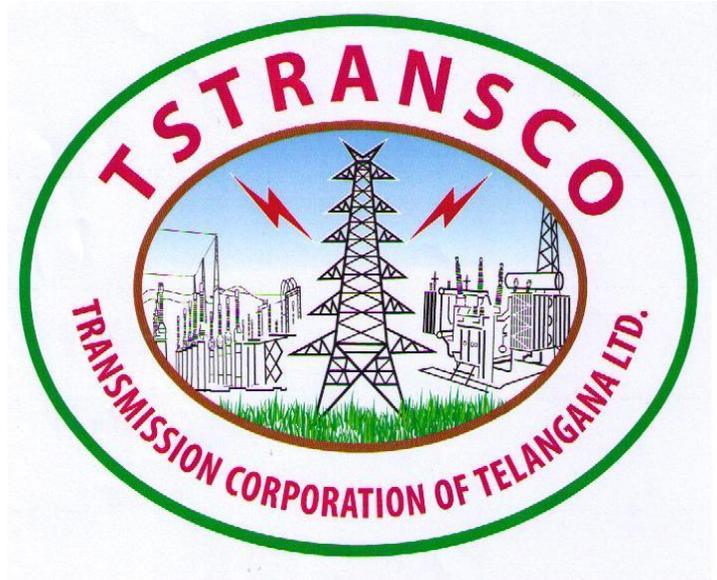


**Transmission Corporation of Telangana Limited
(State Transmission Utility)**



**Aggregate Revenue Requirement (ARR) and Filing for
Proposed Tariff (FPT) under Multi Year Tariff Frame
Work (MYT) for 4th Control Period.
(FY 2019-20 to FY 2023-24)**

30th November 2019

BEFORE THE HONOURABLE TELANGANA ELECTRICITY REGULATORY COMMISSION

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

FILING NO. _____/2019

CASE NO. _____/2019

In the matter of:

Filing of the Aggregate Revenue Requirement (ARR), Filing for Proposed Tariff (FPT) for the Multi-Year ARR and Tariff Framework (MYT) for Fourth(4th) Control Period (FY 2019-2020 to FY 2023-2024) for its Transmission Business under Section 26(5) of the Andhra Pradesh Electricity Reform Act, 1998 and under Part VII (Section 61 to Section 64) of the Electricity Act, 2003 (hereinafter referred to as 'the Act') read with the relevant APERC Guidelines and Regulations as adopted by TSERC till date, by the Transmission Corporation of Telangana Limited ('TSTransco' or 'the Licensee') as the Transmission Licensee and as SLDC operator.

In the matter of:

TRANSMISSION CORPORATION OF TELANGANA LIMITED

... Applicant

AFFIDAVIT OF APPLICANT VERIFYING THE APPLICATION ACCOMPANYING FILING OF AGGREGATE REVENUE REQUIREMENTS

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

1. I am the Chairman and Managing Director of TSTransco, the licensee company operating and controlling the Transmission & SLDC business of electricity in Telangana pursuant to the license granted by the Hon'ble Commission. I am competent and duly authorized by TS Transco to affirm, swear, execute and file this affidavit in the present proceedings.
2. I have read and understood the contents of the accompanying Filing of Aggregate Revenue Requirement. The statements made in the paragraphs of the accompanying application now shown to me are true to my knowledge derived from

the official records made available to me and are based on information and advice received which I believe to be true and correct.

b. u. e
DEPONENT

VERIFICATION:

I, the above named Deponent solemnly affirm at Hyderabad on this 29th day of **November, 2019** that the contents of the above affidavit are true to my knowledge, no part of it is false and nothing material has been concealed there from.

b. u. e
DEPONENT

Solemnly affirmed and signed before me

[Signature]

COMPANY SECRETARY
TS TRANSCO, HYDERABAD

BEFORE THE HONOURABLE TELANGANA ELECTRICITY REGULATORY COMMISSION

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

FILING NO. _____/2019

CASE NO. _____/2019

In the matter of:

Filing of the Aggregate Revenue Requirement (ARR), Filing for Proposed Tariff (FPT) for the Multi-Year ARR and Tariff Framework (MYT) for Fourth(4th) Control Period (FY 2019-2020 to FY 2023-2024) for its Transmission Business under Section 26(5) of the Andhra Pradesh Electricity Reform Act, 1998 and under Part VII (Section 61 to Section 64) of the Electricity Act, 2003 (hereinafter referred to as 'the Act') read with the relevant APERC Guidelines and Regulations as adopted by TSERC till date, by the Transmission Corporation of Telangana Limited ('TS Transco' or 'the Licensee') as the Transmission Licensee and as SLDC operator.

In the matter of:

TRANSMISSION CORPORATION OF TELANGANA LIMITED

... Applicant

The Applicant respectfully submits as under: -

1. With the enactment of Andhra Pradesh Reorganization Act 2014, The Telangana State has been carved out from the undivided Andhra Pradesh State as the 29th state of the Republic India on 02.06.2014.
2. The erstwhile Regulatory Commission of undivided State of Andhra Pradesh has issued Regulation No. 3 of 2014 (Reorganization) Regulation, 2014 on 25.05.2014 consequent to the framing of Andhra Pradesh Reorganization Act 2014 notified by Government of India on 01.03.2014, where in clause 3 of the Regulation says that, 'All the regulations as well as their supplementary regulations / amendments, rules, orders, proceedings, guidelines, memos, notifications, other instruments issued immediately before 2nd June 2014 by the APERC for the conduct of business and other matters shall fully and completely apply to the whole of the states of Telangana and Andhra Pradesh and shall similarly apply in relation to all matters falling within the jurisdiction of the Commission until they are altered, repealed or amended by the respective State Electricity Regulatory Commissions'.
3. In accordance with the above regulation, all the regulations framed by erstwhile APERC will continue to apply for the state of Telangana. Subsequently, TSERC vide Telangana

Official Gazette has issued its first regulation, Regulation No. 1 of 2014 (adoption of Previously subsisting Regulations, Decisions, Directions, or Orders, Licenses and Practice of Directions) wherein clause 2 says that “ All regulations, decisions, directions or orders, all the licenses and practice directions issued by the erstwhile Andhra Pradesh Electricity Regulatory Commission (Regulatory Commission for States of Andhra Pradesh and Telangana) as in existence as on the date of the constitution of the Telangana State Electricity Regulatory Commission and in force, shall mutatis-mutandis apply in relation to the stakeholders in electricity in the State of Telangana including the Commission and shall continue to have effect until duly altered, repealed or amended, any of Regulation by the Commission with effect from the date of notification as per Notification issued by the Government of Telangana in G.O.Ms. No. 3 Energy (Budget) Department, dt. 26-07-2014 constituting the Commission”.

4. This filing for ARR, FPT and MYT is in accordance with the provisions of the Reform Act, the Electricity Act 2003, the License granted by the Hon'ble Commission to TSTransco on 11th July, 2014 and the Guidelines and Regulations including the regulations pertaining to Transmission, SLDC, Open Access, etc., issued by the Hon' ble Commission till date.
5. As per the Commission's Regulations, the 3rd control period is 5 years in case of Transmission business i.e. from FY 2014-15 to FY 2018-19. Accordingly, APERC had issued Transmission Tariff Order for 3rd control period in view of bifurcation of state of Andhra Pradesh.
6. Consequent upon formation of the state of Telangana and its coming into being with effect from 02.06.2014, the Government of Andhra Pradesh has established Transmission Corporation of Telangana Limited vide G.O Ms. No 25 dt. 29.05.2014. The Commission (APERC) has issued deemed license to TSTRANSCO (the State Transmission Utility) with license No. 1 of 2014 vide proceeding No. APERC/Secy/160/2014 dt. 11.07.2014 with effective from 23.06.2014.

In the absence of separate approved ARR for TSTRANSCO, the expenditure approved for composite APTRANSCO for 3rd MYT Control period (i.e., FY 2014-15 to FY 2018-19) by Hon'ble APERC has been segregated based on power allocation ratio @53.89% to TSDISCOMs (notified by GoAP vide G.O.Ms.No.20, Dt.08.05.2014) and considered to compare with Actuals for FY 2014-15 to FY 2015-16 while filing for the balance 3rd Control period.

Further, TSTRANSCO has submitted the audited annual accounts for the FY 2014-15 (02.06.2014 to 31.03.2015) and for FY 2015-16 along with Statutory/A.G.Audit to TSERC.

7. TSTRANSCO filed the ARR, FPT & MYT for the remaining part of third(3rd) Control Period of two years for Transmission Business i.e., FY 2017-18 & FY 2018-19 on 30.11.2016. Accordingly, TSERC issued the approved Tariff Order on 01.05.2017 with certain changes / modifications.
8. The ARR & Tariff Order of the Hon'ble Commission dated 1st May, 2017 pertaining to Transmission business contained a significant number of directives to be addressed by the Licensee. During the balance period of Third control period, TSTransco has been keeping the Hon'ble Commission informed regularly on the progress on each of the directives pertaining to it. Further, TSTransco is confident of having met the Hon'ble Commission's expectations on most of them and there are certain directives where complete or substantial compliance may not have been feasible due to operational reasons. The Licensee seeks intervention of the Hon'ble Commission on such issues and requests the Hon'ble Commission to consider these in the context of the overall performance of the Licensee during the Third(3rd) control period.
9. TSTransco has filed herein the ARR, FPT and MYT for Fourth control period for Transmission Business i.e. from FY 2019 - 20 to FY 2023 - 24.
10. While filing the present ARR, FPT and MYT petition for Transmission business, TSTransco has endeavored to comply with the various applicable legal and regulatory directions and stipulations including the directions of the Hon'ble Commission in the Business Rules of the Commission, the Guidelines, prior ARR and Tariff Orders and the recent Regulations on Terms and Conditions for Determination of Tariff for Transmission of Electricity (Regulation No. 5 of 2005) dated November 30, 2005.
11. Based on the information available, the Applicant has made bonafide efforts to comply with the directions of the Hon'ble Commission and discharge its obligations to the best of its abilities. However, should any further material become available in the near future, the Applicant reserves the right to file such additional information and consequently amend / revise this application.

Summary of the Filing

12. **Performance Analysis:** A brief analysis of the key elements of licensee's business is as follows

- a) **Loss Reduction:** The licensee has improved performance in terms of Transmission loss reduction from 3.37% in FY 2016-17, 3.25% in FY 2017-18 & 2.85% in FY 2018-19. The licensee has undertaken a number of loss reduction measures such as system improvement, reactive power compensation etc., and would continue to do so with an aim to further reduce the transmission losses.

- b) **Transmission Network Availability:** The transmission network availability has been maintained at 99.9% in FY 2016-17, FY 2017-18 & 2018-19.

The Total Aggregate Revenue Requirement (ARR) approved by Hon'ble Commission for FY 2014-15 (02.06.2014 to 31.03.2015) to FY 2018-19 (Provl.) is Rs.7236.94 crores, as against which the actual ARR is Rs.6926.31 crores, thereby there is a reduction of Rs.310.62 crores in ARR. Further, there is an increase in revenue to the tune of Rs.691.13 crores, leading to a total surplus of Rs.1001.75 crores. However, the Hon'ble TSERC while issuing Tariff Order for the balance period of 3rd MYT Control Period has adjusted an amount of Rs.634.60 crores by way of Special Appropriation towards Mid Term Review for FY 2014-15 and FY 2015-16 (benefit to customer). As such, there is a balance of Rs.367.15 crores to be adjusted in 4th MYT Control Period. The licensee has proposed for adjustment of the said amount in FY 2019-20 as a Special Appropriation towards balance amount of True up (benefit to consumer) for 3rd MYT Control Period (FY 2014-15 to FY 2018-19). However, based on audited accounts for FY 2018-19, the difference if any, will be claimed/passed on to the customers.

ARR Deviation – (Tariff Order vis-à-vis Actual):

ARR TRUE UP FY 2014-15 TO FY 2016-17

(Rs. in crores)

Particulars	FY 2014-15 (02.06.2014 to 31.03.2015)			FY 2015-16			FY 2016-17		
	Tariff Order	Actuals	Devi-ation	Tariff Order	Actuals	Devi-ation	Tariff Order	Actuals	Devi-ation
Expenditure	542.29	535.71	-6.58	793.94	710.00	-83.94	963.69	974.74	11.05
O&M Costs	294.71	298.01	3.30	385.30	392.45	7.15	420.09	491.83	71.73
O&M Carrying Costs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Depreciation	251.59	208.42	-43.17	370.00	285.09	-84.91	495.01	431.86	-63.16
Taxes	23.71	18.21	-5.50	38.63	31.71	-6.92	48.59	47.18	-1.40
Special Appropriation	-27.72	0.00	27.72	0.00	0.00	0.00	0.00	0.00	0.00
Other Expenses	0.00	11.07	11.07	0.00	0.75	0.75	0.00	3.88	3.88
Less: Expenses Capitalised	68.75	65.18	-3.58	90.82	76.39	-14.44	85.53	115.60	30.08
IDC Capitalised	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O&M Exp. Capitalized	68.75	65.18	-3.58	90.82	76.39	-14.44	85.53	115.60	30.08
Net Expenditure	473.53	470.54	-3.00	703.12	633.62	-69.50	878.16	859.14	-19.03
Return on Capital Employed (ROCE)	341.28	219.16	-122.12	556.10	351.57	-204.53	699.39	521.40	-177.99
Gross ARR	814.81	689.69	-125.12	1259.22	985.19	-274.03	1577.56	1380.54	-197.02
Non Tariff Income	57.90	46.83	-11.07	72.90	79.52	6.62	76.49	113.04	36.56
Revenue from Tariff	756.91	815.36	58.45	1186.32	1345.95	159.63	1501.07	1642.42	141.35
Total Revenue	814.81	862.19	47.38	1259.22	1425.48	166.25	1577.56	1755.46	177.90
Surplus/(Deficit)	0.00	172.49	172.50	0.00	440.28	440.28	0.00	374.92	374.92

ARR TRUE UP FY 2017-18 TO FY 2018-19 (Tariff Order vs Actual) &

TOTAL DEVIATION from FY 2014-15 to FY 2018-19

Particulars	FY 2017-18			FY 2018-19 (Provl.)			Total		
	Tariff Order	Actuals	Devi-ation	Tariff Order	Actuals	Devi-ation	Tariff Order	Actuals	Devi-ation
Expenditure	1122.06	1164.40	42.34	1239.71	1536.35	296.64	4661.69	4921.21	259.52
O&M Costs	564.45	502.66	-61.79	661.46	713.48	52.02	2326.02	2398.43	72.41
O&M Carrying Costs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Depreciation	510.92	584.45	73.53	529.67	738.85	209.18	2157.19	2248.66	91.47
Taxes	46.69	61.06	14.37	48.58	75.53	26.95	206.20	233.70	27.50
Special Appropriation	0.00	0.00	0.00	0.00	0.00	0.00	-27.72	0.00	27.72
Other Expenses	0.00	16.23	16.23	0.00	8.48	8.48	0.00	40.41	40.41
Less: Expenses Capitalised	80.40	70.84	-9.56	94.23	109.90	15.67	419.73	437.90	18.17
IDC Capitalised	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O&M Exp. Capitalized	80.40	70.84	-9.56	94.23	109.90	15.67	419.73	437.90	18.17
Net Expenditure	1041.66	1093.56	51.90	1145.48	1426.45	280.97	4241.96	4483.31	241.35
Return on Capital Employed (ROCE)	685.23	619.72	-65.51	712.98	731.16	18.18	2994.98	2443.01	-551.97
Gross ARR	1726.89	1713.28	-13.61	1858.46	2157.61	299.15	7236.94	6926.31	-310.62
Non Tariff Income	121.00	119.28	-1.72	133.00	287.77	154.77	461.28	646.44	185.16
Revenue from Tariff	1605.89	1722.90	117.01	1725.46	1755.00	29.54	6775.65	7281.63	505.98
Total Revenue	1726.89	1842.18	115.29	1858.46	2042.77	184.31	7236.94	7928.07	691.14
Surplus/(Deficit)	0.00	128.90	128.90	0.00	-114.84	-114.84	0.00	1001.75	1001.75

13. **Resource Plan for the Fourth(4th) Control Period:** As per clause 9 of the Regulation No.5 of 2005 (Determination of Transmission Tariff), the Resource Plan for TSTRANSCO was filed before the Hon'ble Commission. The Resource Plan contains the following:

a) Capital Investment Plan:

The Licensee has prepared a detailed capital investment plan for 4th Control Period based on generation capacity additions within the state which requires transmission evacuation.

The growth in demand of electricity at different load centers of the state during the 4th Control period requires expansion of transmission system in the state.

The following table provides a summary of the Investment Plan by TSTRANSCO for each of the years of the fourth control period.

(Rs. in crores)

Particulars	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
CWIP - Opening Balance	3759.90	3709.74	4405.15	6405.06	3423.12	4322.21
Add:						
400 KV Schemes		1201.50	1334.60	1015.00	390.42	218.00
220/132 kv Schemes		681.37	766.13	701.97	612.61	600.80
LIS Schemes		1010.19	1285.22	976.57	300.00	200.84
Telecom Schemes		85.35	115.34	1.15	0.67	0.05
RMI Schemes		53.11	56.00	59.70	63.29	67.90
Base Investment during the year	3226.15	3031.52	3557.29	2754.39	1366.99	1087.59

b) Loss Projection: As per the MYT framework, the licensee's forecast of loss reduction trajectory over the five-year Control Period of 4th Control Period is as shown below.

(In %)

Particulars	2017-18 (Actuals)	2018-19 (Actuals)	2019-20 (Proj)	2020-21 (Proj)	2021-22 (Proj)	2022-23 (Proj)	2023-24 (Proj)
Target Transmission Loss Range	3.25	2.85	3.25 +/- 0.2	3.24 +/-0.2	3.23 +/- 0.2	3.22 +/- 0.2	3.21 +/- 0.2

14. Projection of ARR and Transmission Charges

TSTRANSCO submits its Aggregate Revenue Requirement (ARR) for Transmission Charges for 4th control period as per the methodology notified by the Hon'ble Commission vide Regulation 5 of 2005. The following are the main components of ARR:

- i) Operation and Maintenance (O&M) Expenses:** The O&M Expenses covers the Employees Cost, Administrative & General Expenses, Repairs & Maintenance Expenses.

The O&M Expenses of the licensee are driven by the length of lines in Circuit Kilometers and No. of Sub-Station Bays. The total O&M Expenditure was allocated to Lines and Sub-Stations in the ratio of 30:70. As per the latest provisional (un audited) accounts for FY 2018-19, the Net O&M expenses are Rs.713.48 crores. Out of Rs. 713.48 crores, an amount of Rs.214.04 crores was allocated to Lines and an amount of Rs.499.44 crores was allocated to Sub-stations. Based on the number of line length in CKM and number sub-stations bays, O&M Cost per CKM and bay was computed for FY 2018-19. For estimating the O&M Expenses for FY 2019-20 and FY 2023-24, an escalation @7.68% was adopted as per CERC methodology.

Based on the above, the following are details of O&M Expenses for FY 2019-20 to 2023-24:

(Rs. In Crores)

Particulars	2018-19 (R.E.)	2019-20	2020-21	2021-22	2022-23	2023-24
Gross O & M Costs	744.16	912.41	1070.66	1194.30	1302.55	1422.04
Less: O & M Expenses Capitalized	109.90	120.88	132.97	146.26	160.89	176.98
Net O & M Expenses	634.26	791.53	937.70	1048.04	1141.66	1245.06

- ii) Depreciation:** Depreciation is a claim towards replacement cost of fixed assets. Depreciation has been calculated for every year on all the fixed assets (excluding assets capitalized through consumer contributions during the period) capitalized up to the previous year considering the rates notified by the Ministry of Power, Govt. of India.

(Rs. in Crores)

Parameter	Unit	2018-19 (R.E.)	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	Rs. Crores	737.16	899.66	1032.35	1277.14	1482.28	1666.36

- iii) Taxes on Income:** The income tax component on the Return on Equity @14% on 25% of Regulated Rate Base has been computed with the current rate of corporate tax.

(Rs.in Crs.)

Particulars	2018-19 (R.E.)	2019-20	2020-21	2021-22	2022-23	2023-24
Taxes on income	75.53	84.28	90.65	114.24	131.10	138.49

- iv) Special Appropriation:** Based on provisional accounts, the additional surplus of Rs. 367.15 Crores gained during FY 2014-15 and FY 2018-19 (Rs. 634.60 crores already passed on to consumers vide Tariff Order 01.05.2017) is being proposed to pass on to the consumers as a benefit to consumers during FY 2019-20.

(Rs. in Crs.)

Particulars	2018-19 (R.E.)	2019-20	2020-21	2021-22	2022-23	2023-24
Special Appropriation		367.15	-	-	-	-

- v) Return on Capital Employed (ROCE):** Return on Capital Employed (ROCE) is to cover the interest charges on the debt portion towards fixed assets and Return on Equity invested by TS TRANSCO.

Filing of Multi Year ARR & Tariff Framework for Fourth Control Period (FY 2019-20 to FY 2023-24)

Particulars	2018-19 (Base Year)	2019-20	2020-21	2021-22	2022-23	2023-24
Assets	14818.06	17652.09	19620.38	25723.24	26493.63	31869.75
OCFA Opening Balance	11228.26	14825.83	17652.09	19620.38	25723.24	26493.63
Additions to OCFA	3589.80	2826.26	1968.29	6102.86	770.38	5376.12
Depreciation	4376.95	5278.61	6310.97	7588.11	9070.39	10736.75
Opening Balance	3639.79	4378.95	5278.61	6310.97	7588.11	9070.39
Depreciation during the Year	737.16	899.66	1032.35	1277.14	1482.28	1666.36
Consumer Contributions	1918.27	3593.62	3495.43	4477.98	4127.47	5968.00
Cons Contributions Opening Balance	573.58	1918.27	3593.62	3495.43	4477.98	4127.47
Additions to Cons Contributions	1344.69	1675.35	-98.19	982.55	-350.51	1840.53
Working Capital	87.96	112.49	132.00	147.24	160.59	175.32
Change in Rate Base	753.98	125.62	517.06	1921.58	-180.69	934.62
Regulated Rate Base	7856.83	8766.72	9428.92	11882.81	13637.05	14405.70
Interest & Finance Charges (Net) - Actuals	456.18					
Cost of Debt @11% on 75% of RRB - Projections		723.25	777.89	980.33	1125.06	1188.47
Return on Equity @14% on 25% of RRB	274.99	306.84	330.01	415.90	477.30	504.20
Return on Capital Employed (ROCE)	731.17	1030.09	1107.90	1396.23	1602.35	1692.67

The licensee has prepared a detailed investment plan for 4th control period (FY 2019-20 to FY 2023-24) based on Resource Plan submitted to the Hon'ble TSERC by making comprehensive analysis of Transmission Network existing in the state and load conditions / growth in the ensuing five years at 765kV/400kV/220kV and 132kV voltages.

Based on the above capital investment / asset capitalization, the following is the position of Regulated Rate Base of TSTRANSCO and Return on Capital Employed thereon for FY 2019 - 20 to 2023 - 24.

vi) Aggregate Revenue Requirement: The net Aggregate Revenue Requirement for FY 2019-20 up to FY 2023-24 shown below.

(Rs. in Crs.)

Particulars	2018-19 (R.E.)	2019-20	2020-21	2021-22	2022-23	2023-24
Operation & Maintenance Charges	713.49	912.41	1070.66	1194.30	1302.55	1422.04
Depreciation	738.85	899.66	1032.35	1277.14	1482.28	1666.36
Advance Against Depreciation						
Taxes on Income	75.53	84.28	90.65	114.24	131.10	138.49
Other Expenditure	8.48	0.00	0.00	0.00	0.00	0.00
Special Appropriations		(367.15)				
Total Expenditure	1536.35	1529.21	2193.66	2585.68	2915.93	3226.89
Less: O&M expenses capitalized	109.90	120.88	132.97	146.26	160.89	176.98
Net Expenditure	1426.45	1408.33	2060.70	2439.42	2755.04	3049.91
Add: Return on Capital Employed	731.17	1030.09	1107.90	1396.23	1602.35	1692.67
Less: Non-Tariff Income (if any)	287.77	426.34	340.41	489.67	383.01	467.81
Total Revenue Requirement transferred to Retail supply business	1869.85	2012.08	2828.18	3345.98	3974.39	4274.77

vii) Transmission Charges: The DISCOMs have projected their Installed capacity as their Contracted Capacity. The demand from Open Access Consumers has been estimated and added to the total contracted demand of DISCOMs.

The Transmission charges are computed by dividing the net ARR of each year with the total contracted capacity of the respective year. As such, the following are the Transmission charges for FY 2019-20 to FY 2023-24:

Proposed Transmission Tariff

	2019-20	2020-21	2021-22	2022-23	2023-24
ARR of Transmission Business (Rs. Crores)	2012.08	2828.18	3345.98	3974.39	4274.77
Transmission Contracted Capacity (MW)	15235	17564	17569	19588	21114
Transmission Charges (Rs./KW/Month)	110.05	134.19	158.71	169.09	168.72

15. The following additional points are submitted to the Hon'ble Commission for kind consideration.

➤ **Exemption of Transmission charges for solar, wind and mini-hydel power generators:**

- In the previous Multi Year Transmission Tariff order for the years 2017-2019, it was mentioned in notes to the Transmission charges that "In line with the Government Policy, there shall be no transmission charges for Non-Conventional Energy Generators using wind, solar and mini-hydel". But TSERC has not given any guidelines on this waiver of transmission charges. There are certain contradictions in between the tariff order and Govt Solar policy which are given below.
- *In the Policy, the exemption of transmission charges was given for only Solar power plants commissioned during the policy period of 5 years with exemption period of up to 10 years from the date of commissioning and that too for only captive use within the state.*
- However, in the Tariff Order, the exemption was extended to wind and mini-hydel generators and solar generators of third party sale also. Further no guidelines were issued on time limits, type of transactions etc., and there is no mention of remedy for the amount of loss due to this waiver like reimbursement from the Government etc. There is no restriction given in the Tariff Order on non-applicability of exemption for inter-state transactions.

Hence it is requested to limit the exemption of transmission charges as per the government solar policy to only captive solar developers who commission their plants within the operative period i.e. five years from the date of policy (up to 31-5-2020) and exemption of up to 10 years from the date of commissioning of the plant with a proper reimbursement mechanism from the government.

➤ **Exemption of levy of Transmission & SLDC charges on Discoms for short term power purchases:**

- As per the existing Transmission charges billing methodology, transmission charges are being levied on TSDISCOMs for the approved contracted capacities given in Transmission Tariff Order. However due to the under generation in thermal power projects & hydel projects due to coal shortage and low inflows to reservoirs etc., there used to be shortage of power. To cope up this shortage of power, TSDISCOMs purchase power under short term power purchases from sources which are not mentioned in Transmission Tariff Order. If TSTRansco levies transmission charges on these purchases also, TSDiscoms will have to pay transmission charges for their long term capacities and also for short term purchases made from intra-state and inter-state sources. This will become double billing on Discoms and the revenue received by TSTRansco will become more than the revenue required. To avoid this excess revenue from Discoms, it is requested with the Commission to exempt the Discoms from payment of Transmission charges on short term purchases made from both intra-state and inter-state sources as long as their peak load is within their approved contracted capacity given in Transmission Tariff Order.

➤ **Determination of Rate of Transmission charges in MW/Hr also for use in inter-state Short Term Open Access transactions:**

At present the rate of Transmission charges is being given in KW/Month units. As short term open access transactions especially inter-state and IEX transactions take place only for some days or hours, it is better to determine rate of transmission charges in the units of MW/Hr. At present TSTRANSOCO is converting the rate in KW/Month into rate for MW/Hr by using the formula

$$\text{Rate in MW/Hr} = ((\text{Rate in KW/Month}) * 1000) / (30 * 24)$$

Using the above formula, the rate of transmission charges may be given both in KW/Month and MW/Hr units in the Transmission Tariff Order.

➤ **Note on applicability of Transmission charges:**

In the Annexure-F of the Distribution Tariff Order, Terms and Conditions & Applicability of wheeling Tariff were given. Similarly, the Applicability of Transmission charges also may be given as a note at the Rate of Transmission Charges in Transmission Tariff Order as follows:

If the wheeling involves transmission of electricity through transmission system of a Transmission Licensee, the consumer or the supplier as the case may be, shall pay the applicable transmission charges and transmission losses in kind also. Transmission system is considered to be involved in the wheeling of electricity in the following cases:

- Entry/Exit point is connected to the EHT System.
- The entry and exit points are connected to the network of more than one DISCOM.

16. The current ARR, FPT and MYT petition for the fourth Control Period (FY 2019-20 to FY 2023 - 24) being filed has been discussed and approved by the Board of Directors of TSTransco and Sri. D. Prabhakar Rao, Chairman and Managing Director of TSTransco has been authorized to execute and file the said ARR, FPT and MYT Petition on behalf of TSTransco. Accordingly, the current ARR, FPT and MYT petition is verified and signed by and backed by the affidavit of Sri. D. Prabhakar Rao, Chairman and Managing Director.
17. In the aforesaid facts and circumstances, the Applicant requests that the Hon'ble Commission:
- a) to take the accompanying ARR, FPT & MYT Petition of TSTransco on record;
 - b) to grant suitable opportunity to TSTransco within a reasonable time frame to file additional material information if required;
 - c) to grant the waivers prayed for with respect to such filing requirements as TSTRANSCO is unable to comply with at this stage, as more specifically detailed and for the reasons set out in the present ARR, FPT & MYT filing;
 - d) to grant the exemptions sought at para 15 above, in the Tariff Order
 - e) to treat the filing as complete in view of substantial compliance as also the specific requests for waivers with justification placed on record;
 - f) to consider and approve TSTransco's ARR, FPT & MYT including all requested regulatory treatments in the filing;
 - g) to pass such order, as the Hon'ble Commission may deem fit and proper in the facts and circumstances of the case.

TRANSMISSION CORPORATION OF TELANGANA LIMITED

(APPLICANT)

Through



D. PRABHAKAR RAO

CHAIRMAN AND MANAGING DIRECTOR

Place: HYDERABAD

Dated: 29th NOVEMBER, 2019

INDEX

1	Introduction.....	19
2	True-Up for 3rd Control Period	20
3.	Resource Plan for Fourth Control Period	29
	ANNEXURE – I PLANS FOR SYSTEM PERFORMANCE	55
	ANNEXURE – II PERFORMANCE MEASURES.....	110
	ANNEXURE – III LIST OF DIRECTIVES	131
	ANNEXURE - IV TSTRANSCO Contract Capacities in MW for the 4th Control period	132

LIST OF TABLES

	Description	Page No.
Table 1	Variance in O&M Expenses for FY 2014-15 & FY 2018-19	21
Table 2	Variance in Depreciation for FY 2014-15 & FY 2018-19	22
Table 3	Taxes on Income FY 2014-15 to FY 2018-19	23
Table 4	Return on Capital Employed (ROCE) for FY 2014-15 to FY 2018-19	24
Table 5	Revenue for FY 2014-15 to FY 2018-19	26
Table 6	ARR Deviation for FY 2014-15 to FY 2018-19	27
Table 7	Anticipated Generation Capacity Additions	29
Table 8	400kV & 220 kV Sub-Stations to meet load Expansion & System Improvement for 4 th MYT (FY 2019-20 to FY 2023-24)	31
Table 9	400kV & 220 kV Lines for 4 th MYT (FY 2019-20 to FY 2023-24)	31
Table 10	400kV & 220 Kv LIS Lines for 4 th MYT (FY 2019-20 to FY 2023-24)	36
Table 11	List of 132 kV Sub-Stations for 4 th MYT (FY 2019-20 to FY 2023-24)	37
Table 12	List of 132 kV Lines for 4 th MYT (FY 2019-20 to FY 2023-24)	38
Table 13	200 kV Lines proposed to be Augmented with HTLS for 4 th MYT (FY 2019-20 to FY 2023-24)	45
Table 14	Lift Irrigation 400 kV & 220 kV Sub-Stations proposed for 4 th MYT (FY 2019-20 to FY 2023-24)	45
Table 15	Capital Investment Plan for 4 th MYT (FY 2019-20 to FY 2023-24)	46
Table 16	Operation & Maintenance Expenses for FY 2019-20 to FY 2023-24	47
Table 17	Depreciation for FY 2019-20 to FY 2023-24	48
Table 18	Taxes on Income for FY 2019-20 to FY 2023-24	49
Table 19	Special appropriation for FY 2019-20 to FY 2023-24	49
Table 20(a)	Return on Capital Employed (ROCE) for FY 2019-20 to FY 2023-24	50
Table 20(b)	Regulated Rate Base & ROCE for FY 2019-20 to FY 2023-24	51
Table 21	Non Tariff Income for FY 2019-20 to FY 2023-24	52
Table 22	ARR for FY 2019-20 to FY 2023-24	53
Table 23	Transmission Charges for FY 2019-20 to FY 2023-24	54
Table 24	System Target Availability for FY 2019-20 to FY 2023-24	54

1 Introduction

With the enactment of Andhra Pradesh Reorganisation Act 2014, the Telangana State has been carved out from the undivided Andhra Pradesh State as the 29th state of the Republic India on 02.06.2014.

The erstwhile Regulatory Commission of undivided State of Andhra Pradesh has issued Regulation No. 3 of 2014 (Reorganization) Regulation, 2014 on 25.05.2014 consequent to the framing of Andhra Pradesh Reorganization Act 2014 notified by Government of India on 01.03.2014, where in clause 3 of the regulation says that, "All the regulations as well as their supplementary regulations/amendments, rules, orders, proceedings, guidelines, memos, notifications, other instruments issued immediately before 2nd June 2014 by the APERC for the conduct of business and other matters shall fully and completely apply to the whole of the states of Telangana and Andhra Pradesh and shall similarly apply in relation to all matters falling within the jurisdiction of the Commission until they are altered, repealed or amended by the respective State Electricity Regulatory Commissions".

In accordance with the above regulation, all the regulations framed by erstwhile APERC will continue to apply for the state of Telangana. Subsequently, TSERC vide Telangana Official Gazette has issued its first regulation, Regulation No.1 of 2014 (adoption of Previously subsisting Regulations, Decisions, Directions or Orders, Licenses and Practice of Directions) wherein clause 2 says that "All regulations, decisions, directions or orders, all the licenses and practice directions issued by the erstwhile Andhra Pradesh Electricity Regulatory Commission (Regulatory Commission for States for Andhra Pradesh and Telangana) as in existence as on the date of the constitution of the Telangana State Electricity Regulatory Commission and in force, shall mutatis-mutandis apply in relation to the stakeholders in electricity in the State of Telangana including the Commission and shall continue to have effect until duly altered, repealed or amended, any of Regulation by the Commission with effect from the date of notification as per Notification issued by the Government of Telangana in G.O.Ms.No.3 Energy (Budget) Department, dt.26.07.2014 constituting Commission".

Filings for ARR, FPT and MYT is in accordance with the provisions of the Reform Act, the Electricity Act 2003, the License granted by the Hon'ble Commission to TSTransco on 11th May, 2014 and the Guidelines and Regulations including the regulations pertaining to Transmission, SLDC, Open Access, etc., issued by the Honourable Commission till date.

As per the Commission's Regulations, the 3rd control period is 5 years in case of Transmission business i.e., from FY 2014-15 to FY 2018-19. Accordingly, APTRANSCO had already filed MYTs for the 3rd control period, separately for Transmission and SLDC businesses. Based on MYT submitted by APTRANSCO for 3rd control period, APERC had issued Tariff order for the MYT (FY 2014-15 to FY 2018-19).

Consequent upon formation of the state of Telangana and its coming into being with effect from 02.06.2014, the Government of Andhar Pradesh has established Transmission Corporation of Telangana Limited vide G.O.Ms.No.25, dt.29.05.2014. The Commission (APERC) has issued deemed license to TSTRANSCO with license No.1 of 2014 vide proceeding No. APERC/Secy/160/2014 dt.11.07.2014.

TSTransco had filed the ARR, FPT and MYT for the remaining part of Third control period of two years for Transmission Business i.e., FY 2017-18 and FY 2018-19 and Hon'ble commission has issued Tariff Order on 01.05.2017.

TSTransco is hereby filing the ARR, FPT and MYT for the Fourth Control period i.e., FY 2019-20 to FY 2023-24 along with the following submissions.

- True up Analysis of Performance for FY 2014-15 to FY 2018-19.
- Summary of Resource Plan for Fourth Control Period.
- Multiyear Aggregate Revenue Requirement (ARR) for the fourth control period.
- Transmission charges during fourth control period.

2 True-Up for 3rd Control Period

Since formation of TSTRANSCO, it has been providing Transmisison System in the State of Telangana and collecting Transmission Charges from the Customers for FY 2014-15 to FY 2016-17 as per the Tariff Order issued by Hon'ble APERC for 3rd Multi Year Control Period (FY 2014-15 to FY 2018-19) and for the FY 2017-18 to FY 2018-19 as per the Tariff Order issued by the Hon'ble TSERC for the balance period of third (3rd) MYT Control period i.e., for FY 2017-18 to FY 2018-19.

In the absence of separate approved ARR for TS TRANSCO, the expenditure approved for composite APTRANSCO as per the Tariff Order for 3 MYT Control period (FY 2014-15 to FY 2018-19) by Hon'ble APERC has been segregated based on power allocation ratio @ 53.89% to TSDISCOMs (notified by GoAP vide G.O, Ms.No.20, dt.08.05.2014) and considered to compare with Actuals for FY 2014-15 to FY 2015-16.

This True up filing is made by the Transmission Licensee, TRANSMISSION CORPORATION OF TELANGANA LIMITED (TS TRANSCO) as per Clause 17 of the Andhra Pradesh Electricity Regulatory Commission (Terms and Conditions for determination of tariff for Transmission of Electricity) Regulation No.5 of 2005 for corrections for Controllable and Uncontrollable items and as well as sharing of gains/losses for the FY 2014-15 (02.06.2014 to 31.03.2015) to FY 2018-19.

The licensee is submitting the following as part of the correction filings for FY 2014-15 (02.06.2014 to 31.03.2015) and for FY 2018-19:

- ❖ Statement of variance with the Tariff Order for each item in the Aggregate Revenue Requirement and reasons for variation.
- ❖ Actual Aggregate Revenue Requirement (ARR) for each year computed based on actual investments, actual interest and other costs.

The Surplus/Deficit for each year arrived based on actual revenue for the respective year.

- i) **Operation and Maintenance (O&M) Expenses True up:** The O&M Expenses covers the Employees Cost, Administrative & General Expenses, Repairs & Maintenance Expenses. The O&M Expenses of the licensee are driven by the length of lines in Circuit Kilometers and No. of Sub-Station Bays. The total O&M Expenditure was allocated to Lines and Sub-Stations in the ratio of 30:70.

Table 1: Variance in O&M Expenses : TRUE UP FY2014-15 to FY 2018-19 (Rs. Cr)

Particulars	FY 2014-15 (02.06.2014 to 31.03.2015)			FY 2015-16			FY 2016-17		
	Tariff Order	Actuals	Devi-ation	Tariff Order	Actuals	Devi-ation	Tariff Order	Actuals	Devi-ation
Gross O&M Costs	294.71	298.01	3.30	385.30	392.45	7.15	420.09	491.83	71.73
Less: O&M Expenses Capitalised	68.75	65.18	-3.58	90.82	76.39	-14.44	85.53	115.60	30.08
Net O&M Expenses	225.96	232.84	6.88	294.48	316.07	21.58	334.57	376.22	41.66
Particulars	FY 2017-18			FY 2018-19 (Provl.)			Total FY 2014-15 to FY 2018-19		
	Tariff Order	Actuals	Devi-ation	Tariff Order	Actuals	Devi-ation	Tariff Order	Actuals	Devi-ation
Gross O&M Costs	564.45	502.66	-61.79	661.46	713.48	52.02	2326.02	2398.43	72.41
Less: O&M Expenses Capitalised	80.40	70.84	-9.56	94.23	109.90	15.67	419.73	437.90	18.17
Net O&M Expenses	484.05	431.82	-52.23	567.23	603.58	36.35	1906.28	1960.53	54.24

- ❖ Net O&M Expenses during FY 2014-15 (02.06.2014 to 31.03.2015) to FY 2018-19 have been increased by Rs.54.24 crores.
- ❖ Main factor for increase is due to wage revision with effect from 01.04.2018, which were not factored in the ARR for 3rd MYT Control period submitted by the licensee and also Tariff Order issued by the Hon'ble Commission.
- ❖ Pending final allocation of employees between APTRANSCO and TSTRANSCO, actuarial valuation towards employee terminal benefits could not be taken up. However, Pension & Gratuity Contribution has been provided provisionally.

ii) Depreciation True up:

Depreciation is a claim towards replacement cost of fixed assets. Depreciation has been calculated for every year on all the fixed assets capitalized upto the previous year considering the rates notified by the Ministry of Power, Govt., of India.

iv) Table 2: Variance in Depreciation : FY 2014-15 to FY 2018-19 (Rs.Cr)

Particulars	FY 2014-15 (02.06.2014 to 31.03.2015)			FY 2015-16			FY 2016-17		
	Tariff Order	Actuals	Devi- ation	Tariff Order	Actuals	Devi- ation	Tariff Order	Actuals	Devi- ation
Depreciation	251.59	208.42	-43.17	370.00	285.09	-84.91	495.01	431.86	-63.16
	FY 2017-18			FY 2018-19 (Provl.)			Total FY 2014-15 to FY 2018-19		
	Tariff Order	Actuals	Devi- ation	Tariff Order	Actuals	Devi- ation	Tariff Order	Actuals	Devi- ation
	510.92	584.45	73.53	529.67	738.85	209.18	2157.19	2248.66	91.47

There is an increase of Rs.91.47 Crores towards Depreciation. This is mainly due to higher capitalization of fixed assets than approved by the Hon'ble Commission in the Tariff Orders.

iv) Table 3: Taxes on income True up:

For FY 2014-15 to FY 2018-19 (Rs.Cr)

Particulars	FY 2014-15 (02.06.2014 to 31.03.2015)			FY 2015-16			FY 2016-17		
	Tariff Order	Actuals	Deviation	Tariff Order	Actuals	Deviation	Tariff Order	Actuals	Deviation
Provision for Income Tax	23.71	18.21	-5.50	38.63	31.71	-6.92	48.59	47.18	-1.40
	FY 2017-18			FY 2018-19 (Provl.)			Total FY 2014-15 to FY 2018-19		
	Tariff Order	Actuals	Deviation	Tariff Order	Actuals	Deviation	Tariff Order	Actuals	Deviation
	46.69	61.06	14.37	48.58	75.53	26.95	206.20	233.70	27.50

Tax on income was calculated at current rate of Minimum Alternate Tax(MAT) on the Return on Equity@14% on 25% of actual Regulated Rate Base.

v) Return on Capital Employed (ROCE) True up:

Return on Capital Employed (ROCE) is to cover the interest charges on the debt portion towards Regulated Rate Base and Return on Equity on the investment of TS TRANSCO.The licensee has computed the actual Return on Capital Employed (ROCE) for FY 2014-15 (02.06.2014 to 31.03.2015) to FY 2018-19 as per the methodology prescribed by the Hon'ble Commission vide Regulation 5 of 2005.

Table 4 :

ROCE True up for FY 2014-15 to FY 2016-17

Particulars	FY 2014-15 (02.06.2014 to 31.03.2015)			FY 2015-16			FY 2016-17		
	Tariff Order	Actuals	Deviation	Tariff Order	Actuals	Deviation	Tariff Order	Actuals	Deviation
Assets	7331.24	5509.46	- 1821.78	9680.51	7456.84	-2223.67	10858.32	9246.05	-1612.27
Original Cost of Fixed Assets (OCFA)	6164.23	4819.98	- 1344.25	7331.24	5509.46	-1821.78	9680.51	7456.84	-2223.67
Additions to OCFA	1167.00	689.48	-477.52	2349.28	1947.38	-401.90	1177.80	1789.21	611.41
Depreciation	2703.59	2334.47	-369.12	3073.59	2624.41	-449.18	3568.61	3055.35	-513.26
Opening Balance	2401.69	2120.52	-281.17	2703.59	2334.47	-369.12	3073.59	2624.41	-449.18
Depreciation during the year	301.90	213.95	-87.95	370.00	289.94	-80.06	495.01	430.94	-64.07
Consumer Contributions	1111.50	688.36	-423.14	1320.45	737.27	-583.18	1489.47	469.54	-1019.93
Opening Balance	813.39	671.19	-142.20	1111.50	688.36	-423.14	1320.45	737.27	-583.18
Additions during the year	298.11	17.17	-280.94	208.95	48.91	-160.04	169.02	-267.73	-436.75
Working Capital	43.60	44.26	0.66	47.50	48.38	0.88	51.79	60.64	8.84
Change in Rate Base	283.50	229.18	-54.32	885.16	804.27	-80.90	256.89	813.00	556.11
Regulated Rate Base	3276.25	2301.71	-974.54	4448.81	3339.28	-1109.53	5595.15	4968.80	-626.35
Return on Capital Employed (RoCE)	341.28	219.16	-122.12	556.10	351.57	-204.53	699.39	521.40	-177.99

Table 4:

ROCE TRUE UP FY 2017-18 TO FY 2018-19 (Tariff Order vs Actual) &

TOTAL DEVIATION from FY 2014-15 to FY 2018-19

Particulars	FY 2017-18			FY 2018-19 (Provl.)			Total FY 2014-15 to FY 2018-19		
	Tariff Order	Actuals	Deviation	Tariff Order	Actuals	Deviation	Tariff Order	Actuals	Deviation
Assets	13258.79	11228.25	-2030.54	15276.52	14818.04	-458.48	56405.38	48258.64	-8146.74
Original Cost of Fixed Assets (OCFA)	10218.24	9246.05	-972.19	13258.79	11228.25	-2030.54	46653.02	38260.58	-8392.44
Additions to OCFA	3040.55	1982.20	-1058.35	2017.73	3589.79	1572.06	9752.36	9998.06	245.70
Depreciation	3555.70	3639.80	84.10	4324.10	4376.96	52.86	17225.59	16030.99	-1194.60
Opening Balance	2984.37	3055.35	70.98	3555.70	3639.80	84.10	14718.94	13774.55	-944.39
Depreciation during the year	571.33	584.45	13.12	768.40	737.16	-31.24	2506.65	2256.44	-250.21
Consumer Contributions	3641.86	573.58	-3068.28	4145.86	1918.27	-2227.59	11709.14	4387.02	-7322.12
Opening Balance	913.18	469.54	-443.64	3641.86	573.58	-3068.28	7800.39	3139.94	-4660.45
Additions during the year	2728.68	104.04	-2624.64	504.00	1344.69	840.69	3908.76	1247.08	-2661.68
Working Capital	59.68	61.97	2.29	69.93	87.96	18.03	272.51	303.22	30.71
Change in Rate Base	-129.73	646.86	776.59	372.67	753.97	381.31	1668.48	3247.27	1578.79
Regulated Rate Base	6250.64	6429.99	179.35	6503.83	7856.80	1352.98	26074.67	24896.58	-1178.10
Return on Capital Employed (RoCE)	685.23	619.72	-65.51	712.98	731.16	18.18	2994.98	2443.01	-551.97

❖ The actual additions to the fixed assets during FY 2014-15 (02.06.2014 to 31.03.2015) to FY 2018-19(provisional) is Rs.9998.06 Crores as against the approved amount of Rs.9752.36 Crores.

❖ The actual addition to the Gross Fixed Assets during the period is higher by Rs.245.70 Crores when compared to Tariff Order.

- ❖ The depreciation for the 3rd MYT Control Period (FY 2014-15 to FY 2018-19) has been calculated for each year separately on straight line method considering the depreciation rates notified by the Ministry of Power, Govt. of India.
- ❖ The actual Return on Capital Employed (ROCE) for FY 2014-15 (02.06.2014 to 31.03.2015) was calculated by adding the interest expenditure at actual and Return on Equity(ROE) @ 14% on 25% of Regulated Rate Base.
- ❖ Return on Capital Employed (ROCE) as per the Tariff Order was considered proportionately for the period from 02.06.2014 to 31.03.2015.

vi) Revenue True up:

The following is the position of Revenue during FY 2014-15 (02.06.2014 to 31.03.2015) to FY 2018-19 (Provl)

Table 5 : Revenue True up(Rs. In Crores)

(Rs. in crores)

Particulars	FY 2014-15 (02.06.2014 to 31.03.2015)			FY 2015-16			FY 2016-17		
	Tariff Order	Actuals	Devi-ation	Tariff Order	Actuals	Devi-ation	Tariff Order	Actuals	Devi-ation
Revenue from Transmission Charges	756.91	815.36	58.45	1186.32	1345.95	159.63	1501.07	1642.42	141.35
Other Income	57.90	46.83	-11.07	72.90	79.52	6.62	76.49	113.04	36.56
Total:	814.81	862.19	47.38	1259.22	1425.48	166.25	1577.56	1755.46	177.90

(Rs. in crores)

Particulars	FY 2017-18			FY 2018-19			Total		
	Tariff Order	Actuals	Devi-ation	Tariff Order	Actuals	Devi-ation	Tariff Order	Actuals	Devi-ation
Revenue from Transmission Charges	1605.89	1722.90	117.01	1725.46	1755.00	29.54	6775.65	7281.63	505.98
Other Income	121.00	119.28	-1.72	133.00	287.77	154.77	461.28	646.44	185.16
Total:	1726.89	1842.18	115.29	1858.46	2042.77	184.31	7236.94	7928.07	691.13

- ❖ The Actual Revenue accrued from Transmission Charges during the 3rd MYT Control Period is Rs.7281.63 crores as against Rs.6775.65 crores approved by the Commission; thereby there is an increase of Rs.505.98 crores. The main reason for increase is due to increase of revenue from Open Access Customers.
- ❖ Further, there is an increase in other income to the extent of Rs.185.16 crores during the Control Period. Thus, there is increase in total revenue of Rs.691.13 crores.

vii) Aggregate Revenue Requirement (ARR) and Surplus/(Deficit):

The Total Aggregate Revenue Requirement (ARR) approved by Hon'ble Commission for FY 2014-15 (02.06.2014 to 31.03.2015) to FY 2018-19 (Provl.) is Rs.7236.94 crores, as against which the actual ARR is Rs.6926.31 crores, thereby there is a reduction of Rs.310.62 crores in ARR. Further, there is an increase in revenue to the tune of Rs.691.13 crores, leading to a total surplus of Rs.1001.75 crores. However, the Hon'ble TSERC while issuing Tariff Order for the balance period of 3rd MYT Control Period has adjusted an amount of Rs.634.60 crores by way of Special Appropriation towards Mid Term Review for FY 2014-15 and FY 2015-16 (benefit to customer). As such, there is a balance of Rs.367.15 crores to be adjusted in 4th MYT Control Period. The licensee has proposed for adjustment of the said amount in FY 2019-20 as a Special Appropriation towards balance amount of True up (benefit to consumer) for 3rd MYT Control Period (FY 2014-15 to FY 2018-19). However, based on audited accounts for FY 2018-19, the difference if any, will be claimed/passed on to the customers.

Table 6 : ARR Deviation – (Tariff Order vis-à-vis Actual) :

ARR Deviation - (Tariff Order vis-à-vis Actual):

(Rs. in crores)

Particulars	FY 2014-15 (02.06.2014 to 31.03.2015)			FY 2015-16			FY 2016-17		
	Tariff Order	Actuals	Devi-ation	Tariff Order	Actuals	Devi-ation	Tariff Order	Actuals	Devi-ation
Expenditure	542.29	535.71	-6.58	793.94	710.00	-83.94	963.69	974.74	11.05
O&M Costs	294.71	298.01	3.30	385.30	392.45	7.15	420.09	491.83	71.73
O&M Carrying Costs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Depreciation	251.59	208.42	-43.17	370.00	285.09	-84.91	495.01	431.86	-63.16
Taxes	23.71	18.21	-5.50	38.63	31.71	-6.92	48.59	47.18	-1.40
Special Appropriation	-27.72	0.00	27.72	0.00	0.00	0.00	0.00	0.00	0.00
Other Expenses	0.00	11.07	11.07	0.00	0.75	0.75	0.00	3.88	3.88
Less: Expenses Capitalised	68.75	65.18	-3.58	90.82	76.39	-14.44	85.53	115.60	30.08
IDC Capitalised	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O&M Exp. Capitalized	68.75	65.18	-3.58	90.82	76.39	-14.44	85.53	115.60	30.08
Net Expenditure	473.53	470.54	-3.00	703.12	633.62	-69.50	878.16	859.14	-19.03
Return on Capital Employed (ROCE)	341.28	219.16	-122.12	556.10	351.57	-204.53	699.39	521.40	-177.99
Gross ARR	814.81	689.69	-125.12	1259.22	985.19	-274.03	1577.56	1380.54	-197.02
Non Tariff Income	57.90	46.83	-11.07	72.90	79.52	6.62	76.49	113.04	36.56
Revenue from Tariff	756.91	815.36	58.45	1186.32	1345.95	159.63	1501.07	1642.42	141.35
Total Revenue	814.81	862.19	47.38	1259.22	1425.48	166.25	1577.56	1755.46	177.90
Surplus/(Deficit)	0.00	172.49	172.50	0.00	440.28	440.28	0.00	374.92	374.92

ARR TRUE UP FY 2017-18 TO FY 2018-19 (Tariff Order vs Actual) &

TOTAL DEVIATION from FY 2014-15 to FY 2018-19

Particulars	FY 2017-18			FY 2018-19 (Provl.)			Total		
	Tariff Order	Actuals	Devi-ation	Tariff Order	Actuals	Devi-ation	Tariff Order	Actuals	Devi-ation
Expenditure	1122.06	1164.40	42.34	1239.71	1536.35	296.64	4661.69	4921.21	259.52
O&M Costs	564.45	502.66	-61.79	661.46	713.48	52.02	2326.02	2398.43	72.41
O&M Carrying Costs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Depreciation	510.92	584.45	73.53	529.67	738.85	209.18	2157.19	2248.66	91.47
Taxes	46.69	61.06	14.37	48.58	75.53	26.95	206.20	233.70	27.50
Special Appropriation	0.00	0.00	0.00	0.00	0.00	0.00	-27.72	0.00	27.72
Other Expenses	0.00	16.23	16.23	0.00	8.48	8.48	0.00	40.41	40.41
Less: Expenses Capitalised	80.40	70.84	-9.56	94.23	109.90	15.67	419.73	437.90	18.17
IDC Capitalised	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O&M Exp. Capitalized	80.40	70.84	-9.56	94.23	109.90	15.67	419.73	437.90	18.17
Net Expenditure	1041.66	1093.56	51.90	1145.48	1426.45	280.97	4241.96	4483.31	241.35
Return on Capital Employed (ROCE)	685.23	619.72	-65.51	712.98	731.16	18.18	2994.98	2443.01	-551.97
Gross ARR	1726.89	1713.28	-13.61	1858.46	2157.61	299.15	7236.94	6926.31	-310.62
Non Tariff Income	121.00	119.28	-1.72	133.00	287.77	154.77	461.28	646.44	185.16
Revenue from Tariff	1605.89	1722.90	117.01	1725.46	1755.00	29.54	6775.65	7281.63	505.98
Total Revenue	1726.89	1842.18	115.29	1858.46	2042.77	184.31	7236.94	7928.07	691.14
Surplus/(Deficit)	0.00	128.90	128.90	0.00	-114.84	-114.84	0.00	1001.75	1001.75

3. Resource Plan for Fourth Control Period

In compliance with the Clause 9 of APERC Regulations on Terms and Conditions for Determination of Tariff for Transmission of Electricity (Regulation No. 5 of 2005) as adopted by TSERC, TSTransco already submitted the Resource Plan comprising of Transmission load forecast and Capital Investment Plan for the 4th and 5th Control Period.

