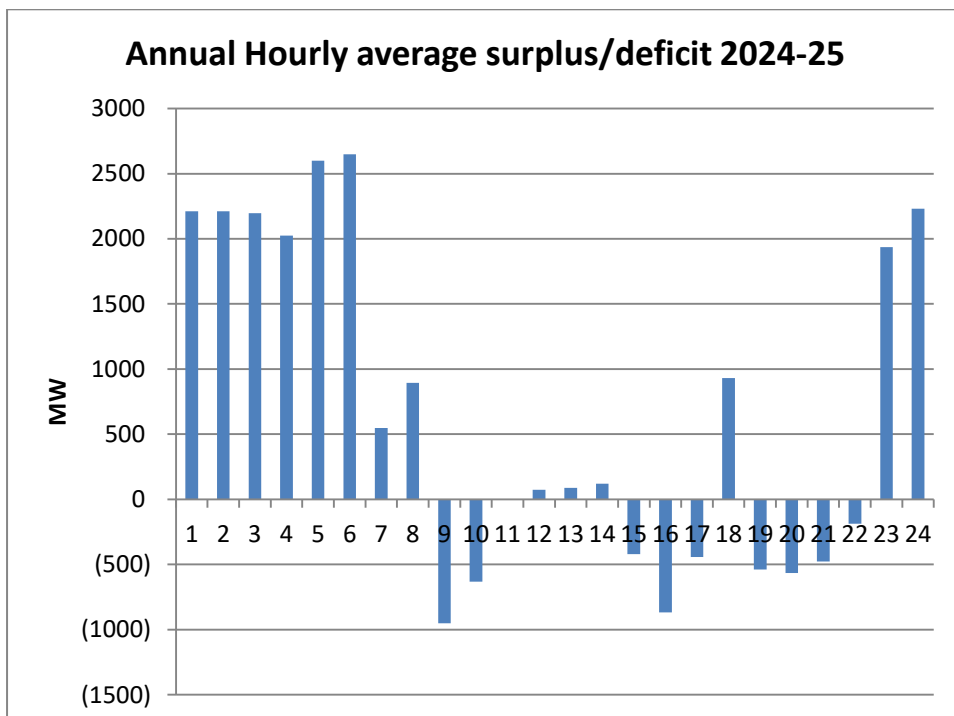
S= seasonality index determined from historical demand of from FY 2016-17 to FY 2022-23.

The results of the analysis for monthly averages of hourly demand forecast for the representative year (FY2023-24) and the same for remaining years is as below:

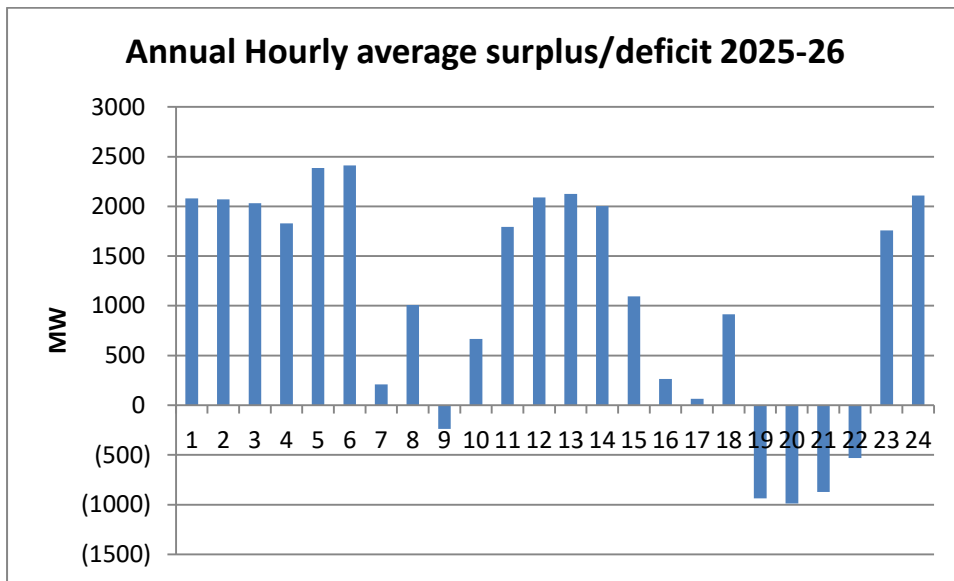
Annual hourly average **Surplus/deficit forecast - FY2023-24**



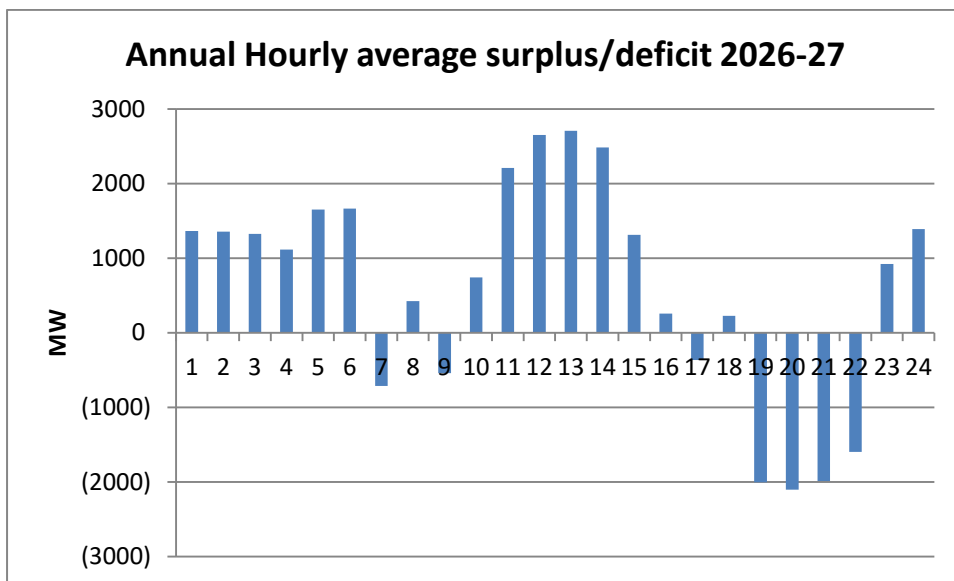
Annual hourly average Surplus/deficit forecast - FY2024-25



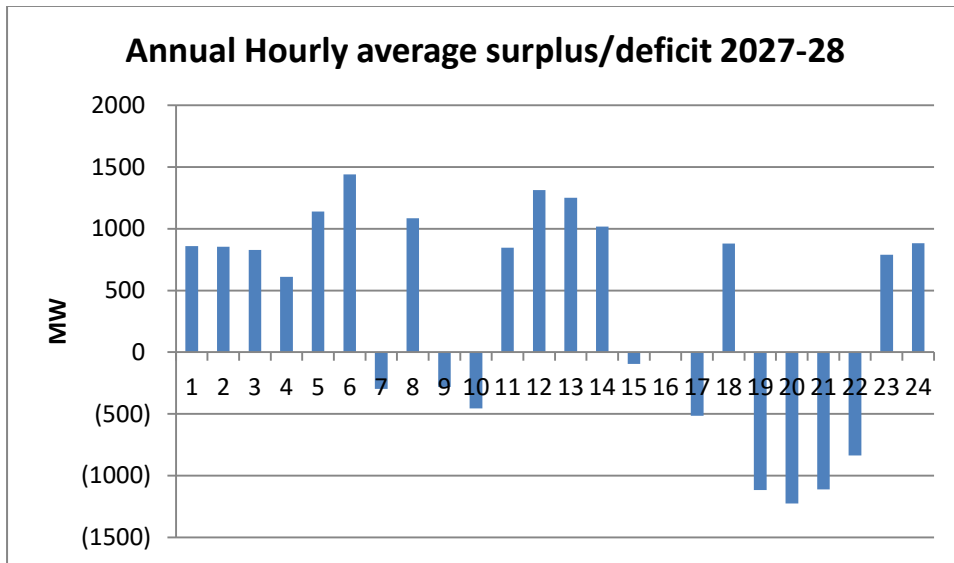
Annual hourly average Surplus/deficit forecast - FY2025-26



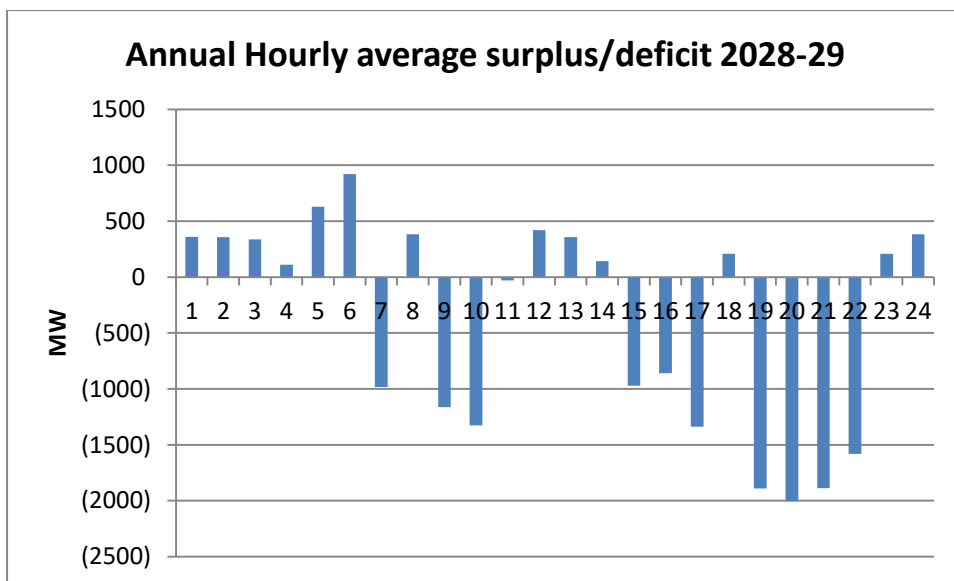
Annual hourly average **Surplus/deficit** forecast - FY2026-27



Annual hourly average **Surplus/deficit** Forecast - FY2027-28



Annual hourly Average surplus/deficit Forecast - FY2028-29



2.13 Power Procurement Plan for meeting the deficit

On the basis of deficit scenario identified in the previous sections above, Licensee has estimated yearly average of hourly maximum deficit, hourly minimum deficit and hourly average deficit. However, the Licensee has projected yearly average of deficit for Day time and evening peaks.

2.13.1 Power Procurement Plan

The average Day time surplus/deficit in MW i.e from 9:00 hrs to 16:00 hrs and the average Evening peak Average Surplus/Deficit in MW i.e from 18:00 to 22:00 hrs is tabulated below.

Year	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
Day time Average surplus/Deficit MW (9:00 to 16:00 hrs)	33	-324	1225	1479	449	-428
Evening peak Average Surplus/Deficit MW (18:00 to 21:00 hrs)	584	-442	-832	-1924	-1072	-1840

Power procurement plan will be made accordingly to meet the deficit.

Chapter-3

Resource Plan FY2023-24

3.1 Introduction to Transmission Resource Plan

The state is at present handling 72,400 MU (FY 2022-23) of energy and maximum demand reached is 12293 MW. This is likely to increase to 111378 MU of energy & 19913 MW of peak demand by FY 2028-29. To meet this demand, robust & reliable transmission network is required for transmission (Inter State & Intra State) of required energy.

Inter Regional Lines (NEW-SR corridor) and ATC (Available Transfer Capability):

CTU informed that the present Available Transfer Capability (ATC) for import of SR from NEW grid is 18,900 MW. The ATC is expected to be enhanced to about 23,700 MW with the commissioning of additional Inter-Regional AC links for import of power into Southern Region i.e. Warora-Warangal and Chilakaluripeta - Hyderabad - Kurnool 765 kV link (expected schedule by March'23) and Narendra-Pune 765kV D/c line (expected schedule by Jul'24)

APTRANSCO has drawn up investment plans of Rs. **2742.97** Crs. in the period FY 2023-24. This investment includes 13.4 CkM of 400 kV Lines, 501.512 CkM of 220 kV lines, 534.696 CkM of 132 kV lines, 1 No. 400 kV Substations, 6 Nos. 220 kV Substations and 10 Nos. 132 kV Substations towards transmission expansion.

3.2 Transmission Resource Plan FY 2023-24

The objective of the Transmission Planning is to develop Transmission Expansion Plan based on the load forecast and generation supply scenario developed as part of the Load forecast and Resource plan for the state of Andhra Pradesh with the inputs of Discoms and Genco. The purpose of this report was to present a comprehensive summary of the process, assumptions, methodology, transmission network expansion plan and investment required to ensure the transmission system which would be capable transmitting the planned generation to meet the forecast loads up to FY 2024. The proposed transmission system was evaluated for the load and generation conditions for FY 2024. The following system conditions are studied for FY 2024:

- Peak Load Scenario
- Light Load Scenario

The system studies were carried out for the above scenarios and analyzed the transmission system required for FY 2023-24.

The transmission investment plan is prepared based on the transmission network expansion plan developed and was based on load flow studies and short circuit studies. The detailed load flow studies are annexed.

This report envisages the various assumptions & standards adopted for conducting load flows & short circuit studies etc followed for preparation of Transmission Resource plan FY2023-24. After conducting load flows, short circuit studies and contingency analysis under maximum thermal generation scenario as the peak demand occurs in March various generation evacuation schemes at 765KV, 400KV are depicted. The transmission expansion plan which includes 765KV, 400KV and 220 KV lines and Substations are also depicted. Sub transmission plan comprises of 132KV network is also prepared and depicted. The detailed list of lines and substations proposed at 400 KV and 220KV are annexed.

3.3 The assumptions and standards adopted while conducting Load Flow studies are shown below:

(A) Standard Transformer sizes:

The utility's standard Transformer Sizes

Voltage	ONAN Rating (MVA)	ONAF/OFAF Rating (MVA)
765/400 kV	900	1500
400/ 220 kV	300	500
400/ 220 kV	190	315
220/ 132kV	96	160
220/ 132kV	60	100

(B) Standard Conductor types:

Sl. No	Line Voltage	Conductor Type	Configuration
1	765 kV	Quad Bersimis	ACSR Bersimis, 4/PH, 42/4.57 mm Al + 7/2.54 mm Steel
2	400 kV	Twin Moose	ACSR Moose, 2/PH, 61/3.53mm
3	400 kV	Quad Moose	ACSR Moose, 4/PH, 61/3.53mm
4	220 kV	Single Moose	ACSR Moose, 1/PH, 61/3.53mm
5	220 kV	Twin Moose	ACSR Moose, 2/PH, 61/3.53mm
6	220 kV	Single Zebra	ACSR Moose, 1/PH, 61/3.18mm
7	220 kV	Twin Zebra	ACSR Moose, 2/PH, 61/3.18mm
8	132 kV	Panther	ACSR Panther, 37/3.00mm
9	132 kV	Lynx	ACSR Lynx, 37/2.79mm

- (C) **Operating Limits under normal conditions:** The operating limits as in practice for system studies are adopted as follows

Sl. No.	Item	Operating Limit during normal conditions
1	765/400 KV 1500 MVA Transformer*	900MVA
2	400 / 220 kV 315 MVA Transformer	190 MVA
3	400 / 220 kV 500 MVA Transformer	300 MVA
4	220 / 132 kV 100 MVA Transformer	60 MVA
5	220 / 132 kV 160 MVA Transformer	96 MVA
6	765 KV Quad Bersimis Line*	2250MVA
7	400 kV Twin Moose Line	555 MVA
8	400 kV Quad Moose Line	645 MVA
9	220 kV Single Moose / Zebra Line	178 MVA
10	132 kV Panther Line	67 MVA

(D) Thermal Limits of Transmission Lines at rated voltage

Conductor	40°C ambient 75 ° Cond. Temp Amp	45°C ambient 75 ° Cond. Temp Amp	45°C ambient 85 ° Cond. Temp Amp	45°C ambient 95 ° Cond. Temp Amp	45°C ambient 120° Cond. Temp Amp
ACSR Moose	707A	614A	787A	-	-
AL59 equivalent to ACSR Moose	754A	655A	840A	985A	-
ACSS equivalent to ACSR Moose	-	-	-	957A	1209A
ACSR Zebra	626A	546A	694A	-	-
AL59 equivalent to ACSR Zebra	649A	567A	719A	840A	-
ACSS equivalent to ACSR Zebra	-	-	-	722A	905A
ACSR Panther	413 A	366 A	NA	-	-
ACSS equivalent to ACSR Panther	-	-	-	-	590A
ACSR Lynx	368A	329A	-	-	-
ACSS equivalent to ACSR Lynx	-	-	-	-	500A

- (E) Number of transformers in 765/400 kV ,400/220 kV and 220/132 kV Sub-Stations: Based on the standard transformer sizes adopted, transformer loading limits adopted and the CEA specified sub-station loading limits.

- (F) The Transformer augmentation in 220/132kV substations will be carried out in the long term planning studies considering minimum of 2 numbers PTRs to meet the

N-1 contingency. The additional PTR will be provided whenever the substation load reaches 90 MVA in case of 2*100MVA PTRs.

(G) Capacity of Substation

As per CEA revised planning criteria 2023 , the capacity of any single substation at different voltage levels shall not normally exceed:

VoltageLevel (A)	TransformationCapacity	
	Load Serving Substation (B)	Generation Pooling substations(C)
765kV	9000MVA	9000MVA
400kV	2500MVA	5000MVA
220kV	1000MVA	1000MVA
132kV	500MVA	500MVA
66 kV	160MVA	160MVA

(H) Voltage Limits

As per CEA guide lines, at the planning stage, a margin of about $\pm 2\%$ may be kept in the voltage limits and thus the voltages under load flow studies (for 'N-0' and 'N-1' steady-state conditions only) may be maintained within the limits given below:

Voltage (kVrms) (after planning margins)		
Nominal	Maximum	Minimum
765	785(1.03pu)	745(0.97pu)
400	412(1.03pu)	388(0.97pu)
220	240(1.09pu)	203(0.92pu)
132	142(1.08pu)	125(0.95pu)
110	119(1.08pu)	102(0.93pu)

Power Factor of the Loads: All the loads power factor at 220kV and 132kV voltage levels are assumed to be 0.95 lag during peak load condition and 0.98 lag during light load condition as per Transmission Planning criteria specified by CEA.

3.4Contingency criteria:

The system is planned to supply loads during normal conditions and the following contingency conditions without the need for rescheduling of generation and to maintain voltage and line loading criteria.

a) All the equipments in the transmission system shall remain within their normal thermal and voltage ratings after a disturbance involving loss of any one of the following elements (called single contingency or 'N-1' condition), but without load shedding / rescheduling of generation:

b)

- Outage of a 132kV or 110kV single circuit,
- Outage of a 220kV or 230kV single circuit,
- Outage of a 400kV single circuit,
- Outage of a 400kV single circuit with fixed series capacitor(FSC),
- Outage of an Inter-Connecting Transformer(ICT),
- Outage of a 765kV single circuit
- Outage of one pole of HVDC bipole.

b) The angular separation between adjacent buses under ('N-1') conditions shall not exceed 30 degree.

(Prior to such contingency, all elements shall be considered to be in service)

3.5 District wise load forecast (MW)

Discoms have projected their Circle wise demand forecast in Discoms Resource plan . District wise coincident demand forecast from FY 2023 to FY 2029 is shown in the below table. The individual peak demands (Non coincident) may be higher.

Circle wise demand(MW)	2023	2024	2025	2026	2027	2028	2029
SRIKAKULAM	336	352	368	386	404	423	443
VIZIANAGARAM	508	545	584	627	672	721	773
VISAKHAPATNAM	1482	1582	1690	1804	1926	2056	2196
EAST GODAVARI	1010	1071	1136	1206	1279	1357	1439
WEST GODAVARI	1366	1443	1525	1611	1702	1798	1899
APEPDCL	4702	4993	5303	5632	5982	6354	6750
KRISHNA	996	1026	1057	1088	1121	1155	1189
GUNTUR	785	809	833	858	884	910	937
PRAKASAM	800	824	849	874	900	927	955
APCPDCL	2581	2658	2738	2820	2905	2992	3082
NELLORE	813	878	923	971	1021	1074	1154
CHITTOOR	1566	1858	1965	2079	2201	2331	2480
CUDDAPAH	1114	1069	1228	1301	1378	1461	1566
ANANTHAPUR	1624	1594	1687	1878	1968	2059	2180
KURNOOL	976	1214	1290	1352	1419	1491	1580
APSPDCL	6093	6612	7093	7581	7988	8417	8960
AP Demand MW	13376	14264	15135	16034	16875	17764	18792

3.6 Evacuation schemes at 400 kV and 220 kV

Capital Works of 400 kV and 220 KV Transmission Schemes are being taken up for,

1. Evacuation of power from the Power Projects,
2. System improvement i.e. to meet the additional load demand and for improvement of voltage profile, Voltage control and reduction of Transmission Losses.
3. Including the associated 220kV Lines & Substations

Capital works are mainly funded by JBIC (Japan), Power Finance Corporation Limited (PFC), Rural Electrification Corporation Limited (REC) & now recently from various Commercial Banks.

The new transmission schemes proposed for the control period FY 2023 -24 as per the Load Forecast and Power Procurement Plan is as indicated.

Schemes proposed for evacuation of power (New Schemes) :

a. 400 KV Mylavaram SS Comprehensive Solar Evacuation Scheme (1000 MW) is taken up for evacuation of power from the Mylavaram, Kadapa Dt .

- **Instead of Mylavaram SS, it will be evacuated through the existing 400/220KV SS Jammalamadugu** duly augmenting the ICTs.

i) Augmentation of ICTs from 3*315MVA to 2*315+2*500MVA at 400/220KV SS Jammalamadugu

b. Evacuation of 625MW of Power from Sembcorp

i) LILO of one circuit of 400KV SDSTPS-Manubolu QMDC Line at Sembcorp - 3.7KM

400kv Sub-Stations Proposed in A.P:

a) 400KV Tallayapalem Substation:

i) 400kv Tallayapalem Substation with 2*500 MVA ICTs

ii) LILO of existing 400KV VTS-Sattenapalli TMDC Line at 400KV SS Tallayapalem - 1.5KM

3.7 No. of 400 kV, 220 KV and 132 KV substation for FY2023-24:

The total number of 400KV, 220KV and 132 KV substation to be commissioned in FY 2023-24 are shown below:

FY	Substation (Nos.)			Lines (CkM)		
	400	220	132	400	220	132
2023-24	1	6	10	13.4	501.51	534.69
Total	1	6	10	13.4	501.51	534.69

3.8 Transmission Investments for FY2023-24

The total investments (Rs Crores) required for 400 KV, 220 Kv & 132KV systems for the FY 2023-24 are tabulated below:

FY: 2023-24	Investment in Rs. Cr.
400 KV	975.71
220 KV& 132 KV	1607.26
RMI Works	160
Total	2742.97

3.9 LIST OF 400 kV ,220KV&132KV SCHEMES PROPOSED DURING FY 2023-2024

Sl. No.	Circle	Name of the Scheme	Length of the Line in kM	Lenth in CkM	Cost estimation (in Cr.)	Tentative Year of completion
1	Vizag	Augmentation of ICTs from 3*315MVA to 3*315+1*500MVA at 400/220KV SS Kalpaka	1*500	500MVA	26.08	2023-24
2	Vizag	Replacement of twin moose conductor with HTLS conductor equivalent to Quad Moose (twin ACSS conductor) duly replacing badly rusted towers from Loc No. 1 to 14 in Kalapaka - Maradam (old Vemagiri) TMDC line (4.5KM).	-	-	16.35	2023-24
3	West Godavari	Erection of 400kV QMDC line (25kM) from 400kv Polavaram SS to 400/220/11kV Guddigudem and 2 Nos. Bays at Guddigudem: 50CkM	-	-	292.00	2023-24
4	Guntur	Construction of 400/220kV GIS at Thallayapalem with 2*500MVA ICTs in CRDA region and LILO (1.5KM) of 400kV VTS-IV - Sattenapalli TMDC line to Thallayapalem. 6CkM	1.5kM	6.0CkM	505.98	2023-24
5	Nellore	Single LILO of 400KV Krishnhapatnam-Manubole QMDC Line at SEMBCORP - 74.CkM	3.7kM	7.4CkM	46.73	2023-24

6	Nellore	Dismantling and erection of badly rusted at Loc No. 4,5& 6 of 400kV Krishnapatnam TPP - Manubolu QMDC line & Loc No. 4 of 400kV Krishnapatnam TPP - Rachagunneri QMDC line.	-	-	10.16	2023-24
7	Anantapur	420KV 125MVAR Bus Reactor at 400KV SS Uravakonda	-	-	18.16	2023-24
8	Anantapur	420KV 125MVAR Bus Reactor at 400KV SS Hindupur	-	-	19.73	2023-24
9	Kurnool	Augmentation of ICTs from 2*315MVA to 2*315+1*500MVA at 400/220KV SS Narnoor	-	-	40.52	2023-24
Total				13.4CkM	975.71	

3.10 List of 220kV and 132 kV schemes proposed during FY 2023-24

SI. No.	Dis- trict	Name of the work	Length of the Line in Km	Length of the Line in CkM	Cost esti- mation (in Cr)	Tentative Year of completion
1	Vi- ziana- garam	Erection of 33kV features at 220kV BD Pa- lem SS with 2*50MVA PTRs	-	-	26	2023-24
2	Vizag	a) Erection of 220/132KV SS at Atchutha- puram with 2*100MVA 220/132KV and 2*80+1*50MVA 132/33KV PTRs	3.387kM	6.76CkM	155.05	2023-24
		b) Erection of 220KV DC Line from 220KV SS Brandix to the proposed 220KV SS at Atchutapuram				
3	Vizag	a) Erection of 220KV SS at Chandanada with 4*100MVA 220/132KV PTRs and 4*80MVA 132/33KV PTRs	13kM	52CkM	106.93	2023-24
		b) LILO of 220KV Anrak-SSS Line and 220KV VSS-Kakinada Line at the proposed 220KV SS at Chandanada				
4	Vizag	a) Erection of 132KV SS at Kapuluppada with 1*50+2*80MVA PTRs	16kM	32CkM	262.24	2023-24
		b) Erection of 132KV DC Line with UG Ca- ble from 220KV SS Dairyfarm to the pro- posed 132KV SS at Kapulluppada				
5	East Goda- vari	a) Erection of 132KV SS at Hamsavaram with 2*31.5MVA PTRs	0.5kM	1.0CkM	24.84	2023-24
		b) LILO of 132KV Pitapuram-Koruprolu Line at the proposed 132KV SS Hamsava- ram				

6	East Godavari	Erection of 2nd main bus at 220/132kV SS Chinturu in addition to the existing single bus	-	-	5.57	2023-24
7	West Godavari	a) Erection of 132KV Features at Pallantla with 2*100MVA 220/132KV PTRs and 2*31.5MVA 132/33KV PTRs	1.117KM	4.466CkM	49.43	2023-24
		b) LILO of 132KV Nidadhavole-Nallajarla Line at Pallantla	1.116kM			
		c) Inter Linking 220KV SS Pallantla with 132KV SS Yernagudem				
8	West Godavari	a) Erection of 132KV SS at T. Narasapuram with 2*31.5MVA PTRs	5.40KM	21.6CkM	60.2	2023-24
		b) Double LILO of 132KV KV Kota-Aswaraper-1&2 Feeders at the proposed 132KV SS at T. Narasapuram				
9	West Godavari	Erection of 33KV features with 2*50MVA PTRs at 220KV SWS. Pattiseema	-	-	19.29	2023-24
10	Krishna	a) Erection of 220/132/33KV SS at Tiruvur with 3*100MVA 220/132KV PTRs and 2*31.5MV 132/33KV PTRs	220KV: 3.15Km	220KV: 6.3CkM	45	2023-24
		b) LILO of 220KV KTS-Nunna S/C Line at the proposed 220KV SS at Tiruvur				
		c) LILO of 132KV Khambampadu-Kondapalli/Nuzivid Lines at the proposed 220KV SS at Tiruvur	132KV: 0.15kM+0.113 kM	132KV: 0.566kM+		
		d) 132KV DC Line from proposed 220KV SS Tiruvur to 132KV SS Narasapuram	17.698kM	35.398CkM		
11	Krishna	a) Erection of 132KV SS at Ramanakkapet with 2*31.5MVA PTRs	1.847kM	4CkM	25	2023-24
		b) Double LILO of 132KV Nuzivid-Narasapuram DC Line at the proposed 132KV SS Ramankkapet				
12	Krishna	a) Erection of 132KV SS at Mylavaram with 2*31.5MVA PTRs	0.388kM	1.554CkM	26.7	2023-24
		b) LILO of 132KV 132KV Khambampadu-Kondapalli/Nuzivid Lines at the proposed 132KV SS at Mylavaram				
13	Krishna	2nd Circuit stringing on 132KV Pamarru-Avanigadda DC/SC Line	35.53kM	35.53CkM	12.2	2023-24
14	Krishna	2nd Circuit stringing on 132KV Chilla-kallu-Nandigama DC/SC Line	24.57kM	24.57CkM	11.34	2023-24

15	Guntur	a) Upgradation of 132KV SS Piduguralla as 220KV SS with 2*160MVA PTRs	1.3kM	5.2CkM	55.81	2023-24
		b) Double LILO of 220KV VTS-Tallapalli-3&4 Feeders at Piduguralla				
16	Guntur	Erection of 220KV DC Line for LILO of 220KV VTS-Tallapalli-1 Feeder at 220KV SS Rentachinthala	1.4kM	2.8CkM	6.73	2023-24
17	Guntur	Erection of 132KV DC Line for LILO of 132KV Tadikonda-Marripalem S/C Line at 132KV SS Gujjanagundla	0.318kM	0.636CkM	3.34	2023-24
18	Guntur	2nd Circuit stringing on 132KV Repalle-Bapatla DC/SC Line	49.23kM	49.23CkM	13.52	2023-24
19	Guntur	132KV Line stringing from Repalle to Chakrayapalem	36.69kM	36.69CkM	14.63	2023-24
20	Guntur	a) 2nd circuit stringing on 132KV Martur-Yadavalli DC/SC Line	16.79kM	16.79CkM	12.29	2023-24
		b) Inter linking 132KV Martur-Yadavalli Line with 132KV Chilakaluripet-Vinukonda Line	5.144kM	10.288CkM		
21	Prakasam	a) Erection of 132KV SS at Chinnarikatla with 2*31.5MVA PTRs	27.049kM	54.098CkM	46.3	2023-24
		b) 132KV DC Line from 220KV SS Podili to the proposed 132KV SS Chinnarikatla				
22	Prakasam	a) Erection of 132KV SS at Ulavapadu with 2*31.5MVA PTRs	6.452kM	6.452CkM	30.65	2023-24
		b) Erection of 132KV DC/SC Line from 220KV SS Kandukur to the proposed 132KV SS Ulavapadu				
23	Prakasam	a) Erection of 132KV SS at East Gangavaram with 2*31.5MVA PTRs	18.564kM	37.128CkM	41.47	2023-24
		b) 132KV DC Line from 220KV SS Podili to the proposed 132KV SS East Gangavaram				
24	Prakasam	Erection of 132KV DC/SC Line to Ramayapatnam Port from Kandukur	27.5kM	27.5CkM	50	2023-24
25	Prakasam	a) Erection of 132KV SS at Kothapatnam with 2*31.5MVA PTRs	18.3kM+14.836kM	47.972CkM	38.75	2023-24
		b) 2nd Circuit stringing on 132KV DC/SC Line from 220KV SS Ongole to Tanguturu				

		c) Sigle LILO of 132KV Ongole-Tangutur DC Line at the proposed 132KV SS Kothapatnam				
26	Prakasam	LILO of 220KV Ongole-Racherlapadu S/C Line at 220KV SS/Kandukur	3.5kM	7.0CkM	6.73	2023-24
27	Nellore	a) Erection of 132KV SS at Korutur with 1*31.5 + 1*16MVA PTRs	30.2kM	60.4CkM	32.98	2023-24
		b) Erection of 132KV DC Line from 132KV SS/Kallurupalli to the proposed 132KV SS Korutur				
28	Chittoor	Erection of 132KV Feeder Bays at Chandragiri and Tirumala for charging the 132KV Chandragiri-Tirumala Line which is charged at 33KV Potential.	-	-	3	2023-24
29	Kadapa	a) Erection of 132KV SS at Galiveedu with 2*31.5MVA PTRs	28.4kM	56.8CkM	16	2023-24
		b) 132KV DC Line from 220KV SS Chakrayapet to the proposed 132KV SS Galiveedu				
30	Anantapur	Interlinking of 220KV Bus at Ragulapadu with 220KV Bus at Vajrakarur	-	-	5	2023-24
31	Anantapur	a) LILO of 132KV Guntakal-Uravakonda DC/SC Line on Multi Circuit Towers at 220/132KV SS Vajrakarur.	5kM	10CkM	19.84	2023-24
32	Anantapur	Erection of 220KV TMDC Line from 400KV SS Hindupur to Gollapuram	26 kM	52 CkM	225	2023-24
33	Anantapur	a) Erection of 220KV SS at Penugonda with 2*160MVA PTRs	35kM	70CkM		
		b) Erection of 220KV DC Line from 400KV SS Hindupur to the proposed 220KV SS Penugonda	80kM	160 CkM		
34	Anantapur	a) Erection of 220/132KV SS at Pampanur Tanda with 2*160MVA PTRs				
		b) Erection of 220KV TMDC Line from 400KV SS Hindur to 220/132KV SS Pampanur Tanda				
35	Anantapur	Erection of 33KV features at 220/132KV SS Penugonda with 2*31.5MVA PTRs	-	-	15	2023-24
36	Kurnool	a) Erection of 220KV DC Line from 220KV SS AP Carbides to 220KV SS Settipalli	28kM	56CkM	88.43	2023-24
		b) 2nd Circuit stringing on 220KV Settipalli-Krishnagiri DC/SC Line	10.48kM	10.48CkM		

		c) Erection of 220KV DC/SC Line from 220KV SS Nansurala to 220KV SS Krishnagiri	25kM	25CkM		
37	Kur-nool	a) Erectioin of 132KV Features at 220KV Switching Station/Somayajulapally with 2*100MVA PTRs			52	2023-24
		b) Erection of 132KV DC Line with ACSS conductor for LILO of 132 AP Carbides-Cement Nagar S/C Line at Somayajulapalli SS	4kM	8CkM		
Total				220KV: 501.512CkM	1607.26	
				132KV: 534.696CkM		

3.11Contingencies

The transmission planning was based on a deterministic approach using the single contingency (or N-1) criterion. This is the most common approach used worldwide, and it requires the system to be able to operate satisfactorily with one element out of service (Generator, Transmission Line or Transformer), and to survive the transition from the normal state to the contingency state without any operator intervention.

An exception to the above criteria, is that the system shall survive a 400 kV DC line outage evacuating a power plant located in the coastal area, because damage caused by cyclones are of great concern to APTRANSCO.

3.12Circuit Breaker Interrupting Capability

Circuit Breaker interrupting capabilities, as per CEA guidelines and the APERC, are :

765 kV breakers : 50/63 KA
400 kV breakers : 63/80 KA
220 kV breakers : 40/50/63 KA
132 kV breakers : 25/31.5/40 KA.

3.13Short Circuit Studies

Short Circuit studies were carried out for FY 2023-24, with the machines connected for the maximum thermal Generation schedule contributing to the fault

levels. Generator Sub-transient reactances were used. No contribution from the interstate tie-lines was included.

All calculated fault levels at 400 kV and 220 kV buses were less than 90% of the Breaker Interrupting Capabilities

The 132 kV system modeled in these studies is limited to the Transformer 132 kV side load (with no 132 kV interconnections), plus a few buses connecting the Generation at the 132 kV level to the network. The 132 kV fault levels are within the breaker interrupting ratings.

Chapter 4

Transmission Plan for 5th Control Period

4.1 Transmission Resource Plan from FY 2025 to FY2029

The objective of the Transmission Planning is to develop Transmission Expansion Plan based on the load forecast and generation supply scenario developed as part of the Power System Master Plan for the state of Andhra Pradesh. The purpose of this report is to present a comprehensive summary of the process, assumptions, methodology, transmission network expansion plan and investment required to ensure the transmission system which would be capable of transmitting the planned generation to meet the forecast loads up to FY 2028-29. The proposed transmission system was evaluated for the load and generation conditions for FY 2028-29.

The transmission investment plan was prepared based on the transmission network expansion plan envisaged meeting load growth and various generation evacuation schemes 400 kV and 220 kV are depicted. The transmission expansion plan which includes 400 kV , 220 kV & 132 KV Lines and Substations are also depicted.

Schemes proposed for evacuation of power (New Schemes) :

1. Polavaram Hydro Electric Power Plant Evacuation Scheme is proposed for evacuation of power from Polavaram HEP (12*80 MW) in West Godavari (Dt):

The scheme proposal is as follows:

- i) 400kV Quad Moose DC Line from Polavaram HEP to Guddigudem 400 kV SS - 30 km

2. Upper Sileru Pumped Storage Project Evacuation Scheme is proposed for evacuation of power from Upper Sileru PSP (9*150MW) in Vizag (Dt):

The scheme proposal is as follows:

- i) 400kV Quad Moose DC Line from Upper Sileru PSP to Kakinada SEZ - 160KM
- ii) Augmentation of ICTs from 2*500MVA to 3*500MVA at Kakinada SEZ
- iii) LILO of 400KV Kalpaka-Vemagiri and 400KV Simhadri-Vemagiri TM Lines at Kakinada SEZ - 10KM

400kv Sub-Stations Proposed in A.P:

a) 400KV Gudivada Substation:

- i) 400kV Gudivada Substation with 2*500 MVA ICTs
- ii) LILO of existing 400KV Vemagiri-Sattenapalli TMDC Line at 400KV SS Gudivada - 31 km

b) 400KV Atchutapuram Substation (GIS):

- i) 400kV Atchutapuram Substation with 3*500 MVA ICTs
- ii) LILO of existing 400KV Kalpaka-Khammam and 400KV Kalpaka-Asupaka Lines at 400KV SS Atchutapuram – 1.75 km

c) 400KV Kakinada SEZ Substation:

- i) 400kV Kakinada SEZ Substation with 2*500 MVA ICTs
- ii) LILO of existing 400KV HNPCL-KV Kota TMDC Line at 400KV SS Kakinada SEZ – 10KM

d) 400KV Ainavilli Substation

- i) 400KV Ainavilli Substation with 2*315MVA 400/132KV ICTs
- ii) Making LILO of one circuit of 400KV Vemagiri-KV Kota Line (under construction) at 400KV Konaseema power plant by utilising existing 400KV Vemagiri-Konaseema TMDC Line and erection of 24KM TMDC Line from 400KV Konaseema power plant to the proposed 400/132KV Ainavilli for making LILO of 400KV Vemagiri-Konaseema Line at proposed 400/132KV SS Ainavilli

e) 400KV Ramayapatnam Switching Station

- i) 400KV TMDC Line with ACSS conductor from 400/220KV SS Podili to Ramayapatnam – 96KM
- ii) 400KV TMDC Line with ACSS conductor from SDSTPS to Ramayapatnam – 100KM
- iii) LILO of 400KV Nunna-Nellore and 400KV VTS-Nellore TM Lines at 400KV SS Podili – 2.5KM

f) 400/220KV SS at Palasa (for meeting traction loads)

- i) Extension of 400KV Bus of PGCIL from 765/400KV SS at Palasa
- ii) Erection of 2*500MVA ICTs at Palasa

APTRANSCO has drawn up investment plans of Rs. **15729.41** Crs. in the period from FY 2024-25 to FY 2028-29.

This investment includes 1238.962 CkM of 400 Kv lines, 1714.906 CkM of 220 kV lines, 1742.452 CkM of 132 kV lines, 7 Nos. of 400 kV substations, 23 Nos. of 220 kV substations and 41 Nos. of 132 kV substations towards transmission expansion.

The standards adopted while conducting Load Flow studies for UHV (200KV and above) are shown at section 3.3 and 3.13.

4.2 Network Expansion plan 400 kV, 220 KV and 132 KV

The year wise No. of substations and lines in ckm required for 400 kV, 220 kV and 132KV system arrived are shown below.

FY	Substation (Nos.)				Lines (CkM)			
	400kV	220kV	132kV	To-tal	400kV	220kV	132kV	Total
2024-25	1	3	6	10	320.962	329.9	302.09	952.952
2025-26	3	6	9	18	182	374.392	620.15	1176.542
2026-27	1	5	6	12	392	290.614	212.182	894.796
2027-28	0	3	6	9	320	86.00	100.3	506.3
2028-29	2	6	14	22	24	634.00	507.73	1165.73
Total	7	23	41	71	1238.96	1714.91	1742.45	4696.32

4.2.1 Year wise Augmentation of PTRs i.e. addition of MVA of PTRs as shown below.

FY	Vizag	Vijayawada	Kadapa	Total MVA
2024-25	2884.5	1590.5	3409	7884
2025-26	826.5	784.5	700	2311
2026-27	829	901.5	729.5	2460
2027-28	845	525	690	2060
2028-29	472.5	647	672	1791.5
Total	5857.5	4448.5	6200.5	16506.5

4.3 Transmission Investments for new Substations and Lines

The total investments (Rs. in Crores) required for new 400 KV, 220 kV & 132 KV systems from FY2025 to FY 2029 are tabulated below.

FY	400 kV	220 kV & 132 KV	Total
2024-25	1575.56	2737.34	4312.9
2025-26	2221.37	1697.07	3918.44
2026-27	1440.00	434.5	1874.5
2027-28	600.00	86.25	686.25
2028-29	800.00	161.25	961.25
Total	6636.93	5116.41	11753.34

4.3.1 Transmission Investments required for Augmentation of Transformers in EHT Substations from FY2025 to FY 2029 are tabulated below:

FY	Vizag	Vijayawada	Kadapa	Total (Rs Crs)
2024-25	404.07	179.09	419.55	1002.71
2025-26	209.89	166.23	179.39	555.51
2026-27	189.58	184.55	184.99	559.12
2027-28	134.70	130.24	252.33	517.27
2028-29	105.60	124.50	211.33	441.43
Total	1043.84	784.61	1247.60	3076.05

4.3.2. Transmission Investments required towards RMI works in EHT Substations from FY2025 to FY 2029 are tabulated below:

FY	Vizag	Vijayawada	Kadapa	Total(Rs Crs)
2024-25	40	40	80	160
2025-26	45	45	80	170
2026-27	50	50	80	180
2027-28	55	55	80	190
2028-29	60	60	80	200
Total	250	250	400	900

4.4Total Transmission Investments for New SS, Lines, Augmentation of PTRs & RMI works.

The Total investments (Rs. Crores) for New substations, Lines and Augmentation of Existing substations is as tabulated below:

FY	400 kV	220 kV & 132 KV	Augmentation of PTRs	RMI	Total (Rs crs)
2024-25	1699.56	1093.02	1002.71	160	3955.29
2025-26	1276	1062.9	555.51	170	3064.41
2026-27	1021.37	897.52	559.12	180	2658.01
2027-28	1320	1038.4	517.28	190	3065.68
2028-29	1320	1024.59	441.43	200	2986.02
Total	6636.93	5116.43	3076.05	900	15729.41

4.5 LIST OF 400 kV SCHEMES PROPOSED DURING FY 2024-25 to FY2028-29

Sl. No.	Name of the District	Name of the Scheme	Length of the Line in Km	Length of the Line in CkM	Cost estimation (in Cr)	Tentative Year of completion
Projects proposed during 2024-25						
1	Krishna	Construction of 400/220kV Substation at Gudivada with 2*500MVA ICTs in Krishna district and connected lines (Total scheme cost)	31kM	124CkM	1131.00	2024-25
2	West Godavari	400KV TMDC Line from Vemagiri to KV Kota	98.48kM	196.962CkM	245.00	2024-25
3	Vizianagaram	Augmentation of ICTs from 2*315+1*500MVA to 2*315+2*500 MVA at 400/220KV SS Maradam	-	-	42.33	2024-25
4	Chittoor	Augmentation of ICTs from 2*315MVA to 2*315+1*500MVA at 400/220/132/33KV SS Rachagunneri	-	-	58.19	2024-25
5	Chittoor	Augmentation of ICTs from 2*315MVA to 2*315+1*500MVA at 400/220KV SS Kalikiri	-	-	40.52	2024-25
6	Chittoor	Augmentation of ICTs from 2*315+1*500MVA to 2*315+2*500 MVA at 400/220/132/33KV SS Rachagunneri	-	-	40.52	2024-25
7	West Godavari	63MVAR Bus Reactor at 400KV SS KV Kota	-	-	18.00	2024-25
Sub Total for the Year 2024-25				320.962CkM	1575.56	
Projects proposed during 2025-26						
1	Vsakhapatnam	Construction of 400/220KV GIS with 3*500MVA ICTs and connected transmission network at Atchutapuram SEZ in Visakhapatnam District by making LILO of both Circuits of 400KV Khammam-Kalapaka and Kalapaka-Asupaka TMDC Line and connected Downstream network	2*3.5KM	14CkM	875.42	2025-26
2	East Godavari	400kV Transmission Scheme for construction of 400/220/132/33kV Kakinada SEZ Sub-Station with 2*500MVA ICTs and connected 400kV, 220kV & 132kV	2*10KM	40CkM	665.83	2025-26

		Transmission lines in Kakinada District				
3	East Godavari	Erection of 400/132 KV SS Ainavilli with 2*315 MVA ICT Capacity and connected 400 & 132kV lines	24KM	48CkM	380.12	2025-26
4	Kadapa	Erection of 400kV TMDC line from RTPP to 400kV SS Jammalamadugu (40KM) and bays at both ends	40kM	80CkM	300.00	2025-26
Sub Total for the Year 2025-26				182CkM	2221.37	
Projects proposed during 2026-27						
1	Prakasam	Construction of 400kV Ramayapatnam switching station in Nellore district	100kM 96kM	200CkM 192CkM	1440.00	2026-27
Sub Total for the Year 2026-27				392CkM	1440.00	
Projects proposed during 2027-28						
1	East Godavari	Transmission scheme for evacuation of power from the proposed 1350MW Upper Sileru pumped storage project in Visakhapatnam district with 400KV QMDC line to Kakinada SEZ and Augmentation of ICTs from 2*500MVA to 3*500MVA ICTs at Kakinada SEZ	160kM	320CkM	600.00	2027-28
Sub Total for the Year 2027-28				320CkM	600.00	
Projects proposed during 2028-29						
1	Srikakulam	Construction of 400/220kV SS with 2*500MVA ICTs duly extending the 400kv Bus at Palasa 765/400kV SS of PGCIL to issue supply to Traction and other purposes	-	-	400.00	2028-29
2	Anantapur	400kV SS Aspiri with 2*500MVA ICTS and Double of the existing 400KV Uravakonda-Veltoor QMDC Line	6kM	24CkM	400.00	2028-29
Sub Total for the Year 2028-29				24CkM	800.00	
Grand Total for 5th Control Period i.e. from 2024-25 to 2028-29					6636.93	

4.6 List of 220 KV & 132KV schemes proposed from FY2024-25 to FY 2028-29

SI. No.	Name of the District	Name of the work	Length of the Line in RkM	Length of the Line in CkM	Cost estimation (in Cr)	Tentative Year of completion
Projects proposed during 2024-25						
1	Vizianagar	Single LILO of 220KV Bobbili-Garividi DC Line on MC Towers at 400/220KV SS Maradam	4.5	9	13.00	2024-25
2	East Godvari	a) Reconductoring from crossing point of 132KV Kakinada-Ramachandrapuram DC Line and 220KV Samalkot-GMR Barge DC Line line to 132KV SS Ramachandrapuram with ACSS Panther Conductor equivalent to ACSR Panther b) Construction of 2 Nos. 132KV Feeder Bays at 220KV SS Samalkot and connecting the 2 Nos. Barge Mounted Feeders to the 132KV Bus through the above 2 Nos. 132KV Feeder Bays at 220KV SS Samalkot	-	-	18.15	2024-25
3	East Godavari	Replacement of ACSR Panther conductor with equivalent ACSS conductor on 132kV Bommuru-Kondagunturu S/C line and 132kV Kondagunturu-Editha S/C line	-	-	21.00	2024-25
4	East Godvari	a) Formation of 2nd Circuit from 220kV SS Kakinada to 132kV SS Pratapnagar by utilizing the idle 220kV Samalkota-GMR Barge DC line, 132kV Kakinada-Ramachandrapuram DC line, 132kV Pratapnagar-Yanam Line and 132kV Kakinada-Gollapalem Line to form 132KV Kakinada-Yanam Line and 132KV Kakinada-Gollapalem Line b) Converting existing 132KV Kakinada-Gollapalem Line as 132KV Kakinada-Pratap Nagar 2nd Circuit.	-	-	2.07	2024-25
5	West Godavari	a) Erection of 132/33Kv Substation with 2*31.5MVA 132/33KV PTRs at Dharmajigudem b) 132Kv DC/SC line from 220/132KV SS Kamavarapukota	28kM	56CkM	51.98	2024-25
6	West Godavari	a) Erection of 132KV SS at Reddyganapavaram with 2*31.5MVA 132/11KV PTRs b) 132KV DC Line (30KM) from 220KV SS/KV Kota	30kM	60CkM		2024-25 LIS Funds

7	West Godavari	a) Erection of 132KV SS at Routhugudem with 2*31.5MVA 132/11KV PTRs b) 132KV DC Line (5KM) from Reddyganapavaram	5kM	10CkM		2024-25 LIS Funds
8	Krishna	LILO of 220KV Gudiwada-Akiveedur DC Line at 400KV SS Gudiwada	19kM	76CkM	-	-
9	Guntur	a) Double LILO of 220KV VTS-Tadikonda Feeders at 400/220KV SS Tallayapalem	4	16	31.28	2024-25
10	Prakasam	LILO (0.5kM) of 132KV Kandukur-Kavali S/C Line at 132KV SS Ulavapadu	0.5kM	1.0CkM	4.50	2024-25
11	Nellore	a) Erection of 220/33KV SS Kothapatnam 2*31.5MVA 132/33KV PTRs b) LILO of 220KV Manubolu-SBQ DC/SC Line on MC Towers (17KM) at the proposed 220/33KV SS at Kothapatnam c) 2nd Circuit stringing from Manubolu to Kothapatnam d) Shifting of 220KV SBQ Metering from Manubolur SS to the proposed 220/33KV SS at Kothapatnam	17kM 17+17.5	34CkM 34.5CkM		2024-25 APIIC Funds
12	Chittoor	a) Erection of 220KV SS at Cherivi (Racherla) 2*160MVA PTRs b) Erection of 220KV DC Line from 220KV SS Sullurpet to the proosed 220KV SS at Chervi (Racherla) c) Erection of 220KV DC Line from 400KV SS Rachagunneri to the proosed 220KV SS at Chervi (Racherla)	19.5kM 53.5kM	39CkM 107CKm	75.00	2024-25
13	Chittoor	LILO of 132KV Chervi-Apollo/Linde DC Line at Racherla			5.2	2024-25
14	Chittoor	a) Erection of 220KV SS at Punganur with 2*160MAV 220/132KV PTRsand 2*31.5MVA 132/33KV PTRs b) LILO of 220KV Madanapalli-Palamaneru DC/SC Line on MC Towers at the proposed 220KV SS at Punganur c) Erection of 132KV DC Line from the proposed 220KV SS Punganur on MC Towers duly linking with the 132KV DC Line at LILO point d) Directing the LILO of 132KV Madanapalli-Palamaneru DC/SC Line at 132KV SS Punganur to form 132KV Madanapalli-Palamaneru DC/SC Line	4kM 4kM	8CkM 8CkM	98.00	2024-25
15	Chittoor	a) Erection of 132/33 kV Substation at V.Kota with 2*31.5MVA PTRs	3kM	6CkM	38.00	2024-25

		b) Double LILO of 132 kV Palamaneru-Shanthipuram DC line at the proposed 132KV SS at V.Kota				
16	Chittoor	a) Erection of 132/33 KV Substation at Routhusuramala b) LILO of existing 132 kV Sullurpet-Greenply S/C Line at the proposed 132KV SS at Routhusuramala	5kM	10CkM		2024-25 APIIC Funds
17	Chittoor	2nd circuit Stringing on the existing 132KV DC/SC Line from 220/132 kV SS Kalikiri to 132kV SS Rompicherla	30.0kM	30.0CkM	11.00	2024-25
18	Chittoor	2nd circuit Stringing on the existing 132KV DC/SC Line from 220/132kV SS Nagari to 132kV SS Nagalapuram.	19.97kM	19.97CkM	8.00	2024-25
19	Kadapa	2nd Circuit Stringing on the existing 132KV DC/SC LINE from 132 KV Rayachoti to Sambepalli	14.13kM	14.13CkM	5.00	2024-25
20	Kadapa	2nd Circuit stringing on existing 132 KV DC/SC line from 220/132/33 KV SS Rajampet SS to 132/33KV SS T.G. Palli	20.93kM	20.93CkM	7.00	2024-25
21	Kadapa	Extension of 132KV Bus at 132KV SS Pulivendula and erection of 1 No. 132KV Feeder Bay for keeping 2nd 132KV Pulivendula to Pulivendula Feeder in service.	-	-	3.00	2024-25
22	Kadapa	Erection of 2 Nos. 132KV Feeder Bays at 400KV SS Jammalamadugu to facilitate to make LILO arrangements to 132KV Suzlon-Jammalamadugu DC Line at 400KV SS Jammalamadugu	7.14kM	28.56CkM	4.00	2024-25
23	Kadapa	LILO of 220KV Chinakampalli-Renigunta S/C Line at 220KV SS Rajampet on MC Towers	3.2kM	6.4CkM	12.00	2024-25
24	Ananatapur	Inter Linking 132KV SS Jammalabanda with 132KV SS Madakasira	18+1.5kM	19.5kM	8.00	2024-25
25	Ananatapur	a) Erection of 132/33 kV Substation at O.D. Cheruvu 2*31.5MVA 132/33KV PTRs b) LILO of 132KV Penugonda- Kadiri SC Line at OD Cheruvu c) LILO of 132KV Puttaparthi-Kadiri S/C Line at 220KV SS Penukonda	3.0kM 7.0kM	6.0CkM 14CkM	33.00	2024-25
26	Kurnool	LILO of 220KV Somayajulapalli-Rangapuram SC line at Bethamcherla on MC Towers	4kM	8CkM	14.00	2024-25
27	Kurnool	a) LILO of 132KV AP Carbides-Yemmiganur S/C Line at 132KV SS Gudur b) Erection of 2 Nos. 132KV Feeder Bays at 132KV SS Gudur	0.5kM	1.0CkM	4.00	2024-25
Sub Total for the Year 2024-25					2737.34	

Projects proposed during 2025-26						
1	Vizianagar am	a) Erection of 132kV Switching Station at Bhogapuram b) Erection of 132KV DC Line from 132KV SS G.Chodvaram to the proposed 132KV SWS at Bhogapuram c) Erection of 132KV DC Line from the proposed 220KV SS Bheemili to the proposed 132KV SWS at Bhogapuram	20kM 10kM	40CkM 20CkM	30.00	2025-26
2	Visakhapat nam	a) Erection of 220/33kV SS at JNPC with 2*50MVA 220/33KV PTRs b) LILO of 220KV Parawada-Anrak S/C Line at the proposed JNPC on MC Towers	0.12kM	0.24CkM	80.00	2024-25
3	Viskhapata nm	a) LILO of 220KV Parawada_Anrak Line and 220KV VSS-Kakinada Line at the proposed 400KV SS Atchuthapuram b) 220KV DC Line from the proposed 400KV SS at Atchuthapuram to the 220KV Atchuthapuram	2*13.5kM 2.5kM - UG	54CkM 5CkM - UG	-	2024-25
4	East Godavari	a) Erection of 220/33KV SS Vepakayaladibba with 2*50MVA 220/33KV PTRs b) Making LILO (0.4 KM approx..) of 220kV Bommuru-Bavojipet SC line	0.4kM	0.8CkM	40.50	2025-26
5	East Godavari	a) Erection of 132/33KV Substation at Shankavaram with 2*31.5MVA 132/33KV PTRs b) Erection of 132KV DC/SC line from 400/220/132/33 Kv Kakinada SEZ	35kM	70CkM	50.00	2025-26
6	East Godavari	a) LILO of 220KV Chandanada-Samalkot Feeder and 220KV Chandanada-Kakinada Feeder at 400/220/132/33KV SS at Kakinda SEZ b) LILO of 132KV Koruprolu-Pitapuram Feeder and 132KV Payaraopet-Pedapuram Feeder at 400/220/132/33KV SS at Kakinda SEZ	2*15kM+ 40kM 2*6kM - 132KV	140CkM 24CkM - 132KV	-	2025-26
7	East Godavari	a) LILO of 132KV Mummidavaram-Ramachandrapuram Feeder and 132KV Mummidivaram-Amalapuram Feeder at 400/132KV SS at Ainavalli b) LILO of 132KV Kothapet-Ramachandrapuram Feeder and 132KV Kothapet-Amalapuram Feeder at 400/132KV SS at Ainavalli	3KM 3KM	24CkM	-	2025-26
8	West Godavari	a) Erection of 220/132/33KV SS at Koppaka with 2*100MVA 220/132KV	0.5KM	2CkM	119.79	2025-26

		PTRs and 2*31.5MVA 132/33KV PTRs b) LILO of Nunna-Bhimadole S/C line, Nuzivid-KV Kota S/C Line c) LILO of 132KV Eluru- Vatluru RTSS DC/SC line to the proposed 220/132/33 KV Koppaka SS MC towers duly stringing 3rd conductor from Eluru to Koppaka and also stringing of 2nd circuit on MC towers from Koppaka to Elur	10KM 7.28kM	37.28CkM		
9	Krishna	a) Erection of 132KV kV SWS Pedana with 2*31.5MVA 132/33KV PTRs b) LILO of existing 132KV Machilipatnam - RVK line at Proposed 132 KV Switching Station, Pedana. c) Erection of 132/33 kV Substation with 2*31.5MVA 132/33KV PTRs at Bantumilli in Krishna District with 132KV DC Line from 132KV SWS at Pedana d) 132KV DC/SC Line to RTSS, Pedana e) 2nd Circuit stringing from Machilipatnam to 132KV SWS at Pedana	2kM 18kM 4kM 11.59kM	4CkM 36CkM 4CkM 11.59CkM	153.89	2025-26
10	Krishna	a) Erection of 220/33KV SS Gopavaram with 2*50MVA 220/33KV PTRs b) Double LILO of 220KV DC Line from 400/220KV SS Gudivada to Akiveedu	2*0.5kM	4CkM	34.00	2025-26
11	Krishna	a) Erection of 132/33 kV Substation at Gannavaram with 2*31.5MVA 132/33KV PTRs b) LILO of 132 KV Gunadala - Kanumolu SC line	0.9kM	1.8CkM	25.75	2025-26
12	Krishna	a) Erection of 132/33 kV Substation at Vuyyuru with 2*50MVA 132/33KV PTRs b) LILO of 132kV Kanumolu - Pammarru SC line at the proposed 132KV SS at Vuyyur	13kM	26CkM	27.00	2025-26
13	Prakasam	a) Erection of 220/132/33KV SS Chapalamadugu with 2*160MVA 220/132KV and 2*31.5MVA 132/33KV PTRs b) Double LILO of 220KV Srisailam-Tallapalli DC Line at the proposed 220KV SS at Chapalamadugu c) Erection of 132KV DC line from 132KV SS Yerragondapalem to the proposed 220/132/33 KV SS Chapalamadugu.	12.088kM 9.4kM	48.352CkM 18.8CkM	127.20	2025-26

14	Prakasam	a) Erection of 132KV Lift Irrigation SS at Yerrabalem b) Erection of 132KV DC line from 132KV SS Anumalapalli to the proposed Yerrabalem Lift Irrigation PH	20kM	40CkM		2025-26 LIS Funds
15	Nellore	a) Erection of 132/33KV SS at Kadivedu with 2*31.5MVA 132/33KV PTRs b) Erection of 132KV DC line from 400/220/132Kv SS Manubolu to the proposed 132KV SS at Kadivedu	16.5kM 13.5kM	33CkM 27CkM	43.67	2025-26
16	Nellore	LILO of 132KV Adurapalli - Adurapalli RTSS at 132/33KV Rapur SS	9kM	18CkM	14.00	2025-26
17	Chittoor	a) Erection of 132/33 kV Substation at Mangalam with 2*31.5MVA 132/33KV PTRs b) Erection of 132kV DC line from 220/132kV SS Rachagunneri to the proposed 132KV SS at Mangalam	19.5kM	39.0CkM	27.40	2025-26
18	Chittoor	a) Erection of 132KV SS at Vikruthamala b) 2nd circuit stringing on 132KV Rachagunneri-Renigunta DC/SC Line c) Double LILO of 132KV Rachagunneri-Renigunta DC line to the proposed 132KV SS Vikruthamala	17.52kM 2*2kM - UG	25.52CkM		2025-26 APIIC Funds
19	Chittoor	2nd circuit stringing on the 132kV Sambepalli-Gurramkonda DC/SC Line	36.9kM	36.92CkM	15.00	2025-26
20	Chittoor	2nd circuit stringing on the 132kV Kalikiri-Gurramkonda DC/SC Line	27.57kM	27.57CkM	7.00	2025-26
21	Chittoor	2nd circuit stringing on the 132kV Madhanapalli-Burraakayalakota DC/SC Line	27.57kM	27.57CkM	10.00	2025-26
22	Kadapa	2nd Circuit stringing on 132KV Tirumalayapalli-Kondapuram DC/SC Line up to the crossing point and Linking with the remaining part of 132KV Tadipatri-Kondapuram S/C Line to form 132KV Tirumalayapalli-Tadipatri S/C Line	10.9kM	10.9CkM	11.00	2025-26
23	Kurnool	a) Erection of 220KV SS at Yemmiganur (Banavasi) with 2*160MVA 220/132KV PTRs and 2*31.5MVA 132/33KV PTRs b) Erection of 220KV DC Line from Ragulapadu to the proposed 220KV SS at Yemmiganur c) Double LILO of the existing 132KV Yemmiganur-Adhoni DC Line at the proposed 220KV SS at Yemmiganur	60kM 4.3kM	120CkM 17.2CkM	148.00	2025-26

Sub Total for the Year 2025-26					1697.07	
Projects proposed during 2026-27						
1	Srikakulam	a) Erection of 132KV SS at Kothur with 2*31.5MVA 132/33KV PTRs b) Erection of 132KV DC/SC Line from the proposed Hiramandalam LIS (duly removing the old proposal from Pathapatnam) to the proposed 132KV SS a Kothur	17kM	17CkM	48.43	2026-27
2	Srikakulam	a) Erection of 132KV SS at Hiramandalam (LI Loads) b) Erection of 132KV DC Line from Pathapatnam to the proposed 132KV SS at Hiramandalam c) 2nd Circuit stringing on 132KV Tekkali-Pathaoa DC/SC Line	18kM 30.67kM	36CkM 30.67CkM	13.00	2026-27
3	Vizianagaram	a) Erection of 220KV SS, Vijayanagaram with 2*100MVA PTRs b) Double LILO (KM) of 220KV Maradam-Pendurthy DC Line at the proposed 220KV SS Vizianagaram c) 132kV LILO of existing 132kV Garividi - Vontithadi SC line at the proposed 220kV SS Vizianagaram on MC Towers. d) Erection of 132KV DC Line from the LILO Point of Vontitadi to LILO point of proposed Vizianagaram SS. e) Erection of 3rd Circuit from Vizianagaram SS to LILO Point of proposed Vizianagaram SS with 1 No. 132KV Feeder Bay at proposed Vizianagaram SS f) Erection of 132KV UG Cable from LILO point of Vontitadi SS to Vontitadi SS with 1 No. 132KV Feeder Bay at Vontitadi SS	5kM 0.6kM 11kM 5.5kM UG	20kM 1.2kM 11kM 5.5kM UG	154.00	2026-27
4	Vizianagaram	a) Erection of 132/33 KV Substation at Gajapathinagaram (Ingilapalli Substation) with 2*31.5MVA 132/33KV PTRs b) LILO (4KM) of existing 132KV Bobbili-Komatipalli RTSS Line on MC Towers at proposed Gajapathinagaram SS duly stringing 3rd conductor from Bobbili to Gajapathinagaram SS c) Stringing of 2nd circuit from Bobbili SS to Gajapathinagaram SS	4kM 18.86kM	4CkM 18.86CkM	35.00	2026-27
5	Vizianagaram	a) Erection of 132/33 kV Substation at Kurupam with 2*31.5MVA 132/33KV PTRs	16kM	32CkM	32.00	2026-27

		b) LILO of one circuit of 132 kV Bobbili-Parvathi Puram DC line at the proposed 132KV SS at Kurupam				
6	East Godvari	Erection and stringing of the following 220KV DC Line: a) Rampachodavaram-Lower Sileru SC line b) Bavojipeta-Lower Sileru SC line	65.6kM 90.5kM	156.1CkM	164.00	2026-27
7	West Godavari	a) Erection of 33 KV features at 400/220 KV SS Guddigudem with 2*50 MVA 220/33 KV PTRs	-	-	25.00	2026-27
8	Krishna	a) Upgradation of 132KV SWS Pedana as 220KV SS with 2*100MVA 220/ 132KV PTRs b) Erection of 220KV DC Line from 400/220KV SS Gudivada to Pedana	30kM	60CkM	65.00	2026-27
9	Guntur	a) Upgradation of 132/33KV SS Tadepalli as 220KV SS with 3*160MVA PTRs b) 220KV DC Line from 400/220KV SS Tallayapalem to Tadepalli	14.2kM	28.4CkM	233.38	2026-27
10	Guntur	a) Erection of 132/33KV SS at Kaza with 2*50MVA 132/33KV PTRs b) LILO of 132KV Tadepalli-Guntur SC Line at the proposed 132KV SS at Kaza	0.4kM	0.8kM	28.60	2026-27
11	Guntur	LILO of 132KV Guntur-Parchur SC Line at 220/132KV SS Prathipadu.	2kM	4CkM	10.54	2026-27
12	Prakasam	2nd Circuit stringing on 132KV Kandukur-Ulavapadu DC/SC Line	6.452kM	6.452CkM	4.00	2026-27
13	Prakasam	a) Erection of 132/33KV Substation at Elchuru with 2*31.5MVA 132/33KV PTRs b) LILO of 132 KV Chilakaluripeta(Martur)-Vinukonda line at the proposed 132KV SS at Elchuru	2kM	4CkM	33.50	2026-27
14	Chittoor	Erection of 33KV Features at 220/132KV SS Thimmapuram with 2*50MVA 220/132KV PTRs	-	-	15.00	2026-27
15	Kadapa	a. Single LILO of Jammalamadugu-Porumamilla DC line at Mydukur SS on MC Towers b. Interchange of 220KV RTPP-Pulivendula DC Line and 220KV Jammalamadugu-Chakrayapet DC Line to form 220KV Jammalamadugu-Pulivendula DC Line and 220KV RTPP-Chakrayapet DC Line at the crossing point of these Lines	8.2kM	16.4CkM	60.00	2026-27
16	Kurnool	a) Erection of 132KV Features at 220KV SWS Dhone with 2*100MVA 220/132KV PTRs	2.5kM	5CkM	42.00	2026-27

		b) LILO of 132KV Kurnool-Dhone S/C Line at 220KV SWS Dhone				
17	Kurnool	a) Erection of 220/132/33kV SS Gadivemula with 2*160MVA 220/132KV PTRs and 2*50MVA 132/33KV PTRs b) LILO of 220KV Somayajulapalli-Srisailam S/C Line at the proposed Gadivemula SS c) LILO of 132KV Nandikotkur-Atmakur S/C Line at the proposed Gadivemula SS	0.857kM 11.22kM	1.714CkM 22.44kM	60.00	2026-27
18	Kurnool	a) Erection of 220/132/33KV SS at Mutyalapadu with 2*160MVA 220/132KV PTRs and 2*31.5MVA 132/33KV PTRs b) LILO of 220KV Mydukur-Srisailam S/C Line at the proposed 220KV SS at Mutyalapadu. c) Erection of 132KV DC Line from the proposed 220KV SS at Mutyalapadu to 132KV SS Allagadda	4kM 13.3kM	8CkM 13.3CkM	138.59	2026-27
Sub Total for the Year 2026-27					434.5	
Projects proposed during 2027-28						
1	Visakhapatnam	a) Erection of 132/33kV SS at NSTL (GIS) with 2*50MVA PTRs b) Erection of 132KV DC (OH+UG) Line from 220KV SS Simhachalam	OH-5.15kM + UG-1kM	10.3CkM +2CkM	98.57	2027-28
2	Visakhapatnam	a) Erection of 132/33kV SS Yendada with 2*50MVA PTRs b) Single LILO of 132KV Dairyfarim-Kapuluppada DC line at the proposed 132KV SS at Yendada	0.5kM - UG	1.0CkM - UG	55.00	2027-28
3	Visakhapatnam	a) Upgradation of 132KV SS Nakkavanipalem as 220kV SS with 2*160MVA PTRs b) Erection of 220KV DC Line from Dairy Farm (instead of 220KV SS at Kancharapalem for which TOO was issued)	6.5kM	13CkM	200.00	2027-28
4	West Godavari	a) Erection of 220/132/33KV SS Rustumbada 2*100MVA 220/132KV PTRs and 2*50MVA 132/33KV PTRs b) 220KV DC Line from 220KV SS Undi to the proosed Rustumbad SS c) LILO of 132KV Narasapuram-Rajole D/C Line at the proposed Rustumbada SS d) 2nd LILO 220KV of Gudivada-Undi at Akiveedu SS e) 2nd LILO of 132KV Bhimavaram-Razole at 132KV Narasapuram SS	30kM 2kM 0.5kM 0.5kM	60CkM 8CkM 1CkM 1CkM	170.00	2027-28
5	West Godavari	a) Erection of 132KV SS at Saripalli with 2*31.5MVA PTRs	15kM	30CkM	60.64	2027-28

		b) Erection of 132KV DC Line from 220/132/33KV SS Undi to the proposed 132KV SS at Saripalli				
6	West Godavari	a) Erection of 132KV SS at Kamayyapalem with 2*31.5MVA PTRs in West Godavari Dist. b) Double LILO (6KM) of 132KV T. Narasapuram-Aswaraopet DC Line	6kM	24CkM	40.00	2027-28
7	Prakasam	LILO of 220KV Prathipadu (Guntur)-Ongole S/C Line at 220KV SS Parchur	4kM	8CkM	14	2027-28
8	Chittoor	a) Erection of 132KV SS at Kakalamitta with 2*31.5MVA PTRs b) Erection of 132KV DC LILO line from 132 KV NGPalli-Palamaneru DC Line to the proposed 132KV SS Kakalamitta	2*2.5kM	10CkM	31.25	2027-28
9	Chittoor	a) Erection of 220/33KV SS Satyavedu with 2*50MVA 220/33KV PTRs b) LILO line 220KV Sullurpur-Gummidipundi S/C line at the proposed Satyavedu SS	2kM	4CkM	55.00	2027-28
10	Kurnool	a) Erection of 132 kV Substation at Kosigi with 2*31.5MVA PTRs b) Erection of 132 kV DC/SC line from 132/33 kV Madhavaram SS to the proposed 132KV SS at Kosigi	14kM	14CkM	46.00	2027-28
Sub Total for the Year 2027-28			86.25			
Projects proposed during 2028-29						
1	Srikulam	a) Erection of 220KV SS Sarubujili with 2*100MVA 220/132KV PTRs and 2*31.5MVA 132/33KV PTRs b) Erection of 220KV DC Line (70KM) from 400KV SS Maradam	70kM	140CkM	160.00	2028-29
2	Srikulam	a) Erection of 220/132/33KV SS at Goppili with 2*100MVA 220/132KV PTRs and 2*31.5MVA 132/33KV PTRs b) Erection of 220KV DC Line from the proposed 220KV SS at Sarubujili c) Erection of connected 132KV Lines from Goppili	65Km 63kM	130CkM 73CkM	90.00	2028-29
3	Srikakulam	a) Erection of 132kV SS at Sompeta with 2*100MVA 220/132KV PTRs and 2*31.5MVA 132/33KV PTRs b) Erection of 132KV DC Line from Goppili	35kM	35kM	60.00	2028-29
4	Srikakulam	a) Erection of 132kV GIS SS at Srikakulam with 2*31.5MVA 132/33KV PTRs b) Erection of 132KV DC Line from Goppili	9kM UG	- 9CkM	120.00	2028-29

5	Visakhapatnam	a) Erection of 220KV SS, Bheemili with 2*100MVA PTRs b) Double LILO of Maradam-Pendurthy DC Line at the proposed 220KV SS at Bheemili c) LILO of 132Kv Anandapuram - Divis line at proposed 220/132Kv SS Bheemili	22Km 0.5kM	88CkM 1CkM	120.00	2028-29
6	Visakhapatnam	a) Erection of 132kv GIS Autonagar with 2*50MVA 132/33KV PTRs b) Single LILO of 132KV Simhachalam-Gajuwaka Feeder at the proposed 132KV Auto Nagar SS	0.5kM	1.0CkM	130.00	2028-29
7	Visakhapatnam	a) 132KV Features with 2*100MVA 220/132KV PTRs at 220KV SWS Anrak b) Erection of 132KV DC Line from Anrak to Chodavaram SS c) Erection of 132KV DC Line from Anrak to Narsipatnam SS	36.5kM 15kM	73CkM 30CkM	135.00	2028-29
8	West Godavari	a) Erection of 220/33KV SS at Koyyalagudem in West Godavari Dist. With 2*50MVA 220/33KV PTRs b) 220KV DC Line from 400/220KV SS Guddigudem	15kM	30CkM	120.00	2028-29
9	Guntur	a) Erection of 132/33KV SS at Vemuru with 2*31.5MVA 132/33KV PTRs b) LILO of 132KV Tenali-Repalle Line at proposed Vemuru SS	7kM	14CkM	38.50	2028-29
10	Guntur	a) Erection of 132/33Kv SS at Nizampatnam with 2*31.5MVA 132/33KV PTRs b) Single circuit LILO of 132KV Repalle-Bapatla DC line at the proposed 132KV SS Nizampatnam	7kM	14CkM	38.50	2028-29
11	Prakasam	LILO of 132KV Giddalur-Anumalapalli SC line to 132KV SS Kalasapadu in Kadapa District	33.4kM	66.8CkM	54.00	2028-29
12	Nellore	a) Erection of 132KV SS at Buchireddypalem with 2*31.5MVA 132/33KV PTRs b) LILO (5KM) of 132KV Nellore-Atmakur S/C Line at Buchireddypalem	5kM	10CkM	35.00	2028-29
13	Chittoor	a) Erection 132KV SS at Ammigani Palli with 2*31.5MVA 132/33KV PTRs b) LILO of 132 KV Palamaneru-Punganur DC/SC Line to the proposed 132KV SS at Ammiganiapalli	11kM	22CkM	37.5	2028-29
14	Chittoor	Erection of 132kv DC line from 132kv SS Burrakayalakota to 132kv SS Tanakallu	30kM	60CkM	31.00	2028-29

15	Chittoor	a) Erection of 220KV SS at Srikalahasti with 2*160MVA PTRs b) Erection of 220kV DC line from 400kV SS Rachagunneru to Proposed 220kV SS Srikalahasti	20kM	40CkM	96.00	2028-29
16	Chittoor	a) Erection of 220KV SS at Tirupati with 2*160MVA PTRs b) Erection of 220KV DC Line from 400KV SS Rachagunneri to the proposed 220KV SS at Tirupati c) LILO of existing 132KV Rachagunneri-Chandragiri S/C Line both at 220KV SS/Renigunta and the proposed 220KV SS/Tirupati d) LILO of 132KV Renigunta-Tirupati SC Line at the proposed 220/132KV SS, Tirupati. e) LILO of 132KV Tirupati-K.P.Mitta SC Line at the proposed 220/132KV SS, Tirupati f) LILO of 132KV Renigunta-Chandragiri SC Line at the proposed 220/132KV SS, Tirupati	40kM 6 kM	80kM 12 CkM	88.50	2028-29
17	Chittoor	a) Erection of 132KV SS at Kalluru with 2*31.5MVA PTRs b) Erection of 132KV DC line from Somala to the proposed 132KV SS Kalluru	12kM	24CkM	40.00	2028-29
18	Chittoor	a) Erection of 132KV SS at Thavanampalli with 2*31.5MVA PTRs b) Erection of 132KV DC line from 132KV SS NG Palli to the proposed 132KV SS Thavanampalli	20kM	40CkM	50.00	2028-29
19	Chittoor	a) Erection of 132KV SS K.G.Sathram/ Bangarupalem with 2*31.5MVA PTRs b) Erection of 132KV DC line from 132KV SS NG.Palli to the proposed KG Sathram/Bangarupallem	13kM	26CkM	41.25	2028-29
20	Kadapa	a) Erection of 132kV SS at Nandalur with 2*31.5MVA PTRs b) 2nd Circuit circuit stringing on the existing 132KV Rajampet-TG Palli c) Single LILO of 132KV Rajampet-TG Palli DC Line at the proposed 132KV SS at Nandalur	20.93kM 9kM	20.93CkM 18CkM	35.00	2028-29
21	Kadapa	a) Erection of 132kV SS Pendlimarri with 2*31.5MVA PTRs b) Erection of 132KV DC/SC Line from 132KV SS Sattelite city	15kM	15CkM	30.00	2028-29
22	Anantapur	a) Erection of 132/33KV SS at PABR with 2*31.5MVA PTRs	4kM	4CkM	25.00	2028-29

		b) LILO (4kM) of 132KV Taticherla-Kalyandurg SC line duly removing solid to PABRHES				
23	Anantapur	a) Erection of 132/33 kV Substation at Mudigubba with 2*31.5MVA PTRs b) Erection of 132 KV DC/SC line from 132/33 kV Y. Kothapalli to the proposed 132/33KV SS at Mudigubba	12kM	12CkM	42.69	2028-29
24	Kurnool	LILO of 220KV Somayajulapalli-Bilakalaguduru/Srisailam DC Line at 400KV SS Ghani	4.5kM	18 CkM	134.59	2028-29
Sub Total for the Year 2027-28					161.25	
Grand Total for the 5th Control Period i.e. from 2024-25 to 2028-29					5116.41	

4.7 Extension of 3 phase supply to East Coast Railways and South central Railways.

East Coast Railways (ECR) & South Central Railways (SCR) have applied for bulk load supply connectivity from AP Transco grid substations in all the districts of Andhra Pradesh and the details are as follows:

Abstract of district wise proposals for extension of supply to East Coast Railways & South Central Railways

Sl. No	Erstwhile District	Name of the TSS/RTSS	Proposed by	Existing CMD in MVA	Final Power Requirement in MVA	District total in MVA
1	Srikakulam	Ponduru	East Coast Railways	18	50	160
2		Nowpada		19.5	50	
3		Baruva		17	60	
4	Vizianagaram	Vizianagaram		21	50	150
5		Komatipalli		13.5	50	
6		Parvathipuram		13.5	50	
7	Visakhapatnam	Simhachalam		22	55	110
8		Anakapalli		15.5	55	
9	East Godavari	Tuni	South Central Railways	17	69	196
10		Samalkot	South Central Railways	16	67	
11		Rajahmundry		14	60	
12	West Godavari	Tadepalli Gudem		16	59	129
13		Vatlur		18	70	
14	Krishna	Kondapalli		17	60	60
15		Krishna Canal Jn		18	80	

16		Tenali Jn		15	59	
17		Bapatla		15	66	
18		Nallapadu		12	30	
19	Guntur	Savalyapuram		11	30	325
20		Sattenapalli		8	30	
21		Gurajala		6	30	
22		Gajjelakonda		10	30	
23	Prakasam	Yadavalli/Satyavalli		11	30	132
24		Ongole		17	72	
25		Kavali		17	70	
26	Nellore	Padugupadu(NTS)		14	60	184
27		Gudur		14	54	
28	Chittor	Renigunta		20	67	67
29		Muddanuru		14	66	
30	Kadapa	Kadapa		16	67	193
31		Rajampet		15	60	
32		Nandyal		14	30	
33	Kurnool	Mantralayam Road		12	52	130
34		Nagarur(Adoni)		10	48	
35		Guntakal Jn		16	65	
36		Gooty Jn		10	55	
37	Anantapur	Komali		14	59	209
38		Taticherla		10	30	
			Grand Total=	557	2045	2045

4.7.1 Abstract of Proposals for extension of supply to ECR & SCR

Sl. No.	Name of the Zone/Railways	Voltage Level Requested by SCR/ECR		Voltage Level Proposed by APTRANSCO	
		132KV	220KV	132KV	220KV
1	East Coast Railways (ECR)	8	-	5	3
2	South Central Railways (SCR)	27	3	25	5

Reasons for proposed extension of supply at 220KV Level instead of at 132KV Potential :

The existing 132KV upstream network could not feed the proposed loads at Tuni (69MVA), Anakapalli (55MVA), Vizianagaram (50MVA), Baruva (60MVA), Savalyapuram(30MVA).

132KV Supply extended for RTSS/Pondur and RTSS/Naupada only after strengthening of Tekkali SS.

Instead of connecting RTSS at far away location at 132KV potential, it is proposed from 220KV network by construction of 220KV SWS with LILO of nearby passing 220KV Lines, which are nearer to the proposed RTSS.

4.8AUGMENTATION OF POWER TRANSFORMERS FOR 5TH CONTROL PERIOD

Vizag Zone

Sl. No	District	Name of the substation	Augmentation of PTRs proposed from (MVA)	Augmentation PTRs proposed to (MVA)	Estimated cost Rs. Lakhs	Target year of commissioning	MVA additon
FY 2024-25							
1	Srikakulam	132KV SS Ichapuram	2*16	1*16+1*50	440	2024-25	34
2		132KV SS Pathapatnam	2*16	1*16+1*50	440	2024-25	34
3		220KV SS Tekkali	3*100+2*31.5	3*100+1*31.5+1*50	605	2024-25	18.5
4		132KV SS Srikakulam	1*16+1*31.5	1*50+1*31.5	440	2024-25	34
5		132KV SS Rajam	2*16	1*16+1*50	440	2024-25	34
6		220KV SS Pydibhimavaram	1*100+1*160+1*31.5	1*100+2*160+1*31.5+1*50	1,940	2024-25	210
7	Vizianagaram	220/132/33kV Bobbili GC SS	3*100+ 1*16+1*31.5	1*160+3*100+1*16+1*31.5	1,481	2024-25	160
8		220/132/33kV Garividi SS	1*160+2*100+2*31.5	2*160+1*100+2*31.5	1,460	2024-25	60
9		220/132/33kV Garividi SS	2*160+1*100+2*31.5	2*160+1*100+1*31.5+1*50	605	2024-25	18.5
10		132/33kV Parvathipuram SS	2*31.5	1*31.5+1*50	605	2024-25	18.5
11		132/33kV Salur SS	2*16	1*16+1*50	440	2024-25	34
12		132/33kV Garbham SS	1*31.5+1*15	1*31.5+1*50	440	2024-25	35
13		132/33kV Vontithadi SS	2*50	1*50+1*80	1,040	2024-25	30
14	Visakhapatnam	132KV SS Kasimkota	3*31.5	2*31.5+1*50	666	2024-25	18.5
15		132KV SS Chodavaram	2*16 + 1*31.5	1*16 + 1*31.5+1*50	484	2024-25	34
16		220/132/33 KV Pendurthi SS	2*160+1*100	3*160	1,500	2024-25	60
17		220/132/33 KV Dairyfarm SS	2*100+ 3*50	2*100+1*160+3*50	1,200	2024-25	160
18		132KV SS Anandapuram	2*31.5+1*16	2*31.5+1*50	605	2024-25	34
19		220KV SS Gangavaram	2*100+2*31.5+1*25+1*31.5	2*100+2*31.5+1*50+1*31.5	300	2024-25	25
20		132KV SS Payakaraopeta	1*31.5+ 1*50	2*50	220	2024-25	18.5
21		132KV SS Narsinghbilli	2*16	1*50 + 1*16	220	2024-25	34
22	Rajamahendravaram	220/33KVSS Chinturu	1*50	2*50	750	2024-25	50
23		132KV SS Rajanagaram	2*50	3*50	300	2024-25	50

24		132KV SS Razole	1*31.5+1*50	2*50	605	2024-25	18.5
25		132KV SS Kothapeta	1*31.5+1*50	2*50	605	2024-25	18.5
26		132KV SS Mummidivaram	2*31.5	1*50+2*31.5	750	2024-25	50
27		220KV SS Kakinada	2*160+1*100+1*50+1*80	2*160+1*100+2*50+1*80	700	2024-25	50
28		220KV SS Samalkota	3*100+2*31.5	1*100+2*160+2*31.5	4,500	2024-25	120
29		220KV SS Ramavaram	2*100+2*31.5	1*160+2*100+1*50+1*31.5	2,600	2024-25	178.5
30		132KV SS Pratap Nagar	2*31.5 + 1*50	1*31.5+1*50+1*80	1,000	2024-25	48.5
31		132KV SS Silk Road Sugars	1*31.5+1*25	1*31.5+1*50+1*25	700	2024-25	50
32		132KV SS Biccavolu	1*16+1*25+1*31.5	1*50+1*25+1*31.5	500	2024-25	34
33		132KV SS Prathipadu	2*31.5 + 1*16	2*31.5+1*50	500	2024-25	34
34		132KV SS Gollapalem	2*31.5	1*31.5+1*50	700	2024-25	18.5
35	Eluru	132KV SS Eluru	1*80+1*50	2*80	968	2024-25	30
36		220KV SS Bhimadole	2*160+1*100+2*50+1*80	3*160+1*50+2*80	2,468	2024-25	90
37		132KV SS PTPalli	3*50	1*80+2*50	968	2024-25	30
38		132KV SS Saggonda	2*31.5+1*16	2*31.5+1*50	605	2024-25	34
39		132KV SS Kovvuru	2*31.5	1*31.5+1*50	605	2024-25	18.5
40		220KV SS Pallantla	1*100+2*31.5	1*100+1*160+2*31.5	1,400	2024-25	160
41		132KV SS Penugonda	2*31.5	1*50+1*31.5	527	2024-25	18.5
42		220KV SS Duvva	2*100+ 2*31.5	2*100+1*50+1*31.5	527	2024-25	18.5
43		220/132KV SS Nidadavole	1*160+2*100	2*160+1*100	1,219	2024-25	60
44		132/33KV SS Yernagudem	2*31.5	2*31.5+1*50	605	2024-25	50
45		220KV SS Undi	2*50+2*31.5	3*50+1*31.5	734	2024-25	50
46	400KV Circle	400/220KV SS Maradam	2*315+1*500	28315+2*500	-	2024-25	500
Total (2024-25)					40407		
FY 2025-26							
1	Srikakulam	132KV SS Palasa	2*31.5	1*31.5+1*50	605	2025-26	18.5
2		132KV SS Narasannapeta	2*31.5	1*31.5+1*50	605	2025-26	18.5
3		130KV SS Chilakapalem	1*31.5+1*50	2*50	605	2025-26	18.5
4		132KV SS Palakonda	2*31.5	1*31.5+1*50	605	2025-26	18.5

5	Vizianagaram	220/132/33kV Garividi SS	2*160+1*100+1*31.5+1*50	2*160+1*100 +2*50	625	2025-26	18.5
6		220/132KV SS SIMHACHALAM	2*100	1*160+1*100	1,500	2025-26	60
7		132 kV SS Simchalam	2*31.5+2*16	2*31.5+1*50 +1*16	440	2025-26	34
8		220KV Parawada	3*100+3*50+1*80	1*160+2*100+ 3*50+1*80	1,500	2025-26	60
9		220KV Brandix SS	3*100+2*50+1*16	2*100+1*160 +2*50+1*16	1,408	2025-26	60
10	Visakhapatnam	132KV VSEZ SS	2*31.5	2*31.5+1*50	300	2025-26	18.5
11		132KV Malkapuram SS	1*31.5+1*16	1*31.5+1*50	704	2025-26	34
12		132KV SS Narsipatnam	1*16+1*31.5+1*15	1*16+1*31.5 +1*50	220	2025-26	35
13			2*31.5+1*16	2*31.5+1*50	260	2025-26	34
14		132KV SS Narsinghbilli	1*31.5+1*16	1*31.5+1*50	220	2025-26	34
15		220KV SS Kakinada	2*160+1*100+1*50+1*80 +1*31.5	3*160+1*50+ 1*80 +1*31.5	1,600	2025-26	60
16	Rajamahendravaram	220KV SS Ramavaram	1*160+2*100+1*50+1*31.5	1*100+2*160 +2*50	2,300	2025-26	78.5
17		132KV SS Pithapuram	1*50+1*31.5	2*50	750	2025-26	18.5
18		132KV SS Ramchandrapuram	1*50+2*31.5	2*50+1*31.5	750	2025-26	18.5
19		132KV SS Dwaraka Tirumala	2*31.5	1*31.5+1*50	666	2025-26	18.5
20		132KV SS Nallajerla	1*50+1*80	2*80	968	2025-26	30
21		132KV SS Narayanapuram	2*31.5	1*31.5+1*50	726	2025-26	18.5
22		132KV SS Kovvuru	1*31.5+1*50	2*50	666	2025-26	18.5
23	Eluru	220KV SS Duvva	2*100+1*50+1*31.5	2*100+2*50	666	2025-26	18.5
24		132KV SS Tanuku	1*31.5+1*50+1*25	1*31.5+2*50	666	2025-26	25
25		132KV SS Bhimvaram	2*50+1*80	1*50+2*80	666	2025-26	30
26		220/33KV SS Akiveedu	1*80+1*50	2*80	968	2025-26	30
Total (2025-26)					20,989		
FY 2026-27							
1	Srikakulam	132KV SS Pydibhimavaram	2*50	1*50+1*80	968	2026-27	30
2	Vizianagaram	220/132/33kV Bobbili SS	1*160+3*100+1*16+1*31.5	2*160+2*100+ 1*16+1*31.5	1,559	2026-27	60
3		132/33kV Bobbili SS	1*31.5+1*50	2*50	646	2026-27	18.5
4		132KV SS Commonpoint	1*31.5+1*50	2*50	605	2026-27	18.5
5	Visakhapatnam	132KV/33KV Araku SS	1*16+1*15	1*16+1*50	440	2026-27	35
6		132KV/33KV Paderu SS	1*16+1*15	1*16+1*50	440	2026-27	35

7		132KV Port SS	2*31.5	1*50+1*31.5	605	2026-27	18.5
8		220/132/33 KV Pendurthi ss	2*31.5	1*50+1*31.5	299	2026-27	18.5
9		220/132/33 KV Dairyfarm ss	3*50	1*80+2*50	315	2026-27	30
10		132KV SS Anandapuram	1*50+2*31.5	2*50+1*31.5	726	2026-27	18.5
11	Rajamahendravaram	220KV SS Samalkota	1*100+2*160+2*31.5	1*100+2*160+ 1*31.5+1*50	800	2026-27	18.5
12		132KV SS Pratap Nagar	1*31.5+1*50+1*80	2*50+1*80	800	2026-27	18.5
13		132KV SS Silk Road Sugars	2*31.5+1*25	2*31.5+1*50	800	2026-27	25
14		132KV SS Peddapuram	3*31.5	2*31.5+1*50	900	2026-27	18.5
15	Eluru	132KV SS Jangareddygudem	3*50	2*50+1*80	1,056	2026-27	30
16		132KV SS Eluru	1*80+1*50	2*80+1*50	666	2026-27	80
17		132KV SS PTPalli	1*80+2*50	2*80+1*50	968	2026-27	18.5
18		132KV SS Saggonda	2*31.5+1*50	1*31.5+2*50	726	2026-27	18.5
19		132KV SS Tanuku	1*31.5+2*50	3*50	726	2026-27	18.5
20		132KV SS Penugonda	1*50+1*31.5	2*50	726	2026-27	18.5
21		220/132KV SS Nidadavole	2*160+1*100	3*160	1219	2026-27	60
22		132/33KV SS Yernagudem	3*31.5	1*50+2*31.5	734	2026-27	18.5
23		220KV SS Undi	3*50+1*31.5	4*50	734	2026-27	18.5
24	400KV Circle	400 KV SS Vemagiri	3*315+1*500	2*315+2*500	1,500	2026-27	185
Total (2026-27)					18,958		
FY 2027-28							
1	Srikakulam	132KV SS Ichapuram	1*16+1*31.5	2*31.5	440	2027-28	15.5
2		132KV SS Pathapatnam	1*16+1*31.5	1*31.5+1*50	440	2027-28	34
3		220KV SS Tekkali	3*100+1*31.5+1*50	3*100+2*50	605	2027-28	18.5
4	Vizianagaram	220/132/33kV Bobbili SS	2*160+2*100+1*16+1*31.5	2*160+2*100+ 1*50+*31.5	485	2027-28	34
5	Visakhapatnam	132KV Simhachalam SS	4*31.5+1*16	4*31.5+1*50	440	2027-28	34
6	Rajamahendravaram	220KV SS Kakinada	3*160+1*50+1*80 +1*31.5	3*160+2*50 +1*80	900	2027-28	18.5
7		220KV SS Ramavaram	1*100+2*160 MVA +2*31.5	1*100+2*160+ 1*31.5+1*50	900	2027-28	18.5
8		132KV SS Biccavolu	1*31.5+1*25+1*50	1*31.5+2*50	900	2027-28	25
9		132KV SS Gollapalem	1*31.5+1*50	1*31.5+2*50	800	2027-28	50
10	Eluru	132KV SS Saggonda	1*31.5+2*50	3*50	787	2027-28	18.5
11		220KV SS Duvva	2*100+2*50	1*160+1*100 +2*50	1,773	2027-28	60

12	400 KV Circle	400kV SS K.Kota	2*315	2*315+1*500	3,000	2027-28	500
13		400 KV SS Vemagiri	2*315+2*500	1*315+3*500	2,000	2027-28	18.5
Total (2027-28)					13,470		
FY 2028-29							
1	Srikakulam	220KV SS Tekkali	3*100+2*50	2*100+1*160+2*50	1,500	2028-29	60
2		132KV SS Rajam	1*16+1*31.5	1*50+1*31.5	440	2028-29	34
3		132KV SS Palakonda	1*31.5+1*50	2*50	605	2028-29	18.5
4		220KV SS Pydibhimavaram	1*100+2*160+2*31.5	1*100+2*160+1*31.5+1*50	605	2028-29	18.5
5	Vizianagaram	132/33kV Salur SS	1*16+1*31.5	1*50+1*31.5	501	2028-29	34
6		132/33kV G.Chodavaram SS	2*31.5	1*31.5+1*50	689	2028-29	18.5
7	Visakhapatnam	132KV Port SS	1*50+1*31.5	2*50MVA	605	2028-29	18.5
8	Rajamahendravaram	132KV SS Silk Road Sugars	3*31.5	2*31.5+1*50	900	2028-29	18.5
9		132KV SS Prathipadu	3*31.5	2*31.5+1*50	900	2028-29	18.5
10	Eluru	220KV SS Pallantla	2*100+2*31.5	2*100+1*50+1*31.5	847	2028-29	18.5
11		132KV SS Narasapuram	1*80+1*50	2*80	968	2028-29	30
12	400 KV Circle	400 KV SS Vemagiri	1*315+3*500	4*500	2,000	2028-29	185
Total (2028-29)					10,560		

4.9 Augmentation of Substations in Vijayawada Zone

Sl. No.	District	Name of the SS	Augmentation of PTRs from MVA	Augmentation of PTRs to MVA	Estimated cost Rs. Lakhs	Year
FY 2024-25						
1	Krishna	132KV SS Bhavanipuram	1*31.5+ 1*50	2*50	567	2024-25
2		220KV SS Gunadala	1*100 +2*160	1*100 +3*160	660	2024-25
3		132KVSS Narasapuram	2*31.5	2*50	1,135	2024-25
4		220KVSS Nunna	1*31.5+ 2*50	2*50+ 1*80	567	2024-25
5		132KV SS Pamarru	2*50	3*50	567	2024-25
6		220KV SS Gudivada	2*160+ 1*100	3*160	920	2024-25
7.	Guntur	220KV SS Prathipadu	2*100+1*160	1*100+2*160	1000	2024-25

8.		220KV SS Narasaraopeta	3*31.5	2*31.5+1*50	500	2024-25	
9.		220KV SS Rentachintala	3*100 + 2*16+1*15	2*100+1*160 + 2*16+1*50	1,300	2024-25	
10.		132KV SS Bapatla	1*16+2*31.5	1*50+2*31.5	400	2024-25	
11.		132KV SS Chakrayapalem	1*16+1*31.5	1*16+2*31.5	400	2024-25	
12.		132KV SS AIIMS	1*31.5	1*50+1*31.5	400	2024-25	
13.		132kV SS Macherla	2*50+1*31.5	3*50	500	2024-25	
14.		132KV SS Tangeda	3*16	2*16+1*31.5	400	2024-25	
15.		132KV SS Rentapalla	2*31.5+1*16	2*31.5+1*50	600	2024-25	
16.	Prakasam	220KV SS Markapur	3*100	2*100+1*160	1289.97	2024-25	
17.		220KV SS Kandukur	2*100	2*100+1*160	879.41	2024-25	
18.		220KV SS Podili	2*100	2*100+1*160	879.41	2024-25	
19.		132KV SS Yerragondapalem	2*50	3*50	367.14	2024-25	
20.		132KV SS Kandukur	1*50+1*31.5	2*50	575.99	2024-25	
21.		132KV SS Pedda Dornala	2*16	2*16+1*50	382.91	2024-25	
22.	Nellore	220/132kV SS Atmakur	2*100	2*100+1*160	1,089.5	2024-25	
23.		220KVSS Nellore	3*50	2*50+1*80	368.8	2024-25	
24.		132KVSS Brahmadevam	2*31.5+1*50	1*31.5+2*50	523	2024-25	
25.		132/33KV SS Venkatagiri	1*31.5+1*50	2*50	340	2024-25	
26.		220KVSS Sullurpeta	3*100	2*100+1*160	748.5	2024-25	
27.		220KV SS Naidupeta	2*100	2*100+1*160	549	2024-25	
	Tentative Cost for Augmentation of PTRs in Vijayawada Zone during 2024-25			17909.63	2024-25		
FY 2025-26							
1	Krishna	220KV SS Chillakallu	2*31.5+1*16	2*31.5+1*50	615	2025-26	34
2		220KVSS Nuzvid	1*160+ 2*100	2*160+1*100	997	2025-26	60
3		220KV SS Gudivada	3*50	1*80+2*50	691	2025-26	30
4		132KVSS Avanigadda	2*31.5	1*50+1*31.5	615	2025-26	18.5
5		132KV SS Chigurukota	3*50	1*80+ 2*50	691	2025-26	30

6	Guntur	220KV SS Narasaraopeta	2*100+1*160	1*100+2*160	900	2025-26	60
7		132KV SS Guntur	2*80+1*50	3*80	650	2025-26	30
8		132KV SS Tadepalli	2*31.5+1*50	1*31.5+2*50	600	2025-26	18.5
9		132KV SS Gujjanagundla	3*31.5	1*31.5+2*50	1200	2025-26	37
10		132KV SS Yadavalli	1*31.5+1*15	1*31.5+1*50	450	2025-26	35
11		132KV SS Karampudi	3*31.5	2*31.5+1*50	500	2025-26	18.5
12		132kV SS Macherla	3*50	2*50+1*80	600	2025-26	30
13		132KV SS Vinukonda	2*31.5+1*50	1*31.5+2*50	600	2025-26	18.5
14		132KV SS Veldurthy	2*16+1*31.5	1*16+1*31.5+1*50	600	2025-26	34
15	Prakasam	220KV SS Ongole	2*160+1*100	3*160	1332.79	2025-26	60
16		220KV SS Parchur	1*160+2*100	2*160+1*100	1332.79	2025-26	60
17		220KV SS Markapur	2*31.5	1*50+1*31.5	595.11	2025-26	18.5
18		132KV SS Chirala	3*31.5	1*50+3*31.5	702.35	2025-26	50
19		132KV SS Ongole	1*31.5+1*16	1*31.5+1*50	395.62	2025-26	34
20		132KV SS Kanigiri	1*50+1*31.5	2*50	595.11	2025-26	18.5
21		132KV SS Giddalur	2*31.5	1*50+1*31.5	595.11	2025-26	18.5
22	Nellore	132/33kV SS Udayagiri	2*16+1*50	1*16+2*50	282.6	2025-26	34
23		132 KVSS NV GARDENS	3*31.5+1*50	2*31.5+2*50	560.0	2025-26	18.5
24		132KVSS Gottiprolu	2*31.5	1*31.5+1*50	523	2025-26	18.5
	Tentative Cost for Augmentation of PTRs in Vijayawada Zone during 2025-26			16623.48	2025-26		
FY 2026-27							
1	Krishna	132KV SS Machilipatnam	3*50	1*80+2*50	745	2026-27	30
2.	Guntur	220KV SS Prathipadu	2*160+1*100	3*160	1100	2026-27	60
3		220KV SS Narasaraopeta	2*31.5+1*50	1*31.5+2*50	500	2026-27	18.5
4		220KV SS Rentachintala	2*100+1*160+2*16+1*50	1*100+2*160+1*16+2*50	1300	2026-27	94
5		132KV SS Nallapadu	3*31.5	1*31.5 + 2*50	1400	2026-27	37
6		132KV SS Marripalem	3*31.5	1*31.5 + 2*50	1400	2026-27	37
7		132KV SS Tadepalli	1*31.5+2*50	3*50	650	2026-27	18.5
8		132kV SS Repalle	1*31.5+1*50	2*50	650	2026-27	18.5
9		132KV SS Gujjanagundla	1*31.5+2*50	3*50	650	2026-27	18.5
10		132KV SS Tangeda	2*16+1*31.5	1*16+2*31.5	400	2026-27	15.5

11		132KV SS Rentapalla	1*50+2*31.5	2*50+1*31.5	600	2026-27	18.5
12		132KV SS Veldurthy	1*16+1*31.5+1*50	1*31.5+2*50	600	2026-27	34
13	Prakasam	220KV SS Parchur	1*31.5+1*16	1*31.5+1*50	408.75	2026-27	34
14		220KV SS Markapur	1*160+2*100	2*160+1*100	1377.04	2026-27	60
15		132KV SS Medarametla	1*50+2*31.5	2*50+1*31.5	614.87	2026-27	18.5
16		132KV SS Pedda Dornala	2*16+1*50	1*16+2*50	408.75	2026-27	34
17		132KV SS Inkollu	2*16	1*50+1*16	408.75	2026-27	34
18		132KV SS Martur	1*50+2*31.5	2*50+1*31.5	614.87	2026-27	18.5
19	Nellore	132/33kV SS Vinjamur	2*31.5	1*31.5+1*50	600.3	2026-27	18.5
20		220 KV SS Racharlapadu	2*100	1*100+1*160	1019.7	2026-27	18.5
21		220 KV SS Racharlapadu	2*31.5	1*31.5+1*50	226.9	2026-27	18.5
22		132KV SS Dagadarthi	1*31.5	1*31.5+1*50	226.9	2026-27	50
23		132KVSS Allur	1*31.5+1*50	2*50	226.9	2026-27	18.5
24		132KVSS Kavali	1*31.5+2*50	3*50	226.9	2026-27	18.5
25		220KVSS Nellore	2*50+1*80	1*50+2*80	405.5	2026-27	30
26		132/33kV SS Gudur	2*31.5+1*25+1*16	2*31.5+2*50	350.0	2026-27	59
27		132/33KV SS Menakur	1*31.5+1*50	2*50	560.0	2026-27	18.5
28		132KVSS Adurupalli	2*31.5+1*16	2*31.5+1*50	226.9	2026-27	34
29		132KVSS Naidupeta	1*31.5+1*50	2*50	557.0	2026-27	18.5
	Tentative Cost for Augmentation of PTRs in Vijayawada Zone during 2026-27			18455.03	2026-27		
FY 2027-28							
1	Krishna	132KVSS Avanigadda	1*50+1*31.5	2*50	709	2027-28	18.5
2	Guntur	220KV SS Narasaraopeta	1*100+2*160	3*160	900	2027-28	60
3		132KV SS Chilakaluripeta	3*50	2*50 + 1*80	700	2027-28	30
4		132KV SS Nallapadu	1*31.5 + 2*50	3*50	750	2027-28	18.5
5		132KV SS Marripalem	1*31.5 + 2*50	3*50	750	2027-28	18.5
6		132KV SS Ponnur	2*31.5	2*50	1500	2027-28	37
7		132KV SS Karampudi	2*31.5+1*50	1*31.5+2*50	500	2027-28	18.5
8		132kV SS Macherla	2*50+1*80	1*50+2*80	600	2027-28	30
9		132KV SS Vinukonda	1*31.5+2*50	3*50	600	2027-28	18.5
10		132KV SS Veldurthy	1*31.5+2*50	3*50	600	2027-28	18.5

11	Prakasam	220KV SS Kandukur	2*100 +1*160	2*160+1*100	1422.76	2027-28	60
12		220KV SS Markapur	1*50+1*31.5	2*50	635.28	2027-28	18.5
13		132KV SS Tangutur	2*31.5	2*31.5+1*50	404.94	2027-28	50
14		132KV SS Kandukur	2*50	3*50	843.67	2027-28	50
15		132KV SS Giddalur	1*50+1*31.5	2*50	635.28	2027-28	18.5
16	Nellore	220/132kV SS Atmakur	2*100+1*160	1*100+2*160	1,473.1	2027-28	60
	Tentative Cost for Augmentation of PTRs in Vijayawada Zone during 2027-28			13024.03	2027-28		
FY 2028-29							
1	Krishna	220KV SS Kondapalli	2*160+ 1*100	3*160	1,227	2028-29	69
2		132KV SS Kambhampadu	1*50+ 2*31.5	2*50+1*31.5	757	2028-29	18.5
3		220KV SS Chillakallu	3*100	2*100+1*160	1,227	2028-29	60
4		132KV GIS Moghalrajpuram	2*31.5	1*50 +1*31.5	757	2028-29	18.5
5	Guntur	220KV SS Narasaraopeta	1*31.5+2*50	3*50	500	2028-29	18.5
6		220KV SS Rentachintala	1*100+2*160+ 1*16+2*50	3*160+ 3*50	1300	2028-29	94
7		132KV SS Chilakaluripeta	2*50 + 1*80	1*50 + 2*80	800	2028-29	30
8		132KV SS Tangeda	1*16+2*31.5	3*31.5	400	2028-29	15.5
9		132kV SS Piduguralla	2*31.5+1*50	2*31.5+1*80	800	2028-29	30
10		132KV SS Rentapalla	2*50+1*31.5	3*50	400	2028-29	18.5
11	Prakasam	132KV SS Ongole	1*31.5+1*50	2*50	418.38	2028-29	18.5
12		132KV SS Martur	2*50+1*31.5	3*50	656.37	2028-29	18.5
13		132KV SS Kesinenipalli	2*31.5+1*16	3*31.5	436.35	2028-29	15.5
14		132KV SS Anumalapalli	1*31.5+1*16	2*31.5	436.35	2028-29	15.5
15		132KV SS Cumbum	2*31.5+1*16	3*31.5	436.35	2028-29	15.5
16	Nellore	132/33kV SS A.Sagaram	1*16+1*25	1*31.5+1*25	345.4	2028-29	15.5
17		220KVSS Nellore	3*160	4*160	1,133	2028-29	160
18		132/33kV SS Rapur	3*16	2*16+1*31.5	420	2028-29	15.5
	Tentative Cost for Augmentation of PTRs in Vijayawada Zone during 2028-29			12,450.20		2028-29	

4.10 AUGMENTATION OF POWER TRANSFORMERS FOR 5TH CONTROL PERIOD IN KADAPA ZONE

10	District	Name of the substation	Augmentation of PTRs proposed from (MVA)	Augmentation PTRs proposed to (MVA)	Estimated cost Rs. Lakhs	Target year of commissioning	MVA Addition
FY 2024-25							
1	Chittoor	132KV SS Nagalapuram	2*31.5	1*50+1*31.5	605.00	2024-2025	18.5
2		132KV SS Pakala	1*31.5+1*50	2*50	605.00	2024-2025	18.5
3		132KV SS K.P.Mitta	1*80+1*50	1*80+2*50	880.00	2024-2025	50
4		132KV SS N.G.Palli	2*31.5	1*50+1*31.5	605.00	2024-2025	18.5
5		132KV SS Punganur	2*50	3*50	750.00	2024-2025	50
6		132KV SS Ramasamudram	1*31.5+1*16	2*31.5	440.00	2024-2025	15.5
7		220KV SS Kalikiri	3*100+ 2*31.5 +1*50	2*100+1*160+2*50+1*31.5	1969.00	2024-2025	78.5
8		132KV SS Gurramkonda	1*50+1*31.5	2*50	605.00	2024-2025	18.5
9	Kadapa	132KVSS Pulivendula	1*31.5+1*50	2*50	597.99	2024-2025	18.5
10		220KVSS Tirumalayapalli	2*160	2*160+2*31.5	1063.89	2024-2025	63
11		220KVSS Kadapa	1*160+2*100+2*50	1*160+2*100+1*50+1*80	630.00	2024-2025	30
12		220KVSS Kodur	2*31.5+1*50	1*31.5+2*50	595.00	2024-2025	18.5
13		220KVSS Mydukur	2*31.5+1*50	1*31.5+2*50	460.00	2024-2025	18.5
14		132KVSS Sambepalli	3*16	1*31.5+2*16	220.00	2024-2025	15.5

15		132KVSS Kalasapadu	1*16+1*31.5	1*31.5+1*31.5	220.00	2024- 2025	15.5
16		132KVSS T.Sundupalli	2*16	1*31.5+1*16	220.00	2024- 2025	15.5
17	Anantapur	132 KVSS LEPAKSHI	2*16	2*16 +1*31.5+1*31.5	1063.89	2024-25	63
18		132 KVSS Jammalabanda	1*31.5+1*50	2*50	597.99	2024-25	18.5
19		132 KVSS Amarapuram	2*16	1*16+1*31.5	531.95	2024-25	15.5
20		132 KVSS Madakasira	2*16	1*16+1*31.5	531.95	2024-25	15.5
21		220KV SS Kalyandurg	3*100+3*50 (PTR - II)	3*100+1*80+2*50	670.72	2024-25	30
22		220KV SS Anantapuramu	3*100 (PTR-III)	1*160+2*100	1478.10	2024-25	60
23		220KV SS Anantapuramu	1*80+2*50+1*31.5 (PTR - II)	2*80+1*50+1*31.5	670.72	2024-25	30
24		132KV SS GUNTAKAL	2*31.5	1*50+1*31.5	597.99	2024-25	18.5
25		132KV SS Uravakonda	2*31.5	1*50+1*31.5	597.99	2024-25	18.5
26		220KV SS Nandyal	1*160+2*100 +3*50	2*160+1*100+ 2*50+1*80	1772.00	2024-25	90
27	Kurnool	132KV SS Atmakur	2*31.5	2*31.5+1*50	734.00	2024-25	50
28		132KV SS Rudravaram	2*31.5	2*31.5+1*50	734.00	2024-25	50
29		132KV SS Ankireddypalli	1*31.5+1*16	1*31.5+1*50	585.00	2024-25	34
30		132 KV SS Dhone	2*31.5	1*31.5+1*50	495.00	2024-25	18.5
31		132 KV SS Kurnool	2*31.5+1*16	2*31.5+1*50	495.00	2024-25	34

32		220 KV SS AP Carbides, Kurnool	2*160+1*100 +2*31.5	3*160+1*100+ 2*31.5	933.00	2024-25	160
33	400Kv Circle	400KV SS Uravakonda	2*315+2*500	4*500	7000.00	2024-25	185
34		400KV SS Talaricheruvu	3*315	3* 500	12000.00	2024-25	555
35		400KV SS Rachagunner	2*315	2*315+1*500	-	2024-25	500
36		400KV SS Kalikiri	2*315	2*315+1*500	-	2024-25	500
37		400KV SS Rachagunner	2*315+1*500	2*315+2*500	-	2024-25	500
Total for FY 2024-25					41955.18		
FY2025-26							
1	Chittoor	220KV SS Renigunta	1*160+2*100 +3*31.5	2*160+1*100+3*31.5	1,500.00	2025-2026	60
2		132KV SS Srikalahasti	2*31.5+1*50	1*31.5+2*50	666.00	2025-2026	18.5
3		132KV SS Tirupati	2*50	1*50+1*80	968.00	2025-2026	30
4		132KV SS Chandragiri	1*31.5+1*16	2*31.5	484.00	2025-2026	15.5
5		132KV SS Irala	1*31.5+1*16	1*31.5+1*50	666.00	2025-2026	34
6		220KV SS Palamaneru	1*160+2*100 + 1*50+1*80	1*160+2*100 + 2*50+1*80	760.00	2025-2026	50
7		220KV SS Kuppam	3*100	2*100+1*160	1,500.00	2025-2026	60
8		132KV SS Kuppam	3*50	2*50+1*80	968.00	2025-2026	30
9		132KV SS Madanapalli	2*50	3*50	800.00	2025-2026	50