Brief Summary of Resource Plan

3.1 Transmission Load Forecast

TSTRANSCO's Load Forecast/Investment requirement depends upon two major components:

1. Generation Capacity Additions within the state requires Transmission Evacuation of power.
2. Growth in Demand of Electricity at different load centers of the state during the 4th Control Period requires expansion of Transmission system in the state.

3.1.1 Generation Capacity Additions during 4th Control Period

Table below summarizes the anticipated Generation Capacity Additions during the Fourth Control Period.

In order to effectively evacuate the power from these Generating Stations, TSTransco needs to invest on the evacuation schemes

TABLE: 7 GENERATION CAPACITY ADDITIONS

Generating Station	MW	FY 18-19	FY 19-20	FY 20-21	FY 21-22	FY 22-23	FY 23-24	Total (MW)
TSGENCO								
Thermal Plants								
Kothagudem Thermal Station stage-VII	1 x 800	800.00						800.00
Bhadradi TPS, Manuguru	4 x 270	1080.00						1080.00
Yadadrai TPS, Dameracherla	5 x 800					1600.00	1600.00	3200.00
Other Sources								
Singareni Thermal power project stage-II	1 x 800					800.00		800.00
Central Generating Stations as per share allocation								
Neyveli Unit - I	500	30.66						30.66
Neyveli Unit - II	500	30.66						30.66
NLC TPS-II 2nd xpansion	2 x 660					299.01		299.01
Telangana STPP	2 x 800			1360.00				1360.00
Total		1941.32	0.00	1360.00	0.00	2699.01	1600.00	7600.33

3.1.2. Demand Growth and System Expansion & Improvement Requirements

TABLE: 2 summarizes the District wise Peak demand forecasted during each year of the 4th Control Period.

In order to meet the load growth in different areas of the state, TSTransco need to add the Lines and sub-stations at different voltages as enumerated in TABLE : to TABLE:4 based on load flow studies conducted.

TABLE : 7 (a) DISTRICT WISE ANTICIPATED COINCIDENT PEAK DEMAND IN MW DURING 4TH CONTROL PERIOD

Name of the District	FY	FY	FY	FY	FY
	2019-20	2020-21	2021-22	2022-23	2023-24
TSNPDCL					
Warangal	898	934	972	1012	1052
Karimnagar	1138	1204	1275	1353	1438
Khammam	620	658	700	746	795
Nizamabad	763	792	822	853	886
Adilabad	272	282	295	310	325
TSSPDCL					
Mahabubnagar	1178	1208	1260	1283	1327
Medak	1263	1319	1378	1441	1509
Nalgonda	1285	1348	1415	1476	1562
RangaReddy	2451	2625	2850	3001	3172
Hyderabad	971	999	1027	1057	1088
Total other than LI	10839	11369	11954	12532	13154
LI loads (70% of Installed capacity considered)	4401	4401	7684	7684	7684
Grand Total incl. LI in MW	15240	15770	19638	20216	20838

TABLE : 8 Proposed 400kV & 220kV Sub-Stations to meet Load Expansion & System Improvement (FY 2019-20 to FY 2023-24)

Sl. No.	KV	Location Name	Financial Year	Type
1	400	RAMADUGU SS	2019-20	S
2	400	RAIDURG GIS	2019-20	S
3	400	CHOUTUPPAL SS	2019-20	G
4	400	DAMARACHERLA SS	2019-20	G
5	220	Singaram (Kachavani)	2019-20	S
6	220	Husnabad	2019-20	S
7	220	Indravelly	2019-20	S
8	220	Banswada	2019-20	S
9	220	Upgradation of 132/33 KV SS Renjal to 220/132kV	2019-20	S
10	220	132Kv features at 220KV Thimmajipet Sw. Stn.	2019-20	S
11	220	220kV Sub-Station at Pharma City-I, Mucherla	2020-21	L
12	220	220kV Sub-Station at Pharma City-II, Mucherla	2020-21	L
13	220	220/132/33 kv SS at Gopanpalli	2020-21	S
14	220	RC Puram	2021-22	S
15	220	Up-gradation of 132/33kV Asifabad SS to 220/132/33 kv SS	2021-22	S
16	220	Fort Warangal (Ammavaripet)	2021-22	S
17	220	220/33 kv GISS at Knowledge Park, T-Hub, Hyderabad	2022-23	L
18	220	Venkatapur	2022-23	S
19	220	Up gradation of 132 KV SS Asifnagar to 220 KV GISS	2022-23	S
20	220	220KV features at 132/33 KV SS kandukur	2023-24	S
21	220	220 KV SS Abdullapurmet	2023-24	S

TABLE : 9 400kV & 220kV Lines for 4th Control Period (FY 2019-20 to FY 2023-24)

Sl. No.	FY	KV	Name of the Line	IC	CKT	LINE TYPE	Line Length in CKM
1	2019-20	400	400/220/132kV Julurupadu (Bommanapalli) SS QMDC Line		D/C		78
2	2019-20	400	Julurupadu 400/220/132kV SS to proposed 400/220kV SS at Jangaon QMDC Line		D/C		340
3	2019-20	400	400/220kV SS at Jangaon to proposed 400kV Tippapur LI SS QMDC Line		D/C		140

Filing of Multi Year ARR & Tariff Framework for Fourth Control Period (FY 2019-20 to FY 2023-24)

4	2019-20	400	Telangana STPP (2x800 MW) to Ramadugu SS QMDC Line	G	D/C		110
5	2019-20	400	Telangana STPP(2x800 MW) to Narsapur SS QMDC Line	G	D/C		340
6	2019-20	400	Maheshwaram 400/220kV to 765/400kV (PGCIL) SS QMDC Line		D/C		3
7	2019-20	400	Maheshwaram 400/220kV to Shankarapally 400kV SS TMDC Line		D/C		13
8	2019-20	400	LILO of Suryapeta – Shankarpally QMDC line to Kethireddypalli 400/220/132 kV SS			LILO	100
9	2019-20	400	Dichpally SS -Nirmal SS QMDC Line	S	D/C		120
10	2019-20	400	LILO of both ckts of Mamidipally-Dindi to 400kV Maheshwaram SS TMDC	S		LILO	18
11	2019-20	400	400Kv SCCL to proposed 400/220kV Nirmal SS QMDC Line		D/C		290
12	2019-20	400	Srisaillam – Mamidipally to 400kV SS Dindi TMDC line			LILO	30
13	2019-20	400	Nagarjunasagar – Gooty SC line to 400kV SS Dindi			LILO	20
14	2019-20	400	Manuguru TSGENCO plant to 400/220kV Julurupadu (Bommanapalli) SS QMDC Line		D/C		200
15	2019-20	400	400/220kV Julurupadu (Bommanapalli) SS to existing 400kV Khammam (PGCIL) SS QMDC Line		D/C		200
16	2019-20	400	400/220kV Julurupadu (Bommanapalli) SS to existing 400/220/132kV Suryapet SS QMDC Line		D/C		250
17	2019-20	400	LILO of both ckts of VTS – Malkaram DC line to proposed 400/220/132kV Suryapet SS			LILO	10
18	2019-20	400	400/220Kv Kamavarapukota – Suryapet 400/220/132kV SS QMDC Line		D/C		424
19	2019-20	400	Yeddumailaram Sankarpalli SS proposed 400kV Suryapet SS QMDC Line		D/C		480
20	2019-20	400	Jaipur TPP – Gajwel 400kV SS QMDC Line		D/C		326
21	2019-20	400	LILO of both ckts of KV Yeddumailaram (Shankarpalli) – Gajwel 400kV to Narsapur SS			LILO	24
22	2019-20	400	Yadadri TPP TO Choutuppal QMDC Line	G	D/C		220
23	2019-20	400	Yadadri TPP TO Dindi SS QMDC Line	G	D/C		240
24	2019-20	400	Yadadri TPP TO Janagaon QMDC Line	G	D/C		300

Filing of Multi Year ARR & Tariff Framework for Fourth Control Period (FY 2019-20 to FY 2023-24)

25	2019-20	400	LILO of both ckts existing 400kV Khammam-Mamidipally TMDC to Choutuppal SS			LILO	60
26	2019-20	400	Yadadri TPP to 400/220kV Damaarcharla SS QMDC Line		D/C		16
27	2019-20	400	Kethireddypalli SS to Raidurg GIS SS QMDC line	S	D/C		86
28	2019-20	400	Twin HTLS QC towers Kethireddypally SS to AP-41		D/C		58
29	2019-20	400	Twin HTLS Monopoles from AP-41 to AP-75		D/C		22
30	2019-20	400	XLPE UG cable from AP-75 to 400kV GIS Rayadurg		U/G		03
31	2019-20	400	Yadadri TPP TO Maheshwaram (TS) SS QMDC Line	G	D/C		310
1		220	220kV Waddekothapally-Bhongir to 400kV SS Jangaon		D/C		104
2	2019-20	220	KTPS Shahpurnagar SC line to 400kV SS Jangaon	S		LILO	17
3	2019-20	220	220kV KTPS-Shahpurnagar SC line to 220/132kV Waddekothapally	S		LILO	24
4		220	400/220kV Jangaon to 220/132/33kV Jangaon SS			SMDC	30
5	2019-20	220	400/220KV Sub-Station Janagon to proposed 220/132/33KV Sub-Station Husnabad	S	D/C		120
6	2019-20	220	Durshed – Siricilla to proposed 400/220KV LIS SS Ramadugu in Karimnagar District	S		LILO	48
7		220	Malyalpalli-Bheemgal to 400/220kV Ramadugu SS			LILO	35
8		220	Borampet to 220kV Miyapur SS		D/C	SMDC	70
9		220	Borampet to 220kV Shapurnagar SS		D/C	SMDC	70
10		220	Pulukurthy-Bhimghanapur to 400/220/132kV KTPP SS at Ramappa TMDC line			LILO	50
11		220	Salivagu-Bhimghanapur to 400/220/132kV KTPP SS at Ramappa TMDC line			LILO	50
12		220	400/220/132kV KTPP to 220/132kV Manthani SS		D/C	SMDC	98
13		220	Gachibowli-Shivarampally line proposed Rayadurg SS			LILO	4.5

Filing of Multi Year ARR & Tariff Framework for Fourth Control Period (FY 2019-20 to FY 2023-24)

14		220	Gachibowli-Shapur Nagar line proposed Rayadurg SS			LILO	5
15	2019-20	220	LILO of 220kV Gachibowli - Miyapur line to proposed Rayadurg SS	S		LILO	6.5
16	2019-20	220	LILO of 220kV Gachibowli - Erragadda line to proposed Rayadurg SS	S		LILO	5
17		220	Dindi-Bongulur at Maheshwaram 400/220kV to 220kV Multi ckts towers			LILO	20
18		220	Dindi-Bongulur at Madgula 220kV Multi ckts towers			LILO	8
19		220	Maheshwaram 400/220kV SS to Fabcity 220kV SS		D/C		44
20		220	Nagaram-Warangal line with HTLS conductor		D/C		0
21		220	Maheshwaram 400/220kV SS to Fab city 220kV		D/C		8
22		220	Mamidipally-Shadnagar Line proposed Kothur SS			LILO	6
23		220	Shamshabad-proposed 400/220/132kV Kethireddypalli (Manikonda) SS at proposed Kothur 220kV SS			LILO	26
24		220	LILO 1 ckt Shamshabad-Yeddumailaram line and both ckts 220kV Shadnagar-Shankarpally-Shankarpally Line proposed 400/220/132kV			LILO	6
25		220	400/220/132kV Kethireddypalli SS to 132/33kV Kanakamamidi SS		D/C		10
26	2019-20	220	220 KV DC line from 400/220 KV SS Dichpally to proposed 220/132KV SS Banswada	S	D/C		120
27		220	TMDC line 400kV Dichpally SS to 220kV Dichpally SS			TMDC	10
28		220	RSS (Malyalpalli)-Nirmal & RSS-Vemnur-Nirmal DC line to exis 220/132kV Jagityal		D/C		12
29		220	400/220kV Nirmal SS to 220kV Nirmal SS		D/C		10
30	2019-20	220	400/220kV Nirmal SS to 220/132kV Renzal SS	S	D/C		136
31	2019-20	220	400KV SS Nirmal to proposed 220/132KV SS Indravelly (Utnoor)	S	D/C		220
32		220	400KV SS Dindi – 220kV Kondamallepally SS		D/C		70
33		220	400KV SS Dindi – 220kV Nagarkurnool SS		D/C		86
34		220	400/220kV Julurupadu SS to 220/132/33kV Kallur SS			SMDC	70

35		220	Shapurnagar Extn.SS with SM with 220kV		U/G		0.5
36		220	Narsapur SS-220kV Shapurnagar Extn. SS			SMDC	70
37		220	Shapurnagar Extn.SS with SM with 220kV 1000Sqmm		U/G		0.5
38		220	400kV Narsapur SS-220kV Bachupally/Miyapur. SS			SMSC	45
39		220	Chillakallu-Narkatpally to 400/220/132kV Suryapet SS			LILO	42
40		220	Khammam-Miryalaguda to 400/220/132kV Suryapet SS			LILO	120
41		220	LILO of both ckts 220kV Malkaram-Narketpally to proposed 400/220/132kV Choutuppal SS			LILO	60
42		220	220kV DC line from 400kV Gajwel-Siddipet				
43		220	220/132/33kV Manuguru to 400kV BTPS		D/C		
44		220	400/220/132kV Narsapur to 220/132/33kv SS Minpur in Medak		D/C		130
45	2019-20	220	i) Erection 220 kV DC line on Galvanized Towers with Moose ACSR for LILO of circuit – II of the existing 220 kV Ghanapur SS – 220 kV Hayathnagar SS to the proposed 220 kV Sub-Station, Kachavani Singaram.	S	D/C		8
46	2019-20	220	ii) Erection 220 kV DC line on Galvanized Towers with Moose ACSR for LILO of circuit – I of the existing 220 kV Ghanapur SS – 220 kV Chandrayangutta SS to the proposed 220 kV Sub-Station, Kachavani Singaram	S	D/C		8
47	2019-20	220	iii) Erection of 132 kV DC line on Galvanized Towers with Invar ACSR for LILO of circuit – II of the 132 kV Ghanapur – Bandlaguda line to the proposed 220/132/33 kV Sub- Station, Kachavani Singaram	S	D/C		4
48	2019-20	220	iv) Erection of 132 kV DC line on Galvanized Towers with Panther ACSR for LILO of circuit – II of the 132 kV Ghanapur – Moulali line to the proposed 220/132/33 kV Sub-Station, Kachavani Singaram.	S	D/C		4
49	2019-20	220	LILO of 220kV Gachibowli - Shivarampally line to proposed Rayadurg SS	S		LILO	8
50	2019-20	220	LILO of 220kV Gachibowli - Shapurnagar line to proposed Rayadurg SS	S		LILO	8

51	2019-20	220	220KV LILO line (24 KM) from existing 220KV KTS - Shapurnagar SC line to proposed 400/220KV SS Jangaon in Jangaon District	S		LILO	48
52	2021-22	220	220kV DC line from 400/220kV Maheswhwaram - 220/132kV Pharma City-I	L	D/C		42
53	2021-22	220	220kV DC line from 400/220kV Maheswhwaram - 220/132kV Pharma City-II	L	D/C		42
54	2021-22	220	220 KV LILO (31 km) of one circuit of 220 KV Mahabubabad-Warangal line to proposed 220/132 KV Ammavaripet SS	S		LILO	62
55	2021-22	220	220 kV DC Line from 400/220/132kV Narsapur SS to 220/132/33kV Minpur SS	S	D/C		130
56	2022-23	220	400/220 kV GIS Raidurg to 220/33 kV Knowledge park SS UG cable	L	UG		20
57	2022-23	220	220 KV DC/SC line from existing 400/220 KV SS Oglapur to proposed 20 KV SS Venkatapur	S	D/C		42
58	2022-23	220	220 KV DC line from 220/11 KV Gudipalligattu LIS to 220 KV Nagarkurnool SS	S	D/C		30
59	2022-23	220	220 KV SMDC line from 400/220 KV Shankarpally SS to 220/132/33 KV RC Puram SS (UG cable + OH line mono pole)	S	D/C		44
60	2023-24	220	220 KV DC line from 400 KV SS Maheswaram to proposed 220 KV SS Kandukur on narrow based towers	S	D/C		20
61	2023-24	220	LILO of 220 KV line from 400 KV Chotuppal to 220 KV Hayatnagar at proposed 220 KV Abdullapurmet SS (both circuits)	S		LILO	64

TABLE : 10 400kV & 220kV LIS Lines for 4th Control Period (FY 2019-20 to 2023-24)

Sl. No.	FY	KV	Name of the Line	IC	CKT	LINE TYPE	Line Length in CKM
1	2019-20	400	TMDC Line from 400 kV Julurupadu SS to Kamalapuram SS	L	D/C		100
2	2019-20	400	QMDC Line from Yedula SS to Narlapur SS	L	D/C		60
3	2019-20	400	QMDC Line from 400kV Maheshwaram SS to Yedula SS	L	D/C		260
4	2019-20	400	QMDC Line from 400kV Veltoor SS to Yedula SS	L	D/C		100
5	2019-20	400	QMDC Line from 400kV Yedula SS to Vatterm SS	L	D/C		120

6	2019-20	400	QMDC Line from 400kV Vattem SS to Uddandapur SS	L	D/C		100
7	2019-20	400	LILO of both circuits of 400kV Shankerpally - Suryapet QMDC Line to Uddandapur SS	L		LILO	200
8	2019-20	220	220kV DC line from 400/220 kV Oglapur SS to 220/11 kV proposed Devannapeta LI SS	L	D/C		58
9	2019-20	220	220kV DC line from 400/220 kV Dichpally SS to proposed 220/11 kV Sarangapur LI SS	L	D/C		73
10	2019-20	220	220kV DC line from 400/220 kV Dichpally SS to proposed 220/11 kV Manchippa\ LI SS	L	D/C		52
11	2019-20	220	220kV DC line from 400/220 kV Kamreddy SS to proposed 220/11 kV Yacharam Thanda LI SS	L	D/C		82
12	2019-20	220	LILO of 1 circuit of 220 kV KTPS-V-Lower Sileru -II line to proposed pump house - I at BG Kothuru	L		LILO	40
13	2019-20	220	LILO of 1 circuit of 220 kV KTPS-Manuguru line to proposed pump house - I at BG Kothuru	L		LILO	2
14	2019-20	220	220 kV TMDC Line from Kamalapuram SS to V.K.Ramavaram SS	L	D/C		50
15	2019-20	220	220 kV TMDC Line from Parigi to Laxmidevipally SS	L	D/C		20

TABLE : 11 List of 132 kV Sub-Stations proposed for 4th Control Period (FY 2019-20 to 2023-24)

SI. No.	KV	Location Name	Financial Year	Type
1	132	Gachibowli (New)	2019-20	S
2	132	Seetharambagh (GIS)	2019-20	S
3	132	IDA Mallapur	2019-20	S
4	132	Moulali	2019-20	S
5	132	R.P. Nilayam (AIS/GIS)	2019-20	S
6	132	Ibrahimbagh	2019-20	S
7	132	Kanchanapally	2019-20	S
8	132	Addakal	2019-20	S
9	132	Toopranpet	2019-20	S
10	132	Jangapally	2019-20	S
11	132	Nimmapalli	2019-20	S
12	132	Sarangapur	2019-20	S
13	132	Regonda	2019-20	S
14	132	Bachannapet	2019-20	S
15	132	Kotagiri	2019-20	S
16	132	Chandrugonda	2019-20	S
17	132	132kV Sub-Station at Pharma City-I	2020-21	L

18	132	132kV Sub-Station at Pharma City-II	2020-21	L
19	132	132/33 kV SS at Tallapet	2020-21	S
20	132	132/33 kV SS at Choppadandi	2020-21	S
21	132	132/33 kV SS at Peechara	2020-21	S
22	132	132 kV GIS at IIIT Premises, Gachibowli	2021-22	S
23	132	132/33 kV SS at Pitlam	2021-22	S
24	132	132/33kV SS at Pummy	2021-22	S
25	132	Padmanagar	2021-22	S
26	132	132/33kV Dhantanpur	2021-22	S
27	132	132/33 kV Ramasagar	2021-22	S
28	132	132/33 kV Nallabelly	2021-22	S
29	132	132/33 kV Singarajupally	2021-22	S
30	132	132/33 KV Bommalararamam SS	2021-22	S
31	132	132/33 KV SS Nagaram	2021-22	S
32	132	132/33 KV SS Kajjarla	2021-22	S
33	132	132/33 KV SS Raparthy	2021-22	S
34	132	132/33 kV Somaram	2022-23	S
35	132	132/33 KV SS Chada	2022-23	S
36	132	132/33 KV SS Devarakonda	2022-23	S
37	132	132/33 KV SS Manyamkonda	2022-23	S
38	132	Kothagudem	2022-23	S
39	132	Wankidi	2022-23	S
40	132	Pangal	2023-24	S
41	132	Vanamvarikistapuram	2023-24	S
42	132	Aziznagar	2023-24	S
43	132	Abdullapurmet	2023-24	S

TABLE :12 List of 132 kV Lines proposed for 4th Control Period (FY 2019-20 to FY 2023-24)

Sl. No.	FY	KV	Name of the Line	IC	CKT	LINE TYPE	Line Length in CKM
1	2019-20	132	LILO of both ckts 132kV Ramannapet – Choutuppal to proposed 400/220/132kV Choutuppal SS			LILO	40
2		132	Husnabad-Palamaukula			DC/SC	35
3	2020-21	132	132KV LILO (2 KM) to 132KV Palamakula-Husnabad DC/SC line to proposed 220/132/33KV Sub-Station Husnabad	S		MC	8
4		132	400/220/132kV KTPP to 132/33kV Chelpur SS		D/C		4

Filing of Multi Year ARR & Tariff Framework for Fourth Control Period (FY 2019-20 to FY 2023-24)

5	2019-20	132	132kV DC line from proposed Rayadurg GIS to 132kV Madhapur SS	S	D/C		6.4
6	2019-20	132	132kV DC line from proposed Rayadurg GIS to 132kV Jubilee Hills SS	S	D/C		14
7	2019-20	132	LILO of 132kV Erragadda - Shivarampally SC line to proposed Rayadurg SS	S		LILO	7
8		132	132kV DC line from proposed 220/132kV Indravelly SS to 132/33kV Utnoor SS		D/C		30
9	2020-21	132	220/132 kV Indravelly SS to 132/33kV ASsifabad SS on 220kV Galvanized DC towers	S	D/C		148
10	2020-21	132	132kV LILO line (40 km) to the proposed 220/132kV SS Indravelly from Loc No.211 (R+3) of existing 132kV Ichoda – Adilabad Line.	S		LILO	80
11	2020-21	132	132kV DC line (67 km) from Proposed 220/132 kV Indravelly SS to the existing 132kV Adilabad SS.	S	D/C		134
12	2019-20	132	132 KV DC line (40km) from proposed 220/132/33KV Pedagopathi SS to 132kV SS Madira.	S	D/C		80
13	2019-20	132	132kV LILO line (2km) with MC Towers from 132 KV Budidampadu -Penubally DC line to proposed 220/132/33KV Kallur SS	S		LILO	16
14	2020-21	132	132 KV DC line (20km) from proposed 220/132/33KV Pedagopathi SS to existing 132kV SS Thallada	S	D/C		60
15	2019-20	132	132 KV DC line (22km) with MC towers from 132kV -Khammam - Chilakallu DC line to 220/132/33kV Pedagopathi SS	S	D/C		120
16	2019-20	132	132KV DC line (30KM) from proposed 400/220/132KV Suryapet to 132 KV SS existing suryapet	S	D/C		14
17	2019-20	132	132KV DC line (30KM) from proposed 220/132/33KV SS Kalluru to proposed 132/33 KV SS Chandrugonda	S	D/C		60
18	2019-20	132	400/220/132KV Suryapet to 132 KV SS existing Shaligowraram SS	S	D/C		35
19	2019-20	132	400/220/132KV Suryapet to 132 KV SS existing Thungathurthy SS	S	D/C		30
20	2019-20	132	400 Narsapur – 132kV Gummadidala SS	S	D/C		34.5
21	2019-20	132	132kv Narsapur – Koudipalli SC line -400kV Narsapur SS	S	D/C		34.5
22	2019-20	132	Choutuppal – Toopranpet (shifted to Dandumlakapur)	S	D/C		50
23	2019-20	132	Parigi - Dharmasagar		D/C		
24	2019-20	132	220kv Durshed SS to 132kv water works in Karimnagar		D/C		
25	2019-20	132	220kv Shivrampally to 132kv Asifnagar SS		D/C		

Filing of Multi Year ARR & Tariff Framework for Fourth Control Period (FY 2019-20 to FY 2023-24)

26	2019-20	132	132/33kv SS Ialagadi malakpet, providing second source		D/C		
27	2019-20	132	132/33kv Chennur & Kataram from 220/132kvss, Manthani		D/C		
28	2019-20	132	Erection of 132kv from 220kv Jurala to leeza SS		D/C		
29	2019-20	132	132/33 kv Amangal to Keshampet		D/C		
30	2020-21	132	Existing 220/132kv Waddekothapally to Peddanagaram		D/C		
31	2020-21	132	Interlink SS 220kumailaram to Pashmailaram		D/C		
32	2020-21	132	220/132kv Madugula to Takkalapally		D/C		
33	2020-21	132	132 KV DC/SC line (60 km) from existing 132/33 KV Zaheerabad SS to existing 132/33 kV SS Narayankhed	S	D/C		60
34	2020-21	132	132kV LILO of existing 132kV Maddur – Makthal DC/SC line to existing newly charged 132/33kV Narayanpet SS	S		LILO	2
35	2020-21	132	132kV 2nd Ckt on existing 132kV DC/SC line from 220/132/33kV Bhoothpur to 132/33kV SS Marikal	S	D/C		42
36	2022-23	132	connecting the existing 132 kV Shapurnagar – Bhongir – Aleru line to 400/220/132 kV Malkaram SS and 400/220/132 kV Ghanapur SS (UG cable)	S	UG		7
37	2019-20	132	132 KV DC/SC line from 220KVSS Chegur (Kothur) to existing 132KVSS Kothur	S	D/C		3
38	2019-20	132	132 kV 2nd Circuit (9 KM) from 132/33 kV SS Domakonda to 132/33 kV SS Biknur	S	D/C		9
39	2019-20	132	132 kV DC/SC line (5.50KM) from loc 33-34 of existing new 132 kV DC/SC line of 132 kV SS Chippapally to 132/33 kV SS Domakonda	S	D/C		5.50
40	2019-20	132	132 kV 2nd CKT (10 KM) from 220/132 kV SS Kamareddy to Loc No 33-34 of existing new 132 kV DC/SC line of 132 kV SS Chippapally	S	D/C		10
41	2022-23	132	132 KV LILO (6 km) of 132 KV Mulugu-Chelpur-Kamalapur line on multy circuit towers to proposed 220/132 KV SS Venkatapur	S		LILO	12
42	2022-23	132	132 KV DC/SC line (37 km) from 220/132KV SS Nagarkurnool to 132/33 KV Achampet SS	S	D/C		37
43	2019-20	132	Erection of 132 kV DC OH line on galvanised towers with Panther ACSR from 220/132/33 kV Gachibowli SS to the proposed 132/33 kV Gachibowli (New) SS	S	D/C		2
44	2019-20	132	Erection of 132 kV DC line with 630 Sqmm 132 kV UG cable from Asifnagar Sub-Station to the proposed 132/33 kV GIS Sub-Station at Seetharambagh	S	D/C		8

45	2019-20	132	Erection of 132 kV DC line with 630 Sqmm 132 kV UG cable from 220 kV Moulali Sub-Station to the proposed Moulali ZTS SS	S	D/C		7
46	2019-20	132	i) Erection of 132 kV DC line with 630 Sqmm 132 kV UG cable for LILO of Moulali - Shapurnagar line to the proposed 132 kV RP Nilayam SS	S	D/C		4.80
			ii) Erection of 132 kV DC OH line on galvanised double circuit towers with panther ACSR (LILO of Moulali -Shapurnagar to RP Nilayam)	S	D/C		1
47	2019-20	132	Erection of 132 kV DC line with 630 Sq. mm XLPE UG Cable from LILO point loc.no. 67 for LILO of 132 kV SC Line from 220 kV SS Shivrampally to 132 kV SS E'gadda to the now proposed 132/33 kV Sub-Station Ibrahimbagh	S	D/C		4
48	2019-20	132	Erection of 132 kV DC/SC line on Galvanised Towers with Panther ACSR from the existing 132/33KVSS Rammannapet to the proposed 132KV SS Kanchanpally	S	D/C		7.50
49	2019-20	132	Erection of 132 KV DC/ SC line on Galvanized Towers with Panther ACSR from the existing 132/33KV SS Ghanapur to the proposed 132KV SS at Addakal	S	D/C		9
50	2019-20	132	132KV DC/SC line upto Loc.13 of Ramanapet - Choutupal DC/SC line from Ramanapet SS to proposed Toopranpet SS - 20KM	S	D/C		10
51	2019-20	132	132 KV LILO line (1.75 Km) for 132 KV Manakondur SS of existing 132 KV Durshed-Husunabad DC line.	S		LILO	3.50
52	2019-20	132	132 kV LILO line (14km) of 132 kV Durshed to Shanigaram line to the proposed 132kV SS Jangapally	S		LILO	28
53	2019-20	132	132 kV DC / SC line (21 KM) from the proposed 220kV SS Sircilla to proposed 132kV SS at Nimmapally.	S	D/C		21
54	2019-20	132	132 kV DC line (14KM) for making LILO of 132 kV Nirmal – Bhainsa line to the proposed 132/33 kV SS Sarangapur	S	D/C		28
55	2019-20	132	132 kV DC/SC line (20 KM) from existing 132/33 kV SS Chelpur to the proposed 132kV SS at Regonda in Warangal District	S	D/C		20
56	2019-20	132	2nd CKT (30KM) on 132KV DC/SC line from existing 220/132KV SS Waddekothapally to existing 132/33KV SS Peddanagaram with Panther ACSR Conductor.	S	D/C		30
57	2019-20	132	132kV DC Line (15km) from proposed 220/132 kV Indravelly SS to 132/33 kV Utnoor SS .	S	D/C		30

Filing of Multi Year ARR & Tariff Framework for Fourth Control Period (FY 2019-20 to FY 2023-24)

58	2019-20	132	132kV LILO line (22 KM) with MC Towers from 132 KV Chillakallu - Khammam DC lineto proposed 220/132/ 33KV Pedagogopathi SS	S		LILO	44
59	2020-21	132	132kV line from 220kV Sub-Stations at Pharma City and Inter connectin between the 132kV Sub-Stations	L	S/C		48
60	2020-21	132	132 KV DC line on Galvanised Towers from 220KV Thimmajipet SS to 132KVSS Jadcherla- 18KM	S	D/C		36
61	2020-21	132	132 kV DC/SC line (18 KM) from proposed 220kV SS Jangoan to the proposed 132kV SS at Bachannapet	S	D/C		18
62	2020-21	132	132 kV DC/SC line (12 KM) from 132 kV SSJakorato the proposed 132kV SS at Kotagiri in Nizamabad District	S	D/C		12
63	2020-21	132	132 kV DC/SC line (15 KM) for LILO of upcoming 132 kV Dharmapuri - Luxettipet at the proposed 132/33 kV SS, Tallapet	S	D/C		15
64	2020-21	132	132KV DC line with HTLS conductor on Galvanised towers by making LILO (12 KM)of existing 132 KV line from 220/132/33 KV warangal SS to 132/33 KV Jangoan SS at proposed 132/33 KV Peechara SS	S	D/C		24
65	2021-22	132	132 kV line from 220/132 kV Gachibowli SS to 132 kV IIIT GIS (UG cable)	S	UG		10
66	2021-22	132	132 kV DC/SC line (13KM) for LILO of 132 kV line from 220 kV Malyalapally SS to 220 kV Durshed SS at the proposed 132/33 kV Choppadandi SS	S	D/C		13
67	2021-22	132	132 kV DC/SC line (26.5 km) from 220/132/33KV Banswada SS to the proposed 132/33 kV Pitlam SS.	S	D/C		26.50
68	2021-22	132	132 kV DC line (8 km) for LILO of 132 kV Kusumanchi-Chilakallu line at the proposed 132/33 kV Pammy SS.	S	D/C		16
69	2021-22	132	132 KV DC/SC line (11 km) from proposed 220/132 KV Ammavaripet SS to up coming 132/33 kV SS Inavole	S	D/C		11
70	2021-22	132	132 KV DC line (23km) from proposed 220/132 KV Ammavaripet SS to 132/33 kV SS Geeskonda	S	D/C		46
71	2021-22	132	132 KV DC/SC line (19 km) from proposed 220/132 KV Ammavaripet SS to 132/33 kV SS Wardhannapet	S	D/C		19
72	2021-22	132	132 kV DC/SC line (7 KM) for LILO of 132 kV line from Durshad SS to the 132 Siricilla to proposed 132/33 KV SS Padmanagar	S	D/C		7
73	2021-22	132	132 kN DC/SC line (40 km) from existing 132/33 KV SS Dharmapuri to proposed 132/33 KV SS Dhantanpur	S	D/C		20

Filing of Multi Year ARR & Tariff Framework for Fourth Control Period (FY 2019-20 to FY 2023-24)

74	2021-22	132	132 kV DC/SC line (10 KM) from 132/33KV Pudur SS to the proposed 132/33 kV Ramsagar SS.	S	D/C		10
75	2021-22	132	133 kV DC/SC line (16 KM) from 132/33KV Narsampet SS to the proposed 132/33 kV Nallabelly SS.	S	D/C		16
76	2021-22	132	132 kV DC/SC line (20 KM) LILO from 132 kV Waddekothapally - Raghunathpally Circuit-II to proposed 132/33 KV S S Singarajupally	S	D/C		20
77	2021-22	132	132 KV DC line (22 km) from 220/132/33 KV SS Bhongiri to proposed 132/33 KV SS Bommalararamaram	S	D/C		44
78	2021-22	132	132 kV DC line (16 KM) LILO of 132 kV Suryapet-Thungaturthy to proposed 132/33 KV Nagaram	S	D/C		32
79	2021-22	132	132 kV line DC/SC (1 KM) LILO of 132 kV Ichoda -Adilabad line to proposed 132/33 KV SS Kajjarla	S	D/C		1
80	2021-22	132	132 KV DC/SC line (16 km) from 132/33 KVSS Pedda shankarampet to proposed 132/33 KV Raparthy SS	S	D/C		16
81	2022-23	132	DC line (74km) with Single moose from proposed 220/132 kV Indravelly SS to 132/33 kV Asifabad SS on 220kVGalvanized DC towers	S	D/C		148
82	2022-23	132	132 KV DC line from 220 KV Ammavaripet SS to proposed 132/33 KV SS Somaram	S	D/C		64
83	2022-23	132	132 kV DC/SC line (25 KM) from 132/33 KV Mothkur SS to proposed 132/33 KV SS Chada	S	D/C		25
84	2022-23	132	132 KV DC line (15 km) from 220/132 KV SS Kondamallepally to proposed 132/33 KV SS Devarakonda	S	D/C		30
85	2022-23	132	132 KV LILO (12 km) of 132 KV Bhoothpur-Puttapahad CKT-II at proposed 132/33 KV SS Manyamkonda	S		LILO	24
86	2022-23	132	132 KV 2nd circuit stringing (28 km) from 132/33 KV SS Amangal to 132/33 KV Keshampet SS	S	D/C		28
87	2022-23	132	132 KV LILO (2 km) of 132 KV Khammam-Kottagudem to proposed 132/33 KV SS Kottagudem	S		LILO	4
88	2022-23	132	132 kV DC/SC line (30 KM) from 132 Kv SS Nirmal SS to proposed 132/33 KV SS Wankidi.	S	D/C		30
89	2023-24	132	132 kV DC/SC line from 220 KV Wanaparthy SS to Pangal SS	S	D/C		42
90	2023-24	132	132 KV LILO (6 km) of 132 KV Khammam - Chillakallu to proposed Vanamvari Kistapur	S		LILO	12

Filing of Multi Year ARR & Tariff Framework for Fourth Control Period (FY 2019-20 to FY 2023-24)

91	2023-24	132	132 KV DC line from Kanakamamidi to proposed 132/33 KV SS Aziznagar	S	D/C		22
92	2023-24	132	132 KV LILO (3 km) of 132 KV Ghanpur-Sangli to proposed 132/33 KV SS Abdullapuemet	S		LILO	6
93	2023-24	132	132 KV 2nd circuit stringing (19 km) from 132/33 KV SS Ghanapur to 132/33 KV Abdullapurmet SS	S	D/C		19

TABLE :13 220kV LINES PROPOSED TO BE AUGMENTED WITH HTLS CONDUCTOR (FY 2019-20 TO FY 2023-24)

Sl. No.	FY	KV	Name of the Line	IC	CKT	LINE TYPE	Line Length in CKM
1	2019-20	220	220kV Mamidpally – Shivarampally SC line	S	S/C		18.50
2	2019-20	220	220kV HIAL – Shivarampally SC line	S	S/C		16.50
3	2019-20	220	220kV HIAL – Mamidpally - I line	S	S/C		3
4	2019-20	220	220kV HIAL – Mamidpally - II line	S	S/C		3
5	2019-20	220	220kV Malkaram – Shapuram DC line	S	D/C		42
6	2019-20	220	220kV Gachibowli – Shankarpally - I line	S	S/C		29
7	2019-20	220	220kV Gachibowli – Shankarpally - II line	S	S/C		24

TABLE:14 400 kV & 220 kV SUB-STATIONS PROPOSED UNDER LIFT IRRIGATION SCHEMES (FY 2019-20 TO FY 2023-24)

Sl. No.	KV	Location Name	Financial Year	Type
1	400	400/220/11 kV Kamalapuram SS	2019-20	L
2	400	400/11 kV Narlapur SS	2019-20	L
3	400	400/11 kV Yedula SS	2019-20	L
4	400	400/11 kV Vatterem SS	2019-20	L
5	400	400/11 kV Uddandapur SS	2019-20	L
6	220	220/11 kV Devannapeta	2019-20	L
7	220	220/11 kV Sarangapur	2019-20	L
8	220	220/11 kV Manchippa	2019-20	L
9	220	220/11 kV Yacharam Thanda	2019-20	L
10	220	220/11 kV BG Kothur	2019-20	L
11	220	220/11 kV Ramavaram	2019-20	L
12	220	220/11 kV Laxmidivipally SS	2019-20	L

S	System Improvement
G	Generation Evacuation
L	Load
D/C	Double Circuit
LILO	Line In Line Out
UG	Under Ground Cable
S/C	Single Circuit
IC	Investment Category

3.2. Capital Investment Plan during the balance period of Fourth Control Period (FY 2019-20 to 2023-24) :

The following capital investments are proposed for execution of 400 KV Schemes including evacuation schemes, schemes consisting of 220 & 132 Sub Stations and Lines, Lift Irrigation Schemes and Renovation and modernization schemes during the 4th Control Period.

Table 15: Capital Investment Plan during the balance period of Fourth Control Period : for FY 2019-20 to FY 2023-24 (Rs. Crores)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
CWIP Opening Balance	3709.74	4405.15	6405.06	3423.12	4322.21
Capital Investment During the Year					
400kv Schemes	1201.50	1334.60	1015.00	390.42	218.00
220kv Schemes	681.37	766.13	701.97	612.61	600.80
Renovation, Modernization & Improvement Schemes	53.11	56.00	59.70	63.29	67.90
Lift Irrigation Schemes	1010.19	1285.22	976.57	300.00	200.84
Total Base Capital Investment	3226.15	3031.52	3557.29	2754.39	1366.99
Add:Interest During Construction	369.27	277.94	220.27	141.69	133.34
Add:Expenses Capitalised	120.88	132.97	146.26	160.89	176.98
Total Capital Investment during the year	3521.67	3968.20	3120.93	1669.57	1397.91
Assets Capitalised during the year	2826.26	1968.29	6102.86	770.38	5376.12
CWIP Closing Balance	4405.15	6405.06	3423.12	4322.31	344.09

4. Multi Year Aggregate Revenue Requirement for the Fourth(4th) Control Period Aggregate Revenue Requirement (ARR) for Transmission Business for FY 2019-20 to 2023-24 :

TSTRANSCO submits its Aggregate Revenue Requirement (ARR) for Transmission Charges for FY 2019-20 and FY 2023-24 as per the methodology notified by the Hon'ble Commission vide Regulation 5 of 2005. The following are the main components of ARR.

i) Operation and Maintenance (O&) Expenses : The O&M Expenses covers the Employees Cost, Administrative & General Expenses, Repairs & Maintenance Expenses. The O&M Expenses of the licensee are driven by the length of lines in Circuit Kilometers and No. of Sub-Station Bays. The total O&M Expenditure was allocated to Lines and Sub-Stations in the ratio of 30:70. As per the latest provisional (un audited) accounts for FY 2018-19, the Net O&M expenses are Rs.634.26 crores. Out of Rs. 634.26 crores, an amount of Rs. 190.28 crores was allocated to Lines and an amount of Rs. 443.98 crores was allocated to Sub-stations. Based on the number of line length in CKM and number sub-stations bays, O&M Cost per CKM and bay was computed for FY 2018-19. For estimating the O&M Expenses for FY 2019-20 and FY 2023-24, an escalation @7.68% was adopted as per CERC methodology.

Table 16: O&M Expenses for FY 2019-20 to FY 2023-24 (Rs. Crores)

Particulars	R.E 2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
O&M Cost (Net)	634.26					
O&M Cost (%) for Lines	30%					
O&M Cost (%) for Sub Stations	70%					
Base Year O&M Costs for Lines	190.28					
Base Year O&M Costs for Sub Stations	443.98					
Lines (Circuit Kilometers)	21582					
No. of Sub Stations Bays)(Nos.)	2667					
Base Year O&M Costs for Lines (Rs./KM)	88165					
Base Year O&M Costs for Sub Stations (Rs./Bay)	1664724					
O&M inflation Factor for MYT Control Period (Index)	7.68%	7.68%	7.68%	7.68%	7.68%	7.68%
O&M Cost for Lines (Rs./KM) [(Base Year* (1+Index))]		94936	102227	110078	118532	127636
O&M Cost for Sub Stations (Rs./KM) [(Base Year*(1+Index))]		1792575	1930245	2078488	2238116	2410003
Lines (Circuit Kilometers) for the year		24747	26603	27498	28096	28497
No. of Sub Stations Bays (Nos.) for the year		3105	3449	3586	3613	3657
O&M Cost (Net)		791.53	937.70	1048.04	1141.66	1245.06

For estimating the O&M Expenses for FY 2019-20 to FY 2023-24, an escalation @7.68 % was adopted.

Based on the above, the following are details of O&M Expenses for FY 2019-20 to FY 2023-24.

Table 16 (a) : Net O&M Expenses for FY 2019-20 to FY 2023-24 (Rs.Crores)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Gross O & M Costs	912.41	1070.66	1194.30	1302.55	1422.04
Less: O & M Expenses Capitalized	120.88	132.97	146.26	160.89	176.98
Net O & M Expenses	791.53	937.70	1048.04	1141.66	1245.06

Further, it is to submit that wage revision to the employees is due w.e.f .01.04.2022. However, the impact of wage revision was not factored in the above projections. The same will be claimed separately based on actual.

ii) **Depreciation:** Depreciation is a claim towards replacement cost of fixed assets. Depreciation has been calculated for every year on all the fixed assets (excluding assets capitalized through consumer contributions during the period) capitalized up to the previous year considering the rates notified by the Ministry of Power, Govt. of India.

Table 17: Depreciation for FY 2019-20 to FY 2023-24 (Rs. Crores)

Particulars	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
Land & land rights	-	-	-	-	-
Buildings	9.00	10.33	12.78	14.83	16.67
Other civil works	0.64	0.74	0.91	1.06	1.19
Plant & Machinery	530.98	609.29	753.76	874.83	983.47
Line Cable Network	351.56	403.41	499.07	579.23	651.16
Vehicles	0.51	0.59	0.73	0.84	0.95
Furniture & Fixtures	0.49	0.56	0.70	0.81	0.91
Office Equipment	6.48	7.44	9.20	10.68	12.01
Total	899.66	1,032.35	1,277.14	1,482.28	1,666.36

The Depreciation on future assets is calculated for half year in the year of addition.

To offset the applicable depreciation on Lift Irrigation assets the same amount is considered as other income (amortization of grants).

iii) **Taxes on Income:** The income tax component on the Return on Equity @14% on 25% of Regulated Rate Base has been computed with the current rate of corporate tax.

Table 18: Taxes on Income for FY 2019-20 to FY 2023-24

(Rs. Crores)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Taxes on income	84.28	90.65	114.24	131.10	138.49

iv) **Special Appropriation:** The Total Aggregate Revenue Requirement (ARR) approved by Hon'ble Commission for FY 2014-15 to FY 2018-19 is Rs.7264.66 crores, as against which the actual ARR is Rs.6926.31 crores, thereby there is a reduction of Rs.338.34 crores in ARR. Further, there is an increase in revenue to the tune of Rs.663.42 crores, resulted in total surplus of Rs.1001.75 crores. Already Rs.634.60 crores was passed on to consumers (benefit to consumer) during FY 2017-18 to FY 2018-19. At present for the 4th control period **Rs.367.15** crores being the surplus amount shall be passed on to consumers as benefit in the FY 2019-20.

Table 19 : Special Appropriation for FY 2019-20 to FY 2023-24

(Rs. in Crs.)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Special Appropriation	367.15	-	-	-	-

v) **Return on Capital Employed (ROCE):** Return on Capital Employed (ROCE) is to cover the interest charges on the debt portion towards fixed assets and Return on Equity invested by TS TRANSCO.

The licensee has prepared a detailed investment plan for 4th control period (FY 2019-20 to FY 2023-24) based on Resource Plan submitted to the Hon'ble TSERC by making comprehensive analysis of Transmission Network existing in the state and load

conditions/growth in the ensuing five years at 765kV/400kV/220kV and 132kV voltages. The following are the details of capital investment during FY 2019-20 to FY 2023-24.

Table 20 (a) : Capital Investments for FY 2019-20 to FY 2023-24

(Rs. in

crores)

Particulars	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
CWIP Opening Balance	3709.97	4405.38	6405.29	3423.35	4322.54
Capital Investment During the Year					
400kv Schemes	1201.50	1334.60	1015.00	390.42	218.00
220kv Schemes	681.37	766.13	701.97	612.61	600.80
Renovation & Modernization Improvement Schemes	53.11	56.00	59.70	63.29	67.90
Lift Irrigation Schemes	1010.19	1285.22	976.57	300.00	200.84
Telecom Schemes	85.35	115.34	1.15	0.67	0.05
Total Base Capital Investment	3031.52	3557.29	2754.39	1366.99	1087.59
Add: Interest During Construction	369.27	277.94	220.27	141.69	133.34
Add: Expenses Capitalized	120.88	132.97	146.26	160.89	176.98
Total Capital Investment during the year	3521.67	3968.20	3120.93	1669.57	1397.91
Assets Capitalized during the year	2826.26	1968.29	6102.86	770.38	5376.12
CWIP Closing Balance	4405.38	6405.29	3423.35	4322.54	344.32

Based on the above capital investment/asset capitalization, the following is the position of Regulated Rate Base of TS TRANSCO and Return on Capital Employed thereon for FY 2019-20 to 2023-24.

Table 20(b): Return on Capital Employed (ROCE) (Rs. Crores)

Particulars	2018-19 (Base Year)	2019-20	2020-21	2021-22	2022-23	2023-24
Assets	14818.06	17652.09	19620.38	25723.24	26493.63	31869.75
OCFA Opening Balance	11228.26	14825.83	17652.09	19620.38	25723.24	26493.63
Additions to OCFA	3589.80	2826.26	1968.29	6102.86	770.38	5376.12
Depreciation	4376.95	5278.61	6310.97	7588.11	9070.39	10736.75
Opening Balance	3639.79	4378.95	5278.61	6310.97	7588.11	9070.39
Depreciation during the Year	737.16	899.66	1032.35	1277.14	1482.28	1666.36
Consumer Contributions	1918.27	3593.62	3495.43	4477.98	4127.47	5968.00
Cons Contributions Opening Balance	573.58	1918.27	3593.62	3495.43	4477.98	4127.47
Additions to Cons Contributions	1344.69	1675.35	-98.19	982.55	-350.51	1840.53
Working Capital	87.96	112.49	132.00	147.24	160.59	175.32
Change in Rate Base	753.98	125.62	517.06	1921.58	-180.69	934.62
Regulated Rate Base	7856.83	8766.72	9428.92	11882.81	13637.05	14405.70
Interest & Finance Charges (Net) - Actuals	456.18					
Cost of Debt @11% on 75% of RRB - Projections		723.25	777.89	980.33	1125.06	1188.47
Return on Equity @14% on 25% of RRB	274.99	306.84	330.01	415.90	477.30	504.20
WACC %		11.75	11.75	11.75	11.75	11.75
Return on Capital Employed (ROCE)	731.17	1030.09	1107.90	1396.23	1602.35	1692.67

While arriving at the Return on Capital Employed (ROCE), Debt portion is considered at 75% of Regulated Rate Base (RRB) with an interest cost of 11% and Equity at 25% of RRB with a return of 14%. As such, the Weighted Average Cost of Capital (WACC) worked out to 11.75%.

vi) Non-Tariff Income: The major components of other income includes Supervision charges, interest income on staff loans and advances, supervision charges, income from investments, amortization of consumer grants, income from sale of scrap etc., based on the past trend, the Non-Tariff Income for FY 2019-20 to FY 2023-24 is estimated as detailed below:

Table 21: Non-Tariff Income

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Interest on Staff loans and advances	1.00	1.00	1.00	1.00	1.00
Income from investments	8.50	8.50	8.50	8.50	8.50
Interest on Contingency Reserve investments	4.00	4.00	4.00	4.00	4.00
Income from sale of scrap etc.,	4.00	4.00	4.00	4.00	4.00
Supervision Charges	160.00	17.00	111.00	5.00	5.00
Amortisation of Consumer Contributions, Grants towards cost of fixed assets - LIS Assets	153.36	208.43	248.69	283.03	342.83
Amortisation of Consumer Contributions, Grants towards cost of fixed assets - Other than LIS Assets	85.48	87.48	102.48	67.48	92.48
Others	10.00	10.00	10.00	10.00	10.00
Total Non-Tariff Income	426.34	340.41	489.67	383.01	467.81

vii) **Aggregate Revenue Requirement:** The net Aggregate Revenue Requirement for FY 2019-20 up to FY 2023-24 shown below.

Table 22: ARR for FY 2019-20 to FY 2023-24

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Operation & Maintenance Charges	912.41	1070.66	1194.30	1302.55	1422.04
Depreciation	899.66	1032.35	1277.14	1482.28	1666.36
Advance Against Depreciation	0.00	0.00	0.00	0.00	0.00
Taxes on Income	84.28	90.65	114.24	131.10	138.49
Other Expenditure	0.00	0.00	0.00	0.00	0.00
Special Appropriations	(367.15)				
Total Expenditure	1529.21	2193.66	2585.68	2915.93	3226.89
Less: O&M expenses capitalized	120.88	132.97	146.26	160.89	176.98
Net Expenditure	1408.33	2060.70	2439.42	2755.04	3049.91
Add: Return on Capital Employed	1030.09	1107.90	1396.23	1602.35	1692.67
Less:					
Non-Tariff Income (if any)	426.34	340.41	489.67	383.01	467.81
Total Revenue Requirement transferred to Retail supply business	2012.08	2828.18	3345.98	3974.39	4274.77

viii) **Transmission Charges:** The DISCOMs have projected their Installed capacity as their Contracted Capacity. The demand from Open Access Consumers has been estimated and added to the total contracted demand of DISCOMs.

The Transmission charges are computed by dividing the net ARR of each year with the total contracted capacity of the respective year. As such, the following are the Transmission charges for FY 2019-20 to FY 2023-24:

Table 23:

Transmission Tariff for FY 2019-20 to FY 2023-24 (Rs. in Crores)

	2019-20	2020-21	2021-22	2022-23	2023-24
ARR of Transmission Business (Rs. Crores)	2012.08	2828.18	3345.98	3974.39	4274.77
Transmission Contracted Capacity (MW)	15235	17564	17569	19588	21114
Transmission Charges (Rs./KW/Month)	110.05	134.19	158.71	169.09	168.72

5. Target for Fourth(4th) Control Period

The following table depicts the Target Transmission loss range and System Availability during each year of the Fourth (4th) Control Period. As per the Regulation No. 5 of 2005, if the actual Transmission losses go beyond the Target Transmission losses, then TSTransco will be subjected to incentive/penalty appropriately.

Table 24: Transmission System Targets for FY 2019-20 to FY 2023-24

(Rs. in Crores)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Target Transmission Loss Range (%)	3.25 +/- 0.2	3.24 +/-0.2	3.23 +/- 0.2	3.22 +/- 0.2	3.21 +/- 0.2
Target System Availability (%)	99.9	99.9	99.9	99.9	99.9

The Transmission loss band projected above are exclusive of PGCIL losses. TSTRANSCO submits that the loss targets shown above are in line with the investment proposals of 4th Control Period. Licensee submits if there is any change in the investment proposals approved by the Hon'ble Commission, the loss band shown above may also vary accordingly.

ANNEXURE – I PLANS FOR SYSTEM PERFORMANCE

REPRESENTATIVE SYSTEM LOAD CURVES

1 Requirement in the Guidelines:

Representative system load curves for weekdays and weekends for various seasons (such as summer, winter and monsoon). Indicate in case if any load restriction was imposed. Also provide expected system load curves for the ensuing year and indicate the expected supply curves in each case. (Guidelines – 10a).

2 TSTRANSCO’s Response:

Typical Full load details along with curves for three seasons representing Peak demand met day and Peak demand met on weekend day for the year 2017-18 & 2018-19 follows: -

For 2017-18

Sl. No	Season	Date
1	Typical full load day in summer	08 th March'2018
2	Typical week end day in summer	23 rd March 2018
3	Typical full load day in monsoon	13 th September'2017
4	Typical week end day in monsoon	04 th August'2017
5	Typical full load day in winter	28 th February'2018
6	Typical week end day in winter	23 rd February 2018

The highest system peak demand of 10284 MW was recorded at 08:00 AM on 08-03-18 for the FY 2017-18.

A brief analysis of system demand for all seasons of the year 2017-18 is furnished in the following sections:

For 2017-18

PEAK GRID DEMAND				
SEASON	Max. MW	Min. MW	Date (Max MW)	Date (Max MW)
SUMMER	10284	3539	8-03-2018	09-05-2017
MONSOON	9500	4481	13-09-2017	13-10-2017
WINTER	10109	4815	28-02-2018	04-12-2017

For 2018-19

Sl. No	Season	Date
1	Typical full load day in summer	04 th March'2019
2	Typical week end day in summer	15 th March 2019
3	Typical full load day in monsoon	11 th September'2018
4	Typical week end day in monsoon	16 th September'2018
5	Typical full load day in winter	27 th February'2019
6	Typical week end day in winter	22 nd February 2019

The highest system peak demand of 10818 MW was recorded at 07:31 AM on 11-09-18 for the FY 2018-19.

A brief analysis of system demand for all seasons of the year 2018-19 is furnished in the following sections:

For 2018-19

PEAK GRID DEMAND				
SEASON	Max MW	Min MW	Max Date	Min Date
SUMMER	10505	2950	04-03-2019	03-05-2018
MONSOON	10818	4640	11-09-2018	21-08-2018
WINTER	10196	4092	27-02-2019	28-01-2019

3 Summer season

For 2017-18

From the daily system load curves (vide Annexure 1.a) on the day when the highest system peak was recorded, it can be seen that the system peak load is continuously maintained above 7986 MW throughout the day and the maximum demand recorded was 10284 MW on March 8th 2018. The demand variation in dry summer was between 3539 MW and 10284 MW. The minimum system demand on 09th May 2017 was 3539 MW, and is the lowest recorded in this season.