10	Kadapa	220KVSS Kondapuram	2*100+2*31.5	1*100+1*160+2*31.5	1,478.10	2025- 2026	60
11		220KVSS Yerraguntla	1*160+2*100+ 2*31.5+1*16	1*160+2*100+3*31.5	531.95	2025- 2026	15.5
12		220KVSS Kadapa	1*160+ 2*100 + 1*50+1*80	1*160+2*100 + 2*80	630.00	2025- 2026	30
13	Anantapur	132KV SS Taticherla	1*50+1*31.5	2*50	597.99	2025- 2026	18.5
14		220KV SS Anantapuramu	1*160+2*100 (PTR 1)	2*160+1*100	1,478.10	2025- 2026	60
15	Kurnool	220KV SS Nandyal	2*160+1*100 + 2*50+1*80	2*160+1*100 + 2*50+1*80+1*31.5	801.00	2025- 2026	31.5
16		132KV SS Allagadda	2*50	3*50	860.00	2025- 2026	50
17		132KV SS Rudravaram	3*31.5	2*31.5+1*50	717.00	2025- 2026	18.5
18		132KV SS Banaganapalli	1*31.5+2*16	2*31.5+1*16	638.00	2025- 2026	15.5
19		132KV SS Mudigedu	2*16	1*31.5+1*16	638.00	2025- 2026	15.5
20		132KV SS Cement Nagar	2*31.5	1*31.5 +1*50	717.00	2025- 2026	18.5
21		132 KV SS Dhone	1*31.5 +1*50	2*50	540.00	2025- 2026	18.5
Total for FY 2025-26					17939.14		
FY2026-27							
1	Chittoor	220KV SS Renigunta	2*160+1*100 +3*31.5	2*160+1*100 +1*50+2*31.5	726.00	2026- 2027	18.5
2		220KV SS Nagari	3*100 + 3*31.5	2*100+1*160 + 2*31.5+1*50	2,363.00	2026- 2027	78.5
3		132KV SS Nagalapuram	2*31.5	1*31.5+1*50	726.00	2026- 2027	18.5

4		132KV SS Pakala	1*50+1*31.5	2*50+1*31.5	900.00	2026-2027	50
5		132KV SS N.G.Palli	2*31.5	1*31.5+1*50	726.00	2026-2027	18.5
6		132KV SS Punganur	2*50	1*50+1*80	1,056.00	2026-2027	30
7		132KV SS Santhipuram	1*50+1*80	2*50+1*80	726.00	2026-2027	50
8		132KV SS Burakayalakota	2*31.5+1*50	2*50+1*31.5	726.00	2026-2027	18.5
9		220KV SS Kalikiri	3*100 + 2*31.5 +1*50	2*100+1*160 2*50+1*31.5	2,363.00	2026-2027	78.5
10		132KV SS Gurramkonda	1*50+1*31.5	2*50+1*31.5	900.00	2026-2027	18.5
9	Kadapa	132KVSS Duvvur	1*16+1*31.5	2*31.5	260.00	2026-2027	15.5
10		132KVSS Badvel	1*31.5 +2*16	2*31.5 + 1*16	260.00	2026-2027	15.5
11		220KVSS Yerraguntla	1*160+2*100 +3*31.5	1*160+2*100+2*31.5+1*50	597.99	2026-2027	18.5
12	Anantapur	220KV SS Kalyandurg	3*100+1*80 + 2*50 (PTR-III)	1*160+2*100 + 1*80 + 2*50	1,478.10	2026-2027	60
13		132KV SS GUNTAKAL	1*50+1*31.5	2*50	597.99	2026-2027	18.5
14		132KV SS Uravakonda	1*50 + 1*31.5	2*50	597.99	2026-2027	18.5
15	Kurnool	132 KV SS Gudur	2*31.5	1*31.5+1*50	495.00	2026-2027	18.5
16	Chittoor	400KV SS Chittoor	3*315	2*315 + 1*500	3,000.00	2026-27	185
Total for FY 2026-27					18499.07		
FY2027-28							
1	Chittoor	132KV SS Srikalahasti	2*31.5+1*50	2*50+1*31.5	787.00	2027-2028	18.5

2		132KV Cherivi SS	2*50+1*31.5	3*50	787.00	2027- 2028	18.5
3		132KV Pachikapallam SS	2*31.5	1*50+1*31.5	787.00	2027- 2028	18.5
4		132KV Tirupati SS	2*50	1*50+1*80	1,144.00	2027- 2028	30
5		132KV Rompicherla SS	1*50+1*31.5	2*50	787.00	2027- 2028	18.5
6		220KV Chittoor SS	2*100+1*160 + 3*50	2*160+1*100 + 3*50	1,773.00	2027- 2028	60
7		132KV Penumur SS	2*31.5	1*50+1*31.5	787.00	2027- 2028	18.5
8		220KV Palamaneru SS	2*100+1*160 + 1*50+1*80	2*100+1*160 + 2*80	1,144.00	2027- 2028	30
9		132KV Ramasamudram SS	1*31.5+1*16	1*31.5+1*50	800.00	2027- 2028	34
10		220KV Madanapalli SS	3*100	2*100+1*160	1,773.00	2027- 2028	60
11	Kadapa	132KVSS Vempalli	2*31.5+1*16	3*31.5	531.95	2027- 2028	15.5
12		220KVSS kondapuram	1*100+1*160 +2*31.5	2*160+2*31.5	1,478.10	2027- 2028	60
13		132KVSS Lingala	1*31.5+2*16	2*31.5+1*16	531.95	2027- 2028	15.5
14		132KVSS Jammalamadugu	2*31.5	2*31.5+1*50	597.99	2027- 2028	50
15		220KVSS Chakrayapeta	2*100+1*16 +1*31.5	2*100+2*31.5	531.95	2027- 2028	15.5
16		220KVSS Kodur	1*31.5+ 2*50	3*50	650.00	2027- 2028	18.5
17		220KVSS Mydukur 220/33KV	1*31.5+2*50	1*31.5+1*50+1*80	630.00	2027- 2028	30
18		132KVSS Proddatur	2*31.5	3*31.5	531.95	2027- 2028	31.5
19	Kurnool	132KV Ankireddypalli SS	2*31.5	1*31.5+1*50	836.00	2027- 2028	31.5
20		132KV Mudigedu SS	1*31.5 +1*16	2*31.5	745.00	2027- 2028	15.5

21		220/11 KV SS Krishnagiri	3*21.5+1*50	3*21.5+2*50	600.00	2027-2028	50
22	Anantapur	400KV SS Hindupur	4*315	2*315+2*500	7,000.00	2027-28	50
Total for FY 2027-28					25233.89		
FY2028-29							
1	Chittoor	220KV SS Renigunta	1*160+2*100 + 3*31.5	2*160+1*100 2*31.5+1*50	2,757.00	2028-2029	78.5
2		220KV SS Nagari	3*100+3*31.5	3*100 + 2*31.5+1*50	847.00	2028-2029	18.5
3		132KV SS Puttur	1*50+1*31.5	1*50+2*31.5	716.00	2028-2029	31.5
4		132KV SS Chandragiri	1*31.5+1*16	1*31.5+1*50	847.00	2028-2029	34
5		132KV SS Alipiri	2*50+1*31.5	3*50	847.00	2028-2029	18.5
6		220KV SS Palamaneru	2*100+1*160 + 1*50+1*80	2*160+1*100 + 1*50+1*80	1,910.00	2028-2029	60
7		132KV SS Kuppam	3*50	2*50+1*80	1,232.00	2028-2029	30
8		132KV SS Madanapalli	2*50	1*50+1*80	1,232.00	2028-2029	30
9		220KV SS Kalikiri	3*100 + 2*31.5 +1*50	2*100+1*160 2*31.5+1*80	3,142.00	2028-2029	90
10		132KV SS Somala	2*31.5	1*31.5+1*50	847.00	2028-2029	18.5
11	Kadapa	132KVSS Balapanur	2*31.5	1*31.5+1*50	597.99	Mar-29	18.5
12		220KVSS Mydukur	1*31.5+1* 50 +1*80	2*50+1*80	480.00	Mar-29	18.5
13		220KVSS Yerraguntla	1*160+2*100+ 2*31.5+1*50	2*160+1*100+2*31.5+1*50	1,478.10	Mar-29	60
14	Anantapur	220KV SS Anantapuramu	2*160+1*100	3*160	1,478.10	Mar-29	60
15		220KV SS Anantapuramu	2*80+1*50+ 1*31.5	2*80+2*50	597.99	Mar-29	18.5
16		132KV SS GUNTAKAL	2*50	3*50	597.99	Mar-29	50

17	Kurnool	132KV SS Atmakur	3*31.5	2*31.5+1*50	896.00	Mar-29	18.5
18		132 KV SS Madhavaram	2*31.5	1*31.5+1*50	630.00	Mar-29	18.5
Total for FY 2028-29					21133.17		

Chapter – 5
Transmission Plan for 6th Control Period

5.1 Transmission Resource Plan from FY 2030 to FY2034

The objective of the Transmission Planning is to develop Transmission Expansion Plan based on the load forecast and generation supply scenario developed as part of the Power System Master Plan for the state of Andhra Pradesh. The purpose of this report is to present a comprehensive summary of the process, assumptions, methodology, transmission network expansion plan and investment required to ensure the transmission system which would be capable transmitting the planned generation to meet the forecast loads up to FY 2034. The proposed transmission system was evaluated for the load and generation conditions for FY 2034.

The transmission investment plan was prepared based on the transmission network expansion plan envisaged meeting load growth and various generation evacuation schemes 400 kV and 220 kV are depicted. The transmission expansion plan which includes 400 kV and 220 kV lines and Substations are also depicted. The 132 kV transmission plan comprises of 132 kV network is also prepared and depicted.

APTRANSCO has drawn up investment plans of Rs. 12920.7 Crs. in the period FY 2029-30 to FY 2033-34.

This investment includes 600 ckm of 765 kV, 254 ckm of 400 kV, 2253 ckm of 220 kV lines and 2278 ckm of 132 kV lines, 2 Nos. 765 KV Substations 6 Nos. of 400 kV substations, 37 Nos. of 220 kV substations and 43 Nos. of 132kV substations towards transmission expansion.

The standards adopted while conducting Load Flow studies for UHV (200KV and above) are shown in chapter Error! Reference source not found.

5.2 Investment plan 765KV, 400 kV and 220 KV

The year wise No. of substations, lines in ckm and corresponding investments Rs. **11991.4 Cr.** required for 765 KV, 400 kV, 220 kV & 132 KV systems arrived based on the cost data of APTransco are shown below.

FY	2029-30	2030-31	2031-32	2032-33	2033-34	Total
No. of 765 SS	1	1	0	0	0	2
Cost (Rs. in Crs.)	400	400				800
765KV Lines CkM		600				600
Cost (Rs. in Cr.)		3000				3000
No. of 400 kV Substations	1	2	1	1	1	6
Cost (Rs. in Crs.)	200	400	200	200	200	1200
400 kV Lines in CkM	40	32	102	40	40	254
Cost (Rs. in Crs.)	192	153.6	489.6	192	192	1219.2
No of 220 kV Substations	8	7	6	6	10	37
Cost (Rs. in Crs.)	360	315	270	270	450	1665
220 kV Lines in CkM	254	632	345	522	500	2253
Cost (Rs. in Crs.)	254	632	345	522	500	2253
No of 132 kV Substations	11	11	10	5	6	43
Cost (Rs. in Crs.)	275	275	250	125	150	1075
132 kV Lines in CkM	650	554	550	214	310	2278
Cost (Rs. in Crs.)	487.5	415.5	412.5	160.5	232.5	1708.5
Total SS & Line Cost (in Rs. Crs)	2113.35	5535.95	1967.1	1469.5	1724.5	12920.7

List of 765 KV Substations proposed for 6th CP from FY2029-30 to FY2033-34

Sl. No	District	Name of the SS	Voltage	No. of Transformers	MVA	Estimated cost Rs. Lakhs	Target year of Commissioning
1	Kadapa	M. Kambaladinne	765	2	3000	40000	2029-30
2	Prakasam	Ramaya-patnam	765	2	3000	40000	2030-31
TOTAL				4	6000	80000	

Sl. No.	Name of the Transmission Line	IC	Conductor Type	Ckt	Length in Ckt. KM	Estimated Cost Rs Lakhs	Target year of Commissioning	Present status of implementation
1	765 KV D/C line from M. Kambaladinne to Ramayapatnam	L	Hexa zebra	D/C	600	300000	2030-31	System studies to be done
TOTAL					600	300000		

5.3LIST of 400 KV, 220 KV and 132 KV substations from FY2029-30 to FY 2033-34

Sl. No	District	Name of the SS	Voltage	No. of ICTSs	MVA	Estimated cost Rs. Lakhs	Target year of Commissioning
400 kV Substations							
1	Visakhapatnam	Vizag - 2 SS	400	2	1000	20000	2029-30
2	Visakhapatnam	Gan-gavaram port	400	2	1000	20000	2030-31
3	East Godavari	GVK Bus extension for	400	4	2000	20000	2030-31

		400/220 KV SS					
4	Anantapur	Raya- durgam	400	2	1000	20000	2031- 32
5	Krishna	Machilipat- nam	400	3	1500	20000	2032- 33
6	Nellore	Nellore - 2	400	2	1000	20000	2033- 34
TOTAL				15	7500	1 20000	

220 kV Substations							
Sl No	District	SS Name	KV	No. PTR s	MV A	Esti- mated Cost in Rs. Lakhs	Target year of Commission- ing
1	Viziana- garam	T B Vara	220	2	320	4500	2029-30
2	Kurnool	Nandikotkur	220	2	320	4500	2029-30
3	Srikakulam	Srikakulam	220	2	320	4500	2029-30
4	YSR Kadapa	Proddatur	220	2	320	4500	2029-30
5	Guntur	Nagarjuna University	220	2	320	4500	2029-30
6	Kurnool	Banaganapalli	220	2	320	4500	2029-30
7	Krishna	Gunadala Extn	220	2	320	4500	2029-30
8	Guntur	Sakhamuru (220/33KV)	220	3	240	4500	2029-30
2480						36000	
1	Kurnool	Atmakur (KNL)	220	2	320	4500	2030-31
2	Anantapur	Guntakal	220	2	320	4500	2030-31
3	Chittoor	Gurramkonda	220	2	320	4000	2030-31
4	Kadapa	Sambepalli	220	2	320	4500	2030-31
5	Guntur	Mandadam	220	2	320	4500	2030-31
6	Srikakulam	Palakonda	220	2	320	4500	2030-31
7	Guntur	Bapatla	220	2	320	4500	2030-31

					2240	31500	
1	Chittoor	Srikalahasti	220	2	320	4500	2031-32
2	Guntur	Nowluru	220	2	320	4500	2031-32
3	Guntur	Venkatapalem	220	2	320	4500	2031-32
4	Guntur	Kuragallu	220	2	320	4500	2031-32
5	Nellore	Kavali	220	2	320	4500	2031-32
6	Prakasam	Giddalur	220	2	320	4500	2031-32
1920 27000							
1	West Godavari	P T Palli	220	2	320	4500	2032-33
2	Krishna	Kanumolu	220	2	320	4500	2032-33
3	East Godavari	Upgradation of 132 kV Kothapet to 220 Kv	220	2	320	4500	2032-33
4	Guntur	Thallayapalem	220	3	240	4500	2032-33
5	Visakhapatnam	Papayyapalem	220	2	200	4500	2032-33
6	Guntur	Uddandrayuni palem (220/33KV)	220	3	240	4500	2032-33
					1640	27000	
1	Guntur	Inavolu (220/33KV)	220	3	240	4500	2033-34
2	Krishna	Jakkampudi	220	2	320	4500	2033-34
3	Chittoor	Panjani	220	2	320	4500	2033-34
4	Chittoor	Penumur	220	2	320	4500	2033-34
5	Nellore	Adurupalli	220	2	320	4500	2033-34
6	Kurnool	Gopavaram Upgradation of 132 kV SS Rudravaram	220	2	320	4500	2033-34
7	Krishna	Machilipatnam	220	2	320	4500	2033-34
8	Visakhapatnam	VSEZ	220	2	320	4500	2033-34
9	Nellore	Krishnapatnam Port	220	2	320	4500	2033-34
10	Guntur	Neerukonda (220/33KV)	220	3	240	4500	2033-34
3040 45000							

5.4LIST OF 132 kV SUBSTATIONS PROPOSED DURING FY 2030-2034

Sl. No	District	Name of the SS	No. of Transformers	MVA	Estimated cost in Rs. Lakhs	Target year of Commissioning
1	Anantapur	Yadiki	2	100	2500	2029-30
2	Chittoor	Ramakuppam	2	100	2500	2029-30
3	East Godavari	Eleswaram	2	100	2500	2029-30
4	Guntur	Durgi	2	100	2500	2029-30
5	Krishna	Kollipara	2	100	2500	2029-30
6	Kurnool	Nandipadu	2	100	2500	2029-30
7	Nellore	Pellakuru	2	100	2500	2029-30
8	Prakasam	Ardaveedu	2	100	2500	2029-30
9	Srikakulam	Kasibugga	2	100	2500	2029-30
10	Visakhapatnam	Rayavaram	2	100	2500	2029-30
11	Vizianagaram	Duggeru	2	100	2500	2029-30

1100 27500

1	Anantapur	Singanamala	2	100	2500	2030-31
2	Chittoor	Putala Pattu	2	100	2500	2030-31
3	East Godavari	Rajavom-mangi	2	100	2500	2030-31
4	Guntur	Ipuru	2	100	2500	2030-31
5	Krishna	Kan-chikacherla	2	100	2500	2030-31
6	Kurnool	Uyyalavada	2	100	2500	2030-31
7	Nellore	Chintaladevi	2	100	2500	2030-31
8	Prakasam	Chundi	2	100	2500	2030-31
9	Srikakulam	Srikurmam	2	100	2500	2030-31
10	Visakhapatnam	Tallapalem	2	100	2500	2030-31
11	Vizianagaram	Naguru	2	100	2500	2030-31

1100 27500

1	Anantapur	Garladinne	2	100	2500	2031-32
2	Chittoor	Vadamala	2	100	2500	2031-32
3	East Godavari	Gokavaram	2	100	2500	2031-32
4	Guntur	Achampeta	2	100	2500	2031-32
5	Krishna	Janardanava-ram	2	100	2500	2031-32
6	Kurnool	Devanakonda	2	100	2500	2031-32
7	Nellore	Dugarajapat-nam	2	100	2500	2031-32

8	Prakasam	Pedda alvala- padu	2	100	2500	2031-32
9	Srikakulam	Chatram	2	100	2500	2031-32
10	Visakhapatnam	Kottakota	2	100	2500	2031-32

1000 25000

1	West Godavari	Guntupalli	2	100	2500	2032-33
2	West Godavari	Dwaraka Tirumala	2	100	2500	2032-33
3	Vizianagaram	Bhogapuram	2	100	2500	2032-33
4	Guntur	Nagulavaram	2	100	2500	2032-33
5	Krishna	Challapalle	2	100	2500	2032-33

500 12500

1	YSR Kadapa	Payalakunta	2	100	2500	2033-34
2	YSR Kadapa	Mogilipenta	2	100	2500	2033-34
3	YSR Kadapa	Obalam	2	100	2500	2033-34
4	Nellore	Bitragunta	2	100	2500	2033-34
5	Prakasam	Kommala- padu	2	100	2500	2033-34
6	West Godavari	Gopalapuram	2	100	2500	2033-34

600 15000

Chapter-6

Loadflow Results

6.1BUS REPORT FOR 2029 STUDY

Bus Number	Bus Name	Base kV	Zone Num	Zone Name	Voltage (kV)	Angle (deg)
508007	CUDP800	765	5011	KADAPA	782.4	-34
508028	KURL800	765	5013	KURNOOL	775.74	-31.4
508049	KURNOOL-III	765	5013	KURNOOL	771.14	-28.5
508091	SRI_POOL	765	5001	SRIKAKULAM	797.28	-27.3
508092	VEM-II80	765	5004	E GODAVARY	792.14	-34
508093	NELL-POL	765	5009	NELLORE	766.86	-31.4
508099	CPETA800	765	5007	GUNTUR	780.3	-34
504001	POLLAVAR HEP	400	5005	W GODAVARY	400	-42.1
504002	SEMBCORP 4	400	5009	NELLORE	400.03	-42
504003	NSAGAR	400	5007	GUNTUR	402.14	-37.7
504004	MADDIKERAS WS	400	5012	ANANTAPUR	400	-35.4
504005	VIJW	400	5006	KRISHNA	405.01	-40.6
504006	GAZW	400	5003	VIZAG	400	-38.4
504007	CUDP	400	5011	KADAPA	403.52	-33.6
504008	GOOT	400	5012	ANANTAPUR	403.7	-36.3
504010	GAZU-SR	400	5003	VIZAG	400	-38.4
504011	GMR_VMGR4	400	5004	E GODAVARY	404.17	-41.1
504012	GAUT_VMGR4	400	5004	E GODAVARY	404.53	-41.1
504013	KURNOOL4	400	5013	KURNOOL	402.06	-34.8
504014	SIMHADRI	400	5003	VIZAG	400	-38.3
504016	VIZPOOL	400	5003	VIZAG	399.85	-38.4
504017	VEMAGIR4	400	5004	E GODAVARY	404.17	-41.1
504018	TPCIL4	400	5009	NELLORE	400	-30.3
504019	NELLORE4	400	5009	NELLORE	400.83	-43.8
504020	AINAVILL 4	400	5004	E GODAVARY	401.62	-42.9
504024	CHITOR	400	5010	CHITTOOR	402.58	-45.2
504025	ANANTPUR	400	5012	ANANTAPUR	402.32	-18.9
504026	VIJ-AP	400	5007	GUNTUR	404.33	-39.9
504027	KRISH-AP	400	5009	NELLORE	400	-42.1
504028	KURL-NEW	400	5013	KURNOOL	402.02	-34.2
504029	GREENKO AP	400	5013	KURNOOL	401	-34.1
504030	VIJTP-IV	400	5006	KRISHNA	402.65	-39.9
504031	POTHRDYPAD U4	400	5013	KURNOOL	399.32	-35.1
504032	PANYAM	400	5013	KURNOOL	400.93	-34.9
504035	RACHAGUNNERI	400	5010	CHITTOOR	400.3	-45.7
504037	THALAYAPALE M	400	5007	GUNTUR	403.49	-40.1
504039	MARADAM	400	5002	VIZIANAGARAM	401.84	-38.4
504040	GUDDIGUDEM	400	5005	W GODAVARY	400.46	-42.3
504042	HINDPR40	400	5012	ANANTAPUR	398.93	-34.9

504044	JEGUR_VMGR 4	400	5004	E GODAVARY	404.18	-41.1
504045	BURUGUBAN LI	400	5007	GUNTUR	404.5	-40.2
504048	ACHUTHAPUR AM	400	5003	VIZAG	398.53	-39.4
504049	KURNOOL-III	400	5013	KURNOOL	400	-24
504050	NPKUNTA	400	5012	ANANTAPUR	400	-32.6
504057	MUDN400	400	5011	KADAPA	411.79	-46.2
504081	PODLI	400	5008	PRAKASAM	403.18	-42.9
504083	TALARICH	400	5012	ANANTAPUR	404.91	-35.5
504084	KAKINADA SEZ	400	5004	E GODAVARY	401.15	-40.7
504085	U_SILER PSP4	400	5003	VIZAG	400	-38.6
504088	LANCO-OA	400	5006	KRISHNA	405.13	-40.6
504089	SIMHP-OA	400	5009	NELLORE	400	0
504090	MENAK-OA	400	5009	NELLORE	400	0
504091	SRI_POOL	400	5001	SRIKAKULAM	413.96	-30.1
504092	VEMAG-II	400	5004	E GODAVARY	408.76	-38.4
504093	NEL-POOL	400	5009	NELLORE	400.62	-31.4
504094	NCCPPL	400	5009	NELLORE	400	-30.3
504098	HINDJ-OA	400	5003	VIZAG	400	-38.2
504099	CPETA400	400	5007	GUNTUR	406.04	-37.6
504103	NELLORE-AP	400	5009	NELLORE	400.83	-43.8
504111	KVKOTA 4	400	5005	W GODAVARY	402.1	-42.3
504132	KONDPRM	400	5011	KADAPA	406.13	-35.5
504133	URVKND	400	5012	ANANTAPUR	401.86	-35.9
504177	KONAS_VMGR 4	400	5004	E GODAVARY	402.14	-42.8
504204	KALIKIRI	400	5010	CHITTOOR	406.42	-46.1
504403	GUDEVADA	400	5006	KRISHNA	403.28	-42.4
504404	RAMAYAPATN AM	400	5008	PRAKASAM	399.68	-45.1
504996	FSC-1	400	5012	ANANTAPUR	398.85	-31.2
504997	FSC-2	400	5012	ANANTAPUR	397.83	-32
504998	FSC-3	400	5011	KADAPA	391.07	-30.9
504999	FSC-4	400	5011	KADAPA	391.07	-30.9
502001	MRSV 2	220	5003	VIZAG	219.4	-42.6
502002	ATCH_PRMGIS2	220	5003	VIZAG	217.56	-42.9
502003	DHARMAVRA M2	220	5012	ANANTAPUR	217.61	-39.7
502004	SGAL_SMLKT 2	220	5004	E GODAVARY	217.18	-45.9
502005	NUNNA	220	5006	KRISHNA	218.42	-43.4
502006	VIZAGSS-PG	220	5003	VIZAG	219.61	-42.4
502007	CUDAPPAH	220	5011	KADAPA	218.69	-39
502008	GOOTYNEW	220	5012	ANANTAPUR	223.82	-37.8
502009	SIMHACHALA M2	220	5003	VIZAG	217.29	-44.3
502010	KORUKONDA22 0	220	5004	E GODAVARY	217.49	-45.9
502011	BHAVANAPAD U	220	5001	SRIKAKULAM	214.51	-46.8

502012	SUNP_PALLI 2	220	5011	KADAPA	217.41	-37.1
502013	KURNOOL	220	5013	KURNOOL	219.68	-37.1
502014	GUDDIGUDEM	220	5005	W GODAVARY	217.02	-46.3
502015	THADIPUDI	220	5005	W GODAVARY	216.64	-46.5
502016	VZG	220	5003	VIZAG	220.46	-42.1
502017	VEMAGIRI	220	5004	E GODAVARY	217.93	-45.3
502018	MYLAVRM PS 4	220	5011	KADAPA	219.64	-35.4
502019	NELLORE2	220	5009	NELLORE	218.97	-48.2
502020	YMGR2	220	5013	KURNOOL	218.88	-38.9
502021	CHAKRAYPET 2	220	5011	KADAPA	219.03	-37
502022	GUTTAPADU 2	220	5013	KURNOOL	218.88	-37
502023	KOPPAKA 2	220	5005	W GODAVARY	216.59	-46.1
502024	CHITTOR	220	5010	CHITTOOR	222.11	-49.3
502025	RENIGUNTA	220	5010	CHITTOOR	217.41	-49
502026	CHITTORNEW	220	5010	CHITTOOR	223.74	-48.6
502027	PURUSHOTHAP A	220	5004	E GODAVARY	217.11	-46.2
502028	KRISHNAVARAM	220	5004	E GODAVARY	217.44	-45.7
502029	RACHAGUNNE RI	220	5010	CHITTOOR	217.99	-48.9
502030	VELDURTHYRT 2	220	5013	KURNOOL	219.33	-38.1
502031	ANANTAPUR	220	5012	ANANTAPUR	218.52	-39
502032	BHIMADOLU	220	5005	W GODAVARY	216.77	-46.5
502034	BOMMURU	220	5004	E GODAVARY	217.74	-45.5
502035	MEDEPALLI	220	5005	W GODAVARY	219.15	-45
502036	VEPKAYLDIBA2	220	5004	E GODAVARY	217.56	-45.6
502037	BRANDX(EXIMP	220	5003	VIZAG	217.38	-43.1
502038	GUNADALA	220	5006	KRISHNA	218.23	-43.5
502039	MARADAM1	220	5002	VIZIANAGARAM	219.59	-43.2
502040	GAZUWAKA	220	5003	VIZAG	217.87	-43.5
502041	GUNTUR2	220	5007	GUNTUR	220.18	-44.9
502042	HINDUPUR2	220	5012	ANANTAPUR	218.83	-36.4
502043	JEGURUPADU2	220	5004	E GODAVARY	217.62	-45.6
502044	KAKINADA	220	5004	E GODAVARY	214.77	-47.2
502045	KALIKIRI	220	5010	CHITTOOR	220.48	-47.3
502046	GOPAVARAM2	220	5006	KRISHNA	214.38	-47.2
502047	KOYYAL_GUD M2	220	5005	W GODAVARY	216.53	-46.6
502048	KODURU	220	5011	KADAPA	216.09	-46
502049	TIRUPATI 2	220	5010	CHITTOOR	216.47	-50.1
502050	LOWERSILERU	220	5004	E GODAVARY	220	-43.3
502051	RAJTVN_PLTD2	220	5003	VIZAG	217.1	-43.2
502052	KATHALURU 2	220	5011	KADAPA	218.95	-37
502055	CHINTURU 2	220	5004	E GODAVARY	219.68	-43.5
502056	M/S JAI RAJ2	220	5013	KURNOOL	218.82	-37
502057	RAYALASEMAT P	220	5011	KADAPA	220	-36.3

502058	MYDUKURU	220	5011	KADAPA	217.89	-40.3
502059	NANDYALA	220	5013	KURNOOL	217.13	-37.6
502060	MUTYALAPAD U2	220	5013	KURNOOL	217.04	-41
502061	NIDADAVOLU	220	5005	W GODAVARY	217.18	-46
502063	ONGOLU	220	5008	PRAKASAM	218.71	-47.1
502064	PARUCHURU	220	5008	PRAKASAM	221.73	-45.5
502065	PARWADA	220	5003	VIZAG	219.07	-42.7
502066	PENDURTI	220	5003	VIZAG	217.47	-44.5
502067	RAJAMPETA	220	5011	KADAPA	214.7	-44
502070	MYLVM PS1 22	220	5011	KADAPA	220	-35
502071	SULLURPET	220	5009	NELLORE	216.09	-50.6
502072	SOMAYAZALA PA	220	5013	KURNOOL	219.42	-36.2
502073	SRISAILAMRB	220	5013	KURNOOL	220	-39.9
502074	VIZAGSTEELPL	220	5003	VIZAG	219.52	-42.5
502075	TADIPATRI	220	5012	ANANTAPUR	220.75	-39.1
502076	TEKKALI	220	5001	SRIKAKULAM	214.7	-46.7
502077	UPPERSILERU	220	5003	VIZAG	220	-42.9
502078	MYLRM PS2 22	220	5011	KADAPA	219.99	-35.1
502079	MYLRM PS3 22	220	5011	KADAPA	219.5	-35.5
502080	YERRAGUNTLA	220	5011	KADAPA	218.74	-36.8
502081	PODILI	220	5008	PRAKASAM	221.27	-45.8
502082	AMMAVRPLY 2	220	5012	ANANTAPUR	217.17	-39.1
502083	KONDAPALLI	220	5006	KRISHNA	220.03	-42.6
502084	VIJESWARAM	220	5004	E GODAVARY	217.83	-45.5
502085	VIJESWARAM N	220	5004	E GODAVARY	217.45	-45.8
502086	VIZAG_SPTG	220	5003	VIZAG	219.52	-42.5
502087	LSR_BARSUR 2	220	5003	VIZAG	225.01	-43.5
502092	SARUBUJIL 2	220	5001	SRIKAKULAM	218.07	-45.5
502093	GAIL AP	220	5004	E GODAVARY	218.09	-44.6
502097	PULIVENDULA	220	5011	KADAPA	219.12	-35.9
502098	DUVVA220	220	5005	W GODAVARY	214.56	-47.4
502099	NARSAPURAM 2	220	5005	W GODAVARY	212.18	-48.7
502101	MARKAPUR	220	5008	PRAKASAM	218.17	-44.3
502102	ULTRATECH2	220	5012	ANANTAPUR	223.66	-38
502103	BRAHMANAKO TK	220	5013	KURNOOL	219.55	-37.8
502105	APCARBIDES	220	5013	KURNOOL	219.16	-37.7
502108	KALYANDURG	220	5012	ANANTAPUR	218.94	-38.9
502109	RAMAGIRI	220	5012	ANANTAPUR	217.53	-39
502110	NARASARAOPE T	220	5007	GUNTUR	221.87	-44.2
502111	KVKOTA	220	5005	W GODAVARY	217.12	-46.3
502112	RAMACHANDR AP	220	5004	E GODAVARY	218.08	-45.5
502113	SAMARLAKOT 2	220	5004	E GODAVARY	217.18	-45.9

502114	BHIMAVARAM	220	5005	W GODAVARY	212.8	-48.3
502115	GUDIVADA	220	5006	KRISHNA	217.03	-45.1
502116	PATTISEEMA	220	5005	W GODAVARY	216.66	-46.6
502117	BURUGUBAN LI	220	5007	GUNTUR	221.18	-41.2
502118	JNPC2	220	5003	VIZAG	219.06	-42.7
502120	PAVAN NARSM	220	5011	KADAPA	220	-36.7
502130	TIRUVURU 2	220	5006	KRISHNA	217.11	-44.6
502132	KONDAPURAM	220	5011	KADAPA	219.13	-35.8
502133	URAVAKONDA	220	5012	ANANTAPUR	220.98	-37
502134	PYDIBHIMAVAR	220	5001	SRIKAKULAM	218.52	-44.4
502135	NAKAVANPLM_2	220	5003	VIZAG	216.61	-44.9
502141	MALAYALA	220	5013	KURNOOL	219.32	-38
502169	AKIVEEDU 2	220	5005	W GODAVARY	213.27	-47.9
502171	MACHIL_PTM 2	220	5006	KRISHNA	215.4	-46.6
502172	GOPPILI 2	220	5001	SRIKAKULAM	216.3	-46.6
502193	ABIJ_FABRX 2	220	5003	VIZAG	217.03	-43.2
502198	BHEEMILI 2	220	5003	VIZAG	217.08	-44.9
502199	SBQSTL_NLR 2	220	5009	NELLORE	218.35	-49.4
502200	PODILI 42	220	5008	PRAKASAM	222.3	-45.7
502201	KOTHA_PTNM 2	220	5009	NELLORE	218.3	-49.4
502202	ANRAK	220	5003	VIZAG	216.82	-44.7
502203	ATMAKUR	220	5009	NELLORE	217.83	-48.6
502204	BETUMCHARLA	220	5013	KURNOOL	219.6	-36.3
502205	BILAKALAGUDU	220	5013	KURNOOL	219.69	-36.9
502206	BOKSAMPALLI	220	5012	ANANTAPUR	217.18	-39
502207	BMNDRPALEM 2	220	5002	VIZIANAGARAM	217.76	-44.4
502208	GMRB_SMLKT 2	220	5004	E GODAVARY	217.18	-45.9
502209	BOBILI	220	5002	VIZIANAGARAM	218.65	-44
502210	BOYAREDDYPAL	220	5012	ANANTAPUR	222.09	-38.5
502211	BORUMPALLI	220	5012	ANANTAPUR	219.96	-38.2
502212	BSES(SAMRLA)	220	5004	E GODAVARY	217.18	-45.9
502213	SATYAVED 2	220	5010	CHITTOOR	215.2	-52.4
502215	CHILAKALLU	220	5006	KRISHNA	220.43	-42.3
502216	CHINAKAMPALL	220	5011	KADAPA	219.72	-37.8
502217	SRIKALHATI 2	220	5007	GUNTUR	217.77	-49
502218	DIARYFARM	220	5003	VIZAG	216.86	-44.7
502219	DHONE	220	5013	KURNOOL	219.76	-37.9
502220	DONKAREPS	220	5004	E GODAVARY	220	-43.1
502221	GANGAVARAM PO	220	5003	VIZAG	218.23	-43.2
502222	GODDUMARRI	220	5012	ANANTAPUR	218.44	-38.5
502223	GADDEMVARIPA	220	5012	ANANTAPUR	218.62	-38.4

502224	GUDIWADA220	220	5006	KRISHNA	217.37	-45.3
502225	GOLLAPURAM	220	5012	ANANTAPUR	217.85	-37.6
502226	GARIVIDI	220	5002	VIZIANAGARAM	218.65	-44.3
502227	GOOTY	220	5012	ANANTAPUR	223.59	-37.8
502228	GOOTYRAILWAY	220	5012	ANANTAPUR	223.7	-37.8
502229	HINDUPUR	220	5012	ANANTAPUR	217.78	-37.9
502230	GADIVEMULA 2	220	5013	KURNOOL	219.78	-36.3
502231	KANDUKUR	220	5008	PRAKASAM	219.02	-47.8
502232	KAKINDAGS(SP	220	5004	E GODAVARY	214.78	-47.2
502233	KONDAPURAM	220	5011	KADAPA	218.73	-38.3
502234	KRISHNAGIRI	220	5013	KURNOOL	219.46	-38.2
502235	KORUPROLU	220	5003	VIZAG	215.83	-45.3
502236	KVKOTA1	220	5005	W GODAVARY	217.73	-46
502237	KAMBALPADU	220	5013	KURNOOL	219.39	-38.3
502238	LAKKASAMUDRA	220	5013	KURNOOL	219.31	-38.4
502239	LANCO(KONDAP	220	5006	KRISHNA	220.08	-42.6
502240	MADANAPALLI	220	5010	CHITTOOR	218.89	-48.6
502241	MUTYALACHERU	220	5012	ANANTAPUR	217.45	-37.3
502242	NAGARI	220	5010	CHITTOOR	217.67	-50.1
502243	NANSURALA	220	5013	KURNOOL	219.41	-38.4
502244	NELLORE	220	5009	NELLORE	218	-48.8
502245	PUNGANUR 2	220	5010	CHITTOOR	219.67	-49.9
502246	NUZIVEEDU	220	5006	KRISHNA	216.82	-45.6
502247	M/S JSW 2	220	5005	W GODAVARY	219.69	-36.9
502248	PALLANTLA	220	5005	W GODAVARY	216.86	-46.5
502249	PENUKONDA	220	5012	ANANTAPUR	217.47	-37.5
502250	PALAMNERU	220	5010	CHITTOOR	221.31	-50.2
502251	PANYAM	220	5013	KURNOOL	219.98	-34.9
502252	PENNA-CEMENT	220	5012	ANANTAPUR	222.08	-38.5
502253	PAMPUNURUTHA	220	5012	ANANTAPUR	220	-34.4
502254	PORUMAMILLA	220	5011	KADAPA	217.89	-40.3
502255	RAYALA-WIND	220	5012	ANANTAPUR	217.53	-39
502257	RCI(ANATAPUR	220	5012	ANANTAPUR	220.87	-39.1
502258	RENTACHINTAL	220	5007	GUNTUR	220.07	-40.6
502259	RAGULAPADU	220	5012	ANANTAPUR	220.9	-37.2
502260	SARDAPS(VIZA	220	5002	VIZIANAGARAM	217.77	-44.4
502261	SHAPURAM	220	5012	ANANTAPUR	217.33	-38.9
502262	SATTENAPALLI	220	5007	GUNTUR	223.21	-43.8
502263	SETTIPALLI	220	5013	KURNOOL	219.34	-38.1
502264	SUZLON	220	5012	ANANTAPUR	220.9	-37.2
502265	SUBBARAYANAP	220	5012	ANANTAPUR	217.12	-39.1
502266	TADIKONDA	220	5007	GUNTUR	219.14	-44.2

502267	TADEPALLI220	220	5007	GUNTUR	219.24	-43.4
502269	THALAYAPALE M	220	5007	GUNTUR	220.34	-42.7
502270	THIMMAPUR	220	5011	KADAPA	218.81	-38.2
502271	TALLAPALLI	220	5007	GUNTUR	220.37	-40
502272	TIRUMALAYAP A	220	5011	KADAPA	219.03	-36.1
502273	VAJRAKORUR	220	5012	ANANTAPUR	220.9	-37.2
502274	VTPS(VJW)	220	5006	KRISHNA	220.27	-42.5
502275	YELLANUR	220	5012	ANANTAPUR	218.68	-38.3
502276	PEDANA 2	220	5006	KRISHNA	215.74	-46.4
502277	RACHARLPAD 2	220	5009	NELLORE	216.94	-49.4
502278	ECORN_GDVD 2	220	5011	KADAPA	217.89	-40.3
502279	THIMMA_PR M 2	220	5010	CHITTOOR	219.75	-45.8
502281	C-MADUGU 2	220	5008	PRAKASAM	219.61	-40.8
502282	RACHERLA 2	220	5010	CHITTOOR	216.09	-50.6
502283	ACHUTHAPAR AM	220	5003	VIZAG	217.74	-42.8
502284	KAKINADASEZ	220	5004	E GODAVARY	218.37	-44.4
502285	NAIDUPET 2	220	5009	NELLORE	214.6	-50.9
502286	VIZIA_NGRM 2	220	5002	VIZIANAGARAM	217.97	-44.5
502287	HARISCHND LI	220	5007	GUNTUR	220.77	-42
502288	LINGAPURA LI	220	5007	GUNTUR	220.55	-41.8
502289	GORANTLA LI	220	5007	GUNTUR	220.74	-41.2
502290	NAKARIKAL LI	220	5007	GUNTUR	221.26	-41.2
502291	SHREE CEM 2L	220	5007	GUNTUR	220.47	-41
502292	PIDUGURALLA 2	220	5007	GUNTUR	220.74	-41.3
502293	RAJAMPT_RT 2	220	5011	KADAPA	214.69	-44
502294	SHREE CEME 2	220	5011	KADAPA	220.58	-40.9
502295	KUPPAM 2	220	5010	CHITTOOR	220.45	-51.1
502296	KALIKIRI 42	220	5010	CHITTOOR	220.91	-47.3
502297	ANRAK_FERO 2	220	5003	VIZAG	216.82	-44.7
502299	ANIMALA 2	220	5011	KADAPA	219.18	-36.8
502300	BELUGUPPA 2	220	5012	ANANTAPUR	221.04	-37.1
502301	HPCL 2	220	5003	VIZAG	220.39	-42.6
502303	SUJLN_VJKR 2	220	5012	ANANTAPUR	220.9	-37.2
502304	ECOREN_MLC 2	220	5012	ANANTAPUR	220	0
502305	ELULLTLA 2	220	5012	ANANTAPUR	218.46	-38.5
502306	AXIS_AMDYL 2	220	5012	ANANTAPUR	220.99	-37.1
502307	NIMBAGALLU 2	220	5012	ANANTAPUR	220.98	-37
502308	HELIOS_GRP 2	220	5012	ANANTAPUR	220	0
502309	SAIPRM_EKP 2	220	5012	ANANTAPUR	220	0
502310	MPR DAM 2	220	5012	ANANTAPUR	221.04	-37.1
502311	AXIS_THETA 2	220	5012	ANANTAPUR	220	0
502312	TALARI_CRV 2	220	5012	ANANTAPUR	216.79	-36.4
502313	MYTRA_NNSR 2	220	5013	KURNOOL	219.48	-38.4

502314	KIA MOTORS 2	220	5012	ANANTAPUR	216.94	-39.2
502315	GAMES_MLGV 2	220	5013	KURNOOL	219.63	-38.4
502317	REGEN_KRDK 2	220	5013	KURNOOL	219.55	-38.2
502318	GHANI PS 1 2	220	5013	KURNOOL	220	-34.8
502319	GHANI PS 2 2	220	5013	KURNOOL	220	-34.9
502320	GHANI PS 3 2	220	5013	KURNOOL	220	-34.6
502321	GHANI PS 4 2	220	5013	KURNOOL	220	-34.8
502322	NANSURL_RT 2	220	5013	KURNOOL	219.36	-38.4
502323	SOMAYAZ_RT 2	220	5013	KURNOOL	219.61	-36.3
502324	MUCHUMARRI 2	220	5013	KURNOOL	219.34	-38
501000	OD CHERUVU 1	132	5012	ANANTAPUR	129.24	-41.8
501001	MOGALRAJPR M1	132	5006	KRISHNA	130.75	-46.3
501002	PUTTAPARTI 1	132	5012	ANANTAPUR	127.79	-42.4
501003	COLRSHI_GUD R	132	5009	NELLORE	128.43	-52.3
501004	ADONI	132	5013	KURNOOL	131.55	-40.1
501005	JAMATUL_PM 1	132	5003	VIZAG	129.51	-45.7
501006	AMALAPURAM	132	5004	E GODAVARY	130.14	-47.3
501007	APCARBIDES21	132	5013	KURNOOL	132.07	-39.6
501008	APPM_MLPET	132	5004	E GODAVARY	128.48	-48.6
501009	ARAKU 1	132	5003	VIZAG	129.51	-48.3
501010	ANARAK_SWS 1	132	5003	VIZAG	129.86	-45.5
501011	ANANTHAPUR 21	132	5012	ANANTAPUR	130.83	-41.2
501012	BOBBILI 1	132	5002	VIZIANAGARAM	129.66	-47.7
501013	REDDY_GNPM 1	132	5005	W GODAVARY	128.16	-49.5
501014	ROUTHU_GDM 1	132	5005	W GODAVARY	128.04	-49.6
501015	BHEMAVARAM 1	132	5005	W GODAVARY	125.56	-51.3
501016	THYDA_LIS 1	132	5003	VIZAG	129.7	-45.6
501017	ARABIND_PB 1	132	5001	SRIKAKULAM	129.22	-47.4
501018	BHEEMADOLE2 1	132	5005	W GODAVARY	128.94	-48.7
501019	BOMMURU 21	132	5004	E GODAVARY	129.88	-48
501020	DUVVA132	132	5005	W GODAVARY	128.05	-49.3
501021	BAPTLA 1	132	5007	GUNTUR	127.5	-49.2
501022	PAMPNRTAND 21	132	5012	ANANTAPUR	131.81	-35
501023	ARBINSO_PB 1	132	5001	SRIKAKULAM	129.43	-47.3
501024	CCI_YRGNTL 1	132	5011	KADAPA	131.99	-39.9
501025	CUDDAPAH 21	132	5011	KADAPA	132.01	-40.6
501026	CFLTD_GZWK 1	132	5003	VIZAG	129.53	-46.4
501027	BERR_FABBL 1	132	5002	VIZIANAGARAM	129.9	-47.6
501028	CHILAK_PLM 1	132	5001	SRIKAKULAM	128.52	-48.5
501029	CHILKLR_PT	132	5007	GUNTUR	129.68	-47.6
501030	CHILAKALLU21	132	5006	KRISHNA	132.84	-43.5
501031	COMMON_PNT	132	5003	VIZAG	127.52	-47.7

501032	CHITTOOR 21	132	5010	CHITTOOR	130	-52.3
501033	CUMBUM 1	132	5008	PRAKASAM	128.76	-46.3
501034	SALURU 1	132	5002	VIZIANAGARAM	129.73	-47.7
501035	DARMAVARAM 1	132	5012	ANANTAPUR	128.34	-42.4
501036	RAMCO_NBLI 1	132	5003	VIZAG	127.63	-47.7
501037	FACOR_GVD 1	132	5002	VIZIANAGARAM	129.63	-47.1
501038	GUNADALA 21	132	5001	SRIKAKULAM	130.77	-46.2
501039	GARIVIDI1	132	5002	VIZIANAGARAM	129.66	-47
501040	GUDURU 1	132	5009	NELLORE	128.44	-52.3
501041	GOPPILI 21	132	5001	SRIKAKULAM	131.54	-48.3
501042	SARUBUJILI21	132	5001	SRIKAKULAM	132.04	-47
501043	SOMPETA 1	132	5001	SRIKAKULAM	130.79	-49
501044	GUNTUR 1	132	5007	GUNTUR	129.54	-47.4
501045	TADIKONDA 21	132	5007	GUNTUR	130.53	-46.5
501046	DHARMAVRM 21	132	5012	ANANTAPUR	128.4	-42.4
501047	GUNTAKAL 1	132	5012	ANANTAPUR	131.29	-39.7
501048	GOOTY_AP 21	132	5012	ANANTAPUR	132.93	-39.2
501049	AKIVEEDU 21	132	5005	W GODAVARY	126.36	-51.1
501050	GAZUWAKA 21	132	5003	VIZAG	129.57	-46.3
501051	HINDUPUR 21	132	5012	ANANTAPUR	130.61	-40.1
501052	HAMPI 1	132	5012	ANANTAPUR	132	-37.4
501053	HPCL_NVWRF 1	132	5003	VIZAG	129.3	-46.6
501054	TIRUVURU 21	132	5006	KRISHNA	129.8	-46.4
501055	MYLAVRM_KR 1	132	5006	KRISHNA	129.91	-46.2
501056	GALIVEEDU 1	132	5011	KADAPA	130.87	-37.7
501057	VSEZ_RT 1	132	5003	VIZAG	128.62	-47
501058	BAVOJI_SWS21	132	5004	E GODAVARY	129.96	-47.7
501059	KCP_MCHRLA	132	5007	GUNTUR	133.6	-42.3
501060	KAKINADA 21	132	5004	E GODAVARY	127.87	-48.9
501061	KONDAPALLY2 1	132	5006	KRISHNA	131.41	-44.7
501062	KADIRI 1	132	5012	ANANTAPUR	129.25	-41.8
501063	NARSING_BL 1	132	5003	VIZAG	127.65	-47.7
501064	KALYANDURG 21	132	5012	ANANTAPUR	129.52	-42.1
501065	KALAHASTHI	132	5010	CHITTOOR	128.22	-52.8
501066	KALIKIRI 21	132	5010	CHITTOOR	129.28	-49.4
501067	THIMA-PRM 21	132	5010	CHITTOOR	131.58	-46.9
501068	BARUVA 1	132	5001	SRIKAKULAM	130.63	-49.4
501069	SUNAP_PALI21	132	5011	KADAPA	129.98	-38.3
501070	JAMML_MDG 41	132	5011	KADAPA	132.12	-37.7
501071	SAHARA	132	5001	SRIKAKULAM	129.85	-47.6
501072	BHEEMILI 21	132	5003	VIZAG	128.53	-47.3
501073	KANIGIRI 1	132	5008	PRAKASAM	130.35	-51.4
501074	KURNOOL 1	132	5013	KURNOOL	131.88	-40

501075	KANUMOLU 1	132	5006	KRISHNA	128.34	-48.3
501076	ELURU 1	132	5005	W GODAVARY	128.21	-48.9
501077	KOVR	132	5005	W GODAVARY	129.23	-48.6
501078	TIRUMAL_PL21	132	5011	KADAPA	131.98	-37.6
501079	KORUPROLU 1	132	5003	VIZAG	127.96	-48.2
501080	KOTTURU 1	132	5001	SRIKAKULAM	131.62	-50
501081	KVKT	132	5005	W GODAVARY	128.86	-49
501082	KAVALI 1	132	5009	NELLORE	126.27	-52.9
501083	RAMNAK_PET1	132	5006	KRISHNA	129.16	-47
501084	RICHMOND 1	132	5002	VIZIANAGARAM	129.6	-47.1
501085	MACHERLA 1	132	5007	GUNTUR	133.62	-42.2
501086	MADANPALLY 21	132	5010	CHITTOOR	129.44	-49.8
501087	GOLLAPALEM 1	132	5004	E GODAVARY	125.73	-50.2
501088	MACHKUND 1	132	5003	VIZAG	132	-47.7
501089	NAIDUPET 21	132	5009	NELLORE	126.89	-53.8
501090	MALLAYAPET 1	132	5004	E GODAVARY	128.56	-48.5
501091	ATCHU_PRAM2 1	132	5003	VIZAG	129.43	-45.7
501092	KRISH_VRM 21	132	5004	E GODAVARY	129.7	-47.6
501093	RAMAPURAM1	132	5006	KRISHNA	132	0
501094	VUYYURU1	132	5006	KRISHNA	126.55	-49.6
501095	NANDYALA 21	132	5013	KURNOOL	129.82	-40.4
501096	NAVALWHARF 1	132	5003	VIZAG	129.3	-46.6
501097	BANTUMILLI1	132	5006	KRISHNA	127.84	-49
501098	NIDADAVOLU 1	132	5005	W GODAVARY	129.31	-48.5
501099	AIIMS1	132	5007	GUNTUR	130.53	-46.1
501100	ANATHASAGR M1	132	5009	NELLORE	131.87	-51.4
501101	NELLORE 21	132	5009	NELLORE	130.16	-50.8
501102	NAVLOK_GDN 1	132	5009	NELLORE	128.53	-51.8
501103	DAGADARTHI	132	5009	NELLORE	128.77	-51.7
501104	NSRC	132	5007	GUNTUR	132.32	-41.6
501105	NTS	132	5009	NELLORE	128.54	-51.8
501106	KALLURUPALI1	132	5009	NELLORE	129.51	-51.5
501107	NUZIVEEDU 21	132	5006	KRISHNA	129.23	-47.1
501108	KADIVEDU1	132	5009	NELLORE	129.71	-51.3
501109	ONGOLE 21	132	5008	PRAKASAM	131.38	-49.8
501110	ANUMALPLY1	132	5008	PRAKASAM	128.55	-46.5
501111	YERPEDU 1	132	5010	CHITTOOR	129.04	-52.4
501112	PIDUGRALLA 1	132	5007	GUNTUR	133.87	-43.6
501113	PEDDAPURAM	132	5004	E GODAVARY	129.05	-48.1
501114	GOTTIPROLU1	132	5009	NELLORE	126.88	-53.8
501115	PAKALA 1	132	5010	CHITTOOR	126.92	-53.4
501116	PALAMANERU 21	132	5010	CHITTOOR	131.63	-52.3
501117	PAMARRU 1	132	5006	KRISHNA	127.75	-48.9

501118	PANYAM_CMN	132	5013	KURNOOL	130.89	-39.3
501119	PORT 1	132	5003	VIZAG	128.82	-46.9
501120	PARCHUR 21	132	5008	PRAKASAM	128.39	-48.3
501121	PRODDUTUR 1	132	5011	KADAPA	131.34	-39.9
501122	PULIVENDUL 1	132	5011	KADAPA	130.1	-40.8
501123	PUTTUR 1	132	5010	CHITTOOR	128.76	-52.8
501124	KORUTUR1	132	5009	NELLORE	128.89	-51.9
501125	KOPPAKA 21	132	5005	W GODAVARY	128.57	-48.6
501126	RC_PURAM 1	132	5004	E GODAVARY	129.49	-47.8
501127	MEIL	132	5012	ANANTAPUR	132.84	-39.2
501128	KOTHAPTNM 1	132	5008	PRAKASAM	131.38	-49.8
501129	RENIGUNTA 21	132	5010	CHITTOOR	129.16	-52.2
501130	TATCHRLRT	132	5012	ANANTAPUR	129.38	-42.1
501131	KONKEPUDI 1	132	5006	KRISHNA	128.41	-48.7
501132	PALASAMUDR M1	132	5012	ANANTAPUR	125.28	-43.4
501133	MANGALAM1	132	5010	CHITTOOR	128.63	-52.5
501134	PACHIKPALEM 1	132	5010	CHITTOOR	128.14	-53.5
501135	SATELITECTY1	132	5011	KADAPA	131.58	-41.5
501136	TANGEDA 1	132	5007	GUNTUR	132.83	-44.3
501137	SRIHAR_KTA	132	5009	NELLORE	128.89	-53.1
501138	NALCHRVPALI 1	132	5011	KADAPA	130.46	-40.1
501139	C.ORAMPADU	132	5011	KADAPA	124.93	-48.8
501140	SULLURUPET21	132	5009	NELLORE	129.25	-52.9
501141	SIMHACHALM 1	132	5003	VIZAG	128.41	-47.1
501142	ONGOLE 1	132	5008	PRAKASAM	131.18	-49.9
501143	T.SUNDUPALLI	132	5011	KADAPA	130.06	-44.6
501144	WELSPUN	132	5011	KADAPA	129.91	-40.5
501145	SRISAILAMSY1	132	5013	KURNOOL	131.65	-42.1
501146	TORAY	132	5010	CHITTOOR	128.26	-53.6
501147	APOLLO	132	5010	CHITTOOR	128.76	-53.1
501148	TBVARA 1	132	5002	VIZIANAGARAM	127.9	-48.2
501149	TADEPALLI 1	132	5007	GUNTUR	130.6	-46
501150	TADIPATRI 21	132	5012	ANANTAPUR	130.41	-40.4
501151	TEXM	132	5011	KADAPA	132	0
501152	TEKKALI 21	132	5001	SRIKAKULAM	133.54	-48.5
501153	VELDURTHI 1	132	5007	GUNTUR	133.51	-42.3
501154	TIRUPATI 1	132	5010	CHITTOOR	128.53	-52.7
501155	PENUMUR1	132	5010	CHITTOOR	127.87	-53.7
501156	KOTHPALYCTR 1	132	5010	CHITTOOR	129.27	-53.1
501157	UNDAVALLI 1	132	5007	GUNTUR	130.52	-46.1
501158	JINDAL1	132	5002	VIZIANAGARAM	127.87	-47.7
501159	STEL_EXPTLD1	132	5002	VIZIANAGARAM	126.64	-48.5
501160	YERAGUNTLA2 1	132	5011	KADAPA	132	-39.9