For 2018-19

From the daily system load curves (vide Annexure 2.a) on the day when the highest system peak was recorded, it can be seen that the system peak load is continuously maintained above 8257 MW throughout the day and the maximum demand recorded was 10505 MW on March 04th 2019. The **demand variation in dry summer was between 2950 MW** and 10505 MW. The minimum system demand on 03rd May 2018 was 2950 MW, and is the lowest recorded in this season.

4 Monsoon season

For 2017-18

From the daily system load curves (vide Annexure 1.b) on the day when the highest system peak was recorded, it can be seen that the system peak load is continuously maintained above 7440 MW throughout the day and the maximum demand recorded was 9500 MW on September 13th 2017. The demand variation in dry monsoon was between 4481 MW and 9500 MW. The minimum system demand on 13th October 2017 was 4481 MW, and is the lowest recorded in this season.

For 2018-19

From the daily system load curves (vide Annexure 2.b) on the day when the highest system peak was recorded, it can be seen that the system peak load is continuously maintained above 8246 MW throughout the day and the maximum demand recorded was 10818 MW on September 11th 2018. The demand variation in monsoon was between 4640 MW and 10818 MW. The minimum system demand on 21st August 2018 was 4640 MW, and is the lowest recorded in this season.

5 Winter season

For 2017-18

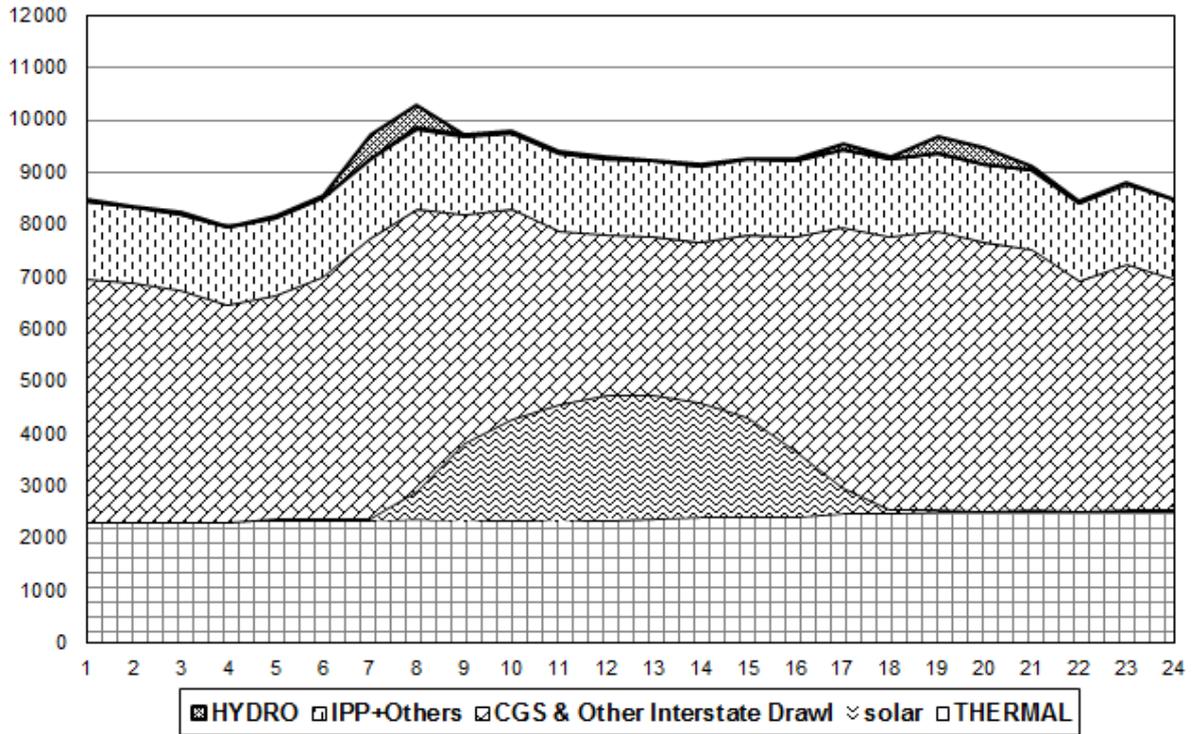
From the daily system load curves (vide Annexure 1.c) on the day when the highest system peak was recorded, it can be seen that the system peak load is continuously maintained above 7768 MW throughout the day and the maximum demand recorded was 10109 MW on February 28th 2018. The demand variation in dry winter was between 4815 MW and 10109 MW. The minimum system demand on 04th December 2017 was 4815 MW, and is the lowest recorded in this season.

For 2018-19

From the daily system load curves (vide Annexure 2.c) on the day when the highest system peak was recorded, it can be seen that the system peak load is continuously maintained above 8337 MW throughout the day and the maximum demand recorded was 10196 MW on February 27th 2019. The demand variation in dry winter was between 4092 MW and 10196 MW. The minimum system demand on 28th January 2019 was 4092 MW, and is the lowest recorded in this season.

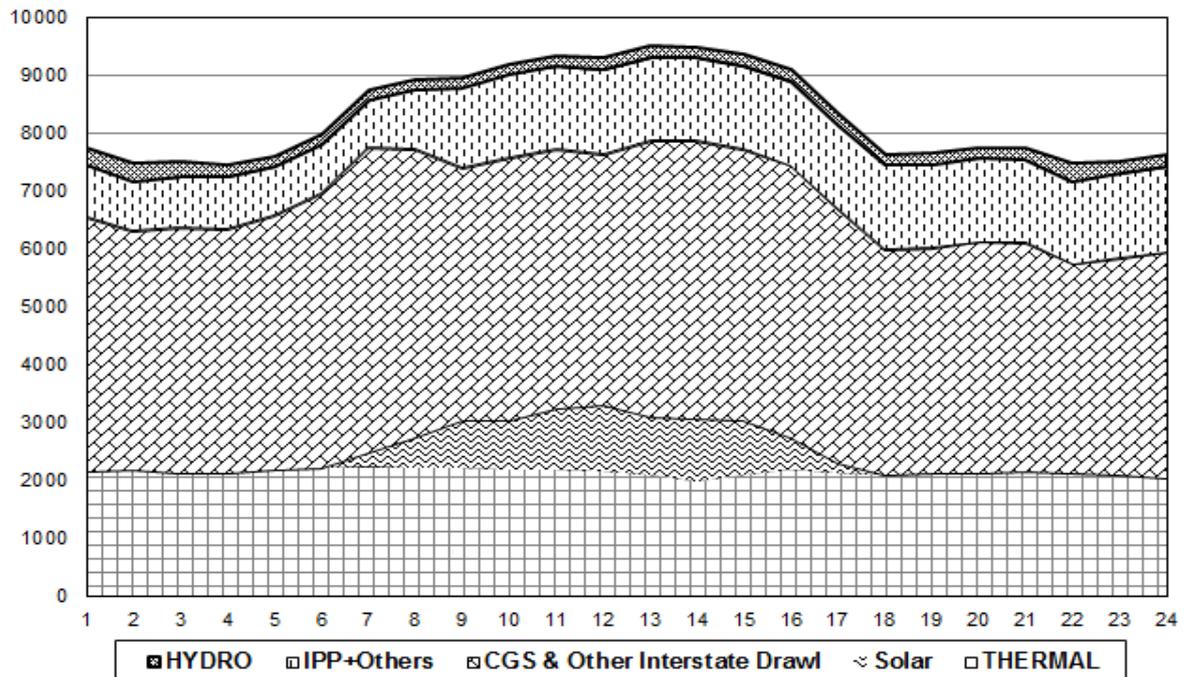
Annexure 1.a

TS DEMAND Curve for the F.Y - 2017-18 Summer season on 08th March'18



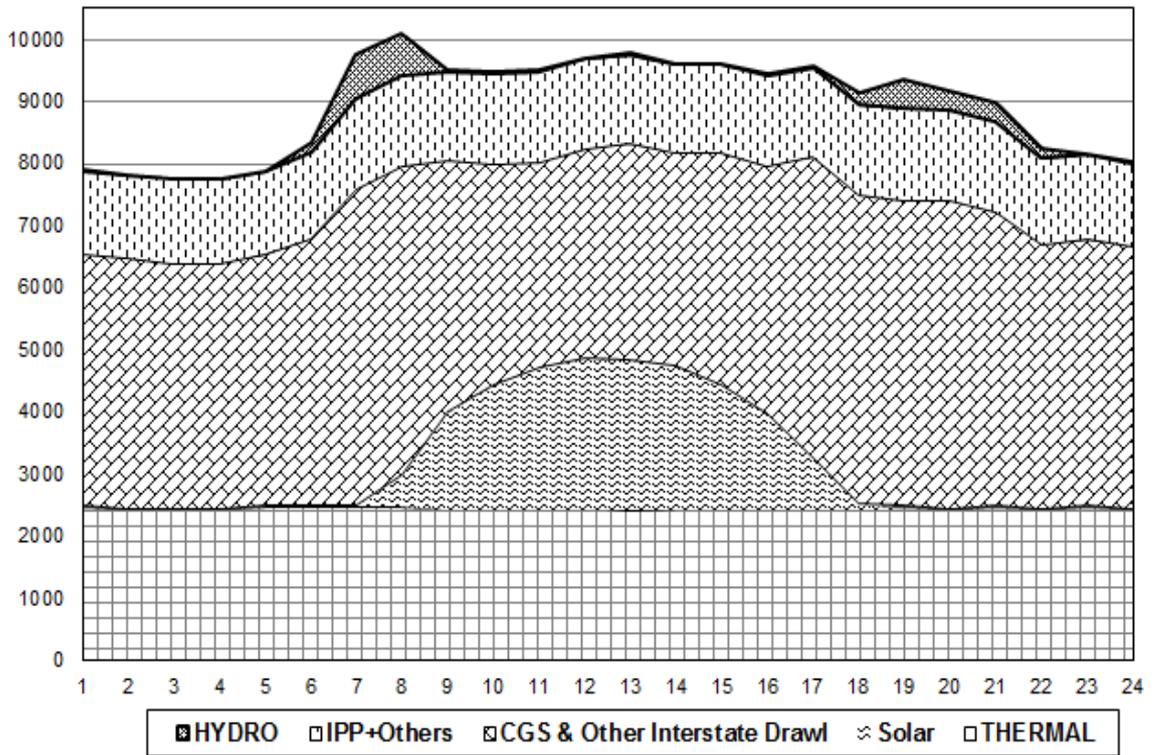
Annexure 1.b

TS DEMAND Curve for the F.Y - 2017-18 Monsoon Season on 13th September'17



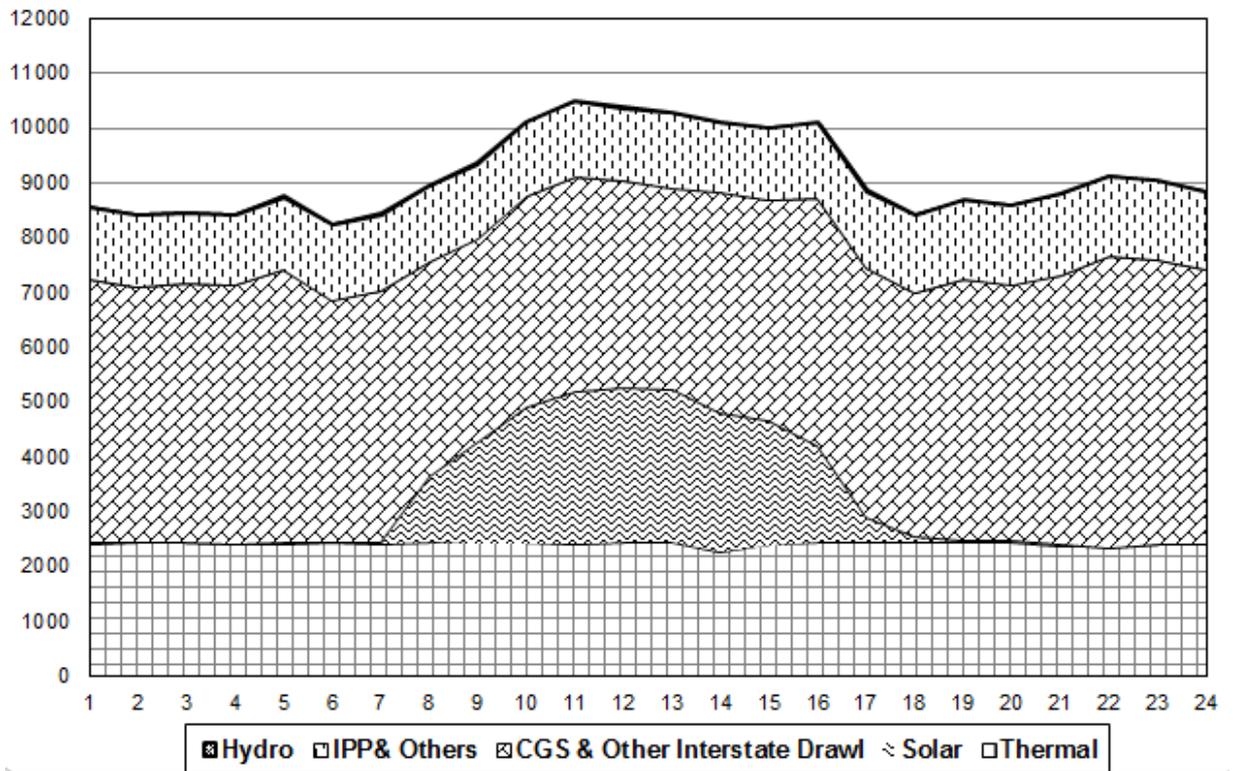
Annexure 1.c

TS DEMAND Curve for the F.Y - 2017-18 Winter Season on 28th February'18



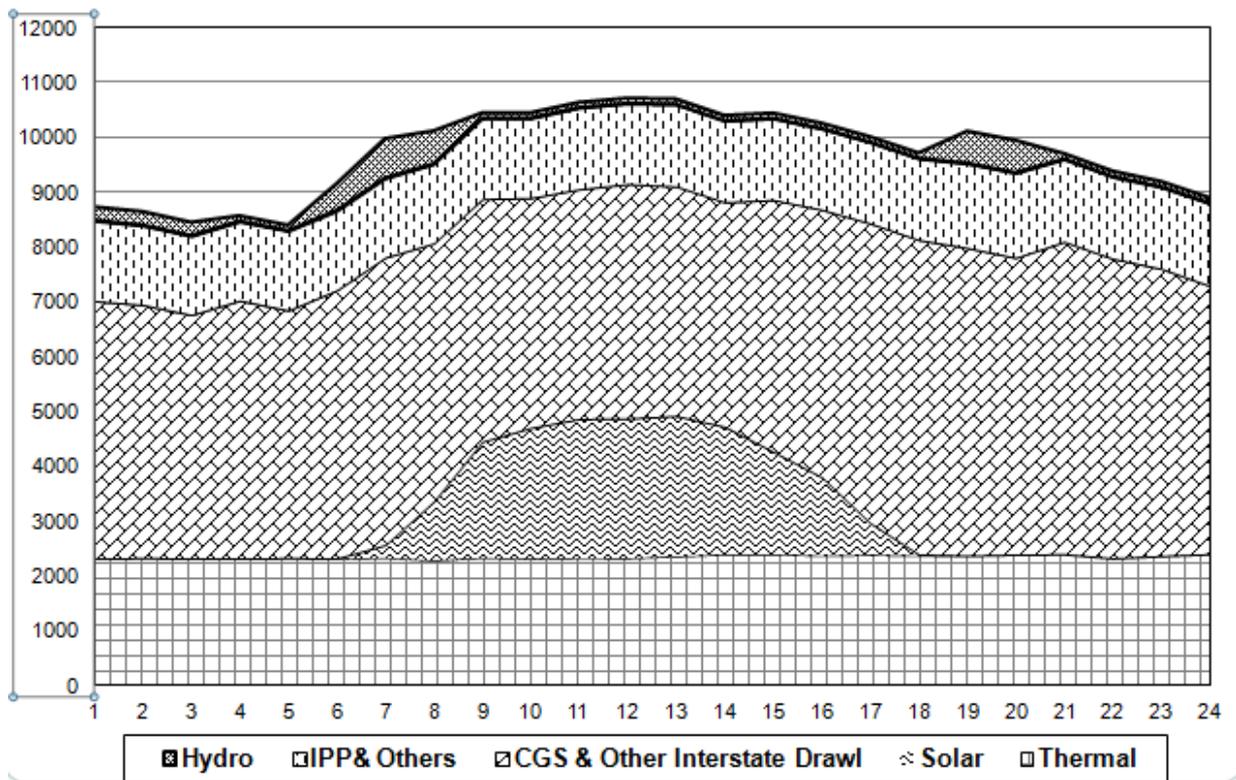
Annexure 2.a

TS DEMAND Curve for the F.Y - 2018-19 Summer season on 04th March'19

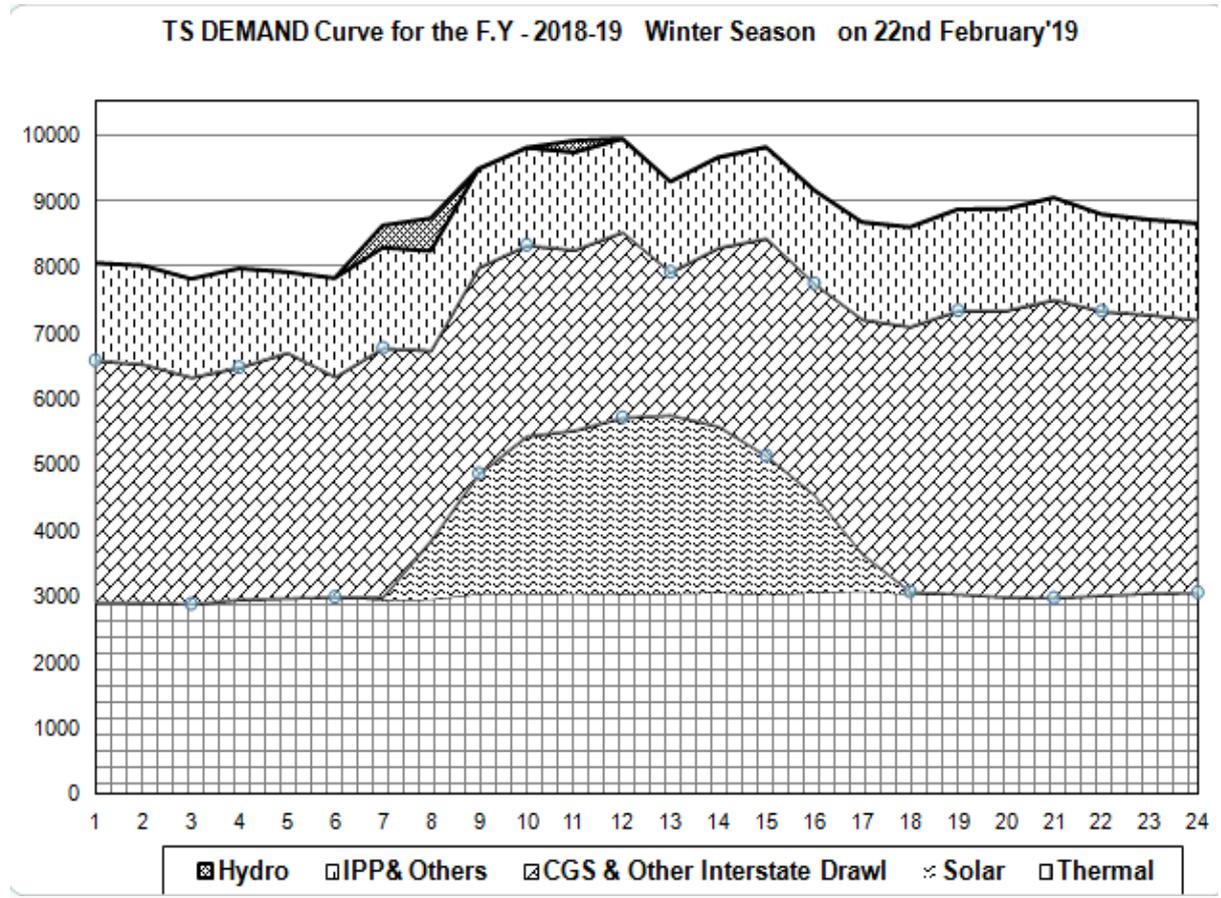


Annexure 2.b

TS DEMAND Curve for the F.Y - 2018-19 Monsoon Season on 16th September'18



Annexure 2.c



LOAD DURATION CURVES

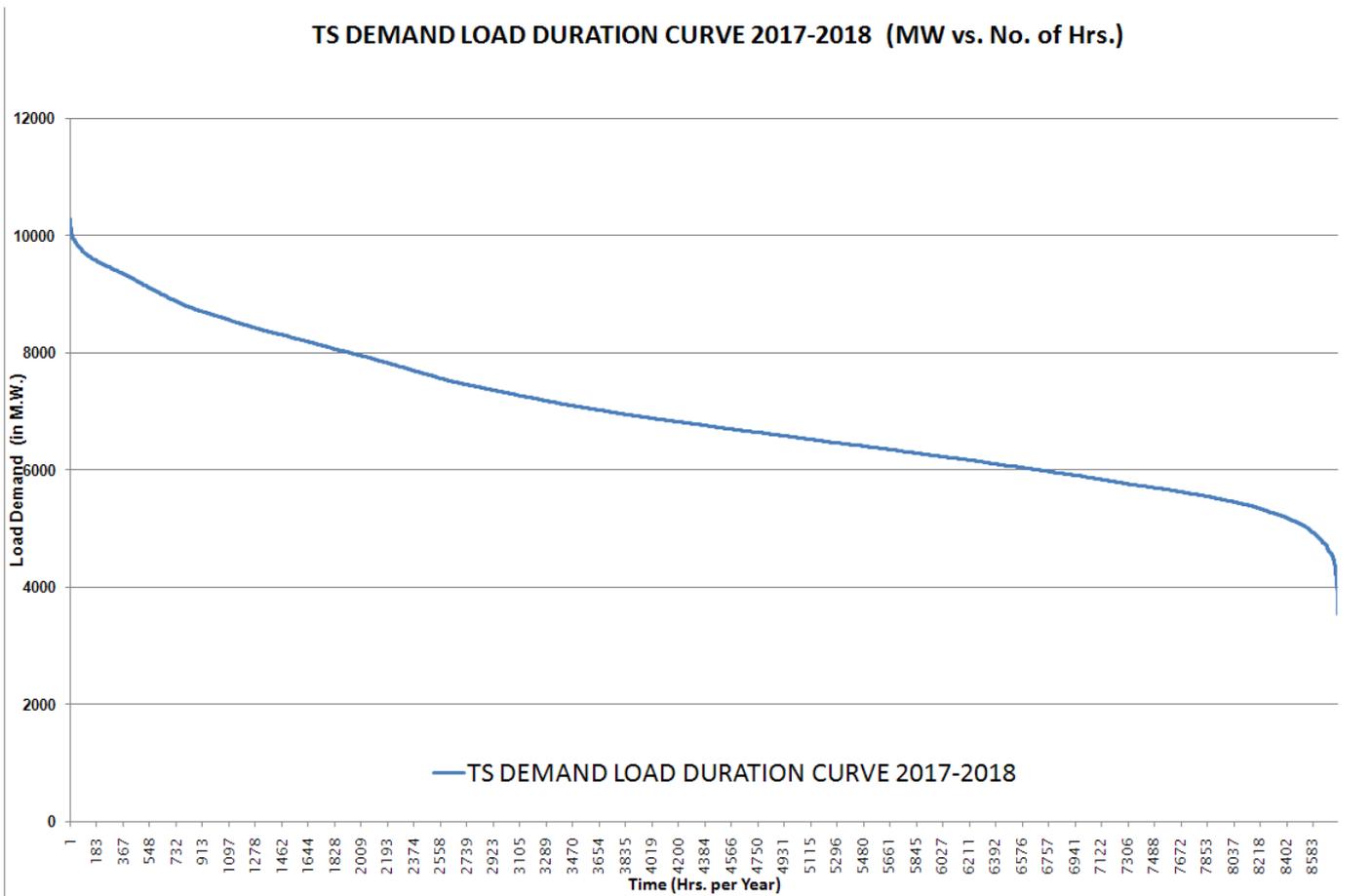
1. Requirement in the guidelines

Load duration curves for the past year and current year and expected load duration curve for the ensuing year. Indicate energy unserved on the load duration curves. (Guidelines – 10b)

2. TSTRANSCO’s Response:

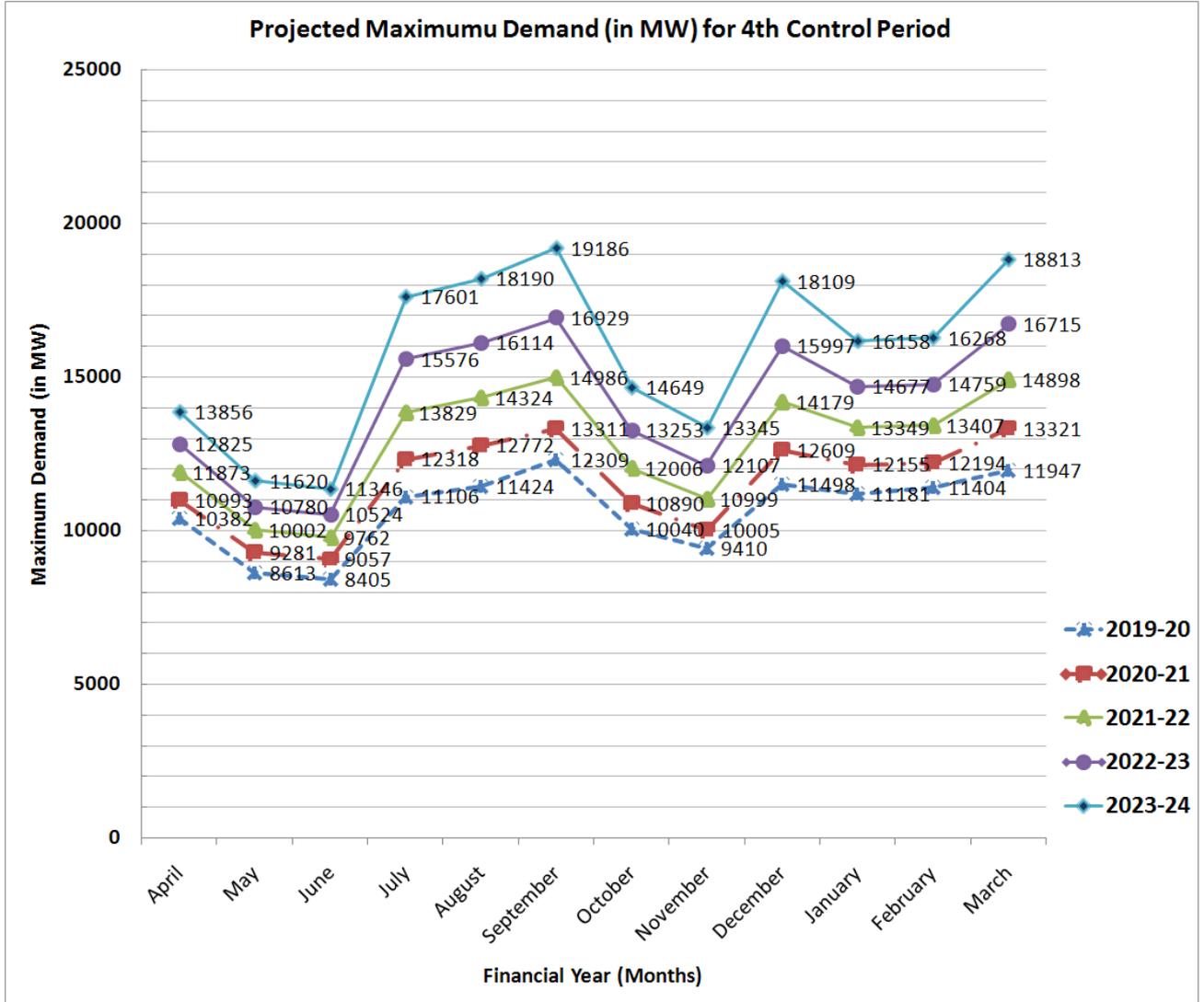
The load duration curves for the year 2017-18 is enclosed as Annexure 2(a).

Annexure 2(a)



Based on Discom load forecast data the Demand curves for the 4th Control Period (FY2019-20 to FY2023-24) are enclosed as Annexure (2b).

Annexure 2(b)



PLANS FOR RATIONALISATION OF EXISTING MANPOWER

1. Requirement in the Guidelines:

Plans both short term and long term for rationalization existing manpower (Guide lines-10c)

2. TSTRANSCO's Response :

Initiatives for rationalization of manpower for 4thControl Period from FY2019-20 to FY2023-24 for both short term and long term plan:

- a) The Following measures are taken while arriving regular man power requirement on permanent basis:
- (i) The Technical Committee was reconstituted to discuss and finalize the Technical issues such as rationalization of man power in TSTRANSCO, vide MemoNo.CGM (HRD)/MPP1 /4872/ Technical Committee/2014/ Date:4/9/15.
 - (ii) A committee has been constituted for arriving norms for creation of new posts and work load norms, vide T.O.O (Per-CGM/HRD).Rt.No.202, Dt: 07/06/2016.
 - (iii) Staff pattern norms are being followed as per B.P.Ms.No.94&95, dt.31.5.1994 and as per the Technical Committee report dated.9.9.2005.
 - (iv) Keeping in view the commissioning of EHT Sub-stations & Lines during the period 2008-19, proposals were sent to Government and the Government vide G.O.Ms.No.76, Date:06/05/2017, accorded permission for creation of 3441 new posts.
 - (v) Regular man power is being assessed every year keeping in view the following.
 - ❖ Creation of new posts as per the norms.
 - ❖ Retirements
 - ❖ Filling up of the vacancies in the initial cadres such as AE, Sub-Engineer, JAO, JPO & JLM taken up as per requirement and rules & regulations in vogue.
 - ❖ Promotions.

- (vi) Considering all the above measures, the following are the man power projections in TSTRANSCO during 2018-24.

Sl.No.	Financial Year	Sanctioned	Filled	Vacant
1	2018-19	7315	3660	3655
2	2019-20	7907	4284	3623
3	2020-21	8097	5308	2789
4	2021-22	8305	5984	2321
5	2022-23	8441	6463	1978
6	2023-24	8535	6698	1837

- b) The Following measures are taken while arriving outsourcing man power on temporary basis:

- (i) TSTRANSCO issued orders vide T.O.O.No.(Jt.Secy.-Per) Ms.No.130, dt:30.08.2017 and T.O.O.No.(Jt.Secy.-Per) Ms.No.131, dt:30.08.2017 engaging the services of all 4361 Outsourced Personnel on contract directly by TSTRANSCO, who were engaged through Private Agencies.
- (ii) TSTRANSCO has also taken decision to meet the requirement of personnel by direct recruitment, instead of engaging by outsourcing through Private Agencies.

PLANS TO IMPROVE TRANSMISSION SYSTEM PERFORMANCE

1. Requirement in the Guidelines:

Plans to improve Transmission System Performance. (Guidelines – 10d)

2. TSTransco’s Response:

The transmission system of TSTransco as of March 31, 2019 consists of 4632 Circuit KMs of 400 kV lines and 7677 Circuit KMs of 220 kV lines and 11162 Circuit KMs of 132 kV lines. There are 17 Nos. 400 kV sub-stations, 81 Nos. 220 kV sub-stations and 234 Nos. 132 kV sub-stations. In addition to the above, new lines of 3198 CKM of 400kV lines, 1706 CKM of 220 kV lines, 1757 CKM of 132 kV lines and new Sub-Stations of 4 Nos. 400kV Sub-Stations, 17 Nos. 220 kV Sub-Station and 43 Nos. 132 kV Sub-Stations expected to be added during 2019-24, thereby increasing the overall transmission efficiency which is also one of the performance indicators of the System like transmission system availability, etc.

The transmission system is continuously growing since decades, but is not able to keep abreast of the growing system requirements mainly due to various reasons such as right of way problems while construction of transmission lines and difficulties in acquisition of land for construction of Sub-stations in urban areas, resource crunch and non-availability of adequate funds. While there are no major bottlenecks faced in evacuation of power from generating stations to the load centers.

During 2016-17, a sum of Rs. 2,511.29 Crs. was incurred for strengthening of Transmission network, which resulted in the addition of the following assets.

400 kV lines	325 Ckm.
220 kV lines	661 Ckm.
132 kV lines	144 Ckm.
400 kV sub-stations	1 No.
220 kV sub-stations	7 Nos.
132 kV sub-stations	18 Nos.

During 2017-18, a sum of Rs. 2985.79 Crs. was incurred for strengthening of Transmission network, which resulted in the addition of the following assets.

400 kV lines	1360 Ckm.
220 kV lines	478 Ckm.
132 kV lines	1025 Ckm.
400 kV sub stations	3 Nos.
220 kV sub stations	4 Nos.
132 kV sub stations	16 Nos.

During the current Financial Year i.e., 2018-19 of the 3rd Control Period, a sum of Rs.3544.76 Crores was incurred to strengthen the Transmission System by adding the following assets which includes the XLPE cable and GIS sub-stations in the twin cities.

400 kV lines	811 Ckm.
220 kV lines	703 Ckm.
132 kV lines	421 Ckm.
400 kV sub stations	6 Nos.
220 kV sub stations	7 Nos.
132 kV sub stations	11 Nos.

It is proposed to invest an amount of Rs. 11,366.63 Crores during the 4th Control Period to strengthen the Transmission System by adding the following assets which includes the XLPE cable and GIS sub-stations in the twin cities.

400 kV lines	3198 Ckm.
220 kV lines	1926 Ckm.
132 kV lines	1793 Ckm.
400 kV sub stations	4 Nos.
220 kV sub stations	7 Nos.
132 kV sub stations	43 Nos.

With the above strengthening measures of the Transmission system, it is expected that the transmission system would greatly improve and the voltage profile of the system will improve to a considerable extent.

LOAD PROFILES

1. Requirement in the Guidelines

Submit load profiles for sub-stations segregated by voltage levels and supplied parties. (Guidelines – 10e).

2. TSTransco's response

Load curves for peak load days during summer, monsoon and winter seasons have been enclosed as Annexures 1(a) to 1(c). These curves represents hourly demand in MW recorded at various voltage levels, on the days of the highest system peak was recorded for the respective seasons at various representative grid sub-stations.

At this stage, TSTRANSCO has provided the above data for representative sub-stations. It is respectfully submitted that providing such data for all the sub-stations in voltage levels and supplied parties would be a very voluminous and time-consuming process. In the event that the Hon'ble Commission requires such data for any other specific sub-station, TSTRANSCO would be glad to provide such data as may be directed.

PLANS FOR DETERMINING LOAD PROFILES

1. Requirement in the Guidelines

If information in (e) above is incomplete or non-existent, submit plans for determining load profiles on grid sub-stations and to determine system peak at different voltage levels. (Guidelines – 10f)

2. TSTransco's response

SCADA System:

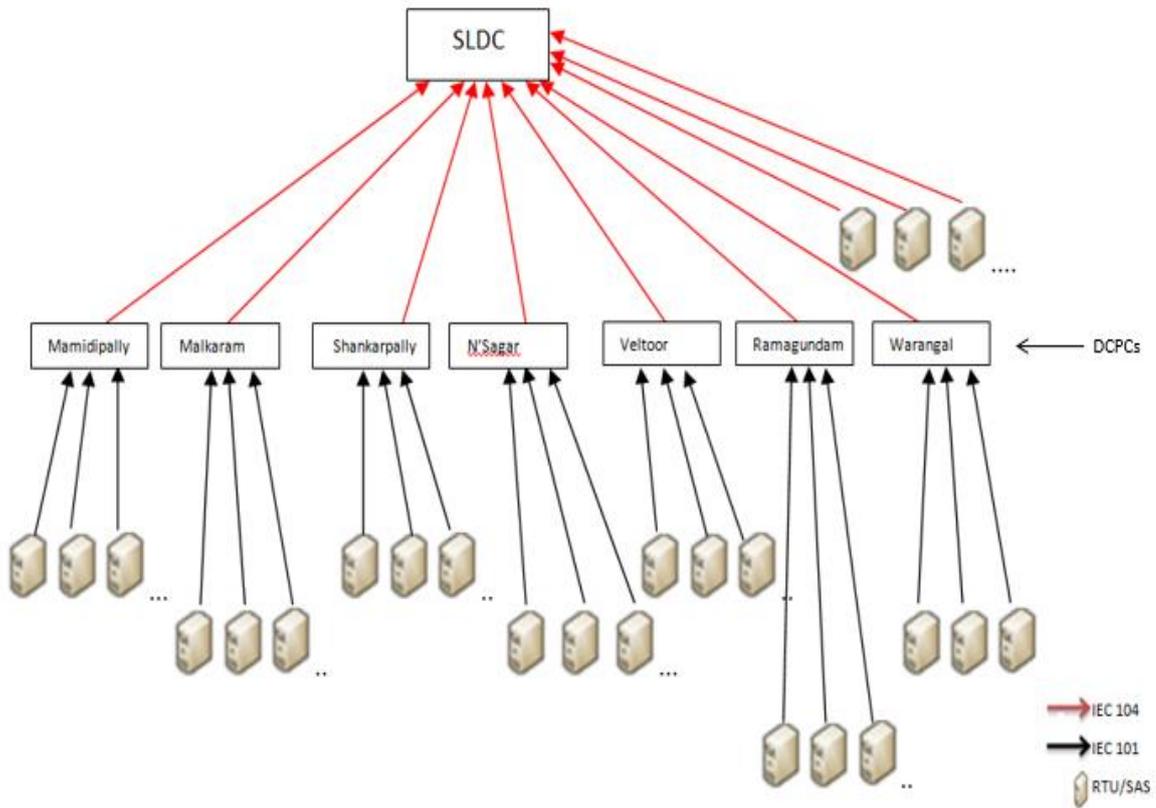
The SCADA/ EMS systems at SLDC, Hyd are upgraded with GE System (Formerly M/s.Alstom T& D Ltd) during the year October, 2015.

The Upgraded SCADA/EMS system consists of 7 Data Concentrator Cum Protocol Converter (DCPC's) located at Wide band stations namely Mamidipally, Ramagundam, Warangal, Veltloor, Shankarpally, Nagarjunsagar & Malkaram.

Each DCPC receives data from nearest RTU stations using IEC 60870-5-101 protocol, process them and then transmit the real time data to SLDC through IEC 60870-5-104 protocol for monitoring, controlling, storage and reporting. All the Real time data to DCPC is received through PLCC/Fiber communication medium. Whereas the data from DCPC's to control center is received through Fiber optic communication.

The SCADA architecture is as shown below:

SCADA ARCHITECTURE AT SLDC

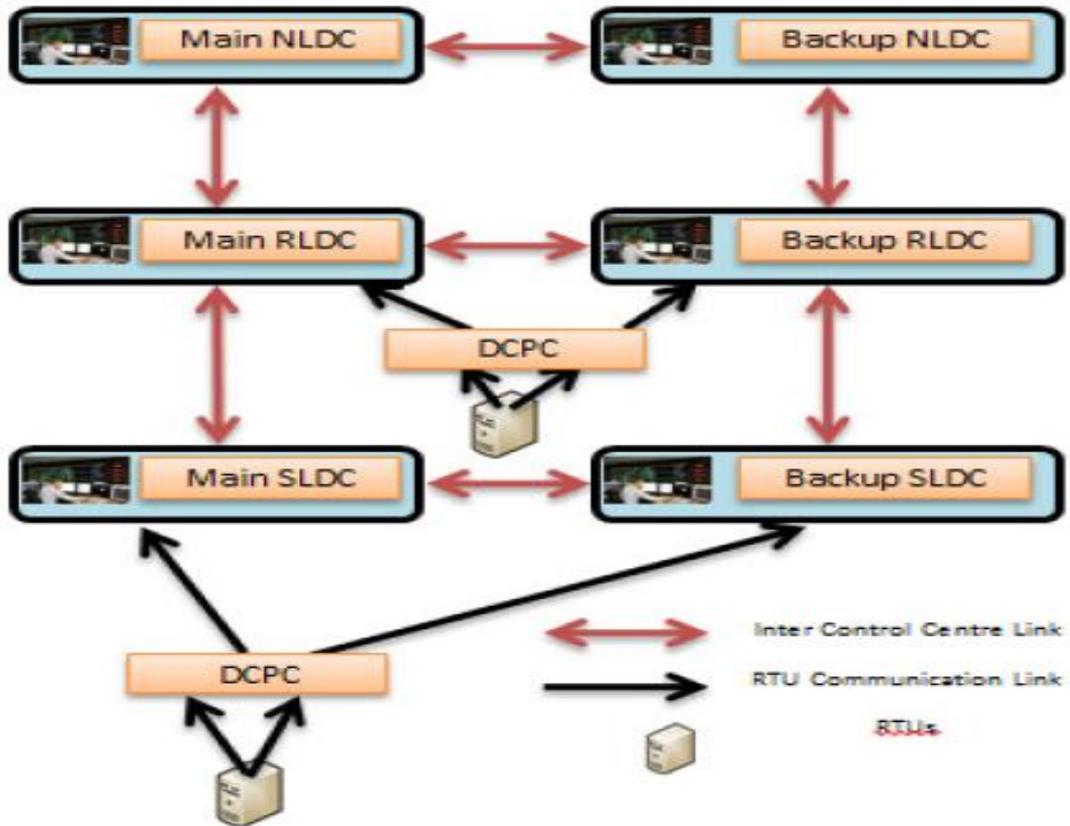


DCPC – Data Concentrator-Cum-Protocol Converter

The details of RTU reporting To DCPCs is as shown below.

Sl. No	DCPC Location	No of RTU's Stations
1	Malkaram	17
2	Mamidipally	20
3	Nagarjunsagar	11
4	Ramagundam	18
5	Shankarpally	21
6	Veltoor	13
7	Warangal	15
8	Vidyutsoudha (SLDC)	60

Main SLDC is further integrated to SRLDC (Main & back up) on ICCP link. SRLDC in turn is integrated to NLDC also on ICCP link. The Backup SLDC proposed at Warangal will be integrated to Main SLDC and backup SRLDC over ICCP link. The data connectivity network will be as shown below.



The Backup SLDC shall be a fully functional replica of the Main SLDC (with minor changes) so that it can function as a full fledged SLDC in case of any disaster. During normal course, it shall share the duties of main SLDC also.

PLANS FOR CAPITAL EXPENDITURE

1. Requirement in the Guidelines.

Plans for all Capital Expenditure. (Guidelines – 10g)

2. TSTransco's Response

A PLANS FOR CAPITAL EXPENDITURE for 220KV and 132KV Schemes

Capital works are being taken up for Power System improvements and for evacuation of power from the up-coming Generating Stations. Strengthening of the Transmission System is being planned to meet the existing and upcoming load demand, to improve the system voltage profile, to enhance the reliability of the system. The construction of new 220 KV & 132 KV Sub-stations and connected lines are being executed with the funding from M/s REC, M/s PFC and internal (TSTransco) funding.

I. SCHEMES TIED UP WITH M/s. POWER FINANCE CORPORATION

1. Erection of 132 kV lines for making LILO of (i) 2nd Circuit of 132kV Warangal – Shapurnagar DC line at 132kV SS Jangaon and (ii) 2nd Circuit of 132kV Warangal – Shapurnagar DC line at 132kV SS Kolanpak.

Sanctioned amount- 7.02 crores.

- i) Erection of 132kV DC line for making LILO line to 132kV SS Jangaon from 2nd Circuit of 132kV Warangal – Shapurnagar DC line.
- ii) Erection of 132kV DC line for making LILO line to 132kV SS Kolanpak from 2nd Circuit of 132kV Warangal – Shapurnagar DC line.
- iii) 2 Nos 132kV Bays at 132/33 kV SS kolanpak.

2. 33 kV Features at existing 220/11 kV LI Sub-Station, Bheemghanpur of Warangal District.

Sanctioned amount- 16.31 crores.

Providing of 33 kV Features at existing 220/11 kV Lift Irrigation Sub-Station, Bheemghanpur in Warangal District with 1x50 MVA PTRs (220/33KV).

3. 132/33 KV SS at Kotagiri in Warangal District

Sanctioned amount- 12.98 Crores.

- (i) Erection of 132/33 kV Sub-Station at Kotagiri in Nizamabad District with 3 X 10/16 MVA PTRs.
- (ii) Erection of 132 kV DC/SC line on Galvanised Towers with Panther ACSR from 132/33 kV Sub-Station, Jakora to the proposed 132kV Sub-Station at Kotagiri in Nizamabad District .
- (iii) 132 kV Bay extensions at 132/33 kV Sub-Station, Jakora.

4. 220/132/33 KV SS at Bowrampet in Rangareddy District

Sanctioned amount- 182.98 Crores.

- (i) Erection of 220/132/33 kV Sub-Station at Borampet with 2 X 160 MVA + 2 X 80 MVA PTR Capacities.
- (ii) 220 kV Multi Circuit OH line on MC Towers with Moose ACSR from 400kV Narsapur SS to proposed 220 kV Bowrampet SS-38 KM.
- (iii) 220 kV DC line with UG Cable from 400 kV Narsapur SS to proposed 220 kV Bowrampet SS – 5 KM.
- (iv) Erection of 220 kV Bays at 400 kV Narsapur SS.

5. Erection of 132/33 kV Sub-Station at Choppadandi in Karimnagar District.

Sanctioned amount- 19.97 crores.

- i) Erection of 132/33 kV Sub-Station at Choppadandi in Karimnagar District with 2 X 31.5 MVA PTRs.
- ii) Erection of 132 kV DC/SC line for LILO of 132 kV line from 220 kV Malyalapally Sub-Station to 220 kV Durshed Sub-Station at the proposed 132/33 kV Choppadandi Sub- Station.

6. Erection of 132/33 KV SS at Yadgirigutta Temple Town of Yadadri Bhongiri district (erst while Nalgonda District).

Sanctioned amount- 13.16 crores.

- i) Erection of 132/33 kV Sub-Station at Yadagirigutta Temple Town with 2 X 31.5 MVA PTRs.
- ii) Erection of 132 kV DC line with Panther ACSR Conductor on Galvanised Towers for LILO of 132 kV Bhongiri - Raghunathapally (Bhongir-Shapur Nagar-Kolanpak) line to the proposed 132 kV Yadagirigutta SS.

7. Feeding 132/33 kV SS Ghanpur through Ring Mains in Warangal District.

Sanctioned amount- 5.07 Crores.

- i) Stringing of 3rd conductor on the existing 132 kV Raghunathpally – Ghanpur Railway feeder so as to provide alternate supply to the 132 kV SS Ghanpur.
- ii) Erection of 132 kV Multi-Circuit (Four Circuit) line comprising of two circuits 2 Phase line and two circuits 3 phase line from 132/33 kV SS Ghanpur to Ghanpur Railway Traction Sub-Station duly providing 4 Nos. Multi circuit towers.
- iii) 2 Nos. 132 kV bay extensions at Ghanpur.

8. 132/33 kV Sub-Station at Puttandoddi (V), Itikyal (M), Mahaboobnagar District.

Sanctioned amount - 12.03 Crores.

- i) Erection of 132/33 kV Sub-Station at Puttandoddi (V), Itikyal (M), Mahaboobnagar District with 1 X 31.5 MVA (New) PTR + 1 X 10/16 MVA PTRs (Released).

- ii) Erection of 132 kV DC/SC line on Galvanised Towers with Panther ACSR for LILO of 132 kV Alampur – Gadwal line at the proposed 132/33 kV Puttandoddi Sub-Station.

9. 220/132 kV Sub-Station at Ammavaripet, Kazipet (M) in Warangal Urban District.

Sanctioned amount- 87.24 Crores.

- i) Erection of 220/132 kV Sub-Station at Ammavaripet with 2X100 MVA PTR Capacity in Warangal Dist.
- ii) Erection of 220 kV DC Line on Galvanized Towers with Moose ACSR Conductor for LILO of one circuit of 220 kV Mahabubabad - Warangal line to proposed 220 kV Ammavaripet SS.
- iii) Erection of 132 kV DC Line on Galvanized Towers with Panther ACSR Conductor from the proposed 220/132 kV Sub-station Ammavaripet to the existing 132/33 kV Sub-Station, Geesukonda.
- iv) Erection of 132 kV Line on Multi-Circuit Towers with Panther ACSR Conductor for accomdation of 132 KV Line to 132KV SS Inavole and 132KV Line to 132KV SS Wardhannapet from the proposed 220/132 kV Sub-station Ammavaripet to AP 8.
- v) Erection of 132 kV DC/SC Line on Galvanized Towers with Panther ACSR Conductor from the AP.8 to the 132/33 kV SS Inavole.
- vi) Erection of 132 kV DC/SC Line on Galvanized Towers with Panther ACSR Conductor from the AP.8 to the 132/33 kV SS Wardhannapet.
- vii) Erection of 132 kV Bays (2 Nos at 132 kV Geesukonda, 1 No at 132 KV Wardannapet & 1No at 132 kV Inavole).

10. 132/33 kV Sub-Station at Nagaram in Suryapet District.

Sanctioned amount- 23.22 Crores.

- i) Erection of 132/33 kV Sub-Station at Nagaram, Suryapet Dist with 1 X 31.5 + 1x10/16 MVA PTRs
- ii) Erection of 132 kV line with ACSR Panther Conductor on Galvanised Towers by making LILO of 132 kV DC/SC line from 400/220/132 kV Suryapet SS to 132/33 KV Thungathurthy SS at newly proposed 132/33 KV Nagaram SS

11. Stringing of 2nd circuit from 220/132 KV Kamareddy Substation to 132 KVSS Domakonda and from 132 KVSS Domakonda to 132 KVSS Biknur.

Sanctioned amount- 7.21 Crores.

- i) Stringing of 132 kV 2nd Circuit from 220/132 kV SS Kamareddy to Loc No 33-34 of existing new 132 kV DC/SC line of 132 kV SS Chippapally.
- ii) Erection of 132 kV DC/SC line from loc 33-34 of existing new 132 kV DC/SC line of 132 kV SS Chippapally to 132/33 kV SS Domakonda.
- iii) Stringing of 132 kV 2nd Circuit from 132/33 kV SS Domakonda to 132/33 kV SS Biknur.
- iv) Erection of 132 kV Bays (Domakonda - 2 Nos, Kamareddy - 1No and Biknoor - 1 No).

12. 33 KV features at 132 KV Railway Traction Switching Station, Kothagudem, Kothagudem Bhadradi District.

Sanctioned amount- 6.17 Crores.

33 KV features at 132 KV Railway Traction Switching Station, Kothagudem, Kothagudem Bhadradi District with 2 X 10/16 MVA PTRs.

13. 132/33 kV Sub-Station Padmanagar (V) in Karimnagar District.

Sanctioned amount- 13.18 Crores.

- i) Erection of 132/33 kV Sub-Station Padmanagar (V) in Karimnagar District with 2X10/16 MVA PTR capacity.
- ii) LILO of 132 KV Line (one circuit) from 220/132 KV SS Durshad to the 132/33 KV SS Siricilla to proposed 132/33 KV SS Padmanagar.

14. Up gradation of existing 132/33 KV RC Puram SS to 220/132/33 KV SS in Ranga Reddy District.

Sanctioned amount- 117.34 Crores.

- i) Up gradation of existing 132/33 KV RC Puram SS to 220/132/33 KV SS in Rangareddy Dist with 2x160 MVA PTRs.
- ii) 220 KV SMDC line from 400/220 KV Shankarpally SS to proposed 220/132/33 KV RC Puram SS on Mono poles.
- iii) Erection of 220 KV feeder Bays with 220 KV Bus extension at 400 KV Shankarpally SS.
- iv) Erection of 132 KV feeder Bays at 220/132 KV RC Puram SS.

II. SCHEMES TIED UP WITH M/s. Rural Electrification Corporation

1. 132 kV DC line from the proposed 220/132/33 kV SS Parigi to 132/33 kV SS Dharmasagar.

Sanctioned amount-19.26 Crores.

- i) 132 kV DC line from the proposed 220/132/33 kV SS Parigi to 132/33 kV SS Dharmasagar.
- ii) 132 kV Bay extensions 2 Nos. at 220/132/33 kV SS Parigi and 2 Nos. at 132/33 kV SS Dharmasagar.

2. 132/33 KV SS at Nimmapalli in Karimnagar District.

Sanctioned amount - 17.73 Crores.

- i) Erection of 132/33 kV Sub-Station at Nimmapally with 2X10/16 MVA (Released) PTRs.
- ii) Erection of 132 kV DC / SC line with Panther ACSR Conductor on Galvanised Towers from the proposed 220/132 kV SS, Sircilla to proposed 132/33 kV Sub-station at Nimmapally.
- iii) 33 kV line with 100 Sq. MM AAAC.

3. 132/33 KV SS Kandukuru in Rangareddy District.

Sanctioned amount- 20.05 Crores.

- i) 132/33 kV Substation at Kandukuru in Rangareddy with 1x31.5 + 1 x 16 MVA PTR Capacity (Radial).
- ii) 32 kV DC/SC line from proposed 220/132 kV Fab city substation to the proposed 132/33 kV Kandukuru substation on narrow based towers.
- iii) 132 kV DC/SC line from proposed 220/132 kV Fab city substation to the proposed 132/33 kV Kandukuru substation on normal towers.
- iv) 33 kV line with 100 Sqmm AAAC.
- v) 132 kV Bay extension at proposed 220/132 kV Fabcity substation.

4. Erection of 2nd circuit stringing on 132kV DC/SC line from 220kV Durshed SS to 132kV Water Works SS and 2 Nos. 132 kV bays at 220kV Durshed and 132kV Water works in Karimnagar Town substations.

Sanctioned Amount: Rs 2.18 Crores.

- i) Erection of 132 kV 2nd circuit line on under construction 132 kV DC/SC line from 22kV Durshed SS to 132kV Water Works Karimnagar Town SS.
- ii) 132 kV Bay extension at 220 kV Durshed substation.
- iii) 132 kV Bay extension at 132 kV Water Work substation Karimnagar Town.

5. 132/33 KV SS at Kondapur in Mahaboobnagar District.

Sanctioned amount- Rs.21.71 Crores.

- i) Erection of 132/33 kV Sub-Station 2 X 31.5 MVA PTRs with 4 Nos. 33KV Feeders.
- ii) Erection of 132 kV DC/SC Line with Zebra Conductor on Galvanized Towers from 132 kV SS, Maddur to the proposed 132/33 kV SS, Kondapur.
- iii) Erection of 132 kV Bays at 132 kV SS, Maddur.

6. Alternative Supply to 132 kV Chennur Substation & Kataram Substation & 220 kV SS Manthani Substation.

Sanctioned Amount: Rs.10.92 Crores.

- i) Stringing of two circuits on already approved (under construction) 132 KV Multi circuit towers from 220/132 KV SS Manthani upto Loc. No. 19 of existing 132Kv Manthani – Kataram line.
- ii) Erection of 132 kV DC line (5.00 KM) from existing Loc. No. 19 upto Loc.No. 34A, of 132 kV Manthani – Kataram line.
- iii) Stringing of 2nd circuit from newly proposed DC line (from Loc No. 34A of 132 kV Manthani – Kataram) to 132/33 kV Chennur SS on the existing DC/SC line.
- iv) Stringing of 2nd circuit from Loc. No. 34A of existing 132 kV Manthani – Kataram line to 132/33 kV SS Kataram.
- v) Erection of 132 KV bay (at 220/132 KVSS Manthan - 2 Nos., at 132 kV SS kataram - 1No.at 132 kV SS Chennur - 1 No.) Total-4Nos.

7. Erection of 132/33 kV Substation at Sarangapur in Adilabad district.

Sanctioned Amount: Rs.17.66 Crores.

- i) Erection of 132/33 kV Sub-Station at Sarangapur in Adilabad District with 3 X 10/16 MVA PTRs (Released).
- ii) Erection of 132 kV DC line on Galvanised Towers with Panther ACSR for making LILO of 132 kV Nirmal – Bhainsa line to the proposed 132/33 kV Sub-Station, Sarangapur.

8. Erection of 220 kV DC line from 400/220/132 kV SS Gajwel to 220/132 kv SS Siddipet.

Sanctioned Amount: Rs.56.94 Crores.

- i) Erection of 220 kV DC line on Galvanised Towers with Moose ACSR from 400/220/132 kV SS Gajwel to 220/132 kv SS Siddipet.
- ii) Erection of 220 KV Bays (Gajwel-2, Siddipet-2).

9. 132/33 kV Substation at Aipoor (V), Atmakoor in Nalgonda Dist.

Sanctioned Amount: Rs.18.91 Crores

- i) Erection of 132/33 kV Sub-Station at Aipoor in Atmakoor (S) Mandal of Nalgonda District with 3 X 10/16 MVA PTRs.
- ii) Erection of 132 kV DC/SC line on Galvanised Towers from 400/220/132 kV Suryapet SS to 132 kV SS Thungathurthy to the now proposed 132/33 kV SS Aipoor.
- iii) 132 kV Second Circuit Stringing on existing DC/SC line from 400/220/132 kV Suryapet SS to 132 kV SS Thungathurthy for a distance of 13.00 KM.
- iv) Erection of 132/ kV Bay at 400/220/132 kV Suryapet SS.

10. 220/33 kV GIS substation at Chanchalguda, Hyderabad Dist.

Loan Amount: Rs.80.21 Crores.

- i) Erection of 220/33 kV GIS substation at Chanchalguda with 3 X 50 MVA PTR.
- ii) Erection of 220 kV DC line with 1000 Sqmm 220 kV UG cable for LILO of Chandrayangutta - Imlibun line (UG Cable) to the proposed 220/33 kV GIS substation, Chanchalguda.

11. 132/33 kV GIS Substation at (PTO), Petlaburz, Hyderabad Dist.

Sanctioned Amount: Rs.35.94 Crores.

- i) Erection of 132/33 kV GIS substation at Police Transport Organisation (PTO), Petlaburz with 2X80 MVA PTR.
- ii) Erection of 132 kV DC line with 630 Sqmm 132 kV UG cable from the 220 kV GIS substation, Imlibun to the proposed 132/ 33 kV GS SS at Police Transport Organisation (PTO), Petlaburz.
- iii) Erection of 132 kV DC OH line on galvanised double circuit towers with Panther ACSR.

12. 220/132/33 KV SS at Meenajipet instead of 220 kV SS Toopran in Siddipet District.

Sanctioned amount- Rs.68.44 Crores.

- i) Erection of 220/132/33 kV Sub-Station at Meenajipet, with 2 X 100 MVA + 2 X 31.5 MVA PTRs With 2Nos., 220kV Incoming Feeder Bays, 4 Nos. 132 kV Feeder Bays and 4 No.33KV Feeder Bays.
- ii) Erection of 220 kV DC line with Moose ACSR Conductor on Galvanised Towers from proposed Narsapur 400/220/132 kV SS to the now proposed Meenajipet 220/132/33 kV SS.
- iii) Erection of 132 kV DC/SC Line with Panther ACSR Conductor on Galvanized Towers from the proposed 220/132/33 kV Meenajipet SS to 132/33 kV Doulathabad SS.
- iv) Erection of 132 kV DC Line with Panther ACSR Conductor on Galvanized Towers from the proposed 220/132/33 kV Meenajipet SS to 132/33 kV Thunki Bollarum SS.
- v) Stringing of second circuit from 132/33 kV Thunki Bollarum to 132/33 kV Ganeshpally SS.
- vi) Erection of 220 kV Bays at 400/220/132 kV SS Narsapur for connectivity from 400/220/132 kV Narsapur SS to the 220/132/33 kV Meenajipet SS.
- vii) Erection of 132 kV Bays at Doulathabad 132 kV SS.(1),132kV Thunki Bollarum SS (3) and 132kV Ganeshpally SS (1).

13. Erection of 132kV DC line from proposed 220/132kV SS Madugula to existing 132/33 kV Takkalapally (Yacharam) SS.

Sanctioned Amount: Rs.10.60 Crores.

- i) Erection of 132 kV DC line from 220/132/33 kV Madugula SS to 132/33kV Takkalapally (Yacharam) SS.
- ii) Erection of 132kV bays at 132/33kV Takkalapally SS.

14. 33 KV features at upcoming 220/132 KV SS Mahabubabad in Mahabubabad District.

Sanctioned Amount: Rs.7.44 Crores.

Providing of 33 kV Features at upcoming 220/132KV Substation Mahabubabad, in Mahabubabad District with Released 2X10/16 MVA.

15. Erection of 132/33 kV Sub-Station at Chinna Shankarampet in Medak District.

Sanctioned Amount: Rs.13.96 Crores.

- i) Erection of 132/33 kV Sub-Station at Chinna Shankarampet in Medak District with 2 X 10/16 MVA PTRs(Released).
- ii) Erection of 132 kV DC line for LILO of 132 kV Chegunta- Yeldurthy DC/SC line at the proposed 132/33 kV Chinna Shankarampet Sub- Station.

16. Erection of 132/33 kV Sub-Station at Pitlam in Nizamabad District.

Sanctioned Amount: Rs.35.80 Crores

- i) Erection of 132/33 kV Sub-Station at Pitlam in Nizamabad District with 2 X 31.5 MVA PTRs.
- ii) Erection of 132 kV DC/SC line from 220/132/33KV Banswada SS to the proposed 132/33 kV Pitlam Sub- Station.

17. 2nd circuit stringing on existing 132 KV DC/SC line from 132/33 KV SS Amangal to 132/33 kV SS Keshampet in Mahabubnagar District.

Sanctioned Amount: Rs.7.81 Crores.

- i) 2nd circuit stringing on existing 132 KV DC/SC line from 132/33 KV SS Amangal to 132/33 kV SS Keshampet with Panther ACSR Conductor.
- ii) Erection of 132 KV bays extension (at 132/33 KV SS Amangal - 1 No. and at 132/33 kV SS Keshampet 1 No.) TOTAL-2Nos.

18. 220/132/33 kV Substation at Kachavani Singaram in Rangareddy Dist.

Sanctioned Amount: Rs.40.32 Crores.

- i) Erection of 220/132/33 kV Sub-Station at Kachavani Singaram with 2 X 100 MVA + 2 X 50 MVA PTR Capacities.
- ii) Erection 220 kV DC line on Galvanized Towers with Moose ACSR for LILO of circuit – II of the existing 220 kV Ghanapur SS – 220 kV Hayathnagar SS to the proposed 220 kV Sub-Station, Kachavani Singaram.
- iii) Erection 220 kV DC line on Galvanized Towers with Moose ACSR for LILO of circuit – I of the existing 220 kV Ghanapur SS – 220 kV Chandrayangutta SS to the proposed 220 kV Sub-Station, Kachavani Singaram.
- iv) Erection of 132 kV DC line on Galvanized Towers with Invar ACSR for LILO of circuit – II of the 132 kV Ghanapur – Bandlaguda line to the proposed 220/132/33 kV Sub-Station, Kachavani Singaram.
- v) Erection of 132 kV DC line on Galvanized Towers with Panther ACSR for LILO of circuit – II of the 132 kV Ghanapur – Moulali line to the proposed 220/132/33 kV Sub-Station, Kachavani Singaram.

19. Erection of 132/33 kV SS at Gachibowli in Rangareddy Dist.

Sanctioned Amount: Rs.16.52 Crores.

- i) Erection of 132/33 kV Sub-Station at Gachibowli with 2X80 MVA PTR.
- ii) Erection of 132 kV DC OH line on galvanized towers with Panther ACSR from 220/132/33 kV Gachibowli SS to the proposed 132/33 kV Gachibowli SS.

20. 132/33 kV GIS substation at Seetharambagh in Hyderabad Dist.

Sanctioned Amount: Rs.57.30 Crores.

- i) Erection of 132/33 kV GIS substation at Seetharambagh with 2X80 MVA PTR.
- ii) Erection of 132 kV DC line with 630 Sqmm 132 kV UG cable from Asifnagar Sub-Station to the proposed 132/33 kV GIS substation at Seetharambagh.
- iii) 132 kV Bay extensions at Asifnagar substation.

21. 132/33 kV IDA Mallapur Sub-Station in Medchal-Malkajgiri District.

Sanctioned Amount: Rs.16.81 Crores.

- i) Erection of 132/33 kV AIS substation at IDA Mallapur with 1X80 + 1X50 MVA PTR.
- ii) Erection of 132 kV DC OH line on galvanised NB towers with Panther ACSR for LILO of 132 kV Ghanapur - Moulali line at the proposed 132 kV IDA Mallapur SS.

22. 132/33 kV Substation at Moulali ZTS in Medchal-Malkajgiri district.

Sanctioned Amount: Rs.44.47 Crores.

- i) Erection of 132/33 kV Moulali ZTS SS with 2X50 MVA PTR.
- ii) Erection of 132 kV DC line with 630 Sqmm 132 kV UG cable from 220 kV Moulali Sub-Station to the proposed Moulali ZTS SS.
- iii) 132 kV Bay extensions at 220 kV Moulali substation.

23. 132/33 kV AIS/GIS Substation at R.P. Nilayam in Medchal-Malkajgiri District

Sanctioned Amount: Rs.42.89 Crores.

- i) Erection of 132/33 kV Sub-Station at R.P.Nilayam (132 kV Conventional & 33 kV GIS) with 2X80 MVA PTR. Conventional Part 132 kV side. GIS Part 33 kV side
- ii) Erection of 132 kV DC line with 630 Sqmm 132 kV UG cable for LILO of Moulali - Shapurnagar line to the proposed 132 kV RPNilayam SS.
- iii) Erection of 132 kV DC OH line on galvanised double circuit towers with panther ACSR.

24. Erection of 132 kV DC/SC line from under construction 220kV Chegur (Kothur) Sub-Station to the existing 132/33 kV Kothur Sub-Station.

Sanctioned Amount: Rs.5.11 Crores.

- i) Stringing of 2nd circuit on 132KV DC/SC line from existing 220/132KV SS Waddekothapally to existing 132/33KV SS Peddanagaram with Panther ACSR Conductor.
- ii) Erection of 132 KV feeder bays (at 220/132 KVSS Waddekothapally - 1 Nos. and at 132 kV SS PeddaNagaram 1 No.) TOTAL-2Nos.

- 25. Stringing of 2nd Ckt in 132KV DC/SC line from Waddekothapally to Peddanagaram and erection of 132KV feeder bays at 220/132KV Waddekothapally SS and 132/33KV SS Peddanagaram to meet N-1 Contingency.**

Sanctioned Amount: Rs.6.32 Crores.

- i) Stringing of 2nd circuit on 132KV DC/SC line from existing 220/132KV SS Waddekothapally to existing 132/33KV SS Peddanagaram with Panther ACSR Conductor.
 - ii) Erection of 132 KV feeder bays (at 220/132 KVSS Waddekothapally - 1 Nos. and at 132 kV SS PeddaNagaram 1 No.) TOTAL-2Nos.
- 26. 132 kV features at 220 kV Thimmajipet Switching Station in Mahaboobnagar District and extending connectivity to 132 kV Jadcherla Sub-Station from Thimmajipet.**

Sanctioned Amount: Rs 26.38 Crores.

- i) Erection of 132 KV features at 220 kV Thimmajipet Switching Station with 2 X 100 MVA PTR Capacity.
 - ii) Erection of 132 kV DC line on Galvanised Towers with Panther ACSR from the existing proposed 220/132 kV Thimmajipet Sub-Station, to the existing 132/33 kV Jadcherla Sub-Station.
 - iii) 132 kV Bay extensions at 132/33 kV Sub-Station, Jadcherla.
- 27. Connecting the existing 132 kV Shapurnagar – Bhongir – Aleru idle line to 400/220/132 kV Malkaram Sub-Station.**

Sanctioned Amount: Rs 17.93 Crores.

- i) Laying of 132 KV XLPE UG cable 630 SQ mm for Connecting the existing 132 kV Shapurnagar – Bhongir – Aleru idle line to 400/220/132 kV Malkaram Sub-Station (Cable line length - 2 KM).
 - ii) Second circuit stringing of existing 132 KV DC/SC line for connecting the existing 132 kV Shapurnagar – Bhongir – Aleru idle line to 400/220/132 kV Malkaram Sub-Station.
 - iii) 132 KV Bay Extensions - 2 Nos (1 No at 220 KV SSShapurnagar and 1 No at 400 KV SS Malkaram).
- 28. Erection of 132/33 kV Sub-Station at Tallapet in Adilabad District.**

Sanctioned Amount: Rs 14.63 Crores

- i) Erection of 132/33 kV Sub-Station at Tallapet in Adilabad District with 3 X 10/16 MVA Released PTRs
- ii) Erection of 132 kV DC line for LILO of upcoming 132 kV Dharmapuri - Luxettipet at the proposed 132/33 kV SS, Tallapet

29. Erection of 132 kV DC/SC line from existing 132/33KV Zaheerabad Sub-Station to the existing 132/33 kV Narayankhed Sub-Station in Medak District.

Sanctioned Amount: Rs 54.32 Crores

- i) Erection of 132 kV DC/SC line from Existing 132/33KV Zaheerabad Sub-Station to the existing 132/33 kV Narayankhed Sub-Station.
- ii) Erection of 132kV bay at 132/33kV Zaheerabad SS and 132/33KV Narayankhed SS

30. Erection of 132/33 kV Sub-Station at Pammy in Khammam District.

Sanctioned Amount: Rs 20.64 Crores

- i) Erection of 132/33 kV Sub-Station at Pammy in Khammam District with 2 X 31.5 MVA PTRs
- ii) Erection of 132 kV DC line for LILO of 132 kV Kusumanchi-Chilakallu line at the proposed 132/33 kV Pammy Sub- Station

31. Erection of 132/33 kV Sub-Station at Peechara in Warangal District.

Sanctioned Amount: Rs 39.10 Crores

- i) Erection of 132/33 kV Sub-Station at Peechara, Warangal Dist with 2 X 31.5 MVA PTRs
- ii) Erection of 132 kV DC line with HTLS Conductor on Galvanised Towers by making LILO of existing 132 kV line from 220/132/33KV Waranagal SS to 132/33KV Jangaon SS at proposed 132/33KV Peechara SS.

III. SCHEMES TO BE TIED UP WITH FUNDING AGENCIES

- i) Erection of 132/33 kV Gas Insulated Sub-Station (GIS) at Manikonda in Ranga Reddy District along with connected line with 132 KV XLPE UG cable.**

Scheme cost: Rs.107.18 Crores

- (i) Erection of 132/33 kV GIS Sub-Station at Manikonda with 2 X 80 MVA PTRs.
- (ii) LILO of existing 132 kV Shivarampally-Erragadda SC OH feeder between Loc No.80 and Loc No.81 with laying of 132 KV XLPE UG cable of 1200 Sq mm for cable length of 2.5 Km.

- ii) Erection of 400/220 kV, 1X315 MVA ICT at Bhadradi Thermal Power Station (BTPS) switch yard, Manuguru, TSGENCO and erection of 220 KV DC line from 220/132/33 KV Manuguru SS to 400 KV BTPS switch yard in Badradri Kothagudem district.**

Scheme cost: Rs.66.56 Crores

- (i) Supply, Erection, Testing & Commissioning of 400/220 kV, 1X315 MVA Auto Transformer along with PTR Bays and Bus coupler including civil works at BTPS.
- (ii) Erection of 220 KV DC line from 220/132/33 KV Manuguru SS to 400 KV Bhadradi Thermal Power Station switch yard.
- (iii) Erection of 220 kV Bays (2 Nos at 220 kV Manuguru, 2 Nos at BTPS).

- iii) Erection of 33 kV Features at upcoming 220/132 KV Sub-Station, Ammavaripet in Kazipet (M), Warangal Urban (District).**

Scheme cost: Rs.8.10 Crores

- (i) Providing of 33 kV Features at upcoming 220/132 KV Sub-Station, Ammavaripet in Kazipet (M), Warangal Urban (District) with Released 2X50 MVA PTRs.

- iv) Erection of 132/33 KV Sub-Station at Patancheru in Sangareddy District (erstwhile Medak District).**

Scheme cost: Rs.23.64 Crores

- (i) Erection of 132/33 kV Sub-Station at Patancheru, Sangareddy Dist with 2 X 31.5 MVA PTRs
- (ii) Erection of 132 KV DC/SC line with ACSR Panther conductor from Loc.no.16 (of existing 132 KV line from RC Puram to M/s MHPL) to proposed 132/33 KV Patancheru substation on Narrow Base Towers.

IV. PLANNED NEW SCHEMES:

- i) Up-gradation of existing 132/33kV Asifabad to 220/132/33 kv SS in Komaram Bheem Asifabad dist.
- ii) 132/33kV SS with connected line at Dhantanpur in Karimnagar District
- iii) 132/33 kV Ramasagar Karimnagar District
- iv) 132/33 KV Bommalamaram SS Nalgonda Dist
- v) 132/33 KV SS Kajjarla, Adilabad District
- vi) 132/33 KV SS Raparthy, Medak District
- vii) Erection of 220 KV DC line from 400/220/132 KV Narsapur SS to 220/132/33 KV SS Minpur in Medak District.
- viii) 220kV Substation with connected line and bay at Pharma City-I, Muchharla in Rangareddy Dist.
- ix) 220kV Substation Muchharla with connected line and bay at Pharma City-II Muchharla in Rangareddy Dist.
- x) 220/132/33 kV SS at Gopanpalli in Rangareddy Dist
- xi) 132kV Substation with connectd line at Pharma City-I in Rangareddy Dist
- xii) 132kV Substation with connectd line at Pharma City-II in Rangareddy Dist.
- xiii) 220/33 kV GISS at Knowledge Park, T-Hub, Hyderabad
- xiv) 220/132 kV SS with connected line and bay at Venkatapur in Mulugu District.
- xv) 220 KV DC line from 220/11 KV Gudipalligattu LIS to 220 KV Nagarkurnool SS including bays.
- xvi) 132/33 kV SS with connected line at Somaram Warangal District
- xvii) 132/33 KV SS Devarakonda, Nalgonda Didtrict
- xviii) 132/33 KV SS with connected line & bay at Wankidi, Adilabad District
- xix) 132 KV LILO (6 km) of 132 KV Mulugu-Chelpur-Kamalapur line on Multi circuit towers to proposed 220/132 KV SS Venkatapur
- xx) 132 KV DC/SC line (37 km) from 220/132 KV SS Nagarkurnool to 132/33 KV Achampet SS
- xxi) 132/33 KV sub stations at Nandigama & Chowderguda in shadnagar Rangareddy District
- xxii) 132/33 KV SS with connected line & bay at Chada, Nalgonda District
- xxiii) 220 KV features at 132/33 KV SS kandukur in Rangareddy Dist.
- xxiv) 220 KV SS Abdullapurmet in Rangareddy Dist
- xxv) 132/33 KV SS with connected line & bays at pangal, Mahabubnagar Dist.
- xxvi) 132/33 KV SS with connected line at Vanamvarikistapuram, Khammam Dist.
- xxvii) 132/33 KV SS with connected line & bay at Aziznagar, Rangareddy District.
- xxviii) 33 KV features at 220/11 KV Vemnur in Karimnagar Dist

B. Plans for Capital Expenditure for 400kV Schemes

1. KTPS VII Stage (1 X800MW) Power Transmission Scheme (on going)

The scheme consists of erection of 400/220 kV SS at Jangoan along with the associated 400kV, 220 kV and 132 kV Transmission Net Work.

- i. Erection of 400/220kV Sub-Station at Jangaon, Janagaon District with 3 X 500MVA.
- ii. KTPS Stage – VII Switchyard to proposed 40/220/132kV Julurupadu (Bommanapalli) Sub-Station by Quad Moose DC line – 39 kms.
- iii. 400kV Quad Moose DC line from proposed Julurupadu 400/220/132kV SS to proposed 400/220kV Sub-Station at Jangaon– 170kms.
- iv. 400kV Quad Moose DC line from proposed 400/220kV Sub-Station at Jangaon to proposed 400kV Tippapur LI SS – 70 kms.
- v. 400kV Quad Bay Extensions at 400/220kV Julurupadu SS for Jangaon Line-- 2 Nos
- vi. 400kV Quad Bay Extensions at 400 kV Tippaur LI SS for Jangaon Line-2Nos
- vii. Up gradation of 132/33kV Jangaon Sub Station to 220/132/33kV Jangaon Sub Station with 2X100 MVA in Janagaon Dist.
- viii. Erection of 220/132/33kV Sub-Station at Husnabad with 2 X 100MVA and 2X 50 MVA
- ix. 220kV line with Multi circuit towers for making LILO of 220kV Waddekothapally-Bhongiri DC line (both circuits) to proposed 400kV SS Jangaon with Single moose conductor—26kMs
- x. 220kV DC line for making LILO of 220kV KTPS-Shahpurnagar SC line to proposed 400kV SS Jangaon with Single moose conductor—8.5kMs
- xi. 220kV DC line for making LILO of 220kV KTPS-Shahpurnagar SC line to 220/132kV SS Waddekothapally with Single moose conductor—24kMs
- xii. 220kV Single Moose DC line from proposed 400/220kV Jangaon SS to proposed upgraded 220/132/33kV Jangaon Sub-Station – 15 kms.
- xiii. 220kV Single Moose DC line from proposed 400/220kV Jangaon SS to proposed 220/132/33kV Husnabad Sub-Station – 60 kms.
- xiv. 220kV Bay Extensions at 400kV Jangaon SS for LILO of Waddekothapally to Bhongir DC line--4Nos
- xv. 220kV Bay Extensions at 400kV Jangoan SS for LILO of KTPS-Shapurnagar SC line – 2 Nos.
- xvi. 220kV Bay Extensions at 220kV Waddekothapally SS for LILO of KTPS-Shapurnagar SC line-2 Nos.

- xvii. 132kV 2nd circuit stringing on existing 132kV DC/SC Husnabad-Palamaukula line—35Km
- xviii. 132kV line with Multi Circuit towers for making double LILO of 132kV Husnabad-Palamakula DC line to proposed 220/132/33kV Husnabad SS—2kms
- xix. 132 kV Bay Extensions at Husnabad 132 kV SS and Palamakula 132kV SS-2 Nos

- Administrative approval was accorded vide T.O.O.(CE-Construction) Ms.No.107, Dt:18.06.2015 and approximate cost of the scheme is Rs.1134.14 Crores (including IDC of Rs.101.14 Crores).
- However due to revisions in 220 kV lines, the revised Admin approval was issued on 11.09.2017 at an estimated cost of Rs.1412.53Cr (including IDC of Rs.105.61 Crores)

2. Telangana STPP-I (2X800 MW) Power Evacuation Scheme (ongoing Scheme)

The scheme is proposed for evacuation of power from Telangana STPP Phase-I (2x800 MW). The scheme consists of construction of 400/220/132kV Sub Station at Ramadugu and along with associated Transmission Network.

- i. 400/220kV Ramadugu SS with 2x500MVA
- ii. 400kV QMDC line from Telangana STPP stage - I (2x800MW) to 400/220kV Ramadugu SS (Multi Circuit Towers 6KM and Conventional Towers 49KM) – 55KM
- iii. 400kV Quad Moose Line from proposed Telangana STPP stage - I (2 x 800MW) to 400kV Narsapur Sub-Station – 170KM
- iv. 400kV Quad Feeder Bay extensions at 400kV Narsapur SS – 2 Nos
- v. LILO of both circuits of 220kV Durshed-Sircilla Line to 400/220kV Ramadugu Sub-Station on Multi-circuit towers – 12KM
- vi. LILO of 220kV Malyalpalli-Bheemgal Line to 400/220kV Ramadugu Sub-Station-35KM
- vii. 220kV Single Moose DC Line from proposed 220kV Bowrampet Sub-Station to existing 220kV Miyapur Sub-Station-35KM
- viii. 220kV Single Moose DC Line from proposed 220kV Bowrampet Sub-Station to existing 220kV Shapurnagar Sub-Station-35KM
- ix. 220kV Bay Extensions at Miyapur SS-2Nos, Shahpurnagar SS-2Nos. and Bowrampet SS– 4Nos.

- Administrative approval was accorded to “Telangana STPP-I (2x800MW) Power Evacuation Scheme” vide T.O.O.(CE-Projects-I) Ms.No.34,Dt:25.11.2016 at an estimated amount of Rs.2,350.50 Crores including IDC.
- The subject Scheme envisaged construction of 400kV Nedunuru SS and connected network for evacuation of power from Telangana STPP-I. However due to constraint in land acquisition for construction of 400kV Nedunuru SS, the connectivity was revised. The revised scheme was formulated as per the field feasibility and contemplates construction of a conventional 400kV Substation adjacent to the 400kV Ramadugu Lift Irrigation Substation.
- Revised Administrative approval was accorded to “Telangana STPP- I (2X800 MW) power Evacuation Scheme” vide T.O.O.(CE-400kV) Ms.No.104, Dt:12.07.2017 at an estimated cost of Rs. 1,151.60 Crores and Interest During Construction of Rs.105.26Crores (i.e.Rs.1,256.86 Crores including IDC).

3. Rayadurg System Improvement Scheme(ongoing):

The scheme consists of construction of 400/220/132kV GIS Sub Station at Rayadurg, Rangareddy District and connected network.

- 400/220/132KV GIS Substation at Rayadurg—2x500+2x160MVA
- 400KV DC Line from Kethireddypally SS to Proposed Rayadurg SS—43kMs
 - 400kV Twin HTLS DC line on Quad Conventional Towers from Kethiredypally SS to AP-41—29kM
 - 400kV Twin HTLS DC line on Monopoles from AP-41 to AP-75 (ORR Junction)—11kM
 - 400kV XLPE UG Cable from AP-75 (ORR Junction) to proposed 400kV GIS Rayadurg—3kM
- 400kV Quad Bay Extensions at 400/220/132kV Kethireddypalli SS—2Nos
- LILO of 220kV Gachibowli – Shivarampally line to proposed Rayadurg SS - UG cable-- 4.50kMs
- LILO of 220kV Gachibowli – Shapurnagar Line to proposed Rayadurg SS - UG cable-- 5kMs
- LILO of 220kV Gachibowli – Miyapur Line to proposed Rayadurg SS – UG cable—6.5kMs
- LILO of 220kV Gachibowli – Erragadda Line to proposed Rayadurg SS - UG cable-- 5kMs
- 132kV DC line from proposed Rayadurg GIS to 132kV Madhapur SS - UG cable –3.2kMs and 132kV Bay extensions at 132kV Madhapur SS
- 132kV DC line from proposed Rayadurg GIS to 132kV Jubilee Hills SS - UG cable--7kMs and 132kV Bay extensions at 132kV Jubilee Hills SS

- x. LILO of 132kV Erragadda – Shivarampally SS SC line to proposed Rayadurg SS - UG cable—3.5kMs
- Administrative approval was accorded vide T.O.O.(CE-Projects-I) Ms.No.44, dated 22.03.2017 for Rayadurg System Improvement Scheme with an estimated cost of Rs.1843.72 Crores including IDC.
- Revised Administrative approval was accorded vide T.O.O.(CE-400kV) Ms.No.79 Dt:13.04.2018 “Rayadurg System Improvement Scheme” at an estimated cost of Rs. 1669.00 Crores and Interest During Construction of Rs. 117.40 Crores

4. 765kV Wardha - Hyderabad Link Transmission Scheme (ongoing):

The scheme consists of erection of 400 kV Sub-station at Maheshwaram and Kethireddypalli along with the associated 400 kV and 220 kV Transmission Net Work.

- i. 400/220kV Maheshwaram Substation – 2 x 500 MVA.
- ii. 400kV Quad Moose DC Line from Maheshwaram 400/220kV Substation to Maheshwaram 765/400kV (PGCIL) SS -1.5 km.
- iii. 400kV Twin Moose DC Line from proposed Maheshwaram 400/220kV Substation to Shankarapally 400 kV SS (to be established by re-alignment of the ‘LILO of Srisailam – Mamidipalli at Shankarpalli’ and re-instating the Srisailam – Mamidipalli 400kV DC line)-6.5 km
- iv. Bay extensions at Maheshwaram 765/400kV (PGCIL) SS – 2 Nos.
- v. 400/220/132kV Kethireddypalli (Manikonda) SS – 2 x 315 MVA 2x100MVA.
- vi. LILO of both Circuits of Suryapeta -Shankarpally Quad Moose D/C Line to Kethireddypalli 400/220/132 kV SS-25 km.
- vii. 400kV QMDC line from 400kV Dichpally SS to 400kV Nirmal SS—60kMs
- viii. LILO of both circuits of 400kV TMDC line from Dindi-Mamidipally to 400kV Maheshwaram SS on Multi circuit towers—4.5kMs
- ix. 400kV Quad Bay extensions at 400kV Dichpally SS—2 Nos
- x. 400kV Quad Bay extensions at 400kV Maheshwaram SS-4 Nos
- xi. LILO of both circuits of 220kV Dindi- Bongulur at Maheshwaram 400/220kV SS on 220kV Multi-Circuit Towers – 10 km.
- xii. 220kV features at existing 132/33kV Madgula Sub Station – 2x100 MVA.
- xiii. LILO of both circuits of 220kV Dindi- Bongulur at Proposed Madgula 220kV SS on Multi Circuit Towers-4 km.
- xiv. a) 220kV DC line from Proposed Maheshwaram 400/220kV SS to Fabcity 220kV SS – 22 km.

- b) Part of 220kV DC line from Proposed Maheshwaram 400/220kV SS to Fab city 220kV SS on Narrow based Multi Circuit Towers-4 kM.
- xiv. Erection of 220kV Bays at Fab city 220/132kV Sub-station - 2 Nos.
- xv. 220/132/33 kV Kothur Sub Station-2 x 160 + 2 x 80 MVA.
- xvi. LILO of one circuit of 220kV Mamidipally - Shadnagar Line at Proposed Kothur 220kV SS – 3KM
- xvii. LILO of one circuit of 220kV Shamshabad - proposed 400/220/132kV Kethireddypalli (Manikonda) SS Line at Proposed Kothur 220kV SS-13 kM.
- xviii. LILO of one circuit of 220kV Shamshabad - Yeddumailaram Line and both circuits of 220kV Shadnagar - Shankarpally Line to proposed 400/220/132kV Kethireddypalli (Manikonda) SS on 220kV Multi-Circuit Towers -3 kM.
- xix. Erection of 132/33kV SS Kanakamamidi with Automation Panels with all provisions of 220kV except 220kV incoming feeder Bays and 220/132kV Power Transformer Bays – 2 x 80MVA.
- xx. 220kV DC line from proposed 400/220/132kV Kethireddypalli (Manikonda) SS to 132/33kV Kanakamamidi SS on 220kV Narrow Based Multi Circuit Towers – 5 kM.
- xxi. 220/132kV Sub-Station at Banswada – 2 x 100 MVA.
- xxii. 220kV DC line from 400/220kV SS Dichpally to proposed 220/132kV SS Banswada – 60 kM.
- xxiii. Erection of 220kV Bays at 400/220kV Sub-station at Dichpally - 2 Nos.
- xxiv. 220kV TMDC line from 400kV Dichpally SS to 220kV Dichpally SS—5 kMs
- xxv. Erection of 220kV Bays at 220kV Dichpally SS – 2 Nos.
- xxvi. Erection of 220kV Bays at 400kV Dichpally SS – 2 Nos.
- Administrative approval was accorded vide T.O.O.(CE-Construction) Ms.No.146, Dt:05.08.2015 at an estimated cost of Rs.786.34 Crores (including IDC of Rs.90.95 Crores).
 - The revised Admin approval was accorded vide T.O.O.(CE-400kV) Ms.No.105, Dt:15.07.2017 at an estimated cost of Rs.1279.05 Crs (including IDC of Rs.100.08 Crores) duly incorporating additional lines to provide additional outlet for SCCL power plant (2x600MW), an alternate supply to Maheshwaram SS and to draw the 1000MW power from Western grid through 765kV Wardha line and discarding the certain 220kV lines in order to decrease the system losses.

5. Nirmal Power Transmission Scheme(ongoing):

The scheme consists of erection of 400 kV Sub-Station at Nirmal along with associated 400kV and 220 kV Transmission Net Work system for evacuation of Power from M/s SCCL (2x600 MW) and for upcoming 1 X 800 MW Units.

The scheme consists the following:

- i. Erection of 400/220kV SS at Nirmal with 3 x 315MVA Transformers.
 - ii. 400kV QMDC Line from 400kV SCCL to proposed 400/220kV Nirmal Substation—145kMs.
 - iii. Up gradation of 132/33 kV Renjal SS to 220/132 kV Renjal Sub Station with 2x100MVA
 - iv. Erection of 220/132kV Sub-Station at Indravelly in Adilabad District with 2x100MVA
 - v. 220kV Multicircuit line for making LILO of existing 220kV RSS(Malyalpalli) – Nirmal and RSS-Vemnur-Nirmal DC line to existing 220/132kV Jagityal Substation—3 kMs
 - vi. 220kV DC Line from proposed 400/220kV Nirmal SS to the existing 220kV Nirmal SS on Multi circuit towers—5kMs
 - vii. 220kV DC Line from proposed 400/220kV Nirmal SS to the proposed up graded 220/132 kV Renjal SS –68kMs
 - viii. 220kV DC Line from proposed 400/220kV Nirmal SS to the proposed 220/132kV Indravelly SS—110kMs
 - ix. 220kV Bay Extensions at 220kV Jagityal SS—4Nos
 - x. 132kV DC Line from proposed 220/132 kV Indravelly SS to 132/33 kV Utnoor SS –15kMs
 - xi. DC line with Single moose from proposed 220/132 kV Indravelly SS to 132/33kV Asifabad SS on 220kV Galvanized DC towers–74kMs
 - xii. 132kV LILO line to the proposed 220/132kV SS Indravelly from Loc No.211 (R+3) of existing 132kV Ichoda – Adilabad Line –40kMs
 - xiii. 132kV DC line from Proposed 220/132 kV Indravelly SS to the existing 132kV Adilabad SS–67kMs
 - xiv. 132kV Bay Extensions Utnoor-2Nos, Asifabad -2Nos , Adilabad – 2Nos
 - xv. Procurement of Emergency Restoration System – 1 No.
- An Administrative approval was accorded by erstwhile APTRANSCO vide T.O.O.(CE-Construction/ 400KV) Ms.No.161, Dated. 21-08-2012 with an estimated cost of Rs. 604.34 Crores, including interest during construction (IDC).
 - However, the scheme is revised due to changes in downstream connectivity. Hence revised Administrative approval is accorded for “Nirmal Power Transmission

Scheme” vide T.O.O. (CE-400kV) Ms.No.07 Dated: 09.01.2018 at an estimated cost of Rs.1,151.05 Crs. including IDC (cost of scheme is Rs.1,072.44 Crores and Interest During Construction is Rs.78.61 Crores).

6. Dindi System Improvement Scheme(ongoing):

The scheme consists of erection of 400 kV SS at existing 220 kV Dindi switching station along with the associated 400 kV and 220 kV system.

- i. 400/220kV Dindi Sub-Station – 2x315 MVA
 - ii. 400kV LILO Line of Srisailam – Mamidipally TMDC Line to 400kVSS Dindi. – 15 KM
 - iii. 400kV LILO Line of NagarjunaSagar – Gooty SC Line to 400kVSS Dindi. – 10 KM
 - iv. Erection of 220 kV features at 132/33 kV Sub-Station at Nagarkurnool – 2x100 MVA
 - v. 220kV DC Line from 400kVSS Dindi to existing 220 kV Kondamallepally Sub-Station. - 35 KM
 - vi. 220kV DC Line from 400kVSS Dindi to proposed 220 kV Nagarkurnool Sub-Station. – 43 KM
- Administrative approval was accorded vide T.O.O.(CE-Projects-I) Ms.No.116, Dt:02.07.2015 with an estimated cost of Rs.379.23 Crores (including IDC of Rs.44.70 Crores).
 - The revised Admin approval was accorded vide T.O.O.(CE-Projects-I) Ms.No. 8, 19.01.2016 with an estimated cost of Rs.321.54 Crs (including IDC of Rs.34.92 Crores) due to certain modification in downstream network of 400/220kV SS at Dindi.

7. Bhadradi Thermal Power Transmission Scheme (on going):

The scheme consists of erection of 400/220 kV SS at Julurupadu along with the associated 400 kV & 220 kV Transmission Net Work.

- i. Erection of 400 kV Quad Moose DC Line from Manuguru TSGENCO plant Switchyard to 400/220kV Julurupadu (Bommanapalli) SS – 100 kMs.
- ii. Erection of 400 kV Quad Moose DC Line from 400/220kV Julurupadu (Bommanapalli) SS to existing 400kV Khammam (PGCIL) SS – 50 kMs.
- iii. Erection of 400 kV Quad Moose DC Line from 400/220kV Julurupadu (Bommanapalli) SS to 400/220/132 kV Suryapeta SS – 125 kMs.
- iv. Erection of 400/220kV Julurupadu (Bommanapalli) SS with 2 x 315 MVA capacity.

- v. Erection of 400 kV Bay extensions at Suryapet 400/220 /132 kV SS—2Nos
 - vi. Erection of 400 kV Bay Extensions at 400 kV Khammam (PGCIL) SS—2Nos
 - vii. Erection of 220/132/33kV Kallur SS with 2 x 100 + 2 x 50 MVA capacity.
 - viii. Erection of 132/33kV Chandragonda SS with 2 x 31.5 MVA capacity.
 - ix. Erection of 220 kV Single Moose DC Line from 400/220kV Julurupadu (Bommanapalli) SS to 220/132/33kV Kallur SS – 70kMs.
 - x. Erection of 132 kV DC Line from proposed 220/132kV Peddagopati to existing 132/33kV SS Madira - 40kMs.
 - xi. Erection of 132 kV line with Multi-Circuit towers for making LILO of existing 132kV Budidampadu – Penubali & 132kV Thallada- Penuballi DC Line- 4 kMs.
 - xii. Erection of 132 kV DC Line from proposed 220/132kV Peddagopati to 132/33kV SS Thallada - 30kMs.
 - xiii. Erection of 132 kV Line with Multi-Circuit towers for making LILO of existing 132kV Khammam-Chilakallu DC line to proposed 220/132kV Peddagopati - 30kMs.
 - xiv. Erection of 132 kV Single Zebra DC/SC Line from proposed 220/132/33kV Kallur to proposed 132/33kV Chandragonda SS - 30kMs.
 - xv. Erection of 132kV Bay extensions at Madira 132/33kV SS—2 Nos
 - xvi. Erection of 132kV Bay extensions at Tallada 132/33kV SS—2 Nos
- Administrative approval was accorded vide T.O.O.(CE-Construction) Ms.No.103, Dt: 05-06-2015 with an estimated cost of the scheme of Rs.1,280.73 Crores (including IDC of Rs. 101.12 Crores)
 - The revised Admin approval was issued on 29.04.2016 at an estimated cost of Rs.1200.95 Crs and IDC of Rs.103.41 Crs due to changes in scope of downstream works.

8. Jaipur Power Transmission Scheme (ongoing):

The scheme consists of the following:

- i. Erection of 400/ 220 /132 kV Substation at Narsapur (3x315 MVA and 2x100 MVA)
- ii. Erection of 400kV Quad Moose DC Line from Jaipur TPP – Gajwel 400kV Substation - 163 KM.
- iii. LILO both circuits of 400 KV Yeddumailaram (Shankarpalli) SS – Gajwel 400 kV SS to Narsapur SS – 6 KM.
- iv. 4 Nos. 400kV Bay Extensions at Gajwel 400kV SS (2 Nos.-Quad;2 Nos.: Twin)

- v. Erection of Shapurnagar Extension SS with 6 Nos. 220kV Bays
 - vi. Erection of interconnection to 220kV Shapurnagar Extension SS from Shapurnagar existing SS with Single moose with 220 KV 1000 Sqmm XLPE UG cable - 0.5 KM
 - vii. Erection of 220kV Single moose DC line from 400kV Narsapur SS – 220kV Shapurnagar Extension SS – 35 KM
 - viii. Shifting of 220 kv Shapurnagar – Miyapur lines to the 220 KV Shapur Nagar extension SS with 220 KV 1000 Sqmm XLPE UG cable – 0.5 KM.
 - ix. Erection of 220kV single moose line from 400kV Narsapur SS to 220kV Bachupally/Miyapur SS – 45 KM
 - x. Erection of 132 kV DC line from 400 KV Narsapur SS to existing 132 kV Gummadidala SS – 17.25 KM
 - xi. Erection of LILO of 132kV Narsapur –Koudipalli SC line to proposed 400 kV Narsapur SS – 17.25 KM.
 - xii. Erection of Bay Extensions at 132 kV Gummadidala Substation – 2 Nos.
- The administrative approval was issued by erstwhile APTRANSCO on 23.05.2012 at an estimated cost of Rs.963.07 Crore and Rs.122.30 Crore towards Interest During Construction (IDC).
 - Revised administrative approval was issued on 04.12.2014 at an estimated cost of Rs.842.39 Crore (including IDC of Rs. 61.59 Crs) due to changes in downstream connectivity

9. Suryapet System Improvement Scheme(ongoing):

Erection of 400/220/132kV Suryapet Sub-Station, in Nalgonda District and connected network under transmission system improvement, on standalone basis.

THE SCHEME CONSISTS OF THE FOLLOWING:

- i. Erection of 400/220/132kV Substation at Suryapet- (2x315 & 2x100 MVA)
- ii. Erection of LILO of both circuits of 400kV VTS – Malkram DC line to the proposed 400/220/132kV Suryapet Substation – 5 KM
- iii. Erection of 400kV Quad Moose DC line from 400/220kV Kamavarapukota SS- Suryapet 400/220/132kV SS – 212 KM.
- iv. Erection of 400kV Quad Moose DC line from (Yeddumailaram) Sankarpalli SS – Proposed 400kV Suryapet SS – 240 KM
- v. Erection of LILO of one Circuit of 220kV Chillakallu – Narkatpally DC line to the proposed 400/220/132kV Suryapet Substation – 21 KM
- vi. Erection of LILO of (Ckt-I&II) 220kV Khammam – Miriyalaguda DC line to the proposed 400/220/132kV Suryapet Substation – 30 KM
- vii. Erection of 132kV DC line from proposed 400/220/132kV Suryapet to 132kV existing Suryapet Substation – 7 KM

- viii. Erection of 132kV DC/SC line from proposed 400/220/132kV Suryapet to 132kV existing Shaligowraram Substation – 35 kM
 - ix. Erection of 132kV DC/SC line from proposed 400/220/132kV Suryapet to existing 132kV Thungathurthy Substation – 30 kM
 - x. Erection of 400kV (Quad) Bay Extensions at Shankarapalli SS – 2 Nos.
 - xi. Erection of 400kV (Twin) Bay Extensions at Suryapet SS – 4 Nos.
 - xii. Erection of 132kV Bay Extensions at existing 132kV Suryapet SS – 2Nos.
 - xiii. Erection of 132kV Bay Extensions at existing 132kV Shaligowraram SS–1No.
 - xiv. Erection of 132kV Bay Extensions at existing 132kV Thungathurthy SS – 1No.
- Administrative approval accorded vide T.O.O.(CE-Construction/400kV-II) Ms.No. 01, date: 17-01-2014. With an estimated cost of IDC as Rs.1757.36 Crore including IDC.
 - The scheme is revised and revised Admn. Approval was accorded on 15.03.2016 at an estimated cost of Rs.1767.48 Crs including IDC.

10. Reactor Scheme: (ongoing scheme)

The installation of 5 Nos. 125 MVAR reactor at different 400kV Sub-Stations namely, Mamidipally, Shankarapalli, Gajwel, Malkaram, and Mahaboobnagar.

The administrative approval was issued on 19.3.2014 at an estimated cost of Rs.80.74 Crores.

11. 400kV Augmentation Scheme-III(ongoing) –

This scheme is proposed to reduce the over loading on existing ICTs and to meet the future load at 400kV Sub-Stations Malkaram and Shankarpally.

- i. Augmentation of 500 MVA, 400/220 kV auto transformer at Malkaram SS –1 No.
 - ii. Augmentation of 500MVA, 400/220kV auto transformer at Shankarpally SS-1 No.
- Administrative approval was accorded for “400kV Augmentation Scheme-III” Augmentation of PTRs (4th Transformer) at 400kV Malkaram and Shankarapally Substations with 500MVA ICT at an estimated cost of Rs.74.44 Crs vide T.O.O. (CE-Projects-I) Ms.No.85, Dt:29.05.2017.

12. 400kV Augmentation Scheme:

The scheme proposes augmentation of 315 MVA power transformer at 400 kV Dichpalli SS, Veltoor (Mahaboobnagar) SS and 400kV Gajwel SS to cater load demand and to provide uninterrupted power to Agriculture Sector 9 hrs day supply and extension of power supply to pump houses under Telangana Water Grid Project and also augmentation of 500 MVA power transformer at 400 kV Dichpalli SS.

- i. Augmentation of 315 MVA, 400/220 kV auto transformer at Dichpalli SS –1 No.
 - ii. Augmentation of 315 MVA, 400/220 kV auto transformer at Veltoor SS – 1 No.
 - iii. Augmentation of 315 MVA, 400/220 kV auto transformer at Gajwel SS – 1 No.
- Administrative approval was accorded vide T.O.O.(CE-Projects-I) Ms.No.20, Dt:29.8.2015 with an estimated cost of Rs.58.71 Crores.
 - Revised Administrative approval was issued vide TOO Ms.No.49,DT:28.03.2017 at an estimated cost of Rs.89.08 Crores duly incorporating one No. additional 315 MVA Power Transformer capacity for 400kV Gajwel Substation.

13. KTPP SYSTEM IMPROVEMENT SCHEME:

This scheme is proposed to avoid over loading of existing 220kV&132KV Substations around KTPP, Bhupalapally, to reduce the transmission losses, to meet the load demand of LI Schemes at Bheemghanpur and Devannapet LI Substations. The Scheme contemplates the following Lines and Sub-stations:

- i. Erection of 400/220/132KV KTPP SS—2x500MVA+2X160MVA PTRs+1x125MVAR
 - ii. LILO of existing 220KV Pulkurthy-Bhimghanapur line to proposed 400/220/132KV KTPP SS at Ramappa point with Twin Moose DC Line-25 kMs
 - iii. LILO of existing 220KV Salivagu-Bhimghanapur line to proposed 400/220/132KV KTPP SS at Ramappa point with Twin Moose DC Line-25 kMs
 - iv. 220KV Single Moose DC Line from proposed 400/220/132KV KTPP SS to 220/132KV Manthani SS-49kM
 - v. 132KV Single Moose DC Line from proposed 400/220/132KV KTPP SS to 132/33KV Chelpur SS-2 kM
 - vi. Upgradation of existing 220KV Nagaram-Warangal Line with HTLS Conductor.
- Administrative approval was accorded vide T.O.O.(CE-400kV) Ms.No.297, Dt:09.02.2019 at an estimated cost of Rs. 423.31 Crores and Rs. 30.92 Crores towards Interest During Construction (IDC)

14. REACTOR SCHEME-III (upcoming):

The Central Electricity Authority during the 1st meeting of Southern Region Standing Committee on Transmission (SRST) and 41st meeting of Standing Committee on Power System Planning for Southern Region (SCPSPSR) have accorded approval for installation of Bus Reactors and Line Reactors at various 400kV Sub-Stations in order to limit the over voltages in the Grid.

Accordingly, Reactor Scheme-III is formulated for execution of Bus/Line reactors at 400kV Sub-stations of TSTRANSCO.

The Scheme contemplates the following:

- i. Erection of 2 Nos. 400kV, 125MVAR Bus Reactors at 400kV Dindi SS.
 - ii. Erection of 1 No 400kV, 125MVAR Bus Reactor at 400kV Rayadurg SS.
 - iii. Erection of 1 No 400kV, 125MVAR Bus Reactor at 400kV Narsapur SS.
 - iv. Erection of 1 No 400kV, 125MVAR Bus Reactor at 400kV Maheshwaram SS.
 - v. Erection of 1 No 400kV, 125MVAR Bus Reactor at 400kV Kethireddypalli SS.
 - vi. Erection of 1 No 400kV, 125MVAR Bus Reactor at 400kV Suryapet SS.
 - vii. Erection of 1 No 400kV, 125MVAR Bus Reactor at 400kV Janagaon SS.
 - viii. Erection of 1 No 400kV, 80MVAR Bus Reactor and 1 No. 400kV, 63MVAR Switchable Line Reactor at 400kV Asupaka SS.
- Administrative approval for Reactor Scheme-III was accorded vide TOO T.O.O. (CE-400kV) Ms.No.304, Dt:23.02.2019 at an estimated cost of Rs. 228.87 Crores and Interest During Construction of Rs. 20.92 Crores

15. YADADRI POWER EVACUATION SCHEME(upcoming):

TSGENCO have envisaged construction of Yadadri Thermal Power Plant (5x800 MW) at Damaracherla. Accordingly, the following evacuation scheme is prepared for evacuating the power from Yadadri TPP.

The Proposed Scheme contemplates the following Lines and Sub-stations:

- i. Erection of 400/220kV Damaracherla SS with 3x500MVA PTRs.
- ii. Erection of 400/220/132kV Choutuppal SS with 2x500MVA+2x100MVA PTRs+1x125MVAR Bus Reactor.
- iii. 400kV QMDC Line from Yadadri TPP switchyard to proposed 400/220/132kV Choutuppal Sub-Station -110 kMs
- iv. 400kV QMDC Line from Yadadri TPP switchyard to 400/220kV Dindi Sub-Station -120 kMs
- v. 400kV QMDC Line from Yadadri TPP switchyard to proposed 400/220kV Damaracherla Sub-Station - 8 kMs

- vi. 400kV QMDC Line from Yadadri TPP switchyard to 400/220kV Jangaon Sub-Station-150 kMs
 - vii. Double circuit LILO of existing 400kV Khammam-Mamidipally TMDC Line to proposed 400/220/132kV Choutuppal Sub-Station -2x15 kMs
 - viii. 220kV TMDC Line from proposed 400/220kV Damaracherla SS to 220kV Miryalaguda Sub-Station -25 kMs.
 - ix. 220kV Single Moose DC line from proposed 400/220kV Damaracherla SS to 220kV Huzurnagar Sub-Station – 45kMs
 - x. Double circuit LILO of existing 220kV Narketpally-Malkaram DC line to proposed 400/220/132kV Choutuppal SS on multi circuit towers-15 kMs.
 - xi. Double circuit LILO of 132kV Ramannapet-Choutuppal DC line to proposed 400/220/132kV Choutuppal SS on multi circuit towers-10 kMs
 - xii. 132kV DC line from proposed 400/220/132kV Choutuppal SS to upcoming 132kV Dandumalkapur SS - 25 kMs.
 - xiii. 400kV Quad Bay extensions at 400kV Jangaon SS (2 Nos.) and 400kV Dindi SS (2 Nos.) - 4Nos.
 - xiv. 220kV Bay Extensions at 220kV Miryalaguda SS (2Nos) & 220kV Huzurnagar SS (2 Nos)-4 Nos.
 - xv. 132kV Bay Extension at 132kV Dandumalkapur SS - 2 Nos.
- Administrative approval for Yadadri Thermal Power Evacuation Scheme(5x800MW) was accorded vide T.O.O. (CE-400kV) Ms.No.451, Dt.10.10.2019 at an estimated cost of Rs.2144.65Crores and Interest During Construction of Rs.209.70Crores.

C. I. Plans for Capital Expenditure for Renovation, Modernization and Improvization of Existing Transmission System:

- i. The RMI Scheme for 3rdcontrol period i.e. FY 2014-19 was prepared for procurement of substation and line material and execution of works for replacement of aged / obsolete equipment.
- ii. An amount of Rs.984.58 Cr capital expenditure was projected for Renovation and Modernization of old assets (RMI schemes) in the ARR of 3rdcontrol period (FY 2014-19) and Hon'ble commission has accorded approval for Rs.492.2 Cr (Rs.50%. for each of FY) in its tariff order Dt. 09.05.2014.
- iii. After formation of Telangana state on 02.06.2014 and formation of TSERC, ARR for the balance 3rd control period from FY: 2016-17 to FY: 2018-19 was prepared and filed during FY:2016-17 for the RMI Scheme for procurement of substation and line material and execution of works for replacement of aged / obsolete equipment.
- iv. An amount of Rs.150.33 Cr capital expenditure was projected for Renovation and Modernization of old assets (RMI schemes) in the ARR of balanced 3rd control period (FY 2016-19) and Hon'ble commission has accorded approval for Rs.100.22 Cr in its tariff order dt.01.05.2017 (Page No.46) for the FY 2017-2018 and FY 2018-2019 as follows:

Sl. No.	Financial Year	Renovation and Modernization	
		Filing	TSERC approved scheme Amount Rs. in Crores
1	2016-17	50.11	-
2	2017-18	50.11	50.11
3	2018-19	50.11	50.11
TOTAL		150.33	100.22

- v. Due to implementation of RMI Scheme, outages of substation equipment have been reduced, improving reliability and stability of Transmission System and able to implement the Government of Telangana prestigious flagship program "24 Hrs Agriculture Supply" to farming sector.
- vi. Accordingly, RMI Scheme for 4thControl Period for FY:2019-2020 to FY:2023-24 is also prepared, as a part of preparation of Investment plan for replacement of old and obsolete equipment in phased manner, which have served for more than 25 years.

- II. Based on the above, the following activities are proposed to be carried out in next 5 year plan (2019-20 to 2023-24) under RMI Scheme.
- Replacement of old & obsolete substation equipment viz Electrical and Telecom
 - Shifting of 33KV Equipment and 33KV Feeders from underneath of the Bus
 - Earthing Improvement and renovation works in the EHT Substations
 - Metal Spreading works and water supply arrangements to earth pits in the EHT Substations.
 - Provision of Intermediate Towers, to avoid clearance problems.
 - Reactive power compensation at Sub-stations by procuring and installing Capacitor Banks.
- III. In view of the above, the investment required for carrying out the above Renovation & Modernization schedules is consolidated for the 4th control period from FY:2019-20 to FY:2023-24.

(Rs.in Crs.)

SI.No.	Financial Year	Proposed RMI
1	2019-20	53.11
2	2020-21	56.00
3	2021-22	59.70
4	2022-23	63.29
5	2023-24	67.90
	Total	300.00

- IV. System improvement will be achieved through following plans:
- Voltage optimization through Reactive Power compensation (Installation of Capacitor banks) at 33KV and 132KV level and reactors at 400KV level.
 - Adoption of GIS (Geographic Information System) technology on a wide scale for asset mapping of Transmission Lines & Substations.
 - High transmission operating voltages.
 - Upgradation of Protection System of all 220KV and 400KV Voltage level substations with numerical relays, which shall be compatible to IEC 61850 protocol.
 - Installation of CC cameras at all 400KV substations for better Operation & Maintenance purpose.
 - Replacement of aged conductors in a phased manner, as conductor snapping and jumper failures are found to be the major causes for interruptions.
 - Replacement of old and failed insulators on the existing lines.