501161	PONNURU 1	132	5007	GUNTUR	130.42	-47.2
501162	KOSAGI	132	5007	GUNTUR	130.45	-40.7
501163	PARVATPRMRT 1	132	5002	VIZIANAGARAM	127.52	-49.2
501164	RSH_DEC 1	132	5003	VIZAG	129.34	-46.1
501165	ACC	132	5003	VIZAG	128.41	-47.1
501166	RVK_PWRPLT 1	132	5004	E GODAVARY	129.4	-48.3
501167	KAPLUPPADU1	132	5003	VIZAG	132.57	-46.8
501168	YADAVALLI 1	132	5008	PRAKASAM	128.04	-48.6
501169	CHENDODU 1	132	5009	NELLORE	128.22	-52.3
501170	RAYACHOTI 1	132	5011	KADAPA	130.11	-44.6
501171	NARAYN_PUR M1	132	5005	W GODAVARY	127.91	-49.3
501172	DHARM_GUDE M1	132	5010	CHITTOOR	127.15	-50.1
501173	V.KOTA 1	132	5005	W GODAVARY	131.97	-52.7
501174	TIRUPATI 21	132	5010	CHITTOOR	128.89	-52.5
501175	HAMPAPURAM 1	132	5012	ANANTAPUR	128.24	-42.6
501176	BADVEL 1	132	5011	KADAPA	130.25	-45.2
501177	CHETINAD CM1	132	5003	VIZAG	127.6	-47.7
501178	HETERO LTD 1	132	5003	VIZAG	127.55	-48.9
501179	CHIRALA 1	132	5008	PRAKASAM	127.11	-49.1
501180	CHINARIKATL1	132	5008	PRAKASAM	130.8	-50
501181	EAST_GNVRM 1	132	5008	PRAKASAM	130.73	-50
501182	M/SGARRISON	132	5003	VIZAG	130.25	-46.2
501183	HAMSA_VARM 1	132	5004	E GODAVARY	128.86	-47.8
501184	GOLDSTARSS 1	132	5002	VIZIANAGARAM	126.64	-48.5
501185	SARIPALLI	132	5005	W GODAVARY	121.98	-52.2
501186	T.NARS_PURM	132	5005	W GODAVARY	128.67	-49.2
501187	JANGA_RDGM 1	132	5005	W GODAVARY	128.34	-49.4
501188	KASIMKOTA 1	132	5003	VIZAG	126.46	-48.4
501189	MUSALIKUNT 1	132	5010	CHITTOOR	130.86	-47.7
501190	MACHIL_PTM 1	132	5006	KRISHNA	127.82	-49
501191	GREENTECH 1	132	5009	NELLORE	126.22	-54.2
501192	KOILAKUNTRT 1	132	5013	KURNOOL	128.46	-41.3
501193	RAPUR 1	132	5009	NELLORE	130.14	-51.1
501194	NAGARI 21	132	5010	CHITTOOR	129.37	-52.6
501195	VINJAMURU 1	132	5009	NELLORE	132.23	-51
501196	KOSALANAGA RM	132	5010	CHITTOOR	129.23	-52.7
501197	PENDURTHI 21	132	5003	VIZAG	128.35	-47.1
501198	PANB	132	5012	ANANTAPUR	129.47	-42.3
501199	PRATHIPADU 1	132	5004	E GODAVARY	129.4	-47.8
501200	PEDA_TDPLI 1	132	5005	W GODAVARY	127.9	-49.3
501202	SANTIPURAM 1	132	5010	CHITTOOR	131.96	-52.7
501203	TENALI 1	132	5007	GUNTUR	128.66	-48.5

501204	TANUKU 1	132	5005	W GODAVARY	125.21	-51.2
501205	TUNI	132	5004	E GODAVARY	127.81	-48.4
501206	VIJAYAWADA 1	132	5006	KRISHNA	130.61	-45.1
501207	VENKATGIRI 1	132	5009	NELLORE	128.04	-53
501208	VONTITHADI 1	132	5002	VIZIANAGARAM	127.04	-48.8
501209	SOMYPALLY 21	132	5013	KURNOOL	131.66	-38.6
501210	YERAGND_PM 1	132	5008	PRAKASAM	130	-44.9
501211	ATMAKUR_KN 1	132	5013	KURNOOL	131.44	-40.3
501212	PYDI_BMVRM21	132	5001	SRIKAKULAM	129.28	-47.4
501213	JAMMALBAND 1	132	5012	ANANTAPUR	128.71	-41.3
501215	GUARAZALAR T	132	5007	GUNTUR	134.76	-41.9
501216	ULAVAPADU	132	5008	PRAKASAM	129.96	-50.4
501217	ELCHURU	132	5008	PRAKASAM	127.61	-49.2
501218	M/SRAMCO LTD	132	5013	KURNOOL	130.02	-41.2
501219	C-MADUGU 21	132	5008	PRAKASAM	130.59	-44.1
501220	ATCTIRES 1	132	5003	VIZAG	129.43	-45.7
501221	AINAVILLI 41	132	5004	E GODAVARY	131.18	-46.6
501222	PALAKONDA 1	132	5001	SRIKAKULAM	129.46	-49.5
501223	PALASA 1	132	5001	SRIKAKULAM	131.48	-48.8
501224	BKOTHAKOTA 1	132	5010	CHITTOOR	127.4	-48.6
501225	ALIPIRI 1	132	5010	CHITTOOR	127	-54.3
501226	NAKKA_VPLM 1	132	5003	VIZAG	128.81	-46.9
501227	REPALLE 1	132	5007	GUNTUR	127.45	-49.4
501228	ESAAR	132	5003	VIZAG	128.82	-46.9
501229	HZL	132	5003	VIZAG	129.57	-46.3
501230	CENTURYPNL 1	132	5011	KADAPA	129.99	-45.4
501231	AMRS_PS 1	132	5010	CHITTOOR	131.59	-52.5
501232	JONNAVARAM 1	132	5011	KADAPA	129.77	-40.9
501234	KUPPAM 21	132	5010	CHITTOOR	131.45	-52.6
501235	KORUPROLU 21	132	5003	VIZAG	127.78	-48.8
501236	RACHERLA 21	132	5010	CHITTOOR	128.76	-53.1
501237	ALLAGADDA 1	132	5013	KURNOOL	128.58	-42
501238	DAIKIN_AIRC1	132	5010	CHITTOOR	128.32	-53.3
501239	LAKSHMISWS1	132	5010	CHITTOOR	129.01	-52.4
501240	LAKSHMETALR G	132	5010	CHITTOOR	129	-52.4
501241	INOX_AIRPS 1	132	5003	VIZAG	129.4	-45.7
501242	BRAKEINDIA 1	132	5009	NELLORE	126.13	-54.2
501243	KCP_CHILKA 1	132	5006	KRISHNA	132.58	-43.7
501244	MAHA LKSM 1	132	5002	VIZIANAGARAM	129.3	-47.5
501245	RTKALSMDRM	132	5012	ANANTAPUR	128.83	-42.2
501246	MALLAY_GPL 1	132	5012	ANANTAPUR	129.07	-42.2
501247	KOTHAPALLY 1	132	5012	ANANTAPUR	128.87	-42.1

501248	DUVVUR 1	132	5011	KADAPA	130.06	-40.6
501249	AMPOLU 1	132	5001	SRIKAKULAM	132.22	-47.9
501250	AMAN_TRY	132	5009	NELLORE	126.9	-54
501251	VTs	132	5006	KRISHNA	133.38	-43.6
501252	BAVANIPURM 1	132	5006	KRISHNA	130.86	-44.9
501253	KAMAYPALEM 1	132	5005	W GODAVARY	128.14	-49.5
501254	VTPS 1	132	5006	KRISHNA	131.53	-44.4
501256	BMGRIMATAM 1	132	5011	KADAPA	130.37	-44.3
501257	CHAKRAYPET2 1	132	5011	KADAPA	131.21	-37.5
501258	SHANKAVARA M1	132	5004	E GODAVARY	127.72	-49.6
501259	MUDIGUBBA1	132	5012	ANANTAPUR	128.25	-42.5
501262	MADAKASIRA 1	132	5012	ANANTAPUR	128.72	-41.2
501263	LEPAKSHI 1	132	5012	ANANTAPUR	126.98	-42.3
501266	VAJRAKARUR2 1	132	5012	ANANTAPUR	131.86	-39.2
501267	MUTYALAPAD2 1	132	5013	KURNOOL	129.18	-41.9
501268	BOKSAMPALY2 1	132	5012	ANANTAPUR	129.91	-40.4
501269	TADIMARRI 1	132	5012	ANANTAPUR	130.5	-40.1
501270	MADANPALLY 1	132	5010	CHITTOOR	128.98	-49.8
501273	AMARAPURAM 1	132	5012	ANANTAPUR	128.5	-41.4
501288	PEDAWALTAR 1	132	5003	VIZAG	132.59	-46.8
501289	NSTL1	132	5003	VIZAG	128.06	-47.4
501301	APSUG_SGND	132	5005	W GODAVARY	129.04	-48.7
501302	SAGGONDA 1	132	5005	W GODAVARY	129.17	-48.6
501303	NARSAPURAM 1	132	5006	KRISHNA	129.33	-46.8
501304	KPMITTA 1	132	5010	CHITTOOR	127.39	-53.6
501309	GUDIVADA 21	132	5006	KRISHNA	129.13	-47.9
501312	RAJAMPET 21	132	5011	KADAPA	126.59	-47.8
501313	THIMMA_GPL 1	132	5011	KADAPA	126.1	-48.1
501314	PCMI	132	5013	KURNOOL	130.89	-39.3
501318	NIDADAVOLU2 1	132	5005	W GODAVARY	129.64	-48.3
501328	YEMMIGANUR 1	132	5013	KURNOOL	130.83	-40.3
501329	PATHIKONDA 1	132	5013	KURNOOL	132	-39.9
501330	ATMAKUR_NL2 1	132	5009	NELLORE	132.62	-50.8
501331	KANDUKUR 1	132	5008	PRAKASAM	129.72	-50.7
501332	GIDDALUR 1	132	5008	PRAKASAM	127.2	-47.1
501333	RAYADURG 1	132	5012	ANANTAPUR	127.14	-43.6
501334	CHANDRAGIR 1	132	5010	CHITTOOR	128.08	-53.2
501335	BURKAYL_KT 1	132	5010	CHITTOOR	127.6	-48.4
501336	ROMPICHERL 1	132	5010	CHITTOOR	127.57	-51.4
501338	BANAVASI 21	132	5013	KURNOOL	130.98	-40.2

501339	YANAM 1	132	5004	E GODAVARY	127.87	-48.9
501340	VINUKONDA 1	132	5007	GUNTUR	128.36	-48.7
501342	NARSAPURAM 1	132	5005	W GODAVARY	125.91	-50.9
501344	KOTAVALASA 1	132	5002	VIZIANAGARAM	127.87	-47.7
501346	CHINAKM_PL2 1	132	5011	KADAPA	131.98	-41.3
501348	KUPPAM 1	132	5010	CHITTOOR	130.91	-53
501352	VONTIMITTA	132	5011	KADAPA	130.82	-42.8
501353	BALAPANUR 1	132	5011	KADAPA	130.23	-40.3
501355	GANGURU 1	132	5006	KRISHNA	128.6	-47.1
501356	RAZOL	132	5004	E GODAVARY	127.69	-49.2
501357	PUNGANUR 21	132	5010	CHITTOOR	130.94	-51.3
501358	ALLUR	132	5009	NELLORE	128.31	-51.9
501359	PUNGANUR 1	132	5010	CHITTOOR	130.72	-51.4
501360	MEDARA_MTL 1	132	5008	PRAKASAM	130.89	-50.3
501361	SRIB	132	5006	KRISHNA	128.68	-48.2
501362	PALLAN_SWS21	132	5005	W GODAVARY	130.19	-48.3
501368	MUTYAL_CRV2 1	132	5012	ANANTAPUR	129.38	-41.8
501369	GOLLAPURAM2 1	132	5012	ANANTAPUR	128.79	-41.2
501371	GAZUWAKA 21	132	5003	VIZAG	129.57	-46.3
501373	MARKAPURAM 21	132	5008	PRAKASAM	129.91	-45.6
501377	PONDU	132	5001	SRIKAKULAM	130.76	-48
501379	UDAYAGIRI 1	132	5009	NELLORE	131.56	-51.8
501380	ANANDAPURM 1	132	5003	VIZAG	127.98	-47.6
501381	BIRLA	132	5003	VIZAG	128.52	-47.4
501382	VATSA	132	5004	E GODAVARY	127.69	-49.2
501385	LVS	132	5003	VIZAG	128.35	-47.1
501390	NARSARO_PT21	132	5007	GUNTUR	131.39	-46.7
501391	KOMATIKNTL 1	132	5012	ANANTAPUR	129.82	-40.7
501408	PARAWADA 21	132	5003	VIZAG	131.38	-45.1
501409	KAMBAMPADU 1	132	5006	KRISHNA	129.41	-46.6
501410	KALLUR 1	132	5010	CHITTOOR	127.86	-51.2
501411	THANAVANPA LI	132	5010	CHITTOOR	129.44	-52.9
501412	GUDUR"KNL 1	132	5013	KURNOOL	130.75	-40.4
501413	K.G.SATHRAM1	132	5010	CHITTOOR	129.52	-52.9
501419	GADVEMULA 21	132	5013	KURNOOL	132.6	-38.2
501420	VEMPALLI 1	132	5011	KADAPA	130.01	-41.1
501421	NAIDUPET 1	132	5009	NELLORE	126.93	-54
501422	BRAMHDEVAM 1	132	5009	NELLORE	129.57	-51.2
501426	NALLAJERLA 1	132	5005	W GODAVARY	128.64	-49.3
501427	BHOGAPRM_1	132	5002	VIZIANAGARAM	127.76	-48.4
501429	ADURPALLI 1	132	5009	NELLORE	130.38	-50.9

501430	BUCHIREDYPL M	132	5009	NELLORE	130.91	-51
501431	RAK	132	5004	E GODAVARY	129.42	-47.8
501432	ANKIR_PALL 1	132	5013	KURNOOL	130.4	-40.9
501433	PORUMAMILA2 1	132	5011	KADAPA	130.51	-44.3
501434	YENDADA 1	132	5003	VIZAG	132.45	-46.8
501435	AUTONAGAR 1	132	5003	VIZAG	128.97	-46.7
501436	GURAMKONDA 1	132	5010	CHITTOOR	129.36	-47.3
501437	JAMMAL_MDG 1	132	5011	KADAPA	131.52	-38.7
501438	PARVAT_PRM 1	132	5002	VIZIANAGARAM	127.52	-49.2
501439	CHINT_LPDI 1	132	5005	W GODAVARY	127.56	-49.9
501440	KAKLMITTA _1	132	5010	CHITTOOR	129.99	-52.8
501441	BANAGANPAL 1	132	5013	KURNOOL	128.88	-41
501447	NANDI	132	5006	KRISHNA	132.43	-43.8
501449	ICHAPURAM 1	132	5001	SRIKAKULAM	131.14	-48.9
501450	PATAPATNAM 1	132	5001	SRIKAKULAM	132.01	-49.7
501459	NAGALPURAM 1	132	5010	CHITTOOR	128.77	-53.1
501460	NCS	132	5002	VIZIANAGARAM	129.66	-47.7
501461	PEDAVEGI 1	132	5005	W GODAVARY	127.37	-49.7
501462	NANDALURU	132	5011	KADAPA	126.29	-48
501463	LYFUS_PHRM 1	132	5004	E GODAVARY	129.52	-47.4
501464	BRANDIX 21	132	5003	VIZAG	129.34	-46.1
501466	AMAR	132	5010	CHITTOOR	128.79	-52.5
501467	VIZIA_NGRM21	132	5002	VIZIANAGARAM	129.72	-47.2
501468	RTSS	132	5010	CHITTOOR	126.91	-53.4
501469	NARSAPURAM2 1	132	5005	W GODAVARY	126.24	-50.6
501470	URAVAKONDA 1	132	5012	ANANTAPUR	131.18	-39.6
501471	VUNDI	132	5005	W GODAVARY	126.03	-51.1
501472	INKOLL	132	5008	PRAKASAM	127.82	-49.6
501473	DORNAL	132	5008	PRAKASAM	130.4	-43.8
501474	BHIMVRM_RT 1	132	5005	W GODAVARY	126	-51.1
501475	SAMARLAKOT2 1	132	5004	E GODAVARY	129.49	-47.8
501476	CLARIO	132	5008	PRAKASAM	131.42	-49.8
501477	NALLAPADU 1	132	5007	GUNTUR	129.74	-47.2
501478	RTPEDNA	132	5006	KRISHNA	128.36	-48.7
501480	KVKOTA 21	132	5005	W GODAVARY	128.88	-49
501481	DW TIRUMALA1	132	5005	W GODAVARY	128.46	-49.2
501482	KONDAPRM_W 21	132	5011	KADAPA	131	-38.9
501483	M/S GRASIM	132	5004	E GODAVARY	129.13	-48
501486	MARTUR	132	5008	PRAKASAM	127.58	-48.9
501488	RENTA_CNTL21	132	5007	GUNTUR	134.75	-41.9
501489	PARASH	132	5007	GUNTUR	134.6	-42

501491	NANDIKOTKR 1	132	5013	KURNOOL	132.24	-39
501493	MULAVA	132	5011	KADAPA	131.71	-41.2
501494	MARRIPALEM 1	132	5007	GUNTUR	129.46	-47.6
501497	NALLA_LGPL 1	132	5011	KADAPA	131.93	-40.1
501501	RAJANAGARM 1	132	5004	E GODAVARY	129.2	-48.3
501502	MANUBOLU 41	132	5009	NELLORE	130.13	-51
501503	IRALA	132	5010	CHITTOOR	128.47	-52.1
501504	PULIVENDUL21	132	5011	KADAPA	130.66	-40
501506	AVANIGADDA 1	132	5006	KRISHNA	127.46	-49.2
501510	NUNNA1	132	5006	KRISHNA	129.43	-46.4
501511	RACHERLA 1	132	5013	KURNOOL	131.77	-39.4
501512	LINDE1	132	5010	CHITTOOR	128.76	-53.1
501513	GREENLAM1	132	5009	NELLORE	126.15	-54.2
501514	VSEZ	132	5003	VIZAG	128.62	-47
501515	PAMURU	132	5008	PRAKASAM	131.01	-52
501516	KARAMPUDI 1	132	5007	GUNTUR	133.41	-43.2
501517	EDITHA	132	5004	E GODAVARY	128.85	-48.6
501521	RTSSK	132	5011	KADAPA	131.76	-41
501522	ANGALLU_LIS1	132	5010	CHITTOOR	127.53	-49.7
501523	PYDI_BMVRM 1	132	5001	SRIKAKULAM	129.25	-47.4
501524	SAMBEPALLI 1	132	5011	KADAPA	129.96	-45.2
501525	SUNPTA	132	5013	KURNOOL	131.58	-42
501527	THUMUKUNTA 1	132	5012	ANANTAPUR	129.18	-41
501528	MOHAN_SPTX 1	132	5006	KRISHNA	128.2	-47.9
501532	ANKAMPALLI 1	132	5012	ANANTAPUR	129.25	-42.4
501533	OSWAL	132	5012	ANANTAPUR	128.75	-41.2
501534	A-ONE	132	5012	ANANTAPUR	128.62	-41.3
501541	NIDRLY	132	5009	NELLORE	129.41	-51.4
501542	M/S SHREYAS	132	5001	SRIKAKULAM	129.23	-47.4
501543	RVK	132	5004	E GODAVARY	129.4	-48.3
501544	MENAKUR 1	132	5009	NELLORE	126.23	-54.2
501545	AUTONAGAR 1	132	5006	KRISHNA	130.41	-46.4
501546	GUJJANA_GL 1	132	5007	GUNTUR	130.32	-46.6
501547	RENTAPALLE 1	132	5007	GUNTUR	131.81	-45.4
501548	ADDANKI 1	132	5008	PRAKASAM	130.31	-50.6
501549	DARSI	132	5008	PRAKASAM	130.9	-50
501550	NSRTP_RNTL 1	132	5007	GUNTUR	134.65	-41.8
501551	NARSAN_PET 1	132	5001	SRIKAKULAM	132.63	-48.3
501552	KOTHAPETA 1	132	5004	E GODAVARY	130.53	-47
501553	PITAPURAM 1	132	5004	E GODAVARY	129.69	-47.6
501554	PENUGONDA 1	132	5005	W GODAVARY	125.57	-51.2
501555	NIZAMPATNA M	132	5007	GUNTUR	127.14	-49.6
501556	VEMURU	132	5007	GUNTUR	127.8	-49.2

501557	HIRASM_BBL 1	132	5002	VIZIANAGARAM	129.91	-47.5
501558	MURTSS	132	5011	KADAPA	131.36	-39.6
501559	GUDIPADUSW 1	132	5012	ANANTAPUR	130.81	-40.6
501560	KAKINADSEZ 1	132	5004	E GODAVARY	129.84	-47.3
501561	GANDIKOTA 1	132	5011	KADAPA	130.99	-39
501562	BOBBILI_RT 1	132	5002	VIZIANAGARAM	129.29	-47.9
501563	GARBHAM 1	132	5002	VIZIANAGARAM	129.3	-47.5
501564	SIMACHALM 21	132	5003	VIZAG	128.41	-47.1
501565	LINGAL	132	5011	KADAPA	130.23	-40.3
501566	MUMMID_VRM 1	132	5004	E GODAVARY	130.97	-46.7
501567	BOBBILI 21	132	5002	VIZIANAGARAM	129.92	-47.5
501568	GREENPLY 1	132	5010	CHITTOOR	127.83	-53
501569	MORESW_GVD 1	132	5002	VIZIANAGARAM	129.6	-47.1
501570	MOREALLOYS 1	132	5002	VIZIANAGARAM	129.58	-47.1
501571	TBVARA_RT 1	132	5002	VIZIANAGARAM	127.89	-48.2
501572	VIZNGRM_RT 1	132	5002	VIZIANAGARAM	127.03	-48.8
501573	JAYA_FAGVD 1	132	5002	VIZIANAGARAM	129.45	-47.1
501574	ARAKTYD_RT 1	132	5003	VIZAG	129.51	-48.3
501575	ARAKGRP_RT 1	132	5003	VIZAG	129.51	-48.3
501576	PADERU 1	132	5003	VIZAG	129.51	-48.4
501577	DGNPGIS 1	132	5003	VIZAG	129.08	-46.7
501578	VGCBPORTSS 1	132	5003	VIZAG	128.82	-46.9
501579	SBCLDGNP 1	132	5003	VIZAG	129.07	-46.7
501580	RCLTD_NVWF 1	132	5003	VIZAG	129.29	-46.6
501581	ESSAR_NVWF 1	132	5003	VIZAG	129.29	-46.6
501582	DGNP 1	132	5003	VIZAG	129.3	-46.6
501583	HSLTD_NVWF 1	132	5003	VIZAG	129.27	-46.6
501584	APC_NVWF 1	132	5003	VIZAG	129.28	-46.6
501585	MYHOM_KRPL 1	132	5003	VIZAG	127.89	-48.3
501586	SMHCHLM_RT 1	132	5003	VIZAG	128.4	-47.1
501587	CHODAVARAM 1	132	5003	VIZAG	126.07	-48.7
501588	KSMKOTA_RT 1	132	5003	VIZAG	126.45	-48.4
501589	TUNI_RT 1	132	5004	E GODAVARY	127.78	-48.4
501590	LINGA_SMDM 1	132	5008	PRAKASAM	130.38	-50.5
501591	PODILI	132	5008	PRAKASAM	131.41	-49.7
501592	REMLE	132	5006	KRISHNA	128.2	-47.9
501593	BECHGANPLY 1	132	5012	ANANTAPUR	131.2	-39.9
501594	CHERVI	132	5010	CHITTOOR	128.31	-53.5
501595	NAGALPRM_A 1	132	5012	ANANTAPUR	132.84	-39.2
501596	TATICHERLA 1	132	5012	ANANTAPUR	129.48	-42
501597	OBLPRM	132	5012	ANANTAPUR	124.51	-45.4
501598	VISWAT_YMG 1	132	5013	KURNOOL	131.45	-39.9
501599	ALUR 1	132	5013	KURNOOL	131.74	-40.1

501600	GCHODA_VRM 1	132	5001	SRIKAKULAM	129.11	-47.5
501601	YERNAGUDEM 1	132	5005	W GODAVARY	128.98	-49.1
501602	PRATAPNGAR 1	132	5004	E GODAVARY	127.87	-48.9
501603	NARSIPATNM 1	132	5003	VIZAG	126.76	-49
501604	BCVL	132	5004	E GODAVARY	129.13	-48
501605	RAJAM	132	5001	SRIKAKULAM	129.17	-47.4
501606	GANGA_PORT2 1	132	5003	VIZAG	130.7	-45.9
501607	MALKAPURM 1	132	5003	VIZAG	129.87	-46.4
501608	KESINEN_PL 1	132	5008	PRAKASAM	129.62	-45.6
501609	RACHAGUNER 21	132	5010	CHITTOOR	129.14	-52.3
501610	TANAKALLU 1	132	5012	ANANTAPUR	128.61	-43.5
501611	KOMALI	132	5012	ANANTAPUR	130.11	-40.7
501612	MADHAVARA M 1	132	5013	KURNOOL	130.43	-40.7
501613	MUDIGEDU 1	132	5013	KURNOOL	128.51	-41.2
501614	TIRUMALA 1	132	5010	CHITTOOR	127.24	-54.6
501615	RUDRAVARAM 1	132	5013	KURNOOL	128.26	-41.7
501616	VEMULAPADU 1	132	5013	KURNOOL	129.97	-40.3
501617	BETHAMCHL21	132	5013	KURNOOL	132.44	-37.9
501618	SOMALA	132	5010	CHITTOOR	128.12	-51.1
501619	V&MP_PRML 1	132	5011	KADAPA	132	0
501620	KALASAPADU 1	132	5011	KADAPA	128.95	-45.6
501621	KALICHERLA 1	132	5010	CHITTOOR	129.42	-46.8
501622	SNAM	132	5010	CHITTOOR	126.77	-53.5
501623	DFAL	132	5003	VIZAG	128.29	-47.1
501624	RACHARLPAD 1	132	5009	NELLORE	129.16	-51.4
501625	ATMAKUR_NL 1	132	5009	NELLORE	132.43	-50.7
501626	PORUMAMILA 1	132	5011	KADAPA	130.11	-44.5
501627	KPORT	132	5009	NELLORE	129.43	-51.3
501628	TANGUTUR 1	132	5008	PRAKASAM	131.38	-49.8
501629	SUZLON	132	5011	KADAPA	132.16	-37.7
501630	HETERO_KPM 1	132	5011	KADAPA	131.98	-37.6
501631	VIKRUTMALA	132	5010	CHITTOOR	129.04	-52.3
501632	GUNTR2	132	5007	GUNTUR	130.57	-47.1
501633	RAMAPT	132	5008	PRAKASAM	130.07	-50.4
501634	ROUTSURAMA LA	132	5010	CHITTOOR	129.24	-52.9
501635	RAVALI_SML 1	132	5005	W GODAVARY	127.04	-50.1
501636	SPL_FERRO	132	5010	CHITTOOR	128.29	-52.9
501637	KURUPAM 1	132	5002	VIZIANAGARAM	128.56	-48.6
501638	GAMESH	132	5012	ANANTAPUR	129.25	-42.4
501639	GAJPATHINGR M	132	5002	VIZIANAGARAM	129.4	-47.9
501640	DHONE	132	5013	KURNOOL	131.55	-39.4

501641	KANDUKUR 21	132	5008	PRAKASAM	130.09	-50.3
501642	NAVPADA_RT 1	132	5001	SRIKAKULAM	133.53	-48.6
501643	PEDANA SWS 1	132	5006	KRISHNA	128.39	-48.7
501644	PARRY_PLKD 1	132	5001	SRIKAKULAM	129.45	-49.5
501645	IMP_FABBLI 1	132	5002	VIZIANAGARAM	129.91	-47.5
501646	ANDR_FAGVD 1	132	5002	VIZIANAGARAM	129.67	-47
501647	BARC_BRNDX 1	132	5003	VIZAG	129.34	-46.1
501648	SUND_ABRDX 1	132	5003	VIZAG	129.06	-46.2
501649	ANJA_ABRDX 1	132	5003	VIZAG	129.17	-46.2
501650	SANVR_BRDX 1	132	5003	VIZAG	129.34	-46.1
501651	SSSUG_RCPM 1	132	5004	E GODAVARY	129.49	-47.8
501652	NVBL_PRTPD 1	132	5004	E GODAVARY	129.4	-47.8
501653	BOMMURU_RT 1	132	5004	E GODAVARY	129.85	-48
501654	SAMARLK_RT 1	132	5004	E GODAVARY	129.44	-47.8
501655	NFC_KKNADA 1	132	5004	E GODAVARY	127.83	-48.9
501656	SILK_RDSUG 1	132	5004	E GODAVARY	127.62	-49.1
501657	NAOB_BRDX 1	132	5003	VIZAG	128.58	-46.5
501658	GODA_FSLRS 1	132	5004	E GODAVARY	127.62	-49.1
501659	ELURU_RT 1	132	5005	W GODAVARY	128.28	-48.8
501660	PTPALLI_RT 1	132	5005	W GODAVARY	127.87	-49.4
501661	JEYPO_SNDV 1	132	5005	W GODAVARY	129.65	-48.3
501662	VRKS_NLJRL 1	132	5005	W GODAVARY	128.66	-49.3
501663	APSUG_KVRU 1	132	5005	W GODAVARY	129.23	-48.6
501664	KONDAPL_RT 1	132	5006	KRISHNA	131.4	-44.7
501665	JPC_CHLKL 1	132	5006	KRISHNA	132.83	-43.6
501666	GUDIVAD_RT 1	132	5006	KRISHNA	129.13	-47.9
501667	MCL_CHLKL 1	132	5006	KRISHNA	132.84	-43.5
501668	RWPH_BVNPM 1	132	5006	KRISHNA	133.38	-43.6
501669	CHIGR_KOTA 1	132	5006	KRISHNA	128.68	-48.2
501670	CHAKRAY_PM 1	132	5007	GUNTUR	127.66	-49.2
501671	BAPATLA_RT 1	132	5007	GUNTUR	127.49	-49.2
501672	TADEPL_RT 1	132	5007	GUNTUR	130.57	-46
501673	TENALI_RT 1	132	5007	GUNTUR	128.66	-48.5
501674	SAVALPM_RT 1	132	5007	GUNTUR	128.32	-48.8
501675	NALLAPD_RT 1	132	5007	GUNTUR	129.72	-47.2
501676	BC_TANGEDA 1	132	5007	GUNTUR	132.83	-44.3
501677	CNC_RNTCL 1	132	5007	GUNTUR	133.81	-42.5
501678	RENTAPL_RT 1	132	5007	GUNTUR	131.82	-45.4
501679	AMARAT_MRT 1	132	5008	PRAKASAM	127.58	-48.9
501680	TEAMA_MDMT 1	132	5008	PRAKASAM	130.89	-50.3
501681	ONGOLE_RT 1	132	5008	PRAKASAM	131.31	-49.9
501682	JVIL_INKLU 1	132	5008	PRAKASAM	127.82	-49.6
501683	GAJJALK_RT 1	132	5008	PRAKASAM	129.05	-45.9

501684	EMPEE_NDPT 1	132	5009	NELLORE	126.78	-54.1
501685	GUDURU_RT 1	132	5009	NELLORE	128.44	-52.3
501686	SULLURP_RT 1	132	5009	NELLORE	129.21	-52.9
501687	NELCST_GDR 1	132	5009	NELLORE	128.44	-52.3
501688	HNGL_MNKR 1	132	5009	NELLORE	126.21	-54.2
501689	EMJAY_NDPT 1	132	5009	NELLORE	126.94	-54
501690	ADURUPL_RT 1	132	5009	NELLORE	130.15	-51.1
501691	SEIGF_ADRP 1	132	5009	NELLORE	130.77	-50.6
501692	PENNAC_BDM 1	132	5009	NELLORE	129.56	-51.3
501693	VNKTGIR_RT 1	132	5009	NELLORE	128.03	-53
501694	KAVALI_RT 1	132	5009	NELLORE	126.24	-52.9
501695	NTS_RT 1	132	5009	NELLORE	128.53	-51.8
501696	VICKS_NDPT 1	132	5009	NELLORE	126.93	-54
501697	MONDLEZ_CV 1	132	5009	NELLORE	128.26	-53.6
501698	GNDWN_RNG 1	132	5010	CHITTOOR	129.11	-52.3
501699	GANNAVARA M 1	132	5006	KRISHNA	129.03	-47.4
501700	KAZA	132	5007	GUNTUR	129.78	-46.9
501701	NUNI_GPLSW 1	132	5010	CHITTOOR	129.71	-52.8
501702	LANCO_RGNR 1	132	5010	CHITTOOR	129.12	-52.3
501703	SIVARAM_PM 1	132	5010	CHITTOOR	128.53	-50.3
501704	SAGARS_KPM 1	132	5010	CHITTOOR	127.41	-53.6
501705	BANDLA_NPL 1	132	5010	CHITTOOR	129.44	-46.8
501706	PUTTUR_RT 1	132	5012	ANANTAPUR	128.76	-52.8
501707	RENIGUN_RT 1	132	5010	CHITTOOR	129.14	-52.2
501708	DAYA_SNTPM 1	132	5010	CHITTOOR	132.01	-52.6
501709	PRAKAS_RCN 1	132	5010	CHITTOOR	129.04	-52.4
501710	WANEEP_NGR 1	132	5010	CHITTOOR	129.68	-52.4
501711	WANEEP_GRK 1	132	5010	CHITTOOR	129.54	-47.2
501712	AMARAJ_NGP 1	132	5010	CHITTOOR	129.34	-53
501713	RAMA_SMDRM 1	132	5010	CHITTOOR	127.93	-50.8
501714	MANGAL_IRL 1	132	5010	CHITTOOR	128.47	-52.1
501715	ICL_YRGNTL 1	132	5011	KADAPA	131.83	-40
501716	ZUR_YRGNTL 1	132	5011	KADAPA	131.9	-40
501717	GRTXT_PLVD 1	132	5011	KADAPA	130.65	-40
501718	ECORN_PRML 1	132	5011	KADAPA	132	0
501719	UCIL_PLVD 1	132	5011	KADAPA	129.94	-40.9
501720	DALMIA_JMG 1	132	5011	KADAPA	131.68	-38.8
501721	CHERLPL_RT 1	132	5011	KADAPA	126.13	-48.1
501722	KBL_GNDKT 1	132	5011	KADAPA	130.99	-39
501723	PUTTAPR_RT 1	132	5012	ANANTAPUR	127.75	-42.5
501724	AROHIS_HDP 1	132	5012	ANANTAPUR	131.94	-39.3
501725	TGPRT_KLDG 1	132	5012	ANANTAPUR	129.56	-42.1
501726	BMMC_GDPDU 1	132	5012	ANANTAPUR	130.8	-40.6

501727	POLYSO_KDG 1	132	5012	ANANTAPUR	129.53	-42.1
501728	SEIASO_KDR 1	132	5012	ANANTAPUR	129.8	-41.5
501729	GRDS_TDPT 1	132	5012	ANANTAPUR	130.03	-40.6
501730	AZURE_TDPT 1	132	5012	ANANTAPUR	132	-39
501731	MALUGUR_RT 1	132	5012	ANANTAPUR	131.21	-39.9
501732	GUNTAKL_RT 1	132	5012	ANANTAPUR	131.15	-39.7
501733	NAGARUR_RT 1	132	5013	KURNOOL	131.54	-40.1
501734	CHAGHI_ADN 1	132	5013	KURNOOL	132	-39.7
501735	BAEL_APC 1	132	5013	KURNOOL	132.07	-39.6
501736	ALKALS_KNL 1	132	5013	KURNOOL	132.06	-39.6
501737	SIVAJ_BNGP 1	132	5013	KURNOOL	128.52	-41.2
501738	PRIYA_RCRL 1	132	5013	KURNOOL	131.74	-39.4
501739	MARUTI_MDM 1	132	5013	KURNOOL	130.43	-40.7
501740	MANTRLM_RT 1	132	5013	KURNOOL	130.4	-40.7
501741	NANDYAL_RT 1	132	5013	KURNOOL	129.81	-40.4
501742	DIVIS_LABRTY	132	5003	VIZAG	127.29	-48.1
501743	AMIGANIPALL 1	132	5010	CHITTOOR	129.01	-52.2
501745	PENOKONDA 1	132	5012	ANANTAPUR	129.47	-41.2

6.2LINE REPORT FOR 2029 STUDY

From bus	From Bus Name	To bus	To Bus Name	ID	MW	MVAr	MVA	Loading %	Base KV
508091	SRI_POOL	428090	ANGUL-B	1	-1414.8	110.8	1419.2	60	765
508091	SRI_POOL	428090	ANGUL-B	2	-1414.8	110.8	1419.2	60	765
508091	SRI_POOL	508092	VEM-II80	1	855.4	-188.2	875.9	34	765
508091	SRI_POOL	508092	VEM-II80	2	855.4	-188.2	875.9	34	765
508092	VEM-II80	508091	SRI_POOL	1	-850.7	-149.8	863.7	34	765
508092	VEM-II80	508091	SRI_POOL	2	-850.7	-149.8	863.7	34	765
508092	VEM-II80	508099	CPETA800	1	-4.3	-19.3	19.7	1	765
508092	VEM-II80	508099	CPETA800	2	-4.3	-19.3	19.7	1	765
508099	CPETA800	508007	CUDP800	1	-6	-183	183.1	7	765
508099	CPETA800	508007	CUDP800	2	-6	-183	183.1	7	765
508099	CPETA800	508092	VEM-II80	1	4.4	-255	255.1	10	765
508099	CPETA800	508092	VEM-II80	2	4.4	-255	255.1	10	765
508099	CPETA800	518079	WARANGAL NEW	1	-686.3	105.5	694.3	28	765
508099	CPETA800	518079	WARANGAL NEW	2	-686.3	105.5	694.3	28	765
508093	NELL-POL	508028	KURL800	2	-0.9	-250.8	250.8	10	765
508093	NELL-POL	508028	KURL800	3	-0.9	-250.8	250.8	10	765
508007	CUDP800	508028	KURL800	1	-541.4	-131.9	557.2	22	765
508007	CUDP800	508028	KURL800	2	-541.4	-131.9	557.2	22	765
508007	CUDP800	508099	CPETA800	1	6	-115.1	115.3	5	765

508007	CUDP800	508099	CPETA800	2	6	-115.1	115.3	5	765
508007	CUDP800	548087	TIRUVLM	1	625.2	-155.3	644.2	25	765
508007	CUDP800	548087	TIRUVLM	2	625.2	-155.3	644.2	25	765
508028	KURL800	508007	CUDP800	1	542.6	-147.2	562.2	22	765
508028	KURL800	508007	CUDP800	2	542.6	-147.2	562.2	22	765
508028	KURL800	508049	KURNOOL-III	1	-793.9	-64.1	796.5	32	765
508028	KURL800	508049	KURNOOL-III	2	-793.9	-64.1	796.5	32	765
508028	KURL800	508093	NELL-POL	2	1	-76.9	76.9	3	765
508028	KURL800	508093	NELL-POL	3	1	-76.9	76.9	3	765
508028	KURL800	518051	MAHESHWARAM	1	-272.3	110.9	294	12	765
508028	KURL800	518051	MAHESHWARAM	2	-272.3	110.9	294	12	765
508028	KURL800	528003	RAIC800	1	-2.8	-205.8	205.8	9	765
508028	KURL800	528003	RAIC800	2	-2.9	-204.5	204.5	9	765
508049	KURNOOL-II	508028	KURL800	1	795.3	-302.4	850.8	34	765
508049	KURNOOL-II	508028	KURL800	2	795.3	-302.4	850.8	34	765
508049	KURNOOL-II	518051	MAHESHWARAM	1	474.7	-0.2	474.7	19	765
508049	KURNOOL-II	518051	MAHESHWARAM	2	474.7	-0.2	474.7	19	765
504039	MARADAM	504016	VIZPOOL	1	2.2	-12.6	12.7	1	400
504039	MARADAM	504016	VIZPOOL	2	2.2	-12.6	12.7	1	400
504039	MARADAM	504091	SRI_POOL	1	-552.1	-43.1	553.8	25	400
504039	MARADAM	504091	SRI_POOL	2	-552.1	-43.1	553.8	25	400
504006	GAZW	504010	GAZU-SR	1	-646.5	-111.7	656	66	400
504006	GAZW	504015	SIMHD-II	1	-80.9	3.8	81	7	400
504006	GAZW	504015	SIMHD-II	2	-80.9	3.8	81	7	400
504006	GAZW	504016	VIZPOOL	1	89.4	46.2	100.6	12	400
504006	GAZW	504016	VIZPOOL	2	89.4	46.2	100.6	12	400
504006	GAZW	504092	VEMAG-II	1	-6.8	-49.3	49.8	5	400
504010	GAZU-SR	424099	GAZUWAKA-ER	2DI	-323.2	175.5	367.8		400
504010	GAZU-SR	424099	GAZUWAKA-ER	2DI	-323.2	175.5	367.8		400
504014	SIMHADRI	504015	SIMHD-II	1	-186.8	18.6	187.8	22	400
504014	SIMHADRI	504015	SIMHD-II	2	-186.8	18.6	187.8	22	400
504014	SIMHADRI	504084	KAKINADA SEZ	P1	211.4	-63.9	220.8	25	400
504016	VIZPOOL	504014	SIMHADRI	1	-287.4	-19.9	288.1	34	400
504016	VIZPOOL	504014	SIMHADRI	2	-287.4	-19.9	288.1	34	400
504016	VIZPOOL	504014	SIMHADRI	3	-287.4	-19.9	288.1	34	400
504016	VIZPOOL	504048	ACHUTHAPURAM	P1	352	31.6	353.4	40	400
504016	VIZPOOL	504048	ACHUTHAPURAM	P2	352	31.6	353.4	40	400
504016	VIZPOOL	504084	KAKINADA SEZ	P2	194.6	-65	205.1	23	400
504016	VIZPOOL	504098	HINDJ-OA	1	-295.3	4.9	295.4	24	400
504016	VIZPOOL	504098	HINDJ-OA	2	-295.3	4.9	295.4	24	400
504048	ACHUTHAPURA M	514004	KHAMMAM	P1	-26	-38	46	5	400
504048	ACHUTHAPURA M	514135	ASUPAKA	P1	24.3	-64.8	69.2	8	400
504085	U_SILER PSP4	504084	KAKINADA SEZ	P1	148.1	-78.2	167.5	10	400
504085	U_SILER PSP4	504084	KAKINADA SEZ	P2	148.1	-78.2	167.5	10	400

504098	HINDJ-OA	504084	KAKINADA SEZ	1	204.4	-60	213	17	400
504098	HINDJ-OA	504084	KAKINADA SEZ	2	204.4	-60	213	17	400
504017	VEMAGIR4	504011	GMR_VMGR4	1	0	-1.1	1.1	0	400
504017	VEMAGIR4	504011	GMR_VMGR4	2	0	-1.1	1.1	0	400
504017	VEMAGIR4	504012	GAUT_VMGR4	1	0	-24.2	24.2	3	400
504017	VEMAGIR4	504020	AINAVILL 4	P1	272.4	10.2	272.6	31	400
504017	VEMAGIR4	504044	JEGUR_VMGR 4	1	0	-4.2	4.2	0	400
504017	VEMAGIR4	504044	JEGUR_VMGR 4	2	0	-4.2	4.2	0	400
504017	VEMAGIR4	504084	KAKINADA SEZ	P1	-43.5	30.1	53	6	400
504017	VEMAGIR4	504084	KAKINADA SEZ	P2	-43.5	30.1	53	6	400
504017	VEMAGIR4	504092	VEMAG-II	1	-681.7	-69.4	685.3	62	400
504017	VEMAGIR4	504092	VEMAG-II	2	-681.7	-69.4	685.3	62	400
504017	VEMAGIR4	504111	KVKOTA 4	1	159.1	13.9	159.7	17	400
504017	VEMAGIR4	504403	GUDIVADA	1	80.6	-38.6	89.4	10	400
504017	VEMAGIR4	504403	GUDIVADA	2	80.6	-38.6	89.4	10	400
504020	AINAVILL 4	504177	KONAS_VMGR 4	P1	-52.1	-29.2	59.8	7	400
504084	KAKINADA SEZ	504040	GUDDIGUEDEM	1	125.4	-29.7	128.8	10	400
504084	KAKINADA SEZ	504040	GUDDIGUEDEM	2	125.4	-29.7	128.8	10	400
504092	VEMAG-II	504005	VIJW	1	103.5	-30.6	107.9	11	400
504092	VEMAG-II	504005	VIJW	2	113.6	-32.3	118.1	12	400
504092	VEMAG-II	504005	VIJW	3	113.6	-32.3	118.1	12	400
504092	VEMAG-II	504015	SIMHD-II	1	1.2	64	64	7	400
504092	VEMAG-II	504015	SIMHD-II	2	1.2	64	64	7	400
504040	GUDDIGUEDEM	504001	POLLAVAR HEP	1	-92.8	32.1	98.2	4	400
504040	GUDDIGUEDEM	504001	POLLAVAR HEP	2	-92.8	32.1	98.2	4	400
504040	GUDDIGUEDEM	504111	KVKOTA 4	1	-9.5	-57.6	58.3	6	400
504040	GUDDIGUEDEM	504111	KVKOTA 4	2	-9.5	-57.6	58.3	6	400
504111	KVKOTA 4	502236	KVKOTA1	1	163	49.2	170.3	54	400
504111	KVKOTA 4	502236	KVKOTA1	2	163	49.2	170.3	54	400
504111	KVKOTA 4	504177	KONAS_VMGR 4	A1	52.2	-37.2	64.1	7	400
504005	VIJW	504019	NELLORE4	1	78.5	-46.2	91.1	11	400
504005	VIJW	504019	NELLORE4	2	78.5	-46.2	91.1	11	400
504005	VIJW	504030	VIJTP-IV	1	-331.7	269.2	427.2	48	400
504005	VIJW	504081	PODLI	P1	138.6	-48.5	146.9	17	400
504005	VIJW	504088	LANCO-OA	1	0	-12.4	12.4	1	400
504005	VIJW	504088	LANCO-OA	2	0	-12.4	12.4	1	400
504005	VIJW	504103	NELLORE-AP	3	78.3	-33.9	85.3	9	400
504005	VIJW	514004	KHAMMAM	1	-157.5	14.3	158.2	18	400
504030	VIJTP-IV	504037	THALAYAPALEM	1	45.7	-77.8	90.2	11	400
504030	VIJTP-IV	504037	THALAYAPALEM	2	45.7	-77.8	90.2	11	400
504030	VIJTP-IV	504081	PODLI	P1	204.2	-80.4	219.5	25	400
504030	VIJTP-IV	504103	NELLORE-AP	E1	106.1	-53	118.6	14	400
504030	VIJTP-IV	514060	SURYPET4	1	39	-84.6	93.2	11	400
504030	VIJTP-IV	514060	SURYPET4	2	39	-84.6	93.2	11	400
504403	GUDIVADA	504045	BURUGUBAN LI	P1	-119.3	-39.5	125.7	14	400

504403	GUDIVADA	504045	BURUGUBAN LI	P2	-119.3	-39.5	125.7	14	400
504003	NSAGAR	504028	KURL-NEW	1	-111.9	-11.3	112.5	12	400
504003	NSAGAR	504998	FSC-3	1	-192.6	-5	192.7	20	400
504003	NSAGAR	504999	FSC-4	2	-192.6	-5	192.7	20	400
504003	NSAGAR	514001	RAMGUNDM STP	1	-36	-16.7	39.7	5	400
504003	NSAGAR	514001	RAMGUNDM STP	2	-36	-16.7	39.7	5	400
504003	NSAGAR	514002	HYDERABAD	1	115.7	-36.2	121.2	14	400
504003	NSAGAR	514004	KHAMMAM	1	46.2	-34.9	57.9	7	400
504003	NSAGAR	514004	KHAMMAM	2	50.1	-37.9	62.8	7	400
504003	NSAGAR	514004	KHAMMAM	3	50.1	-37.9	62.8	7	400
504003	NSAGAR	514023	VELTOOR	1	-0.5	5.6	5.7	1	400
504026	VIJ-AP	504037	THALAYAPALEM	1	137.1	75.7	156.7	18	400
504026	VIJ-AP	504037	THALAYAPALEM	2	137.1	75.7	156.7	18	400
504026	VIJ-AP	504045	BURUGUBAN LI	1	188.4	-42.8	193.2	22	400
504026	VIJ-AP	504045	BURUGUBAN LI	2	188.4	-42.8	193.2	22	400
504026	VIJ-AP	504081	PODLI	1	250.3	-41.8	253.8	30	400
504026	VIJ-AP	504081	PODLI	2	250.3	-41.8	253.8	30	400
504026	VIJ-AP	504099	CPETA400	1	-686.3	-40.7	687.5	39	400
504026	VIJ-AP	504099	CPETA400	2	-686.3	-40.7	687.5	39	400
504026	VIJ-AP	514011	SSLBPH4	1	-147.1	-4.4	147.1	17	400
504026	VIJ-AP	514011	SSLBPH4	2	-147.1	-4.4	147.1	17	400
504037	THALAYAPALEM	504026	VIJ-AP	1	-137.1	-85.3	161.4	19	400
504037	THALAYAPALEM	504026	VIJ-AP	2	-137.1	-85.3	161.4	19	400
504045	BURUGUBAN LI	504026	VIJ-AP	1	-188.3	34.1	191.3	22	400
504045	BURUGUBAN LI	504026	VIJ-AP	2	-188.3	34.1	191.3	22	400
504099	CPETA400	504026	VIJ-AP	1	687.9	40.1	689.1	39	400
504099	CPETA400	504026	VIJ-AP	2	687.9	40.1	689.1	39	400
504081	PODLI	504026	VIJ-AP	1	-249.1	-12.4	249.4	29	400
504081	PODLI	504026	VIJ-AP	2	-249.1	-12.4	249.4	29	400
504081	PODLI	504103	NELLORE-AP	P1	39.6	-54	66.9	8	400
504081	PODLI	504103	NELLORE-AP	P2	39.6	-54	66.9	8	400
504081	PODLI	504404	RAMAYAPATNAM	P1	196.3	0.4	196.3	23	400
504081	PODLI	504404	RAMAYAPATNAM	P2	196.3	0.4	196.3	23	400
504404	RAMAYAPATNAM	504027	KRISH-AP	P1	-251.9	-3.9	251.9	30	400
504404	RAMAYAPATNAM	504027	KRISH-AP	P2	-251.9	-3.9	251.9	30	400
504002	SEMBBCORP 4	504027	KRISH-AP	P1	147.2	-9.9	147.6	8	400
504002	SEMBBCORP 4	504103	NELLORE-AP	P1	477.8	-76.8	483.9	28	400
504018	TPCIL4	504093	NEL-POOL	1	363.9	-63.1	369.4	17	400
504018	TPCIL4	504093	NEL-POOL	2	363.9	-63.1	369.4	17	400
504019	NELLORE4	504005	VIJW	2	-78.1	-49.9	92.7	11	400
504019	NELLORE4	504103	NELLORE-AP	1	-176.3	14.9	176.9	10	400
504019	NELLORE4	504103	NELLORE-AP	2	-176.3	14.9	176.9	10	400
504019	NELLORE4	544002	SPBUDUR4	1	254.4	14.3	254.8	30	400
504019	NELLORE4	544002	SPBUDUR4	2	254.4	55.6	260.4	30	400

504027	KRISH-AP	504035	RACHAGUNNERI	1	316.8	-83.4	327.6	15	400
504027	KRISH-AP	504035	RACHAGUNNERI	2	316.8	-83.4	327.6	15	400
504027	KRISH-AP	504103	NELLORE-AP	1	506.1	-80.9	512.5	29	400
504027	KRISH-AP	504404	RAMAYAPATNAM	P1	253.2	-38.2	256	30	400
504027	KRISH-AP	504404	RAMAYAPATNAM	P2	253.2	-38.2	256	30	400
504093	NEL-POOL	504008	GOOT	1	187.1	-68.8	199.3	9	400
504093	NEL-POOL	504008	GOOT	2	187.1	-68.9	199.4	9	400
504093	NEL-POOL	504094	NCCPPL	1	-363.5	46.5	366.5	17	400
504093	NEL-POOL	504094	NCCPPL	2	-363.5	46.5	366.5	17	400
504093	NEL-POOL	544087	TIRUVLMSE-A	1	540.9	-14.6	541.1	25	400
504093	NEL-POOL	544087	TIRUVLMSE-A	2	540.9	-14.6	541.1	25	400
504024	CHITOR	504007	CUDP	1	-658.8	82.8	663.9	75	400
504024	CHITOR	544002	SPBUDUR4	1	395.6	1.6	395.6	23	400
504024	CHITOR	544084	TIRUVLMSE-B	1	-237.5	7.2	237.6	11	400
504024	CHITOR	544084	TIRUVLMSE-B	2	-237.5	7.2	237.6	11	400
504035	RACHAGUNNERI	504024	CHITOR	1	-47.7	-67.9	83	4	400
504035	RACHAGUNNERI	504024	CHITOR	2	-47.7	-67.9	83	4	400
504204	KALIKIRI	504024	CHITOR	1	-95.1	52.5	108.6	10	400
504204	KALIKIRI	504024	CHITOR	2	-95.1	52.5	108.6	10	400
504204	KALIKIRI	504057	MUDN400	1	0.1	-95	95	8	400
504204	KALIKIRI	504057	MUDN400	2	0.1	-95	95	8	400
504007	CUDP	504025	ANANTPUR	1	-1071.9	160.8	1083.9	61	400
504007	CUDP	504025	ANANTPUR	2	-1071.9	160.8	1083.9	61	400
504007	CUDP	504050	NPKUNTA	1	-107.4	31.6	111.9	5	400
504007	CUDP	504050	NPKUNTA	2	-107.4	31.6	111.9	5	400
504007	CUDP	504050	NPKUNTA	3	-130.7	72.5	149.5	17	400
504007	CUDP	504998	FSC-3	1	194.8	-136.4	237.8	25	400
504007	CUDP	504999	FSC-4	2	194.8	-136.4	237.8	25	400
504132	KONDPRM	504013	KURNOOL4	1	-57.3	-23.5	61.9	3	400
504132	KONDPRM	504013	KURNOOL4	2	-57.3	-23.5	61.9	3	400
504132	KONDPRM	504083	TALARICH	1	11.6	144.2	144.6	17	400
504132	KONDPRM	504083	TALARICH	2	11.6	144.2	144.6	17	400
504004	MADDIKERASWS	504133	URVKND	P1	136.4	-42.4	142.9	8	400
504004	MADDIKERASWS	514023	VELTOOR	P1	163.6	-83.9	183.8	11	400
504008	GOOT	504013	KURNOOL4	1	-144.9	29.4	147.8	17	400
504008	GOOT	504028	KURL-NEW	1	-154.7	59.3	165.7	17	400
504008	GOOT	504996	FSC-1	1	432.9	-99.2	444.1	46	400
504008	GOOT	504997	FSC-2	2	365.7	-98.7	378.8	40	400
504025	ANANTPUR	504049	KURNOOL-III	1	564.6	-5.9	564.6	26	400
504025	ANANTPUR	504049	KURNOOL-III	2	564.6	-5.9	564.6	26	400
504042	HINDPR40	504050	NPKUNTA	1	-196.5	30.3	198.8	9	400
504042	HINDPR40	504050	NPKUNTA	2	-196.5	30.3	198.8	9	400
504133	URVKND	504042	HINDPR40	1	-57.2	-25.6	62.7	3	400
504133	URVKND	504042	HINDPR40	2	-57.2	-25.6	62.7	3	400
504133	URVKND	504083	TALARICH	1	-50.4	-26.5	57	3	400