- Replacement of the conductor of overloaded lines, periodical tree cutting work to prevent falling of branches on the conductor, conducting quarterly inspection of the lines and timely rectification of the defects noticed.
 - Breakdown attending round the clock for minimizing interruptions.
 - Emergency vehicles are kept ready for attending the breakdowns by the staff round the clock, to facilitate quick and timely deployment of staff and to minimize the duration of interruptions.
 - Safety appliances such as Gloves, safety Shoes, Helmets, Earthing rods are also provided to the breakdown staff with necessary T&P.
 - Providing of Rolling Stock of important equipments like CVTs, Battery Chargers, LAs, Relays, CTs, PTs, Circuit breaker spares and PTRs to meet the emergencies and reduce the downtime of Transmission system.
 - Use of ThermoVision cameras in EHT switchyard to detect the hot spots and taking remedial actions on war foot basis.
 - Use of offline signature equipment for preventive maintenance and line fault locators for locating the fault on lines and during breakdowns.
 - TSTRANSCO is carrying out the hot line works very effectively in the live line maintenance from 132KV to 400KV lines and substations by adopting hot stick method – using insulated sticks, bare hand technique – using conductive suit along with insulated ladder. Like replacement of damaged insulators, tightening of bolts and nuts of jumpers, shoe clamps, tension clamps and bay to bay jumpers connections etc.,
- V. At present, some of the 220KV and 132KV EHT Substations & Transmission Lines are in service for the Last 40 years. The full life of the equipment is already completed. Hence in addition to the above, the following steps are proposed to improve the performance and monitoring.
- Renovation and Modernization Scheme is prepared for Rs.300 Crores for procurement of substation and line materials for replacement of aged / obsolete equipment.
 - Replacement of MOCBs, ABCBs etc., with SF6 circuit breakers.
 - Automation of the Substation for load shedding.
 - Replacement of equipment with “latest state of art Technology Equipment” under modernization process.
 - Dispensing off group control breakers for PTRs and replacing with individual breakers.

C. II. Augmentation of PTRs and Installation of Capacitor Banks:

- 1) The Aggregate Revenue Requirement filing for the financial years 2019-20 to 2023-24 has been proposed for augmentation of Power Transformers capacities and Capacitor banks for the 220KV and 132KV voltage levels duly considering the newly sanctioned and commissioned substations due to which the loads on the existing substations will be reduced considerably.
 - During FY: 2019-20, Augmentation of Power Transformers works for 4 Nos. at 220KV Voltage level and 24Nos. at 132KV Voltage level are to be taken up, to meet the load demands. Further, 3 Nos. Capacitor Banks at 220 KV level and 13 Nos. Capacitor Banks at 132 KV level are to be taken up, to improve the Power factor of the EHT Substations. The estimated cost of the Total works isRs. 101.77Crores.
 - During FY: 2020-21, Augmentation of Power Transformers works for 11 Nos. at 220 KV Voltage level and 18Nos. at 132KV Voltage level are to be taken up, to meet the load demands. Further 12 Nos. Capacitor Banks at 132 KV level are to be taken up, to improve the Power factor of the EHT Substations. The estimated cost of the Total works is Rs. 112.42 Crores.
 - During FY: 2021-22, Augmentation of Power Transformers works for 5Nos. at 220 KV Voltage level and 20Nos. at 132KV Voltage level are to be taken up, to meet the load demands. Further, 11 Nos. Capacitor Banks at 132 KV level are to be taken up, to improve the Power factor of the EHT Substations. The estimated cost of the Total works is Rs. 79.17Crores.
 - During FY: 2022-23, Augmentation of Power Transformers works for 5 Nos. at 220 KV Voltage level and 15Nos. at 132KV Voltage level are to be taken up, to meet the load demands. Further, 7 Nos. Capacitor Banks at 132 KV level are to be taken up, to improve the Power factor of the EHT Substations. The estimated cost of the Total works is Rs. 72.38 Crores.
 - During FY: 2023-24, Augmentation of Power Transformers works for 2Nos. at 220 KV Voltage level and 17Nos. at 132KV Voltage level are to be taken up, to meet the load demands. Further, 38 Nos. Capacitor Banks at 132 KV level are to be taken up, to improve the Power factor of the EHT Substations. The estimated cost of the Total works is Rs. 72.80 Crores.

- 2) The Abstract for Augmentations of PTR Capacities and Capacitor banks are as follows:

Sl. No.	Financial Year	Projections of Augmentations and Capacitor banks in Rs. In Crores
1	2019-20	101.77
2	2020-21	112.42
3	2021-22	79.17
4	2022-23	72.38
5	2023-24	72.80
	Total	438.54

C. III. Augmentation of Transmission Lines:

- 1) At present, some of the 220kV and 132kV EHT Sub-Stations & Transmission Lines are in service for the last 40 years. The full life of the equipment is already completed. Hence in addition to the above the following steps are proposed to improve the performance and monitoring:
- Renovation and Modernization Scheme is prepared for Rs. 431.56 Crores for procurement of Sub-Station and line materials for replacement of aged / obsolete equipment.
 - Augmentation of Power Transmission lines at 132KV Voltage level are to be taken up, to meet the load demands, at an estimated cost of Rs. 13.85 Crores for the FY: 2019-2020.
 - Upgrading of existing conductors with high temperature low sag conductors i.e. ACCC Conductor etc.
 - Constructing of new lines will take substantially longer time (more than 2 years) as it involves preliminary survey, preparation of line profiles, administrative approvals, funding arrangements, check survey, procurement of towers, conductor, hardware etc., erection of towers and stringing of conductor requiring tackling of ROW problems.
 - Replacement of existing conductors, that have served for more than 20 years, with high performance HTLS (High Temperature Low Sag) conductors appears prudent as it is economically beneficial considering the quantum of capacity enhancement, reduction of losses at higher power transfer (2 lines with ACSR conductor will have more losses than the single conductor with high capacity) in spite of marginally higher initial investment in comparison with construction of new lines that are involved with more uncertainties.

- 2) The works were completed for Strengthening of the following 10Nos 132KV overloaded lines by replacing the existing ACSR conductor with HTLS conductor (i.e.,ACCC conductor).

Sl. No.	Name of the Transmission Line	Ckt-KM	Status of Works
1	132 KV Halia - Nagarjuna Sagar Line	26.59	Completed
2	132 KV Dichpally - Janakampet Line	31.50	Completed
3	132 KV Aleru - Bhongiri Line	57.00	Completed
4	132 KV Warangal - Janagaon Line	65.00	Completed
5	132 KV Nalgonda - Narketpalli I & II) Line	32.30	Completed
6	132KV Dichpally- Jankampet Line upto 132 KV Renzal SS	14.00	Completed
7	132 KV Narketpally – Rammanapet DC Line	33.70	Completed
8	132KV Shapurnagar-Medchal DC line	28.00	Completed
9	132 KV line from 220KV Medchal SS to 132 KV MedchalSS	1.50	Completed
10	132 KV line from Chandryangutta SS – 132KV Jubilee Hills SS	76.00	Completed

The following works were awarded for Strengthening of the following 7Nos 220KV overloaded lines by replacing the existing ACSR conductor with HTLS conductor (i.e., AAAC conductor).

Sl. No	Name of the Transmission Line	Ckt-KM	Status of Works
1	220 KV Mamidipally-Sivarampally SC Line	18.5	completed
2	220 KV HIAL-Sivarampally SC Line	16.5	
3	220 KV HIAL-Mamidipally - I Line	3.0	
4	220 KV HIAL-Mamidipally -II Line	3.0	
5	220 KV Malkaram-Shapurnagar DC Line	42.0	
6	220 KV Gachibowli-Shankarpalli -I Line	29.0	
7	220 KV Gachibowli-Shankarpalli -II Line	24.0	

**Lift Irrigation Scheme Works taken up by TSTRANSCO
under Deposit Contribution Works:**

TSTRANSCO has taken up construction of Transmission lines and Substations at 132kV, 220kV and 400kV level for extension of power supply to Pumping stations under various Lift Irrigation schemes which are **funded by I&CAD Department, Govt. of Telangana.**

The Transmission system established under extension of power supply to LI Schemes is included in the Transmission system of TSTRANSCO.

The year wise addition of Transmission network in respect of LI Schemes are as detailed below:

Description	2019-20	2020-21	2021-22
400kV Lines (CKM)	343.45	0	0
220kV Lines (CKM)	261	177.71	0
132kV Lines (CKM)	83.80	2	
400kV SS	3	0	0
220kV SS	5	4	
132kV SS	3	1	

The year wise addition of Bays in respect of LI Schemes are as detailed below

Description	TSTRANSCO			LIS		
	2019-20	2020-21	2021-22	2019-20	2020-21	2021-22
400kV	19	0	0	18	0	0
220kV	28	22	0	38	39	5
132kV	11	3	0	9	3	0

Details of Sub Stations and Connected Transmission Lines at 400 kV, 220 kV and 132 kV voltage levels for ongoing Lift Irrigation Scheme works from FY 2019-20 to FY 2023-24

LIS Name	Sub-Station	Line	Distance (CKM)
Kaleshwaram LIS	Chandulapur 400/ 11 kV	LILO of 400 kV TMDC from Gajwel-Bhoopalapalli to Chandulapur SS	54.181
	Tukkapur 400/ 11 kV	400 kV TMDC line from Narsapur SS	48.766
		400 kV TMDC line from Chandulapur SS	110.25
	Tippapur 400/11 kV	400 kV QMDC line from Ramadugu SS	92.248
		400 kV QMDC line from Chandulapur SS	38
	Sarangapur 220/11 kV	220 kV DC line from Dichpally to Sarangapur	73
	Manichippa 220/11 kV	220 kV DC line from Dichpally to Manichippa	48
Yacharam Thanda 220/11 kV	220 kV DC line from Dichpally to YacharamThanda	53.7	
Thotapally – Gouravelly LIS	Regonda (Gouravelly) 132/11 kV	132 kV DC line from Huzurabad to Regonda	63
JCR Godavari LIS (Warangal)	Rangaraopalli 132/11 kV	132 kV LILO from Mulugu- Chelpur	0.8
Kaleswaram LIS	Kannepally 132/11 kV	132 kV DC/SC line from Kataram	20
Lift System Along Flood Flow Canal	220/11kV Rampur SS	220kV DC line from 400/220kV Ramadugu SS	64
		LILO of RSS-Bheemgal to Rampur SS	2
	220/11kV Rajeswar Rao Peta SS	220kV DC Line from Rampur to Rajeshwar Rao Peta SS	72
	220/11kV NMupkal SS	220kV LILO from Nirmal - Renjal line	2
JCR GLIS Phase-III at Devannapeta	Devannapeta 220/11kV	220kV DC line from 400/220kV Jangaon SS	110
JCR GLIS	132/11kV Rs.Ghanpur	132 kV line to RS Ghanpur	2
Kaleshwaram LIS	220/11 kV New Manchipa	220 LILO to New Manchippa	6
	220/11 kV Metrajipalli	220 kV LILO to Metrajipalli	8

LIFT IRRIGATION SCHEMES:

1. SITARAMA LIFT IRRIGATION SCHEME (ongoing) :

This scheme is proposed for extension of Power Supply at 400 kV level to Pumping station at Kamalapuram and at 220 kV level to Pumping stations at B.G.Kothur and V.K.Ramavaram in Bhadradri Kothagudem District for a Load of 650 MW under Bulk Load and Deposit Contribution works

The Scheme contemplates the following Lines and Sub-stations:

A. Pump House at B.G.Kothur:

- i. Erection of LILO of one circuit of 220 KV KTPS V-Lower Sileru -II Line to proposed Pump House-1 at B.G.Kothur for a length of 20 KM
- ii. Erection of LILO of one circuit of 220 KV KTPS-Manuguru Line to proposed Pump House-1 at B.G.Kothur for a length of 1 KM
- iii. Erection of 220/11kV LIS Substation at B.G. KOTHUR(V) without Pump PTRs

B. Pump House at V.K.Ramavaram:

- i. Erection of 220 KV TMDC Line from 400/220/11 KV Kamalapuram SS to 220/11 KV V.K.Ramavaram - 25 KM
- ii. LILO of 220kV KTS-Lower Sileru-I line to 220kV V.K.Ramavaram LI SS (single moose) - 3kM
- iii. LILO of 220kV KTS-Lower Sileru-I line to 400/220kV Asupaka SS (single moose) - 0.5kM
- iv. Erection of 220/11kV LIS Substaion at V.K.Ramavaram without Pump PTRs
- v. 2 Nos. 220kV Bays at 400/220kV Asupaka SS

C. Pump House-3 at Kamalapuram:

- i. 400 KV TMDC Line from 400/220 KV Julurupadu SS to 400/220/11 KV Kamalapuram SS - 50 KM.
 - ii. Erection of 400/220/11kV LIS SS at Kamalapuram with 3x315MVA 400/220 kV PTRs and 1 No.125MVAR Bus Reactor and without Pump PTRs
 - iii. Erection of 2 Nos 400kV Quad Bays at 400/220 KV Julurupadu SS for proposed 400 KV Kamalapuram Feeders
- Administrative Approval was accorded vide T.O.O (ED -LIS) Ms.No.1, Dt.03.01.2018
 - Revised Administrative Approval was accorded for Bulk Load works vide T.O.O. (CE-400kV) Ms.No.449, Dt.10.10.2019 and for DC works vide T.O.O. (CE-400kV) Ms.No.450, Dt.10.10.2019.

2. PALAMURU – RANGAREDDY LIFT IRRIGATION SCHEME(upcoming):

This scheme is proposed for extension of Power Supply at 400kV and 220 kV level to Pumping stations at Narlapur, Yedula, Vattem in Nagarkurnool district, Uddandapur in Mahaboob Nagar district and at KP Laxmidevipalli in Rangareddy district.

The Scheme contemplates the following Lines and Sub-stations:

A. Pump House at Narlapur:

- i. 400kV QMDC line from proposed 400/11kV Yedula LI SS to proposed 400/11kV Narlapur LI SS -30kM
- ii. Erection of 400/11kV SS at Narlapur
(9x160MVA+2x25MVA 400/11kV PTRs+1x125MVAR Bus Reactor)

B. Pump House at Yedula:

- i. 400kV QMDC line from 400/220kV Dindi SS to proposed 400/11 kV Yedula LI SS - 60kM
- ii. 400kV QMDC line from 400/220kV Veltoor SS to proposed 400/11 kV Yedula LI SS - 50kM
- iii. Erection of 2 Nos 400kV bays at Veltoor 400kV SS and 2 Nos bays at Dindi SS for Yedula Feeders
- iv. Erection of 400/11kV SS at Yedula
(10X160MVA+2X25MVA 400/11kV PTRs+1X125MVAR Bus Reactor)

C. Pump House at Vattem/Karvena:

- i. 400kV QMDC line from proposed 400/11kV Yedula LI SS to proposed 400/11kV Vattem LI SS -60kM
- ii. 400kV QMDC line from proposed 400/11kV Vattem LI SS to proposed 400/11kV Uddandapur LI SS -50kM
- iii. Erection of 400/11kV SS at Vattem
(10x160MVA+2x25MVA 400/11kV PTRs+1x125MVAR Bus Reactor)

D. Pump House at Uddandapur:

- i. 400kV QMDC line from 400kV Maheshwaram SS to proposed 400/11kV Uddandapur LI SS -65kM
- ii. Erection of 400/11kV SS at Uddandapur SS
(6x160MVA+2x25MVA 400/11kV PTRs+1x125MVAR Bus Reactor)

E. Pump House at Laxmidevipalli:

- i. 220kV DC line from 400/220/132kV Kethireddypalli SS to 220/11kV Laxmidevipalli LI SS-46kM

- ii. Erection of 2 Nos 220kV bays at 400/220/132kV Kethireddypalli SS
- iii. Erection of 220/11kV KP Laxmidevipalli SS
(4x80MVA and 2x25MVA 220/11kV PTRs)
- Administrative Approval was accorded vide T.O.O (CE-Projects II) Ms.No.11, Dt.09.05.2017
- Revised Administrative Approval was accorded for Bulk Load works vide T.O.O. (CE-400kV) Ms.No.467, Dt.25.10.2019 and for DC works vide T.O.O. (CE-400kV) Ms.No.468, Dt.25.10.2019.

ANNEXURE – II PERFORMANCE MEASURES

NUMBER AND DURATION OF SUPPLY INTERRUPTIONS

1. Requirement in the Guidelines:

Number and duration of supply interruptions on transmission networks, separately for 400kV, 220 Kv and 132 kV. Details of steps proposed to improve performance and monitoring. (Guidelines – 11a)

2. TSTransco’s Response:

Interruptions on EHT lines during 2016-17,2017-18 & 2018-19

Most of the feeders have alternative supply. Hence, whenever there is any interruption to one feeder, then supply is provided from the alternate source and interrupted feeder is restored immediately by taking necessary steps. All transmission line breakdowns are logged and recorded. The data sheets maintain information such as circuit name and number, date and time of occurrence, date and time of restoration, any remedial measures taken for alternate supply, and a brief description of the cause. As the data is voluminous, and manually entered, all the log sheets have not been included in this filing. However, any data requested by the Commission can be made available as and when requested. Considering the vast extent of the transmission system and the number of transmission circuits, the average availability factor of EHT lines of TSTransco for the year 2018-19 works out at 99.98%. The details of the line availability for the years 2016-17,2017-18 & 2018-19 are shown in the tables below.

Interruptions on EHT lines during 2016-17,2017-18 & 2018-19

Year	EHT line voltage	No. of interruptions	Total time of interruptions (Hrs)	Avg. Duration Per Interruption (Hrs)
2016-17	400kV	5	90.38	Beyond 2 Hrs.(18.07)
	220kV	91	587.85	Beyond 2 Hrs. (6.45)
	132kV	246	949.58	Beyond 2 Hrs. (3.86)
2017-18	400kV	54	218.18	Beyond 2 Hrs. (4.04)
	220kV	712	1320.08	---
	132kV	1473	1615.80	---
2018-19	400kV	8	142.45	Beyond 2 Hrs. (17.08)
	220kV	115	1393.37	Beyond 2 Hrs. (12.11)
	132kV	203	2132.67	Beyond 2 Hrs. (10.50)

Transmission System Availability during FY2016-17, FY 2017-18 & 2018-19:

Sl. No.	Financial year	Transmission System Availability
1	2016-17	99.98%
2	2017-18	99.98%
3	2018-19	99.98%

Target Transmission System Availability for FY 2019-20 to FY 2023-24:

Sl. No.	Financial year	Target System Availability
1	2019-20	99.9%
2	2020-21	99.9%
3	2021-22	99.9%
4	2022-23	99.9%
5	2023-24	99.9%

Steps implemented /proposed to improve performance and monitoring of Transmission System

The following steps have been implemented to improve the performance and monitoring.

- Replacement of aged conductors in a phased manner, since conductor snapping and jumper failures are found to be the major causes for interruptions.
- Replacement of old and failed insulators on existing lines.
- Reinforcement of the conductor of overloaded lines, periodical tree cutting work to prevent falling of branches with conductor, conducting quarterly inspection of lines and timely rectification of defects noticed.
- Breakdown staff attending supply interruptions is arranged round the clock.
- Emergency vehicles are kept ready for breakdown staff round the clock to facilitate quick and timely deployment of staff and minimize the duration of interruptions.
- Safety appliances such as gloves, safety shoes, helmets, earthing rods are also provided to the breakdown staff with necessary T&P.
- Use of off line signature preventive maintenance and line fault locators for locating the fault on lines during breakdowns.

- TSTRANSCO is carrying out the hot line works very effectively in the live line maintenance from 132kV to 400kV lines and Sub-Stations by adopting hot stick method - using insulated sticks, bare hand technique – using conductive suit along with insulated ladder. Like replacement of damaged insulators, tightening of bolts and nuts of jumpers, shoe clamp, tension clamp and bay to bay jumpers connection etc.,

Major Grid Disturbances / Incidents occurred during the years 2014-15, 2015-16, 2016-17, 2017-18 & 2018-19.

I. Major Grid Disturbances occurred during the year 2014-15.

- NIL –

II. Major Grid Disturbances occurred during the year 2015-16.

a) Grid Breaker trippings at 220KV Ghanapur on 21.05.2015 @ 19:40Hrs.

The reason for tripping was R-Phase CT of the 220kV Bus coupler on bus-2 got blasted at 220kV Ghanapur creating bus fault on 220kV Bus-2.

b) Grid Breaker trippings at 220KV Mahaboobnagar on 21.05.2015 @ 20:30Hrs.

The reason for tripping was B-Phase CT of the 220kV Bus coupler on bus-1 got blasted at 220kV Mahaboobnagar creating bus fault on 220kV Bus-1.

c) Grid Breaker trippings at 220KV RSS(Malyalapally) on 21.05.2015 @ 23:32Hrs.

The reason for tripping was B-Phase CT of the 220kV Bus coupler on bus-2 got blasted at 220kV RSS creating bus fault on 220kV Bus-2.

d) Grid Breaker trippings at 400KV Srisailam Left Bank on 18.08.2015 @ 15:25Hrs.

The reason for tripping was B-Phase line CT of 400KV Srisailam Left Bank-Sattenapalli-2 at Srisailam Left Bank blasted causing Non-directional sensitive earth fault protection to operate on Mamidipally-2 and Kurnool lines at Srisailam Left Bank end.

e) Grid Breaker trippings at 220KV RSS(Malyalapally) on 10.03.2016 @ 18:41Hrs.

The reason for tripping was R-Phase CT of 220kV RSS-NTPC-1 line blasted at RSS creating bus fault at RSS.

All the grid incidents occurred in the year 2015-16 were due to blasting of CTs. For which instructions were issued to DEE/MRTs to carry out the testing of CTs (like Tan delta, Oil sample test etc) on regular basis and to replace the defective CTs wherever required so as to avoid such incidents in the future.

III. Major Grid Disturbances occurred during the year 2016-17.

-NIL-

IV. Major Grid Disturbances occurred during the year 2017-18.

-NIL-

V. Major Grid Disturbances occurred during the year 2018-19.

a) Grid Breaker trippings at 400KV Veltor on 28.08.2018 @ 07:22Hrs.

The reason for tripping was MRT wing has inadvertently initiated LBB during testing of 400 kv Veltor – Urvakonda feeder-1 bay causing tripping of all Main breakers connected to Bus-1 i.e., Tallapally, Raichur, Maheshwaram–1&2, Urvakonda-2 feeders. Further in the case of Maheshwaram – 1&2 feeders, Tie LBB was also initiated tripping the Tie Breakers and transformer breakers and sending Direct Trip to Maheshwaram end. So the Maheshwaram-1&2 feeders and ICT-3&4 were also tripped.

Performance Measures:

The reason for initiation of Tie LBB was due to old wiring which was not removed after commissioning of Maheshwaram-1&2 bays (previously these bays were only half dia). The old wiring was removed before charging the feeders and ICTs and the problem is rectified.

b) Grid Breaker trippings at 400KV Ramadugu on 12.03.2019 @ 17:03Hrs.

The reason for tripping was due to Direct Trip receive in all Main-2, P444 relays at Ramadugu end only due to momentary DC earth leakage for which all the feeders i.e., Medaram-1, Medaram-2, Gajwel-1, Gajwel-2, STPP-1 & STPP-2 at Ramadugu SS tripped.

Performance Measures:

DT receive channel was picked up in P444 relays of all feeders due to wrong configuration of OPTO signals for 24V instead of 220V. The above OPTO settings have been revised to 220V in all P444 relays along with other substations where NR relay engineer has done the commissioning of P444 relays and these signals have been configured for event triggering in Disturbance Recorder (DR) and not for feeder tripping.

DC earth leakage was due to defective Earth Fault Detector (EFD) card and Resistor (R3) in Battery Charger-2 and the same was replaced with new one and rectified.

PERIODS WHEN VOLTAGE AND FREQUENCY WAS BEYOND PRESCRIBED LIMITS

1. Requirement in the Guidelines

Periods when voltage and/or frequency was beyond the prescribed limits on Transmission (400 kV, 220 kV, 132 kV) networks. Details of steps proposed to improve performance and monitoring. (Guidelines – 11b).

2. TSTransco’s Response:

PERIODS WHEN FREQUENCY WAS BEYOND PRESCRIBED LIMITS

Frequency

TSTransco is one of the constituent members of the Southern Regional Grid and operates in synchronism with the power grids of the other southern states of Andhra Pradesh, Karnataka, Tamilnadu, Pondicherry, Kerala and a part of Goa. The system frequency is monitored by the Southern Regional Load Dispatch Center (SRLDC) located at Bangalore. As per the operating principles laid down by SRLDC, all constituent members are expected to maintain system frequency with the operating range of 49.90 HZ to 50.05 HZ.

The details of frequency duration, maximum and minimum frequency experienced during FY-2017-18 & FY-2018-19 is shown below:

Southern Region frequency during 2017-18

Month	Average	Maximum		Minimum	
	HZ	HZ	Date	HZ	Date
Apr-17	49.99	50.26	05 th /13 th	49.66	27 th
May-17	49.99	50.32	21 st	49.64	11 th
Jun-17	50.00	50.24	7 th /19 th	49.72	2 nd
Jul-17	50.00	50.23	6 th	49.69	8 th
Aug-17	49.99	50.20	20 th /29 th	49.65	8 th
Sep-17	49.98	50.32	17 th	49.62	23 rd
Oct-17	49.97	50.20	10 th /11 th	49.65	13 th
Nov-17	49.97	50.27	19 th	49.62	07 th
Dec-17	49.98	50.29	3 rd	49.62	14 th /15 th
Jan-18	49.98	50.29	31 st	49.62	31 st
Feb-18	49.98	50.21	17 th	49.69	17 th
Mar-18	49.96	50.25	21 st	49.67	14 th
Year	49.98	50.32	17th-Sep’17	49.72	2nd-Jun’17

Percentage of time when frequency was between:

Hz	<49.7	49.70-49.90	49.90-50.05	50.05-50.20	>50.20
Month					
Apr-17	0.00	11	75	14	0.00
May-17	0.00	12	73	15	0.00
Jun-17	0.00	5	72	23	0.00
Jul-17	0.00	8	77	14	0.00
Aug-17	0.00	11	76	13	0.00
Sep-17	0.00	15	77	8	0.00
Oct-17	0.00	17	75	8	0.00
Nov-17	0.00	20	71	9	0.00
Dec-17	0.00	13	73	14	0.00
Jan-18	0.00	11	78	11	0.00
Feb-18	0.00	10	80	10	0.00
Mar-18	0.00	13	79	8	0.00
Average	0.00	12.166	75.500	12.250	0.00

Southern Region frequency during 2018-19

Month	Average	Maximum		Minimum	
	HZ	HZ	Date	HZ	Date
Apr-18	49.97	50.21	29 th	49.62	23 rd
May-18	49.95	50.22	03 rd /12 th	49.57	26 th
Jun-18	49.98	50.24	12 th	49.60	19 th
Jul-18	49.98	50.24	24 th	49.62	19 th
Aug-18	49.98	50.22	06 th	49.62	09 th /28 th
Sep-18	49.98	50.20	22 nd	49.57	24 th
Oct-18	49.98	50.20	05 th /28 th	49.69	20 th
Nov-18	49.98	50.25	22 nd	49.70	12 th
Dec-18	49.98	50.25	01 st /02 nd /15 th /16 th	49.67	30 th
Jan-19	49.99	50.28	22 nd	49.58	04 th
Feb-19	50.00	50.27	26 th /27 th	49.68	01 st
Mar-19	50.21	50.30	1 st	49.64	10 th
Year	49.99	50.30	1st –Mar'19	49.57	26th – May'18 & 24th – Sep'18

Percentage of time when frequency was between:

Hz	<49.7	49.70-49.90	49.90-50.05	50.05-50.20	>50.20
Month					
Apr-18	0.00	13	79	8	0.00
May-18	0.00	22	70	8	0.00
Jun-18	0.00	12	77	11	0.00
Jul-18	0.00	10	78	11	0.00
Aug-18	0.00	9	80	11	0.00
Sep-18	0.00	13	77	11	0.00
Oct-18	0.00	12	79	9	0.00
Nov-18	0.00	11	80	9	0.00
Dec-18	0.00	12	77	11	0.00
Jan-19	0.06	10.87	70.47	18.64	0.00
Feb-19	0.00	7.01	70.74	22.26	0.00
Mar-19	0.03	9.32	71.54	19.13	0.00
Average	0.07	11.77	75.81	12.42	0.00

VOLTAGES OF TS SYSTEM FOR 2017-18 (kV)

Voltages recorded at some of the Generating Stations, Grid sub-stations and Tail-end sub-stations on 08.03.2018, the date on which the State Peak Demand Met i.e 10284 MW are as tabulated below.

Station Voltages at Generating Stations on 08-03-2018

SL. No.	STATION NAME	00:00 hrs	08:00 hrs	19:00 hrs	Max	Min
	400 kV LEVEL					
1	KTPP	412	405	407	414	403
2	KTPS-VI	406	399	400	408	397
3	SINGARENI	417	417	417	420	416
4	SRISAILAM	423	414	418	424	410
	220 kV LEVEL					
5	KTPS-V	221	218	218	222	217
6	KTPS OLD	224	219	220	224	219
7	UPPER JURALA	228	221	226	230	218
8	LOWER JURALA	225	218	225	228	216
9	N'SAGAR MAIN	227	221	225	228	221
	132 kV LEVEL					
10	RTSB	139	132	136	140	131
11	N'SAGAR LCPH	138	134	138	140	134

Station Voltages at Generating Stations on 08-03-2018(kV)

400 kV Sub-Stations

SL. No.	STATION NAME	00:00 hrs	08:00 hrs	19:00 hrs	Max	Min
1	BHUPALAPALLY	412	405	407	414	403
2	DICHPALLY	414	408	410	416	402
3	GAJWEL	414	406	408	416	403
4	MAHABUBNAGAR	420	411	420	426	407
5	MALKARAM	423	409	416	427	407
6	MAMIDIPALLY	414	403	406	416	399
7	NARSAPUR	413	405	408	415	402
8	SURYAPET	420	408	411	423	405
9	SHANKARPALLY	420	410	414	422	408
10	DINDI	417	407	410	419	403

220 kV Voltages at Major Grid Sub-Stations On 08-03-2018

220 kV Sub-Stations

SL. No.	STATION NAME	00:00 hrs	08:00 hrs	19:00 hrs	Max	Min
1	BONGULUR	229	222	223	231	219
2	BELLAMPALLI	228	228	225	230	224
3	BHIMGAL	220	213	216	221	211
4	BOMMAKAL	212	212	205	214	201
5	BHONGIR	203	219	195	224	187
6	CHALAKURTHY SWS	222	217	221	224	217
7	CHANDRAYANAGUTTA	219	211	212	221	208
8	DICHPALLY	221	216	218	222	213
9	DINDI	230	225	228	232	223
10	DURSHED	226	216	220	229	216
11	ERRAGADDA GIS	230	218	221	230	216
12	FABCITY	230	222	224	231	219
13	GACHIBOWLI	223	214	216	223	212
14	GAJWEL	225	217	220	226	216
15	GHANAPUR	229	223	222	230	219
16	GUNROCK	230	218	222	231	216
17	HIAL	226	219	220	228	217
18	IMLIBUN	229	222	223	231	222
19	JAGITYAL	227	215	223	227	212

Filing of Multi Year ARR & Tariff Framework for Fourth Control Period (FY 2019-20 to FY 2023-24)

SL. No.	STATION NAME	00:00 hrs	08:00 hrs	19:00 hrs	Max	Min
20	KALWAKURTHY	222	214	219	223	211
21	KONDAMALLEPALLY	223	217	220	224	215
22	KAMAREDDY	223	216	218	223	215
23	KONDAPAKA	223	219	219	224	217
24	KOSIGI	214	214	219	226	214
25	MAHABUBNAGAR	225	217	222	227	213
26	MEDCHAL	225	213	217	226	210
27	MEDARAM	230	221	225	230	216
28	MIYAPUR	217	217	223	228	216
29	MALKARAM	230	217	222	231	216
30	MALYALAPALLY	232	224	227	232	224
31	MALLARAM	206	206	201	211	195
32	MAMIDIPALLY	227	219	220	228	217
33	MANGURU	203	200	200	204	196
34	MINPUR	224	224	224	224	224
35	MOULALI	232	226	224	232	221
36	MIRYALAGUDA	196	192	198	209	185
37	MURMUR	229	220	225	230	218
38	NARKETPALLY	202	196	197	209	193
39	NIRMAL	226	215	221	226	215
40	OSMANIA	232	226	225	234	220
41	PARGI	228	216	220	230	215
42	SHADNAGAR	227	219	220	229	216
43	SIDDIPET	206	188	199	209	188
44	SINGOTAM	228	221	228	230	218
45	SHAMSHABAD	232	224	223	232	220
46	SHANKARPALLY	228	219	222	230	192
47	SHAPURNAGAR	226	218	221	229	218
48	SURYAPET	221	216	217	222	214
49	SADASHIVPET	219	219	219	219	219
50	SITAPURAM	227	220	222	227	220
51	SEETARAMPATNAM	225	221	221	226	220
52	SHIVRAMPALLY	223	215	216	225	213
53	TANDUR	227	224	218	227	218
54	VEMANUR	227	218	222	228	216

VOLTAGES OF TS SYSTEM FOR 2018-19 (kV)

Voltages recorded at some of the Generating Stations, Grid sub-stations and Tail-end sub-stations on 11.09.2018, the date on which the State Peak Demand Met i.e 10818 MW are as tabulated below.

Station Voltages at Generating Stations on 11-09-2018

SL. No.	STATION NAME	00:00 hrs	08:00 hrs	19:00 hrs	Max	Min
	400 kV LEVEL					
1	KTPP	419	410	411	420	405
2	KTPS-VI	415	405	406	417	400
3	SINGARENI	418	418	418	419	412
4	SRISAILAM	421	411	414	422	407
	220 kV LEVEL					
5	KTPS-V	226	221	221	227	219
6	KTPS OLD	227	224	222	229	222
7	UPPER JURALA	222	213	216	224	210
8	LOWER JURALA	224	215	217	225	212
9	N'SAGAR MAIN	230	223	224	231	219
	132 kV LEVEL					
10	RTSB	109	105	107	110	105
11	N'SAGAR LCPH	140	134	128	140	128
12	POCHAMPAD	128	119	127	128	115

Station Voltages at Sub Stations on 11-09-2018 (kV)

400 kV Substations

SL. No.	STATION NAME	00:00 hrs	08:00 hrs	19:00 hrs	Max	Min
1	BHUPALAPALLY	419	410	411	420	405
2	DICHPALLY	414	403	405	416	398
3	GAJWEL	412	404	403	414	403
4	MALKARAM	423	410	409	423	405
5	MAMIDIPALLY	414	401	402	416	396
6	NARSAPUR	415	403	404	417	401
7	SURYAPET	422	410	411	424	406
8	SHANKARPALLY	416	405	406	419	401
9	DINDI	420	410	410	422	404

220 kV Voltages at Major Grid Sub-Stations On 11-09-2018

220 kV Substations

SL. No.	STATION NAME	00:00 hrs	08:00 hrs	19:00 hrs	Max	Min
1	BONGULUR	227	221	221	229	217
2	BELLAMPALLI	228	218	222	229	217
3	BHIMGAL	216	207	210	217	206
4	BOMMAKAL	213	201	205	215	199
5	CHALAKURTHY SWS	233	226	227	234	222
6	CHANDRAYANAGUTTA	221	212	212	223	209
7	DICHPALLY	219	212	213	221	210
8	DINDI	231	222	225	232	219
9	DURSHED	223	209	216	224	208
10	ERRAGADDA GIS	226	217	216	228	212
11	FABCITY	229	221	221	230	217
12	GACHIBOWLI	224	215	215	226	211
13	GAJWEL	223	218	217	223	215
14	GHANAPUR	226	219	219	228	215
15	GUNROCK	228	219	219	230	216
16	HIAL	225	218	218	227	214
17	HAYATHNAGAR	229	223	222	231	219
18	IMLIBUN	229	220	220	230	220
19	JAGITYAL	230	210	224	235	209
20	KALWAKURTHY	220	212	215	221	208
21	KONDAMALLEPALLY	223	216	217	224	212
22	KAMAREDDY	216	209	208	217	207
23	KOSIGI	226	214	216	226	211
24	MANTHANI	225	216	219	226	216
25	MAHABUBNAGAR	222	215	217	225	211
26	MEDCHAL	223	215	214	225	211
27	MEDARAM	227	218	221	228	217
28	MIYAPUR	227	218	217	229	213
29	MALKARAM	225	217	216	228	214
30	MALYALAPALLY	230	220	224	230	220
31	MALLARAM	209	198	202	210	195
32	MAMIDIPALLY	225	218	218	227	214
33	MANGURU	210	205	204	211	201
34	MINPUR	214	208	206	214	206

Filing of Multi Year ARR & Tariff Framework for Fourth Control Period (FY 2019-20 to FY 2023-24)

35	MOULALI	244	228	227	248	221
36	MIRYALAGUDA	224	220	218	224	213
37	NARKETPALLY	216	205	208	216	203
38	NIRMAL	228	226	226	231	225
39	OSMANIA	231	222	222	233	219
40	PARGI	224	215	216	226	211
41	SHADNAGAR	224	216	216	226	212
42	SIDDIPET	208	196	202	208	194
43	SINGOTAM	225	217	222	226	214
44	SHAMSHABAD	229	222	221	228	219
45	SHANKARPALLY	225	218	218	227	214
46	SHAPURNAGAR	230	225	217	230	213
47	SURYAPET	226	217	219	227	216
48	SADASHIVPET	221	214	214	224	210
49	SITAPURAM	231	228	231	232	226
50	SEETARAMPATNAM	231	224	226	231	223
51	SHIVRAMPALLY	216	209	209	219	205
52	TANDUR	238	228	232	239	224
53	VEMANUR	224	218	223	226	218

ACCIDENTS

1. Requirement in the Guidelines

Number of reported fatal and non-fatal accidents, differentiating between accidents involving humans and those involving animals. An analysis of steps to reduce such accidents must also be provided. (Guidelines - 11c)

2. TSTransco's response

1 No. Fatal accident reported in the Transmission system during 2016-17. 3 Nos. non-fatal accidents are reported in 2016-17 to 2018-19 upto Sept'2018.

TSTransco constantly reviews the existing safety practices and procedures with an endeavor to minimize and achieve a zero accident record. The statistics for 2016-17 to 2018-19 upto Sept'2018 are shown in the Table-I, II and the reasons for causing the accidents are summarized in Table-III.

Table-I:

ACCIDENTS	2016-17	2017-18	2018-19	Total
FATAL				
Humans	1	0	0	1
Animals/Others	0	0	0	0
NON FATAL				
Humans	1	1	1	3
Animals/Others	0	0	0	0

Table-II (a): Details of Accidents recorded on EHT System in TSTRANSCO for FY 2016-17

ACCIDENTS	Hyderabad Metro Zone	Hyderabad Rural Zone	Warangal Zone	KarimNagar Zone	Total
FATAL					
Human	0	0	0	1	1
Animals/Others	0	0	0	0	0
NON FATAL					
Human	0	0	1	0	1
Animals/Others	0	0	0	0	0

Table-II (b): Details of Accidents recorded on EHT System in TSTRANSCO for FY 2017-18

ACCIDENTS	Hyderabad Metro Zone	Hyderabad Rural Zone	Warangal Zone	KarimNagar Zone	Total
FATAL					
Human	0	0	0	0	0
Animals/Others	0	0	0	0	0
NON FATAL					
Human	0	1	0	0	1
Animals/Others	0	0	0	0	0

Table-II (c): Details of Accidents recorded on EHT System in TSTRANSCO for FY 2018-19

ACCIDENTS	Hyderabad Metro Zone	Hyderabad Rural Zone	Warangal Zone	KarimNagar Zone	Total
FATAL					
Human	0	0	0	0	0
Animals/Others	0	0	0	0	0
NON FATAL					
Human	0	0	0	1	1
Animals/Others	0	0	0	0	0

Table-III:

Information Regarding Accidents for the period from FY: 2016 to FY: 2018.

FY 2016-17								
Sl. No.	Name of Circle	Place at which accident occurred	Date	Type			Reasons	Remarks
				Dept. / Non-Dept.	Fatal / Non Fatal	Human / Others		
1	2	3	4	5	6	7	8	9
1	SE(OMC)/ Karimnagar	132/33KV SS Dharmaram	19.05.2016 at about 13:15 Hrs	Non-Departmental	Fatal	Human	While attending the red hots at CT stud clamp of 33KV Maredpally feeder, accidentally he entered into live induction zone and got electrocuted and fell on the ground.	<p>Remedial Action: Immediately shifted to local hospital and expired on 20.05.2016 F.N while undergoing treatment at Yoshoda hospital, Secunderabad.</p> <p>Compensation paid: vide Cheque No.461237, dt.21.05.2016 Rs.5,00,000/-.</p>
2	SE/OMC/ Warangal	132 KV SS Mulugu	23-01-2017 about 10:00 Hrs.	Deptt.	Non-Fatal	Human	1No. High skilled operator while performing his shift duty for note down daily hourly readings and inspections in the Switch yard, he climbed the structure of the 33KV Capacitor Bank and got electrical Shock.	After Medical treatment joined duty on 13.03.2017.

2017-18								
Sl. No.	Name of Circle	Place at which accident occurred	Date	Type			Reasons	Remarks
				Dept. / Non - Dept.	Fatal / Non - Fatal	Human / Others		
1	2	3	4	5	6	7	8	9
3	SE/OMC/Warangal	Kistapuram X road, Rayaparthi Mandal	28-04-2017	Departmental	Fatal	Human	Road Accident	Ex-gratia paid Rs.10,00,000/- vide Cheque No.802707, dt.16-05-2018.
4	SE/OMC/Sangareddy	132 KV Habsipur SS	22-06-2017 at 11:40 Hrs	Departmental	Fatal	Human	Climbed Circuit breaker before issue of LC	Remedial Action: Instructions issued to take all safety measures Compensation paid: Rs.10,00,000/- paid
5	SE/OMC/Nalgonda	220 KV SS Miryalaguda	04-09-2017 at 08:20 Hrs	Departmental	Non - Fatal	Sri S.Ravi Linemen, S/o.Bheemarao (Emp ID.No.10 70148)	While putting earth rod to the opened line isolator, he lost balance and the earth rod came into the vicinity of adjacent 33 KV Tripuraram feeder and got electric shock.	First aid has given to him at Government Hospital, Miryalaguda and admitted in Omni hospital, Kothapeta, Hyderabad, where he is being treated and his condition is stable and joined duty on 03.10.2017.

FY2018-19								
Sl. No.	Name of Circle	Place at which accident occurred	Date	Type			Reasons	Remarks
				Dept. / Non - Dept.	Fatal / Non - Fatal	Human / Others		
1	2	3	4	5	6	7	8	9
6	SE/OMC/Nizamabad	220/132/33KV SS, Bheemgal	08-06-2018 at 12:50 Hrs	Departmental	Non-Fatal	Sri.Suluva Ashok (Emd ID: TSTRS EOMC0 NZB009 51) Artisan Grade-I	In the process of giving 33KV Bus section LC in 220/132/33KV Bheemgal to attend the red hot work, Corresponding 50MVA PTR-II and relevant 33KV Feeder CBs were tripped and 33KV Line and Bus isolators were being opened by Basheer (Shift ITI Operator Artisan Grade-II), in the mean time Mr.S.Ashok (Diploma Shift in charge Artisan Grade-I) placed earth rod accidentally on 33KV Bus by assuming himself Bus sectionalizer was opened, thereby causing injury to himself due to flash over. This is Non-fatal accident.	<p>Remedial Action: Awareness created among the staff about safety aspects to avoid accidents while attending the periodical works, regular maintenance works and emergencies in the Sub-Station and connected lines.</p> <p>Compensation paid: Credit card for treatment provided by TSTRANSCO.</p>

7	Metro Central	132 KV SS Erragadda	09-08-2018 at 13:30 Hrs	Departmental	Non-Fatal	Human	<p>While attending the L/c work on 33KV Maitrivanam feeder, Sri K.Venkat Reddy, Artisan Grade-I (SMG Gang/ Erragadda) climbed the CPL structure of the 33KV CT of the 33 KV Kalyannagar feeder (Adj feeder which was in live condition) all of sudden without any intimation and consent of the concerned AE/Maint & Line Inspector who were present at the spot.</p>	<p>Immediately the matter was informed to the higher officials and Sri K.Venkat Reddy, Artisan Grade-I has been admitted in Yashoda Hospitals, Somajiguda. After first aid treatment and as per the reference of Yashoda Hospitals, somajiguda. Sri K.Venkat Reddy, Artisan Grade-I is shifted to Yashoda Hospitals, Malakpet for treatment. The treatment was done at Yashoda Hospitals, Malakpet. He was discharged on 07.09.2018 after underwent treatment. Later he was re-joined on 03.11.2018 to his duties at 132KV SS Erragadda.</p>
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Main reasons for Accidents and Remedial action to reduce accidents:

The fatal and Non-fatal accidents occurred for human beings mainly due to the induction to the adjacent live parts and slipping from the structure while carrying out the maintenance works due to anxiety/confusion.

Remedial action to reduce accidents:

For any lapse, suitable prompt action is taken against the concerned public or staff to discourage their negligence or casual approach.

The concerned superior staff takes deterrent action against all the erring field staff who fails to take safety precautions while working on lines and also ensure that adequate quantity of safety appliances are made available to all the concerned staff members. Safety training courses are regularly conducted.

Schedules for preventive maintenance of all CTs and PTs in the EHT Sub-Stations are given preventive maintenance schedules are also generated from the ERP system. It is also proposed to replace all aged CTs and PTs & PTRs sets with new sets through renovation and modernization schemes.

Classes are being conducted for the workmen on payday or any suitable working day to enlighten them on safety measures and to avoid electrical accidents by proper utilization of safety devices and precautions as per the safety rules.

Preventive steps:

- Standard construction practice is ensured whenever new lines are laid and energized.
- Clearances for O/H lines as specified in IE rules 77, 78, 79, 80 and 81 to be strictly maintained and verified at the time of statutory inspections of lines & sub-stations, before charging.
- Cradle Guards are provided under the O/H lines as required under IE Rules Nos. 66 and 91, regarding safety and protective devices, in order to render the lines electrically harmless in case it breaks.
- All metal supports of O/H lines and attached metallic fittings are permanently earthed as per I.E. Rule No.90.
- Danger Boards to be affixed wherever necessary in the local language.
- Anti-climbing devices to be provided to prevent people from scaling towers or poles.

BOUNDARY METERS (Status of Metering at Interface Points) :

1. Requirement in the Guidelines

Number of inadequate or defective meters. Programme and phasing of investment for replacement. (Guidelines – 11d)

2. TSTransco’s response

Sl. No.	DISCOM	Metering Point Type	Sub category	No. of Metering Points			Category Total	DISCOM Total
				0.2 class	0.5 class	Total		
1	TSSPDCL	PTR LVs	132/11kV	0	0	0	333	597
2			132/33kV	309	17	326		
3			220/33kV	6	0	6		
4			132/66kV	1	0	1		
5		EHT Consumers	220kV Industrial	16	0	16	99	
6			132kV Industrial	69	1	70		
7			132kV Rly. Traction	13	0	13		
8		G-D	--	2	3	5	5	
9		D-D	--	4	10	14	14	
10		PDs (33kV, 11kV)	--	146	0	146	146	
11	TSNPDCL	PTR LVs	132/11kV	0	0	0	235	397
12			132/33kV	231	1	232		
13			220/33kV 220/11kV	3	0	3		
14			132/66kV	0	0	0		
15		EHT Consumers	220kV Industrial	26	0	26	93	
16			400kV Industrial	6	0	6		
17			132kV Industrial	46	1	47		
18			132kV Rly. Traction	10	4	14		
19		G-D	--	6	3	9	9	
20		D-D	--	3	23	26	26	
21		PDs (33kV, 11kV)	--	34	0	34	34	
T-D SUB-TOTAL:				931	63	994	994	994

G – T					
Sl. No.	Metering Point Type	No. of Metering Points			Category Total
		0.2 class	0.5 class	Total	
1	TSGENCO -TSTRANSCO	65	0	65	222
2	INTER -STATE/PGCIL	74	0	74	
3	CPPs	22	0	22	
4	IPPs	4	0	4	
5	132kV EHT PDs	57	0	57	
G-T SUB-TOTAL:		222	0	222	222

OVERALL SUMMARY

Sl. No.	Metering Point Type	No. of Metering Points		
		0.2 class	0.5 class	Total
1	T – D	931	63	994
2	G – T	222	0	222
GRAND TOTAL:		1153	63	1216

NOTE: The boundary points taken in CPPs (G-T) is also included in EHT consumers (T-D)

ANNEXURE – III LIST OF DIRECTIVES

LIST OF DIRECTIVES

Directive No.	Directive	Compliance Report
1	The segregation of assets and liabilities of composite AP Transco between the two entities (AP Transco and TS Transco) may be completed in consultation with AP Transco and a compliance report to be submitted by 30.06.2017.	Complied with
2	The Audited accounts for FY 2014-15 and FY 2015-16 may be submitted to the Commission by 30.09.2017.	Complied with
3	The provisional accounts for FY 2016-17 may be submitted by 30.06.2017 with a certificate from the concerned Auditors and the audited accounts by 30.09.2017.	Complied with
4	The Transmission works relating to LIS schemes may be executed duly coordinating with the needs and requirements arising from Irrigation Department.	Complied with
5	Transmission works required for the purpose Yadadri power station and 2x800 MW NTPC power station may be arranged to be executed based on the needs arising from the respective stations.	Complied with
6	In future, Petition for fixation of transmission charges shall be submitted duly filling all the prescribed formats following guidelines for Revenue and Tariff filing for Transmission Licensee with all supporting documents in the ensuing MYT. Tables prepared shall be numbered with suitable captions. Details of capitalization considered for asset additions should be tallied with details of lines and sub-station charged and taken into service. O & M expenses claims in this petition should tally with length of lines and no of bays. The names of lines with length, names of sub-stations with no of bays of each SS shall be indicated.	Complied with

ANNEXURE-IV TSTRANSCO Contract Capacities in MW for the 4th Control period (FY 2019-20 to 2023-24)

Generating station/ source	Installed Capacity (MW)	Net Capacity TS Share	2019-20		2020-21		2021-22		2022-23		2023-24	
			SPDCL	NPDCCL								
KTPS-A	180	162.54	114.67	47.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
KTPS-B	120	108.36	76.45	31.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
KTPS-C	120	108.36	76.45	31.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RTS-B	62	56.88	40.13	16.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
KTPS-D (V)	500	455.00	321.00	134.00	321.00	134.00	321.00	134.00	321.00	134.00	321.00	134.00
KTPS-VI	500	462.50	326.29	136.21	326.29	136.21	326.29	136.21	326.29	136.21	326.29	136.21
KTPS-VII	800	760.00	536.18	223.82	536.18	223.82	536.18	223.82	536.18	223.82	536.18	223.82
KTPP-I	500	462.50	326.29	136.21	326.29	136.21	326.29	136.21	326.29	136.21	326.29	136.21
KTPP-II	600	555.00	391.55	163.45	391.55	163.45	391.55	163.45	391.55	163.45	391.55	163.45
Bhadradri-TPS-I	270	245.70	173.34	72.36	173.34	72.36	173.34	72.36	173.34	72.36	173.34	72.36
Bhadradri-TPS-II	270	245.70	173.34	72.36	173.34	72.36	173.34	72.36	173.34	72.36	173.34	72.36
Bhadradri-TPS-III	270	245.70	173.34	72.36	173.34	72.36	173.34	72.36	173.34	72.36	173.34	72.36
Bhadradri-TPS-IV	270	245.70	173.34	72.36	173.34	72.36	173.34	72.36	173.34	72.36	173.34	72.36
Yadradri-TPS-I	800	760.00	0.00	0.00	0.00	0.00	0.00	0.00	536.18	223.82	536.18	223.82
Yadradri-TPS-II	800	760.00	0.00	0.00	0.00	0.00	0.00	0.00	536.18	223.82	536.18	223.82
Yadradri-TPS-III	800	760.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	536.18	223.82
Yadradri-TPS-IV	800	760.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	536.18	223.82
Yadradri-TPS-V	800	760.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Thermal	8462	7913.94	2902.38	1211.56	2594.69	1083.11	2594.69	1083.11	3667.05	1530.75	4739.41	1978.39
Hydel												
NSPH	815	807.44	569.65	237.79	569.65	237.79	569.65	237.79	569.65	237.79	569.65	237.79
NSLCPH	60	59.40	41.91	17.49	41.91	17.49	41.91	17.49	41.91	17.49	41.91	17.49
Pochampad-PH	36	35.64	25.14	10.50	25.14	10.50	25.14	10.50	25.14	10.50	25.14	10.50
Nizamsagar-PH	10	9.90	6.98	2.92	6.98	2.92	6.98	2.92	6.98	2.92	6.98	2.92
Singur	15	14.85	10.48	4.37	10.48	4.37	10.48	4.37	10.48	4.37	10.48	4.37
SRLM-LBPH	900	891.00	628.60	262.40	628.60	262.40	628.60	262.40	628.60	262.40	628.60	262.40
Priyadarshini-Jurala	234	231.66	163.44	68.22	163.44	68.22	163.44	68.22	163.44	68.22	163.44	68.22
Lower-Jurala	240	237.60	167.63	69.97	167.63	69.97	167.63	69.97	167.63	69.97	167.63	69.97
Pulichintala	120	118.80	83.81	34.99	83.81	34.99	83.81	34.99	83.81	34.99	83.81	34.99
Total Hydro	2431	2406.29	1697.64	708.65								
Total Genco		10320.23	4600.02	1920.21	4292.33	1791.76	4292.33	1791.76	5364.69	2239.40	6437.05	2687.04
Interstate Hydel Projects												
Machkund PH	120	44.81	31.61	13.20	31.61	13.20	31.61	13.20	31.61	13.20	31.61	13.20
Tungabhadra PH & Hampi	72	30.73	21.68	9.05	21.68	9.05	21.68	9.05	21.68	9.05	21.68	9.05
Total IS Hydel	192	75.54	53.29	22.25								
CGS												
NTPC(SR)-Ramagundam-1-2	2100	345.45	243.71	101.74	243.71	101.74	243.71	101.74	243.71	101.74	243.71	101.74
NTPC(SR)-Ramagundam-3	500	86.73	61.19	25.54	61.19	25.54	61.19	25.54	61.19	25.54	61.19	25.54
NTPC Talcher-stage-2	2000	214.47	151.31	63.16	151.31	63.16	151.31	63.16	151.31	63.16	151.31	63.16
NLC-Stage-I	630	59.93	42.28	17.65	42.28	17.65	42.28	17.65	42.28	17.65	42.28	17.65
NLC-Stage-II	840	107.13	75.58	31.55	75.58	31.55	75.58	31.55	75.58	31.55	75.58	31.55
NPC-MAPS	440	22.76	16.06	6.70	16.06	6.70	16.06	6.70	16.06	6.70	16.06	6.70
NPCIL-Kaiga-Unit 1&2	440	70.41	49.68	20.74	49.68	20.74	49.68	20.74	49.68	20.74	49.68	20.74
NPCIL-Kaiga-Unit 3&4	440	74.73	52.72	22.01	52.72	22.01	52.72	22.01	52.72	22.01	52.72	22.01
NTPC-Simhadri-I	1000	538.90	380.19	158.71	380.19	158.71	380.19	158.71	380.19	158.71	380.19	158.71
NTPC-Simhadri-II	1000	231.30	163.18	68.12	163.18	68.12	163.18	68.12	163.18	68.12	163.18	68.12

TSTRANSCO Contract Capacities in MW for the 4th Control period (FY 2019-20 to 2023-24)

Generating station/ source	Installed Capacity	Net Capacity TS Share	2019-20		2020-21		2021-22		2022-23		2023-24	
			SPDCL	NPDCCL								
NTECL Vallur	1500	110.75	78.13	32.62	78.13	32.62	78.13	32.62	78.13	32.62	78.13	32.62
NLC Tamilnadu (Tuticorn) (NTPL)	1000	152.37	107.49	44.87	107.49	44.87	107.49	44.87	107.49	44.87	107.49	44.87
NTPC Kudgi-I& II	2400	271.68	191.67	80.01	191.67	80.01	191.67	80.01	191.67	80.01	191.67	80.01
KKNPP (Kudankulam Nuclear)	1000	50.00	35.28	14.73	35.28	14.73	35.28	14.73	35.28	14.73	35.28	14.73
NCE-Bundled power NVVNL ph 1	85	45.81	32.32	13.49	32.32	13.49	32.32	13.49	32.32	13.49	32.32	13.49
NCE-Bundled power NTPC Coal	200	200.00	141.10	58.90	141.10	58.90	141.10	58.90	141.10	58.90	141.10	58.90
Neyveli New Unit-1	500	30.66	21.63	9.03	21.63	9.03	21.63	9.03	21.63	9.03	21.63	9.03
Neyveli New Unit-2	500	30.66	21.63	9.03	21.63	9.03	21.63	9.03	21.63	9.03	21.63	9.03
NLC-TPS - II 2nd expansion	1320	299.01	0.00	0.00	0.00	0.00	0.00	0.00	210.95	88.06	210.95	88.06
Telangana STPP (phase 1)	1600	1360.00	0.00	0.00	959.48	400.52	959.48	400.52	959.48	400.52	959.48	400.52
Total CGS	19495	4302.75	1865.16	778.58	2824.64	1179.10	2824.64	1179.10	3035.59	1267.16	3035.59	1267.16
Joint Sector												
APGPCL-I	100	6.67	4.71	1.96	4.71	1.96	4.71	1.96	4.71	1.96	4.71	1.96
APGPCL-II	172	17.84	12.59	5.25	12.59	5.25	12.59	5.25	12.59	5.25	12.59	5.25
Total Joint Sector	272	24.51	17.29	7.22								
Others												
Thermal-Power-Tech (Unit - I)	660	269.45	190.10	79.35	190.10	79.35	190.10	79.35	190.10	79.35	190.10	79.35
Thermal-Power-Tech (Unit - II)	660	570.00	402.14	167.87	402.14	167.87	402.14	167.87	402.14	167.87	402.14	167.87
Singareni-TPP Stage – I	1200	1128.00	795.80	332.20	795.80	332.20	795.80	332.20	795.80	332.20	795.80	332.20
Chhattisgarh-Power	1000	1000.00	705.50	294.50	705.50	294.50	705.50	294.50	705.50	294.50	705.50	294.50
Singareni Stage - II	800	752.00	0.00	0.00	0.00	0.00	0.00	0.00	530.54	221.46	530.54	221.46
Staggered Medium term PSA with PTC *	550	550.00	388.03	161.98	388.03	161.98	388.03	161.98	0.00	0.00	0.00	0.00
Total Others	4870	4269.45	2481.56	1035.90	2481.56	1035.90	2481.56	1035.89	2624.07	1095.38	2624.07	1095.38
NCE#												
Bio-Mass	9.00	8.19	8.19	0.00	8.19	0.00	8.19	0.00	0.00	0.00	0.00	0.00
Bagasse	67.95	29.84	13.10	16.74	13.10	16.74	13.10	16.74	13.10	16.74	13.10	16.74
Industrial-Waste	7.50	6.83	6.83	0.00	6.83	0.00	6.83	0.00	6.83	0.00	6.83	0.00
MSW	11.00	11.00	11.00	0.00	11.00	0.00	11.00	0.00	11.00	0.00	11.00	0.00
Wind Power	100.80	100.30	100.30	0.00	100.30	0.00	100.30	0.00	100.30	0.00	100.30	0.00
Mini-Hydel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Solar	1893.94	1893.94	1271.94	622.00	1271.94	622.00	1271.94	622.00	1271.94	622.00	1271.94	622.00
Solar Bundled under Ph-II	357.67	357.67	239.87	117.80	239.87	117.80	239.87	117.80	239.87	117.80	239.87	117.80
NTPC ISTS Connected Solar PSA	1099.95	1099.95	0.00	0.00	776.00	323.95	776.00	323.95	776.00	323.95	776.00	323.95
NTPC ISTS Connected Wind PSA	300.00	300.00	0.00	0.00	211.65	88.35	211.65	88.35	211.65	88.35	211.65	88.35
Total NCE	3847.81	3807.72	1651.23	756.54	2638.88	1168.84	2638.88	1168.84	2630.69	1168.84	2630.69	1168.84
Discom Total		22800.20	10668.56	4520.69	12307.99	5205.06	12307.99	5205.06	13725.62	5800.25	14797.98	6247.89
Open Access			46.25		50.88		55.96		61.56		67.72	
Grand Total Contractual Capacity		22800.20	15235.49		17563.93		17569.01		19587.43		21113.59	

* The power is not being supplied till date by the aggregator as per PSA

The contracted capacities of NCE generators pertaining to TS/NPDCL connected at 132 kV level and above are tabulated.