504133	URVKND	504083	TALARICH	2	-50.4	-26.5	57	3	400
504013	KURNOOL4	504028	KURL-NEW	1	-522.7	46.9	524.8	24	400
504013	KURNOOL4	504028	KURL-NEW	2	-522.7	46.9	524.8	24	400
504013	KURNOOL4	504032	PANYAM	1	36.9	12.4	38.9	2	400
504013	KURNOOL4	504032	PANYAM	2	36.9	12.4	38.9	2	400
504013	KURNOOL4	514011	SSLBPH4	1	216.3	-32.7	218.7	25	400
504013	KURNOOL4	514101	MAHESWRM	1	126.1	-62.6	140.8	16	400
504028	KURL-NEW	504003	NSAGAR	1	112.5	-84.2	140.6	15	400
504028	KURL-NEW	504029	GREENKO AP	1	-131.6	233.1	267.7	12	400
504028	KURL-NEW	504029	GREENKO AP	2	-131.6	233.1	267.7	12	400
504031	POTHRDYPADU4	504032	PANYAM	P1	-35	-60.9	70.2	8	400
504031	POTHRDYPADU4	504032	PANYAM	P2	-35	-60.9	70.2	8	400
502011	BHAVANAPADU	502076	TEKKALI	1	-24	-6	24.7	8	220
502011	BHAVANAPADU	502076	TEKKALI	2	-24	-6	24.7	8	220
502076	TEKKALI	502092	SARUBUJIL 2	P1	-45.6	-26.6	52.8	22	220
502172	GOPPILI 2	502076	TEKKALI	P1	8.2	25.7	26.9	11	220
502172	GOPPILI 2	502076	TEKKALI	P2	8.2	25.7	26.9	11	220
502172	GOPPILI 2	502092	SARUBUJIL 2	P1	-37.6	-12.2	39.5	17	220
502172	GOPPILI 2	502092	SARUBUJIL 2	P2	-37.6	-12.2	39.5	17	220
502039	MARADAM1	502092	SARUBUJIL 2	P1	68.1	-4	68.2	28	220
502039	MARADAM1	502092	SARUBUJIL 2	P2	68.1	-4	68.2	28	220
502039	MARADAM1	502134	PYDIBHIMAVAR	1	77.6	-14.9	79	26	220
502039	MARADAM1	502134	PYDIBHIMAVAR	2	77.6	-14.9	79	26	220
502039	MARADAM1	502207	BMNDRPALEM 2	E1	37.2	6.8	37.8	16	220
502039	MARADAM1	502207	BMNDRPALEM 2	E2	37.2	6.8	37.8	16	220
502039	MARADAM1	502209	BOBILI	E1	124.4	15.6	125.4	52	220
502039	MARADAM1	502209	BOBILI	E2	124.4	15.6	125.4	52	220
502039	MARADAM1	502209	BOBILI	P1	96.4	11.6	97.1	40	220
502039	MARADAM1	502226	GARIVIDI	3	99.1	-6.7	99.3	33	220
502039	MARADAM1	502226	GARIVIDI	4	99.1	-6.7	99.3	33	220
502039	MARADAM1	502226	GARIVIDI	P1	59.1	-2.4	59.1	28	220
502039	MARADAM1	502286	VIZIA_NGRM 2	A1	65.9	8	66.3	31	220
502039	MARADAM1	502286	VIZIA_NGRM 2	A2	65.9	8	66.3	31	220
502207	BMNDRPALEM 2	502260	SARDAPS(VIZA	1	0	-1.6	1.6	1	220
502207	BMNDRPALEM 2	502260	SARDAPS(VIZA	2	0	-1.6	1.6	1	220
502226	GARIVIDI	502076	TEKKALI	1	77.4	7.6	77.7	26	220
502226	GARIVIDI	502092	SARUBUJIL 2	P1	38	-5.2	38.4	16	220
502226	GARIVIDI	502209	BOBILI	1	-27	4.3	27.4	9	220
502001	MRSV 2	502074	VIZAGSTEELPL	E1	-45.3	-11.4	46.7	10	220
502001	MRSV 2	502074	VIZAGSTEELPL	E2	-45.3	-11.4	46.7	10	220
502002	ATCH_PRMGIS2	502037	BRANDX(EXIMP	A1	182.9	36.1	186.4	50	220
502002	ATCH_PRMGIS2	502037	BRANDX(EXIMP	A2	182.9	36.1	186.4	50	220
502002	ATCH_PRMGIS2	502283	ACHUTHAPARAM	P1	-267.1	-53.1	272.3	76	220
502002	ATCH_PRMGIS2	502283	ACHUTHAPARAM	P2	-267.1	-53.1	272.3	76	220
502006	VIZAGSS-PG	502016	VZG	1	-159.7	-90.6	183.6	79	220

502006	VIZAGSS-PG	502016	VZG	2	-159.7	-90.6	183.6	80	220
502006	VIZAGSS-PG	502040	GAZUWAKA	1	193.7	48.7	199.7	87	220
502006	VIZAGSS-PG	502065	PARWADA	1	105.1	31.5	109.7	36	220
502006	VIZAGSS-PG	502065	PARWADA	2	105.1	31.5	109.8	36	220
502006	VIZAGSS-PG	502066	PENDURTI	1	108.8	3.4	108.8	36	220
502006	VIZAGSS-PG	502066	PENDURTI	2	108.8	3.4	108.8	36	220
502006	VIZAGSS-PG	502074	VIZAGSTEELPL	1	73.3	16.8	75.2	12	220
502006	VIZAGSS-PG	502074	VIZAGSTEELPL	2	73.3	16.8	75.2	12	220
502006	VIZAGSS-PG	502221	GANGAVARAMP	1	187.7	45.2	193.1	84	220
502009	SIMHACHALAM2	502016	VZG	1	-103.7	-18.1	105.2	35	220
502009	SIMHACHALAM2	502016	VZG	2	-103.7	-18.1	105.2	35	220
502009	SIMHACHALAM2	502218	DIARYFARM	1	57	2.4	57.1	19	220
502009	SIMHACHALAM2	502218	DIARYFARM	2	57	2.4	57.1	19	220
502016	VZG	502037	BRANDX(EXIMP	1	48.8	26.9	55.7	18	220
502016	VZG	502037	BRANDX(EXIMP	2	48.8	26.9	55.7	18	220
502016	VZG	502301	HPCL 2	P1	55.5	-19.5	58.8	14	220
502016	VZG	502301	HPCL 2	P2	55.5	-19.5	58.8	14	220
502037	BRANDX(EXIMP	502051	RAJTVN_PLTD2	P1	86	42.8	96.1	41	220
502037	BRANDX(EXIMP	502193	ABIJ_FABRX 2	E1	128.9	64.5	144.2	61	220
502040	GAZUWAKA	502066	PENDURTI	1	43.9	-7.7	44.5	15	220
502040	GAZUWAKA	502221	GANGAVARAMPO	E1	-85.4	-12.2	86.2	41	220
502065	PARWADA	502118	JNPC2	P1	53.2	20.9	57.1	24	220
502065	PARWADA	502283	ACHUTHAPARAM	P1	7.4	14.9	16.7	8	220
502066	PENDURTI	502198	BHEEMILI 2	A1	20.4	-3.5	20.7	10	220
502066	PENDURTI	502198	BHEEMILI 2	A2	20.4	-3.5	20.7	10	220
502066	PENDURTI	502202	ANRAK	P1	5.3	-0.2	5.3	3	220
502066	PENDURTI	502207	BMNDRPALEM 2	1	-37	-19	41.6	14	220
502066	PENDURTI	502207	BMNDRPALEM 2	2	-37	-19	41.6	14	220
502066	PENDURTI	502218	DIARYFARM	1	36.3	15.7	39.6	13	220
502066	PENDURTI	502218	DIARYFARM	2	36.3	15.7	39.6	13	220
502077	UPPERSILERU	502202	ANRAK	P1	40.2	3.3	40.3	19	220
502077	UPPERSILERU	502220	DONKAREPS	1	12.5	-4.1	13.1	4	220
502087	LSR_BARSUR 2	502050	LOWERSILERU	E1	0	0	0	0	220
502087	LSR_BARSUR 2	502050	LOWERSILERU	E2	0	0	0	0	220
502135	NAKAVANPLM_2	502218	DIARYFARM	P1	-33.5	-9.3	34.7	15	220
502135	NAKAVANPLM_2	502218	DIARYFARM	P2	-33.5	-9.3	34.7	15	220
502198	BHEEMILI 2	502286	VIZIA_NGRM 2	A1	-20	-11.5	23	11	220
502198	BHEEMILI 2	502286	VIZIA_NGRM 2	A2	-20	-11.5	23	11	220
502202	ANRAK	502235	KORUPROLU	1	68.6	10.8	69.4	23	220
502202	ANRAK	502283	ACHUTHAPARAM	P1	-82.9	3.2	83	39	220
502202	ANRAK	502297	ANRAK_FERO 2	E1	2	0	2	1	220
502235	KORUPROLU	502283	ACHUTHAPARAM	P1	-97.6	-1.9	97.7	47	220
502235	KORUPROLU	502284	KAKINADASEZ	P1	-31.2	-21.6	37.9	18	220
502235	KORUPROLU	502284	KAKINADASEZ	P2	-31.2	-21.6	37.9	18	220

502283	ACHUTHAPARA M	502118	JNPC2	P1	-4.2	-15.2	15.8	7	220
502010	KORUKONDA220	502027	PURUSHOTHAPA	1	37.9	2.9	38	13	220
502010	KORUKONDA220	502027	PURUSHOTHAPA	2	37.9	2.9	38	13	220
502010	KORUKONDA220	502028	KRISHNAVARAM	1	-13.4	-3.1	13.8	5	220
502010	KORUKONDA220	502028	KRISHNAVARAM	2	-13.4	-3.1	13.8	5	220
502010	KORUKONDA220	502034	BOMMURU	1	-41.6	-0.6	41.6	14	220
502010	KORUKONDA220	502036	VEPKAYLDIBA2	P1	-17.7	-0.7	17.8	7	220
502010	KORUKONDA220	502050	LOWERSILERU	A1	-51.1	-6.8	51.5	24	220
502010	KORUKONDA220	502112	RAMACHANDRAP	1	-38.9	-5.6	39.3	13	220
502017	VEMAGIRI	502084	VIJESWARAM	P1	38.6	0.2	38.6	18	220
502017	VEMAGIRI	502085	VIJESWARAMN	E1	61.6	4.9	61.8	29	220
502017	VEMAGIRI	502085	VIJESWARAMN	P1	106.7	9.7	107.2	51	220
502017	VEMAGIRI	502098	DUVVA220	1	144	33.1	147.7	49	220
502017	VEMAGIRI	502113	SAMARLAKOT 2	1	30	-0.2	30	10	220
502017	VEMAGIRI	502113	SAMARLAKOT 2	2	30	-0.2	30	10	220
502017	VEMAGIRI	502114	BHIMAVARAM	1	107.1	26.3	110.3	36	220
502027	PURUSHOTHAPA	502014	GUDDIGUEDEM	1	8.5	0.6	8.5	3	220
502027	PURUSHOTHAPA	502014	GUDDIGUEDEM	2	8.5	0.6	8.5	3	220
502028	KRISHNAVARAM	502284	KAKINADASEZ	1	-68.9	-0.3	68.9	29	220
502028	KRISHNAVARAM	502284	KAKINADASEZ	2	-68.9	-0.3	68.9	29	220
502034	BOMMURU	502010	KORUKONDA220	1	41.6	-4.7	41.9	14	220
502034	BOMMURU	502017	VEMAGIRI	1	-82.6	-8.8	83.1	27	220
502034	BOMMURU	502017	VEMAGIRI	2	-82.6	-8.8	83.1	27	220
502034	BOMMURU	502017	VEMAGIRI	3	-26.4	-2.7	26.6	9	220
502034	BOMMURU	502017	VEMAGIRI	P1	-74.1	-6.4	74.4	35	220
502034	BOMMURU	502017	VEMAGIRI	P2	-74.1	-6.4	74.4	35	220
502034	BOMMURU	502036	VEPKAYLDIBA2	P1	46.3	5.4	46.6	20	220
502034	BOMMURU	502043	JEGURUPADU2	1	36.1	1.3	36.1	12	220
502034	BOMMURU	502044	KAKINADA	1	48.4	3.1	48.5	16	220
502034	BOMMURU	502050	LOWERSILERU	1	-42.1	-7.4	42.7	20	220
502034	BOMMURU	502113	SAMARLAKOT 2	1	24.8	-1.3	24.8	8	220
502044	KAKINADA	502232	KAKINDAGS(SP	1	0	0	0	0	220
502044	KAKINADA	502232	KAKINDAGS(SP	2	0	0	0	0	220
502044	KAKINADA	502284	KAKINADASEZ	P1	-67.8	-10.5	68.6	33	220
502050	LOWERSILERU	502035	MEDEPALLI	P1	37.7	-7.6	38.5	16	220
502050	LOWERSILERU	502055	CHINTURU 2	A1	18.1	0	18.1	8	220
502050	LOWERSILERU	502112	RAMACHANDRAP	A1	56.8	-5.4	57.1	27	220
502050	LOWERSILERU	502220	DONKAREPS	1	-17.9	2	18.1	6	220
502050	LOWERSILERU	512102	ASUPAKA	1	-32.2	-9.4	33.5	14	220
502050	LOWERSILERU	512199	BG.KOTHUR LI	1	-5	-7.5	9	3	220
502113	SAMARLAKOT 2	502004	SGAL_SMLKT 2	E1	0	-0.5	0.5	0	220
502113	SAMARLAKOT 2	502208	GMRB_SMLKT 2	1	0	0	0	0	220
502113	SAMARLAKOT 2	502208	GMRB_SMLKT 2	2	0	0	0	0	220
502113	SAMARLAKOT 2	502212	BSES(SAMRLA)	1	0	-0.4	0.4	0	220

502113	SAMARLAKOT 2	502212	BSES(SAMRLA)	2	0	-0.4	0.4	0	220
502113	SAMARLAKOT 2	502284	KAKINADASEZ	1	-51.4	-2	51.5	24	220
502284	KAKINADASEZ	502093	GAIL AP	1	64	7.4	64.4	21	220
502284	KAKINADASEZ	502093	GAIL AP	2	64	7.4	64.4	21	220
502014	GUDDIGUEDEM	502015	THADIPUDI	1	37.9	6.2	38.4	13	220
502014	GUDDIGUEDEM	502015	THADIPUDI	2	37.9	6.2	38.4	13	220
502014	GUDDIGUEDEM	502047	KOYYAL_GUDM2	P1	38.6	10.8	40.1	17	220
502014	GUDDIGUEDEM	502047	KOYYAL_GUDM2	P2	38.6	10.8	40.1	17	220
502014	GUDDIGUEDEM	502116	PATTISEEMA	1	40.4	1.8	40.5	13	220
502014	GUDDIGUEDEM	502116	PATTISEEMA	2	40.4	1.8	40.5	13	220
502014	GUDDIGUEDEM	502248	PALLANTLA	1	14.8	-4	15.4	5	220
502014	GUDDIGUEDEM	502248	PALLANTLA	2	14.8	-4	15.4	5	220
502023	KOPPAKA 2	502236	KVKOTA1	P1	-7.4	-16.2	17.8	8	220
502023	KOPPAKA 2	502246	NUZIVEEDU	P1	-53.3	4.7	53.5	25	220
502023	KOPPAKA 2	502246	NUZIVEEDU	P2	-53.3	4.7	53.5	25	220
502032	BHIMADOLU	502023	KOPPAKA 2	P1	-30	9.7	31.6	15	220
502032	BHIMADOLU	502084	VIJESWARAM	1	-38.5	-8	39.3	13	220
502032	BHIMADOLU	502236	KVKOTA1	1	-53	-15	55	23	220
502032	BHIMADOLU	502236	KVKOTA1	2	-53	-15	55	23	220
502032	BHIMADOLU	502248	PALLANTLA	1	-1	-5.9	6	2	220
502032	BHIMADOLU	502248	PALLANTLA	2	-1	-5.9	6	2	220
502061	NIDADAVOLU	502043	JEGURUPADU2	1	-36	-5.2	36.4	12	220
502061	NIDADAVOLU	502085	VIJESWARAMN	1	-84	-8.7	84.4	28	220
502061	NIDADAVOLU	502085	VIJESWARAMN	2	-84	-8.7	84.4	28	220
502061	NIDADAVOLU	502111	KVKOTA	E1	7.9	-4.3	9	4	220
502061	NIDADAVOLU	502248	PALLANTLA	1	16.5	-2.4	16.7	6	220
502061	NIDADAVOLU	502248	PALLANTLA	2	16.5	-2.4	16.7	6	220
502114	BHIMAVARAM	502098	DUVVA220	1	-82.7	-25.5	86.5	29	220
502114	BHIMAVARAM	502099	NARSAPURAM 2	P1	30.5	4.5	30.8	9	220
502114	BHIMAVARAM	502099	NARSAPURAM 2	P2	30.5	4.5	30.8	9	220
502114	BHIMAVARAM	502169	AKIVEEDU 2	E1	-45.6	-9.7	46.6	23	220
502114	BHIMAVARAM	502169	AKIVEEDU 2	E2	-45.6	-9.7	46.6	23	220
502171	AKIVEEDU 4	502046	GOPAVARAM2	P1	-96	-21.1	98.3	42	220
502171	AKIVEEDU 5	502046	GOPAVARAM2	P2	-96	-21.1	98.3	42	220
502005	NUNNA	502130	TIRUVURU 2	A1	59.7	2	59.7	28	220
502005	NUNNA	502246	NUZIVEEDU	P1	64.4	-5.2	64.6	31	220
502005	NUNNA	502274	VTPS(VJW)	1	-120.6	-36.4	126	42	220
502038	GUNADALA	502005	NUNNA	1	-46.6	-6.5	47.1	16	220
502038	GUNADALA	502005	NUNNA	2	-46.6	-6.5	47.1	16	220
502038	GUNADALA	502274	VTPS(VJW)	1	-126.1	-32	130.1	43	220
502083	KONDAPALLI	502215	CHILAKALLU	1	-11.6	-5.9	13	4	220
502083	KONDAPALLI	502215	CHILAKALLU	2	-11.6	-5.9	13	4	220
502083	KONDAPALLI	502239	LANCO(KONDAP	1	0	-2.8	2.8	1	220
502083	KONDAPALLI	502239	LANCO(KONDAP	2	0	-2.8	2.8	1	220
502083	KONDAPALLI	502274	VTPS(VJW)	1	-63.8	-7.9	64.3	21	220

502083	KONDAPALLI	502274	VTPS(VJW)	2	-63.8	-7.9	64.3	21	220
502115	GUDIVADA	502005	NUNNA	1	-122.2	13.5	123	41	220
502115	GUDIVADA	502005	NUNNA	2	-122.2	13.5	123	41	220
502115	GUDIVADA	502224	GUDIWADA220	1	23.8	-30.8	38.9	13	220
502115	GUDIVADA	502224	GUDIWADA220	2	23.8	-30.8	38.9	13	220
502215	CHILAKALLU	502274	VTPS(VJW)	1	6.3	-5.3	8.2	3	220
502215	CHILAKALLU	502274	VTPS(VJW)	2	6.3	-5.3	8.2	3	220
502224	GUDIWADA220	502046	GOPAVARAM2	P1	141.6	36.1	146.1	61	220
502224	GUDIWADA220	502046	GOPAVARAM2	P2	141.6	36.1	146.1	61	220
502246	NUZIVEEDU	502274	VTPS(VJW)	1	-132.6	-6.7	132.8	44	220
502274	VTPS(VJW)	502005	NUNNA	1	120.9	36.2	126.2	41	220
502274	VTPS(VJW)	502081	PODILI	1	48.1	-23.6	53.6	18	220
502274	VTPS(VJW)	502110	NARASARAOPET	1	72.5	-52.1	89.3	29	220
502274	VTPS(VJW)	502269	THALAYAPALEM	P1	63.1	-19.6	66.1	31	220
502274	VTPS(VJW)	502269	THALAYAPALEM	P2	63.1	-19.6	66.1	31	220
502274	VTPS(VJW)	502287	HARISCHND LI	1	-52.3	-2	52.3	17	220
502274	VTPS(VJW)	502287	HARISCHND LI	2	-52.3	-2	52.3	17	220
502274	VTPS(VJW)	502288	LINGAPURA LI	1	-64	6.6	64.3	21	220
502274	VTPS(VJW)	502288	LINGAPURA LI	2	-64	6.6	64.3	21	220
502276	PEDANA 2	502171	MACHIL_PTM 2	P1	40.6	8.7	41.5	17	220
502276	PEDANA 2	502171	MACHIL_PTM 2	P2	40.6	8.7	41.5	17	220
502276	PEDANA 2	502224	GUDIWADA220	P1	-81.7	-2.8	81.7	23	220
502276	PEDANA 2	502224	GUDIWADA220	P2	-81.7	-2.8	81.7	23	220
502041	GUNTUR2	502063	ONGOLU	E1	52.9	-6.1	53.3	25	220
502041	GUNTUR2	502262	SATTENAPALLI	1	-72.1	-32.4	79	26	220
502041	GUNTUR2	502262	SATTENAPALLI	2	-72.1	-32.4	79	26	220
502041	GUNTUR2	502266	TADIKONDA	1	-43	30	52.5	17	220
502110	NARASARAOPET	502081	PODILI	1	52.2	-13.2	53.9	17	220
502110	NARASARAOPET	502262	SATTENAPALLI	1	-83.2	-26.4	87.2	28	220
502110	NARASARAOPET	502262	SATTENAPALLI	2	-83.2	-26.4	87.2	28	220
502117	BURUGUBAN LI	502287	HARISCHND LI	1	52.5	-10.9	53.6	18	220
502117	BURUGUBAN LI	502287	HARISCHND LI	2	52.5	-10.9	53.6	18	220
502117	BURUGUBAN LI	502289	GORANTLA LI	1	5.1	15.8	16.6	4	220
502117	BURUGUBAN LI	502289	GORANTLA LI	2	5.1	15.8	16.6	4	220
502117	BURUGUBAN LI	502290	NAKARIKAL LI	1	0	-5.1	5.1	1	220
502117	BURUGUBAN LI	502290	NAKARIKAL LI	2	0	-5.1	5.1	1	220
502117	BURUGUBAN LI	502292	PIDUGURALLA2	1	10.9	25.4	27.7	9	220
502117	BURUGUBAN LI	502292	PIDUGURALLA2	2	10.9	25.4	27.7	9	220
502258	RENTACHINTAL	502271	TALLAPALLI	1	-90.6	-10.4	91.2	43	220
502258	RENTACHINTAL	502271	TALLAPALLI	2	-90.6	-10.4	91.2	43	220
502258	RENTACHINTAL	502289	GORANTLA LI	1	59.3	-32.2	67.5	22	220
502258	RENTACHINTAL	502289	GORANTLA LI	2	59.3	-32.2	67.5	22	220
502262	SATTENAPALLI	502064	PARUCHURU	1	101.8	-10.4	102.3	33	220
502262	SATTENAPALLI	502064	PARUCHURU	2	101.8	-10.4	102.3	33	220
502266	TADIKONDA	502269	THALAYAPALEM	P1	-111.2	4.3	111.3	52	220

502266	TADIKONDA	502269	THALAYAPALEM	P2	-111.2	4.3	111.3	52	220
502267	TADEPALLI220	502269	THALAYAPALEM	1	-107.1	-16.3	108.3	36	220
502267	TADEPALLI220	502269	THALAYAPALEM	2	-107.1	-16.3	108.3	36	220
502271	TALLAPALLI	502281	C-MADUGU 2	P1	35.4	-4.6	35.7	17	220
502271	TALLAPALLI	502281	C-MADUGU 2	P2	35.4	-4.6	35.7	17	220
502271	TALLAPALLI	502294	SHREE CEME 2	P1	44.3	-7.8	45	19	220
502271	TALLAPALLI	502294	SHREE CEME 2	P2	44.3	-7.8	45	19	220
502271	TALLAPALLI	512003	NAGARJUNSAGA	E1	-21.8	16	27	13	220
502271	TALLAPALLI	512003	NAGARJUNSAGA	E2	-21.8	16	27	13	220
502271	TALLAPALLI	512003	NAGARJUNSAGA	P1	-21.8	16	27	13	220
502271	TALLAPALLI	512129	CHALAKURTY	E1	15.2	-8.1	17.2	8	220
502271	TALLAPALLI	512151	NAGARKURNUL	P1	16.7	-9.9	19.4	8	220
502291	SHREE CEM 2L	502294	SHREE CEME 2	P1	-30.3	-7.6	31.2	13	220
502292	PIDUGURALLA2	502294	SHREE CEME 2	P1	-29	2.8	29.2	12	220
502292	PIDUGURALLA2	502294	SHREE CEME 2	P2	-29	2.8	29.2	12	220
502063	ONGOLU	502081	PODILI	1	-84.9	-25.7	88.8	29	220
502063	ONGOLU	502081	PODILI	2	-84.9	-25.7	88.8	29	220
502063	ONGOLU	502231	KANDUKUR	1	27	-11.7	29.4	10	220
502064	PARUCHURU	502081	PODILI	1	13.8	-1.9	14	5	220
502064	PARUCHURU	502081	PODILI	2	13.8	-1.9	14	5	220
502064	PARUCHURU	502262	SATTENAPALLI	1	-101.1	2.7	101.1	33	220
502064	PARUCHURU	502262	SATTENAPALLI	2	-101.1	2.7	101.1	33	220
502081	PODILI	502064	PARUCHURU	1	-13.8	-12.9	18.9	6	220
502081	PODILI	502064	PARUCHURU	2	-13.8	-12.9	18.9	6	220
502081	PODILI	502073	SRISAILAMRB	1	-102.1	25.9	105.3	34	220
502081	PODILI	502101	MARKAPUR	1	-41.4	19.7	45.8	15	220
502101	MARKAPUR	502073	SRISAILAMRB	1	-122.5	22.9	124.7	41	220
502200	PODILI 42	502081	PODILI	E1	50.5	51.3	71.9	30	220
502200	PODILI 42	502081	PODILI	E2	50.5	51.3	71.9	30	220
502200	PODILI 42	502203	ATMAKUR	E1	52.2	3.1	52.3	22	220
502200	PODILI 42	502203	ATMAKUR	E2	52.2	3.1	52.3	22	220
502200	PODILI 42	502231	KANDUKUR	E1	81.2	15	82.5	34	220
502200	PODILI 42	502231	KANDUKUR	E2	81.2	15	82.5	34	220
502231	KANDUKUR	502063	ONGOLU	1	-26.9	5.6	27.5	9	220
502231	KANDUKUR	502277	RACHARLPAD 2	P2	56.9	2.6	56.9	27	220
502281	C-MADUGU 2	502073	SRISAILAMRB	P1	-21.1	-3.4	21.4	10	220
502281	C-MADUGU 2	502073	SRISAILAMRB	P2	-21.1	-3.4	21.4	10	220
502281	C-MADUGU 2	502271	TALLAPALLI	P1	-35.3	-1.7	35.3	17	220
502281	C-MADUGU 2	502271	TALLAPALLI	P2	-35.3	-1.7	35.3	17	220
502019	NELLORE2	502029	RACHAGUNNERI	1	14.2	-10	17.4	8	220
502019	NELLORE2	502029	RACHAGUNNERI	2	14.2	-10	17.4	8	220
502019	NELLORE2	502201	KOTHA_PT NM 2	P1	74.2	-2.5	74.2	31	220
502019	NELLORE2	502201	KOTHA_PT NM 2	P2	74.2	-2.5	74.2	31	220
502019	NELLORE2	502244	NELLORE	1	67.3	9.7	68	22	220
502019	NELLORE2	502244	NELLORE	2	67.3	9.7	68	22	220

502019	NELLORE2	502244	NELLORE	3	44.9	7.7	45.5	15	220
502071	SULLURPET	502019	NELLORE2	1	-85	-3.4	85.1	28	220
502071	SULLURPET	502019	NELLORE2	2	-122.1	-1.3	122.1	40	220
502071	SULLURPET	502019	NELLORE2	3	-122.1	-1.3	122.1	40	220
502071	SULLURPET	502213	SATYAVED 2	P1	102.3	7.6	102.6	43	220
502071	SULLURPET	502282	RACHERLA 2	1	-5	-8.4	9.8	3	220
502071	SULLURPET	502282	RACHERLA 2	2	-5	-8.4	9.8	3	220
502071	SULLURPET	542047	GPOODI2	1	96	-2.5	96.1	33	220
502201	KOTHA_PTNM 2	502199	SBQSTL_NLR 2	P1	0	-2.7	2.7	1	220
502244	NELLORE	502203	ATMAKUR	1	-14.9	3.6	15.4	5	220
502244	NELLORE	502203	ATMAKUR	2	-14.9	3.6	15.4	5	220
502277	RACHARLPAD 2	502244	NELLORE	E1	-42.8	-13.9	45	21	220
502024	CHITTOR	502026	CHITTORNEW	1	-98	-37.7	105	34	220
502024	CHITTOR	502026	CHITTORNEW	2	-98	-37.7	105	34	220
502024	CHITTOR	502045	KALIKIRI	1	-60.2	15.3	62.2	20	220
502024	CHITTOR	542024	TVALAM2	1	72.1	13.6	73.4	24	220
502025	RENIGUNTA	502026	CHITTORNEW	1	-21.2	-41.7	46.8	15	220
502025	RENIGUNTA	502029	RACHAGUNNERI	1	-17.3	-6.8	18.6	8	220
502025	RENIGUNTA	502029	RACHAGUNNERI	2	-17.3	-6.8	18.6	8	220
502025	RENIGUNTA	502048	KODURU	E1	-101.3	35.9	107.5	51	220
502025	RENIGUNTA	502048	KODURU	P1	-101.3	35.9	107.5	51	220
502025	RENIGUNTA	502242	NAGARI	1	62.8	-29.5	69.4	23	220
502026	CHITTORNEW	502242	NAGARI	1	65.1	23.3	69.2	22	220
502026	CHITTORNEW	502250	PALAMNERU	1	84.5	8.6	84.9	27	220
502026	CHITTORNEW	502250	PALAMNERU	2	84.5	8.6	84.9	27	220
502029	RACHAGUNNERI	502049	TIRUPATI 2	P1	64.4	-0.2	64.4	18	220
502029	RACHAGUNNERI	502049	TIRUPATI 2	P2	64.4	-0.2	64.4	18	220
502029	RACHAGUNNERI	502217	SRIKALHATI 2	P1	35	6.2	35.6	15	220
502029	RACHAGUNNERI	502217	SRIKALHATI 2	P2	35	6.2	35.6	15	220
502029	RACHAGUNNERI	502282	RACHERLA 2	1	73	1.3	73.1	24	220
502029	RACHAGUNNERI	502282	RACHERLA 2	2	73	1.3	73.1	24	220
502029	RACHAGUNNERI	502285	NAIDUPET 2	1	110	22.7	112.4	37	220
502029	RACHAGUNNERI	502285	NAIDUPET 2	2	110	22.7	112.4	37	220
502045	KALIKIRI	502296	KALIKIRI 42	E1	4.4	-23.8	24.2	10	220
502045	KALIKIRI	502296	KALIKIRI 42	E2	4.4	-23.8	24.2	10	220
502213	SATYAVED 2	542047	GPOODI2	P1	51.8	-10.6	52.9	22	220
502240	MADANAPALLI	502245	PUNGANUR 2	P1	68.5	-18.9	71	29	220
502240	MADANAPALLI	502296	KALIKIRI 42	E1	-99.1	-19.3	100.9	42	220
502240	MADANAPALLI	502296	KALIKIRI 42	E2	-99.1	-19.3	100.9	42	220
502250	PALAMNERU	502245	PUNGANUR 2	P2	-19.8	23	30.3	12	220
502279	THIMMA_PRM 2	502045	KALIKIRI	E1	186.6	-66.8	198.2	92	220
502279	THIMMA_PRM 2	502216	CHINAKAMPALL	E1	-226.8	62.4	235.2	110	220
502295	KUPPAM 2	502250	PALAMNERU	E1	-27.7	-7.4	28.7	12	220
502295	KUPPAM 2	502250	PALAMNERU	E2	-27.7	-7.4	28.7	12	220
502007	CUDAPPAH	502058	MYDUKURU	1	79.7	-5.6	79.9	26	220

502007	CUDAPPAH	502216	CHINAKAMPALL	1	-184.7	-8.5	184.8	61	220
502012	SUNP_PALLI 2	502132	KONDAPURAM	P3	-167.6	-42.5	172.9	36	220
502012	SUNP_PALLI 2	502132	KONDAPURAM	P4	-167.6	-42.5	172.9	36	220
502021	CHAKRAYPET 2	502052	KATHALURU 2	P1	2.7	0.8	2.9	1	220
502021	CHAKRAYPET 2	502052	KATHALURU 2	P2	2.7	0.8	2.9	1	220
502021	CHAKRAYPET 2	502132	KONDAPURAM	E1	-26.5	-3	26.7	11	220
502021	CHAKRAYPET 2	502299	ANIMALA 2	E1	-8.4	-3.8	9.2	4	220
502048	KODURU	502067	RAJAMPETA	1	-99	43.3	108	36	220
502048	KODURU	502216	CHINAKAMPALL	P1	-191	26.5	192.8	91	220
502052	KATHALURU 2	502057	RAYALASEMATP	P1	-45.6	-10.5	46.8	20	220
502052	KATHALURU 2	502299	ANIMALA 2	P1	-18.5	-5.5	19.2	8	220
502057	RAYALASEMATP	502080	YERRAGUNTLA	1	77.6	28.7	82.7	27	220
502057	RAYALASEMATP	502080	YERRAGUNTLA	2	77.6	28.7	82.7	27	220
502058	MYDUKURU	502060	MUTYALAPADU2	P1	32.8	1.5	32.8	16	220
502058	MYDUKURU	502073	SRISAILAMRB	1	-4.9	-14.5	15.3	5	220
502058	MYDUKURU	502254	PORUMAMILLA	E1	15.5	0.7	15.5	7	220
502067	RAJAMPETA	502216	CHINAKAMPALL	1	-228.4	7.4	228.5	76	220
502067	RAJAMPETA	502293	RAJAMPT_RT 2	E1	4.4	0.5	4.4	2	220
502070	MYLVM PS1 22	502132	KONDAPURAM	A1	210.4	24.2	211.8	44	220
502078	MYLRM PS2 22	502070	MYLVM PS1 22	P1	-25.7	2.6	25.8	5	220
502078	MYLRM PS2 22	502132	KONDAPURAM	P1	261.8	32.2	263.7	55	220
502079	MYLRM PS3 22	502132	KONDAPURAM	P1	118	56.2	130.7	27	220
502079	MYLRM PS3 22	502132	KONDAPURAM	P2	118	56.2	130.7	27	220
502097	PULIVENDULA	502132	KONDAPURAM	P1	-189.8	31.4	192.4	80	220
502097	PULIVENDULA	502132	KONDAPURAM	P2	-189.8	31.4	192.4	80	220
502097	PULIVENDULA	502225	GOLLAPURAM	1	38.1	-21.1	43.5	14	220
502097	PULIVENDULA	502225	GOLLAPURAM	2	38.1	-21.1	43.5	14	220
502097	PULIVENDULA	502241	MUTYALACHERU	1	79.2	-9.9	79.9	26	220
502097	PULIVENDULA	502241	MUTYALACHERU	2	79.2	-9.9	79.9	26	220
502120	PAVAN NARSM	502132	KONDAPURAM	P1	-34.5	10.4	36.1	15	220
502120	PAVAN NARSM	502254	PORUMAMILLA	P1	122.3	-5.5	122.5	51	220
502132	KONDAPURAM	502018	MYLAVRM PS 4	A1	-117.9	-38.9	124.2	26	220
502132	KONDAPURAM	502018	MYLAVRM PS 4	A2	-117.9	-38.9	124.2	26	220
502132	KONDAPURAM	502204	BETUMCHARLA	1	20.4	-15.7	25.8	8	220
502132	KONDAPURAM	502204	BETUMCHARLA	2	20.4	-15.7	25.8	8	220
502132	KONDAPURAM	502272	TIRUMALAYAPA	1	42.1	-7.2	42.7	14	220
502132	KONDAPURAM	502272	TIRUMALAYAPA	2	42.1	-7.2	42.7	14	220
502216	CHINAKAMPALL	502057	RAYALASEMATP	1	-113.4	14.2	114.3	19	220
502216	CHINAKAMPALL	502057	RAYALASEMATP	2	-113.4	14.2	114.3	19	220
502216	CHINAKAMPALL	502057	RAYALASEMATP	3	-51.6	7.4	52.2	9	220
502216	CHINAKAMPALL	502057	RAYALASEMATP	4	-51.6	7.4	52.2	9	220
502233	KONDAPURAM	502270	THIMMAPUR	1	-11	-4	11.7	4	220
502233	KONDAPURAM	502270	THIMMAPUR	2	-11	-4	11.7	4	220
502254	PORUMAMILLA	502278	ECORN_GDVD 2	E1	0	-0.7	0.7	0	220
502254	PORUMAMILLA	502278	ECORN_GDVD 2	E2	0	-0.7	0.7	0	220

502270	THIMMAPUR	502031	ANANTAPUR	1	36	-11.7	37.8	12	220
502270	THIMMAPUR	502031	ANANTAPUR	2	36	-11.7	37.8	12	220
502270	THIMMAPUR	502057	RAYALASEMATP	1	-83.3	6.1	83.5	27	220
502270	THIMMAPUR	502057	RAYALASEMATP	2	-83.3	6.1	83.5	27	220
502270	THIMMAPUR	502275	YELLANUR	1	29.8	2.4	29.9	10	220
502270	THIMMAPUR	502275	YELLANUR	2	29.8	2.4	29.9	10	220
502294	SHREE CEME 2	502271	TALLAPALLI	P1	-44.2	2.3	44.2	18	220
502294	SHREE CEME 2	502271	TALLAPALLI	P2	-44.2	2.3	44.2	18	220
502294	SHREE CEME 2	502291	SHREE CEM 2L	P1	30.3	6.9	31.1	13	220
502294	SHREE CEME 2	502292	PIDUGURALLA2	P1	29.1	-5.7	29.6	12	220
502294	SHREE CEME 2	502292	PIDUGURALLA2	P2	29.1	-5.7	29.6	12	220
502299	ANIMALA 2	502132	KONDAPURAM	E1	-26.9	-1.1	26.9	11	220
502008	GOOTYNEW	502003	DHARMAVRAM2	P1	61.7	11.1	62.7	26	220
502008	GOOTYNEW	502102	ULTRATECH2	E1	12.2	-3.2	12.6	6	220
502008	GOOTYNEW	502210	BOYAREDDYPAL	1	46.5	43	63.3	20	220
502008	GOOTYNEW	502227	GOOTY	1	33.4	25.4	41.9	14	220
502008	GOOTYNEW	502228	GOOTYRAILWAY	1	34.4	22.7	41.2	13	220
502008	GOOTYNEW	522102	ALIPUR	1	-25.7	34.5	43	18	220
502031	ANANTAPUR	502008	GOOTYNEW	1	-52.2	-33	61.7	20	220
502031	ANANTAPUR	502108	KALYANDURG	1	-6.7	-12.4	14.1	5	220
502031	ANANTAPUR	502108	KALYANDURG	2	-6.7	-12.4	14.1	5	220
502042	HINDUPUR2	502225	GOLLAPURAM	P1	93.3	-6.8	93.6	39	220
502042	HINDUPUR2	502225	GOLLAPURAM	P2	93.3	-6.8	93.6	39	220
502042	HINDUPUR2	502229	HINDUPUR	1	218.6	-7.3	218.7	46	220
502042	HINDUPUR2	502249	PENUKONDA	1	63.6	-3.8	63.7	21	220
502042	HINDUPUR2	502249	PENUKONDA	2	63.6	-3.8	63.7	21	220
502042	HINDUPUR2	502253	PAMPUNURUTHA	1	-74.8	-0.9	74.8	16	220
502042	HINDUPUR2	502253	PAMPUNURUTHA	2	-74.8	-0.9	74.8	16	220
502042	HINDUPUR2	502253	PAMPUNURUTHA	3	-52.2	1.5	52.2	22	220
502042	HINDUPUR2	502253	PAMPUNURUTHA	4	-52.2	1.5	52.2	22	220
502075	TADIPATRI	502210	BOYAREDDYPAL	1	-47.4	-0.5	47.4	16	220
502075	TADIPATRI	502257	RCI(ANATAPUR	1	0	-5.9	5.9	2	220
502075	TADIPATRI	502257	RCI(ANATAPUR	2	0	-5.9	5.9	2	220
502082	AMMAVRPLY 2	502206	BOKSAMPALLI	E1	-3.3	-2	3.9	2	220
502082	AMMAVRPLY 2	502265	SUBBARAYANAP	P1	3.3	2	3.9	2	220
502108	KALYANDURG	502211	BORUMPALLI	1	-90.2	-3.1	90.3	38	220
502108	KALYANDURG	502211	BORUMPALLI	2	-90.2	-3.1	90.3	38	220
502109	RAMAGIRI	502031	ANANTAPUR	1	-2.2	-5.9	6.3	2	220
502109	RAMAGIRI	502255	RAYALA-WIND	1	0	0	0	0	220
502109	RAMAGIRI	502255	RAYALA-WIND	2	0	0	0	0	220
502109	RAMAGIRI	502261	SHAPURAM	1	-14.8	1.6	14.9	5	220
502133	URAVAKONDA	502211	BORUMPALLI	1	36.9	-10.5	38.4	13	220
502133	URAVAKONDA	502211	BORUMPALLI	2	36.9	-10.5	38.4	13	220
502133	URAVAKONDA	502211	BORUMPALLI	3	53.7	-8.9	54.4	18	220
502133	URAVAKONDA	502211	BORUMPALLI	4	53.7	-8.9	54.4	18	220

502133	URAVAKONDA	502273	VAJRAKORUR	1	36.6	3.8	36.8	12	220
502133	URAVAKONDA	502273	VAJRAKORUR	2	36.6	3.8	36.8	12	220
502133	URAVAKONDA	502300	BELUGUPPA 2	E1	0	-3.2	3.2	1	220
502133	URAVAKONDA	502300	BELUGUPPA 2	E2	0	-3.2	3.2	1	220
502133	URAVAKONDA	502306	AXIS_AMDYL 2	E1	0	-1.6	1.6	1	220
502133	URAVAKONDA	502306	AXIS_AMDYL 2	E2	0	-1.6	1.6	1	220
502133	URAVAKONDA	502307	NIMBAGALLU 2	E1	0	-1	1	0	220
502133	URAVAKONDA	502307	NIMBAGALLU 2	E2	0	-1	1	0	220
502133	URAVAKONDA	502310	MPR DAM 2	E1	0	-3.2	3.2	1	220
502133	URAVAKONDA	502310	MPR DAM 2	E2	0	-3.2	3.2	1	220
502206	BOKSAMPALLI	502261	SHAPURAM	E1	-38.8	1	38.8	16	220
502206	BOKSAMPALLI	502261	SHAPURAM	E2	-38.8	1	38.8	16	220
502206	BOKSAMPALLI	502314	KIA MOTORS 2	E1	21.3	4.1	21.7	9	220
502222	GODDUMARRI	502223	GADDEMVARIPA	1	-31.5	-6.1	32	11	220
502222	GODDUMARRI	502305	ELULLTLA 2	E1	0	-1.8	1.8	1	220
502223	GADDEMVARIPA	502275	YELLANUR	1	-23.5	-3.8	23.8	8	220
502223	GADDEMVARIPA	502275	YELLANUR	2	-23.5	-3.8	23.8	8	220
502227	GOOTY	502228	GOOTYRAILWAY	1	-27.7	-22.5	35.7	12	220
502227	GOOTY	522102	ALIPUR	P1	-17.3	14.8	22.7	11	220
502229	HINDUPUR	502225	GOLLAPURAM	1	-39.1	6.2	39.6	13	220
502229	HINDUPUR	502225	GOLLAPURAM	2	-39.1	6.2	39.6	13	220
502229	HINDUPUR	502261	SHAPURAM	1	81.9	-18.3	84	28	220
502229	HINDUPUR	502261	SHAPURAM	2	81.9	-18.3	84	28	220
502252	PENNA-CEMENT	502210	BOYAREDDYPAL	1	-7.6	-1.9	7.8	3	220
502259	RAGULAPADU	502264	SUZLON	1	0	-1.1	1.1	0	220
502259	RAGULAPADU	502273	VAJRAKORUR	P1	-39.6	-9.5	40.7	19	220
502259	RAGULAPADU	522102	ALIPUR	E1	-7.8	-1.2	7.9	4	220
502261	SHAPURAM	502003	DHARMAVRAM2	P1	32.9	-18.6	37.8	18	220
502261	SHAPURAM	502265	SUBBARAYANAP	E1	37.8	2.7	37.9	16	220
502265	SUBBARAYANAP	502314	KIA MOTORS 2	E1	21.4	2.6	21.6	9	220
502273	VAJRAKORUR	502303	SUJLN_VJKR 2	E1	0	-0.8	0.8	0	220
502013	KURNOOL	502022	GUTTAPADU 2	P1	-6.7	29.5	30.3	13	220
502013	KURNOOL	502022	GUTTAPADU 2	P2	-6.7	29.5	30.3	13	220
502013	KURNOOL	502103	BRAHMANAKOTK	1	93.1	-27	96.9	32	220
502013	KURNOOL	502103	BRAHMANAKOTK	2	93.1	-27	96.9	32	220
502013	KURNOOL	502105	APKARBIDES	1	98.3	0.3	98.3	32	220
502013	KURNOOL	502105	APKARBIDES	2	98.3	0.3	98.3	32	220
502020	YMGR2	502234	KRISHNAGIRI	P1	-35.8	-3.4	36	15	220
502020	YMGR2	502234	KRISHNAGIRI	P2	-35.8	-3.4	36	15	220
502022	GUTTAPADU 2	502072	SOMAYAZALAPA	P1	-82	-2.6	82	34	220
502022	GUTTAPADU 2	502072	SOMAYAZALAPA	P2	-82	-2.6	82	34	220
502030	VELDURTHYRT2	502263	SETTIPALLI	P1	-4.2	-0.6	4.2	2	220
502030	VELDURTHYRT2	502263	SETTIPALLI	P2	-4.2	-0.6	4.2	2	220
502056	M/S JAI RAJ2	502022	GUTTAPADU 2	P1	-25	-15	29.2	12	220
502056	M/S JAI RAJ2	502022	GUTTAPADU 2	P2	-25	-15	29.2	12	220

502059	NANDYALA	502072	SOMAYAZALAPA	1	-86.1	-13.6	87.2	29	220
502059	NANDYALA	502072	SOMAYAZALAPA	2	-86.1	-13.6	87.2	29	220
502060	MUTYALAPADU2	502073	SRISAILAMRB	P1	-17.2	-15.7	23.3	11	220
502072	SOMAYAZALAPA	502204	BETUMCHARLA	P1	13.7	-8	15.9	7	220
502072	SOMAYAZALAPA	502219	DHONE	1	108.6	-29.2	112.4	37	220
502072	SOMAYAZALAPA	502219	DHONE	2	108.6	-29.2	112.4	37	220
502072	SOMAYAZALAPA	502251	PANYAM	E1	-180	10.7	180.3	75	220
502072	SOMAYAZALAPA	502251	PANYAM	E2	-180	10.7	180.3	75	220
502072	SOMAYAZALAPA	502251	PANYAM	P1	-145.9	11.4	146.3	69	220
502072	SOMAYAZALAPA	502251	PANYAM	P2	-145.9	11.4	146.3	69	220
502073	SRISAILAMRB	502205	BILAKALAGUDU	1	-77.9	11.5	78.7	26	220
502073	SRISAILAMRB	502205	BILAKALAGUDU	2	-77.9	11.5	78.7	26	220
502073	SRISAILAMRB	512003	NAGARJUNSAGA	1	-0.5	-5.7	5.8	2	220
502073	SRISAILAMRB	512007	DOMLAPENTA	1	-2	-11.7	11.9	4	220
502073	SRISAILAMRB	512131	DINDI	1	-2.3	-11.7	12	5	220
502103	BRAHMANAKOTK	502141	MALAYALA	1	23.5	-12.1	26.4	9	220
502103	BRAHMANAKOTK	502141	MALAYALA	2	23.5	-12.1	26.4	9	220
502103	BRAHMANAKOTK	512086	WANAPARTHY	2	16.2	-10.4	19.3	8	220
502103	BRAHMANAKOTK	512186	REGIMANUGADD	1	40.5	-11.6	42.1	16	220
502103	BRAHMANAKOTK	512186	REGIMANUGADD	2	40.5	-11.6	42.1	16	220
502105	APKARBIDES	502263	SETTIPALLI	P1	29	-9.9	30.7	13	220
502105	APKARBIDES	502263	SETTIPALLI	P2	29	-9.9	30.7	13	220
502141	MALAYALA	502324	MUCHUMARRI 2	E1	0.1	-1.7	1.8	1	220
502204	BETUMCHARLA	502323	SOMAYAZ_RT 2	P1	1	-1	1.4	1	220
502205	BILAKALAGUDU	502230	GADIVEMULA 2	P1	-114.1	17.7	115.5	48	220
502205	BILAKALAGUDU	502230	GADIVEMULA 2	P2	-114.1	17.7	115.5	48	220
502205	BILAKALAGUDU	502247	M/S JSW 2	E1	-4	-17.9	18.3	9	220
502219	DHONE	502008	GOOTYNEW	1	-11.4	-34.3	36.2	12	220
502219	DHONE	502008	GOOTYNEW	2	-11.4	-34.3	36.2	12	220
502219	DHONE	502234	KRISHNAGIRI	1	62.2	6.6	62.5	21	220
502219	DHONE	502234	KRISHNAGIRI	2	62.2	6.6	62.5	21	220
502219	DHONE	502237	KAMBALPADU	1	80.6	5.3	80.8	27	220
502219	DHONE	502243	NANSURALA	E1	33.7	-0.3	33.7	14	220
502234	KRISHNAGIRI	502243	NANSURALA	P1	19.1	-3.4	19.4	8	220
502234	KRISHNAGIRI	502263	SETTIPALLI	1	-4.1	9	9.9	3	220
502234	KRISHNAGIRI	502263	SETTIPALLI	2	-4.1	9	9.9	3	220
502234	KRISHNAGIRI	502317	REGEN_KRDK 2	E1	0	-3.8	3.8	2	220
502238	LAKKASAMUDRA	502237	KAMBALPADU	1	-38.9	1.5	39	13	220
502238	LAKKASAMUDRA	502243	NANSURALA	1	-2.6	-11.9	12.2	4	220
502243	NANSURALA	502313	MYTRA_NNSR 2	E1	0	-3.2	3.2	1	220
502243	NANSURALA	502313	MYTRA_NNSR 2	E2	0	-3.2	3.2	1	220
502243	NANSURALA	502315	GAMES_MLGV 2	E1	0	-5.9	5.9	2	220
502243	NANSURALA	502315	GAMES_MLGV 2	P2	0	-5.9	5.9	2	220
502243	NANSURALA	502322	NANSURL_RT 2	E1	8.6	0.7	8.6	4	220
502251	PANYAM	502230	GADIVEMULA 2	P1	146.8	-22.5	148.5	62	220

502251	PANYAM	502230	GADIVEMULA 2	P2	146.8	-22.5	148.5	62	220
502251	PANYAM	502318	GHANI PS 1 2	E1	-118	14.2	118.8	50	220
502251	PANYAM	502318	GHANI PS 1 2	E2	-118	14.2	118.8	50	220
502251	PANYAM	502319	GHANI PS 2 2	E1	-118	3.4	118.1	49	220
502251	PANYAM	502319	GHANI PS 2 2	E2	-118	3.4	118.1	49	220
502251	PANYAM	502320	GHANI PS 3 2	E1	-117.9	16.1	119	50	220
502251	PANYAM	502320	GHANI PS 3 2	E2	-117.9	16.1	119	50	220
502251	PANYAM	502321	GHANI PS 4 2	E1	-118	13.5	118.8	49	220
502251	PANYAM	502321	GHANI PS 4 2	E2	-118	13.5	118.8	49	220
501017	ARABIND_PB 11	501523	PYDI_BMVRM 1	E1	-11.2	-2.8	11.5	14	132
501023	ARBINSO_PB 1	501523	PYDI_BMVRM 1	E1	28.3	51.5	58.8	70	132
501028	CHILAK_PLM 1	501039	GARIVIDI1	E1	-27.6	5.9	28.2	34	132
501028	CHILAK_PLM 1	501212	PYDI_BMVRM21	1	-20.3	-2.4	20.5	23	132
501028	CHILAK_PLM 1	501212	PYDI_BMVRM21	2	-20.3	-2.4	20.5	23	132
501028	CHILAK_PLM 1	501222	PALAKONDA 1	E1	10.9	-10.6	15.2	18	132
501038	GUNADALA 21	501001	MOGALRAJPRM1	A1	10.4	-4.6	11.4	8	132
501038	GUNADALA 21	501001	MOGALRAJPRM1	A2	10.4	-4.6	11.4	8	132
501038	GUNADALA 21	501545	AUTONAGAR 1	1	53.8	18.2	56.8	64	132
501038	GUNADALA 21	501592	REMLE	1	32	6.8	32.7	37	132
501038	GUNADALA 21	501699	GANNAVARAM 1	P1	66.2	6.7	66.5	88	132
501041	GOPPILI 21	501043	SOMPETA 1	P1	15.5	-0.1	15.5	18	132
501041	GOPPILI 21	501152	TEKKALI 21	P1	-2.9	-19.5	19.7	23	132
501041	GOPPILI 21	501223	PALASA 1	P1	25.6	-10.2	27.6	33	132
501041	GOPPILI 21	501449	ICHAPURAM 1	P1	8.3	-2.3	8.6	10	132
501042	SARUBUJILI21	501249	AMPOLU 1	P1	19.8	-11.7	23	27	132
501042	SARUBUJILI21	501249	AMPOLU 1	P2	19.8	-11.7	23	27	132
501043	SOMPETA 1	501449	ICHAPURAM 1	P1	-3.1	-3.1	4.4	5	132
501068	BARUVA 1	501223	PALASA 1	E1	-18.5	-4.6	19.1	23	132
501080	KOTTURU 1	501450	PATAPATNAM 1	P1	-8.8	-2.2	9.1	11	132
501080	KOTTURU 1	501450	PATAPATNAM 1	P2	-8.8	-2.2	9.1	11	132
501152	TEKKALI 21	501222	PALAKONDA 1	1	17.4	12.8	21.6	24	132
501152	TEKKALI 21	501223	PALASA 1	1	14.1	17.3	22.3	24	132
501152	TEKKALI 21	501377	PONDU	1	-0.9	9.8	9.9	11	132
501152	TEKKALI 21	501450	PATAPATNAM 1	1	30.2	4.1	30.5	33	132
501152	TEKKALI 21	501551	NARSAN_PET 1	1	-3.2	12.4	12.8	14	132
501152	TEKKALI 21	501551	NARSAN_PET 1	2	-3.2	12.4	12.8	14	132
501152	TEKKALI 21	501642	NAVPADA_RT 1	E1	2.2	0.4	2.3	3	132
501212	PYDI_BMVRM21	501377	PONDU	A1	6.8	-13.4	15	18	132
501212	PYDI_BMVRM21	501427	BHOGAPRM_1	P1	35.3	7	36	43	132
501212	PYDI_BMVRM21	501427	BHOGAPRM_1	P2	35.3	7	36	43	132
501212	PYDI_BMVRM21	501523	PYDI_BMVRM 1	1	5.7	-29	29.6	33	132
501212	PYDI_BMVRM21	501542	M/S SHREYAS	P1	4.8	0.3	4.9	6	132
501212	PYDI_BMVRM21	501542	M/S SHREYAS	P2	4.8	0.3	4.9	6	132
501212	PYDI_BMVRM21	501600	GCHODA_VRM 1	E1	10.3	2.2	10.5	13	132
501212	PYDI_BMVRM21	501600	GCHODA_VRM 1	E2	10.3	2.2	10.5	13	132

501222	PALAKONDA 1	501644	PARRY_PLKD 1	E1	1.2	0	1.2	1	132
501223	PALASA 1	501449	ICHAPURAM 1	1	1.7	0.3	1.7	2	132
501249	AMPOLU 1	501551	NARSAN_PET 1	E1	10.4	-12.8	16.5	19	132
501249	AMPOLU 1	501551	NARSAN_PET 1	E2	10.4	-12.8	16.5	19	132
501523	PYDI_BMVRM 1	501569	MORESW_GVD 1	E1	-8	13.8	16	19	132
501012	BOBBILI 1	501039	GARIVIDI1	1	-12.4	1.9	12.6	14	132
501012	BOBBILI 1	501438	PARVAT_PRM 1	1	40.6	8.6	41.5	47	132
501012	BOBBILI 1	501460	NCS	1	0.6	-0.2	0.6	1	132
501012	BOBBILI 1	501563	GARBHAM 1	E1	-5.3	4.3	6.9	8	132
501012	BOBBILI 1	501567	BOBBILI 21	1	-61.5	-7	61.9	70	132
501012	BOBBILI 1	501567	BOBBILI 21	2	-61.5	-7	61.9	70	132
501012	BOBBILI 1	501637	KURUPAM 1	P1	41.6	4.3	41.8	50	132
501039	GARIVIDI1	501037	FACOR_GVD 1	1	17.8	-0.1	17.8	20	132
501039	GARIVIDI1	501037	FACOR_GVD 1	2	17.8	-0.1	17.8	20	132
501039	GARIVIDI1	501467	VIZIA_NGRM21	A1	4.9	0.3	4.9	6	132
501039	GARIVIDI1	501467	VIZIA_NGRM21	A2	4.9	0.3	4.9	6	132
501039	GARIVIDI1	501563	GARBHAM 1	E1	27.4	0	27.4	33	132
501039	GARIVIDI1	501569	MORESW_GVD 1	E1	15.4	-13.3	20.3	24	132
501039	GARIVIDI1	501573	JAYA_FAGVD 1	E1	14.3	3.2	14.6	18	132
501039	GARIVIDI1	501605	RAJAM	1	10.6	1.5	10.7	12	132
501039	GARIVIDI1	501646	ANDR_FAGVD 1	E1	0	-0.5	0.5	1	132
501148	TBVARA 1	501009	ARAKU 1	1	-3.1	-12.2	12.6	14	132
501148	TBVARA 1	501009	ARAKU 1	2	-3.1	-12.2	12.6	14	132
501148	TBVARA 1	501184	GOLDSTARSS 1	E1	16.4	12.9	20.8	26	132
501148	TBVARA 1	501208	VONTITHADI 1	1	12.6	0.1	12.6	14	132
501148	TBVARA 1	501344	KOTAVALASA 1	1	-11.4	5.3	12.6	14	132
501148	TBVARA 1	501467	VIZIA_NGRM21	A1	-36.3	0.6	36.3	44	132
501148	TBVARA 1	501571	TBVARA_RT 1	E1	1.2	0	1.2	2	132
501148	TBVARA 1	501571	TBVARA_RT 1	E2	1.2	0	1.2	2	132
501163	PARVATPRMRT1	501438	PARVAT_PRM 1	E1	-6.6	-1.6	6.8	8	132
501184	GOLDSTARSS 1	501197	PENDURTHI 21	E1	-54.9	-4.1	55.1	68	132
501208	VONTITHADI 1	501467	VIZIA_NGRM21	A1	-63.1	-16.6	65.2	80	132
501208	VONTITHADI 1	501572	VIZNGRM_RT 1	E1	2.4	0.5	2.4	3	132
501244	MAHA LKSM 1	501563	GARBHAM 1	P1	-5.5	-1.8	5.7	7	132
501344	KOTAVALASA 1	501158	JINDAL1	E1	0	0	0	0	132
501344	KOTAVALASA 1	501197	PENDURTHI 21	1	-31.4	2.5	31.5	36	132
501438	PARVAT_PRM 1	501637	KURUPAM 1	P1	-11.2	-4.1	11.9	15	132
501562	BOBBILI_RT 1	501639	GAJPATHINGRM	P1	-13	-3.3	13.5	16	132
501567	BOBBILI 21	501027	BERR_FABBL 1	E1	66.1	0	66.1	80	132
501567	BOBBILI 21	501034	SALURU 1	E1	6.6	0.9	6.7	8	132
501567	BOBBILI 21	501034	SALURU 1	E2	6.6	0.9	6.7	8	132
501567	BOBBILI 21	501071	SAHARA	P1	16.1	5.1	16.9	20	132
501567	BOBBILI 21	501557	HIRASM_BBL 1	E1	13.7	3.4	14.1	17	132
501567	BOBBILI 21	501639	GAJPATHINGRM	P1	11.9	1.8	12	14	132
501567	BOBBILI 21	501639	GAJPATHINGRM	P2	11.9	1.8	12	14	132

501567	BOBBILI 21	501645	IMP_FABBLI 1	E1	30.2	0	30.2	36	132
501569	MORESW_GVD 1	501570	MOREALLOYS 1	E1	7.3	1.8	7.5	9	132
501009	ARAKU 1	501088	MACHKUND 1	1	-11.9	-9.6	15.3	17	132
501009	ARAKU 1	501088	MACHKUND 1	2	-11.9	-9.6	15.3	17	132
501009	ARAKU 1	501574	ARAKTYD_RT 1	E1	0.4	-0.6	0.7	1	132
501009	ARAKU 1	501574	ARAKTYD_RT 1	E2	0.4	-0.6	0.7	1	132
501009	ARAKU 1	501575	ARAKGRP_RT 1	E1	0.4	-0.3	0.5	1	132
501009	ARAKU 1	501575	ARAKGRP_RT 1	E2	0.4	-0.3	0.5	1	132
501009	ARAKU 1	501576	PADERU 1	E1	1.5	-1.6	2.2	3	132
501009	ARAKU 1	501576	PADERU 1	E2	1.5	-1.6	2.2	3	132
501010	ANARAK_SWS 1	501005	JAMATUL_PM 1	P1	9.5	1.4	9.6	12	132
501010	ANARAK_SWS 1	501005	JAMATUL_PM 1	P2	9.5	1.4	9.6	12	132
501010	ANARAK_SWS 1	501016	THYDA_LIS 1	P1	4.7	0.2	4.7	6	132
501010	ANARAK_SWS 1	501016	THYDA_LIS 1	P2	4.7	0.2	4.7	6	132
501010	ANARAK_SWS 1	502202	ANRAK	P1	-14.2	-1.6	14.3	14	132
501010	ANARAK_SWS 1	502202	ANRAK	P2	-14.2	-1.6	14.3	14	132
501050	GAZUWAKA 21	501026	CFLTD_GZWK 1	1	6.5	1.5	6.7	8	132
501050	GAZUWAKA 21	501096	NAVALWHARF 1	1	28.6	1.9	28.7	32	132
501050	GAZUWAKA 21	501096	NAVALWHARF 1	2	28.6	1.9	28.7	32	132
501050	GAZUWAKA 21	501229	HZL	1	0	-0.2	0.2	0	132
501050	GAZUWAKA 21	501229	HZL	2	0	-0.2	0.2	0	132
501050	GAZUWAKA 21	501371	GAZUWAKA 21	1	11.2	17	20.4	23	132
501057	VSEZ_RT 1	501514	VSEZ	E1	-1.5	-0.4	1.6	2	132
501063	NARSING_BL 1	501036	RAMCO_NBLI 1	E1	5.3	1.2	5.4	7	132
501063	NARSING_BL 1	501079	KORUPROLU 1	E1	8.3	-9.7	12.7	17	132
501063	NARSING_BL 1	501177	CHETINAD CM1	P1	9.9	1.2	9.9	12	132
501063	NARSING_BL 1	501464	BRANDIX 21	E1	-46.1	1.5	46.1	63	132
501072	BHEEMILI 21	501380	ANANDAPURM 1	A1	15.1	5.8	16.2	20	132
501072	BHEEMILI 21	501380	ANANDAPURM 1	A2	15.1	5.8	16.2	20	132
501072	BHEEMILI 21	501381	BIRLA	A1	13.9	3.5	14.3	17	132
501072	BHEEMILI 21	501381	BIRLA	A2	13.9	3.5	14.3	17	132
501079	KORUPROLU 1	501183	HAMSA_VARM 1	P1	-10.9	-6	12.4	17	132
501079	KORUPROLU 1	501205	TUNI	E1	5.1	-2.7	5.7	8	132
501079	KORUPROLU 1	501408	PARAWADA 21	E1	-41.3	0.4	41.3	56	132
501079	KORUPROLU 1	501585	MYHOM_KRPL 1	E1	3	0.1	3	4	132
501079	KORUPROLU 1	501603	NARSIPATNM 1	E1	16.3	2.5	16.5	20	132
501091	ATCHU_PRAM21	501220	ATCTIRES 1	P1	3.2	0.4	3.2	4	132
501091	ATCHU_PRAM21	501241	INOX_AIRPS 1	P1	9.7	3.1	10.2	12	132
501096	NAVALWHARF 1	501053	HPCL_NVWRF 1	1	1.6	0.3	1.7	2	132
501096	NAVALWHARF 1	501053	HPCL_NVWRF 1	2	1.6	0.3	1.7	2	132
501096	NAVALWHARF 1	501577	DGNPGIS 1	E1	46.3	9.3	47.3	57	132
501096	NAVALWHARF 1	501580	RCLTD_NVWF 1	E1	2.2	0.4	2.2	3	132
501096	NAVALWHARF 1	501581	ESSAR_NVWF 1	E1	2.4	0.4	2.4	3	132
501096	NAVALWHARF 1	501582	DGNP 1	E1	6.8	1.7	7	9	132
501096	NAVALWHARF 1	501582	DGNP 1	E2	6.8	1.7	7	9	132

501096	NAVALWHARF 1	501583	HSLTD_NVWF 1	E1	4.5	1	4.6	6	132
501096	NAVALWHARF 1	501584	APC_NVWF 1	E1	5.3	1.3	5.4	7	132
501096	NAVALWHARF 1	501607	MALKAPURM 1	P1	-36.6	-16.3	40.1	49	132
501119	PORT 1	501226	NAKKA_VPLM 1	1	-0.5	0	0.5	1	132
501119	PORT 1	501228	ESAAR	E1	9.2	0	9.2	11	132
501119	PORT 1	501577	DGNPGIS 1	E1	-39.4	-7.7	40.2	49	132
501119	PORT 1	501578	VGCBPORTSS 1	E1	1.5	0.4	1.6	2	132
501141	SIMHACHALM 1	501165	ACC	E1	0	-0.2	0.2	0	132
501141	SIMHACHALM 1	501197	PENDURTHI 21	1	-0.9	1	1.4	2	132
501141	SIMHACHALM 1	501197	PENDURTHI 21	2	-0.9	1	1.4	2	132
501141	SIMHACHALM 1	501371	GAZUWAKA 21	1	-39	-8.7	40	46	132
501141	SIMHACHALM 1	501435	AUTONAGAR 1	P1	-39.4	-5	39.7	49	132
501141	SIMHACHALM 1	501514	VSEZ	3	-11	-2.2	11.3	13	132
501141	SIMHACHALM 1	501564	SIMACHALM 21	E1	-0.5	-4.5	4.5	6	132
501141	SIMHACHALM 1	501564	SIMACHALM 21	E2	-0.5	-4.5	4.5	6	132
501141	SIMHACHALM 1	501586	SMHCHLM_RT 1	E1	3	0.7	3.1	4	132
501141	SIMHACHALM 1	501586	SMHCHLM_RT 1	E2	3	0.7	3.1	4	132
501164	RSH_DEC 1	501464	BRANDIX 21	E1	0	0	0	0	132
501167	KAPLUPPADU1	501388	DAIRYFARM 21	A2	-15	-8.2	17.1	12	132
501167	KAPLUPPADU1	501434	YENDADA 1	P1	2.5	5	5.6	7	132
501178	HETERO LTD 1	501235	KORUPROLU 21	P1	-24.5	-3.5	24.8	30	132
501182	M/SGARRISON	501606	GANGA_PORT21	P1	-25.9	-7.5	27	32	132
501182	M/SGARRISON	501607	MALKAPURM 1	P2	15.4	6	16.5	20	132
501188	KASIMKOTA 1	501197	PENDURTHI 21	1	-27.6	-5.6	28.2	33	132
501188	KASIMKOTA 1	501197	PENDURTHI 21	2	-27.6	-5.6	28.2	33	132
501188	KASIMKOTA 1	501587	CHODAVARAM 1	E1	7.6	0.6	7.6	9	132
501188	KASIMKOTA 1	501587	CHODAVARAM 1	E2	7.6	0.6	7.6	9	132
501188	KASIMKOTA 1	501588	KSMKOTA_RT 1	E1	7.6	1.9	7.8	10	132
501197	PENDURTHI 21	501380	ANANDAPURM 1	1	17.5	-1.9	17.6	20	132
501197	PENDURTHI 21	501380	ANANDAPURM 1	2	17.5	-1.9	17.6	20	132
501197	PENDURTHI 21	501385	LVS	1	0	-0.1	0.1	0	132
501197	PENDURTHI 21	501623	DFAL	1	5.2	1	5.3	6	132
501226	NAKKA_VPLM 1	501564	SIMACHALM 21	E1	13.2	3	13.5	18	132
501288	PEDAWALTAR 1	501388	DAIRYFARM 21	1	-14.3	-3.6	14.7	16	132
501288	PEDAWALTAR 1	501388	DAIRYFARM 21	2	-14.3	-3.6	14.7	16	132
501289	NSTL1	501564	SIMACHALM 21	P1	-31.9	-5.4	32.3	40	132
501289	NSTL1	501564	SIMACHALM 21	P2	-31.9	-5.4	32.3	40	132
501371	GAZUWAKA 21	501408	PARAWADA 21	1	-51.4	-7.9	52	59	132
501371	GAZUWAKA 21	501435	AUTONAGAR 1	P1	59.7	14.1	61.4	74	132
501371	GAZUWAKA 21	501464	BRANDIX 21	1	-4.4	3.2	5.4	6	132
501371	GAZUWAKA 21	501514	VSEZ	3	46.5	10.6	47.7	54	132
501371	GAZUWAKA 21	502040	GAZUWAKA	1	-78.5	-11.6	79.4	50	132
501380	ANANDAPURM 1	501742	DIVIS_LABRTY	P1	27.9	4.6	28.3	35	132
501388	DAIRYFARM 21	501434	YENDADA 1	P1	17.6	4.3	18.1	21	132

501464	BRANDIX 21	501647	BARC_BRNDX 1	E1	0	-0.2	0.2	0	132
501464	BRANDIX 21	501647	BARC_BRNDX 1	E2	0	-0.2	0.2	0	132
501464	BRANDIX 21	501648	SUND_ABRDX 1	E1	35.8	8.9	36.9	45	132
501464	BRANDIX 21	501649	ANJA_ABRDX 1	E1	21.9	5.3	22.5	27	132
501464	BRANDIX 21	501649	ANJA_ABRDX 1	E2	21.9	5.3	22.5	27	132
501464	BRANDIX 21	501650	SANVR_BRDX 1	E1	0	-0.3	0.3	0	132
501464	BRANDIX 21	501657	NAOB_BRDX 1	E1	27.2	6.4	27.9	34	132
501564	SIMACHALM 21	501031	COMMON_PNT	E1	41.7	10.4	43	53	132
501564	SIMACHALM 21	501226	NAKKA_VPLM 1	E1	-13.2	-3.6	13.7	18	132
501579	SBCLDGNP 1	501577	DGNPGIS 1	E1	-6.8	-1.7	7	9	132
501581	ESSAR_NVWF 1	501580	RCLTD_NVWF 1	E1	-2.2	-0.6	2.3	3	132
501607	MALKAPURM 1	501606	GANGA_PORT21	1	-35.4	-13.4	37.8	43	132
501006	AMALAPURAM	501221	AINAVILLI 41	P1	-92.2	-14.9	93.4	57	132
501006	AMALAPURAM	501221	AINAVILLI 41	P2	-79.9	-12.9	81	97	132
501006	AMALAPURAM	501356	RAZOL	1	57.5	6.8	57.9	70	132
501006	AMALAPURAM	501356	RAZOL	2	57.5	6.8	57.9	70	132
501008	APPM_MLPET	501090	MALLAYAPET 1	1	-37.1	-9.3	38.2	43	132
501019	BOMMURU 21	501058	BAVOJI_SWS21	P1	-4.6	2.4	5.2	6	132
501019	BOMMURU 21	501058	BAVOJI_SWS21	P2	-4.6	2.4	5.2	6	132
501019	BOMMURU 21	501098	NIDADAVOLU 1	1	21.2	5.9	22	25	132
501019	BOMMURU 21	501098	NIDADAVOLU 1	2	21.2	7.1	22.4	25	132
501019	BOMMURU 21	501113	PEDDAPURAM	2	3.5	1.5	3.8	4	132
501019	BOMMURU 21	501501	RAJANAGARM 1	1	13.2	-25.6	28.8	32	132
501019	BOMMURU 21	501543	RVK	1	22.6	6	23.4	26	132
501019	BOMMURU 21	501653	BOMMURU_RT 1	E1	7.3	1.7	7.5	9	132
501058	BAVOJI_SWS21	501090	MALLAYAPET 1	P1	27.5	6	28.1	34	132
501058	BAVOJI_SWS21	501090	MALLAYAPET 1	P2	27.5	6	28.1	34	132
501058	BAVOJI_SWS21	502010	KORUKONDA220	P1	-32.1	-1.5	32.1	32	132
501058	BAVOJI_SWS21	502010	KORUKONDA220	P2	-32.1	-1.5	32.1	32	132
501060	KAKINADA 21	501113	PEDDAPURAM	1	-39.6	-12.8	41.6	47	132
501060	KAKINADA 21	501113	PEDDAPURAM	2	-39.6	-12.8	41.6	47	132
501060	KAKINADA 21	501339	YANAM 1	P1	13.5	3.2	13.9	18	132
501060	KAKINADA 21	501602	PRATAPNGAR 1	E1	17.5	4.4	18	22	132
501060	KAKINADA 21	501602	PRATAPNGAR 1	P1	17.5	4.4	18	22	132
501060	KAKINADA 21	501655	NFC_KKNADA 1	E1	2.4	0.1	2.4	3	132
501060	KAKINADA 21	501656	SILK_RDSUG 1	E1	21.5	5.1	22.1	27	132
501087	GOLLAPALEM 1	501060	KAKINADA 21	E1	-38.3	-9.6	39.5	51	132
501092	KRISH_VRM 21	501113	PEDDAPURAM	E1	29.2	11.1	31.2	37	132
501092	KRISH_VRM 21	501199	PRATHIPADU 1	E1	8.5	-17	19	23	132
501092	KRISH_VRM 21	501199	PRATHIPADU 1	E2	8.5	-17	19	23	132
501092	KRISH_VRM 21	501553	PITAPURAM 1	P1	24	17.4	29.6	35	132
501113	PEDDAPURAM	501475	SAMARLAKOT21	1	-30.6	5.5	31.1	35	132
501113	PEDDAPURAM	501475	SAMARLAKOT21	2	-30.6	5.5	31.1	35	132
501113	PEDDAPURAM	501501	RAJANAGARM 1	1	3.6	-27.3	27.6	31	132
501113	PEDDAPURAM	501553	PITAPURAM 1	1	-4.1	-4.2	5.9	7	132

501113	PEDDAPURAM	501560	KAKINADSEZ 1	E1	-16.6	2.6	16.8	20	132
501126	RC_PURAM 1	501221	AINAVILLI 41	P1	-42.2	-1.3	42.2	51	132
501126	RC_PURAM 1	501221	AINAVILLI 41	P2	-42.2	-1.3	42.2	51	132
501126	RC_PURAM 1	501475	SAMARLAKOT21	P1	-6.7	-5.3	8.5	7	132
501126	RC_PURAM 1	501475	SAMARLAKOT21	P2	-6.7	-5.3	8.5	7	132
501126	RC_PURAM 1	501517	EDITHA	1	22.6	-1.8	22.7	26	132
501126	RC_PURAM 1	501651	SSSUG_RCPM 1	E1	0.2	-0.2	0.3	0	132
501166	RVK_PWRPLT 1	501543	RVK	E1	0	0	0	0	132
501199	PRATHIPADU 1	501652	NVBL_PRTPD 1	E1	0	-0.2	0.2	0	132
501205	TUNI	501589	TUNI_RT 1	E1	3	0.5	3.1	4	132
501221	AINAVILLI 41	501552	KOTHAPETA 1	P1	21.1	4.6	21.6	26	132
501221	AINAVILLI 41	501552	KOTHAPETA 1	P2	19.8	4.3	20.3	24	132
501221	AINAVILLI 41	501566	MUMMID_VRM 1	P1	12.2	2.6	12.5	15	132
501221	AINAVILLI 41	501566	MUMMID_VRM 1	P2	12.2	2.6	12.5	15	132
501356	RAZOL	501382	VATSA	1	0	0	0	0	132
501475	SAMARLAKOT21	501431	RAK	1	14	3.4	14.4	16	132
501475	SAMARLAKOT21	501604	BCVL	1	15.4	3.2	15.8	18	132
501475	SAMARLAKOT21	501604	BCVL	2	15.4	3.2	15.8	18	132
501475	SAMARLAKOT21	501654	SAMARLK_RT 1	E1	9.6	2.3	9.9	12	132
501483	M/S GRASIM	501604	BCVL	E1	0	0	0	0	132
501517	EDITHA	501543	RVK	1	-22.5	-6.8	23.5	27	132
501560	KAKINADSEZ 1	501183	HAMSA_VARM 1	P1	24.6	7.1	25.6	34	132
501560	KAKINADSEZ 1	501205	TUNI	P1	30.7	9.3	32.1	39	132
501560	KAKINADSEZ 1	501258	SHANKAVARAM1	P1	50	5.2	50.3	40	132
501560	KAKINADSEZ 1	501463	LYFUS_PHRM 1	P1	28.5	9.3	30	36	132
501560	KAKINADSEZ 1	501553	PITAPURAM 1	P1	8.2	-12.3	14.8	18	132
501656	SILK_RDSUG 1	501658	GODA_FSLRS 1	E1	0	-0.1	0.1	0	132
501013	REDDY_GNPM 1	501014	ROUTHU_GDM 1	P1	7.6	1.5	7.8	10	132
501013	REDDY_GNPM 1	501014	ROUTHU_GDM 1	P2	7.6	1.5	7.8	10	132
501015	BHEMAVARAM 1	501049	AKIVEEDU 21	1	-10.3	-6.7	12.3	15	132
501015	BHEMAVARAM 1	501049	AKIVEEDU 21	2	-10.3	-6.7	12.3	15	132
501015	BHEMAVARAM 1	501204	TANUKU 1	1	-1.2	3.1	3.3	4	132
501015	BHEMAVARAM 1	501342	NARSAPURAM 1	1	-12.1	-0.1	12.1	14	132
501015	BHEMAVARAM 1	501342	NARSAPURAM 1	A1	-12.5	0	12.5	16	132
501015	BHEMAVARAM 1	501471	VUNDI	1	-21	-6.3	21.9	26	132
501015	BHEMAVARAM 1	501471	VUNDI	2	-21	-6.3	21.9	26	132
501015	BHEMAVARAM 1	501554	PENUGONDA 1	1	-3.5	0.1	3.5	4	132
501018	BHEEMADOLE21	501076	ELURU 1	E1	7.2	4.3	8.5	11	132
501018	BHEEMADOLE21	501098	NIDADAVOLU 1	1	-4.4	-3.8	5.8	7	132
501018	BHEEMADOLE21	501171	NARAYN_PURM1	A1	51.7	9.4	52.6	64	132
501018	BHEEMADOLE21	501200	PEDA_TDPLI 1	1	20.3	2.9	20.6	23	132
501018	BHEEMADOLE21	501461	PEDAVEGI 1	1	27	5.8	27.6	31	132
501018	BHEEMADOLE21	501481	DW TIRUMALA1	A1	16.9	0.2	16.9	21	132
501020	DUVVA132	501098	NIDADAVOLU 1	1	-14.7	-6	15.9	18	132
501020	DUVVA132	501200	PEDA_TDPLI 1	1	5	1.2	5.1	6	132

501020	DUVVA132	501200	PEDA_TDPLI 1	2	5	1.2	5.1	6	132
501020	DUVVA132	501204	TANUKU 1	1	64.7	12.4	65.8	75	132
501077	KOVR	501663	APSUG_KVRU 1	E1	0.8	0.2	0.8	1	132
501081	KVKT	501186	T.NARS_PURM	A1	8.9	1.3	8.9	11	132
501081	KVKT	501187	JANGA_RDGM 1	1	15.7	3.2	16.1	18	132
501081	KVKT	501426	NALLAJERLA 1	1	4.7	-1.1	4.9	6	132
501081	KVKT	501480	KVKOTA 21	1	-34.7	-6.7	35.4	40	132
501081	KVKT	501480	KVKOTA 21	2	-34.7	-6.7	35.4	40	132
501098	NIDADAVOLU 1	501077	KOVR	1	4.1	0.6	4.1	5	132
501098	NIDADAVOLU 1	501200	PEDA_TDPLI 1	E1	15.5	3.6	15.9	19	132
501098	NIDADAVOLU 1	501200	PEDA_TDPLI 1	E2	15.5	3.6	15.9	19	132
501098	NIDADAVOLU 1	501318	NIDADAVOLU21	1	-44.8	-9.1	45.7	52	132
501098	NIDADAVOLU 1	501318	NIDADAVOLU21	2	-29.6	-6.2	30.2	34	132
501125	KOPPAKA 21	501076	ELURU 1	P1	11.1	0.5	11.1	14	132
501125	KOPPAKA 21	501076	ELURU 1	P2	11.1	0.5	11.1	14	132
501125	KOPPAKA 21	501659	ELURU_RT 1	P1	14.8	3.3	15.1	18	132
501173	V.KOTA 1	501116	PALAMANERU21	P1	-13.3	-19.9	23.9	17	132
501173	V.KOTA 1	501116	PALAMANERU21	P2	-13.3	-19.9	23.9	17	132
501173	V.KOTA 1	501202	SANTIPURAM 1	P1	6.8	18.2	19.5	23	132
501173	V.KOTA 1	501202	SANTIPURAM 1	P2	6.8	18.2	19.5	23	132
501186	T.NARS_PURM	501253	KAMAYPALEM 1	A1	9.4	1.9	9.6	12	132
501186	T.NARS_PURM	501253	KAMAYPALEM 1	A2	9.4	1.9	9.6	12	132
501200	PEDA_TDPLI 1	501171	NARAYN_PURM1	E1	-16.9	-0.6	16.9	21	132
501200	PEDA_TDPLI 1	501660	PTPALLI_RT 1	E1	4.7	1	4.8	6	132
501302	SAGGONDA 1	501301	APSUG_SGND	1	16.7	4	17.2	19	132
501318	NIDADAVOLU21	501077	KOVR	1	14.1	2.7	14.4	16	132
501318	NIDADAVOLU21	501302	SAGGONDA 1	1	17.1	3.6	17.5	20	132
501318	NIDADAVOLU21	501302	SAGGONDA 1	2	17.1	3.6	17.5	20	132
501318	NIDADAVOLU21	501362	PALLAN_SWS21	P1	-3.4	-7.1	7.9	10	132
501318	NIDADAVOLU21	501635	RAVALI_SML 1	E1	43.6	7.8	44.3	53	132
501318	NIDADAVOLU21	501661	JEYPO_SNDV 1	E1	0	-0.6	0.6	1	132
501362	PALLAN_SWS21	501426	NALLAJERLA 1	P1	31	7.2	31.8	38	132
501362	PALLAN_SWS21	501601	YERNAGUDEM 1	1	26.3	6.7	27.1	30	132
501426	NALLAJERLA 1	501662	VRKS_NLJRL 1	E1	0	-0.7	0.7	1	132
501469	NARSAPURAM21	501342	NARSAPURAM 1	P1	42.6	4.5	42.8	53	132
501469	NARSAPURAM21	501342	NARSAPURAM 1	P2	42.6	4.5	42.8	53	132
501469	NARSAPURAM21	501356	RAZOL	P1	-37.1	-1.7	37.2	46	132
501469	NARSAPURAM21	501356	RAZOL	P2	-37.1	-1.7	37.2	46	132
501471	VUNDI	501185	SARIPALLI	2	19.1	4.5	19.6	24	132
501471	VUNDI	501185	SARIPALLI	P1	19.1	4.5	19.6	24	132
501471	VUNDI	501474	BHIMVRM_RT 1	A1	4.3	1	4.4	5	132
501471	VUNDI	501474	BHIMVRM_RT 1	A2	4.3	1	4.4	5	132
501480	KVKOTA 21	501013	REDDY_GNPM 1	P1	13.5	1.7	13.7	17	132
501480	KVKOTA 21	501013	REDDY_GNPM 1	P2	13.5	1.7	13.7	17	132
501480	KVKOTA 21	501172	DHARM_GUDEM1	A1	31.4	7.1	32.1	39	132

501480	KVKOTA 21	501186	T.NARS_PURM	A1	10.1	1.4	10.2	12	132
501480	KVKOTA 21	501187	JANGA_RDGM 1	1	14.5	2.8	14.7	17	132
501480	KVKOTA 21	501439	CHINT_LPDI 1	1	24.7	5.2	25.2	29	132
501480	KVKOTA 21	501439	CHINT_LPDI 1	2	24.7	5.2	25.2	29	132
501480	KVKOTA 21	501481	DW TIRUMALA1	A1	17.7	7.1	19.1	23	132
501480	KVKOTA 21	501601	YERNAGUDEM 1	E1	0.6	-2.6	2.7	3	132
501554	PENUGONDA 1	501635	RAVALI_SML 1	E1	-36.2	-6.6	36.8	46	132
501030	CHILAKALLU21	501243	KCP_CHILKA 1	P1	7.9	2.4	8.3	10	132
501030	CHILAKALLU21	501447	NANDI	1	9.3	1.1	9.4	10	132
501030	CHILAKALLU21	501447	NANDI	2	9.3	1.1	9.4	10	132
501030	CHILAKALLU21	501665	JPC_CHLKL 1	E1	0.9	-0.8	1.2	1	132
501030	CHILAKALLU21	501667	MCL_CHLKL 1	E1	0	-0.2	0.2	0	132
501030	CHILAKALLU21	511034	PEDAGOPATHI	1	-9.8	6.8	11.9	14	132
501030	CHILAKALLU21	511045	MADHIRA	1	-4.8	6	7.7	9	132
501030	CHILAKALLU21	511262	KODADA	1	3.5	8.3	9	11	132
501030	CHILAKALLU21	511308	BONAKAL RLY	1	1.9	0.4	1.9	2	132
501030	CHILAKALLU21	511308	BONAKAL RLY	2	1.9	0.4	1.9	2	132
501030	CHILAKALLU21	511403	PAMMY	1	4.6	6.7	8.1	10	132
501054	TIRUVURU 21	501055	MYLAVRM_KR 1	P1	-3.7	0	3.7	4	132
501054	TIRUVURU 21	501055	MYLAVRM_KR 1	P2	-3.7	0	3.7	4	132
501054	TIRUVURU 21	501303	NARSAPURAM 1	P1	21.3	0.2	21.3	26	132
501054	TIRUVURU 21	501303	NARSAPURAM 1	P2	21.3	0.2	21.3	26	132
501054	TIRUVURU 21	501409	KAMBAMPADU 1	P1	12.2	2.3	12.4	15	132
501054	TIRUVURU 21	501409	KAMBAMPADU 1	P2	12.2	2.3	12.4	15	132
501061	KONDAPALLY21	501055	MYLAVRM_KR 1	P1	50.4	-0.7	50.4	60	132
501061	KONDAPALLY21	501206	VIJAYAWADA 1	1	19.5	6.3	20.5	23	132
501061	KONDAPALLY21	501252	BAVANIPURM 1	E1	13.8	5.2	14.8	20	132
501061	KONDAPALLY21	501664	KONDAPL_RT 1	E1	2.4	0.5	2.4	3	132
501061	KONDAPALLY21	501664	KONDAPL_RT 1	E2	2.4	0.5	2.4	3	132
501075	KANUMOLU 1	501076	ELURU 1	E1	19	-3.8	19.4	26	132
501075	KANUMOLU 1	501094	VUYYURU1	P1	22.2	-1.6	22.3	27	132
501075	KANUMOLU 1	501107	NUZIVEEDU 21	1	-31.4	6	32	36	132
501075	KANUMOLU 1	501309	GUDIVADA 21	1	-11.7	-7.2	13.8	16	132
501075	KANUMOLU 1	501309	GUDIVADA 21	2	-15.8	-9.2	18.2	21	132
501075	KANUMOLU 1	501699	GANNAVARAM 1	P1	-22.4	5.9	23.1	31	132
501107	NUZIVEEDU 21	501055	MYLAVRM_KR 1	A1	-16.8	1.7	16.9	21	132
501107	NUZIVEEDU 21	501083	RAMNAK_PET1	A1	-1.8	2.8	3.3	4	132
501107	NUZIVEEDU 21	501083	RAMNAK_PET1	A2	-1.8	2.8	3.3	4	132
501117	PAMARRU 1	501094	VUYYURU1	P1	29.3	12.4	31.8	39	132
501117	PAMARRU 1	501190	MACHIL_PTM 1	1	-1.1	-15.6	15.6	18	132
501117	PAMARRU 1	501190	MACHIL_PTM 1	2	-1.1	-15.6	15.6	18	132
501117	PAMARRU 1	501309	GUDIVADA 21	1	-41.9	3.7	42.1	48	132
501117	PAMARRU 1	501309	GUDIVADA 21	2	-41.9	3.7	42.1	48	132
501117	PAMARRU 1	501506	AVANIGADDA 1	1	6.1	0.1	6.1	7	132
501117	PAMARRU 1	501506	AVANIGADDA 1	2	6.1	0.1	6.1	7	132

501206	VIJAYAWADA 1	501252	BAVANIPURM 1	1	-39.7	-7.8	40.5	45	132
501251	VTs	501668	RWPH_BVNPM 1	P1	5	0	5	6	132
501252	BAVANIPURM 1	501254	VTPS 1	P1	-35.7	-4.4	35.9	43	132
501303	NARSAPURAM 1	501083	RAMNAK_PET1	A1	13.9	-1	14	17	132
501303	NARSAPURAM 1	501083	RAMNAK_PET1	A2	13.9	-1	14	17	132
501309	GUDIVADA 21	501666	GUDIVAD_RT 1	E1	0	-0.3	0.3	0	132
501309	GUDIVADA 21	501666	GUDIVAD_RT 1	E2	0	-0.3	0.3	0	132
501309	GUDIVADA 21	501669	CHIGR_KOTA 1	A1	11.1	1.7	11.2	14	132
501309	GUDIVADA 21	501669	CHIGR_KOTA 1	E1	11.1	1.7	11.2	14	132
501510	NUNNA1	501355	GANGURU 1	P1	23.7	1.1	23.7	29	132
501643	PEDANA SWS 1	501097	BANTUMILLI1	A1	15.7	3.1	16	19	132
501643	PEDANA SWS 1	501097	BANTUMILLI1	A2	15.7	3.1	16	19	132
501643	PEDANA SWS 1	501131	KONKEPUDI 1	P1	-2.5	-62.7	62.8	75	132
501643	PEDANA SWS 1	501190	MACHIL_PTM 1	P1	22.7	19.6	30	36	132
501643	PEDANA SWS 1	501190	MACHIL_PTM 1	P2	22.7	19.6	30	36	132
501643	PEDANA SWS 1	501478	RTPEDNA	P1	7.9	1.9	8.2	10	132
501021	BAPTLA 1	501120	PARCHUR 21	1	-21.2	-3.8	21.6	25	132
501021	BAPTLA 1	501120	PARCHUR 21	2	-21.2	-3.8	21.6	25	132
501021	BAPTLA 1	501227	REPALLE 1	1	3.3	-0.1	3.3	4	132
501021	BAPTLA 1	501555	NIZAMPATNAM	P1	8.6	0.2	8.6	11	132
501021	BAPTLA 1	501671	BAPATLA_RT 1	E1	2.1	0.5	2.2	3	132
501021	BAPTLA 1	501671	BAPATLA_RT 1	E2	2.1	0.5	2.2	3	132
501029	CHILKLR_PT	501120	PARCHUR 21	1	36.6	31.8	48.5	54	132
501029	CHILKLR_PT	501168	YADAVALLI 1	P1	48.3	19.4	52	62	132
501029	CHILKLR_PT	501390	NARSARO_PT21	1	-40.5	-0.3	40.5	45	132
501029	CHILKLR_PT	501390	NARSARO_PT21	2	-40.5	-0.3	40.5	45	132
501029	CHILKLR_PT	501390	NARSARO_PT21	3	-32.5	-0.9	32.6	36	132
501029	CHILKLR_PT	501477	NALLAPADU 1	1	-7.4	15.2	16.9	19	132
501029	CHILKLR_PT	501494	MARRIPALEM 1	2	1.5	16.2	16.3	18	132
501044	GUNTUR 1	501045	TADIKONDA 21	1	-29.2	-2.8	29.4	33	132
501044	GUNTUR 1	501045	TADIKONDA 21	2	-29.2	-2.8	29.4	33	132
501044	GUNTUR 1	501120	PARCHUR 21	1	9.7	-5.6	11.2	13	132
501044	GUNTUR 1	501632	GUNTR2	1	-14	-11.7	18.2	21	132
501044	GUNTUR 1	501632	GUNTR2	2	-14	-11.7	18.2	21	132
501044	GUNTUR 1	501700	KAZA	P1	-25.7	9	27.3	33	132
501045	TADIKONDA 21	501099	AIIMS1	E1	-9.9	8.4	13	16	132
501045	TADIKONDA 21	501477	NALLAPADU 1	1	33.4	-10.6	35.1	39	132
501045	TADIKONDA 21	501494	MARRIPALEM 1	2	24.5	-11.5	27.1	30	132
501045	TADIKONDA 21	501546	GUJJANA_GL 1	1	12.1	2.6	12.3	14	132
501045	TADIKONDA 21	501546	GUJJANA_GL 1	2	12.1	2.6	12.3	14	132
501045	TADIKONDA 21	501547	RENTAPALLE 1	1	-20.4	4.9	20.9	23	132
501085	MACHERLA 1	501059	KCP_MCHRLA	1	5.5	1.3	5.6	6	132
501085	MACHERLA 1	501104	NSRC	1	-21.4	7.7	22.8	25	132
501085	MACHERLA 1	501153	VELDURTHI 1	E1	3.4	-0.2	3.5	4	132
501085	MACHERLA 1	501488	RENTA_CNTL21	1	-22.5	-7	23.5	26	132

501085	MACHERLA 1	501488	RENTA_CNTL21	2	-22.5	-7	23.5	26	132
501085	MACHERLA 1	501516	KARAMPUDI 1	1	19.1	-4.4	19.6	22	132
501104	NSRC	511193	NAGARJUNSAGA	1	-1.7	2.6	3.2	4	132
501112	PIDUGRALLA 1	501136	TANGEDA 1	E1	16.8	2.6	17	20	132
501112	PIDUGRALLA 1	501516	KARAMPUDI 1	1	-6.4	4.4	7.8	9	132
501112	PIDUGRALLA 1	501547	RENTAPALLE 1	1	29.1	-5.9	29.6	33	132
501136	TANGEDA 1	501676	BC_TANGEDA 1	E1	9.1	2.2	9.3	7	132
501149	TADEPALLI 1	501099	AIIMS1	E1	20.6	-6.9	21.7	26	132
501149	TADEPALLI 1	501157	UNDAVALLI 1	A2	9.2	2.1	9.4	11	132
501149	TADEPALLI 1	501157	UNDAVALLI 1	E1	9.2	2.1	9.4	11	132
501149	TADEPALLI 1	501355	GANGURU 1	1	34.2	12.1	36.2	41	132
501149	TADEPALLI 1	501545	AUTONAGAR 1	1	14.2	-2	14.3	16	132
501149	TADEPALLI 1	501672	TADEPL_RT 1	E1	7.8	1.9	8	10	132
501149	TADEPALLI 1	501672	TADEPL_RT 1	E2	7.8	1.9	8	10	132
501149	TADEPALLI 1	501700	KAZA	P1	47.8	-4	47.9	58	132
501203	TENALI 1	501556	VEMURU	P1	26.6	1.8	26.7	32	132
501203	TENALI 1	501632	GUNTR2	1	-48.8	-7	49.3	56	132
501203	TENALI 1	501632	GUNTR2	2	-48.8	-7	49.3	56	132
501203	TENALI 1	501670	CHAKRAY_PM 1	E1	31	2.4	31.1	40	132
501203	TENALI 1	501673	TENALI_RT 1	E1	1.6	0.3	1.6	2	132
501203	TENALI 1	501673	TENALI_RT 1	E2	1.6	0.3	1.6	2	132
501227	REPALLE 1	501555	NIZAMPATNAM	P1	7.4	-0.9	7.4	9	132
501227	REPALLE 1	501556	VEMURU	P1	-6.8	-0.8	6.9	8	132
501227	REPALLE 1	501670	CHAKRAY_PM 1	A2	-6.8	-0.1	6.8	8	132
501227	REPALLE 1	501670	CHAKRAY_PM 1	P1	-6.8	-0.1	6.8	8	132
501340	VINUKONDA 1	501217	ELCHURU	P1	16.7	3.4	17.1	21	132
501340	VINUKONDA 1	501674	SAVALPM_RT 1	E1	2.2	-0.1	2.2	3	132
501390	NARSARO_PT21	501340	VINUKONDA 1	1	42	8.7	42.9	47	132
501477	NALLAPADU 1	501675	NALLAPD_RT 1	E1	1.7	0.1	1.7	2	132
501488	RENTA_CNTL21	501215	GUARAZALART	E1	0	-0.6	0.6	1	132
501488	RENTA_CNTL21	501489	PARASH	1	11.5	2.6	11.8	13	132
501488	RENTA_CNTL21	501550	NSRTP_RNTL 1	1	-5.4	31.8	32.3	36	132
501488	RENTA_CNTL21	501550	NSRTP_RNTL 1	2	-5.4	31.8	32.3	36	132
501488	RENTA_CNTL21	501677	CNC_RNTCL 1	E1	16.9	2.8	17.1	20	132
501547	RENTAPALLE 1	501678	RENTAPL_RT 1	P2	0	-0.3	0.3	0	132
501632	GUNTR2	501161	PONNURU 1	E1	3.8	-0.3	3.8	5	132
501632	GUNTR2	501161	PONNURU 1	E2	3.8	-0.3	3.8	5	132
501033	CUMBUM 1	501110	ANUMALPLY1	E1	3.4	4.6	5.7	7	132
501033	CUMBUM 1	501332	GIDDALUR 1	1	16.6	13.6	21.5	24	132
501033	CUMBUM 1	501373	MARKAPURAM21	1	-20.5	9.2	22.4	25	132
501033	CUMBUM 1	501373	MARKAPURAM21	2	-20.5	9.2	22.4	25	132
501033	CUMBUM 1	501608	KESINEN_PL 1	E1	-8.2	4.9	9.5	11	132
501109	ONGOLE 21	501128	KOTHAPTNM 1	P1	27.6	1.7	27.7	33	132
501109	ONGOLE 21	501142	ONGOLE 1	1	23.3	13.1	26.7	30	132
501109	ONGOLE 21	501142	ONGOLE 1	2	23.3	13.1	26.7	30	132

501109	ONGOLE 21	501331	KANDUKUR 1	1	27.4	10.1	29.2	32	132
501109	ONGOLE 21	501360	MEDARA_MTL 1	1	10.7	0.7	10.7	12	132
501109	ONGOLE 21	501360	MEDARA_MTL 1	E2	10.7	0.7	10.7	12	132
501109	ONGOLE 21	501681	ONGOLE_RT 1	E1	7.6	1.7	7.8	9	132
501109	ONGOLE 21	501681	ONGOLE_RT 1	E2	7.6	1.7	7.8	9	132
501109	ONGOLE 21	502063	ONGOLU	1	-75.1	-14.6	76.5	48	132
501109	ONGOLE 21	502063	ONGOLU	2	-46.1	-9	47	47	132
501109	ONGOLE 21	502063	ONGOLU	3	-74.2	-33.5	81.4	51	132
501120	PARCHUR 21	501179	CHIRALA 1	1	27.6	6.2	28.3	32	132
501120	PARCHUR 21	501179	CHIRALA 1	2	27.6	6.2	28.3	32	132
501120	PARCHUR 21	501472	INKOLL	1	29.3	-9.2	30.7	35	132
501120	PARCHUR 21	501486	MARTUR	1	23.8	-1.2	23.8	27	132
501120	PARCHUR 21	501486	MARTUR	2	23.8	-1.2	23.8	27	132
501120	PARCHUR 21	502064	PARUCHURU	1	-46.7	8	47.4	48	132
501120	PARCHUR 21	502064	PARUCHURU	2	-46.8	8	47.4	48	132
501120	PARCHUR 21	502064	PARUCHURU	3	-81	-5.6	81.2	52	132
501142	ONGOLE 1	501472	INKOLL	1	7.4	16.5	18.1	20	132
501179	CHIRALA 1	501120	PARCHUR 21	1	-27.4	-6.9	28.2	32	132
501179	CHIRALA 1	501120	PARCHUR 21	2	-27.4	-6.9	28.2	32	132
501210	YERAGND_PM 1	501219	C-MADUGU 21	P1	-40.4	-3.1	40.6	49	132
501210	YERAGND_PM 1	501219	C-MADUGU 21	P2	-40.4	-3.1	40.6	49	132
501210	YERAGND_PM 1	501473	DORNAL	1	-22.5	7.6	23.8	27	132
501210	YERAGND_PM 1	501608	KESINEN_PL 1	E1	31.7	-19.3	37.1	44	132
501331	KANDUKUR 1	501109	ONGOLE 21	1	-27.1	-10.9	29.3	33	132
501331	KANDUKUR 1	501641	KANDUKUR 21	E1	-18.9	-0.6	18.9	23	132
501332	GIDDALUR 1	501033	CUMBUM 1	1	-16.4	-15	22.2	25	132
501332	GIDDALUR 1	501620	KALASAPADU 1	P1	-29.2	3.6	29.4	36	132
501360	MEDARA_MTL 1	501680	TEAMA_MDMT 1	E1	0	-0.1	0.1	0	132
501373	MARKAPURAM21	501033	CUMBUM 1	1	20.6	-10.3	23	26	132
501373	MARKAPURAM21	501033	CUMBUM 1	2	20.6	-10.3	23	26	132
501373	MARKAPURAM21	501608	KESINEN_PL 1	E1	2.2	7.5	7.8	9	132
501373	MARKAPURAM21	501608	KESINEN_PL 1	E2	2.2	7.5	7.8	9	132
501472	INKOLL	501120	PARCHUR 21	1	-28.9	8.7	30.2	34	132
501472	INKOLL	501142	ONGOLE 1	1	-7.2	-17.8	19.2	22	132
501472	INKOLL	501682	JVIL_INKLU 1	E1	10	2.5	10.3	13	132
501473	DORNAL	501145	SRISAILAMSY1	1	-37	5.2	37.4	42	132
501486	MARTUR	501120	PARCHUR 21	1	-23.7	0.5	23.7	27	132
501486	MARTUR	501120	PARCHUR 21	2	-23.7	0.5	23.7	27	132
501486	MARTUR	501168	YADAVALLI 1	A1	-14.6	-8	16.6	20	132
501486	MARTUR	501168	YADAVALLI 1	E1	-14.6	-8	16.6	20	132
501486	MARTUR	501217	ELCHURU	P1	4.5	-3.1	5.4	7	132
501486	MARTUR	501679	AMARAT_MRT 1	E1	12.1	3	12.5	15	132
501515	PAMURU	501073	KANIGIRI 1	1	-7	8.1	10.7	12	132
501515	PAMURU	501073	KANIGIRI 1	2	-7	8.1	10.7	12	132
501515	PAMURU	501379	UDAYAGIRI 1	P1	-5.4	-11.2	12.4	10	132

501515	PAMURU	501379	UDAYAGIRI 1	P2	-5.4	-11.2	12.4	10	132
501548	ADDANKI 1	501360	MEDARA_MTL 1	1	-14.3	-3.6	14.8	17	132
501548	ADDANKI 1	501360	MEDARA_MTL 1	2	-14.3	-3.6	14.8	17	132
501591	PODILI	501073	KANIGIRI 1	E1	27.4	-5	27.8	33	132
501591	PODILI	501073	KANIGIRI 1	E2	27.4	-5	27.8	33	132
501591	PODILI	501180	CHINARIKATL1	P1	10	3.2	10.5	13	132
501591	PODILI	501180	CHINARIKATL1	P2	10	3.2	10.5	13	132
501591	PODILI	501181	EAST_GNVRM 1	P1	12.5	5.3	13.6	16	132
501591	PODILI	501181	EAST_GNVRM 1	P2	12.5	5.3	13.6	16	132
501591	PODILI	501360	MEDARA_MTL 1	E1	7.5	-2	7.7	9	132
501591	PODILI	501549	DARSI	1	10	1.4	10.1	11	132
501591	PODILI	501549	DARSI	2	10	1.4	10.1	11	132
501591	PODILI	501590	LINGA_SMDM 1	1	11.1	0	11.1	12	132
501591	PODILI	501590	LINGA_SMDM 1	2	11.1	0	11.1	12	132
501608	KESINEN_PL 1	501033	CUMBUM 1	E1	8.3	-8.3	11.7	14	132
501608	KESINEN_PL 1	501210	YERAGND_PM 1	E1	-31.5	19	36.8	44	132
501608	KESINEN_PL 1	501373	MARKAPURAM21	E1	-2.2	-8.4	8.6	10	132
501608	KESINEN_PL 1	501373	MARKAPURAM21	E2	-2.2	-8.4	8.6	10	132
501608	KESINEN_PL 1	501683	GAJJALK_RT 1	E1	15.2	2.9	15.4	18	132
501628	TANGUTUR 1	501128	KOTHAPTNM 1	P1	-8.6	2.1	8.9	11	132
501628	TANGUTUR 1	501476	CLARIO	1	-7	-6	9.2	10	132
501641	KANDUKUR 21	501082	KAVALI 1	E1	37.3	5.3	37.7	50	132
501641	KANDUKUR 21	501216	ULAVAPADU	P1	5	2	5.4	6	132
501641	KANDUKUR 21	501216	ULAVAPADU	P2	5	2	5.4	6	132
501641	KANDUKUR 21	501331	KANDUKUR 1	E1	18.9	0	18.9	23	132
501641	KANDUKUR 21	501633	RAMAPT	P1	65.2	16.3	67.2	81	132
501040	GUDURU 1	501003	COLRSHI_GUDR	P1	10.8	3.6	11.4	14	132
501040	GUDURU 1	501089	NAIDUPET 21	P1	41.2	-4.2	41.5	50	132
501040	GUDURU 1	501502	MANUBOLU 41	1	-41.6	-4.6	41.8	47	132
501040	GUDURU 1	501502	MANUBOLU 41	2	-54.6	-5.7	54.9	62	132
501040	GUDURU 1	501685	GUDURU_RT 1	E1	0.8	0.2	0.8	1	132
501040	GUDURU 1	501685	GUDURU_RT 1	E2	0.8	0.2	0.8	1	132
501040	GUDURU 1	501687	NELCST_GDR 1	E1	4.7	1.2	4.9	6	132
501082	KAVALI 1	501624	RACHARLPAD 1	E1	-35.7	-11.6	37.6	51	132
501082	KAVALI 1	501641	KANDUKUR 21	E1	-36.5	-6.2	37	51	132
501082	KAVALI 1	501694	KAVALI_RT 1	E1	4.7	1	4.8	6	132
501082	KAVALI 1	501694	KAVALI_RT 1	E2	4.7	1	4.8	6	132
501089	NAIDUPET 21	501114	GOTTIPROLU1	E1	11.3	2.8	11.6	14	132
501089	NAIDUPET 21	501114	GOTTIPROLU1	E2	11.3	2.8	11.6	14	132
501089	NAIDUPET 21	501421	NAIDUPET 1	P1	7.8	-14.8	16.7	20	132
501089	NAIDUPET 21	501544	MENAKUR 1	P1	51.9	15.4	54.1	66	132
501089	NAIDUPET 21	501544	MENAKUR 1	P2	51.9	15.4	54.1	66	132
501101	NELLORE 21	501102	NAVLOK_GDN 1	1	47.7	12.9	49.4	55	132
501101	NELLORE 21	501105	NTS	1	34.6	7.8	35.4	40	132
501101	NELLORE 21	501422	BRAMHDEVAM 1	1	17.4	2.7	17.6	20	132

501101	NELLORE 21	501422	BRAMHDEVAM 1	2	17.4	2.7	17.6	20	132
501101	NELLORE 21	501429	ADURPALLI 1	1	0	-5.5	5.5	6	132
501101	NELLORE 21	501430	BUCHIREDYPLM	P1	2	-10.5	10.7	13	132
501101	NELLORE 21	501502	MANUBOLU 41	1	3.8	-3.6	5.3	6	132
501105	NTS	501102	NAVLOK_GDN 1	1	1	-0.6	1.2	1	132
501105	NTS	501102	NAVLOK_GDN 1	A1	1	-0.7	1.2	1	132
501105	NTS	501624	RACHARLPAD 1	E1	-13.6	-2.1	13.8	18	132
501105	NTS	501695	NTS_RT 1	E1	4.7	1.2	4.9	6	132
501105	NTS	501695	NTS_RT 1	E2	4.7	1.2	4.9	6	132
501106	KALLURUPALI1	501124	KORUTUR1	P1	11.4	1.4	11.4	14	132
501106	KALLURUPALI1	501124	KORUTUR1	P2	11.4	1.4	11.4	14	132
501140	SULLURUPET21	501137	SRIHAR_KTA	1	8.4	1	8.4	9	132
501140	SULLURUPET21	501421	NAIDUPET 1	1	38.2	23.1	44.6	50	132
501140	SULLURUPET21	501594	CHERVI	1	25.8	10.5	27.8	31	132
501140	SULLURUPET21	501594	CHERVI	2	25.8	10.5	27.8	31	132
501140	SULLURUPET21	501634	ROUTSURAMALA	2	-7.1	14.5	16.1	19	132
501140	SULLURUPET21	501686	SULLURP_RT 1	E1	5.7	1.2	5.8	7	132
501140	SULLURUPET21	501686	SULLURP_RT 1	E2	5.7	1.2	5.8	7	132
501193	RAPUR 1	501429	ADURPALLI 1	P1	-5.2	-3	6.1	7	132
501193	RAPUR 1	501690	ADURUPL_RT 1	P1	0	-0.6	0.6	1	132
501207	VENKATGIRI 1	501065	KALAHASTHI	E1	-5.6	-6.8	8.8	11	132
501207	VENKATGIRI 1	501609	RACHAGUNER21	1	-21.6	0	21.6	24	132
501207	VENKATGIRI 1	501693	VNKTGIR_RT 1	E1	2.2	0.5	2.3	3	132
501330	ATMAKUR_NL21	501100	ANATHASAGRM1	E1	9.6	-0.1	9.6	11	132
501330	ATMAKUR_NL21	501100	ANATHASAGRM1	E2	9.6	-0.1	9.6	11	132
501330	ATMAKUR_NL21	501195	VINJAMURU 1	E1	8.8	0.9	8.9	10	132
501330	ATMAKUR_NL21	501379	UDAYAGIRI 1	1	17	0.3	17	19	132
501330	ATMAKUR_NL21	501379	UDAYAGIRI 1	2	17	0.3	17	19	132
501330	ATMAKUR_NL21	501430	BUCHIREDYPLM	P1	11.2	12.1	16.5	19	132
501330	ATMAKUR_NL21	501625	ATMAKUR_NL 1	E1	-12.5	17	21.1	25	132
501330	ATMAKUR_NL21	501625	ATMAKUR_NL 1	E2	-13.2	18	22.3	26	132
501421	NAIDUPET 1	501250	AMAN_TRY	E1	4.4	-0.3	4.4	5	132
501421	NAIDUPET 1	501684	EMPEE_NDPT 1	E1	7.3	1.3	7.4	9	132
501421	NAIDUPET 1	501689	EMJAY_NDPT 1	E1	0	-0.6	0.6	1	132
501421	NAIDUPET 1	501696	VICKS_NDPT 1	E1	0	0	0	0	132
501422	BRAMHDEVAM 1	501541	NIDRLY	1	7.4	1.3	7.6	8	132
501422	BRAMHDEVAM 1	501627	KPORT	1	7.4	1.4	7.6	9	132
501422	BRAMHDEVAM 1	501692	PENNAC_BDM 1	E1	0.9	-0.4	1	1	132
501429	ADURPALLI 1	501691	SEIGF_ADRP 1	E1	-28.3	-10.6	30.2	36	132
501502	MANUBOLU 41	501108	KADIVEDU1	P1	13.5	2.6	13.8	17	132
501502	MANUBOLU 41	501108	KADIVEDU1	P2	13.5	2.6	13.8	17	132
501502	MANUBOLU 41	501169	CHENDODU 1	1	32	7.2	32.8	37	132
501502	MANUBOLU 41	501193	RAPUR 1	E1	1.6	-2.5	2.9	4	132
501502	MANUBOLU 41	501193	RAPUR 1	E2	1.6	-2.5	2.9	4	132
501544	MENAKUR 1	501191	GREENTECH 1	E1	6.5	1.6	6.7	8	132