Regulatory Forms

S.No.	Title	Form No.
1	Revenue Requirement	1.0
2	Regulated Rate Base	1a
3	Capital Structure	1b
4	Wheeling Revenue from Third Party/Open Access	1c
5	Balance Sheet	1.1(i)
6	Gross Fixed Assets	1.1a
7	Accumulated Depreciation	1.1b
8	Capital Work in Progress	1.1c
9	Investment Plan	1.1d
10	Voltage wise Asset Base	1.1e
11	Loans	1.1g
12	New Loans	1.1g(i)
13	Foreign Currency Loans & Credit	1.1h
14	Current Assets	1.1j
15	Current Liabilities	1.1k
16	DISCOM Contracts	1.1m
17	Reserves	1.1n
18	Cash Flow Statement	1.2
19	Operation and Maintenance Expenses	1.3a
20	Working Capital	1.3(i)
21	Other Expenses	1.3i
22	Transmission Losses	3.3
23	Contributions and Grants	7
24	Revenue Surplus/(Deficit) at Current Tariffs	8
25	Revenue Surplus/(Deficit) at Proposed Tariffs	9
26	Non-Tariff Income	10

Form 1.0 Revenue Requirement

(Rs. in crores)

Particulars	2018-19 (Base Year)	2019-20	2020-21	2021-22	2022-23	2023-24
Operation and Maintenance Charges	713.49	912.41	1070.66	1194.30	1302.55	1422.04
Depreciation	738.85	899.66	1032.35	1277.14	1482.28	1666.36
Advance Against Depreciation						
Taxes on Income	75.53	84.28	90.65	114.24	131.10	138.49
Other Expenditure	8.48	0.00	0.00	0.00	0.00	0.00
Special Appropriations		(367.15)				
Total Expenditure	1536.35	1529.21	2193.66	2585.68	2915.93	3226.89
Less: O&M expenses capitalized	109.90	120.88	132.97	146.26	160.89	176.98
Less: Other expenses capitalized						
Net Expenditure	1426.45	1408.33	2060.70	2439.42	2755.04	3049.91
Add: Return on Capital Employed	731.17	1030.09	1107.90	1396.23	1602.35	1692.67
Less: Non-Tariff Income (if any)	287.77	426.34	340.41	489.67	383.01	467.81
Total Revenue Requirement transferred to Retail supply business	1869.85	2012.08	2828.18	3345.98	3974.39	4274.77

Form 1a - Regulated Rate Base

This form pertains to the rate base calculation

(Rs. in crores)

Particulars	2018-19 (Base Year)	2019-20	2020-21	2021-22	2022-23	2023-24
Assets	14818.06	17652.09	19620.38	25723.24	26493.63	31869.75
OCFA Opening Balance	11228.26	14825.83	17652.09	19620.38	25723.24	26493.63
Additions to OCFA	3589.80	2826.26	1968.29	6102.86	770.38	5376.12
Depreciation	4376.95	5278.61	6310.97	7588.11	9070.39	10736.75
Opening Balance	3639.79	4378.95	5278.61	6310.97	7588.11	9070.39
Depreciation during the Year	737.16	899.66	1032.35	1277.14	1482.28	1666.36
Consumer Contributions	1918.27	3593.62	3495.43	4477.98	4127.47	5968.00
Cons Contributions Opening Balance	573.58	1918.27	3593.62	3495.43	4477.98	4127.47
Additions to Cons Contributions	1344.69	1675.35	-98.19	982.55	-350.51	1840.53
Working Capital	87.96	112.49	132.00	147.24	160.59	175.32
Change in Rate Base	753.98	125.62	517.06	1921.58	-180.69	934.62
Regulated Rate Base	7856.83	8766.72	9428.92	11882.81	13637.05	14405.70
Return on Capital Employed (ROCE)	731.17	1030.09	1107.90	1396.23	1602.35	1692.67

Form 1c - Revenue

(Rs.in crores)

Particulars	2018-19 (Base Year)	2019-20	2020-21	2021-22	2022-23	2023-24
Capacity (MW)	16047	15236	17564	17569	19587	21114
TS SPDCL	10935	10669	12308	12308	13726	14798
TS NPDCL	5111	4521	5205	5205	5800	6248
Others (Third Party /Open Access)	1	46	51	56	62	68
Transmission Charges (Rs/kW/month)	73.12	110.05	134.19	158.71	169.09	168.72
Revenue (Rs. in Crores)	1869.85	2012.08	2828.18	3345.98	3974.37	4274.77

Form 1.1(i) - BALANCE SHEET

(Rs. in crores)

Particulars	2018-19 (Base Year)	2019-20	2020-21	2021-22	2022-23	2023-24
ASSETS:						
Gross Fixed Assets	14825.83	17652.09	19620.38	25723.24	26493.63	31869.75
Less: Accumulated Depreciation	4378.95	5278.61	6310.97	7588.11	9070.39	10736.75
Net Fixed Assets	10446.88	12373.48	13309.41	18135.13	17423.23	21133.00
Capital Expenditure-in-progress	3709.74	4405.15	6405.06	3423.12	4322.31	344.09
Assets not in use						
Investments	373.31	357.86	357.86	357.86	357.86	357.86
Current Assets	3823.31	2670.52	2765.72	2672.92	2830.00	3010.00
Stocks	148.22	150.00	160.00	170.00	180.00	200.00
Receivables	449.89	400.00	450.00	500.00	550.00	600.00
Cash and Bank balances	110.82	120.00	130.00	140.00	150.00	160.00
Loans & Advances	2357.80	1434.80	1500.00	1550.00	1600.00	1650.00
Other receivables	756.58	565.72	525.72	312.92	350.00	400.00
Miscellaneous Expenditure	-	-	-	-	-	-
Others	-	-	-	-	-	-
Total Assets :	18353.24	19807.00	22838.05	24589.03	24933.40	24844.95
LIABILITIES:						
Equity	0.05	0.05	0.05	0.05	0.05	0.05
Reserves	649.26	636.81	639.81	642.81	645.81	648.81
Indian Loans	8270.73	8684.77	10354.85	11468.80	11701.79	11642.05
Foreign Loans	-	-	-	-	-	-
Other working capital borrowings	-	-	-	-	-	-
Current Liabilities	5552.92	4684.31	5813.45	5052.04	5036.63	2663.19
Contributions, Grants and Subsidies towards capital assets	1918.27	3593.62	3495.43	4477.98	4127.47	5968.00
Payment due on Capital Liabilities	58.40	0.00	0.00	0.00	0.00	0.00
Liability towards Pension, Gratuity and Leave Encashment	503.94	503.94	503.94	503.94	503.94	503.94
Others (Deferred Tax Liability)	445.08	445.08	445.08	445.08	445.08	445.08
Surplus/(Deficit)	954.59	1258.43	1585.44	1998.34	2472.63	2973.83
Total Liabilities :	18353.24	19807.00	22838.05	24589.03	24933.40	24844.95

Form 1.1 a - GROSS FIXED ASSETS

2018-19 (Base Year)

(Rs. in crores)

Asset Particulars	At the beginning of the year	Additions during the year	Adjustment & deductions	At the end of the year	Remarks
Land & land rights	53.08	-1.56		51.52	
Buildings	143.23	132.37		275.60	
Intangible Assets	0.00			0.00	
Hydraulic Works	0.00			0.00	
Other civil works	39.55	118.80		158.35	
Plant & Machinery	4843.95	1571.00		6414.95	0.00
Plant and Machinery - 400 kV	0.00			0.00	
Plant and Machinery - 220 kV	0.00			0.00	
Plant and Machinery - 132 kV	0.00			0.00	
	0.00			0.00	
Material Handling Equipments	0.00			0.00	
Construction Equipments	0.00			0.00	
Miscellaneous Equipments	0.00			0.00	
Others	0.00			0.00	
Line Cable Network	6085.20	1750.16	0.00	7835.36	0.00
Line Cable Network - 400kV	0.00			0.00	
Line Cable Network - 220kV	0.00			0.00	
Line Cable Network - 132kV	0.00			0.00	
Others	0.00			0.00	
Vehicles	2.38	0.35		2.73	
Furniture & Fixtures	3.06	5.87		8.93	
Office Equipment	57.81	12.81		70.62	
Fully Depreciated Fixed Assets	0.00			0.00	
Others	0.00			0.00	
Spare Units/ Service units	0.00			0.00	
Total	11228.26	3589.80	0.00	14818.06	0.00

2019-20

(Rs. in crores)

Asset Particulars	At the beginning of the year	Additions during the year	Adjustment & deductions	At the end of the year	Remarks
Land & land rights	51.52	9.91		61.43	
Buildings	275.60	47.87		323.47	
Intangible Assets	0.00	0.00		0.00	
Hydraulic Works	0.00	0.00		0.00	
Other civil works	158.35	16.02		174.37	
Plant & Machinery	6421.67	1364.47	0.00	7786.14	0.00
Plant and Machinery - 400 kV	0.00	0.00		0.00	
Plant and Machinery - 220 kV	0.00	0.00		0.00	
Plant and Machinery - 132 kV	0.00	0.00		0.00	
	0.00	0.00		0.00	
Material Handling Equipments	0.00	0.00		0.00	
Construction Equipments	0.00	0.00		0.00	
Miscellaneous Equipments	0.00	0.00		0.00	
Others	0.00	0.00		0.00	
Line Cable Network	7835.36	1371.86	0.00	9207.22	0.00
Line Cable Network - 400kV	0.00	0.00		0.00	
Line Cable Network - 220kV	0.00	0.00		0.00	
Line Cable Network - 132kV	0.00	0.00		0.00	
Others	0.00	0.00		0.00	
Vehicles	2.73	0.75		3.48	
Furniture & Fixtures	9.05	1.36		10.41	
Office Equipment	71.55	14.01		85.56	
Fully Depreciated Fixed Assets	0.00	0.00		0.00	
Others	0.00	0.00		0.00	
Spare Units/ Service units	0.00	0.00		0.00	
Total	14825.83	2826.26	0.00	17652.09	0.00

2020-21

(Rs. in crores)

Asset Particulars	At the beginning of the year	Additions during the year	Adjustment & deductions	At the end of the year	Remarks
Land & land rights	61.43	6.90		68.34	
Buildings	323.47	33.34		356.80	
Intangible Assets	0.00	0.00		0.00	
Hydraulic Works	0.00	0.00		0.00	
Other civil works	174.37	11.15		185.52	
Plant & Machinery	7786.14	950.26	0.00	8736.40	0.00
Plant and Machinery - 400 kV	0.00	0.00		0.00	
Plant and Machinery - 220 kV	0.00	0.00		0.00	
Plant and Machinery - 132 kV	0.00	0.00		0.00	
	0.00	0.00		0.00	
Material Handling Equipments	0.00	0.00		0.00	
Construction Equipments	0.00	0.00		0.00	
Miscellaneous Equipments	0.00	0.00		0.00	
Others	0.00	0.00		0.00	
Line Cable Network	9207.22	955.41	0.00	10162.63	0.00
Line Cable Network - 400kV	0.00	0.00		0.00	
Line Cable Network - 220kV	0.00	0.00		0.00	
Line Cable Network - 132kV	0.00	0.00		0.00	
Others	0.00	0.00		0.00	
Vehicles	3.48	0.52		4.00	
Furniture & Fixtures	10.41	0.95		11.36	
Office Equipment	85.56	9.76		95.32	
Fully Depreciated Fixed Assets	0.00	0.00		0.00	
Others	0.00	0.00		0.00	
Spare Units/ Service units	0.00	0.00		0.00	
Total	17652.09	1968.29	0.00	19620.38	0.00

2021-22

(Rs. in crores)

Asset Particulars	At the beginning of the year	Additions during the year	Adjustment & deductions	At the end of the year	Remarks
Land & land rights	68.34	21.40		89.74	
Buildings	356.80	103.36		460.17	
Intangible Assets	0.00	0.00		0.00	
Hydraulic Works	0.00	0.00		0.00	
Other civil works	185.52	34.59		220.11	
Plant & Machinery	8736.40	2946.37	0.00	11682.77	0.00
Plant and Machinery - 400 kV	0.00	0.00		0.00	
Plant and Machinery - 220 kV	0.00	0.00		0.00	
Plant and Machinery - 132 kV	0.00	0.00		0.00	
	0.00	0.00		0.00	
Material Handling Equipments	0.00	0.00		0.00	
Construction Equipments	0.00	0.00		0.00	
Miscellaneous Equipments	0.00	0.00		0.00	
Others	0.00	0.00		0.00	
Line Cable Network	10162.63	2962.32	0.00	13124.95	0.00
Line Cable Network - 400kV	0.00	0.00		0.00	
Line Cable Network - 220kV	0.00	0.00		0.00	
Line Cable Network - 132kV	0.00	0.00		0.00	
Others	0.00	0.00		0.00	
Vehicles	4.00	1.62		5.63	
Furniture & Fixtures	11.36	2.94		14.31	
Office Equipment	95.32	30.26		125.58	
Fully Depreciated Fixed Assets	0.00	0.00		0.00	
Others	0.00	0.00		0.00	
Spare Units/ Service units	0.00	0.00		0.00	
Total	19620.38	6102.86	0.00	25723.24	0.00

2022-23

(Rs. in crores)

Asset Particulars	At the beginning of the year	Additions during the year	Adjustment & deductions	At the end of the year	Remarks
Land & land rights	89.74	2.70		92.44	
Buildings	460.17	13.05		473.21	
Intangible Assets	0.00	0.00		0.00	
Hydraulic Works	0.00	0.00		0.00	
Other civil works	220.11	4.37		224.47	
Plant & Machinery	11682.77	371.93	0.00	12054.70	0.00
Plant and Machinery - 400 kV	0.00	0.00		0.00	
Plant and Machinery - 220 kV	0.00	0.00		0.00	
Plant and Machinery - 132 kV	0.00	0.00		0.00	
	0.00	0.00		0.00	
Material Handling Equipments	0.00	0.00		0.00	
Construction Equipments	0.00	0.00		0.00	
Miscellaneous Equipments	0.00	0.00		0.00	
Others	0.00	0.00		0.00	
Line Cable Network	13124.95	373.94	0.00	13498.89	0.00
Line Cable Network - 400kV	0.00	0.00		0.00	
Line Cable Network - 220kV	0.00	0.00		0.00	
Line Cable Network - 132kV	0.00	0.00		0.00	
Others	0.00	0.00		0.00	
Vehicles	5.63	0.20		5.83	
Furniture & Fixtures	14.31	0.37		14.68	
Office Equipment	125.58	3.82		129.40	
Fully Depreciated Fixed Assets	0.00	0.00		0.00	
Others	0.00	0.00		0.00	
Spare Units/ Service units	0.00	0.00		0.00	
Total	25723.24	770.38	0.00	26493.63	0.00

2023-24

(Rs. in crores)

Asset Particulars	At the beginning of the year	Additions during the year	Adjustment & deductions	At the end of the year	Remarks
Land & land rights	92.44	18.85		111.30	
Buildings	473.21	91.05		564.27	
Intangible Assets	0.00	0.00		0.00	
Hydraulic Works	0.00	0.00		0.00	
Other civil works	224.47	30.47		254.94	
Plant & Machinery	12054.70	2595.51	0.00	14650.21	0.00
Plant and Machinery - 400 kV	0.00	0.00		0.00	
Plant and Machinery - 220 kV	0.00	0.00		0.00	
Plant and Machinery - 132 kV	0.00	0.00		0.00	
	0.00	0.00		0.00	
Material Handling Equipments	0.00	0.00		0.00	
Construction Equipments	0.00	0.00		0.00	
Miscellaneous Equipments	0.00	0.00		0.00	
Others	0.00	0.00		0.00	
Line Cable Network	13498.89	2609.56	0.00	16108.46	0.00
Line Cable Network - 400kV	0.00	0.00		0.00	
Line Cable Network - 220kV	0.00	0.00		0.00	
Line Cable Network - 132kV	0.00	0.00		0.00	
Others	0.00	0.00		0.00	
Vehicles	5.83	1.43		7.26	
Furniture & Fixtures	14.68	2.59		17.27	
Office Equipment	129.40	26.65		156.05	
Fully Depreciated Fixed Assets	0.00	0.00		0.00	
Others	0.00	0.00		0.00	
Spare Units/ Service units	0.00	0.00		0.00	
Total	26493.63	5376.12	0.00	31869.75	0.00

Form 1.1 b - ACCUMULATED DEPRECIATION

Please fill in the required details pertaining to each year

2018-19 (Base Year)

(Rs. in crores)

Asset Particulars	Balance of accumulated depreciation at the beginning of the year	Balance of arrears of depreciation at the beginning of the year	Additions during the year			Withdrawals during the year	Balance of accumulated depreciation at the end of the year	Balance of arrears of depreciation at the end of the year	Remarks
			Rate of depreciation	Depreciation provided for the year	Arrears of depreciation written off during the year				
Land & land rights	0.00					0.00	0.00		
Buildings	34.71			6.16		6.16	40.87		
Intangible Assets	0.00					0.00	0.00		
Hydraulic Works	0.00					0.00	0.00		
Other civil works	2.13			2.99		2.99	5.12		
Plant & Machinery	2068.12			379.72		379.72	2446.15		
Plant and Machinery - 400 kV	0.00					0.00	0.00		
Plant and Machinery - 220 kV	0.00					0.00	0.00		
Plant and Machinery - 132 kV	0.00					0.00	0.00		
Material Handling Equipments	0.00					0.00	0.00		
Construction Equipments	0.00					0.00	0.00		
Miscellaneous Equipments	0.00					0.00	0.00		
Others	0.00					0.00	0.00		
Line Cable Network	1505.80			342.48		342.48	1848.28		
Line Cable Network - 400kV	0.00					0.00	0.00		
Line Cable Network - 220kV	0.00					0.00	0.00		
Line Cable Network - 132kV	0.00					0.00	0.00		
Others	0.00					0.00	0.00		
Vehicles	2.07			0.22		0.22	2.29		
Furniture & Fixtures	1.51			0.94		0.94	2.45		
Office Equipment	25.45			6.34		6.34	31.79		
Fully Depreciated Fixed Assets	0.00					0.00	0.00		
Others	0.00					0.00	0.00		
Spare Units/ Service units	0.00					0.00	0.00		
Grand Total	3639.79	0.00		738.85	0.00	738.85	4376.95	0.00	

2019-20

(Rs. in crores)

Asset Particulars	Balance of accumulated depreciation at the beginning of the year	Balance of arrears of depreciation at the beginning of the year	Additions during the year			Withdrawals during the year	Balance of accumulated depreciation at the end of the year	Balance of arrears of depreciation at the end of the year	Remarks
			Rate of depreciation	Depreciation provided for the year	Arrears of depreciation written off during the year				
Land & land rights	0.00			0.00		0.00	0.00		
Buildings	40.87			9.00		9.00	49.87		
Intangible Assets	0.00			0.00		0.00	0.00		
Hydraulic Works	0.00			0.00		0.00	0.00		
Other civil works	5.12			0.64		0.64	5.76		
Plant & Machinery	2447.52			530.98		530.98	2978.50		
Plant and Machinery - 400 kV	0.00			0.00		0.00	0.00		
Plant and Machinery - 220 kV	0.00			0.00		0.00	0.00		
Plant and Machinery - 132 kV	0.00			0.00		0.00	0.00		
				0.00					
Material Handling Equipments	0.00			0.00		0.00	0.00		
Construction Equipments	0.00			0.00		0.00	0.00		
Miscellaneous Equipments	0.00			0.00		0.00	0.00		
Others	0.00			0.00		0.00	0.00		
Line Cable Network	1848.28			351.56		351.56	2199.84		
Line Cable Network - 400kV	0.00			0.00		0.00	0.00		
Line Cable Network - 220kV	0.00			0.00		0.00	0.00		
Line Cable Network - 132kV	0.00			0.00		0.00	0.00		
Others	0.00			0.00		0.00	0.00		
Vehicles	2.29			0.51		0.51	2.80		
Furniture & Fixtures	2.55			0.49		0.49	3.04		
Office Equipment	32.32			6.48		6.48	38.80		
Fully Depreciated Fixed Assets	0.00			0.00		0.00	0.00		
Others	0.00			0.00		0.00	0.00		
Spare Units/ Service units	0.00			0.00		0.00	0.00		
Grand Total	4378.95	0.00		899.66	0.00	899.66	5278.61	0.00	

2020-21

(Rs. in crores)

Asset Particulars	Balance of accumulated depreciation at the beginning of the year	Balance of arrears of depreciation at the beginning of the year	Additions during the year			Withdrawals during the year	Balance of accumulated depreciation at the end of the year	Balance of arrears of depreciation at the end of the year	Remarks
			Rate of depreciation	Depreciation provided for the year	Arrears of depreciation written off during the year				
Land & land rights	0.00			0.00		0.00	0.00		
Buildings	49.87			10.33		10.33	60.20		
Intangible Assets	0.00			0.00		0.00	0.00		
Hydraulic Works	0.00			0.00		0.00	0.00		
Other civil works	5.76			0.74		0.74	6.50		
Plant & Machinery	2978.50			609.29		609.29	3587.78		
Plant and Machinery - 400 kV	0.00			0.00		0.00	0.00		
Plant and Machinery - 220 kV	0.00			0.00		0.00	0.00		
Plant and Machinery - 132 kV	0.00			0.00		0.00	0.00		
				0.00					
Material Handling Equipments	0.00			0.00		0.00	0.00		
Construction Equipments	0.00			0.00		0.00	0.00		
Miscellaneous Equipments	0.00			0.00		0.00	0.00		
Others	0.00			0.00		0.00	0.00		
Line Cable Network	2199.84			403.41		403.41	2603.25		
Line Cable Network - 400kV	0.00			0.00		0.00	0.00		
Line Cable Network - 220kV	0.00			0.00		0.00	0.00		
Line Cable Network - 132kV	0.00			0.00		0.00	0.00		
Others	0.00			0.00		0.00	0.00		
Vehicles	2.80			0.59		0.59	3.39		
Furniture & Fixtures	3.04			0.56		0.56	3.60		
Office Equipment	38.80			7.44		7.44	46.24		
Fully Depreciated Fixed Assets	0.00			0.00		0.00	0.00		
Others	0.00			0.00		0.00	0.00		
Spare Units/ Service units	0.00			0.00		0.00	0.00		
Grand Total	5278.61	0.00		1032.35	0.00	1032.35	6310.97	0.00	

2021-22

(Rs. in crores)

Asset Particulars	Balance of accumulated depreciation at the beginning of the year	Balance of arrears of depreciation at the beginning of the year	Additions during the year				Withdrawals during the year	Balance of accumulated depreciation at the end of the year	Balance of arrears of depreciation at the end of the year	Remarks
			Rate of depreciation	Depreciation provided for the year	Arrears of depreciation written off during the year	Total				
Land & land rights	0.00			0.00		0.00		0.00		
Buildings	60.20			12.78		12.78		72.97		
Intangible Assets	0.00			0.00		0.00		0.00		
Hydraulic Works	0.00			0.00		0.00		0.00		
Other civil works	6.50			0.91		0.91		7.42		
Plant & Machinery	3587.78			753.76		753.76		4341.54		
Plant and Machinery - 400 kV	0.00			0.00		0.00		0.00		
Plant and Machinery - 220 kV	0.00			0.00		0.00		0.00		
Plant and Machinery - 132 kV	0.00			0.00		0.00		0.00		
				0.00						
Material Handling Equipments	0.00			0.00		0.00		0.00		
Construction Equipments	0.00			0.00		0.00		0.00		
Miscellaneous Equipments	0.00			0.00		0.00		0.00		
Others	0.00			0.00		0.00		0.00		
Line Cable Network	2603.25			499.07		499.07		3102.32		
Line Cable Network - 400kV	0.00			0.00		0.00		0.00		
Line Cable Network - 220kV	0.00			0.00		0.00		0.00		
Line Cable Network - 132kV	0.00			0.00		0.00		0.00		
Others	0.00			0.00		0.00		0.00		
Vehicles	3.39			0.73		0.73		4.11		
Furniture & Fixtures	3.60			0.70		0.70		4.30		
Office Equipment	46.24			9.20		9.20		55.44		
Fully Depreciated Fixed Assets	0.00			0.00		0.00		0.00		
Others	0.00			0.00		0.00		0.00		
Spare Units/ Service units	0.00			0.00		0.00		0.00		
Grand Total	6310.97	0.00		1277.14	0.00	1277.14	0.00	7588.11	0.00	

2022-23

(Rs. in crores)

Asset Particulars	Balance of accumulated depreciation at the beginning of the year	Balance of arrears of depreciation at the beginning of the year	Additions during the year			Withdrawals during the year	Balance of accumulated depreciation at the end of the year	Balance of arrears of depreciation at the end of the year	Remarks
			Rate of depreciation	Depreciation provided for the year	Arrears of depreciation written off during the year				
Land & land rights	0.00			0.00		0.00	0.00		
Buildings	72.97			14.83		14.83	87.80		
Intangible Assets	0.00			0.00		0.00	0.00		
Hydraulic Works	0.00			0.00		0.00	0.00		
Other civil works	7.42			1.06		1.06	8.48		
Plant & Machinery	4341.54			874.83		874.83	5216.37		
Plant and Machinery - 400 kV	0.00			0.00		0.00	0.00		
Plant and Machinery - 220 kV	0.00			0.00		0.00	0.00		
Plant and Machinery - 132 kV	0.00			0.00		0.00	0.00		
				0.00					
Material Handling Equipments	0.00			0.00		0.00	0.00		
Construction Equipments	0.00			0.00		0.00	0.00		
Miscellaneous Equipments	0.00			0.00		0.00	0.00		
Others	0.00			0.00		0.00	0.00		
Line Cable Network	3102.32			579.23		579.23	3681.56		
Line Cable Network - 400kV	0.00			0.00		0.00	0.00		
Line Cable Network - 220kV	0.00			0.00		0.00	0.00		
Line Cable Network - 132kV	0.00			0.00		0.00	0.00		
Others	0.00			0.00		0.00	0.00		
Vehicles	4.11			0.84		0.84	4.95		
Furniture & Fixtures	4.30			0.81		0.81	5.11		
Office Equipment	55.44			10.68		10.68	66.12		
Fully Depreciated Fixed Assets	0.00			0.00		0.00	0.00		
Others	0.00			0.00		0.00	0.00		
Spare Units/ Service units	0.00			0.00		0.00	0.00		
Grand Total	7588.11	0.00		1482.28	0.00	1482.28	9070.39	0.00	

2023-24

(Rs. in crores)

Asset Particulars	Balance of accumulated depreciation at the beginning of the year	Balance of arrears of depreciation at the beginning of the year	Additions during the year			Withdrawals during the year	Balance of accumulated depreciation at the end of the year	Balance of arrears of depreciation at the end of the year	Remarks
			Rate of depreciation	Depreciation provided for the year	Arrears of depreciation written off during the year				
Land & land rights	0.00			0.00		0.00	0.00		
Buildings	87.80			16.67		16.67	104.47		
Intangible Assets	0.00			0.00		0.00	0.00		
Hydraulic Works	0.00			0.00		0.00	0.00		
Other civil works	8.48			1.19		1.19	9.67		
Plant & Machinery	5216.37			983.47		983.47	6199.85		
Plant and Machinery - 400 kV	0.00			0.00		0.00	0.00		
Plant and Machinery - 220 kV	0.00			0.00		0.00	0.00		
Plant and Machinery - 132 kV	0.00			0.00		0.00	0.00		
				0.00					
Material Handling Equipments	0.00			0.00		0.00	0.00		
Construction Equipments	0.00			0.00		0.00	0.00		
Miscellaneous Equipments	0.00			0.00		0.00	0.00		
Others	0.00			0.00		0.00	0.00		
Line Cable Network	3681.56			651.16		651.16	4332.72		
Line Cable Network - 400kV	0.00			0.00		0.00	0.00		
Line Cable Network - 220kV	0.00			0.00		0.00	0.00		
Line Cable Network - 132kV	0.00			0.00		0.00	0.00		
Others	0.00			0.00		0.00	0.00		
Vehicles	4.95			0.95		0.95	5.90		
Furniture & Fixtures	5.11			0.91		0.91	6.02		
Office Equipment	66.12			12.01		12.01	78.13		
Fully Depreciated Fixed Assets	0.00			0.00		0.00	0.00		
Others	0.00			0.00		0.00	0.00		
Spare Units/ Service units	0.00			0.00		0.00	0.00		
Grand Total	9070.39	0.00		1666.36	0.00	1666.36	10736.75	0.00	

Form 1.1 c - Capital Work in Progress

This form pertains to the Capital Work in Progress

(Rs. in crores)

Particulars	2018-19 (Base Year)	2019-20	2020-21	2021-22	2022-23	2023-24
Opening balance of CWIP	3759.90	3709.74	4405.15	6405.06	3423.12	4322.31
Add: New Investment*	3226.14	3031.52	3557.29	2754.39	1366.99	1087.59
Add: Capitalisation of Expenses						
(i) Interest During Construction	203.60	369.27	277.94	220.27	141.69	133.34
(ii) Other Expenses Capitalised	109.90	120.88	132.97	146.26	160.89	176.98
Total (i)+(ii) :	313.50	490.15	410.91	366.54	302.58	310.32
Less : Investment Capitalised	3589.80	2826.26	1968.29	6102.86	770.38	5376.12
Closing balance of CWIP	3709.74	4405.15	6405.06	3423.12	4322.31	344.09

Format 1.1(d)

ABSTRACT OF INVESTMENT PLAN (FY 2018-19) OF (400kV Schemes)

(Amount Rs. in Crs)

Base Year 2018-19																																							
Sl No.	Project Code	Project Title	Opening Balance as on 31.03.2018	Project Start Date DD-MM-YY	Project Completion Date DD-MM-YY	PLANNED CAPITAL EXPENDITURE					SOURCE OF FINANCING						Investments proposed for the year			Investments incurred in the year			Cumulative progress (year on year)			Remarks													
						Base Cost (in Rs.Crs)	Contingency	IDC	TAXES	Expende Capitalised	Total Cost	Internal Accrual Component of capex in year	Equity Component of capex in year	Loan Amount	Interest Rate	Moratorium period	Repayment period	Loan source	Proposed investment in the year(Rs. Crs.)	Proposed IDC	Proposed other expense	% Capatalisation	Actual investment in the year	IDC incurred	Other expense incurred		% Capatalisation	Actual investment in the year(Rs.in Crs)	IDC incurred	Other expense incurred	% Capatalisation								
1	APT/TS/SCCL(Jaipur)-Evacuation-400kV Quad D/C /F-INVST-42/2013	Jaipur Power Transmission Scheme P-10-01	0.20	Mar'2013	Mar' 2021	686.42	20.59	61.59	73.79	842.39																													
2	APT/TS/400kV Suryapet/F-INVST-28/2014	Suryapet Power Transmission Scheme (S-14-02)	28.00	Jul'2013	Mar' 2021	1,426.53	42.80	144.80	153.35	1,767.48																													
3	Lr.No.APERC/Secy/DD (Trans)/F:E-700-8/2014 dated 06.08.2014	Reactor Scheme - II (S-14-01)	0.00	Sep'2016	Mar' 2020	80.74				80.74																													
4	TST / TS / 400kV Dindi Substation /Trans. improvement scheme /Invest. Appoval No.16/15, Dt.02.01.2016	Dindi System Improvement Scheme (P-15-01)	18.52	Nov' 2015	Mar' 2021	251.97	7.56	27.08	34.92	321.53																													
5	TST / TS / KTPS VII STAGE (1x800MW)/POWER TRANSMISSION/INVEST. APPROVAL/Revised approval 17/17 , 2017-18, dec'2017	KTPS 1x800Mw, VII stage Power Evacuation scheme (P-15-04,S-15-24,S-16-05)	388.59	Jul'2015	Mar'2022	1,150.31	34.17	105.61	122.43	1,412.52																													
6	TST/TS/765kV Wardha -Hyderabad Link Transmission scheme-Erection of 400kV Sub stations at Maheshwaram and Manikonda with connected Transmission network investment proposal revised approval NO 16/17-2017-18 Dt.19.12.2017	765kV Wardha -Hyderabad Link Transmission scheme (S-15-13)	229.39	Nov' 2015	Mar'2021	1,037.70	30.82	100.08	110.45	1,279.05																													

Base Year 2019-20																																
Sl No.	Project Code	Project Title	Opening Balance as on 31.03.2019	Project Start Date DD-MM-YY	Project Completion Date DD-MM-YY	PLANNED CAPITAL EXPENDITURE					SOURCE OF FINANCING						Investments proposed for the year			Investments incurred in the year			Cumulative progress (year on year)			Remarks						
						Base Cost (in Rs.Crs)	Contingency	IDC	TAXES	Expence Capatalised	Total Cost	Internal Accrual Component of capex in year	Equity Component of capex in year	Loan Amount	Interest Rate	Moratorium period	Repayment period	Loan source	Proposed investment in the year(Rs. Crs.)	Proposed IDC	Proposed other expence	% Capatalisation	Actual investment in the year	IDC incurred	Other expence incurred		% Capatalisation	Actual investment in the year(Rs.in Crs)	IDC incurred	Other expence incurred	% Capatalisation	
8	TST/TS/315 MVA PTR, Augmentation/DIC HPALLY, VELTOOR, Gajwel/ revised APPROVAL NO 03/17,2017-18 dated 04.05.2017	Augmentation Scheme(A-15-11,A-15-10)	0.00	Feb'2016	Mar' 2020	95.59					95.59									0.50				0.50				0.50			100	
9	TST/TS/Bhadradri (4X270) MW Thermal power Transmission/ Investment Approval NO17/15, Dt.02.01.2016	Bhadradri Thermal Power Transmission Scheme 4 X 270 MW (P-15-03, S-12-23, S-15-20, S-15-21, S-15-22, S-15-25)	37.65	Nov' 2015	Mar'2021	1,055.78	31.67	103.41		113.496	1,304.36									27.00				27.00				64.65				
10	TST/TS/400kV Nirmal Power Transmission Scheme-Power Evacuation from M/s. SCCL 2x600MW units and for upcoming 1x800MW units. /F.Revised approval/NO 07/2018-19 dated 19.07.2018	Nirmal Power Transmission Scheme (P-12-02, S-12-30, S-12-31)	142.69	Dec'2015	Mar'2022	943.93	28.04	78.61		100.47	1,151.05									43.00				43.00				185.69				
11	TS/TST/Invest. Approval/PTR Augmentation/400kV Malkaram & Shankerpally No 11/2017, 17-18 dated 30.08.2017	Augmentation Scheme-III (A-17-03)	0.00	Dec'2017	Mar'2020	74.44					74.44									2.00				2.00				2.00			100	
12	TST/TS/Rayadurg System Improvement Scheme.Approval/NO 02/2018-19 dated 24.05.2018	Rayadurg System Improvement Scheme (S-17-08)	200.23	Sep'2018	May' 2021	1,469.01	43.63	117.40		156.36	1,786.40									700.00				700.00				900.23				

Base Year 2019-20																																						
Sl No.	Project Code	Project Title	Opening Balance as on 31.03.2019	Project Start Date DD-MM-YY	Project Completion Date DD-MM-YY	PLANNED CAPITAL EXPENDITURE					SOURCE OF FINANCING						Investments proposed for the year			Investments incurred in the year			Cumulative progress (year on year)			Remarks												
						Base Cost (in Rs.Crs)	Contingency	IDC	TAXES	Expence Capatalised	Total Cost	Internal Accrual Component of capex in year	Equity Component of capex in year	Loan Amount	Interest Rate	Moratorium period	Repayment period	Loan source	Proposed investment in the year(Rs. Crs.)	Proposed IDC	Proposed other expence	% Capatalisation	Actual investment in the year	IDC incurred	Other expence incurred		% Capatalisation	Actual investment in the year(Rs.in Crs)	IDC incurred	Other expence incurred	% Capatalisation							
13	TS/TST/Investment approval/Telangana STPP-1 (2x800MW) NO, 10/2017 dated 23.08.2017	Telangana STPP-I Power Evacuation (P-16-01)	538.25	Oct'2017	May' 2021	1,013.61	30.11	105.26		107.88	1,256.86													184.00				184.00					722.25					
14	To be Applied	Yadradi Power Evacuation	0.00	Jan'2020	Mar' 2024	1,887.67	56.07	209.70		200.91	2,354.35																											
15	Applied & approval is pending	KTPP System Improvement Scheme	0.00	Jan'2020	Mar' 2024	372.58	11.07	30.92		39.66	454.23																											
16	Applied & approval is pending	Reactor Scheme -III	0.00	Jan'2020	May'2022	201.44	5.98	20.92		21.44	249.78																											
	DC Works																																					
		Execution of 2 Nos Feeder bays and 8 Nos Metering Bays at STPP,Jaipur (D-17-02)	0.00	June'2017	Mar'2020	28.21					28.21																											100
	Total		1918.96								14458.97													1201.50				1201.50					3120.46					

Format 1.1(d)

ABSTRACT OF INVESTMENT PLAN (FY 2020-21) OF (400kV Schemes)

(Amount Rs. in Crs)

Base Year 2020-21																														
SI No.	Project Code	Project Title	Project Start Date DD-MM-YY	Project Completion Date DD-MM-YY	PLANNED CAPITAL EXPENDITURE					SOURCE OF FINANCING						Investments proposed for the year			Investments incurred in the year			Cumulative progress (year on year)			Remarks					
					Base Cost (in Rs.Crs)	Contingency	IDC	TAXES	Expence Capatalised	Total Cost	Internal Accrual Component of capex in year	Equity Component of capex in year	Loan Amount	Interest Rate	Moratorium period	Repayment period	Loan source	Proposed investment in the year(Rs. Crs.)	Proposed IDC	Proposed other expence	% Capatalisation	Actual investment in the year	IDC incurred	Other expence incurred		% Capatalisation	Actual investment in the year(Rs.in Crs)	IDC incurred	Other expence incurred	% Capatalisation
1	APT/TS/SCCL(Jaipur)-Evacuation-400kV Quad D/C /F-INVST-42/2013	Jaipur Power Transmission Scheme	Mar'2013	Mar' 2021	686.42	20.59	61.59		73.79	842.39									1.00				1.00				4.50		100	
2	APT/TS/400kV Suryapet/F-INVST-28/2014	Suryapet Power Transmission Scheme	Jul'2013	Mar' 2021	1,426.53	42.80	144.80		153.35	1,767.48									4.00				4.00				17.96		100	
3	TST / TS / 400kV Dindi Substation /Trans. improvement scheme /Invest. Appoval No.16/15, Dt.02.01.2016	Dindi System Improvement Scheme	Nov' 2015	Mar' 2021	251.97	7.56	27.08		34.92	321.53									16.00				16.00				67.09		100	
4	TST / TS / KTPS VII STAGE (1x800MW)/POWER TRANSMISSION/INVEST. APPROVAL/Revised approval 17/17 , 2017-18, dec'2017	KTPS 1x800Mw, VII stage Power Evacuation scheme	Jul'2015	Mar'2022	1,150.31	34.17	105.61		122.43	1,412.52									28.85				28.85				851.50			
5	TST/TS/765kV Wardha –Hyderabad Link Transmission scheme-Erection of 400kV Sub stations at Maheshwaram and Manikonda with connected Transmission network investment proposal revised approval NO 16/17-2017-18 Dt.19.12.2017	765kV Wardha –Hyderabad Link Transmission scheme	Nov' 2015	Mar'2021	1,037.70	30.82	100.08		110.45	1,279.05									92.00				92.00				409.44		100	

Base Year 2020-21																															
Sl No.	Project Code	Project Title	Project Start Date DD-MM-YY	Project Completion Date DD-MM-YY	PLANNED CAPITAL EXPENDITURE					SOURCE OF FINANCING						Investments proposed for the year			Investments incurred in the year			Cumulative progress (year on year)			Remarks						
					Base Cost (in Rs.Crs)	Contingency	IDC	TAXES	Expencc Capitalised	Total Cost	Internal Accrual Component of capex in year	Equity Component of capex in year	Loan Amount	Interest Rate	Moratorium period	Repayment period	Loan source	Proposed investment in the year(Rs. Crs.)	Proposed IDC	Proposed other expence	% Capatalisation	Actual investment in the year	IDC incurred	Other expence incurred		% Capatalisation	Actual investment in the year(Rs.in Crs)	IDC incurred	Other expence incurred	% Capatalisation	
6	TST/TS/Bhadradi (4X270) MW Thermal power Transmission/ Investment Approval NO17/15, Dt.02.01.2016	Bhadradi Thermal Power Transmission Scheme 4 X 270 MW Power Evacuation Scheme	Nov' 2015	Mar'2021	1,055.78	31.67	103.41		113.496	1,304.36									10.00				10.00					74.65		100	
7	TST/TS/400kV Nirmal Power Transmission Scheme-Power Evacuation from M/s. SCCL 2x600MW units and for upcoming 1x800MW units. /F.Revised approval/NO 07/2018-19 dated 19.07.2018	Nirmal Power Transmission Scheme	Dec'2015	Mar'2022	943.93	28.04	78.61		100.47	1,151.05									33.00				33.00					218.69			
8	TST/TS/Rayadurg System Improvement Scheme.Approval/NO 02/2018-19 dated 24.05.2018	Rayadurg System Improvement Scheme	Sep'2018	May' 2021	1,469.01	43.63	117.40		156.36	1,786.40									300.00				300.00					1200.23			
9	TS/TST/Investment approval/Telangana STPP-1 (2x800MW) NO, 10/2017 dated 23.08.2017	Telangana STPP-I Power Evacuation	Oct'2017	May' 2021	1,013.61	30.11	105.26		107.88	1,256.86									67.00				67.00					789.25			
10	To be Applied	Yadradri Power Evacuation	Jan'2020	Mar' 2024	1,887.67	56.07	209.70		200.91	2,354.35									577.75				577.75					591.75			
11	Applied & approval is pending	KTPP System Improvement Scheme	Jan'2020	Mar' 2024	372.58	11.07	30.92		39.66	454.23									125.00				125.00					140.50			
12	Applied & approval is pending	Reactor Scheme -III	Jan'2020	May'2022	201.44	5.98	20.92		21.44	249.78									80.00				80.00					85.00			
	Total									14179.99									1334.60				1334.60					4450.56			

Format 1.1(d)

ABSTRACT OF INVESTMENT PLAN (FY 2021-22) OF (400kV Schemes)

(Amount Rs. in Crs)

Base Year 2021-22																																
SI No.	Project Code	Project Title	Project Start Date DD-MM-YY	Project Completion Date DD-MM-YY	PLANNED CAPITAL EXPENDITURE					SOURCE OF FINANCING						Investments proposed for the year			Investments incurred in the year			Cumulative progress (year on year)			Remarks							
					Base Cost (in Rs.Crs)	Contingency	IDC	TAXES	Expencc Capatalised	Total Cost	Internal Accrual Component of capex in year	Equity Component of capex in year	Loan Amount	Interest Rate	Moratorium period	Repayment period	Loan source	Proposed investment in the year (Rs. Crs.)	Proposed IDC	Proposed other expence	% Capatalisation	Actual investment in the year	IDC incurred	Other expence incurred		% Capatalisation	Actual investment in the year(Rs.in Crs)	IDC incurred	Other expence incurred	% Capatalisation		
4	TST / TS / KTPS VII STAGE (1x800MW)POWER TRANSMISSION/INVEST. APPROVAL/Revised approval 17/17 , 2017-18, dec'2017	KTPS 1x800Mw, VII stage Power Evacuation scheme	Jul'2015	Mar'2022	1,150.31	34.17	105.61		122.43	1,412.52									7.00				7.00				858.50				100	
7	TST/TS/400kV Nirmal Power Transmission Scheme-Power Evacuation from M/s. SCCL 2x600MW units and for upcoming 1x800MW units. /F.Revised approval/NO 07/2018-19 dated 19.07.2018	Nirmal Power Transmission Scheme	Dec'2015	Mar'2022	943.93	28.04	78.61		100.47	1,151.05									24.00				24.00				242.69				100	
8	TST/TS/Rayadurg System Improvement Scheme.Approval/NO 02/2018-19 dated 24.05.2018	Rayadurg System Improvement Scheme	Sep'2018	May' 2021	1,469.01	43.63	117.40		156.36	1,786.40									220.00				220.00				1420.23				100	
9	TS/TST/Investment approval/Telangana STPP-1 (2x800MW) NO, 10/2017 dated 23.08.2017	Telangana STPP-I Power Evacuation	Oct'2017	May' 2021	1,013.61	30.11	105.26		107.88	1,256.86									20.00				20.00				809.25				100	
10	To be Applied	Yadradri Power Evacuation	Jan'2020	Mar' 2024	1,887.67	56.07	209.70		200.91	2,354.35									540.00				540.00				1131.75					
11	Applied & approval is pending	KTPP System Improvement Scheme	Jan'2020	Mar' 2024	372.58	11.07	30.92		39.66	454.23									134.00				134.00				274.50					
	Applied & approval is pending	Reactor Scheme -III	Jan'2020	May'2022	201.44	5.98	20.92		21.44	249.78									70.00				70.00				155.00					
	Total									8665.19									1015.00				1015.00				4891.92					

Format 1.1(d)

ABSTRACT OF INVESTMENT PLAN (FY 2022-23) OF (400kV Schemes)

(Amount Rs. in Crs)

Base Year 2022-23																															
Sl No.	Project Code	Project Title	Project Start Date DD-MM-YY	Project Completion Date DD-MM-YY	PLANNED CAPITAL EXPENDITURE					SOURCE OF FINANCING						Investments proposed for the year			Investments incurred in the year			Cumulative progress (year on year)			Remarks						
					Base Cost (in Rs.Crs)	Contingency	IDC	TAXES	Expende Capatalised	Total Cost	Internal Accrual Component of capex in year	Equity Component of capex in year	Loan Amount	Interest Rate	Moratorium period	Repayment period	Loan source	Proposed investment in the year(Rs. Crs.)	Proposed IDC	Proposed other expence	% Capatalisation	Actual investment in the year	IDC incurred	Other expence incurred		% Capatalisation	Actual investment in the year(Rs.in Crs)	IDC incurred	Other expence incurred	% Capatalisation	
1	To be Applied	Yadradri Power Evacuation	Jan'2020	Mar' 2024	1,887.67	56.07	209.70		200.91	2,354.35									335.80				335.80				1467.55				
2	Applied & approval is pending	KTPP System Improvement Scheme	Jan'2020	Mar' 2024	372.58	11.07	30.92		39.66	454.23									29.62				29.62				304.12				
3	Applied & approval is pending	Reactor Scheme -III	Jan'2020	May'2022	201.44	5.98	20.92		21.44	249.78									25.00				25.00				180.00			100	
	Total									2808.58									390.42				390.42				1771.67				

Format 1.1(d)

ABSTRACT OF INVESTMENT PLAN (FY 2023-24) OF (400kV Schemes)

(Amount Rs. in Crs)

Base Year 2023-24																															
S/No.	Project Code	Project Title	Projct Start Date DD-MM-YY	Project Completion Date DD-MM-YY	PLANNED CAPITAL EXPENDITURE					SOURCE OF FINANCING						Investments proposed for the year			Investments incurred in the year			Cumulative progress (year on year)			Remarks						
					Base Cost (in Rs.Crs)	Contingency	IDC	TAXES	Expencc Capatalised	Total Cost	Internal Accrual Component of capex in year	Equity Component of capex in year	Loan Amount	Interest Rate	Moratorium period	Repayment period	Loan source	Proposed investment in the year(Rs. Crs.)	Proposed IDC	Proposed other expence	% Capatalisation	Actual investment in the year	IDC incurred	Other expence incurred		% Capatalisation	Actual investment in the year(Rs.in Crs)	IDC incurred	Other expence incurred	% Capatalisation	
1	To be Applied	Yadradri Power Evacuation	Jan'2020	Mar' 2024	1,887.67	56.07	209.70		200.9	2,354.35									210.00				210.00				1677.55			100	
2	Applied & approval is pending	KTPP System Improvement Scheme	Jan'2020	Mar' 2024	372.58	11.07	30.92		39.66	454.23									8.00				8.00				312.12			100	
	Total									2808.58									218.00				218.00				1989.67				

1.1D ABSTRACT OF INVESTMENT PLAN (FY 2019-20) OF CE/CONSTRUCTION

Financial Year 2019-20

(Amount Rs. in Crores)