501544	MENAKUR 1	501242	BRAKEINDIA 1	E1	17.4	8.6	19.4	24	132
501544	MENAKUR 1	501513	GREENLAM1	P1	8.3	2.5	8.6	11	132
501544	MENAKUR 1	501688	HNGL_MNKR 1	E1	6.4	1.5	6.6	8	132
501624	RACHARLPAD 1	501103	DAGADARTHI	P1	9.2	1.2	9.2	11	132
501624	RACHARLPAD 1	501103	DAGADARTHI	P2	9.2	1.2	9.2	11	132
501624	RACHARLPAD 1	501358	ALLUR	E1	15.6	2.7	15.8	21	132
501624	RACHARLPAD 1	501358	ALLUR	E2	15.6	2.7	15.8	21	132
501625	ATMAKUR_NL 1	501176	BADVEL 1	E1	-43.6	30.9	53.5	70	132
501032	CHITTOOR 21	501115	PAKALA 1	1	23.2	6.4	24.1	27	132
501032	CHITTOOR 21	501503	IRALA	1	0.2	9.5	9.5	11	132
501032	CHITTOOR 21	501701	NUNI_GPLSW 1	E1	45.3	-1.3	45.3	54	132
501032	CHITTOOR 21	501701	NUNI_GPLSW 1	E2	45.3	-1.3	45.3	54	132
501065	KALAHASTHI	501129	RENIGUNTA 21	1	-16.4	11.6	20.1	22	132
501065	KALAHASTHI	501568	GREENPLY 1	E1	16.3	3.5	16.7	20	132
501065	KALAHASTHI	501609	RACHAGUNER21	1	-25.2	13.2	28.4	32	132
501066	KALIKIRI 21	501086	MADANPALLY21	1	7.6	2.5	8	9	132
501066	KALIKIRI 21	501086	MADANPALLY21	2	7.6	2.5	8	9	132
501066	KALIKIRI 21	501336	ROMPICHERL 1	1	46.1	2.2	46.1	51	132
501066	KALIKIRI 21	501436	GURAMKONDA 1	1	-43.8	19	47.8	53	132
501066	KALIKIRI 21	501436	GURAMKONDA 1	2	-43.8	19	47.8	53	132
501066	KALIKIRI 21	501618	SOMALA	1	64.8	-0.8	64.8	72	132
501066	KALIKIRI 21	501703	SIVARAM_PM 1	E1	27.3	-0.4	27.3	32	132
501067	THIMA-PRM 21	501189	MUSALIKUNT 1	E1	20.1	-1.3	20.2	24	132
501086	MADANPALLY21	501270	MADANPALLY 1	E1	8.9	17.7	19.9	24	132
501086	MADANPALLY21	501270	MADANPALLY 1	E2	8.4	16.7	18.7	22	132
501086	MADANPALLY21	501270	MADANPALLY 1	E3	8.4	16.7	18.7	22	132
501086	MADANPALLY21	501713	RAMA_SMDRM 1	E1	25.1	5.1	25.6	31	132
501086	MADANPALLY21	501743	AMIGANIPALL1	P1	35.8	-6.9	36.5	44	132
501111	YERPEDU 1	501609	RACHAGUNER21	E1	-7.5	-3.5	8.3	10	132
501111	YERPEDU 1	501609	RACHAGUNER21	E2	-7.5	-3.5	8.3	10	132
501115	PAKALA 1	501304	KPMITTA 1	1	2.1	-11.2	11.4	13	132
501115	PAKALA 1	501336	ROMPICHERL 1	1	-39.2	4.1	39.5	45	132
501115	PAKALA 1	501468	RTSS	1	11.6	2.9	12	14	132
501115	PAKALA 1	501622	SNAM	1	11.7	2.6	11.9	14	132
501116	PALAMANERU21	501440	KAKLMITTA _1	P1	17.3	9.5	19.7	23	132
501116	PALAMANERU21	501440	KAKLMITTA _1	P2	17.3	9.5	19.7	23	132
501116	PALAMANERU21	501743	AMIGANIPALL1	P1	4.9	19.3	19.9	24	132
501123	PUTTUR 1	501194	NAGARI 21	1	-8.7	-8.4	12.1	13	132
501123	PUTTUR 1	501194	NAGARI 21	2	-8.7	-8.4	12.1	13	132
501123	PUTTUR 1	501239	LAKSHMISWS1	P1	-14.3	2.6	14.5	17	132
501123	PUTTUR 1	501239	LAKSHMISWS1	P2	-14.3	2.6	14.5	17	132
501123	PUTTUR 1	501706	PUTTUR_RT 1	E1	2.1	0.5	2.1	3	132
501123	PUTTUR 1	501706	PUTTUR_RT 1	E2	2.1	0.5	2.1	3	132
501129	RENIGUNTA 21	501174	TIRUPATI 21	P1	12	0.6	12	16	132
501129	RENIGUNTA 21	501174	TIRUPATI 21	P2	12	0.6	12	16	132

501129	RENIGUNTA 21	501174	TIRUPATI 21	P3	12	0.6	12	16	132
501129	RENIGUNTA 21	501239	LAKSHMISWS1	P1	20.3	-1.9	20.4	24	132
501129	RENIGUNTA 21	501239	LAKSHMISWS1	P2	20.3	-1.9	20.4	24	132
501129	RENIGUNTA 21	501466	AMAR	1	28.6	7	29.4	33	132
501129	RENIGUNTA 21	501631	VIKRUTMALA	P1	15	-1.4	15.1	18	132
501129	RENIGUNTA 21	501631	VIKRUTMALA	P2	15	-1.4	15.1	18	132
501129	RENIGUNTA 21	501698	GNDWN_RNG 1	E1	3.5	0.5	3.5	4	132
501129	RENIGUNTA 21	501707	RENIGUN_RT 1	E1	2.7	0.5	2.7	3	132
501129	RENIGUNTA 21	501707	RENIGUN_RT 1	E2	2.7	0.5	2.7	3	132
501133	MANGALAM1	501609	RACHAGUNER21	P1	-10	-5	11.2	13	132
501133	MANGALAM1	501609	RACHAGUNER21	P2	-10	-5	11.2	13	132
501134	PACHIKPALEM1	501155	PENUMUR1	E1	6.4	0.4	6.4	8	132
501134	PACHIKPALEM1	501155	PENUMUR1	E2	6.4	0.4	6.4	8	132
501134	PACHIKPALEM1	501194	NAGARI 21	E1	-17	-3.1	17.3	21	132
501134	PACHIKPALEM1	501194	NAGARI 21	E2	-17	-3.1	17.3	21	132
501174	TIRUPATI 21	501154	TIRUPATI 1	P1	37.4	9.3	38.6	51	132
501174	TIRUPATI 21	501154	TIRUPATI 1	P2	37.4	9.3	38.6	51	132
501174	TIRUPATI 21	501304	KPMITTA 1	P1	20.3	3.2	20.5	27	132
501174	TIRUPATI 21	501334	CHANDRAGIR 1	P1	34.6	-7.4	35.4	44	132
501174	TIRUPATI 21	501334	CHANDRAGIR 1	P2	34.6	-7.4	35.4	44	132
501194	NAGARI 21	501196	KOSALANAGARM	P1	15	2.1	15.1	18	132
501194	NAGARI 21	501304	KPMITTA 1	1	17.2	7.2	18.6	21	132
501194	NAGARI 21	501304	KPMITTA 1	2	17.2	7.2	18.6	21	132
501194	NAGARI 21	501459	NAGALPURAM 1	1	20.2	6.7	21.3	24	132
501194	NAGARI 21	501459	NAGALPURAM 1	2	20.2	6.7	21.3	24	132
501194	NAGARI 21	501710	WANEEP_NGR 1	E1	-23.6	9.8	25.5	30	132
501202	SANTIPURAM 1	501708	DAYA_SNTPM 1	E1	-37.7	23.8	44.6	53	132
501224	BKOTHAKOTA 1	501335	BURKAYL_KT 1	E1	-15	-0.1	15	18	132
501225	ALIPIRI 1	501334	CHANDRAGIR 1	E1	-56.7	17.5	59.3	71	132
501225	ALIPIRI 1	501614	TIRUMALA 1	E1	10.4	-29.1	30.9	37	132
501231	AMRS_PS 1	501701	NUNL_GPLSW 1	E1	40	29.2	49.5	59	132
501234	KUPPAM 21	501348	KUPPAM 1	E1	27.7	6.6	28.5	34	132
501234	KUPPAM 21	501348	KUPPAM 1	E2	27.7	6.6	28.5	34	132
501236	RACHERLA 21	501147	APOLLO	P1	15	5.9	16.1	19	132
501236	RACHERLA 21	501238	DAIKIN_AIRC1	P1	16.2	4.8	16.9	20	132
501236	RACHERLA 21	501459	NAGALPURAM 1	P1	-19.8	-10	22.2	27	132
501236	RACHERLA 21	501512	LINDE1	P1	18.8	2.7	18.9	23	132
501236	RACHERLA 21	501594	CHERVI	P1	52.6	-2.6	52.6	63	132
501236	RACHERLA 21	501594	CHERVI	P2	52.6	-2.6	52.6	63	132
501239	LAKSHMISWS1	501240	LAKSHMETALRG	P1	11.9	3.9	12.5	15	132
501270	MADANPALLY 1	501335	BURKAYL_KT 1	E1	-27.1	25.7	37.4	45	132
501270	MADANPALLY 1	501522	ANGALLU_LIS1	E1	2.8	25.6	25.8	31	132
501304	KPMITTA 1	501704	SAGARS_KPM 1	E1	0	-0.8	0.8	1	132
501335	BURKAYL_KT 1	501522	ANGALLU_LIS1	E1	37.6	-13.4	39.9	48	132
501335	BURKAYL_KT 1	501610	TANAKALLU 1	P1	-106.1	30.4	110.4	134	132

501336	ROMPICHERL 1	501703	SIVARAM_PM 1	E1	-26.2	-1.3	26.3	32	132
501357	PUNGANUR 21	501359	PUNGANUR 1	P1	14.1	3.3	14.5	17	132
501357	PUNGANUR 21	501359	PUNGANUR 1	P2	14.1	3.3	14.5	17	132
501410	KALLUR 1	501618	SOMALA	P1	-7.5	-2.5	7.9	10	132
501410	KALLUR 1	501618	SOMALA	P2	-7.5	-2.5	7.9	10	132
501411	THANAVANPALI	501701	NUNI_GPLSW 1	P1	-10	-5	11.2	13	132
501411	THANAVANPALI	501701	NUNI_GPLSW 1	P2	-10	-5	11.2	13	132
501413	K.G.SATHRAM1	501701	NUNI_GPLSW 1	P1	-12.5	-5	13.5	16	132
501413	K.G.SATHRAM1	501701	NUNI_GPLSW 1	P2	-12.5	-5	13.5	16	132
501436	GURAMKONDA 1	501524	SAMBEPALLI 1	E1	-38	13.9	40.5	48	132
501436	GURAMKONDA 1	501524	SAMBEPALLI 1	E2	-38	13.9	40.5	48	132
501436	GURAMKONDA 1	501621	KALICHERLA 1	E1	-21.2	10.2	23.6	28	132
501436	GURAMKONDA 1	501711	WANEEP_GRK 1	E1	-23.6	-8.2	25	30	132
501440	KAKLMITTA _1	501701	NUNI_GPLSW 1	P1	2.2	5.7	6.1	7	132
501440	KAKLMITTA _1	501701	NUNI_GPLSW 1	P2	2.2	5.7	6.1	7	132
501503	IRALA	501618	SOMALA	1	-23.8	4.6	24.2	27	132
501503	IRALA	501714	MANGAL_IRL 1	P1	0	-0.4	0.4	1	132
501594	CHERVI	501146	TORAY	P1	5.9	0.5	5.9	7	132
501594	CHERVI	501697	MONDLEZ_CV 1	E1	5.4	1.1	5.5	7	132
501609	RACHAGUNER21	501631	VIKRUTMALA	P1	0	0.1	0.1	0	132
501609	RACHAGUNER21	501631	VIKRUTMALA	P2	0	0.1	0.1	0	132
501609	RACHAGUNER21	501634	ROUTSURAMALA	P1	17.2	-10.5	20.1	24	132
501609	RACHAGUNER21	501636	SPL_FERRO	P1	20.7	4.3	21.1	25	132
501609	RACHAGUNER21	501702	LANCO_RGNR 1	E1	5.6	1.4	5.8	7	132
501609	RACHAGUNER21	501709	PRAKAS_RCN 1	E1	12.4	2.9	12.8	15	132
501621	KALICHERLA 1	501524	SAMBEPALLI 1	E1	-36.5	11.7	38.3	46	132
501621	KALICHERLA 1	501705	BANDLA_NPL 1	E1	0.2	-0.8	0.9	1	132
501701	NUNI_GPLSW 1	501156	KOTHPALYCTR1	E1	12.5	2.3	12.7	15	132
501701	NUNI_GPLSW 1	501156	KOTHPALYCTR1	E2	12.5	2.3	12.7	15	132
501701	NUNI_GPLSW 1	501712	AMARAJ_NGP 1	E1	45.2	11.3	46.6	56	132
501025	CUDDAPAH 21	501352	VONTIMITTA	1	58.2	-13.3	59.7	66	132
501025	CUDDAPAH 21	501497	NALLA_LGPL 1	1	-9.5	3.4	10.1	11	132
501025	CUDDAPAH 21	501497	NALLA_LGPL 1	2	-9.5	3.4	10.1	11	132
501025	CUDDAPAH 21	501521	RTSSK	1	28.3	-13.5	31.3	35	132
501070	JAMML_MDG 41	501437	JAMMAL_MDG 1	P1	52.9	-8.4	53.6	64	132
501070	JAMML_MDG 41	501437	JAMMAL_MDG 1	P2	52.9	-8.4	53.6	64	132
501070	JAMML_MDG 41	501629	SUZLON	P1	0	-1.1	1.1	1	132
501070	JAMML_MDG 41	501629	SUZLON	P2	0	-1.1	1.1	1	132
501078	TIRUMAL_PL21	501482	KONDAPRM_W21	A1	42	-4.8	42.3	50	132
501078	TIRUMAL_PL21	501482	KONDAPRM_W21	E1	42	-4.8	42.3	50	132
501078	TIRUMAL_PL21	501630	HETERO_KPM 1	E2	0	-0.4	0.4	0	132
501078	TIRUMAL_PL21	501630	HETERO_KPM 1	E3	0	-0.4	0.4	0	132
501121	PRODDUTUR 1	501160	YERAGUNTILA21	1	-5.8	-10.3	11.8	13	132
501121	PRODDUTUR 1	501160	YERAGUNTILA21	2	-5.8	-10.3	11.8	13	132
501121	PRODDUTUR 1	501248	DUVVUR 1	E1	19.9	4.8	20.5	25	132

501121	PRODDUTUR 1	501437	JAMMAL_MDG 1	1	-36.3	8.8	37.4	42	132
501122	PULIVENDUL 1	501062	KADIRI 1	1	22.8	-13.3	26.4	29	132
501122	PULIVENDUL 1	501062	KADIRI 1	2	22.8	-13.3	26.4	29	132
501122	PULIVENDUL 1	501160	YERAGUNTLA21	1	-15.5	2.1	15.7	17	132
501122	PULIVENDUL 1	501420	VEMPALLI 1	1	6.1	3.4	7	8	132
501122	PULIVENDUL 1	501504	PULIVENDUL21	1	-45.4	6.5	45.9	51	132
501122	PULIVENDUL 1	501504	PULIVENDUL21	2	-45.4	6.5	45.9	51	132
501122	PULIVENDUL 1	501719	UCIL_PLVD 1	E1	6.7	1	6.8	8	132
501135	SATELITECTY1	501346	CHINAKM_PL21	P1	-7.5	-2.6	7.9	9	132
501135	SATELITECTY1	501346	CHINAKM_PL21	P2	-7.5	-2.6	7.9	9	132
501138	NALCHRVPALI1	501504	PULIVENDUL21	E1	-7.9	-2	8.1	10	132
501138	NALCHRVPALI1	501504	PULIVENDUL21	E2	-7.9	-2	8.1	10	132
501139	C.ORAMPADU	501312	RAJAMPET 21	P1	-32.5	-8.1	33.5	42	132
501143	T.SUNDUPALLI	501170	RAYACHOTI 1	P1	-8.8	-2.2	9.1	11	132
501143	T.SUNDUPALLI	501170	RAYACHOTI 1	P2	-8.8	-2.2	9.1	11	132
501144	WELSPUN	501353	BALAPANUR 1	E1	-21.3	-5.3	22	26	132
501160	YERAGUNTLA21	501024	CCI_YRGNTL 1	1	5	0.3	5	6	132
501160	YERAGUNTLA21	501024	CCI_YRGNTL 1	2	5	0.3	5	6	132
501160	YERAGUNTLA21	501420	VEMPALLI 1	1	22.9	0.4	22.9	25	132
501160	YERAGUNTLA21	501497	NALLA_LGPL 1	1	18.5	-3.1	18.8	21	132
501160	YERAGUNTLA21	501497	NALLA_LGPL 1	2	18.5	-3.1	18.8	21	132
501160	YERAGUNTLA21	501558	MURTSS	1	-3.7	4.5	5.8	6	132
501160	YERAGUNTLA21	501715	ICL_YRGNTL 1	E1	6.7	1	6.8	8	132
501160	YERAGUNTLA21	501715	ICL_YRGNTL 1	E2	6.7	1	6.8	8	132
501160	YERAGUNTLA21	501716	ZUR_YRGNTL 1	E1	9.6	2.2	9.9	12	132
501160	YERAGUNTLA21	501716	ZUR_YRGNTL 1	E2	9.6	2.2	9.9	12	132
501170	RAYACHOTI 1	501346	CHINAKM_PL21	1	-70.5	23.1	74.2	82	132
501170	RAYACHOTI 1	501346	CHINAKM_PL21	2	-70.5	23.1	74.2	82	132
501170	RAYACHOTI 1	501524	SAMBEPALLI 1	1	59.6	-22.2	63.7	71	132
501170	RAYACHOTI 1	501524	SAMBEPALLI 1	2	59.6	-22.2	63.7	71	132
501176	BADVEL 1	501230	CENTURYPNL 1	P1	12.1	2.8	12.4	16	132
501176	BADVEL 1	501352	VONTIMITTA	1	-43.5	17.6	47	53	132
501176	BADVEL 1	501433	PORUMAMILA21	1	-18.4	2	18.5	21	132
501176	BADVEL 1	501433	PORUMAMILA21	2	-18.4	2	18.5	21	132
501248	DUVVUR 1	501232	JONNAVARAM1	P1	25	0.2	25	30	132
501248	DUVVUR 1	501232	JONNAVARAM1	P2	25	0.2	25	30	132
501248	DUVVUR 1	501437	JAMMAL_MDG 1	P1	-44.1	2.1	44.1	53	132
501257	CHAKRAYPET21	501056	GALIVEEDU 1	P1	7.8	0.7	7.8	9	132
501257	CHAKRAYPET21	501056	GALIVEEDU 1	P2	7.8	0.7	7.8	9	132
501312	RAJAMPET 21	501313	THIMMA_GPL 1	1	9.9	1.8	10.1	12	132
501312	RAJAMPET 21	501313	THIMMA_GPL 1	2	9.9	1.8	10.1	12	132
501312	RAJAMPET 21	501462	NANDALURU	P1	12	2.4	12.2	15	132
501312	RAJAMPET 21	501462	NANDALURU	P2	12	2.4	12.2	15	132
501313	THIMMA_GPL 1	501721	CHERLPL_RT 1	E1	0	-0.9	0.9	1	132
501346	CHINAKM_PL21	501493	MULAVA	1	2	19.6	19.7	22	132

501353	BALAPANUR 1	501565	LINGAL	P1	-5.9	6.8	9	11	132
501433	PORUMAMILA21	501256	BMGRIMATAM 1	E1	5	0.8	5.1	6	132
501433	PORUMAMILA21	501256	BMGRIMATAM 1	E2	5	0.8	5.1	6	132
501433	PORUMAMILA21	501620	KALASAPADU 1	E1	33.6	-4.6	33.9	41	132
501433	PORUMAMILA21	501620	KALASAPADU 1	E2	33.6	-4.6	33.9	41	132
501433	PORUMAMILA21	501626	PORUMAMILA 1	E1	11.3	1.9	11.4	14	132
501433	PORUMAMILA21	501626	PORUMAMILA 1	E2	11.3	1.9	11.4	14	132
501437	JAMMAL_MDG 1	501720	DALMIA_JMG 1	E1	1.5	-11.4	11.5	14	132
501482	KONDAPRM_W21	501150	TADIPATRI 21	1	34.3	-9.9	35.7	40	132
501482	KONDAPRM_W21	501561	GANDIKOTA 1	1	17.4	-4.8	18.1	20	132
501493	MULAVA	501521	RTSSK	1	-18.2	14.9	23.5	26	132
501504	PULIVENDUL21	501269	TADIMARRI 1	E1	4.4	-0.1	4.4	5	132
501504	PULIVENDUL21	501353	BALAPANUR 1	1	19.6	-7.6	21	23	132
501504	PULIVENDUL21	501565	LINGAL	1	13.9	-5.5	14.9	17	132
501504	PULIVENDUL21	501717	GRTXT_PLVD 1	E1	2.5	0.5	2.6	3	132
501558	MURTSS	501561	GANDIKOTA 1	1	-9.5	5	10.7	12	132
501620	KALASAPADU 1	501110	ANUMALPLY1	P1	11.8	-9.2	15	18	132
501620	KALASAPADU 1	501332	GIDDALUR 1	P1	29.5	-4.7	29.9	36	132
501000	OD CHERUVU 1	501062	KADIRI 1	P1	-15.8	-27.8	32	38	132
501000	OD CHERUVU 1	501745	PENOKONDA 1	P1	-17.2	17.8	24.8	29	132
501002	PUTTAPARTI 1	501723	PUTTAPR_RT 1	E1	14.5	3.6	14.9	18	132
501002	PUTTAPARTI 1	501745	PENOKONDA 1	P1	-34	-6.6	34.6	42	132
501011	ANANTHAPUR21	501035	DARMAVARAM 1	1	24.2	-12.7	27.3	30	132
501011	ANANTHAPUR21	501198	PANB	1	15.7	-2.9	15.9	18	132
501011	ANANTHAPUR21	501595	NAGALPRM_A 1	E1	-44.9	18.6	48.6	64	132
501011	ANANTHAPUR21	501596	TATICHERLA 1	E1	40	9.3	41.1	49	132
501035	DARMAVARAM 1	501593	BECHGANPLY 1	E1	-30.1	11.9	32.4	39	132
501046	DHARMAVRM 21	501035	DARMAVARAM 1	P1	-3	-9.4	9.8	12	132
501046	DHARMAVRM 21	501035	DARMAVARAM 1	P2	-3	-9.4	9.8	12	132
501046	DHARMAVRM 21	501175	HAMPAPURAM 1	P1	10	-0.6	10	12	132
501046	DHARMAVRM 21	501175	HAMPAPURAM 1	P2	10	-0.6	10	12	132
501047	GUNTAKAL 1	501048	GOOTY_AP 21	1	-12.2	-9.7	15.6	17	132
501047	GUNTAKAL 1	501052	HAMPI 1	1	-15.6	0.9	15.6	17	132
501047	GUNTAKAL 1	501266	VAJRAKARUR21	P1	-13.1	-1.6	13.2	16	132
501047	GUNTAKAL 1	501470	URAVAKONDA 1	P2	0.5	0.4	0.6	1	132
501047	GUNTAKAL 1	501732	GUNTAKL_RT 1	E1	19.6	4.7	20.1	24	132
501048	GOOTY_AP 21	501329	PATHIKONDA 1	1	13.3	-0.1	13.3	15	132
501048	GOOTY_AP 21	501511	RACHERLA 1	1	8.6	7.1	11.1	12	132
501048	GOOTY_AP 21	501559	GUDIPADUSW 1	1	22.2	1.7	22.2	25	132
501048	GOOTY_AP 21	501595	NAGALPRM_A 1	E1	-1.5	8.8	8.9	12	132
501051	HINDUPUR 21	501002	PUTTAPARTI 1	E1	30.7	0.7	30.7	37	132
501051	HINDUPUR 21	501213	JAMMALBAND 1	1	20.5	-8.5	22.1	25	132
501051	HINDUPUR 21	501527	THUMUKUNTA 1	1	37.1	-13.4	39.4	44	132
501051	HINDUPUR 21	501527	THUMUKUNTA 1	2	37.1	-13.4	39.4	44	132
501051	HINDUPUR 21	501593	BECHGANPLY 1	E1	-22.1	10.2	24.3	29	132

501051	HINDUPUR 21	501724	AROHIS_HDP 1	E1	-46.8	20.6	51.2	61	132
501062	KADIRI 1	501368	MUTYAL_CRV21	1	-2.6	16.8	17	19	132
501062	KADIRI 1	501610	TANAKALLU 1	1	38.9	-3.4	39	43	132
501062	KADIRI 1	501728	SEIASO_KDR 1	E1	-22.4	9.2	24.2	29	132
501064	KALYANDURG21	501333	RAYADURG 1	1	40	-15.3	42.9	48	132
501064	KALYANDURG21	501333	RAYADURG 1	2	40	-15.3	42.9	48	132
501064	KALYANDURG21	501532	ANKAMPALLI 1	1	8.3	4	9.3	10	132
501064	KALYANDURG21	501725	TGPRT_KLDG 1	E1	0	-1.3	1.3	1	132
501064	KALYANDURG21	501725	TGPRT_KLDG 1	E2	0	-1.3	1.3	1	132
501064	KALYANDURG21	501727	POLYSO_KDG 1	P1	0	-0.6	0.6	1	132
501130	TATCHRLRT	501596	TATICHERLA 1	E1	-11.6	-2.9	12	14	132
501130	TATCHRLRT	501596	TATICHERLA 1	E2	-11.6	-2.9	12	14	132
501132	PALASAMUDRM1	501263	LEPAKSHI 1	E1	-42.7	-10.7	44.1	54	132
501132	PALASAMUDRM1	501263	LEPAKSHI 1	E2	-42.7	-10.7	44.1	54	132
501150	TADIPATRI 21	501391	KOMATIKNTL 1	1	18.3	-27.7	33.2	37	132
501150	TADIPATRI 21	501611	KOMALI	1	25	3.2	25.2	28	132
501150	TADIPATRI 21	501729	GRDS_TDPT 1	E1	16.6	3.6	17	20	132
501150	TADIPATRI 21	501730	AZURE_TDPT 1	E1	-46.7	5.5	47	56	132
501213	JAMMALBAND 1	501262	MADAKASIRA 1	1	-25.5	10.5	27.5	33	132
501213	JAMMALBAND 1	501273	AMARAPURAM 1	E1	5	0	5	6	132
501245	RTKALSMDRM	501247	KOTHAPALLY 1	E1	-5.3	-1.3	5.5	7	132
501247	KOTHAPALLY 1	501259	MUDIGUBBA1	E1	25.1	6.6	25.9	31	132
501247	KOTHAPALLY 1	501368	MUTYAL_CRV21	1	-25.7	-6.9	26.6	30	132
501247	KOTHAPALLY 1	501368	MUTYAL_CRV21	2	-25.7	-6.9	26.6	30	132
501262	MADAKASIRA 1	501268	BOKSAMPALY21	E1	-18.7	3.8	19	23	132
501262	MADAKASIRA 1	501268	BOKSAMPALY21	P2	-18.7	3.8	19	23	132
501263	LEPAKSHI 1	501369	GOLLAPURAM21	1	-46	-11.4	47.3	54	132
501263	LEPAKSHI 1	501369	GOLLAPURAM21	2	-46	-11.4	47.3	54	132
501368	MUTYAL_CRV21	501246	MALLAY_GPL 1	1	55.2	-2.3	55.3	62	132
501368	MUTYAL_CRV21	501610	TANAKALLU 1	1	48.2	-8.6	49	55	132
501368	MUTYAL_CRV21	502241	MUTYALACHERU	1	-78.8	7.5	79.2	79	132
501368	MUTYAL_CRV21	502241	MUTYALACHERU	2	-78.8	7.5	79.2	79	132
501369	GOLLAPURAM21	501527	THUMUKUNTA 1	E1	-52.6	-51.1	73.3	88	132
501369	GOLLAPURAM21	501533	OSWAL	P1	29.3	9.6	30.8	37	132
501369	GOLLAPURAM21	501534	A-ONE	P1	51	16.9	53.7	64	132
501532	ANKAMPALLI 1	501198	PANB	1	-4.9	2.6	5.6	6	132
501532	ANKAMPALLI 1	501638	GAMESH	E1	0	-0.2	0.2	0	132
501532	ANKAMPALLI 1	501638	GAMESH	E2	0	-0.2	0.2	0	132
501559	GUDIPADUSW 1	501432	ANKIR_PALL 1	1	21.6	3.6	21.9	25	132
501559	GUDIPADUSW 1	501726	BMMC_GDPDU 1	E1	0.3	0	0.3	0	132
501593	BECHGANPLY 1	501731	MALUGUR_RT 1	P1	0	-0.5	0.5	1	132
501593	BECHGANPLY 1	501731	MALUGUR_RT 1	P2	0	-0.5	0.5	1	132
501595	NAGALPRM_A 1	501127	MEIL	P1	-47.2	35.9	59.3	71	132
501597	OBLPRM	501333	RAYADURG 1	1	-33.2	-8.3	34.2	39	132
501610	TANAKALLU 1	501246	MALLAY_GPL 1	P1	-31.8	8.3	32.9	39	132

501004	ADONI	501338	BANAVASI 21	P1	3.4	3.1	4.6	5	132
501004	ADONI	501338	BANAVASI 21	P2	3.4	3.1	4.6	5	132
501004	ADONI	501599	ALUR 1	E1	-0.7	-2	2.1	3	132
501004	ADONI	501733	NAGARUR_RT 1	E1	0.7	-0.3	0.7	1	132
501004	ADONI	501734	CHAGHI_ADN 1	E1	-36.7	1.8	36.8	44	132
501007	APCARBIDES21	501209	SOMYPALLY 21	P1	-21.9	11	24.5	29	132
501007	APCARBIDES21	501412	GUDUR"KNL 1	1	23.6	3.8	23.9	26	132
501007	APCARBIDES21	501491	NANDIKOTKR 1	1	-15.3	2.7	15.5	17	132
501007	APCARBIDES21	501735	BAEL_APC 1	E1	0	0	0	0	132
501007	APCARBIDES21	501736	ALKALS_KNL 1	P1	36.8	9.2	37.9	45	132
501007	APCARBIDES21	511086	ALAMPUR	1	14.6	-2.9	14.9	18	132
501074	KURNOOL 1	501007	APCARBIDES21	1	-41.4	5.5	41.8	46	132
501074	KURNOOL 1	501007	APCARBIDES21	2	-38.8	4.8	39.1	43	132
501074	KURNOOL 1	501640	DHONE	E1	-6.8	4.2	8	10	132
501074	KURNOOL 1	511086	ALAMPUR	P1	11.4	-33.5	35.4	42	132
501095	NANDYALA 21	501118	PANYAM_CMN	1	-26.9	3	27.1	30	132
501095	NANDYALA 21	501237	ALLAGADDA 1	1	28.1	0	28.1	32	132
501095	NANDYALA 21	501441	BANAGANPAL 1	1	15.2	-6.7	16.6	19	132
501095	NANDYALA 21	501615	RUDRAVARAM 1	E1	35.8	3.8	36	43	132
501095	NANDYALA 21	501616	VEMULAPADU 1	E1	-2	-11.9	12.1	15	132
501095	NANDYALA 21	501741	NANDYAL_RT 1	E1	1.2	0	1.2	1	132
501118	PANYAM_CMN	501314	PCMI	E1	10	5	11.2	13	132
501145	SRISAILAMSY1	501473	DORNAL	1	37.4	-5.7	37.9	42	132
501145	SRISAILAMSY1	501525	SUNPTA	1	-13.5	14.1	19.5	22	132
501192	KOILAKUNTRT1	501613	MUDIGEDU 1	P1	-4.5	-0.6	4.6	6	132
501209	SOMYPALLY 21	501118	PANYAM_CMN	P1	61.4	7.4	61.8	38	132
501211	ATMAKUR_KN 1	501419	GADVEMULA 21	P1	-43.7	8	44.4	53	132
501211	ATMAKUR_KN 1	501525	SUNPTA	1	26.2	-12.3	29	32	132
501237	ALLAGADDA 1	501267	MUTYALAPAD21	P1	-6.1	-13.1	14.4	12	132
501237	ALLAGADDA 1	501615	RUDRAVARAM 1	E1	-5.4	4.4	7	8	132
501328	YEMMIGANUR 1	501598	VISWAT_YMG 1	E1	-28.2	-13	31.1	37	132
501328	YEMMIGANUR 1	501612	MADHAVARAM 1	1	9.5	-0.3	9.5	11	132
501329	PATHIKONDA 1	501599	ALUR 1	E1	4.7	-1.1	4.8	6	132
501338	BANAVASI 21	501328	YEMMIGANUR 1	P1	8.4	-3.2	9	11	132
501338	BANAVASI 21	501328	YEMMIGANUR 1	P2	8.4	-3.2	9	11	132
501412	GUDUR"KNL 1	501328	YEMMIGANUR 1	1	-3.2	-1.8	3.6	4	132
501432	ANKIR_PALL 1	501218	M/SRAMCO LTD	P1	16.9	1.8	16.9	20	132
501432	ANKIR_PALL 1	501611	KOMALI	1	-2.7	0.3	2.8	3	132
501441	BANAGANPAL 1	501613	MUDIGEDU 1	1	16.2	2.7	16.4	18	132
501441	BANAGANPAL 1	501616	VEMULAPADU 1	E1	-63.7	-23.3	67.8	82	132
501441	BANAGANPAL 1	501737	SIVAJ_BNGP 1	E1	19.4	4.5	19.9	24	132
501491	NANDIKOTKR 1	501419	GADVEMULA 21	P1	-19.5	3	19.7	23	132
501511	RACHERLA 1	501617	BETHAMCHL21	P3	-15.4	1.2	15.4	18	132
501511	RACHERLA 1	501640	DHONE	1	0.7	1.6	1.7	2	132
501511	RACHERLA 1	501738	PRIYA_RCRL 1	E1	11.6	2.8	12	14	132

501612	MADHAVARAM 1	501162	KOSAGI	P1	0	-0.7	0.7	1	132
501612	MADHAVARAM 1	501739	MARUTI_MDM 1	E1	0	-0.1	0.1	0	132
501612	MADHAVARAM 1	501740	MANTRLM_RT 1	E1	2.8	0.4	2.8	3	132
501640	DHONE	501617	BETHAMCHL21	P1	-37.4	5	37.8	45	132

6.3Transformer Report for 2029 Study:

From bus	From Bus Name	To bus	To Bus Name	ID	MW	MVAr	MVA	Loading %	Base KV
508091	SRI_POOL	504091	SRI_POOL	1	559.4	77.5	564.8	36	765
508091	SRI_POOL	504091	SRI_POOL	2	559.4	77.5	564.8	36	765
508092	VEM-II80	504092	VEMAG-II	1	855	169	871.5	56	765
508092	VEM-II80	504092	VEMAG-II	2	855	169	871.5	56	765
508099	CPETA800	504099	CPETA400	1	687.9	83.3	692.9	45	765
508099	CPETA800	504099	CPETA400	2	687.9	83.3	692.9	45	765
508093	NELL-POL	504093	NEL-POOL	1	0.9	9.5	9.6	1	765
508093	NELL-POL	504093	NEL-POOL	2	0.9	9.5	9.6	1	765
508007	CUDP800	504007	CUDP	1	-89.8	151	175.7	11	765
508007	CUDP800	504007	CUDP	2	-89.8	151	175.7	11	765
508028	KURL800	504028	KURL-NEW	1	525.5	135.6	542.7	36	765
508028	KURL800	504028	KURL-NEW	2	525.5	135.6	542.7	36	765
508049	KURNOOL-II	504049	KURNOOL-III	1	-846.6	120.4	855.1	57	765
508049	KURNOOL-II	504049	KURNOOL-III	2	-846.6	120.4	855.1	57	765
508049	KURNOOL-II	504049	KURNOOL-III	3	-846.6	120.4	855.1	57	765
501221	AINAVILLI 41	504020	AINAVILL 4	1	-161.9	-22.9	163.5	52	400
501221	AINAVILLI 41	504020	AINAVILL 4	2	-161.9	-22.9	163.5	52	400
502005	NUNNA	504005	VIJW	1	-124	11	124.5	40	400
502005	NUNNA	504005	VIJW	2	-124	11	124.5	40	400
502005	NUNNA	504005	VIJW	3	-196.8	17.4	197.6	40	400
502006	VIZAGSS-PG	504006	GAZW	1	-177.4	-4.5	177.4	56	400
502006	VIZAGSS-PG	504006	GAZW	2	-177.4	-4.5	177.4	56	400
502006	VIZAGSS-PG	504006	GAZW	3	-281.5	-7.1	281.6	56	400
502008	GOOTYNEW	504008	GOOT	1	-66.3	-57.1	87.5	27	400
502008	GOOTYNEW	504008	GOOT	2	-66.3	-57.1	87.5	27	400
502008	GOOTYNEW	504008	GOOT	3	-105.3	-90.6	139	27	400
502014	GUDDIGUEDEM	504040	GUDDIGUEDEM	1	-279	-41.9	282.1	57	400
502014	GUDDIGUEDEM	504040	GUDDIGUEDEM	2	-175.7	-26.4	177.7	57	400
502016	VZG	504016	VIZPOOL	1	-160.7	-50	168.3	53	400
502016	VZG	504016	VIZPOOL	2	-160.7	-50	168.3	53	400
502016	VZG	504016	VIZPOOL	3	-160.7	-50	168.3	53	400
502016	VZG	504016	VIZPOOL	4	-255.2	-79.4	267.3	53	400
502017	VEMAGIRI	504017	VEMAGIR4	1	-187	-22.3	188.3	60	400
502017	VEMAGIRI	504017	VEMAGIR4	2	-187	-22.3	188.3	60	400
502017	VEMAGIRI	504017	VEMAGIR4	3	-187	-22.3	188.3	60	400

502017	VEMAGIRI	504017	VEMAGIR4	4	-296.9	-35.4	299	60	400
502019	NELLORE2	504103	NELLORE-AP	1	-194.4	-6.3	194.5	62	400
502019	NELLORE2	504103	NELLORE-AP	2	-194.4	-6.3	194.5	62	400
502019	NELLORE2	504103	NELLORE-AP	3	-194.4	-6.3	194.5	62	400
502019	NELLORE2	504103	NELLORE-AP	4	-308.7	-9.9	308.9	62	400
502026	CHITTORNEW	504024	CHITOR	1	-150.7	-48.9	158.4	49	400
502026	CHITTORNEW	504024	CHITOR	2	-150.7	-48.9	158.4	49	400
502026	CHITTORNEW	504024	CHITOR	3	-150.7	-48.9	158.4	49	400
502029	RACHAGUNNERI	504035	RACHAGUNN ERI	1	-140.2	-9.1	140.5	45	400
502029	RACHAGUNNERI	504035	RACHAGUNN ERI	2	-140.2	-9.1	140.5	45	400
502029	RACHAGUNNERI	504035	RACHAGUNN ERI	3	-223.1	-27	224.8	45	400
502029	RACHAGUNNERI	504035	RACHAGUNN ERI	4	-223.1	-27	224.8	45	400
502039	MARADAM1	504039	MARADAM	1	-212.9	-8.5	213.1	68	400
502039	MARADAM1	504039	MARADAM	2	-212.9	-8.5	213.1	68	400
502039	MARADAM1	504039	MARADAM	3	-337	-0.9	337	67	400
502039	MARADAM1	504039	MARADAM	4	-337	-0.9	337	67	400
502042	HINDUPUR2	504042	HINDPR40	1	-69.6	6.8	69.9	22	400
502042	HINDUPUR2	504042	HINDPR40	2	-69.6	6.8	69.9	22	400
502042	HINDUPUR2	504042	HINDPR40	3	-69.6	6.8	69.9	22	400
502042	HINDUPUR2	504042	HINDPR40	4	-69.6	6.8	69.9	22	400
502117	BURUGUBAN LI	504045	BURUGUBAN LI	1	-68.5	-25.2	73	15	400
502117	BURUGUBAN LI	504045	BURUGUBAN LI	2	-68.5	-25.2	73	15	400
502132	KONDAPURAM	504132	KONDPRM	3	-28.1	104.4	108.1	22	400
502132	KONDAPURAM	504132	KONDPRM	12	-17.6	56.9	59.6	19	400
502132	KONDAPURAM	504132	KONDPRM	2	-17.6	56.9	59.6	19	400
502132	KONDAPURAM	504132	KONDPRM	3	-28.1	104.4	108.1	22	400
502133	URAVAKONDA	504133	URVKND	1	-78.1	15.1	79.5	16	400
502133	URAVAKONDA	504133	URVKND	2	-78.1	15.1	79.5	16	400
502133	URAVAKONDA	504133	URVKND	3	-49.2	9.5	50.1	16	400
502133	URAVAKONDA	504133	URVKND	4	-49.2	9.5	50.1	16	400
502200	PODILI 42	504081	PODLI	1	-122.6	-46.2	131	41	400
502200	PODILI 42	504081	PODLI	2	-122.6	-46.2	131	41	400
502200	PODILI 42	504081	PODLI	3	-122.6	-46.2	131	41	400
502224	GUDIWADA220	504403	GUDIVADA	1	-199.7	-64.6	209.9	42	400
502224	GUDIWADA220	504403	GUDIVADA	2	-199.7	-64.6	209.9	42	400
502236	KVKOTA1	504111	KVKOTA 4	1	-163	-37.9	167.4	54	400
502236	KVKOTA1	504111	KVKOTA 4	2	-163	-37.9	167.4	54	400
502251	PANYAM	504032	PANYAM	1	-1.3	-3.4	3.6	1	400
502251	PANYAM	504032	PANYAM	2	-1.3	-3.4	3.6	1	400
502251	PANYAM	504032	PANYAM	3	-1.3	-3.4	3.6	1	400
502262	SATTENAPALLI	504026	VIJ-AP	1	-171.7	-24	173.4	54	400
502262	SATTENAPALLI	504026	VIJ-AP	2	-171.7	-24	173.4	54	400
502262	SATTENAPALLI	504026	VIJ-AP	3	-171.7	-24	173.4	54	400

502269	THALAYAPALEM	504037	THALAYAPAL EM	1	-182.7	-28.7	184.9	37	400
502269	THALAYAPALEM	504037	THALAYAPAL EM	2	-182.7	-28.7	184.9	37	400
502271	TALLAPALLI	504003	NSAGAR	1	-102.5	-7.9	102.8	33	400
502271	TALLAPALLI	504003	NSAGAR	2	-102.5	-7.9	102.8	33	400
502271	TALLAPALLI	504003	NSAGAR	3	-102.5	-7.9	102.8	33	400
502283	ACHUTHAPARAM	504048	ACHUTHAPUR AM	1	-234.9	-17.2	235.5	48	400
502283	ACHUTHAPARAM	504048	ACHUTHAPUR AM	2	-234.9	-17.2	235.5	48	400
502283	ACHUTHAPARAM	504048	ACHUTHAPUR AM	3	-234.9	-17.2	235.5	48	400
502284	KAKINADASEZ	504084	KAKINADA SEZ	1	-256.4	-25.3	257.6	52	400
502284	KAKINADASEZ	504084	KAKINADA SEZ	2	-256.4	-25.3	257.6	52	400
502284	KAKINADASEZ	504084	KAKINADA SEZ	3	-256.4	-25.3	257.6	52	400
502296	KALIKIRI 42	504204	KALIKIRI	1	-53	-22.4	57.5	18	400
502296	KALIKIRI 42	504204	KALIKIRI	2	-53	-22.4	57.5	18	400
502296	KALIKIRI 42	504204	KALIKIRI	3	-84.1	-35.6	91.3	18	400
501007	APCARBIDES21	502105	APKARBIDES	1	-52.7	-11.7	53.9	34	220
501007	APCARBIDES21	502105	APKARBIDES	2	-52.7	-11.7	53.9	34	220
501007	APCARBIDES21	502105	APKARBIDES	3	-32.7	5.1	33.1	33	220
501011	ANANTHAPUR21	502031	ANANTAPUR	1	-36.8	-22.3	43	43	220
501011	ANANTHAPUR21	502031	ANANTAPUR	2	-36.8	-22.3	43	43	220
501011	ANANTHAPUR21	502031	ANANTAPUR	3	-61.4	2.4	61.5	38	220
501018	BHEEMADOLE21	502032	BHIMADOLU	1	-58.8	-11.1	59.8	38	220
501018	BHEEMADOLE21	502032	BHIMADOLU	2	-58.8	-11.1	59.8	38	220
501018	BHEEMADOLE21	502032	BHIMADOLU	3	-58.8	-11.1	59.8	38	220
501020	DUVVA132	502098	DUVVA220	1	-30	-4.4	30.3	31	220
501020	DUVVA132	502098	DUVVA220	2	-30	-4.4	30.3	31	220
501022	PAMPNRTAND21	502253	PAMPUNURUT HA	1	-9.9	-1.4	10	10	220
501022	PAMPNRTAND21	502253	PAMPUNURUT HA	2	-9.9	-1.4	10	10	220
501030	CHILAKALLU21	502215	CHILAKALLU	1	-34.4	-12.5	36.5	23	220
501030	CHILAKALLU21	502215	CHILAKALLU	2	-21.1	-7.7	22.4	22	220
501030	CHILAKALLU21	502215	CHILAKALLU	3	-21.1	-7.7	22.4	22	220
501032	CHITTOOR 21	502024	CHITTOR	1	-50.8	-10.2	51.8	52	220
501032	CHITTOOR 21	502024	CHITTOR	2	-50.8	-10.2	51.8	52	220
501032	CHITTOOR 21	502024	CHITTOR	3	-82.6	-16.5	84.3	53	220
501038	GUNADALA 21	502038	GUNADALA	4	-75.2	1.3	75.2	47	220
501038	GUNADALA 21	502038	GUNADALA	1	-48	-11.8	49.5	50	220
501038	GUNADALA 21	502038	GUNADALA	2	-48	-11.8	49.5	50	220
501038	GUNADALA 21	502038	GUNADALA	3	-48	-11.8	49.5	50	220
501041	GOPPILI 21	502172	GOPPILI 2	1	-29.4	14.5	32.8	33	220
501041	GOPPILI 21	502172	GOPPILI 2	2	-29.4	14.5	32.8	33	220
501042	SARUBUJILI21	502092	SARUBUJIL 2	1	-26	10.1	27.9	28	220
501042	SARUBUJILI21	502092	SARUBUJIL 2	2	-26	10.1	27.9	28	220

501045	TADIKONDA 21	502266	TADIKONDA	1	-63	-6.3	63.3	40	220
501045	TADIKONDA 21	502266	TADIKONDA	2	-38.7	-3.9	38.9	39	220
501045	TADIKONDA 21	502266	TADIKONDA	3	-38.7	-3.9	38.9	39	220
501045	TADIKONDA 21	502266	TADIKONDA	4	-38.7	-3.9	38.9	39	220
501046	DHARMAVRM 21	502003	DHARMAVRA M2	1	-47.1	-1.9	47.1	47	220
501046	DHARMAVRM 21	502003	DHARMAVRA M2	2	-47.1	-1.9	47.1	47	220
501048	GOOTY_AP 21	502227	GOOTY	1	-39.2	-15.8	42.3	26	220
501048	GOOTY_AP 21	502227	GOOTY	2	-39.2	-15.8	42.3	26	220
501049	AKIVEEEDU 21	502169	AKIVEEDU 2	1	-50.4	-10.2	51.4	53	220
501049	AKIVEEEDU 21	502169	AKIVEEDU 2	2	-50.4	-10.2	51.4	53	220
501050	GAZUWAKA 21	502040	GAZUWAKA	2	-77.6	-30.6	83.4	53	220
501050	GAZUWAKA 21	502040	GAZUWAKA	3	-78.5	-11.6	79.4	50	220
501051	HINDUPUR 21	502229	HINDUPUR	1	-36.3	-8.3	37.2	37	220
501051	HINDUPUR 21	502229	HINDUPUR	2	-36.3	-8.3	37.2	37	220
501051	HINDUPUR 21	502229	HINDUPUR	3	-59.8	6.4	60.1	38	220
501054	TIRUVURU 21	502130	TIRUVURU 2	1	-29.7	-2.5	29.8	30	220
501054	TIRUVURU 21	502130	TIRUVURU 2	2	-29.7	-2.5	29.8	30	220
501061	KONDAPALLY21	502083	KONDAPALLI	1	-35.1	-15.6	38.4	39	220
501061	KONDAPALLY21	502083	KONDAPALLI	2	-57.8	-5.9	58.1	37	220
501061	KONDAPALLY21	502083	KONDAPALLI	3	-57.8	-5.9	58.1	37	220
501066	KALIKIRI 21	502045	KALIKIRI	1	-38.8	1.6	38.8	39	220
501066	KALIKIRI 21	502045	KALIKIRI	2	-38.8	1.6	38.8	39	220
501066	KALIKIRI 21	502045	KALIKIRI	3	-38.8	1.6	38.8	39	220
501067	THIMA-PRM 21	502279	THIMMA_PR M2	1	-20.1	-1.8	20.1	20	220
501067	THIMA-PRM 21	502279	THIMMA_PR M2	2	-20.1	-1.8	20.1	20	220
501069	SUNAP_PALI21	502012	SUNP_PALLI 2	1	-21	-5.3	21.6	22	220
501069	SUNAP_PALI21	502012	SUNP_PALLI 2	2	-21	-5.3	21.6	22	220
501070	JAMML_MDG 41	502132	KONDAPURA M	1	-52.9	9.6	53.8	34	220
501070	JAMML_MDG 41	502132	KONDAPURA M	2	-52.9	9.6	53.8	34	220
501072	BHEEMILI 21	502198	BHEEMILI 2	1	-40.3	-12.1	42.1	43	220
501072	BHEEMILI 21	502198	BHEEMILI 2	2	-40.3	-12.1	42.1	43	220
501078	TIRUMAL_PL21	502272	TIRUMALAYA PA	1	-42	5.1	42.3	26	220
501078	TIRUMAL_PL21	502272	TIRUMALAYA PA	2	-42	5.1	42.3	26	220
501086	MADANPALLY21	502240	MADANAPAL LI	1	-19.7	-12.2	23.2	23	220
501086	MADANPALLY21	502240	MADANAPAL LI	2	-19.7	-12.2	23.2	23	220
501086	MADANPALLY21	502240	MADANAPAL LI	1	-32.1	-16.6	36.1	23	220
501089	NAIDUPET 21	502285	NAIDUPET 2	1	-46.7	-12.7	48.4	50	220
501089	NAIDUPET 21	502285	NAIDUPET 2	2	-46.7	-12.7	48.4	50	220
501091	ATCHU_PRAM21	502002	ATCH_PRMGIS 2	1	-46.4	-7.1	47	48	220
501091	ATCHU_PRAM21	502002	ATCH_PRMGIS 2	2	-46.4	-7.1	47	48	220

501091	ATCHU_PRAM21	502002	ATCH_PRMGIS 2	3	-75.6	-11.5	76.5	49	220
501092	KRISH_VRM 21	502028	KRISHNAVAR AM	1	-35.1	2.8	35.2	35	220
501092	KRISH_VRM 21	502028	KRISHNAVAR AM	2	-35.1	2.8	35.2	35	220
501095	NANDYALA 21	502059	NANDYALA	1	-47.2	-10.5	48.4	49	220
501095	NANDYALA 21	502059	NANDYALA	2	-47.2	-10.5	48.4	49	220
501095	NANDYALA 21	502059	NANDYALA	3	-77.8	2.5	77.9	49	220
501101	NELLORE 21	502244	NELLORE	1	-55.3	-5.8	55.6	35	220
501101	NELLORE 21	502244	NELLORE	2	-55.3	-5.8	55.6	35	220
501101	NELLORE 21	502244	NELLORE	3	-55.3	-5.8	55.6	35	220
501107	NUZIVEEDU 21	502246	NUZIVEEDU	1	-24.7	-5.6	25.4	26	220
501107	NUZIVEEDU 21	502246	NUZIVEEDU	2	-24.7	-5.6	25.4	26	220
501107	NUZIVEEDU 21	502246	NUZIVEEDU	3	-40.3	-9.2	41.3	26	220
501112	PIDUGRALLA 1	502292	PIDUGURALL A2	1	-39.9	-23.3	46.2	46	220
501112	PIDUGRALLA 1	502292	PIDUGURALL A2	2	-39.9	-23.3	46.2	46	220
501116	PALAMANERU21	502250	PALAMNERU	1	-36.6	2.3	36.7	37	220
501116	PALAMANERU21	502250	PALAMNERU	2	-36.6	2.3	36.7	37	220
501116	PALAMANERU21	502250	PALAMNERU	3	-58.9	-16.9	61.2	38	220
501125	KOPPAKA 21	502023	KOPPAKA 2	1	-42	-8.1	42.8	44	220
501125	KOPPAKA 21	502023	KOPPAKA 2	2	-42	-8.1	42.8	44	220
501129	RENIGUNTA 21	502025	RENIGUNTA	2	-87.8	-1.1	87.8	55	220
501129	RENIGUNTA 21	502025	RENIGUNTA	3	-53.9	-0.7	53.9	54	220
501129	RENIGUNTA 21	502025	RENIGUNTA	4	-53.9	-0.7	53.9	54	220
501140	SULLURUPET21	502071	SULLURPET	1	-47	-4	47.1	47	220
501140	SULLURUPET21	502071	SULLURPET	2	-47	-4	47.1	47	220
501140	SULLURUPET21	502071	SULLURPET	3	-47	-4	47.1	47	220
501145	SRISAILAMSY1	502073	SRISAILAMRB	1	-36.4	-11.5	38.2	38	220
501149	TADEPALLI 1	502267	TADEPALLI220	1	-71.4	-7.7	71.8	45	220
501149	TADEPALLI 1	502267	TADEPALLI220	2	-71.4	-7.7	71.8	45	220
501149	TADEPALLI 1	502267	TADEPALLI220	3	-71.4	-7.7	71.8	45	220
501152	TEKKALI 21	502076	TEKKALI	1	-30.2	-31.6	43.7	43	220
501152	TEKKALI 21	502076	TEKKALI	2	-30.2	-31.6	43.7	43	220
501152	TEKKALI 21	502076	TEKKALI	3	-30.2	-31.6	43.7	43	220
501160	YERAGUNTLA21	502080	YERRAGUNTL A	1	-51.6	-16.9	54.3	54	220
501160	YERAGUNTLA21	502080	YERRAGUNTL A	2	-51.6	-16.9	54.3	54	220
501160	YERAGUNTLA21	502080	YERRAGUNTL A	3	-51.6	-16.9	54.3	54	220
501197	PENDURTHI 21	502066	PENDURTI	1	-71.7	-4.4	71.8	46	220
501197	PENDURTHI 21	502066	PENDURTI	2	-71.7	-4.4	71.8	46	220
501197	PENDURTHI 21	502066	PENDURTI	3	-71.7	-4.4	71.8	46	220
501209	SOMYPALLY 21	502072	SOMAYAZALA PA	1	-41.7	2.3	41.8	42	220
501209	SOMYPALLY 21	502072	SOMAYAZALA PA	2	-41.7	2.3	41.8	42	220
501212	PYDL_BMVRM21	502134	PYDIBHIMAVA R	1	-51.5	7.2	52	52	220