Sl No.	TOO NO.	Scheme IDs	Project Code (ERC Approval)	Project Title	Project Purpose	Project Start Date DD-MM-YY	Project Completion Date DD-MM-YY	PLANNED CAPITAL EXPENDITURE					SOURCE OF FINANCING						Expenditure from 01.04.2019 to 25.10.2019	Anticipated Expenditure from 26.10.2019 to 31.03.2020	Investments proposed for the year				Cumulative Expenditure as on 31.03.2019				Cumulative progress (year on year)				Remarks							
								Base Cost (in Rs.Crores)	Contingency	IDC	TAXES	Expenditure Capitalised	Total Cost (in Rs.Crores)	Internal Accrual Component of capex in year	Equity Component of capex in year	Debt component of capex in year						Proposed investment in the year(Rs. Crores)	Proposed IDC	Proposed other expenditure	% Capitalisation	Actual investment	IDC incurred	Other expenditure incurred	% Capitalisation	Actual investment in the year	IDC incurred	Other expenditure incurred		% Capitalisation						
																Loan Amount (Crores)	Interest Rate	Moratorium period			Repayment period														Loan source					
1	TOO MS.NO.11 dt:07.03.2014	S-10-17	P.No.28/APERC/Secy/Dir(Engg)/E/725/2013, Dt:06-05-2013	132/33 KV Substation at N V Puram in Khammam District	System Improvement	07.08.2016	31.03.2020	19.95	0.60	1.99	1.25	2.14	25.93									REC	2.88	1.68	4.56					20.65					25.21					
2	T.O.O (CE-Construction) MS.No.82 Dated:18.04.2018	S-11-11	CRN.No.TST/TS132 kV Sst Donthanpalli/F-INVST-06/2013/Dt:08.10.2014	132 kV DC line from the proposed 220/132/33 kV SS Parigi to 132/33 kV SS Dharmasagar (132/33 kV Substation at Donthanpalli)	System Improvement	13.12.2016	31.03.2020	15.95	0.48	1.59	0.9966	1.71	20.73										REC	0.65	4.77	5.42					3.14					8.56				
3	TOO (CE-Construction) MS NO.83, Dt:21.06.2013	S-11-16	CRN.No.APT/TS/220/132 kV SS-Huzurnagar/F-INVST-01/2014/Dt:20.04.2013	220/132/33 kV substation at Huzurnagar in Nalgonda District	System Improvement	31.10.2013	31.03.2020	45.75	1.37	5.49	2.86	4.92	60.39										PFC	1.11	5.63	6.74					12.04					18.78				
4	TOO (CE-Transmission) MS.No.161 dt:26-08-2015	S-11-28	P.No.28/APERC/Secy/Dir(Engg)/E/725/2013, Dt:06-05-2013	132/33 kV SS at Nimmapalli with connected line in Karimnagar Dist	System Improvement	23.03.2018	31.03.2020	18.47	0.25	1.97	0.06	0.91	21.67										REC	2.03	7.81	9.84					8.49					18.33				
5	TOO 61, Dt:25.05.2012	S-12-09	APT/TS/132/Yeddumailaram/F-INVST-27/2013	132 KV DC/SC inter linking lines between substations 220 KV Yeddumailaram-132 KV Pashmailaram	System Improvement	01.12.2018	30.09.2020	9.09	0.05	0.93	0.00	0.18	10.24										NABARD	0	4.90	4.90					0.02					4.92				
6	TOO (CE-Construction-I) MS NO.117, Dt:30.05.2014	S-13-03	CRN.No. APT/TS/220 KVSS - Bonguluru/F.Invest-27/2014	220/132/33KV SS at Bonguluru in RR District	System Improvement	01.06.2014	31.03.2020	56.81	2.13	6.34	0.04	4.41	69.74										NABARD	3.38	22.29	25.67					19.35					45.02				
7	T.O.O (CE-Construction-I) Ms.No. 347 Dated: 13.02.2013 SH13KANDUK	S-13-11	TST/TS/132 kV SS-Kandukuru/ F-INVST-05/2015	132 kV SS Kandukuru & connected lines	System Improvement	09.09.2016	31.03.2020	21.44	0.28	2.28	0.00	1.03	25.03										REC	0.88	15.62	16.50					1.83					18.33				
8	T.O.O (CE-Construction-I) MS.No.08 Dated: 26.02.2014	S-14-05	P.No.28/APERC/Secy/Dir(Engg)/E/725/2013, Dt:06-05-2013	2nd circuit stringing on 132kV DC/SC line from 220kV Durshed SS to 132kV Water Works SS and 2 Nos. 132 kV bays at 220kV Durshed and 132kV Water works in Karimnagar Town substations	System Improvement	03.03.2018	31.03.2020	2.03	0.06	0.24	0.1215	0.22	2.66										REC	0	0.96	0.96					1.29					2.25				
9	TOO 22 Dt:10.09.2014	S-14-12	APT/TS/132 KV SS Kaithalapur/F-INVST-4/2014	132 KV substation Kaithalapur along with connected lines	System Improvement	05.07.2016	31.08.2020	63.52	0.50	5.09	0.15	1.87	71.13										REC	4.61	4.00	8.61					47.04					55.65				
10	TOO / CE/Trans/ MS No. 156 Dated 19.08.2015	S-15-01	P.No.28/APERC/Secy/Dir(Engg)/E/725/2013, Dt:06-05-2013	Providing second source of supply to 132/33 kV Sub-Station, Lalgadi Malakpet in Shameerpet Mandal of Ranga Reddy District	System Improvement	20.10.2015	31.03.2020	7.03	0.06	0.73	0.02	0.20	8.04										PFC	0.49	1.00	1.49					8.56					10.05				
11	T.O.O (CE-Transmission) MS.No. 159 Dated: 24.08.2015 SH15ASWARA	S-15-02	TST/TS/ 132/33 kV Aswaraopet SS Up-Gradation to 220/132 kV / F-INVST- 7/2015	Up-Gradation of 132/33 kV SS Aswaraopet to 220/132 kV SS	System Improvement	18.01.2017	31.03.2020	50.22	0.52	4.65	0.1926	1.88	57.47										PFC	0.18	7.59	7.77					2.70					10.47				
12	TOO / CE/Trans/ MS No. 140 Dated 30.07.2015 SH15JANGAP	S-15-04	P.No.28/APERC/Secy/Dir(Engg)/E/725/2013, Dt:06-05-2013	132/33 kV Sub-Station at Jangapally of Bejjanki Mandal in Karimnagar District.	System Improvement	03.03.2018	31.12.2019	18.28	0.31	1.74	0.0749	1.12	21.53										PFC	0.57	7.06	7.63					10.87					18.50				
13	TOO (CE-Construction) MS NO.2, Dt:03.01.2015	S-15-05	CRN TST/TS/132 KVSS - Kondapur/F.Invest. 06/2015	erection of 132/33 kV Substation at Kondapur Village of Dhanwada Mandal in Mahaboobnagar District along with connected lines	System Improvement	23.03.2017	31.03.2020	22.88	0.35	1.89	-	1.26	26.38										REC	1.16	5.75	6.91					1.29					8.20				
14	TOO / CE/Trans/ MS No. 210 Dated 6.11.2015 SH15L2CNKT	S-15-06 S-15-35	P.No.28/APERC/Secy/Dir(Engg)/E/725/2013, Dt:06-05-2013	Providing of alternate supply to 132 /33 kV SS Chennur and 132/33 kV SS Kataram from 220/132 kV SS, Manthani under the program for providing 9.00 Hrs Day Time Supply for Agriculture.	System Improvement	07.02.2018	31.03.2020	11.92	0.04	1.21	0.0178	0.15	13.34										REC	0.26	6.85	7.11					3.30					10.41				

Sl No.	TOO NO.	Scheme IDs	Project Code (ERC Approval)	Project Title	Project Purpose	Project Start Date DD-MM-YY	Project Completion Date DD-MM-YY	PLANNED CAPITAL EXPENDITURE					SOURCE OF FINANCING					Expenditure from 01.04.2019 to 25.10.2019	Anticipated Expenditure from 26.10.2019 to 31.03.2020	Investments proposed for the year				Cumulative Expenditure as on 31.03.2019				Cumulative progress (year on year)				Remarks									
								Base Cost (in Rs.Crores)	Contingency	IDC	TAXES	Expence Capatalised	Total Cost (in Rs.Crores)	Internal Accrual Component of capex in year	Equity Component of capex in year	Debt component of capex in year					Proposed investment in the year(Rs. Crores)	Proposed IDC	Proposed other expence	% Capatalisation	Actual investment	IDC incurred	Other expence incurred	% Capatalsation	Actual investment in the year	IDC incurred	Other expence incurred		% Capatalsation								
																Loan Amount (Crores)	Interest Rate			Moratorium period														Repayment period	Loan source						
15	TOO (CE-Construction-I) MS NO.55, Dt:25.03.2015	S-15-31	CRN.No.TST/TS Asifnagar SS alternatesource of supply/Invest.App.06/2015	erection of 2 nd circuit from 220kV Shivarampally SS to 132kV Asifnagar SS for providing 2 nd source of supply to 132kV Asifnagar substation	System Improvement	16.02.2018	31.03.2020	43.80	0.41	4.05	0.30	1.47	50.02					41.36					REC	1.42	10.00	11.42					19.53										
16	TOO (CE-Transmission) MS.No.231 dt:21-12-2015	S-15-33	P.No.28/APERC/Secy/Dir(Engg)/E 725/2013, Dt:06-05-2013	132/33 kV SS at Sarangapur in Adilabad District	System Improvement	04.04.2018	31.01.2020	18.42	0.31	1.87	0.07	1.12	21.80					17.66					REC	1.74	3.63	5.37					10.59										
17	TOO (CE-Tr) MS NO.225, Dt:10.12.2015	S-15-34	CRN.No.TST/TS/ Erection of 220 KV DC line Gajwel/Siddipet/Invest.App.04/17-2017-18	220 KV D/C Line from 400KV GAJWEL-SIDDIPET	System Improvement	05.12.2017	31.12.2020	37.85	0.05	3.81	0.02	0.18	41.92					74.970					REC	5.80	8.40	14.20					26.31										
18	T.O.O (CE-Transmission) Ms.No.195 Dated:14.10.2015	S-15-36	TST/TS /132/33 kV SS Aipoor , Nalgonda /F-INVST- 01/2016-17	132/33 kV SS at Aipoor in Nalgonda district	System Improvement	05.01.2017	31.03.2022	19.69	0.34	2.13	0.08	1.21	23.45					18.91					REC	0.00	0.10	0.10					0.15										
19	T.O.O (CE-Construction) MS. No. 137 Dated: 29.07.2015	S-15-37	P.No.28/APERC/Secy/Dir(Engg)/E 725/2013, Dt:06-05-2013	erection 132 kV line from 220 kV Jurala Sub-Station to 132 kV Ieeza Sub-Station under the program of providing 9.00 Hrs agricultural supply during day time	System Improvement	12.03.2018	31.03.2020	16.38	0.03	1.64	0.0128	0.11	18.18					30.56					REC	2.78	2.31	5.09					12.10										
20	TOO / CE/Trans/ MS No. 158 Dated 22.08.2015	S-15-38	P.No.28/APERC/Secy/Dir(Engg)/E 725/2013, Dt:06-05-2013	Erection of 132 kV lines for making LILO of (i) 2nd Circuit of 132kV Warangal – Shapuragar DC line at 132kV SS Jangaon and (ii) 2nd Circuit of 132kV Warangal – Shapuragar DC line at 132kV SS Kolanpak	System Improvement	10.03.2017	31.03.2020	8.15	0.05	0.84	0.0186	0.16	9.22					7.02					PFC	0.08	4.62	4.70					2.54										
21	TOO / CE/Trans/ MS No.62 Dated 25.04.2016	S-16-08	P.No.28/APERC/Secy/Dir(Engg)/E 725/2013, Dt:06-05-2013	33 kV Features at existing 220/11 kV LI Sub-Station, Bheemghanpur Warangal District.	System Improvement	05.05.2017	31.03.2020	4.78	0.14	0.57	0.2984	0.51	6.30					16.31					PFC	0	0.29	0.29					5.82										
22	TOO / CE/Trans/ MS No.76 Dated 25.05.2016	S-16-11	P.No.28/APERC/Secy/Dir(Engg)/E 725/2013, Dt:06-05-2013	132/33 kV Substation at Bachannapet in Warangal District	System Improvement	20.04.2017	31.03.2020	18.11	0.26	1.94	0.06	0.95	21.32					16.710					PFC	2.06	3.03	5.09					6.36										
23	P.No.28/APERC/Secy/Dir(Engg)/E 725/2013, Dt:06-05-2013	S-16-12	P.No.28/APERC/Secy/Dir(Engg)/E 725/2013, Dt:06-05-2013	132/33 kV SS at Kotagiri with connected line & Bay in Nizamabad District	System Improvement	06.06.2018	31.03.2020	13.85	0.24	1.51	0.0842	0.87	16.56					12.98					PFC	1.34	10.00	11.34					0.68										
24	TOO No.72 Dt:13.05.2016	S-16-14	TST/TS/ 220/132/33 kV / Substation, Borampet RR District/ INVST- No. 07/16 - 2016-17	220/132/33 kV Substation at Borampet in Ranga Reddy district	System Improvement	28.11.2016	31.03.2021	196.49	3.34	20.37	0.38	11.99	232.57					182.980					PFC	7.83	30.00	37.83					48.90										
25	TOO (CE-Transmission) MS NO.173, Dt:15.12.2016	S-16-16	P.No.28/APERC/Secy/Dir(Engg)/E 725/2013, Dt:06-05-2013	erection of 220/33 kV Sub-Station, at Domalapenta Village of Nagarkurnool District (erstwhile Mahaboobnagar District)	System Improvement	05.03.2018	30.11.2019	12.55	0.32	1.42	0.19	1.14	15.62					12.411					PFC	2.39	4.13	6.52					7.33										
26	T.O.O (CE-Transmission) Ms. No. 26, Dated: 27.02.2017.	S-17-01	CRN TS/TST/220/33 KV, GIS, Chanchaguda/Invest.Approval No.7/17-2017-18	Erection of 220/33 kV Sub-Station at Chanchalguda	System Improvement	28.02.2018	31.03.2020	78.65	2.28	8.19	-	8.18	97.31					80.208					REC	7.76	35.18	42.94					37.30										
27	T.O.O (CE-Transmission) Ms. No. 29, Dated: 27.02.2017.	S-17-06	CRN TS/TST/132/33 KV, GIS, Petlaburz invest.Approval No.5/17-2017-18	132/33 kV Substation at PTO, Petlaburz, Hyderabad District	System Improvement	02.03.2018	31.03.2021	35.43	0.98	3.99	0.00	3.52	43.92					35.930					REC	0	7.00	7.00					20.09										

Sl No.	TOO NO.	Scheme IDs	Project Code (ERC Approval)	Project Title	Project Purpose	Project Start Date DD-MM-YY	Project Completion Date DD-MM-YY	PLANNED CAPITAL EXPENDITURE						SOURCE OF FINANCING						Investments proposed for the year FY 2021-22				Total Investments incurred up to previous year				Cumulative progress (year on year)				Remarks				
								Base Cost (in Rs.Crores)	Contingency	IDC	TAXES	Expenditure Capitalised	Total Cost (in Rs.Crores)	Internal Accrual Component of capex in year	Equity Component of capex in year	Debt component of capex in year				Proposed investment in the year (Rs. Crores.)	Proposed IDC	Proposed other expence	% Capitalisation	Actual investment in the year	IDC incurred	Other expence incurred	% Capitalisation	Actual investment in the year	IDC incurred	Other expence incurred	% Capitalisation					
																Loan Amount	Interest Rate	Moratorium period	Repayment period														Loan source			
13	T.O.O (CE-Construction) MS.No. 95 Dated:02.05.2018	S-18-02		Erection of 220/132 kV Sub-Station at Amnavaripet in Warangal-Urban District	System Improvement	31.10.2018	30.06.2021	84.90	2.55	15.02	15.28	9.13	126.88			54.830				PFC	40.00				59.50					99.50						
14	TOO (CE Construction) MS NO.193, Dt:30.08.2018	S-18-04	CRN No. TST/TS/Erection of 132/33 KV Sub station at Nagaram in suryapet District. Approval/No.14/18/2018-19, Dt:12.12.2018	132/33 KV SS Nagaram,Nalgonda District	System Improvement	01.04.2019	31.03.2022	26.2586	0.29	4.64	1.74	1.04	33.97			25.170				PFC	20.00				5.98					25.98						
15	--	--	New scheme	Up-gradation of existing 132/33KV Asifabad to 220/132/33 kv SS	System Improvement	01.04.2021	31.03.2023	50.00	1.50	5.00	3.00	5.38	64.88								30.00				0.00					30.00						
16	--	--	New scheme	132/33KV SS with connected line at Dhantapur in Karimnagar District	System Improvement	01.04.2021	31.03.2023	35.26	1.06	3.53	2.12	3.79	45.75								-	10.00				0.00				10.00						
17	--	--	New scheme	132/33 KV Ramasagar Karimnagar District	System Improvement	01.04.2021	31.03.2023	28.26	0.85	2.83	1.70	3.04	36.67								-	10.00				0.00				10.00						
18	--	--	New scheme	132/33 KV Bommalararam SS Nalgonda Dist	System Improvement	01.04.2021	31.03.2023	41.22	1.24	4.12	2.47	4.43	53.48								-	10.00				0.00				10.00						
19	--	--	New scheme	132/33 KV SS Kajjarla, Adilabad District	System Improvement	01.04.2021	31.03.2023	20.70	0.62	2.07	1.24	2.23	26.86								-	10.00				0.00				10.00						
20	--	--	New scheme	132/33 KV SS Raparthy, Medak District	System Improvement	01.04.2021	31.03.2023	31.20	0.94	3.12	1.87	3.35	40.48								-	10.00				0.00				10.00						
21	--	--	New scheme	Erection of 220 KV DC line from 400/220/132 KV Narsapur SS to 220/132/33 KV SS Minpur in Medak District	System Improvement	01.04.2021	31.03.2022	75.37	2.26	7.54	4.52	8.10	97.79									52.00				0.00				52.00						
22	--	--	New scheme	220kV Substation with connected line and bay at Pharma City-I, Mucherla	System Improvement	01.04.2020	31.03.2022	90.10	2.70	9.01	5.41	9.69	116.90									40.00				29.35				69.35						
23	--	--	New scheme	220kV Substation Mucherla with connected line and bay at Pharma City-II,	System Improvement	01.04.2020	31.03.2022	90.10	2.70	9.01	5.41	9.69	116.90									40.00				32.50				72.50						
24	--	--	New scheme	220/132/33 kV SS at Gopanpalli	System Improvement	01.04.2020	31.03.2022	75.00	2.25	7.50	4.50	8.06	97.31									40.00				26.00				66.00						
25	TOO (CE-construction) MS.NO.260 dt:30-11-2018	-	-	Up gradation of existing 132/33 KV RC Puram SS to 220/132/33 KV SS in Ranga Reddy District	System Improvement	01.04.2020	31.03.2022	132.29	3.97	11.91	8.27	14.22	170.66									72.00				65.00				137.00						
26	-	-	New scheme	132kV Substation with connectd line at Pharma City-I	System Improvement	01.04.2020	31.03.2022	49.00	1.47	4.9	2.94	5.2975	63.61									15.00				16.25				31.25						
27	-	-	New scheme	132kV Substation with connect line at Pharma City-II	System Improvement	01.04.2020	31.03.2022	49.00	1.47	4.9	2.94	5.2975	63.61									15.00				13.00				28.00						
28	TOO (CE-construction) MS.NO.11 dt:20-04-2018		P.No.28/APE RC/Secy/Dir(Engg)/E725/2013, Dt:06-05-2013	connecting the existing 132 kV Shapur Nagar – Bhongir – Aleru line to 400/220/132 kV Malkaram SS and 400/220/132 kV Ghanapur SS (UG cable)	System Improvement	01.04.2020	31.03.2022	14.8245	0.33	1.56	2.02	1.18	19.92									9.00				5.00				14.00						
29	TOO (CE-construction) MS.NO.375 dt:03-06-2019	-	-	132 KV SS Patancheru in Medak District	System Improvement	01.04.2020	31.03.2022	18.32	0.55	1.65	1.14	1.97	23.63									5.00				15.00				20.00						
							Total	1,215.63	33.33	132.22	74.09	118.07	1,573.34									622.80				379.35				1,002.15						

1.1D ABSTRACT OF INVESTMENT PLAN (FY 2022-23) OF CE/CONSTRUCTION

Financial Year 2022-23

(Amount Rs. in Crores)

Sl No.	TOO NO.	Scheme IDs	Project Code (ERC Approval)	Project Title	Project Purpose	Project Start Date DD-MM-YY	Project Completion Date DD-MM-YY	PLANNED CAPITAL EXPENDITURE					SOURCE OF FINANCING					Investments proposed for the year FY 2022-23			Total Investments incurred up to previous year				Cumulative progress (year on year)				Remarks					
								Base Cost (in Rs.Crores)	Contingency	IDC	TAXES	Expence Capitalised	Total Cost (in Rs.Crores)	Internal Accrual Component of capex in year	Equity Component of capex in year	Debt component of capex in year					Annual			Actual investment in the year	IDC incurred	Other expence incurred	% Capat alisati on	Actual investme nt in the year		IDC incurred	Other expen ce incur red	% Capat alisati on		
																Loan Amount	Interes t Rate	Moratori um period	Repaym ent period	Loan source	Proposed investment in the year(Rs. Crores.)	Propo sed IDC	Propo sed other expen ce										% Capa talisa tion	
1	--	--	New scheme	220/33 kV GISS at Knowledge Park, T-Hub, Hyderabad	System Improvement	01.04.2022	31.03.2024	280.00	8.40	28.00	16.80	30.10	363.30						--	150.00				0.00				150.00						
2	--	--	New scheme	220/132 kV SS with connected line and bay at Venkatapur Warangal District.	System Improvement	01.04.2022	31.03.2024	107.60	3.23	10.76	6.46	11.57	139.61						--	80.00				0.00				80.00						
3	--	--	New scheme	220 KV DC line from 220/11 KV Gudipallgattu LIS to 220 KV Nagarkurnool SS including bays.	System Improvement	01.04.2022	31.03.2024	25.50	0.77	2.55	1.53	2.74	33.09						--	25.00				0.00				25.00						
4	--	--	New scheme	132/33 kV SS with connected line at Somaram Warangal District	System Improvement	01.04.2022	31.03.2024	51.20	1.54	5.12	3.07	5.50	66.43						--	20.00				0.00				20.00						
5	--	--	New scheme	132/33 KV SS Devarakonda, Nalgonda Didtrict	System Improvement	01.04.2022	31.03.2024	27.62	0.83	2.76	1.66	2.97	35.84						--	20.00				0.00				20.00						
6	--	--	New scheme	132/33 KV SS with connected line & bay at Wankidi, Adilabad District	System Improvement	01.04.2022	31.03.2024	42.26	1.27	4.23	2.54	4.54	54.83						--	32.00				0.00				32.00						
7			New scheme	132 KV LILO (6 km) of 132 KV Mulugu-Chelpur-Kamalapur line on multy circuit towers to proposed 220/132 KV SS Venkatapur	System Improvement	01.04.2022	31.03.2023	10.20	0.31	1.02	0.61	1.10	13.23						--	13.23				0.00				13.23						
8	--	--	New scheme	132 KV DC/SC line (37 km) from 220/132 KV SS Nagarkurnool to 132/33 KV Achampet SS	System Improvement	01.04.2022	31.03.2023	25.90	0.78	2.59	1.55	2.78	33.61						--	25.00				0.00				25.00						
9	--	--	New scheme	132 KV sub stations at Nandigama & Chowdurguda in shadnagar Rangareddy District	System Improvement	01.04.2022	31.03.2024	30.00	0.90	3.00	1.80	3.23	38.93								20.00				0.00			20.00						
10	--	--	New scheme	132/33 KV SS with connected line & bay at Chada, Nalgonda District	System Improvement	01.04.2022	31.03.2024	38.76	1.16	3.88	2.33	4.17	50.29						--	30.00				0.00				30.00						
11	--	--	New scheme	Substations proposed to meet the unforeseen load demand due to industrial development, commercial, residential loads & power system requirement	System Improvement	01.04.2022	31.03.2023	0.00													90.00				0.00			90.00						
12	--	--	New scheme	Up-gradation of existing 132/33kv Asifabad to 220/132/33 kv SS	System Improvement	01.04.2021	31.03.2023	50.00	1.50	5.00	3.00	5.38	64.88								10.00				30.00			40.00						
13	--	--	New scheme	132/33kV SS with connected line at Dhantanpur in Karimnagar District	System Improvement	01.04.2021	31.03.2023	35.26	1.06	3.53	2.12	3.79	45.75						-	5.00				10.00				15.00						
14	--	--	New scheme	132/33 kV Ramasagar Karimnagar District	System Improvement	01.04.2021	31.03.2023	28.26	0.85	2.83	1.70	3.04	36.67						-	5.00				10.00				15.00						
15	--	--	New scheme	132/33 KV Bommalaramam SS Nalgonda Dist	System Improvement	01.04.2021	31.03.2023	41.22	1.24	4.12	2.47	4.43	53.48						-	5.00				10.00				15.00						
16	--	--	New scheme	132/33 KV SS Kajjarla, Adilabad District	System Improvement	01.04.2021	31.03.2023	20.70	0.62	2.07	1.24	2.23	26.86						-	5.00				10.00				15.00						
17	--	--	New scheme	132/33 KV SS Raparthy, Medak District	System Improvement	01.04.2021	31.03.2023	31.20	0.94	3.12	1.87	3.35	40.48						-	5.00				10.00				15.00						
							Total	845.68	25.37	84.57	50.74	90.91	1,097.27								540.23						620.23							

1.1D ABSTRACT OF INVESTMENT PLAN (FY 2023-24) OF CE/CONSTRUCTION

Financial Year 2023-24

(Amount Rs. in Crores)

Sl No.	TOO NO.	Scheme IDs	Project Code (ERC Approval)	Project Title	Project Purpose	Project Start Date DD-MM-YY	Project Completion Date DD-MM-YY	PLANNED CAPITAL EXPENDITURE						SOURCE OF FINANCING					Investments proposed for the year FY 2023-24				Total Investments incurred up to previous year				Cumulative progress (year on year)				Remarks			
								Base Cost (in Rs.Crores)	Contingency	IDC	TAXES	Expence Capatalised	Total Cost (in Rs.)Crores)	Internal Accrual Component of capex in year	Equity Component of capex in year	Debt component of capex in year					Annual													
																Loan Amount	Interest Rate	Moratorium period	Repayment period	Loan source	Proposed investment in the year(Rs. Crores.)	Proposed IDC	Proposed other expence	% Capatalisation	Actual investment in the year	IDC incurred	Other expence incurred	% Capatalisation	Actual investment in the year	IDC incurred		Other expence incurred	% Capatalisation	
1			New scheme	220/33 kV GISS at Knowledge Park, T-Hub, Hyderabad	System Improvement	01.04.2022	31.03.2024	280.00	8.40	28.00	16.80	30.10	363.30						--	150.00					150.00				300.00					
2	--	--	New scheme	220 KV features at 132/33 KV SS kandukur	System Improvement	01.04.2023	31.03.2025	80.00	2.40	8.00	4.80	8.60	103.80						-	40.00					0.00				40.00					
3	--	--	New scheme	220 KV SS Abdullapurmet	System Improvement	01.04.2023	31.03.2025	98.00	2.94	9.80	5.88	10.54	127.16						-	40.00					0.00				40.00					
4	--	--	New scheme	132/33 KV SS with connected line & bays at pangal, Mahabubnagar Dist.	System Improvement	01.04.2023	31.03.2025	28.96	0.87	2.90	1.74	3.11	37.58								25.00					0.00				25.00				
5	--	--	New scheme	132/33 KV SS with connected line at Vanamvarikistapuram, Khammam Dist.	System Improvement	01.04.2023	31.03.2025	25.10	0.75	2.51	1.51	2.70	32.57								25.00					0.00				25.00				
6	--	--	New scheme	132/33 KV SS with connected line & bay at Aziznagar, Rangareddy District.	System Improvement	01.04.2023	31.03.2025	35.87	1.08	3.59	2.15	3.86	46.54						-	30.00					0.00				30.00					
7	--	--	New scheme	33 KV features atb 220/11 KV Vemnur in Karimnagar Dist	System Improvement	01.04.2023	31.03.2025	35.00	1.05	3.50	2.10	3.76	45.41								35.00					0.00				35.00				
8	--	--	New scheme	220/132 KV SS with connected line and bay at Venkatapur Warangal District.	System Improvement	01.04.2022	31.03.2024	107.60	3.23	10.76	6.46	11.57	139.61						--	40.00					80.00				120.00					
9	--	--	New scheme	220 KV DC line from 220/11 KV Gudipalligattu LIS to 220 KV Nagarkurnool SS including bays.	System Improvement	01.04.2022	31.03.2024	25.50	0.77	2.55	1.53	2.74	33.09						--	15.00					25.00				40.00					
10	--	--	New scheme	132/33 KV SS with connected line at Somaram Warangal District	System Improvement	01.04.2022	31.03.2024	51.20	1.54	5.12	3.07	5.50	66.43						--	10.00					20.00				30.00					
11	--	--	New scheme	132/33 KV SS Devarakonda, Nalgonda Didtrict	System Improvement	01.04.2022	31.03.2024	27.62	0.83	2.76	1.66	2.97	35.84						--	5.00					20.00				25.00					
12	--	--	New scheme	132/33 KV SS with connected line & bay at Wankidi, Adilabad District	System Improvement	01.04.2022	31.03.2024	42.26	1.27	4.23	2.54	4.54	54.83						--	13.00					32.00				45.00					
13	--	--	New scheme	132 KV sub stations at Nandigama & Chowderguda in shadnagar Rangareddy District	System Improvement	01.04.2022	31.03.2024	30.00	0.90	3.00	1.80	3.23	38.93								10.00					20.00				30.00				
14	--	--	New scheme	132/33 KV SS with connected line & bay at Chada, Nalgonda District	System Improvement	01.04.2022	31.03.2024	38.76	1.16	3.88	2.33	4.17	50.29						--	10.00					30.00				40.00					
				Substations proposed to meet the unforeseen load demand due to industrial development, commercial, residential loads & power system requirement	System Improvement	01.04.2023	31.03.2024														80.00					0.00				80.00				
							Total	905.87	27.18	90.59	54.35	97.38	1,175.37								528.00					377.00				905.00				

Format 1.1(d)

ABSTRACT OF INVESTMENT PLAN (FY 2019-20) (400kV Schemes-LIS)

(Amount Rs. in Crs)

Base Year 2019-20																																	
S.No.	Project Code	Project Title	CWIP as on 31.03.2019	Project Start Date DD-MM-YY	Project Completion Date DD-MM-YY	PLANNED CAPITAL EXPENDITURE					SOURCE OF FINANCING						Investments proposed for the year			Investments incurred in the year			Cumulative progress (year on year)			Remarks							
						Base Cost (in Rs.Crs)	Contingency	IDC	TAXES	Expence Capatalised	Total Cost	Internal Accrual Component of capex in year	Equity Component of capex in year	Loan Amount	Interest Rate	Moratorium period	Repayment period	Loan source	Proposed investment in the year(Rs. Crs.)	Proposed IDC	Proposed other expence	% Capatalisation	Actual investment in the year	IDC incurred	Other expence incurred		% Capatalisation	Actual investment in the year(Rs.in Crs)	IDC incurred	Other expence incurred	% Capatalisation		
1	Bulk Load/DC works	Sita Rama Lift Irrigation scheme (L-18-04)	31.88	Sep'2018	May'2021	418.45	--				418.45								Govt TS Grants	150.00				150.00					181.88				
2	Bulk Load/DC works	Palamuru Ranga Reddy Lift Irrigation Scheme (L-17-02)	0.62	Mar'2018	May'2023	1,901.46	--				1,901.46								Govt TS Grants	100.00				100.00					100.62				
	Total										2319.91								Govt TS Grants	250.00				250.00					282.50				

Format 1.1(d)

ABSTRACT OF INVESTMENT PLAN (FY 2020-21) (400kV Schemes-LIS)

(Amount Rs. in Crs)

Base Year 2020-21																																		
S.No.	Project Code	Project Title	Project Start Date DD-MM-YY	Project Completion Date DD-MM-YY	PLANNED CAPITAL EXPENDITURE					SOURCE OF FINANCING						Investments proposed for the year			Investments incurred in the year			Cumulative progress (year on year)			Remarks									
					Base Cost (in Rs.Crs)	Contingency	IDC	TAXES	Expence Capatalised	Total Cost	Internal Accrual Component of capex in year	Equity Component of capex in year	Loan Amount	Interest Rate	Moratorium period	Repayment period	Loan source	Proposed investment in the year(Rs. Crs.)	Proposed IDC	Proposed other expence	% Capatalisation	Actual investment in the year	IDC incurred	Other expence incurred		% Capatalisation	Actual investment in the year(Rs.in Crs)	IDC incurred	Other expence incurred	% Capatalisation				
1	Bulk Load/DC works	Sita Rama Lift Irrigation scheme (L-18-04)	Sep'2018	May'2021	418.45	--				418.45									Govt TS Grants	150.00				150.00					331.88					
2	Bulk Load/DC works	Palamuru Ranga Reddy Lift Irrigation Scheme (L-17-02)	Mar'2018	May'2023	1,901.46	--				1,901.46									Govt TS Grants	650.00				650.00					750.62					
	Total									2319.91										800.00				800.00					1082.50					

Format 1.1(d)

ABSTRACT OF INVESTMENT PLAN (FY 2021-22) (400kV Schemes-LIS)

(Amount Rs. in Crs)

Base Year 2021-22																																
S.No.	Project Code	Project Title	Project Start Date DD-MM-YY	Project Completion Date DD-MM-YY	PLANNED CAPITAL EXPENDITURE					SOURCE OF FINANCING						Investments proposed for the year			Investments incurred in the year			Cumulative progress (year on year)			Remarks							
					Base Cost (in Rs.Crs)	Contingency	IDC	TAXES	Expence Capitalised	Total Cost	Internal Accrual Component of capex in year	Equity Component of capex in year	Loan Amount	Interest Rate	Moratorium period	Repayment period	Loan source	Proposed investment in the year (Rs. Crs.)	Proposed IDC	Proposed other expence	% Capatalisation	Actual investment in the year	IDC incurred	Other expence incurred		% Capatalisation	Actual investment in the year(Rs.in Crs)	IDC incurred	Other expence incurred	% Capatalisation		
1	Bulk Load/DC works	Sita Rama Lift Irrigation scheme (L-18-04)	Sep'2018	May'2021	418.45	--				418.45									86.57				86.57				418.45				100	
2	Bulk Load/DC works	Palamuru Ranga Reddy Lift Irrigation Scheme (L-17-02)	Mar'2018	May'2023	1,901.46	--				1,901.46									650.00				650.00				1400.62					
	Total									2319.91									736.57				736.57				1819.07					

Format 1.1(d)

ABSTRACT OF INVESTMENT PLAN (FY 2022-23) (400kV Schemes-LIS)

(Amount Rs. in Crs)

Base Year 2022-23																															
S.No.	Project Code	Project Title	Projct Start Date DD-MM-YY	Project Completion Date DD-MM-YY	PLANNED CAPITAL EXPENDITURE					SOURCE OF FINANCING						Investments proposed for the year			Investments incurred in the year			Cumulative progress (year on year)			Remarks						
					Base Cost (in Rs.Crs)	Contingency	IDC	TAXES	Expence Capatalised	Total Cost	Internal Accrual Component of capex in year	Equity Component of capex in year	Loan Amount	Interest Rate	Moratorium period	Repayment period	Loan source	Proposed investment in the year(Rs. Crs.)	Proposed IDC	Proposed other expence	% Capatalisation	Actual investment in the year	IDC incurred	Other expence incurred		% Capatalisation	Actual investment in the year(Rs.in Crs)	IDC incurred	Other expence incurred	% Capatalisation	
1	Bulk Load/DC works	Palamuru Ranga Reddy Lift Irrigation Scheme (L-17-02)	Mar'2018	May'2023	1,901.46	--				1,901.46									300.00				300.00				1700.62				
	Total									1901.46								300.00				300.00				1700.62					

Format 1.1(d)

ABSTRACT OF INVESTMENT PLAN (FY 2023-24) (400kV Schemes-LIS)

(Amount Rs. in Crs)

Base Year 2023-24																																	
S.No.	Project Code	Project Title	Project Start Date DD-MM-YY	Project Completion Date DD-MM-YY	PLANNED CAPITAL EXPENDITURE					SOURCE OF FINANCING						Investments proposed for the year			Investments incurred in the year			Cumulative progress (year on year)			Remarks								
					Base Cost (in Rs.Crs)	Contingency	IDC	TAXES	Expence Capatalised	Total Cost	Internal Accrual Component of capex in year	Equity Component of capex in year	Loan Amount	Interest Rate	Moratorium period	Repayment period	Loan source	Proposed investment in the year (Rs. Crs.)	Proposed IDC	Proposed other expence	% Capatalisation	Actual investment in the year	IDC incurred	Other expence incurred		% Capatalisation	Actual investment in the year (Rs.in Crs)	IDC incurred	Other expence incurred	% Capatalisation			
1	Bulk Load/DC works	Palamuru Ranga Reddy Lift Irrigation Scheme (L-17-02)	Mar'2018	May'2023	1,901.46	--				1,901.46									200.84				200.84					1901.46				100	
	Total									1901.46									200.84				200.84					1901.46					

Annexure -I

Form 1.1d - INVESTMENT PLAN

FY(2018-19)		Proposed Investment is taken from Budget proposed and balance to be billed as per SAP										
Project Details	Project Title	Scheme-ID	Project Purpose**	Project Start Date (DD-MM-YY)	Project Completion date (DD-MM-YY)	PLANNED CAPITAL EXPENDITURE		SOURCE OF FINANCING		Investments proposed for the year	Investments incurred in the year	Cumulative progress (Year on year)
						Base Cost in Crores	Total Cost in Crores	Debt Component of capex in year		Annual	Annual	
Project Code*								Loan Amount	Loan Source	Proposed investment in the year (Rs Cr)	Actual investment in the year (Rs Cr)	Actual investment in the year (Rs Cr)
Bulk Load/	Kaleshwaram Lift Irrigation Scheme- Package -14	L-17-04	Extension of power supply to Lift Irrigation project taken up by Govt. of TS	Apr-18	Nov-19	197.66	197.66	197.66	Govt. of TS Grants I&CAD	80.00	11.29	11.2900
DC Works	(Akkaram & Markook)											
Bulk Load/	Thumilla Lift Irrigation (RDS)	L-18-03	Extension of power supply to Lift Irrigation project taken up by Govt. of TS	Aug-18	Feb-19	28.1700	28.1700	28.1700	Govt. of TS Grants I&CAD	3.00	10.03	10.0300
DC Works	132/11kVThumilla											
Bulk Load/	PRLIS	L-17-05	Extension of power supply to Lift Irrigation project taken up by Govt. of TS	May-18	Nov-19	18.2300	18.2300	18.23	Govt. of TS Grants I&CAD	9.00	3.910	3.9100
DC Works	Diversion of 3Nos. 220kV lines due to submerging in the proposed Anjanagiri Project											
					TOTAL	244.06	244.06	244.06		92.00	25.23	25.23

Annexure -I

Form 1.1d - INVESTMENT PLAN

FY(2019-20)

Proposed Investment is taken from Budget proposed and balance to be billed as per

Project Details	Project Title	Scheme-ID	Project Purpose**	CWIP Expenditure details (Rs. in Cr.)	Project Start Date (DD-MM-YY)	Project Completion date (DD-MM-YY)	PLANNED CAPITAL EXPENDITURE		SOURCE OF FINANCING		Investments proposed for the year	Investments incurred in the year	Cumulative progress (Year on year)
							Base Cost in Crores	Total Cost in Crores	Debt Component of capex in year		Annual	Annual	
Project Code*									Loan Amount	Loan Source	Proposed investment in the year (Rs Cr)	Actual investment in the year (Rs Cr)	Actual investment in the year (Rs Cr)
Bulk Load/	Kaleshwaram Lift Irrigation Scheme- Package -14	L-17-04	Extension of power supply to Lift Irrigation project taken up by Govt. of TS	11.290	Apr-18	Nov-19	197.66	197.66	197.66	Govt. of TS Grants I&CAD	80.00	80.00	91.2900
DC Works	(Akkaram & Markook)												
Bulk Load/	Thumilla Lift Irrigation (RDS)	L-18-03	Extension of power supply to Lift Irrigation project taken up by Govt. of TS	10.0300	Aug-18	Feb-19	28.1700	28.1700	28.1700	Govt. of TS Grants I&CAD	3.00	3.00	13.0300
DC Works	132/11kVThumilla												
Bulk Load/	PRLIS	L-17-05	Extension of power supply to Lift Irrigation project taken up by Govt. of TS	3.910	May-18	Nov-18	18.2300	18.2300	18.23	Govt. of TS Grants I&CAD	9.00	9.000	12.9100
DC Works	Diversion of 3Nos. 220kV lines due to submerging in the proposed Anjanagiri Project												
						TOTAL	244.06	244.06	244.06		92.00	92.00	117.23

FY(2020-21)

Proposed Investment is taken from Budget proposed and balance to be billed as per SAP

Bulk Load/	Chityala-Wadapally LI Scheme LIS at 132/11 KV Chityala and 132/11 KV Wadapally	to be created	Extension of power supply to Lift Irrigation project taken up by Govt. of TS	0.000	-	-	67.1370	67.1370	67.1370	Govt. of TS Grants I&CAD	15.00	15.000	15.00
DC Works													

Annexure -I

Form 1.1d - INVESTMENT PLAN

This form captures investments as planned and actually incurred

Proposed Investment is taken from Budget proposed and balance to be billed as per SAP

FY(2019-20)

Project Details	Project Title	SAP Scheme ID's	Project Purpose**	CWIP Expenditure details (Rs. in Cr.)	Project Start Date (DD-MM-YY)	Project Completion date (DD-MM-YY)	PLANNED CAPITAL EXPENDITURE		SOURCE OF FINANCING		Investments proposed for the year	Investments incurred in the year	Cumulative progress (Year on year)
							Base Cost in Crores	Total Cost in Crores	Debt Component of capex in year		Annual	Annual	Actual investment in the year (Rs Cr)
									Loan Amount	Loan Source	Proposed investment in the year (Rs Cr)	Actual investment in the year (Rs Cr)	
Bulk Load/	Godavari LIS												
DC Works	(a) (132/11kV Gandiramaram, 132/11kV Bommakuru, 132/11kV Rangaraopalli)	L-05-02	Extension of power supply to Lift Irrigation project taken up by Govt. of TS	8.837	Apr-17	Oct-19	442.55	442.55	442.55	Govt. of TS Grants I&CAD	8.3692	8.3692	17.2062
	(b) 132/11 kV Rajavaram SS				Mar-20	Mar-21				Govt. of TS Grants I&CAD	10.0000	10.0000	10.0000
Bulk Load/	Kaleshwaram Lift Irrigation Project												
DC Works	(400kV Medaram,400kV Ramadugu,400kV Sundilla,220kV Medigadda, 220kV Annaram, 400kV Tippapur, 400kV Chandlapur,400kV Tukkapur, 132kV Malakpet)	D-15-03 L-15-02 L-15-03 L-15-04 L-16-02 L-16-03 L-16-05	Extension of power supply to Lift Irrigation project taken up by Govt. of TS	794.232	Aug-16	Dec-19	3283.8757	3283.8757	3283.8757	Govt. of TS Grants I&CAD	470.621	470.6211	1264.8531
Bulk Load/	Chanaka Korata LIS												
DC Works	132/11kV Hatighat	L-17-01	Extension of power supply to Lift Irrigation project taken up by Govt. of TS	-0.0556	Apr-17	Mar-20	41.1500	41.1500	41.1500	Govt. of TS Grants I&CAD	0.905	0.9050	0.8494
Bulk Load/	Thotapally Reservoir to Gouravelly Reservoir LIS (220/132kV Huzurabad SS and CL)												
DC Works		D-11-05 L-11-01	Extension of power supply to Lift Irrigation project taken up by Govt. of TS	29.511	Feb-15	Mar-20	69.7031	69.7031	69.70	Govt. of TS Grants I&CAD	9.120	9.1200	38.6310
Bulk Load/	Lift Irrigation Scheme along Flood Flow Canals												
DC Works	220/11 kV Rampur SS, 220/11kV Rajeswerraopeta SS, 220/11kV Mupkal SS	L-17-03	Extension of power supply to Lift Irrigation project taken up by Govt. of TS	74.7380	Feb-18	Dec-19	207.3700	207.3700	207.3700	Govt. of TS Grants I&CAD	32.240	32.2400	106.9780
Bulk Load/	Kaleshwaram Lift Irrigation Scheme OLD												
DC Works	132/11kV Beersagar(Kannepalli) LIS	L-13-02	Extension of power supply to Lift Irrigation project taken up by Govt. of TS	8.3500	Dec-16	Mar-20	50.6700	50.6700	50.6700	Govt. of TS Grants I&CAD	11.810	11.8100	20.1600
Bulk Load/	Kaleshwaram PKGS-20,21&22												
DC Works	220/11kV Sarangapur, 220/11kV Manichippa, 220/11kV Yacharamthanda	L-14-02	Extension of power supply to Lift Irrigation project taken up by Govt. of TS	13.7890	Jan'19	Mar-21	270.99	270.99	270.99	Govt. of TS Grants I&CAD	88.930	88.9300	102.7190
Bulk Load/	JCR Phase-III Supplemental &Augmentation works at Bheemghanpur												
DC Works	220/11kV Bheemghapur	L-18-02	Extension of power supply to Lift Irrigation project taken up by Govt. of TS	10.3650	May-18	Aug-19	23.99	23.99	23.99	Govt. of TS Grants I&CAD	1.190	1.1900	11.5550

Project Details	Project Title	SAP Scheme ID's	Project Purpose**	CWIP Expenditure details (Rs. in Cr.)	Project Start Date (DD-MM-YY)	Project Completion date (DD-MM-YY)	PLANNED CAPITAL EXPENDITURE		SOURCE OF FINANCING		Investments proposed for the year	Investments incurred in the year	Cumulative progress (Year on year)
							Base Cost in Crores	Total Cost in Crores	Debt Component of capex in year				
									Loan Amount	Loan Source			
Bulk Load/	JCR Phase-III 220/11kV Devvanapeta SS	L-18-01	Extension of power supply to Lift Irrigation project taken up by Govt. of TS	0.0520	Dec-19	May-21	97.38	97.38	97.38	Govt. of TS Grants I&CAD	30.000	30.0000	30.0520
DC Works	220/11kV Devvanapeta SS												
Bulk Load/	Kaleshwaram Lift Irrigation Schemes		Extension of power supply to Lift Irrigation project taken up by Govt. of TS		Mar-20	Mar-21	67.77	67.77	67.77	Govt. of TS Grants I&CAD	5.000	5.0000	5.0000
DC Works	220/11 kV New Manchippa SS and 220/11 kV New Mentrappally SS												
TOTAL													
FY(2020-2021)													
Bulk Load/	Godavari LIS		Extension of power supply to Lift Irrigation project taken up by Govt. of TS		Mar-20	Mar-21				Govt. of TS Grants I&CAD	10.000	10.000	20.000
	(b) 132/11 kV Rajavaram SS												
Bulk Load/	Kaleshwaram PKGS-20,21&22	L-14-02	Extension of power supply to Lift Irrigation project taken up by Govt. of TS		Jan'19	May-21	270.99	270.99	270.99	Govt. of TS Grants I&CAD	40.000	40.0000	142.7190
DC Works	220/11kV Sarangapur, 220/11kV Manichippa, 220/11kV Yacharamthanda												
Bulk Load/	220/11 kV Dharmasagar substation		Extension of power supply to Lift Irrigation project taken up by Govt. of TS		Jun-20	Mar-22				Govt. of TS Grants I&CAD	20.000	20.0000	20.0000
DC Works	220/11 kV Dharmasagar substation												
Bulk Load/	Kaleshwaram Lift Irrigation Schemes		Extension of power supply to Lift Irrigation project taken up by Govt. of TS		Mar-20	Mar-21	67.77	67.77	67.77	Govt. of TS Grants I&CAD	60.216	60.2160	65.2160
DC Works	220/11 kV New Manchippa SS and 220/11 kV New Mentrappally SS												
Bulk Load/	JCR Phase-III 220/11kV Devvanapeta SS	L-18-01	Extension of power supply to Lift Irrigation project taken up by Govt. of TS		Dec-19	May-21	97.38	97.38	97.38	Govt. of TS Grants I&CAD	40.000	40.0000	70.0520
DC Works	220/11kV Devvanapeta SS												
Bulk Load/	Kaleshwaram Lift Irrigation Scheme		Extension of power supply to Lift Irrigation project taken up by Govt. of TS		Apr-20	Mar-22	-	-	-	Govt. of TS Grants I&CAD	300.00	300.00	300.00
DC Works	Additional Loads under KLIS Link -I and IV												
TOTAL													
FY(2021-2022)													
Bulk Load/	JCR Phase-III 220/11kV Devvanapeta SS	L-18-01	Extension of power supply to Lift Irrigation project taken up by Govt. of TS		Dec-19	May-21	97.38	97.38	97.38	Govt. of TS Grants I&CAD	20.000	20.0000	90.0520
DC Works	220/11kV Devvanapeta SS												
Bulk Load/	220/11 kV Dharmasagar substation		Extension of power supply to Lift Irrigation project taken up by Govt. of TS		Jun-20	Mar-22				Govt. of TS Grants I&CAD	20.000	20.0000	40.0000
DC Works	220/11 kV Dharmasagar substation												
Bulk Load/	Kaleshwaram Lift Irrigation Scheme		Extension of power supply to Lift Irrigation project taken up by Govt. of TS		April-20	Mar-22	-	-	-	Govt. of TS Grants I&CAD	200.00	200.00	500.00
DC Works	Additional Loads under KLIS Link -I and IV												
TOTAL													

PROJECT DETAILS					PLANNED CAPITAL EXPENDITURE							SOURCE OF FINANCING						Investments Proposed for the year annual						Investments incurred in the year annual			Cumulative Progress (Year on Year)			Remarks	WBS Element	Expenditure as on 31.03.2019	
Project Code*	Project Title	Project Purpose**	Project Star Date (DD-MM-YY)	Project Completion date (DD-MM-YY)	Base Cost	Contingency	IDC	Duties	Taxes	Expense Capitalised	Total Cost in crores	Internal Acrued Component of capex in year	Equity Component of capex in year	Debt Component of Capex in year					Proposed investment in the year (Rs.Cr)	Proposed IDC	Proposed Other expense	Percentage capitalisation	Actual investment in the year (Rs.Cr)	IDC incurred	Other expense Incurred	Percentage capitalisation	Actual investment in the year (Rs.Cr)	IDC incurred	Other expense Incurred				Percentage capitalisation
														Loan Amount	Interest Rate	Moratorium Period	Prepayment Period	Loan Source															
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)
----	Erection of 2nd 160MVA PTR in place of 100 at Chandrayangutta SS	To Enhance PTR Capacities of Metro zone to avoid load relief/ Powercuts	22.12.2005	31.03.2019	114.46	Incl	Incl	Incl	Incl	Incl	114.46								-			0.00%	0.03			100%	0.03			100%	T.O.O M.S.No.215 Dt. 22-12-2005	A-05-03	0.03
----	Augmentation of PTRs at Various EHT Sub-stations		23.09.2009	31.03.2019	88.59	Incl	Incl	Incl	Incl	Incl	88.59								-			0.00%	0.05			100%	0.05			100%	TOO MS No 50 Dt 23.05.2009	A-09-02	0.05
----	Enhancement of Transformer Capacities		13.09.2010	31.03.2019	71.95	Incl	Incl	Incl	Incl	Incl	71.95								-			0.00%	0.23			100%	0.23			100%	TOO MS No 222 Dt 13.09.10	A-10-04	0.23
----	Augmentation of PTRs capacities at 132kV SS Ieeza		19.03.2012	31.03.2019	1.41	Incl	Incl	Incl	Incl	Incl	1.41								-			0.00%	0.10			100%	0.10			100%	TOO MS No 489 Dt 19.03.2012	A-12-07	0.10
----	Augmentation in Warangal zone & Bandlaguda SS in Metro Zone		09.07.2013	31.03.2019	12.50	Incl	Incl	Incl	Incl	Incl	12.50								-			0.00%	0.08			100%	0.08			100%	TOO MS No 110 Dt 09.07.2013	A-13-03	0.08
----	Augmentation of PTR at 132KV SS Ichoda		18.01.2013	31.03.2019	0.61	Incl	Incl	Incl	Incl	Incl	0.61								-			0.00%	0.59			100%	0.59			100%	TOO MS No 313 Dt 18.01.2013	A-13-05	0.59
----	Augmentation of PTR capacities at various substations		28.01.2014	31.03.2019	17.41	Incl	Incl	Incl	Incl	Incl	17.41								-			0.00%	0.02			100%	0.02			100%	TOO MS No 23 Dt 28.01.14	A-14-02	0.02
----	Augmentation of PTRs at various EHT SS for extending 9Hrs Rural,Metro Zone		01.05.2015	31.03.2019	283.03	Incl	Incl	Incl	Incl	Incl	283.03								-			0.00%	3.45			100%	3.45			100%	TOO MS No 82 Dt 01.05.2015	A-15-05 A-15-08 A-15-18 A-15-19	3.45
----	Augmentation of PTR capacities at various Substation Extending 9Hrs Agriculture during daytime Supply in Warangal		01.05.2016	31.03.2019	233.75	Incl	Incl	Incl	Incl	Incl	233.75								-			0.00%	0.87			100%	0.87			100%	TOO MS No 83 Dt 01.05.2015	A-15-06 A-15-12 A-15-15 A-15-16 A-15-17 A-15-20	0.87
----	Augmentation of PTR capacities at 220kV Narketpally, KM Pally and Miryalguda SS		02.07.2015	31.03.2019	11.35	Incl	Incl	Incl	Incl	Incl	11.35								-			0.00%	1.17			100%	1.17			100%	TOO MS No 114 Dt 02.07.2015	A-15-07	1.17
----	Augmentation at 220KV SS Gachibowli ADDL. 50MVA.		23.06.2015	31.03.2019	5.70	Incl	Incl	Incl	Incl	Incl	5.70								-			0.00%	0.25			100%	0.25			100%	TOO MS No 108 Dt 23.06.2015	A-15-25	0.25
----	Augmentation with 160MVA in place of 100MVA at Gajwel & Tumkibollaram		23.04.2016	31.03.2019	8.95	Incl	Incl	Incl	Incl	Incl	8.95								-			0.00%	-			100%	-			100%	TOO MS No 61 Dt 23.04.2016	A-16-06	-
----	Erection of 33KV bay Extension Works for extending 9 Hrs Agl Supply day time for TSNPDCL	DC Works for TSNPDCL	31.03.2016	31.03.2019	27.79	Incl	Incl	Incl	Incl	Incl	27.79								-			0.00%	0.05			100%	0.05			100%	TOO MS No 46 Dt 31.03.2016	D-16-06	0.05
----	Augmentation of PTR capacities at 132KV Gunrock SS	To meet the Industrial, Agriculture and etc., loads	14.02.2015	31.03.2019	3.90	0.12	-	-	0.07	0.42	4.51								3.34			74%	2.07			46%	2.07			46%	TOO 33 Dt 14-02-2015	A-15-24	2.07
----	Augmentation of PTR capacities at 220KV Gunrock SS & 220KV Ghanapur SS	To meet the Industrial, Agriculture and etc., loads	08.12.2016	31.03.2019	11.83	0.40	-	-	0.36	1.46	14.05								13.10			93%	5.44			39%	5.44			39%	T.O.O Ms No.167, 08.12.2016	A-16-10	5.44
----	Augmentation of PTR capacities at 132 KV Malayalappally SS	To meet the Industrial, Agriculture and etc., loads	09.12.2016	31.03.2019	4.39	0.18	-	-	0.15	0.66	5.38								4.84			100%	0.19			4%	0.19			4%	T.O.O Ms No.169, 09.12.2016	A-16-09	0.19

(Figures Rs. in crores)