501212	PYDL_BMVRM21	502134	PYDIBHIMAVAR	2	-51.5	7.2	52	52	220
501212	PYDL_BMVRM21	502134	PYDIBHIMAVAR	3	-51.5	7.2	52	52	220
501234	KUPPAM 21	502295	KUPPAM 2	1	-27.7	-6.6	28.5	28	220
501234	KUPPAM 21	502295	KUPPAM 2	2	-27.7	-6.6	28.5	28	220
501235	KORUPROLU 21	502235	KORUPROLU	1	-57.1	-10.9	58.1	60	220
501235	KORUPROLU 21	502235	KORUPROLU	2	-57.1	-10.9	58.1	60	220
501235	KORUPROLU 21	502235	KORUPROLU	3	-57.1	-10.9	58.1	60	220
501235	KORUPROLU 21	502235	KORUPROLU	4	-57.1	-10.9	58.1	60	220
501236	RACHERLA 21	502282	RACHERLA 2	1	-67.6	0.9	67.7	43	220
501236	RACHERLA 21	502282	RACHERLA 2	2	-67.6	0.9	67.7	43	220
501251	VTS	502274	VTPS(VJW)	1	-13.1	-2	13.2	52	220
501257	CHAKRAYPET21	502021	CHAKRAYPET 2	1	-14.7	-2.5	14.9	9	220
501257	CHAKRAYPET21	502021	CHAKRAYPET 2	2	-14.7	-2.5	14.9	9	220
501267	MUTYALAPAD21	502060	MUTYALAPAD U2	1	-25	-11	27.3	17	220
501267	MUTYALAPAD21	502060	MUTYALAPAD U2	2	-25	-11	27.3	17	220
501309	GUDIVADA 21	502115	GUDIVADA	1	-45.8	-14.9	48.2	49	220
501309	GUDIVADA 21	502115	GUDIVADA	2	-75.5	-5	75.7	48	220
501309	GUDIVADA 21	502115	GUDIVADA	3	-75.5	-5	75.7	48	220
501312	RAJAMPET 21	502067	RAJAMPETA	1	-62.2	-14	63.8	66	220
501312	RAJAMPET 21	502067	RAJAMPETA	2	-62.2	-14	63.8	66	220
501318	NIDADAVOLU21	502061	NIDADAVOLU	1	-38	-14.9	40.8	41	220
501318	NIDADAVOLU21	502061	NIDADAVOLU	1	-62.5	-5	62.7	40	220
501318	NIDADAVOLU21	502061	NIDADAVOLU	2	-62.5	-5	62.7	40	220
501330	ATMAKUR_NL21	502203	ATMAKUR	1	-36.8	-27.5	46	46	220
501330	ATMAKUR_NL21	502203	ATMAKUR	2	-36.8	-27.5	46	46	220
501338	BANAVASI 21	502020	YMGR2	1	-35.8	-2.6	35.9	23	220
501338	BANAVASI 21	502020	YMGR2	2	-35.8	-2.6	35.9	23	220
501346	CHINAKM_PL21	502216	CHINAKAMPA LL	1	-61.5	7.3	61.9	62	220
501346	CHINAKM_PL21	502216	CHINAKAMPA LL	2	-100.1	12	100.8	63	220
501357	PUNGANUR 21	502245	PUNGANUR 2	1	-24.2	-5.4	24.8	25	220
501357	PUNGANUR 21	502245	PUNGANUR 2	2	-24.2	-5.4	24.8	25	220
501362	PALLAN_SWS21	502248	PALLANTLA	1	-30.3	-10.1	32	32	220
501362	PALLAN_SWS21	502248	PALLANTLA	2	-30.3	-10.1	32	32	220
501373	MARKAPURAM21	502101	MARKAPUR	1	-22.3	-0.9	22.3	22	220
501373	MARKAPURAM21	502101	MARKAPUR	2	-22.3	-0.9	22.3	22	220
501373	MARKAPURAM21	502101	MARKAPUR	1	-36.3	-1.4	36.3	23	220
501388	DAIRYFARM 21	502218	DIARYFARM	1	-32.2	-26.8	41.9	42	220
501388	DAIRYFARM 21	502218	DIARYFARM	2	-32.2	-26.8	41.9	42	220
501388	DAIRYFARM 21	502218	DIARYFARM	3	-55.1	32.7	64.1	40	220
501390	NARSARO_PT21	502110	NARASARAOP ET	1	-43.7	-3.9	43.9	44	220
501390	NARSARO_PT21	502110	NARASARAOP ET	2	-71.1	-6.3	71.4	44	220

501390	NARSARO_PT21	502110	NARASARAOP ET	3	-71.1	-6.3	71.4	44	220
501408	PARAWADA 21	502065	PARWADA	1	-41	-11.3	42.5	43	220
501408	PARAWADA 21	502065	PARWADA	2	-41	-11.3	42.5	43	220
501408	PARAWADA 21	502065	PARWADA	3	-67.5	1.4	67.5	42	220
501419	GADVEMULA 21	502230	GADVEMULA 2	1	-32	6.2	32.6	32	220
501419	GADVEMULA 21	502230	GADVEMULA 2	2	-32	6.2	32.6	32	220
501433	PORUMAMILA21	502254	PORUMAMILL A	1	-68.3	5.4	68.6	69	220
501433	PORUMAMILA21	502254	PORUMAMILL A	2	-68.3	5.4	68.6	69	220
501464	BRANDIX 21	502037	BRANDX(EXIM P	1	-82.6	-10.4	83.2	85	220
501464	BRANDIX 21	502037	BRANDX(EXIM P	2	-82.6	-10.4	83.2	85	220
501464	BRANDIX 21	502037	BRANDX(EXIM P	3	-82.6	-10.4	83.2	53	220
501467	VIZIA_NGRM21	502286	VIZIA_NGRM 2	1	-45.6	-5.4	45.9	47	220
501467	VIZIA_NGRM21	502286	VIZIA_NGRM 2	2	-45.6	-5.4	45.9	47	220
501469	NARSAPURAM21	502099	NARSAPURAM 2	1	-30.5	-7.2	31.3	33	220
501469	NARSAPURAM21	502099	NARSAPURAM 2	2	-30.5	-7.2	31.3	33	220
501471	VUNDI	502114	BHIMAVARAM	1	-72.9	-17.6	75	49	220
501471	VUNDI	502114	BHIMAVARAM	2	-72.9	-17.6	75	49	220
501471	VUNDI	502114	BHIMAVARAM	3	-72.9	-17.6	75	49	220
501475	SAMARLAKOT21	502113	SAMARLAKOT 2	1	-32	-2.9	32.1	33	220
501475	SAMARLAKOT21	502113	SAMARLAKOT 2	3	-52	-4.8	52.3	33	220
501475	SAMARLAKOT21	502113	SAMARLAKOT 2	4	-52	-4.8	52.3	33	220
501480	KVKOTA 21	502111	KVKOTA	1	-73.4	-14.4	74.8	48	220
501480	KVKOTA 21	502111	KVKOTA	2	-73.4	-14.4	74.8	48	220
501480	KVKOTA 21	502111	KVKOTA	3	-73.4	-14.4	74.8	48	220
501482	KONDAPRM_W21	502233	KONDAPURA M	1	-11	-3.9	11.7	12	220
501482	KONDAPRM_W21	502233	KONDAPURA M	2	-11	-3.9	11.7	12	220
501488	RENTA_CNTL21	502258	RENTACHINT AL	1	-20.9	-27.1	34.2	34	220
501488	RENTA_CNTL21	502258	RENTACHINT AL	2	-20.9	-27.1	34.2	34	220
501488	RENTA_CNTL21	502258	RENTACHINT AL	3	-20.9	-27.1	34.2	34	220
501502	MANUBOLU 41	502019	NELLORE2	1	-47.8	-6.6	48.3	49	220
501502	MANUBOLU 41	502019	NELLORE2	2	-77.8	-10.7	78.5	49	220
501502	MANUBOLU 41	502019	NELLORE2	3	-77.8	-10.7	78.5	49	220
501504	PULIVENDUL21	502097	PULIVENDULA	1	-72.5	5.8	72.7	73	220
501504	PULIVENDUL21	502097	PULIVENDULA	2	-72.5	5.8	72.7	73	220
501510	NUNNA1	502005	NUNNA	1	-51	-10.3	52	53	220
501510	NUNNA1	502005	NUNNA	2	-51	-10.3	52	53	220
501560	KAKINADSEZ 1	502284	KAKINADASE Z	1	-79.3	-7.2	79.7	50	220
501560	KAKINADSEZ 1	502284	KAKINADASE Z	2	-79.3	-7.2	79.7	50	220

501564	SIMACHALM 21	502009	SIMHACHALA M2	1	-46.7	-13.2	48.5	50	220
501564	SIMACHALM 21	502009	SIMHACHALA M2	2	-46.7	-13.2	48.5	50	220
501567	BOBBILI 21	502209	BOBILI	1	-60.4	-6.8	60.8	61	220
501567	BOBBILI 21	502209	BOBILI	2	-60.4	-6.8	60.8	61	220
501567	BOBBILI 21	502209	BOBILI	3	-98.3	-11.1	98.9	63	220
501567	BOBBILI 21	502209	BOBILI	4	-98.3	-11.1	98.9	63	220
501591	PODILI	502081	PODILI	1	-66.9	-7.5	67.3	67	220
501591	PODILI	502081	PODILI	2	-66.9	-7.5	67.3	67	220
501591	PODILI	502081	PODILI	3	-66.9	-7.5	67.3	67	220
501606	GANGA_PORT21	502221	GANGAVARA MPO	1	-46.1	-12.4	47.8	48	220
501606	GANGA_PORT21	502221	GANGAVARA MPO	2	-46.1	-12.4	47.8	48	220
501609	RACHAGUNER21	502029	RACHAGUNN ERI	1	-59.1	-2.3	59.1	59	220
501609	RACHAGUNER21	502029	RACHAGUNN ERI	2	-96.3	-0.4	96.3	60	220
501617	BETHAMCHL21	502204	BETUMCHARL A	1	-26.7	5	27.2	27	220
501617	BETHAMCHL21	502204	BETUMCHARL A	2	-26.7	5	27.2	27	220
501624	RACHARLPAD 1	502277	RACHARLPAD 2	1	-33.1	-6.7	33.8	34	220
501624	RACHARLPAD 1	502277	RACHARLPAD 2	2	-33.1	-6.7	33.8	34	220
501624	RACHARLPAD 1	502277	RACHARLPAD 2	3	-33.1	-6.7	33.8	34	220
501632	GUNTR2	502041	GUNTUR2	1	-37	-9.8	38.3	39	220
501632	GUNTR2	502041	GUNTUR2	2	-37	-9.8	38.3	39	220
501632	GUNTR2	502041	GUNTUR2	3	-60.2	-16	62.3	39	220
501641	KANDUKUR 21	502231	KANDUKUR	1	-43.8	-8.5	44.6	45	220
501641	KANDUKUR 21	502231	KANDUKUR	2	-43.8	-8.5	44.6	45	220
501641	KANDUKUR 21	502231	KANDUKUR	3	-43.8	-8.5	44.6	45	220
501643	PEDANA SWS 1	502276	PEDANA 2	1	-41.1	7.7	41.8	42	220
501643	PEDANA SWS 1	502276	PEDANA 2	2	-41.1	7.7	41.8	42	220
501745	PENOKONDA 1	502249	PENUKONDA	1	-63.3	-0.7	63.3	64	220
501745	PENOKONDA 1	502249	PENUKONDA	2	-63.3	-0.7	63.3	64	220
502108	KALYANDURG	502211	BORUMPALLI	1	-90.2	-3.1	90.3	38	220
502108	KALYANDURG	502211	BORUMPALLI	2	-90.2	-3.1	90.3	38	220
504007	CUDP	502216	CHINAKAMPA LL	1	188.9	14.7	189.5	60	220
504007	CUDP	502216	CHINAKAMPA LL	2	188.9	14.7	189.5	60	220
504007	CUDP	502216	CHINAKAMPA LL	3	300	23.3	300.9	60	220
504013	KURNOOL4	502013	KURNOOL	1	103.4	-2.7	103.4	33	220
504013	KURNOOL4	502013	KURNOOL	2	103.4	-2.7	103.4	33	220
504013	KURNOOL4	502013	KURNOOL	3	162.4	26.2	164.5	33	220
504083	TALARICH	502312	TALARI_CRV 2	1	39.8	0.3	39.8	13	220
504083	TALARICH	502312	TALARI_CRV 2	2	41.2	-89.4	98.4	31	220
504083	TALARICH	502312	TALARI_CRV 2	3	41.2	-89.4	98.4	31	220
501154	TIRUPATI 1	501174	TIRUPATI 21	1	-37.4	-9.4	38.5	51	132

501154	TIRUPATI 1	501174	TIRUPATI 21	2	-37.4	-9.4	38.5	51	132
502007	CUDAPPAH	501025	CUDDAPPAH 21	1	31.6	10.3	33.3	33	132
502007	CUDAPPAH	501025	CUDDAPPAH 21	2	31.6	10.3	33.3	33	132
502007	CUDAPPAH	501025	CUDDAPPAH 21	3	41.7	-6.6	42.2	27	132
502010	KORUKONDA220	501058	BAVOJI_SWS21	1	32.1	2.5	32.2	32	132
502010	KORUKONDA220	501058	BAVOJI_SWS21	2	32.1	2.5	32.2	32	132
502020	YMGR2	501338	BANAVASI 21	1	35.8	3.4	36	23	132
502020	YMGR2	501338	BANAVASI 21	2	35.8	3.4	36	23	132
502034	BOMMURU	501019	BOMMURU 21	1	70.3	4.3	70.4	44	132
502034	BOMMURU	501019	BOMMURU 21	2	70.3	4.3	70.4	44	132
502034	BOMMURU	501019	BOMMURU 21	3	44.3	28	52.4	53	132
502040	GAZUWAKA	501050	GAZUWAKA 21	2	77.6	35.2	85.1	54	132
502040	GAZUWAKA	501050	GAZUWAKA 21	3	78.5	15.6	80	50	132
502040	GAZUWAKA	501371	GAZUWAKA 21	1	78.5	15.6	80.1	50	132
502044	KAKINADA	501060	KAKINADA 21	1	27.2	5.9	27.9	28	132
502044	KAKINADA	501060	KAKINADA 21	2	44.3	9.6	45.4	29	132
502044	KAKINADA	501060	KAKINADA 21	3	44.3	9.6	45.4	29	132
502049	TIRUPATI 2	501174	TIRUPATI 21	1	64.2	4.1	64.3	40	132
502049	TIRUPATI 2	501174	TIRUPATI 21	2	64.2	4.1	64.3	40	132
502063	ONGOLU	501109	ONGOLE 21	1	75.1	18.3	77.3	48	132
502063	ONGOLU	501109	ONGOLE 21	2	46.1	11.2	47.5	48	132
502063	ONGOLU	501109	ONGOLE 21	3	74.2	37.8	83.3	52	132
502064	PARUCHURU	501120	PARCHUR 21	1	46.7	-5.7	47.1	47	132
502064	PARUCHURU	501120	PARCHUR 21	2	46.8	-5.7	47.1	47	132
502064	PARUCHURU	501120	PARCHUR 21	3	81	9.6	81.6	50	132
502075	TADIPATRI	501150	TADIPATRI 21	1	23.7	6.1	24.5	25	132
502075	TADIPATRI	501150	TADIPATRI 21	2	23.7	6.1	24.5	25	132
502108	KALYANDURG	501064	KALYANDURG 21	1	55.7	2	55.7	56	132
502108	KALYANDURG	501064	KALYANDURG 21	2	55.7	2	55.7	56	132
502108	KALYANDURG	501064	KALYANDURG 21	3	55.7	2	55.7	56	132
502135	NAKAVANPLM_2	501226	NAKKA_VPLM 1	1	33.5	9.3	34.7	35	132
502135	NAKAVANPLM_2	501226	NAKKA_VPLM 1	2	33.5	9.3	34.7	35	132
502202	ANRAK	501010	ANARAK_SWS 1	1	14.2	1.8	14.3	14	132
502202	ANRAK	501010	ANARAK_SWS 1	2	14.2	1.8	14.3	14	132
502206	BOKSAMPALLI	501268	BOKSAMPALY 21	1	18.8	-4.9	19.4	19	132
502206	BOKSAMPALLI	501268	BOKSAMPALY 21	2	18.8	-4.9	19.4	19	132
502225	GOLLAPURAM	501369	GOLLAPURAM 21	1	61.1	6.3	61.5	62	132
502225	GOLLAPURAM	501369	GOLLAPURAM 21	2	61.1	6.3	61.5	62	132
502225	GOLLAPURAM	501369	GOLLAPURAM 21	3	61.1	6.3	61.5	62	132
502226	GARIVIDI	501039	GARIVIDI1	1	75.3	-3.6	75.4	47	132
502226	GARIVIDI	501039	GARIVIDI1	2	46.3	-2.2	46.3	46	132

502226	GARIVIDI	501039	GARIVIDI1	3	46.3	-2.2	46.3	46	132
502241	MUTYALACHERU	501368	MUTYAL_CRV 21	1	78.8	-1.2	78.8	79	132
502241	MUTYALACHERU	501368	MUTYAL_CRV 21	2	78.8	-1.2	78.8	79	132
502242	NAGARI	501194	NAGARI 21	1	42.4	5.4	42.7	43	132
502242	NAGARI	501194	NAGARI 21	2	42.4	5.4	42.7	43	132
502242	NAGARI	501194	NAGARI 21	3	42.4	5.4	42.7	43	132
502273	VAJRAKORUR	501266	VAJRAKARUR2 1	1	33.6	3.9	33.8	34	132
502274	VTPS(VJW)	501254	VTPS 1	1	35.8	5.4	36.2	36	132
502281	C-MADUGU 2	501219	C-MADUGU 21	1	56.4	5.1	56.6	57	132
502281	C-MADUGU 2	501219	C-MADUGU 21	2	56.4	5.1	56.6	57	132

Chapter 7

Cost Data of Lines and Substations

Sl.No.	Description	Cost
1	220/132kV SS	Rs. 45Cr
2	220/132/33kV SS	Rs. 60Cr
3	220kV Switching station	Rs. 25Cr
4	220/33kV SS	Rs. 30Cr
5	132/33kV SS	Rs. 25Cr
6	132kV Bay	Rs. 1.0Cr
7	220kV Bay	Rs. 1.8Cr
8	220kV DC/SC	Rs. 1.3Cr/KM
9	220kV DC/DC	Rs. 2.0Cr/KM
10	220kV DC on MC towers (Single LILO)	Rs. 3.0Cr/KM
11	220kV DC on MC towers (Double LILO)	Rs. 4.0Cr/KM
12	132kV DC/SC line	Rs. 1.0Cr/KM
13	132kV DC line	Rs. 1.5Cr/KM
14	132kV DC line on MC towers	Rs. 2.6Cr/KM

15	220kV DC on MC towers (Double LILO)	Rs. 3.3Cr/KM
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COST ESTIMATE of 400kV WORKS				
Sl.No.	Name of the work	ECV Amount Rs. (in Crs)	Adm. Approved Amount Rs (in Crs)	Source of Reference
1	400kV QMDC Line per KM	4.80	6.02	400kV Polavaram-Guddigudem line
2	400kV TMDC line per KM	2.50	3.13	400kV Kakinada LILO
3	400kV ACSS line TM (Equipment to QM) per KM	3.35	4.20	765/400kV Ramayapatnam
4	400/220kV AIS	200.00	205.08	400kV Gudivada SS
5	400/220/132/33kV AIS	260.00	326.04	400kV Kakinada SEZ
6	400/220kV GIS	400.00	501.60	400kV Atchutapuram
7	400kV Line Bay - 1No. with Tie	6.00	7.50	Guddigudem - 400kV Line Bay
8	400kV Transformer Bay with Tie Bay - 1 No. 315MVA	25.00	31.35	400kV Narnoor Augmentation works
9	400kV Transformer Bay with Tie Bay - 1No. 500MVA	32.00	40.128	400kV Narnoor Augmentation works
10	765/400 KV SS	400	Tentative amounts	
11	765KV DC Line	10	Tentative amounts	

7.1 Bus Codes:

Bus Number	Bus Name	Base KV	Description
501000	OD CHERUVU 1	132	OD CHERUVU 1

501001	MOGALRAJPRM1	132	MOGALRAJPURAM
501002	PUTTAPARTI 1	132	PUTTAPARTHI
501003	COLRSHI_GUDR	132	COLORSHINE COATED PVT LTD,GUDUR
501004	ADONI	132	ADONI
501005	JAMATUL_PM 1	132	JAMATULAPALEM
501006	AMALAPURAM	132	AMALAPURAM
501007	APCARBIDES21	132	A.P.CARBIDES
501008	APPM_MLPET	132	AP-PAPER MILLS MALLAIAHPETA
501009	ARAKU 1	132	ARAKU
501011	ANANTHAPUR21	132	ANANTHAPUR
501012	BOBBILI 1	132	BOBBILI 132/33 KV
501013	REDDY_GNPM 1	132	REDDY GANAPAVARAM
501014	ROUTHU_GDM 1	132	ROUTHUGUEDEM
501015	BHEMAVARAM 1	132	BHEEMAVARAM
501016	THYDA_LIS 1	132	THYDA LIS
501017	ARABIND_PB 1	132	ARBINDO
501018	BHEEMADOLE21	132	BHEEMADOLU
501019	BOMMURU 21	132	BOMMUR
501021	BAPTLA 1	132	BAPTLA
501022	PAMPNRTAND21	132	PAMPANUR TANDA
501024	CCI_YRGNTL 1	132	CCI-YERRAGUNTALA
501025	CUDDAPAH 21	132	CUDDAPAH
501026	CFLTD_GZWK 1	132	CORMANDAL-FERTILISER
501027	BERR_FABBL 1	132	BERRY ALLOYS LTD
501028	CHILAK_PLM 1	132	CHILAKAPALEM
501029	CHILKLR_PT	132	CHILAKALURIPETA
501030	CHILAKALLU21	132	CHILLAKALLU
501031	COMMON_PNT	132	COMMONPOINT
501032	CHITTOOR 21	132	CHITTOOR
501033	CUMBUM 1	132	CUMBUM
501034	SALURU 1	132	SALURU
501035	DARMAVARAM 1	132	DARMAVARAM
501036	RAMCO_NBLI 1	132	RAMCO CEMENT LTD,NARSINGA-BILLI
501037	FACOR_GVD 1	132	FACOR GARIVIDI
501038	GUNADALA 21	132	GUNADALA
501039	GARIVIDI1	132	GARIVIDI
501040	GUDURU 1	132	GUDURU
501041	GOPPILI 21	132	GOPPILI
501042	SARUBUJILI21	132	SARUBUJILI
501043	SOMPETA 1	132	SOMPETA
501044	GUNTUR 1	132	GUNTUR
501045	TADIKONDA 21	132	TADIKONDA
501046	DHARMAVRM 21	132	DHARMAVRAM

501047	GUNTAKAL 1	132	GUNTAKAL
501048	GOOTY_AP 21	132	GOOTY-AP
501049	AKIVEEDU 21	132	AKIVEEDU
501050	GAZUWAKA 21	132	GAZUWAKA
501051	HINDUPUR 21	132	HINDUPUR
501053	HPCL_NVWRF 1	132	HPCL,NAVAL WHARF
501055	MYLAVRM_KR 1	132	MYLAVARAM
501056	GALIVEEDU 1	132	GALIVEEDU
501057	VSEZ_RT 1	132	DUVVADA RAILWAY TRACTION
501059	KCP_MCHRLA	132	KCP-CEMENTS,MACHERLA
501060	KAKINADA 21	132	KAKINADA
501061	KONDAPALLY21	132	KONDAPALLY
501062	KADIRI 1	132	KADIRI
501063	NARSING_BL 1	132	NARSINGABILLI
501064	KALYANDURG21	132	KALYANDURG
501065	KALAHASTHI	132	KALAHASTHI
501066	KALIKIRI 21	132	KALIKIRI
501067	THIMA-PRM 21	132	THIMMAPURAM
501068	BARUVA 1	132	BARUVA
501069	SUNAP_PALI21	132	SUNNAPURALLAPALLE
501071	SAHARA	132	SAHARA
501072	BHEEMILI 21	132	BHEEMILI
501073	KANIGIRI 1	132	KANIGIRI
501074	KURNOOL 1	132	KURNOOL
501075	KANUMOLU 1	132	KANUMOLU
501076	ELURU 1	132	ELURU
501077	KOVR	132	KOVVUR
501079	KORUPROLU 1	132	KORUPROLU
501080	KOTTURU 1	132	KOTTURU
501081	KVKT	132	KVKOTA
501082	KAVALI 1	132	KAVALI
501083	RAMNAK_PET1	132	RAMANAKAPET
501084	RICHMOND 1	132	RICHMOND
501085	MACHERLA 1	132	MACHERLA
501087	GOLLAPALEM 1	132	GOLLAPALEM
501090	MALLAYAPET 1	132	MALLAYYAPET
501091	ATCHU_PRAM21	132	ATCHUTAPURAM
501094	VUYYURU1	132	VUYYURU
501095	NANDYALA 21	132	NANDYALA
501096	NAVALWHARF 1	132	NAVALWARF
501097	BANTUMILLI1	132	BANTUMILLI
501098	NIDADAVOLU 1	132	NIDADAVOLU
501099	AIIMS1	132	AIIMS
501100	ANATHASAGRM1	132	ANANTHASAGARAM
501101	NELLORE 21	132	NELLORE 220/132 KV

501102	NAVLOK_GDN 1	132	NAVALAKGARDEN
501103	DAGADARTHI	132	DAGADARTHI
501105	NTS	132	NELLORE-THERMAL-STATION
501106	KALLURUPALI1	132	KALLURUPALLI
501107	NUZIVEEDU 21	132	NUZIVEEDU
501108	KADIVEDU1	132	KADIVEDDU
501109	ONGOLE 21	132	ONGOLE
501110	ANUMALPLY1	132	ANUMALPLY1
501111	YERPEDU 1	132	YERPEDU
501112	PIDUGRALLA 1	132	PIDUGRALLA
501113	PEDDAPURAM	132	PEDDAPURAMM
501114	GOTTIPROLU1	132	GOTTIPROLUU
501115	PAKALA 1	132	PAKALA
501116	PALAMANERU21	132	PALAMANERUU
501117	PAMARRU 1	132	PAMARRU
501118	PANYAM_CMN	132	PANYAM CEMENT
501119	PORT 1	132	PORT
501120	PARCHUR 21	132	PARCHUR
501121	PRODDUTUR 1	132	PRODDUTUR
501122	PULIVENDUL 1	132	PULIVENDULA 132/33 KV
501123	PUTTUR 1	132	PUTTUR
501124	KORUTUR1	132	KORUTUUR
501125	KOPPAKA 21	132	KOPPAKA
501126	RC_PURAM 1	132	R.C.PURAM-EAST
501128	KOTHAPTNM 1	132	KOTHAPATANAM
501129	RENIGUNTA 21	132	RENIGUNTA
501130	TATCHRLRT	132	TATICHERLA
501132	PALASAMUDRM1	132	PALASAMUDRARM
501133	MANGALAM1	132	MANGALAM
501134	PACHIKPALEM1	132	PACHIKAPALEM
501135	SATELITECTY1	132	SATELITECTTY
501136	TANGEDA 1	132	TANGEDA
501137	SRIHAR_KTA	132	SRIHARIKOTA
501138	NALCHRVPALI1	132	NALLACHERUVUPALLE
501139	C.ORAMPADU	132	C.ORAMPADU
501140	SULLURUPET21	132	SULLURUPETA
501141	SIMHACHALM 1	132	SIMHACHALM
501142	ONGOLE 1	132	ONGOLE 132/33 KV
501143	T.SUNDUPALLI	132	T.SUNDUPALLI
501144	WELSPUN	132	WELSPPUN
501145	SRISAILAMSY1	132	SRISAILAM SWITCHING STATION
501146	TORAY	132	TORRAY
501147	APOLLO	132	APOLLLO
501148	TBVARA 1	132	TBVARA
501149	TADEPALLI 1	132	TADEPALLI

501150	TADIPATRI 21	132	TADIPATRI
501151	TEXM	132	TEEXM
501152	TEKKALI 21	132	TEKKALI
501153	VELDURTHI 1	132	VELDURTHI
501154	TIRUPATI 1	132	TIRUPATI
501155	PENUMUR1	132	PENUMUR
501156	KOTHPALYCTR1	132	KOTHPALY,CHITTOOR
501157	UNDAVALLI 1	132	UNDAVALLI
501160	YERAGUNTLA21	132	YERRAGUNTLA
501161	PONNURU 1	132	PONNURU
501163	PARVATPRMRT1	132	PARVATHIPURAM RAILWAY TRAC- TION
501167	KAPLUPPADU1	132	KAPULUPPADU
501168	YADAVALLI 1	132	YADAVALLI
501169	CHENDODU 1	132	CHENDODU
501170	RAYACHOTI 1	132	RAYACHOTI
501171	NARAYN_PURM1	132	NARAYANAPURAM
501172	DHARM_GUDEM1	132	DHARMAJIGUEDEM
501173	V.KOTA 1	132	V.KOTA
501175	HAMPAPURAM 1	132	HAMPAPURAM
501176	BADVEL 1	132	BADVEL
501177	CHETINAD CM1	132	CHETINADU CEMENT
501178	HETERO LTD 1	132	HETERO PVT LTD
501179	CHIRALA 1	132	CHIRALA
501180	CHINARIKATL1	132	CHINARIKATLA
501181	EAST_GNVRM 1	132	EAST GANNAVARAM
501182	M/SGARRISON	132	M/S GARRISON PVT LTD
501183	HAMSA_VARM 1	132	HAMSAVARM
501184	GOLDSTARSS 1	132	GOLDSTAR SWITCHING STATION
501185	SARIPALLI	132	SARIPALLI
501187	JANGA_RDGM 1	132	JANGAREDDIGUDAM
501188	KASIMKOTA 1	132	KASIMKOTA
501189	MUSALIKUNT 1	132	MUSALIKUNTA
501190	MACHIL_PTM 1	132	MACHILIPATNAM
501191	GREENTECH 1	132	GREENTECH
501192	KOILAKUNTRT1	132	KOILAKUNTA RAILWAY TRACTION
501193	RAPUR 1	132	RAPUR
501194	NAGARI 21	132	NAGARI
501195	VINJAMURU 1	132	VINJAMURU
501196	KOSALANAGARM	132	KOSALANAGARAM
501197	PENDURTHI 21	132	PENDURTHI
501198	PANB	132	PENNAAHOBILAM
501199	PRATHIPADU 1	132	PRATHIPADU
501200	PEDA_TDPLI 1	132	PEDDATADEPALLI
501201	KANCHRPALM21	132	KANCHARAPALEM

501202	SANTIPURAM 1	132	SHANTIPURAM
501203	TENALI 1	132	TENALI
501204	TANUKU 1	132	TANUKU
501205	TUNI	132	TUNI
501206	VIJAYAWADA 1	132	VIJAYAWADA
501207	VENKATGIRI 1	132	VENKATAGIRI
501208	VONTITHADI 1	132	VONTITHADI
501210	YERAGND_PM 1	132	YERRAGONDAPALEM
501211	ATMAKUR_KN 1	132	ATMAKUR KURNOOL
501213	JAMMALBAND 1	132	JAMMALABANDA
501216	ULAVAPADU	132	ULAVAPADU
501217	ELCHURU	132	ELCHURU
501218	M/SRAMCO LTD	132	M/S RAMCO PVT LTD
501219	C-MADUGU 21	132	CHAPALAMADUGU
501220	ATCTIRES 1	132	ATC TIRES
501222	PALAKONDA 1	132	PALAKONDA
501223	PALASA 1	132	PALASA
501224	BKOTHAKOTA 1	132	B.KOTHAKOTA
501225	ALIPIRI 1	132	ALIPIRI
501226	NAKKA_VPLM 1	132	NAKKAVANIPALEM
501227	REPALLE 1	132	REPALLE
501228	ESAAR	132	ESAAR
501230	CENTURYPNL 1	132	CENTURY PANEL LTD
501232	JONNAVARAM1	132	JONNAVARAM
501235	KORUPROLU 21	132	KORUPROLU 220/132 KV
501237	ALLAGADDA 1	132	ALLAGADDA
501238	DAIKIN_AIRC1	132	DAIKIN AIR CONDITIONER LTD
501240	LAKSHMETALRG	132	M/S LAKSHMI METALLURGY LTD
501241	INOX_AIRPS 1	132	INOX AIR PRODUCTS
501242	BRAKEINDIA 1	132	BRAKEINDIA
501243	KCP_CHILKA 1	132	KCP CEMENT,CHILAKALU
501244	MAHA LKSM 1	132	MAHA LAKSHMI
501245	RTKALSMDRM	132	KALASAMUDRAM RAILWAY TRAC- TION
501246	MALLAY_GPL 1	132	MALLAYAGARYPALLY LIS
501247	KOTHAPALLY 1	132	KOTHAPALLY LIS
501248	DUVVUR 1	132	DUVVUR
501249	AMPOLU 1	132	AMPOLU
501250	AMAN_TRY	132	AMAN TYRES
501251	VTS	132	VIJAYAWADA-T.P.S.
501252	BAVANIPURM 1	132	BHAVANIPURAM
501253	KAMAYPALEM 1	132	KAMAYAPALEM
501256	BMGRIMATAM 1	132	BRAHMAMGARIMATAM
501257	CHAKRAYPET21	132	CHAKRAYAPETA
501258	SHANKAVARAM1	132	SHANKAVARAM

501259	MUDIGUBBA1	132	MUDIGUBBA
501262	MADAKASIRA 1	132	MADAKASIRA
501263	LEPAKSHI 1	132	LEPAKSHI
501267	MUTYALAPAD21	132	MUTYALAPADU
501269	TADIMARRI 1	132	TADIMARRI
501270	MADANPALLY 1	132	MADANAPALLY
501273	AMARAPURAM 1	132	AMARAPURAM
501288	PEDAWALTAR 1	132	PEDAWALTAR
501289	NSTL1	132	NSTL
501301	APSUG_SGND	132	APSUGARS,SAGGONDA
501302	SAGGONDA 1	132	SAGGONDA
501303	NARSAPURAM 1	132	NARSAPURAM
501304	KPMITTA 1	132	KPMITTA
501309	GUDIVADA 21	132	GUDIVADA
501312	RAJAMPET 21	132	RAJAMPET
501313	THIMMA_GPL 1	132	THIMMAYYAGARIPALLI
501314	PCMI	132	PCMI
501328	YEMMIGANUR 1	132	YEMMIGANUR
501329	PATHIKONDA 1	132	PATHIKONDA
501330	ATMAKUR_NL21	132	ATMAKUR-NLR
501331	KANDUKUR 1	132	KANDUKUR
501332	GIDDALUR 1	132	GIDDALUR
501333	RAYADURG 1	132	RAYADURG
501334	CHANDRAGIRI 1	132	CHANDRAGIRI
501335	BURKAYL_KT 1	132	BURRAKAYALAKOTA
501336	ROMPICHERL 1	132	ROMPICHERLA
501338	BANAVASI 21	132	BANAVASI
501339	YANAM 1	132	YANAM
501340	VINUKONDA 1	132	VINUKONDA
501342	NARSAPURAM 1	132	NARSAPURAM
501344	KOTAVALLASA 1	132	KOTHAVALASA
501348	KUPPAM 1	132	KUPPAM
501352	VONTIMITTA	132	VONTIMITTA
501353	BALAPANUR 1	132	BALAPANUR
501355	GANGURU 1	132	GANGURU
501356	RAZOL	132	RAZOLE
501357	PUNGANUR 21	132	PUNGANUR
501358	ALLUR	132	ALLUR
501359	PUNGANUR 1	132	PUNGANUR
501360	MEDARA_MTL 1	132	MEDARAMETLA
501369	GOLLAPURAM21	132	GOLLAPURAM
501373	MARKAPURAM21	132	MARKAPURAM
501377	PONDURU	132	PONDURU
501379	UDAYAGIRI 1	132	UDAYAGIRI
501380	ANANDAPURM 1	132	ANANDAPURAM

501381	BIRLA	132	BIRLA
501388	DAIRYFARM 21	132	DIARY FARM
501390	NARSARO_PT21	132	NARSARAOPET
501391	KOMATIKNTL 1	132	KOMATIKUNTLA
501408	PARAWADA 21	132	PARWADA
501409	KAMBAMPADU 1	132	KAMBAMPADU
501410	KALLUR 1	132	KALLUR
501411	THANAVANPALI	132	THANAVANPALLI
501412	GUDUR"KNL 1	132	GUDUR-KNL
501413	K.G.SATHRAM1	132	K.G.SATHIRAM
501420	VEMPALLI 1	132	VEMPALLI
501421	NAIDUPET 1	132	NAIDUPET
501422	BRAMHDEVAM 1	132	BRAHMADEVAM
501426	NALLAJERLA 1	132	NALLAJERLA
501427	BHOGAPRM_1	132	BHOGAPURAM
501429	ADURPALLI 1	132	ADURPALLI
501430	BUCHIREDDYPLM	132	BUCHIREDDYPALEM
501431	RAK	132	RAKCERAMICS
501432	ANKIR_PALL 1	132	ANKAMPALLY WIND
501434	YENDADA 1	132	YENDADA
501435	AUTONAGAR 1	132	AUTONAGAR
501436	GURAMKONDA 1	132	GURRAMKONDA
501437	JAMMAL_MDG 1	132	JAMMALAMADUGU 132/33 KV
501438	PARVAT_PRM 1	132	PARVATHIPURAM
501439	CHINT_LPDI 1	132	CINTALPUDI
501440	KAKLMITTA _1	132	KAKALAMITTA
501441	BANAGANPAL 1	132	BANGANPALLI
501447	NANDI	132	NANDIGAMA
501449	ICHAPURAM 1	132	ICHAPURAM
501450	PATAPATNAM 1	132	PATAPATNAM
501459	NAGALPURAM 1	132	NAGALAPURAM
501460	NCS	132	NCS SUGARS BOBBILI
501461	PEDAVEGI 1	132	PEDAVEGI
501462	NANDALURU	132	NANDALURU
501463	LYFUS_PHRM 1	132	LYFIUS PHARMA
501464	BRANDIX 21	132	BRANDIX
501466	AMAR	132	AMARAJA BATTERIES RENIGUNTA
501468	RTSS	132	PAKALA RTSS
501469	NARSAPURAM21	132	NARSAPURAMM
501470	URAVAKONDA 1	132	URAVAKONDA
501471	VUNDI	132	VUNDI
501472	INKOLL	132	INKOLLU
501473	DORNAL	132	DORNALA
501474	BHIMVRM_RT 1	132	BHIMAVARAM RAILWAY TRACTION
501475	SAMARLAKOT21	132	SAMRLAKOTA

501477	NALLAPADU 1	132	NALLAPADU
501478	RTPEDNA	132	PEDANA RAILWAY TRACTION
501481	DW TIRUMALA1	132	DWARAKA TIRUMALA
501482	KONDAPRM_W21	132	KONDAPURAM
501486	MARTUR	132	MARTUR
501489	PARASH	132	PARASHAKTHI-CEMENTS
501491	NANDIKOTKR 1	132	NANDIKOTKUR
501493	MULAVA	132	MULAVANKA
501494	MARRIPALEM 1	132	MARRIPALEM
501497	NALLA_LGPL 1	132	NALLALINGYAPALLI
501501	RAJANAGARM 1	132	RAJANAGARAM
501502	MANUBOLU 41	132	MANUBOLU 400/220/132 KV
501503	IRALA	132	IRALA
501504	PULIVENDUL21	132	PULIVENDULA 220/132 KV
501506	AVANIGADDA 1	132	AVANIGADDA
501510	NUNNA1	132	NUNNA1
501511	RACHERLA 1	132	RACHERLA
501512	LINDE1	132	LINDE
501513	GREENLAM1	132	GREENLAM
501514	VSEZ	132	VSEZ
501515	PAMURU	132	PAMURU
501516	KARAMPUDI 1	132	KARAMPUDI
501517	EDITHA	132	EDITHA
501521	RTSSK	132	RTSS KADAPA
501522	ANGALLU_LIS1	132	ANGALLU LIS
501523	PYDI_BMVRM 1	132	PYDIBHEEMAVARAM
501524	SAMBEPALLI 1	132	SAMBEPALLI
501525	SUNPTA	132	SUNNIPENTA
501527	THUMUKUNTA 1	132	THUMUKUNTA
501532	ANKAMPALLI 1	132	ANKAMPALLI LIS
501533	OSWAL	132	OSWAL
501534	A-ONE	132	A-ONE ISPAT PVT LTD
501541	NIDRLY	132	NIGUNTLAPALEM-RLY
501542	M/S SHREYAS	132	M/S SHREYAS PVT LTD
501544	MENAKUR 1	132	MENAKUR
501545	AUTONAGAR 1	132	AUTONAGAR
501546	GUJJANA_GL 1	132	GUJJANAGANDLA
501547	RENTAPALLE 1	132	RENTAPALLE
501548	ADDANKI 1	132	ADDANKI
501549	DARSI	132	DARSI
501551	NARSAN_PET 1	132	NARASANNAPET
501552	KOTHAPETA 1	132	KOTHAPETA
501553	PITAPURAM 1	132	PITAPURAM
501554	PENUGONDA 1	132	PENUGONDA
501555	NIZAMPATNAM	132	NIZAMPATNAM

501556	VEMURU	132	VEMURU
501557	HIRASM_BBL 1	132	HIRASM_BOBBILI
501558	MURTSS	132	MUDDANUR-RTSS
501561	GANDIKOTA 1	132	GANDIKOTA-LIS
501562	BOBBILI_RT 1	132	BOBBILI RAILWAY TRACTION
501563	GARBHAM 1	132	GARBHAM
501565	LINGAL	132	LINGALA
501566	MUMMID_VRM 1	132	MUMMIDAVARM
501567	BOBBILI 21	132	BOBBILI
501568	GREENPLY 1	132	GREENPLY
501570	MOREALLOYS 1	132	MOREALLOYS
501571	TBVARA_RT 1	132	TBVARA RAILWAY TRACTION
501572	VIZNGRM_RT 1	132	VIZIANAGARAM RAILWAY TRACTION
501573	JAYA_FAGVD 1	132	JAYALAXMI FERRO ALLOYS, GARI-VIDI
501574	ARAKTYD_RT 1	132	ARAKU TYDA RAILWAY TRACTION
501575	ARAKGRP_RT 1	132	ARAKGRP RAILWAY TRACTION
501576	PADERU 1	132	PADERU
501578	VGCBPORTSS 1	132	VIZAG GENERAL CARGO BERTH PRIVATE LIMITED
501579	SBCLDGNP 1	132	SBC DUGGARAJUPATNAM
501581	ESSAR_NVWF 1	132	ESSAR NAWAL WARF
501582	DGNP 1	132	DUGGARAJUPATNAM
501583	HSLTD_NVWF 1	132	HSLTD_NAWAL WARF
501584	APC_NVWF 1	132	APC NAWAL WARF
501585	MYHOM_KRPL 1	132	MY HOME CEMENTS
501586	SMHCHLM_RT 1	132	SIMHACHALAM RAILWAY TRACTION
501587	CHODAVARAM 1	132	CHODAVARAM
501588	KSMKOTA_RT 1	132	KASIMKOTA RAILWAY TRACTION
501589	TUNI_RT 1	132	TUNI RAILWAY TRACTION
501590	LINGA_SMDM 1	132	LINGASAMUDRAM
501591	PODILI	132	PODILI
501592	REMLE	132	REMLE
501594	CHERVI	132	CHERIVI
501596	TATICHERLA 1	132	TATICHERLA
501597	OBLPRM	132	OBULAPURAM
501599	ALUR 1	132	ALUR
501600	GCHODA_VRM 1	132	GCHODAVARAM
501601	YERNAGUDEM 1	132	YERNAGUDEM
501602	PRATAPNGAR 1	132	PRATAPNAGAR
501603	NARSIPATNM 1	132	NARSIPATNAM
501604	BCVL	132	BICCAVOLU
501605	RAJAM	132	RAJAM
501606	GANGA_PORT21	132	GANGAVARAMPORT

501607	MALKAPURM 1	132	MALKAPURAM
501608	KESINEN_PL 1	132	KESINENIPALLY
501609	RACHAGUNER21	132	RACHGANNERI
501610	TANAKALLU 1	132	TANAKALLU
501611	KOMALI	132	KOMALI
501612	MADHAVARAM 1	132	MADHAVARAM
501613	MUDIGEDU 1	132	MUDIGEDU
501614	TIRUMALA 1	132	TIRUMALA
501615	RUDRAVARAM 1	132	RUDRAVARAM
501618	SOMALA	132	SOMALA
501620	KALASAPADU 1	132	KALASAPADU
501621	KALICHERLA 1	132	KALICHERLA
501622	SNAM	132	SNAM ALLOYS PAKALA
501623	DFAL	132	DECCAN-FERRO-ALLOYS-LTD
501625	ATMAKUR_NL 1	132	ATMAKUR-NLR
501626	PORUMAMILA 1	132	PORUMAMILLA
501627	KPORT	132	KRISHNAPATNAM-PORT
501628	TANGUTUR 1	132	TANGUTUR
501631	VIKRUTMALA	132	VIKRUTAMALA
501633	RAMAPT	132	RAMAYAPATNAM PORT
501634	ROUTSURAMALA	132	ROUTHUSURAMALA
501635	RAVALI_SML 1	132	RAVALI SPINNING MILLS
501636	SPL_FERRO	132	SPL FERRO LTD
501637	KURUPAM 1	132	KURUPAM
501639	GAJPATHINGRM	132	GAJAPATHINAGARAM
501640	DHONE	132	DHONE
501642	NAVPADA_RT 1	132	NAVAPADU RAILWAY TRACTION
501644	PARRY_PLKD 1	132	PARRY SUGARS
501645	IMP_FABBLI 1	132	IMPEX FERRO ALLOYS, BOBBILI
501646	ANDR_FAGVD 1	132	ANDHRA FERRO ALLOYS, GARIVIDI
501647	BARC_BRNDX 1	132	BARC_BRANDIX
501648	SUND_ABRDX 1	132	SUNDARAM ALLOYS, BRANDIX
501649	ANJA_ABRDX 1	132	ANJANEYA ALLOYS, BRANDIX
501650	SANVR_BRDX 1	132	SANVERA, BRANDIX
501651	SSSUG_RCPM 1	132	SS SUGAR
501653	BOMMURU_RT 1	132	BOMMUR RAILWAY TRACTION
501654	SAMARLK_RT 1	132	SAMARLAKOTA RAILWAY TRACTION
501655	NFC_KKNADA 1	132	NFCL KAKINADA
501656	SILK_RDSUG 1	132	SILK ROAD SUGARS LTD
501657	NAOB_BRDX 1	132	NAOB_BRANDIX
501658	GODA_FSLRS 1	132	GODA_FSLRS
501659	ELURU_RT 1	132	ELURU RAILWAY TRACTION
501660	PTPALLI_RT 1	132	PEDATADEPALLY RAILWAY TRACTION
501661	JEYPO_SNDV 1	132	JEYPO_SNDV

501662	VRKS_NLJRL 1	132	VRKS_NALLAJERLA
501663	APSUG_KVRU 1	132	APSUGAR_KOVURU
501664	KONDAPL_RT 1	132	KONDAPALLY RAILWAY TRACTION
501665	JPC_CHLKL 1	132	J P CEMENTS CHILLAKALLU
501666	GUDIVAD_RT 1	132	GUDIVADA RAILWAY TRACTION
501667	MCL_CHLKL 1	132	MCL_CHLAKALLU
501668	RWPH_BVNPM 1	132	RWPH_BAVANIPURAM
501669	CHIGR_KOTA 1	132	CHIGURUKOTA
501670	CHAKRAY_PM 1	132	CHAKRAYAPALEM
501671	BAPATLA_RT 1	132	BAPATLA RAILWAY TRACTION
501672	TADEPL_RT 1	132	TADEPALLY RAILWAY TRACTION
501673	TENALI_RT 1	132	TENALI RAILWAY TRACTION
501674	SAVALPM_RT 1	132	SAVALYAPURAM RAILWAY TRACTION
501675	NALLAPD_RT 1	132	NALLAPADU RAILWAY TRACTION
501676	BC_TANGEDA 1	132	BHARATHI CEMENT_TANGEDA
501677	CNC_RNTCL 1	132	CNC_RENTACHINTALA
501679	AMARAT_MRT 1	132	AMARAVATHI TEXTILES MARTUR
501680	TEAMA_MDMT 1	132	TEAMA_MEDARAMETLA
501681	ONGOLE_RT 1	132	ONGOLE RAILWAY TRACTION
501682	JVIL_INKL 1	132	JVIL_INKOLU
501683	GAJJALK_RT 1	132	GAJJALAKONDA RAILWAY TRACTION
501684	EMPEE_NDPT 1	132	EMPEE SUGAR, NAIDUPET
501685	GUDURU_RT 1	132	GUDURU RAILWAY TRACTION
501686	SULLURP_RT 1	132	SULLURPETA RAILWAY TRACTION
501687	NELCST_GDR 1	132	NELCAST GUDURU
501688	HNGL_MNKR 1	132	HINDUSTAN NATIONAL GLASS MENAKUR
501689	EMJAY_NDPT 1	132	EMJAY STEELS NAIDUPETA
501690	ADURUPL_RT 1	132	ADURUPALLY RAILWAY TRACTION
501692	PENNAC_BDM 1	132	PENNACEMENT, BRAHMADEVAM
501693	VNKTGIR_RT 1	132	VENKATAGIRI AILAY TRACTION
501694	KAVALI_RT 1	132	KAVALI AILAY TRACTION
501695	NTS_RT 1	132	NTS AILAY TRACTION
501696	VICKS_NDPT 1	132	VICKY STEEL NAIDUPETA
501697	MONDLEZ_CV 1	132	MONDLEZ_CHERIVI
501698	GNDWN_RNG 1	132	GRINDWELNORTAN RENIGUNTA
501699	GANNAVARAM 1	132	GANNAVARAM
501700	KAZA	132	KAZA
501701	NUNI_GPLSW 1	132	NUNIGUDLAPALLI SWS
501702	LANCO_RGNR 1	132	LANCO INDUSTRIES RACHAGUNNERI
501703	SIVARAM_PM 1	132	SIVARAMAPURAM
501705	BANDLA_NPL 1	132	BANDAVANI PALLY LIS SS
501706	PUTTUR_RT 1	132	PUTTUR RAILWAY TRACTION
501707	RENIGUN_RT 1	132	RENIGUNTA RAILWAY TRACTION

501709	PRAKAS_RCN 1	132	PRAKASH FERRO ALLOYS, RACHA-GUNNERI
501712	AMARAJ_NGP 1	132	AMARAJA,NUNIGUNDLAPALLI
501713	RAMA_SMDRM 1	132	RAMASAMUDRAM
501714	MANGAL_IRL 1	132	MANGAL_IRL
501715	ICL_YRGNTL 1	132	ICL, YERRAGUNTLA
501716	ZUR_YRGNTL 1	132	ZUARI ,YERRAGUNTLA
501717	GRTXT_PLVD 1	132	GOVINDARAJULA TEXTILES PULIVENDULA
501719	UCIL_PLVD 1	132	UCIL PULIVENDULA
501720	DALMIA_JMG 1	132	DALMIA CEMENTS,JAMMALAMA-DUGU
501721	CHERLPL_RT 1	132	CHERLPL_RTSS
501722	KBL_GNDKT 1	132	KBL_GANDIKOTA
501723	PUTTAPR_RT 1	132	PUTTAPARTI RAILWAY TRACTION
501726	BMMC_GDPDU 1	132	BMMCEMENT_GUDIPADU
501729	GRDS_TDPT 1	132	GRDS_TDPT
501731	MALUGUR_RT 1	132	MALUGUR RAILWAY TRACTION
501732	GUNTAKL_RT 1	132	GUNTAKLA_RAILWAY TRACTION
501733	NAGARUR_RT 1	132	NAGARU_RAILWAY TRACTION
501735	BAEL_APC 1	132	BAEL_APCARBIDES
501736	ALKALS_KNL 1	132	ALKALIS_KURNOOL
501737	SIVAJ_BNGP 1	132	SIVAJI_BANAGANAPALLI
501738	PRIYA_RCRL 1	132	PRIYA CEMENT _RACHERLAL
501740	MANTRLM_RT 1	132	MANTRALAYAM_RAILWAY TRACTION
501741	NANDYAL_RT 1	132	NANDYAL_RAILWAY TRACTION
501742	DIVIS_LABRTY	132	DIVIS LABORATORY
501743	AMIGANIPALL1	132	AMIGANAPALLL
501745	PENOKONDA 1	132	PENUKONDA
502001	MRSV 2	220	MRSV
502010	KORUKONDA220	220	KORUKONDA
502011	BHAVANAPADU	220	BHAVANAPADU
502012	SUNP_PALLI 2	220	SUNNAPURALLAPALLE
502014	GUDDIGUDEM	220	GUDDIGUDEMM
502015	THADIPUDI	220	THADIPUDI
502022	GUTTAPADU 2	220	GUTTAPADU
502027	PURUSHOTHAPA	220	PURUSHOTHAPATNAM
502028	KRISHNAVARAM	220	KRISHNAVARAM
502030	VELDURTHYRT2	220	VELDURTHI RAILWAY TRACTION
502036	VEPKAYLDIBA2	220	VEPAKAYALDIBBA
502046	GOPAVARAM2	220	GOPAVARAM2
502047	KOYYAL_GUDM2	220	KOYYALAGUDDDEM
502048	KODURU	220	KODURU

502051	RAJTVN_PLTD2	220	RAJADHIRAJA TIRUPATI VINA-YAKA NATRAJ PVT LTD
502052	KATHALURU 2	220	KATHALURU
502055	CHINTURU 2	220	CHINTURU
502056	M/S JAI RAJ2	220	M/S JAI RAJ PVT LTD
502058	MYDUKURU	220	MYDUKURU
502074	VIZAGSTEELPL	220	VIZAG STEEL PLANT
502093	GAIL AP	220	GAIL AP
502102	ULTRATECH2	220	ULTRATECH
502103	BRAHMANAKOTK	220	BRAHMANAKOTKUR
502109	RAMAGIRI	220	RAMAGIRI
502112	RAMACHANDRAP	220	RAMACHANDRAPURAM
502116	PATTISEEMA	220	PATTISEEMA
502117	BURUGUBAN LI	220	BURUGUBANDALI
502118	JNPC2	220	JNPC
502141	MALAYALA	220	MALAYALA
502169	AKIVEEDU 2	220	AKIVEEDU
502171	MACHIL_PTM 2	220	MACHILIPATNAM 220 Kv
502193	ABIJ_FABRX 2	220	ABIJEET FERRO ALLOYS, BRANDIX
502201	KOTHA_PTNM 2	220	KOTHAPATNAM
502202	ANRAK	220	ANRAK
502205	BILAKALAGUDU	220	BILAKALAGUDUR
502206	BOKSAMPALLI	220	BOKSAMPALLI
502213	SATYAVED 2	220	SATYAVED
502217	SRIKALHATI 2	220	SRIKALHASTI
502221	GANGAVARAMPO	220	GANGAVARAMPORT
502222	GODDUMARRI	220	GODDUMARRI
502223	GADDEMVARIPA	220	GADDAMVARIPALLI
502224	GUDIWADA220	220	GUDIWADA
502228	GOOTYRAILWAY	220	GOOTYRAILWAY
502233	KONDAPURAM	220	KONDAPURAM
502234	KRISHNAGIRI	220	KRISHNAGIRRI
502235	KORUPROLU	220	KORUPROLU
502237	KAMBALPADU	220	KAMBALPADU
502238	LAKKASAMUDRA	220	LAKKASAMUDRAM
502240	MADANAPALLI	220	MADANAPALLI
502243	NANSURALA	220	NANSURALA
502252	PENNA-CEMENT	220	PENNA CEMENT
502259	RAGULAPADU	220	RAGULAPADU
502263	SETTIPALLI	220	SETTIPALLI
502265	SUBBARAYANAP	220	SUBBARAYAPURAM
502269	THALAYAPALEM	220	THALAYAPALLEM
502270	THIMMAPUR	220	THIMMAPUR LIS
502275	YELLANUR	220	YELLANUR
502283	ACHUTHAPARAM	220	ACHUTHAPURAM

502284	KAKINADASEZ	220	KAKINADA SEZ
502285	NAIDUPET 2	220	NAIDUPET
502287	HARISCHND LI	220	HARISCHANDRAPURAM LI
502288	LINGAPURA LI	220	LINGAPURAM LI
502289	GORANTLA LI	220	GORANTLA LI
502290	NAKARIKAL LI	220	NAKARIKALU LI
502291	SHREE CEM 2L	220	SHREE CEMENT
502293	RAJAMPT_RT 2	220	RAJAMPET_RAILWAY TRACTION
502297	ANRAK_FERO 2	220	ANRAK_FERRO
502301	HPCL 2	220	HPCL
502312	TALARI_CRV 2	220	TALARICHERUVU
502314	KIA MOTORS 2	220	KIA MOTORS
502322	NANSURL_RT 2	220	NANSURALLA RAILWAY TRACTION
502323	SOMAYAZ_RT 2	220	SOMYZULPALLI_RAILWAY TRACTION
502324	MUCHUMARRI 2	220	MUCHUMARRI
504031	POTHRDYPADU4	400	POTHIREDDYPADDU
504404	RAMAYAPATNAM	400	RAMAYAPATNAM