PROJECT DETAILS					PLANNED CAPITAL EXPENDITURE							SOURCE OF FINANCING							Investments Proposed for the year annual						Investments incurred in the year annual			Comulative Progress (Year on Year)			Remarks	WBS Element	Expenditure as on 31.03.2019	
Project Code*	Project Title	Project Purpose**	Project Star Date (DD-MM-YY)	Project Completion date (DD-MM-YY)	Base Cost	Contingency	IDC	Duties	Taxes	Expense Capitalised	Total Cost in crores	Internal Acrued Component of capex in year	Equity Component of capex in year	Debt Component of Capex in year					Proposed investment in the year (Rs. Cr)	Proposed IDC	Proposed Other expense	Percentage capitalisation	Actual investment in the year (Rs. Cr)	IDC incurred	Other expense Incurred	Percentage capitalisation	Actual investment in the year (Rs. Cr)	IDC incurred	Other expense Incurred	Percentage capitalisation				
														Loan Amount	Interest Rate	Moratorium Period	Prepayment Period	Loan Source																
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	
TST/ TS/ Augmentatio n of Transformer capacities (24 Hrs. Agricultural supply) / Investment approval No.13/17, 2017-18	Augmentation of PowerTransformer capacities at various EHT SS in Warangal and Karimnagar Zones	For extending 24 Hrs. Agricultural Supply	20.05.2017	31.03.2019	59.91	2.20	-	-	2.23	7.89	72.23			63.13					PFC:3 72030 17	54.29		75%	37.07			75%	37.07			51%	T.O.O Ms No.77, 20.05.2017	A-17-01	37.07	
	Augmentation of Transformer capacities at various EHT SS for extending 24 Hrs. Agl. supply in Metro and Rural Zones	For extending 24 Hrs. Agricultural Supply	02.06.2017	31.03.2019	42.15	1.67	-	-	1.50	5.97	51.29			41.32					PFC:3 72030 17	41.20		80%	41.92			80%	41.92			82%	T.O.O Ms No.87, 02.06.2017	A-17-02	41.92	
----	Augmentation of PTR capacities at 132 KV Manoharabad SS	To meet the Industrial, Agriculture and etc., loads	16.03.2018	31.03.2019	2.49	0.12	-	-	0.60	0.42	3.63								REC 14453	1.22		34%	2.41			34%	2.41			66%	T.O.O Ms No.55, Dt:16.03.2018	A-17-05	2.41	
----	Augmentation of PTR capacities at 220KV Gachibowli SS & 132KV Malkaram SS	To meet the Industrial, Agriculture and etc., loads	16.03.2018	31.03.2019	7.86	0.32	-	-	1.65	1.16	10.99								REC 14453	6.93		63%	4.06			63%	4.06			37%	T.O.O Ms No.56, Dt:16.03.2018	A-17-06	4.06	
----	Augmentation of PTR capacities at 220KV Chandrayangutta SS	To meet the Industrial, Agriculture and etc., loads	13.04.2018	31.03.2019	5.58	0.27	-	-	1.40	1.00	8.25								REC 14455	3.91		47%	4.34			47%	4.34			53%	T.O.O Ms No. 78, Dt:13.04.2018	A-18-01	4.34	
----	Augmentation of PTR capacities at 132KV Yerraballi ss, 220KV Waddekthapally SS, 132KV Ghanpur SS, 132KV Inavole SS.	To meet the Industrial, Agriculture and etc., loads	18.07.2018	31.03.2019	4.61	0.21	-	-	1.09	0.77	6.68								REC 14455	4.67		70%	2.01			70%	2.01			30%	T.O.O Ms No. 152, Dt 18.07.2018	A-18-02	2.01	
New Scheme	Augmentation of PTR capacities at 132KV RC Puram SS, 220KV Alwal SS, 132KV Kathlapur SS, 132KV Mulkamur SS & 132KV Korutlu SS.	To meet the Industrial, Agriculture and etc., loads	01.12.2018	31.03.2020	6.86	0.23	-	-	1.17	0.82	9.08											34%	2.98			34%	2.98			33%			2.98	
New Scheme	Augmentation of PTR capacities at 132KV Jadcherla SS, 132KV Ramapuram SS, 220KV SS, 132KV Wardhanapet SS, 132KV Inavole SS & 132KV Arempula SS.	To meet the Industrial, Agriculture and etc., loads	01.12.2018	31.03.2020	3.02	0.10	-	-	0.53	0.37	4.02											47%	0.23			47%	0.23			6%			0.23	
	Total																																	109.61

**Revised ANNEXURE-I Augmentation of PTRs
(For FY:2019-2020 to FY:2023-2024 each year)**

Form 1.1d
Investment Plan
FY: 2019-20

(Figures Rs. in crores)

PROJECT DETAILS						PLANNED CAPITAL EXPENDITURE							SOURCE OF FINANCING					Investments Proposed for the year annual				Investments incurred in the year annual				Comulativr Progress (Year on Year)				Remarks								
Project Code*	Project Title	Project Purpose**	Expenditure as on 31.03.2019	Project Star Date (DD-MM-YY)	Project Completion date (DD-MM-YY)	Base Cost	Contingency	IDC	Duties	Taxes	Expense Capitalised	Total Cost in crores	Internal Accrual Component of capex in year	Equity Component of capex in year	Debt Component of Capex in year					Proposed investment in the year (Rs.Cr)	Proposed IDC	Proposed Other expense	Percentage capitalisation	Actual investment in the year (Rs.Cr)	IDC incurred	Other expense Incurred	Percentage capitalisation	Actual investment in the year	IDC incurred		Other expense Incurred	Percentage capitalisation						
															Loan Amount	Interest Rate	Moratorium Period	Prepayment Period	Loan Source																			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)						
---	Erection of 2nd 160MVA PTR in place of 100 at Chandrayangutta SS	To Enhance PTR Capacities of Metro zone to avoid load relief/ Powercuts	0.03	22.12.2005	31.03.2019	114.46	Incl	Incl	Incl	Incl	Incl	114.46																			0.03			100%				
---	Augmentation of PTR at 132KV SS Ichoda		0.59	18.01.2013	31.03.2019	0.61	Incl	Incl	Incl	Incl	Incl	0.61																		0.59			100%					
---	Augmentation of PTRs at various EHT SS for extending 9Hrs Rural,Metro Zone		0.03	01.05.2015	31.03.2019	283.03	Incl	Incl	Incl	Incl	Incl	283.03																		0.03			100%					
---	Augmentation of PTR capacities at various Substation Extending 9Hrs Agriculture during daytime Supply in Warangal		0.87	01.05.2016	31.03.2019	233.75	Incl	Incl	Incl	Incl	Incl	233.75																		0.87			100%					
---	Augmentation of PTR capacities at 132KV Gunrock SS	To meet the Industrial, Agriculture and etc., loads	2.07	14.02.2015	31.03.2019	3.90	0.12	-	-	0.07	0.42	4.51									2.44		-	54%	2.44			54%	4.51				100%					
---	Augmentation of PTR capacities at 220KV Gunrock SS & 220KV Ghanapur SS	To meet the Industrial, Agriculture and etc., loads	5.44	08.12.2016	31.03.2019	11.83	0.40	-	-	0.36	1.46	14.05									8.61		-	61%	8.61			61%	14.05				100%					
---	Augmentation of PTR capacities at 132 KV Malyalapally SS	To meet the Industrial, Agriculture and etc., loads	0.19	09.12.2016	31.03.2019	4.39	0.18	-	-	0.15	0.66	5.38								4.84				REC 13979	5.19			96%	5.19			96%	5.38			100%		
TST/ TS/ Augmentation of Transformer capacities (24 Hrs. Agricultural supply) / Investment approval No.13/17, 2017-18	Augmentation of PowerTransformer capacities at various EHT SS in Warangal and Karimnagar Zones	For extending 24 Hrs. Agricultural Supply	37.07	20.05.2017	31.03.2019	59.91	2.20	-	-	2.23	7.89	72.23									63.13				PFC:37 203017	35.16			49%	35.16			49%	72.23			100%	
	Augmentation of Transformer capacities at various EHT SS for extending 24 Hrs. Agl. supply in Metro and Rural Zones	For extending 24 Hrs. Agricultural Supply	41.92	02.06.2017	31.03.2019	42.15	1.67	-	-	1.50	5.97	51.29									41.32				PFC:37 203017	9.37			18%	9.37			18%	51.29			100%	
---	Augmentation of PTR capacities at 132 KV Manoharabad SS	To meet the Industrial, Agriculture and etc., loads	2.41	16.03.2018	31.03.2019	2.49	0.12	-	-	0.60	0.42	3.63													1.22			34%	1.22			34%	3.63			100%		
---	Augmentation of PTR capacities at 220KV Gachibowli SS & 132KV Malkaram SS	To meet the Industrial, Agriculture and etc., loads	4.06	16.03.2018	31.03.2019	7.86	0.32	-	-	1.65	1.16	10.99													6.93			63%	6.93			63%	10.99			100%		

**Revised ANNEXURE-I Augmentation of PTRs
(For FY:2019-2020 to FY:2023-2024 each year)**

Form 1.1d
Investment Plan
FY: 2019-20

(Figures Rs. in crores)

PROJECT DETAILS						PLANNED CAPITAL EXPENDITURE							SOURCE OF FINANCING						Investments Proposed for the year annual				Investments incurred in the year annual				Comulativr Progress (Year on Year)				Remarks	
Project Code*	Project Title	Project Purpose**	Expenditure as on 31.03.2019	Project Star Date (DD-MM-YY)	Project Completion date (DD-MM-YY)	Base Cost	Contingency	IDC	Duties	Taxes	Expense Capitalised	Total Cost in crores	Internal Accrual Component of capex in year	Equity Component of capex in year	Debt Component of Capex in year					Proposed investment in the year (Rs.Cr)	Proposed IDC	Proposed Other expense	Percentage capitalisation	Actual investment in the year (Rs.Cr)	IDC incurred	Other expense Incurred	Percentage capitalisation	Actual investment in the year	IDC incurred	Other expense Incurred		Percentage capitalisation
															Loan Amount	Interest Rate	Moratorium Period	Prepayment Period	Loan Source													
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)
----	Augmentation of PTR capacities at 220KV Chandrayangutta SS	To meet the Industrial, Agriculture and etc., loads	4.34	13.04.2018	31.03.2019	5.58	0.27	-	-	1.40	1.00	8.25								3.91		-	47%	3.91			47%	8.25			100%	
----	Augmentation of PTR capacities at 132KV Yerraballi ss, 220KV Waddekthapally SS, 132KV Ghanpur SS, 132KV Inavole SS.	To meet the Industrial, Agriculture and etc., loads	2.01	18.07.2018	31.03.2019	4.61	0.21	-	-	1.09	0.77	6.68								4.67		-	70%	4.67			70%	6.68			100%	
----	Augmentation of PTR capacities at 132KV RC Puram SS, 220KV Alwal SS, 132KV Kathlapur SS, 132KV Mulkamur SS & 132KV Korutlu SS.	To meet the Industrial, Agriculture and etc., loads	2.98	01.12.2018	31.03.2020	6.86	0.23	-	-	1.17	0.82	9.08								6.10		-	67%	6.10			67%	9.08			100%	
----	Augmentation of PTR capacities at 132KV Jadcherla SS, 132KV Ramapuram SS, 220KV SS, 132KV Wardhanapet SS, 132KV Inavole SS & 132KV Arempula SS.	To meet the Industrial, Agriculture and etc., loads	0.23	01.12.2018	31.03.2020	3.02	0.10	-	-	0.53	0.37	4.02								3.79		-	94%	3.79			94%	4.02			100%	
New Scheme	Augmentation of PTR Capacities at various 220KV Sub-station	To meet the Industrial, Agriculture and etc., loads		01.04.2019	31.03.2020	9.81	0.29			1.82	1.28	13.20								13.20		-	100%	13.20			100%	13.20			100%	
New Scheme	Augmentation of PTR Capacities at various 132KV Sub-station	To meet the Industrial, Agriculture and etc., loads		01.04.2019	31.03.2020	55.07	1.65			10.21	7.19	74.12								74.12		-	100%	74.12			100%	74.12			100%	
New Scheme	Supply and Erection of Capacitor banks at various 220 KV Sub-stations	To improve the Power factor of the EHT SS		01.04.2019	31.03.2020	0.45	0.01			0.08	0.06	0.60								0.60		-	100%	0.60			100%	0.60			100%	
New Scheme	Supply and Erection of Capacitor banks at various 132KV Sub-stations	To improve the Power factor of the EHT SS		01.04.2019	31.03.2020	10.29	0.31			1.91	1.34	13.85								13.85		-	100%	13.85			100%	13.85			100%	
New Scheme	Augmentation of PTR capacities at 220KV Gachibowli SS	To meet the Industrial, Agriculture and etc., loads		03.07.2019	03.07.2019	4.61	0.14			0.86	0.60	6.21								6.21		-	100%	6.21			100%	6.21			100%	
Total			104.24																	195.37				195.37				299.61				

**Revised ANNEXURE-I Augmentation of PTRs
(For FY:2019-2020 to FY:2023-2024 each year)**

Form 1.1d
Investment Plan
FY: 2020-21

(Figures Rs. in crores)

PROJECT DETAILS					PLANNED CAPITAL EXPENDITURE							SOURCE OF FINANCING						Investments Proposed for the year annual				Investments incurred in the year annual				Comulativr Progress (Year on Year)				Remarks			
Project Code*	Project Title	Project Purpose**	Project Star Date (DD-MM-YY)	Project Completion date (DD-MM-YY)	Base Cost	Contingency	IDC	Duties	Taxes	Expense Capitalised	Total Cost in crores	Internal Accrual Component of capex in year	Equity Component of capex in year	Debt Component of Capex in year					Proposed investment in the year (Rs.Cr)	Proposed IDC	Proposed Other expense	Percentage capitalisation	Actual investment in the year (Rs.Cr)	IDC incurred	Other expense Incurred	Percentage capitalisation	Actual investment in the year	IDC incurred	Other expense Incurred		Percentage capitalisation		
														Loan Amount	Interest Rate	Moratorium Period	Prepayment Period	Loan Source															
New Scheme	Augmentation of PTR Capacities at various 220KV Sub-station	To meet the Industrial, Agriculture and etc., loads	01.04.2020	31.03.2021	41.06	1.23			7.61	5.36	55.26										55.26			100%	55.26			100%	55.26			100%	
New Scheme	Augmentation of PTR Capacities at various 132KV Sub-station	To meet the Industrial, Agriculture and etc., loads	01.04.2020	31.03.2021	40.23	1.21			7.46	5.26	54.16										54.16			100%	54.16			100%	54.16			100%	
New Scheme	Supply and Erection of Capacitor banks at various 220 KV and 132 KV Sub-stations	To improve the Power factor of the EHT SS	01.04.2020	31.03.2021	2.23	0.07			0.41	0.29	3.00										3.00			100%	3.00			100%	3.00			100%	
Total											112.42										112.42				112.42				112.42				

**Revised ANNEXURE-I Augmentation of PTRs
(For FY:2019-2020 to FY:2023-2024 each year)**

Form 1.1d
Investment Plan
FY: 2021-22

(Figures Rs. in crores)

PROJECT DETAILS					PLANNED CAPITAL EXPENDITURE							SOURCE OF FINANCING					Investments Proposed for the year annual			Investments incurred in the year annual			Cumulative Progress (Year on Year)			Remarks							
Project Code*	Project Title	Project Purpose**	Project Star Date (DD-MM-YY)	Project Completion date (DD-MM-YY)	Base Cost	Contingency	IDC	Duties	Taxes	Expense Capitalised	Total Cost in crores	Internal Accrual Component of capex in year	Equity Component of capex in year	Debt Component of Capex in year					Proposed investment in the year (Rs.Cr)	Proposed IDC	Proposed Other expense	Percentage capitalisation	Actual investment in the year (Rs.Cr)	IDC incurred	Other expense Incurred		Percentage capitalisation	Actual investment in the year	IDC incurred	Other expense Incurred	Percentage capitalisation		
														Loan Amount	Interest Rate	Moratorium Period	Prepayment Period	Loan Source															
New Scheme	Augmentation of PTR Capacities at various 220KV Sub-station	To meet the Industrial, Agriculture and etc., loads	01.04.2021	31.03.2022	19.00	0.57			3.52	2.48	25.57										25.57			100%	25.57			100%	25.57			100%	
New Scheme	Augmentation of PTR Capacities at various 132KV Sub-station	To meet the Industrial, Agriculture and etc., loads	01.04.2021	31.03.2022	35.58	1.07			6.60	4.65	47.90										47.90			100%	47.90			100%	47.90			100%	
New Scheme	Supply and Erection of Capacitor banks at various 220 KV and 132 KV Sub-stations	To improve the Power factor of the EHT SS	01.04.2021	31.03.2022	4.23	0.13			0.79	0.55	5.70										5.70			100%	5.70			100%	5.70			100%	
Total											79.17										79.17				79.17				79.17				

**Revised ANNEXURE-I Augmentation of PTRs
(For FY:2019-2020 to FY:2023-2024 each year)**

Form 1.1d
Investment Plan
FY: 2022-23

(Figures Rs. in crores)

PROJECT DETAILS					PLANNED CAPITAL EXPENDITURE						SOURCE OF FINANCING					Investments Proposed for the year annual			Investments incurred in the year annual			Comulativr Progress (Year on Year)			Remarks							
Project Code*	Project Title	Project Purpose**	Project Star Date (DD-MM-YY)	Project Completion date (DD-MM-YY)	Base Cost	Contingency	IDC	Duties	Taxes	Expense Capitalised	Total Cost in crores	Internal Accrual Component of capex in year	Equity Component of capex in year	Debt Component of Capex in year				Proposed investment in the year (Rs.Cr)	Proposed IDC	Proposed Other expense	Percentage capitalisation	Actual investment in the year (Rs.Cr)	IDC incurred	Other expense Incurred		Percentage capitalisation	Actual investment in the year	IDC incurred	Other expense Incurred	Percentage capitalisation		
														Loan Amount	Interest Rate	Moratorium Period	Prepayment Period														Loan Source	
New Scheme	Augmentation of PTR Capacities at various 220KV Sub-station	To meet the Industrial, Agriculture and etc., loads	01.04.2022	31.03.2023	19.90	0.60			3.69	2.60	26.79									26.79			100%	26.79			100%	26.79			100%	
New Scheme	Augmentation of PTR Capacities at various 132KV Sub-station	To meet the Industrial, Agriculture and etc., loads	01.04.2022	31.03.2023	32.19	0.97			5.97	4.21	43.34									43.34			100%	43.34			100%	43.34			100%	
New Scheme	Supply and Erection of Capacitor banks at various 220 KV and 132 KV Sub-stations	To improve the Power factor of the EHT SS	01.04.2022	31.03.2023	1.67	0.05			0.31	0.22	2.25									2.25			100%	2.25			100%	2.25			100%	
Total											72.38									72.38				72.38				72.38				

**Revised ANNEXURE-I Augmentation of PTRs
(For FY:2019-2020 to FY:2023-2024 each year)**

Form 1.1d
Investment Plan
FY: 2023-24

(Figures Rs. in crores)

PROJECT DETAILS					PLANNED CAPITAL EXPENDITURE						SOURCE OF FINANCING						Investments Proposed for the year annual			Investments incurred in the year annual			Comulativr Progress (Year on Year)			Remarks					
Project Code*	Project Title	Project Purpose**	Project Star Date (DD-MM-YY)	Project Completion date (DD-MM-YY)	Base Cost	Contingency	IDC	Duties	Taxes	Expense Capitalised	Total Cost in crores	Internal Accrual Component of capex in year	Equity Component of capex in year	Debt Component of Capex in year			Proposed investment in the year (Rs.Cr)	Proposed IDC	Proposed Other expense	Percentage capitalisation	Actual investment in the year (Rs.Cr)	IDC incurred	Other expense Incurred	Percentage capitalisation	Actual investment in the year		IDC incurred	Other expense Incurred	Percentage capitalisation		
														Loan Amount	Interest Rate	Moratorium Period														Prepayment Period	Loan Source
New Scheme	Augmentation of PTR Capacities at various 220KV Sub-station	To meet the Industrial, Agriculture and etc., loads	01.04.2023	31.03.2024	4.98	0.15			0.92	0.65	6.70								6.70			100%	6.70			100%	6.70			100%	
New Scheme	Augmentation of PTR Capacities at various 132KV Sub-station	To meet the Industrial, Agriculture and etc., loads	01.04.2023	31.03.2024	41.20	1.24			7.64	5.38	55.46								55.46			100%	55.46			100%	55.46			100%	
New Scheme	Supply and Erection of Capacitor banks at various 220 KV and 132 KV Sub-stations	To improve the Power factor of the EHT SS	01.04.2023	31.03.2024	7.90	0.24			1.47	1.03	10.64								10.64			100%	10.64			100%	10.64			100%	
Total											72.80								72.80				72.80			72.80					

CAPITAL EXPENDITURE DURING FY:2018-19 (Actuals) FOR RMI WORKS

Form 1.1d
Investment Plan
FY: 2018-19

(Figures Rs. in crores)

Sl. No.	PROJECT DETAILS					PLANNED CAPITAL EXPENDITURE						SOURCE OF FINANCING					Investments Proposed for the year annual			Investments incurred in the present financial year			Comulativr Progress (Year on Year)			Remarks	Scheme code as per SAP	Expenditure as on 31.03.2018 as per S_alr_87013558						
	Project Code* /CRN code	Project Title	Project Purpose**	Project Star Date (DD-MM-YY)	Project Completion date (DD-MM-YY)	Base Cost	Contingency	IDC	Duties	Taxes	Expense Capitalised	Total Cost	Internal Accrual Component of capex in year	Equity Component of capex in year	Debt Component of Capex in year				Proposed investment in the year (Rs.Cr)	Proposed IDC	Proposed Other expense	Percentage capitalisation	Actual investment in the year (Rs.Cr)	IDC incurred	Other expense Incurred				Percentage capitalisation	Actual investment in the year (Rs.Cr)	IDC incurred	Other expense Incurred	Percentage capitalisation	
															Loan Amount	Interest Rate	Moratorium Period	Prepayment Period																Loan Source
1	CRN No. TS/TST/ Modernization Invest. approval.No.09/2017- R-15-01	RMI 15-16	Replacement of old and obsolete equipment of substations and lines of TSTRANSCO	16.09.2015	31.03.2020	53.08			includive	includive	includive	53.08								PFC 37203015	13.59		26%	13.59			26%	19.54			37%		R-15-01	13.59
2	-	RMI 17-18 and 2018-19		07.10.2017	31.03.2020	100.22			includive	includive	includive	100.22			90.22	11	3 years	12 years		REC 13960	25.21		25%	25.21			25%	25.21			25%		R-17-01	0.26
Total						153.3	0	0	0	0	0	153.3	0	0	90.22	0	0	0	0	38.8	0	0	0	38.8	0	0	0	44.75	0	0	0	Total		

REVISED ANNEXURE-I RENOVATION & MODERNISATION SCHEME
(For FY:2019-2020 to FY:2023-2024 each year)

Form 1.1d
Investment Plan
FY: 2019-20

(Figures Rs. in crores)

Sl.No	PROJECT DETAILS					PLANNED CAPITAL EXPENDITURE							SOURCE OF FINANCING					Investments Proposed for the year annual			Investments incurred in the present financial year			Comulativr Progress(Year on Year)			Remarks	Scheme code as per SAP									
	Project Code*	Project Title	Project Purpose**	Project Star Date (DD-MM-YY)	Project Completion date (DD-MM-YY)	Base Cost	Contingency	IDC	Duties	Taxes	Expense Capitalised	Total Cost	Internal Accrual Component of capex in year	Equity Component of capex in year	Debt Component of Capex in year					Proposed investment in the year (Rs.Cr)	Proposed IDC	Proposed Other expense	Percentage capitalisation	Actual investment in the year (Rs.Cr)	IDC incurred	Other expense Incurred			Percentage capitalisation	Actual investment in the year (Rs.Cr)	IDC incurred	Other expense Incurred	Percentage capitalisation				
															Loan Amount	Interest Rate	Moratorium Period	Prepayment Period	Loan Source																		
1 -	RMI Works of Nalgonda Division	RMI Works of Nalgonda Division		27.05.2011	31.03.2020			inclusive	inclusive	inclusive													0.17												100%		R-11-01
2 -	RMI 14-15	Replacement of old and absolute equipment of substations and lines of TSTRANSCO		10.02.2015	31.03.2020			inclusive	inclusive	inclusive													0.01												100%		R-14-01
3 -	CRN No. TS/TST/Modernization. Invest. approval.No.09/2017- R-15-01		RMI 15-16		16.09.2015	31.03.2020	53.08		inclusive	inclusive	inclusive													33.54			63.18	33.54		63.18	53.08				100%		R-15-01
4 -	RMI 17-18 and 2018-19				07.10.2017	31.03.2020	100.22		inclusive	inclusive	inclusive			90.22	11	3 years	12 years	REC 13960						75.01			74.84	75.01		74.84	100.22				100%		R-17-02
5 -	PSDF	PSDF			31.03.2020																		0.67												100%		R-16-02
6 -	O &M.Capital MAT.Proc.for FY:2016-17				31.03.2020	-																	1.22												100%		N-16-OMCP Total
7 -	O &M Capital MAT.Procure for FY:2017-18				31.03.2020	-																	1.07												100%		N-17-OMCP Total
8 -	Cap.Material drawl in O & M for F.Y:2018-19				31.03.2020																		1.7												100%		N-18-OMCPTotal
9	New Scheme	RMI	Replacement of old and absolute equipment of substations and lines of TSTRANSCO	01.04.2019	31.03.2020	53.11	inclusive	-	inclusive	inclusive	inclusive	53.11	-	-	-	-	-	-	-	-	-	-	53.11	-	-	100%	53.11	-	-	100%	53.11	-	-	100%		New Scheme	
Total						53.11	0	0	0	0	0	53.11	0	0	0	0	0	0	0	0	0	0	53.11														

REVISED ANNEXURE-I RENOVATION & MODERNISATION SCHEME
(For FY:2019-2020 to FY:2023-2024 each year)

Form 1.1d
Investment Plan
FY: 2020-21

(Figures Rs. in crores)

Sl. No.	PROJECT DETAILS					PLANNED CAPITAL EXPENDITURE							SOURCE OF FINANCING						Investments Proposed for the year annual	Investments incurred in the present financial year	Comulativr Progress (Year on Year)	Remarks	Scheme code as per SAP													
	Project Code*	Project Title	Project Purpose**	Project Star Date (DD-MM-YY)	Project Completion date (DD-MM-YY)	Base Cost	Contingency	IDC	Duties	Taxes	Expense Capitalised	Total Cost	Internal Accrual Component of capex in year	Debt Component of Capex in year										Proposed investment in the year (Rs.Cr)	Proposed IDC	Proposed Other expense	Percentage capitalisation	Actual investment in the year (Rs.Cr)	IDC incurred	Other expense Incurred	Percentage capitalisation	Actual investment in the year (Rs.Cr)	IDC incurred	Other expense Incurred	Percentage capitalisation	
														Equity Component of capex in year	Loan Amount	Interest Rate	Moratorium Period	Prepayment Period																		Loan Source
1	New Scheme proposed	RMI	Replacement of old and obsolete equipment of substations and lines of TSTRANSCO	01.04.2020	31.03.2021	56	-	-	inclu-sive	inclu-sive	inclu-sive	56	-	-	-	-	-	-	-	-	56	-	-	100%	56	-	-	100%	56	-	-	100%	-	New Scheme proposed		
Total						56	0	0	0	0	0	56	0	0	0	0	0	0	0	0	56				60.62				60.62				Total			

REVISED ANNEXURE-I RENOVATION & MODERNISATION SCHEME
(For FY:2019-2020 to FY:2023-2024 each year)

Form 1.1d
Investment Plan
FY: 2021-22

(Figures Rs. in crores)

Sl.No.	PROJECT DETAILS					PLANNED CAPITAL EXPENDITURE						SOURCE OF FINANCING						Investments Proposed for the year annual	Investments incurred in the present Financial year.	Comulativr Progress (Year on Year)			Remarks	Scheme code as per SAP											
	Project Code*	Project Title	Project Purpose**	Project Star Date (DD-MM-YY)	Project Completion date (DD-MM-YY)	Base Cost	Contingency	IDC	Duties	Taxes	Expense Capitalised	Total Cost	Internal Accrual Component of capex in year	Debt Component of Capex in year						Proposed investment in the year (Rs.Cr)	Proposed IDC	Proposed Other expense			Percentage capitalisation	Actual investment in the year (Rs.Cr)	IDC incurred	Other expense Incurred	Percentage capitalisation	Actual investment in the year (Rs.Cr)	IDC incurred	Other expense Incurred	Percentage capitalisation		
														Equity Component of capex in year	Loan Amount	Interest Rate	Moratorium Period																	Prepayment Period	Loan Source
1	New Scheme Proposed	RMI	Replacement of old and obsolete equipment of substations and lines of TSTRANSCO	01.04.2021	31.03.2022	59.7	-	-	inclu-sive	inclu-sive	inclu-sive	59.7	-	-	-	-	-	-	-	-	59.7	-	-	100%	59.7	-	-	100%	59.7	-	-	100%	-	New Scheme Proposed	
Total						59.7	0	0	0	0	0	59.7	0	0	0	0	0	0	0	0	59.7				66.69				66.69				Total		

REVISED ANNEXURE-I RENOVATION & MODERNISATION SCHEME
(For FY:2019-2020 to FY:2023-2024 each year)

Form 1.1d
Investment Plan
FY: 2022-23

(Figures Rs. in crores)

PROJECT DETAILS						PLANNED CAPITAL EXPENDITURE						SOURCE OF FINANCING						Investments Proposed for the year annual	Investments incurred in the present financial year	Comulativr Progress(Year on Year)			Remarks									
Project Code*	Project Title	Project Purpose**	Expenditure as on 31.03.2018	Project Star Date (DD-MM-YY)	Project Completion date (DD-MM-YY)	Base Cost	Contingency	IDC	Duties	Taxes	Expense Capitali-sed	Total Cost	Internal Accrual Component of capex in year	Equity Component of capex in year	Debt Component of Capex in year					Proposed investment in the year (Rs.Cr)	Proposed IDC	Proposed Other expense		Percentage capitalisation	Actual investment in the year (Rs.Cr)	IDC incurred	Other expense Incurred	Percentage capitalisation	Actual investment in the year (Rs.Cr)	IDC incurred	Other expense Incurred	Percentage capitalisation
															Loan Amount	Interest Rate	Moratorium Period	Prepayment Period	Loan Source													
New Scheme	RMI	Replacement of old and obsolete equipment of substations and lines of TSTRANSCO	-	01.04.2022	31.03.2023	63.29	-	-	Inclu-sive	Inclu-sive	Inclu-sive	63.29	-	-	-	-	-	-	-	63.29	-	-	100%	63.29	-	-	100%	63.29	-	-	100%	-
Total						63.29	0	0	0	0	0	63.29	0	0	0	0	0	0	0	63.29				63.29				63.29				

REVISED ANNEXURE-I RENOVATION & MODERNISATION SCHEME
(For FY:2019-2020 to FY:2023-2024 each year)

Form 1.1d
Investment Plan
FY: 2023-24

(Figures Rs. in crores)

PROJECT DETAILS						PLANNED CAPITAL EXPENDITURE						SOURCE OF FINANCING						Investments Proposed for the year annual	Investments incurred in the present Financial year.	Comulativr Progress(Year on Year)			Remarks									
Project Code*	Project Title	Project Purpose**	Expenditure as on 31.03.2018	Project Star Date (DD-MM-YY)	Project Completion date (DD-MM-YY)	Base Cost	Contingency	IDC	Duties	Taxes	Expense Capitalised	Total Cost	Internal Accrual Component of capex in year	Equity Component of capex in year	Debt Component of Capex in year					Proposed investment in the year (Rs.Cr)	Proposed IDC	Proposed Other expense		Percentage capitalisation	Actual investment in the year (Rs.Cr)	IDC incurred	Other expense Incurred	Percentage capitalisation	Actual investment in the year (Rs.Cr)	IDC incurred	Other expense Incurred	Percentage capitalisation
															Loan Amount	Interest Rate	Moratorium Period	Prepayment Period	Loan Source													
New Scheme	RMI	Replacement of old and obsolete equipment of substations and lines of TSTRANSCO		01.04.2022	31.03.2023	67.9	-	-	Inclusive	Inclusive	Inclusive	67.9	-	-	-	-	-	-	-	67.9	-	-	100%	67.9	-	-	100%	67.9	-	-	100%	-
Total						67.9	0	0	0	0	0	67.9	0	0	0	0	0	0	67.9	0	0		67.9	0	0	1	67.9	0	0			

Annexure - I Augmentation of Lines
(For FY: 2019-2020 to FY:2023-2024 each year)
Form 1.1d

Investment Plan
FY: 2019-20

This form captures investments as planned and actually incurred
Please fill in the required details pertaining to each year

(Figures in Crs.)

PROJECT DETAILS						PLANNED CAPITAL EXPENDITURE						SOURCE OF FINANCING					Investments proposed for the year annual			Investments incurred in the year annual			Cummulative Progress (Year on Year)			Remarks				
Project Code *	Project Title	Project Purpose**	Expenditure as on 31.03.2019	Project Start Date (DD-MM-YY)	Project Completion date(DD-MM-YY)	Base Cost	Contingency	IDC	Duties	Taxes	Expense Capitalised	Total Cost (in Cr)	Internal Accrual component of capex in year	Equity component of capex in year	Debt Component of Capex in Year			Proposed investment in the year (Rs.Cr)	Proposed IDC	Proposed Other expense	Percentage Capitalisation	Annual investment in the year (Rs.Cr)	IDC incurred	Other expense Incurred	Percentage Capitalisation		Annual investment in the year (Rs.Cr)	IDC incurred	Other expense Incurred	Percentage Capitalisation
															Loan Amount	Interest Rate	Moratorium Period													
CRN No.TST/TS/ Strengthening of 7 Nos.220kv lines in Hyderabad by replacing existing conductor with HTLS conductor approval/No.08/18/2018-19	Augmentation of lines	Strengthening of overloaded 220kv transmission lines for relieving transmission congestion in Hyderabad city of TSTRANSCO	80.29	05.09.18	31.03.19	74.69	2.2407	0	0	13.8475	9.758659	100.5		59.15 from PSDF funds balance 41.40 TSTRANSCO funds				25.50			25%	25.50			25%	100.54			100%	Works completed
Total												100.5						25.50				25.50				100.54				

REVISED INVESTMENT PLAN FOR RENOVATION & MODERNISATION SCHEME
(For FY: 2019-2020 to FY:2023-2024 each year) (RMI)
Form 1.1d

Investment Plan
FY: 2019-20

(Figures in Crs.)

PROJECT DETAILS					PLANNED CAPITAL EXPENDITURE					SOURCE OF FINANCING					Investments proposed for the year annual			Investments incurred in the year annual			Cummulative Progress (Year on Year)			Remarks												
Project Code	Project Title	Project Purpose	Project Start Date (DD-MM-YY)	Project Completion date(DD-MM-YY)	Base Cost	Contingency	IDC	Duties	Taxes	Total Cost (in Cr)	Internal Accrual component of capex in year	Equity component of capex in year	Debt Component of Capex in Year				Proposed investment in the year (Rs.Cr)	Proposed IDC	Proposed Other expense	Percentage Capitalisation	Annual investment in the year (Rs.Cr)	IDC incurred	Other expense incurred		Percentage Capitalisation	Annual investment in the year (Rs.Cr)	IDC incurred	Other expense incurred	Percentage Capitalisation							
													Loan Amount	Interest Rate	Moratorium Period	Prepayment Period														Loan Source						
	Renovation, Modernization & Improvisation scheme	Procurement of PLCC terminals, OLTEs, MUXs, EPAX and their spares, Batteries, Chargers, AC units			10.48					10.48																										
T-18-01	Implementation of OPGW based Reliable communication upto 132kv SS and above	Providing OPGW communication at 132 kv SS and above	Apr'2019	Mar'2021	139.45	22.62	10.68		25.1	197.85										PSDF & TSTRANSCO funding	74.87	4.27		40%	74.87	4.27		40%	74.87	4.27		40%				

PROJECT DETAILS					PLANNED CAPITAL EXPENDITURE					SOURCE OF FINANCING					Investments proposed for the year annual			Investments incurred in the year annual			Cummulative Progress (Year on Year)			Remarks									
Project Code *	Project Title	Project Purpose**	Project Start Date (DD-MM-YY)	Project Completion date(DD-MM-YY)	Base Cost	Contingency	IDC	Duties	Taxes	Total Cost (in Cr)	Internal Accrual component of capex in year	Equity component of capex in year	Debt Component of Capex in Year				Proposed investment in the year (Rs.Cr)	Proposed IDC	Proposed Other expense	Percentage Capitalisation	Annual investment in the year (Rs.Cr)	IDC incurred	Other expense Incurred		Percentage Capitalisation	Annual investment in the year (Rs.Cr)	IDC incurred	Other expense Incurred	Percentage Capitalisation				
													Loan Amount	Interest Rate	Moratorium Period	Prepayment Period														Loan Source			
	Renovation, Modernization & Improvisation scheme	Procurement of PLCC terminals, OLTEs, MUXs, EPAX and their spares, Batteries, Chargers, AC units			0.67					0.67						(TRANSCO funding) To be applied by Transco	0.67			100%	0.67			100%	0.67			100%	0.67			100%	

PROJECT DETAILS					PLANNED CAPITAL EXPENDITURE					SOURCE OF FINANCING					Investments proposed for the year annual			Investments incurred in the year annual			Cummulative Progress (Year on Year)			Remarks									
Project Code	Project Title	Project Purpose	Project Start Date (DD-MM-YY)	Project Completion date(DD-MM-YY)	Base Cost	Contingency	IDC	Duties	Taxes	Total Cost (in Cr)	Internal Accrual component of capex in year	Equity component of capex in year	Debt Component of Capex in Year				Proposed investment in the year (Rs.Cr)	Proposed IDC	Proposed Other expense	Percentage Capitalisation	Annual investment in the year (Rs.Cr)	IDC incurred	Other expense Incurred		Percentage Capitalisation	Annual investment in the year (Rs.Cr)	IDC incurred	Other expense Incurred	Percentage Capitalisation				
													Loan Amount	Interest Rate	Moratorium Period	Prepayment Period														Loan Source			
	Renovation, Modernization & Improvisation scheme	Procurement of PLCC terminals, OLTEs, MUXs, EPAX and their spares, Batteries, Chargers, AC units			0.05					0.05						(TRANSCO funding) To be applied by Transco	0.05			100%	0.05			100%	0.05			100%	0.05			100%	

Form 1.1(e) - Voltage wise asset base

This form refers to the gross and net asset base calculation

(Rs. in crores)

Particulars*	2018-19 (Base Year)	2019-20	2020-21	2021-22	2022-23	2023-24
Gross Fixed Assets	<i>Waiver Requested</i>					
400 kV						
220 kV						
132 kV						
Accumulated Depreciation						
400 kV						
220 kV						
132 kV						
Net Fixed Assets						
400 kV						
220 kV						
132 kV						

* Please provide voltage wise asset base details

Form 1.1g - Loans

INDIAN LOANS & DEBENTURES

FY 2018-19 (Base Year)

(Rs. In Crores)

Loan Type	Loan Agency (Source of Loan)	Loan Code*	Related Project Code	Year of incurring loan	Moratorium Period (in years)	Tenure of Loan (in years)	Rate of Interest	Balance at the beginning of the year	Amount received during the year	Amount redeemed during the year	Balance outstanding at the end of the year	Interest Expense incurred during the year	Interest Expense paid till end of the year	Interest payment defaulted on	Principle payment defaulted on	Remarks
Secured Loans:																
Bonds																
								0.00			0.00		0.00			
								0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Debentures																
								0.00			0.00		0.00			
								0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Funds from State Government																
								0.00			0.00		0.00			
								0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Secured Loans																
	REC				3 Years	13 Years	8-12.50%	3115.81	716.84	220.76	3611.89	331.57	331.57			
	PFC				3 Years	15 Years	8.25-12.50%	3091.60	1920.50	1107.02	3905.08	250.54	250.54			
	Federal Bank				1 Year	7 Years	10.75%	0.00			0.00		0.00			
	Canara Bank				-	-	-	0.00			0.00		0.00			
	Oriental Bank of Commerce				2 Years	10 Years	11.00%	40.56		7.14	33.42	3.46	3.46			
	ICICI				2 Years	10 Years	11.15%	0.00			0.00		0.00			
	Andhra Bank				2-3 Years	-	-	0.00			0.00		0.00			
	Syndicate Bank				2 Years	10 Years	9.50%	6.83		1.34	5.49	0.57	0.57			
	Karur Vysya Bank				2 Years	10 Years	11.00%	0.00			0.00		0.00			
	Bank of Baroda				1-3 Years	10 Years	11.00%	24.10		24.10	0.00	0.80	0.80			
	Bank of Maharashtra				2 Years	-	-	0.00			0.00		0.00			
	Punjab & Sind Bank				2 Years	9 Years	10.70%	7.02		7.02	0.00	0.15	0.15			
	Allahabad Bank				2 Years	10 Years	11.15%	0.00			0.00		0.00			
	Karnataka Bank Ltd.				2 Years	9 Years	11.15%	0.00			0.00		0.00			
	Corporation Bank				2 Years	9 Years	11.25%	0.00			0.00		0.00			
	Union Bank of India				2 Years	10 Years	11.15%	0.00			0.00		0.00			
	United Bank of India				-	-	-	0.00			0.00		0.00			
	UCO Bank				2 Years	10 Years	10.95%	35.45		8.35	27.10	3.46	3.46			
	NABARD				3 Years	12 Years	10.75%	67.93		6.34	61.59	6.48	6.48			
	South Indian Bank				2 Years	10 Years	11.50%	0.00			0.00		0.00			
	Tamilnadu Mercantile Bank				2 Years	9 Years	9.75%	19.31		5.10	14.21	1.58	1.58			
	Dena Bank				2 Years	10 Years	11.00%	24.78		3.11	21.67	2.74	2.74			
								6433.39	2637.34	1390.28	7680.45	601.35	601.35	0.00	0.00	
								6433.39	2637.34	1390.28	7680.45	601.35	601.35	0.00	0.00	
Unsecured Loans:																
Bonds																
								0.00			0.00		0.00			
								0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Debentures																
								0.00			0.00		0.00			
								0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Funds from State Government																
	Govt. of Telangana							590.28		0.00	590.28	58.17		58.17		48.64
								590.28	0.00	0.00	590.28	58.17	0.00	58.17	48.64	
	Other Finance Charges							0.00			0.00	0.25	0.25			
								0.00	0.00	0.00	0.00	0.25	0.25	0.00	0.00	
								590.28	0.00	0.00	590.28	58.42	0.25	58.17	48.64	
								7023.67	2637.34	1390.28	8270.73	659.77	601.60	58.17	48.64	

Form 1.1g - Loans
FY 2019-20

INDIAN LOANS & DEBENTURES

(Rs. In Crores)

Loan Type	Loan Agency (Source of Loan)	Loan Code*	Related Project Code	Year of incurring loan	Moratorium Period (in years)	Tenure of Loan (in years)	Rate of Interest	Balance at the beginning of the year	Amount received during the year	Amount redeemed during the year	Balance outstanding at the end of the year	Interest Expense incurred during the year	Interest Expense paid till end of the year	Interest payment defaulted on	Principle payment defaulted on	Remarks
Secured Loans:																
Bonds																
								0.00			0.00		0.00			
								0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Debentures																
								0.00			0.00		0.00			
								0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Funds from State Government																
								0.00			0.00		0.00			
								0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Secured Loans																
	REC				3 Years	13 Years	8-12.50%	3611.89	680.30	350.07	3942.12	400.20	400.20			
	PFC				3 Years	15 Years	8.25-12.50%	3905.08	1165.55	937.13	4133.50	348.59	348.59			
	Federal Bank				1 Year	7 Years	10.75%	0.00			0.00	0.00	0.00			
	Canara Bank				-	-	-	0.00			0.00	0.00	0.00			
	Oriental Bank of Commerce				2 Years	10 Years	11.00%	33.42		7.13	26.29	3.13	3.13			
	ICICI				2 Years	10 Years	11.15%	0.00			0.00	0.00	0.00			
	Andhra Bank				2-3 Years	-	-	0.00			0.00	0.00	0.00			
	Syndicate Bank				2 Years	10 Years	9.50%	5.49		1.34	4.15	0.44	0.44			
	Karur Vysya Bank				2 Years	10 Years	11.00%	0.00			0.00	0.00	0.00			
	Bank of Baroda				1-3 Years	10 Years	11.00%	0.00			0.00	0.00	0.00			
	Bank of Maharashtra				2 Years	-	-	0.00			0.00	0.00	0.00			
	Punjab & Sind Bank				2 Years	9 Years	10.70%	0.00			0.00	0.00	0.00			
	Allahabad Bank				2 Years	10 Years	11.15%	0.00			0.00	0.00	0.00			
	Karnataka Bank Ltd.				2 Years	9 Years	11.15%	0.00			0.00	0.00	0.00			
	Corporation Bank				2 Years	9 Years	11.25%	0.00			0.00	0.00	0.00			
	Union Bank of India				2 Years	10 Years	11.15%	0.00			0.00	0.00	0.00			
	United Bank of India				-	-	-	0.00			0.00	0.00	0.00			
	UCO Bank				2 Years	10 Years	10.95%	27.10		8.34	18.76	2.55	2.55			
	NABARD				3 Years	12 Years	10.75%	61.59		6.34	55.25	5.60	5.60			
	South Indian Bank				2 Years	10 Years	11.50%	0.00			0.00	0.00	0.00			
	Tamilnadu Mercantile Bank				2 Years	9 Years	9.75%	14.21		2.51	11.70	1.28	1.28			
	Dena Bank				2 Years	10 Years	11.00%	21.67		21.67	0.00	0.58	0.58			
								7680.45	1845.85	1334.53	8191.77	762.37	762.37	0.00	0.00	
								7680.45	1845.85	1334.53	8191.77	762.37	762.37	0.00	0.00	
Unsecured Loans:																
Bonds																
								0.00			0.00		0.00			
								0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Debentures																
								0.00			0.00		0.00			
								0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Funds from State Government																
	Govt. of Telangana							590.28		97.28	493.00	54.16	54.16			
								590.28	0.00	97.28	493.00	54.16	54.16	0.00	0.00	0.00
	Other Finance Charges							0.00			0.00		0.00			
								0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
								590.28	0.00	97.28	493.00	54.16	54.16	0.00	0.00	0.00
								8270.73	1845.85	1431.81	8684.77	816.53	816.53	0.00	0.00	

Form 1.1g - Loans
FY 2020-21

INDIAN LOANS & DEBENTURES

(Rs. In Crores)

Loan Type	Loan Agency (Source of Loan)	Loan Code*	Related Project Code	Year of incurring loan	Moratorium Period (in years)	Tenure of Loan (in years)	Rate of Interest	Balance at the beginning of the year	Amount received during the year	Amount redeemed during the year	Balance outstanding at the end of the year	Interest Expense incurred during the year	Interest Expense paid till end of the year	Interest payment defaulted on	Principle payment defaulted on	Remarks
Secured Loans:																
Bonds																
								0.00			0.00		0.00			
								0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Debentures																
								0.00			0.00		0.00			
								0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Funds from State Government																
								0.00			0.00		0.00			
								0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Secured Loans																
	REC				3 Years	13 Years	8-12.50%	3942.12	1195.05	409.26	4727.91	484.26	484.26			
	PFC				3 Years	15 Years	8.25-12.50%	4133.50	1061.04	102.45	5092.09	505.13	505.13			
	Federal Bank				1 Year	7 Years	10.75%	0.00			0.00	0.00	0.00			
	Canara Bank				-	-	-	0.00			0.00	0.00	0.00			
	Oriental Bank of Commerce				2 Years	10 Years	11.00%	26.29		7.13	19.16	2.39	2.39			
	ICICI				2 Years	10 Years	11.15%	0.00			0.00	0.00	0.00			
	Andhra Bank				2-3 Years	-	-	0.00			0.00	0.00	0.00			
	Syndicate Bank				2 Years	10 Years	9.50%	4.15		1.34	2.81	0.32	0.32			
	Karur Vysya Bank				2 Years	10 Years	11.00%	0.00			0.00	0.00	0.00			
	Bank of Baroda				1-3 Years	10 Years	11.00%	0.00			0.00	0.00	0.00			
	Bank of Maharashtra				2 Years	-	-	0.00			0.00	0.00	0.00			
	Punjab & Sind Bank				2 Years	9 Years	10.70%	0.00			0.00	0.00	0.00			
	Allahabad Bank				2 Years	10 Years	11.15%	0.00			0.00	0.00	0.00			
	Karnataka Bank Ltd.				2 Years	9 Years	11.15%	0.00			0.00	0.00	0.00			
	Corporation Bank				2 Years	9 Years	11.25%	0.00			0.00	0.00	0.00			
	Union Bank of India				2 Years	10 Years	11.15%	0.00			0.00	0.00	0.00			
	United Bank of India				-	-	-	0.00			0.00	0.00	0.00			
	UCO Bank				2 Years	10 Years	10.95%	18.76		8.34	10.42	1.64	1.64			
	NABARD				3 Years	12 Years	10.75%	55.25		6.34	48.91	4.96	4.96			
	South Indian Bank				2 Years	10 Years	11.50%	0.00			0.00	0.00	0.00			
	Tamilnadu Mercantile Bank				2 Years	9 Years	9.75%	11.70		2.51	9.19	1.03	1.03			
	Dena Bank				2 Years	10 Years	11.00%	0.00			0.00	0.00	0.00			
								8191.77	2256.09	537.37	9910.49	999.73	999.73	0.00	0.00	
								8191.77	2256.09	537.37	9910.49	999.73	999.73	0.00	0.00	
Unsecured Loans:																
Bonds																
								0.00			0.00		0.00			
								0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Debentures																
								0.00			0.00		0.00			
								0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Funds from State Government																
	Govt. of Telangana							493.00		48.64	444.36	46.83	46.83			
								493.00	0.00	48.64	444.36	46.83	46.83	0.00	0.00	
	Other Finance Charges							0.00			0.00		0.00			
								0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
								493.00	0.00	48.64	444.36	46.83	46.83	0.00	0.00	
								8684.77	2256.09	586.01	10354.85	1046.56	1046.56	0.00	0.00	

Form 1.1g - Loans
FY 2021-22

INDIAN LOANS & DEBENTURES

(Rs. In Crores)

Loan Type	Loan Agency (Source of Loan)	Loan Code*	Related Project Code	Year of incurring loan	Moratorium Period (in years)	Tenure of Loan (in years)	Rate of Interest	Balance at the beginning of the year	Amount received during the year	Amount redeemed during the year	Balance outstanding at the end of the year	Interest Expense incurred during the year	Interest Expense paid till end of the year	Interest payment defaulted on	Principle payment defaulted on	Remarks
Secured Loans:																
Bonds																
								0.00			0.00		0.00			
								0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Debentures																
								0.00			0.00		0.00			
								0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Funds from State Government																
								0.00			0.00		0.00			
								0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Secured Loans																
	REC				3 Years	13 Years	8-12.50%	4727.91	1151.98	454.71	5425.18	571.75	571.75			
	PFC				3 Years	15 Years	8.25-12.50%	5092.09	646.31	155.33	5583.07	587.00	587.00			
	Federal Bank				1 Year	7 Years	10.75%	0.00			0.00	0.00	0.00			
	Canara Bank				-	-	-	0.00			0.00	0.00	0.00			
	Oriental Bank of Commerce				2 Years	10 Years	11.00%	19.16		7.13	12.03	1.65	1.65			
	ICICI				2 Years	10 Years	11.15%	0.00			0.00	0.00	0.00			
	Andhra Bank				2-3 Years	-	-	0.00			0.00	0.00	0.00			
	Syndicate Bank				2 Years	10 Years	9.50%	2.81		1.34	1.47	0.19	0.19			
	Karur Vysya Bank				2 Years	10 Years	11.00%	0.00			0.00	0.00	0.00			
	Bank of Baroda				1-3 Years	10 Years	11.00%	0.00			0.00	0.00	0.00			
	Bank of Maharashtra				2 Years	-	-	0.00			0.00	0.00	0.00			
	Punjab & Sind Bank				2 Years	9 Years	10.70%	0.00			0.00	0.00	0.00			
	Allahabad Bank				2 Years	10 Years	11.15%	0.00			0.00	0.00	0.00			
	Karnataka Bank Ltd.				2 Years	9 Years	11.15%	0.00			0.00	0.00	0.00			
	Corporation Bank				2 Years	9 Years	11.25%	0.00			0.00	0.00	0.00			
	Union Bank of India				2 Years	10 Years	11.15%	0.00			0.00	0.00	0.00			
	United Bank of India				-	-	-	0.00			0.00	0.00	0.00			
	UCO Bank				2 Years	10 Years	10.95%	10.42		8.34	2.08	0.71	0.71			
	NABARD				3 Years	12 Years	10.75%	48.91		6.34	42.57	4.33	4.33			
	South Indian Bank				2 Years	10 Years	11.50%	0.00			0.00	0.00	0.00			
	Tamilnadu Mercantile Bank				2 Years	9 Years	9.75%	9.19		2.51	6.68	0.78	0.78			
	Dena Bank				2 Years	10 Years	11.00%	0.00			0.00	0.00	0.00			
								9910.49	1798.29	635.70	11073.08	1166.41	1166.41	0.00	0.00	
								9910.49	1798.29	635.70	11073.08	1166.41	1166.41	0.00	0.00	
Unsecured Loans:																
Bonds																
								0.00			0.00		0.00			
								0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Debentures																
								0.00			0.00		0.00			
								0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Funds from State Government																
	Govt. of Telangana							444.36		48.64	395.72	42.21	42.21			
								444.36	0.00	48.64	395.72	42.21	42.21	0.00	0.00	
	Other Finance Charges							0.00			0.00		0.00			
								0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
								444.36	0.00	48.64	395.72	42.21	42.21	0.00	0.00	0.00
								10354.85	1798.29	684.34	11468.80	1208.62	1208.62	0.00	0.00	

Form 1.1g - Loans
FY 2022-23

INDIAN LOANS & DEBENTURES

(Rs. In Crores)

Loan Type	Loan Agency (Source of Loan)	Loan Code*	Related Project Code	Year of incurring loan	Moratorium Period (in years)	Tenure of Loan (in years)	Rate of Interest	Balance at the beginning of the year	Amount received during the year	Amount redeemed during the year	Balance outstanding at the end of the year	Interest Expense incurred during the year	Interest Expense paid till end of the year	Interest payment defaulted on	Principle payment defaulted on	Remarks
Secured Loans:																
Bonds																
								0.00			0.00		0.00			
								0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Debentures																
								0.00			0.00		0.00			
								0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Funds from State Government																
								0.00			0.00		0.00			
								0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Secured Loans																
	REC				3 Years	13 Years	8-12.50%	5425.18	751.02	474.02	5702.18	626.90	626.90			
	PFC				3 Years	15 Years	8.25-12.50%	5583.07	336.80	313.04	5606.83	588.43	588.43			
	Federal Bank				1 Year	7 Years	10.75%	0.00			0.00	0.00	0.00			
	Canara Bank				-	-	-	0.00			0.00	0.00	0.00			
	Oriental Bank of Commerce				2 Years	10 Years	11.00%	12.03		7.13	4.90	0.90	0.90			
	ICICI				2 Years	10 Years	11.15%	0.00			0.00	0.00	0.00			
	Andhra Bank				2-3 Years	-	-	0.00			0.00	0.00	0.00			
	Syndicate Bank				2 Years	10 Years	9.50%	1.47		1.07	0.40	0.06	0.06			
	Karur Vysya Bank				2 Years	10 Years	11.00%	0.00			0.00	0.00	0.00			
	Bank of Baroda				1-3 Years	10 Years	11.00%	0.00			0.00	0.00	0.00			
	Bank of Maharashtra				2 Years	-	-	0.00			0.00	0.00	0.00			
	Punjab & Sind Bank				2 Years	9 Years	10.70%	0.00			0.00	0.00	0.00			
	Allahabad Bank				2 Years	10 Years	11.15%	0.00			0.00	0.00	0.00			
	Karnataka Bank Ltd.				2 Years	9 Years	11.15%	0.00			0.00	0.00	0.00			
	Corporation Bank				2 Years	9 Years	11.25%	0.00			0.00	0.00	0.00			
	Union Bank of India				2 Years	10 Years	11.15%	0.00			0.00	0.00	0.00			
	United Bank of India				-	-	-	0.00			0.00	0.00	0.00			
	UCO Bank				2 Years	10 Years	10.95%	2.08		2.08	0.00	0.04	0.04			
	NABARD				3 Years	12 Years	10.75%	42.57		6.34	36.23	3.69	3.69			
	South Indian Bank				2 Years	10 Years	11.50%	0.00			0.00	0.00	0.00			
	Tamilnadu Mercantile Bank				2 Years	9 Years	9.75%	6.68		2.51	4.17	0.54	0.54			
	Dena Bank				2 Years	10 Years	11.00%	0.00			0.00	0.00	0.00			
								11073.08	1087.82	806.19	11354.71	1220.56	1220.56	0.00	0.00	
								11073.08	1087.82	806.19	11354.71	1220.56	1220.56	0.00	0.00	
Unsecured Loans:																
Bonds																
								0.00			0.00		0.00			
								0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Debentures																
								0.00			0.00		0.00			
								0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Funds from State Government																
	Govt. of Telangana							395.72		48.64	347.08	37.59	37.59			
								395.72	0.00	48.64	347.08	37.59	37.59	0.00	0.00	
	Other Finance Charges							0.00			0.00		0.00			
								0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
								395.72	0.00	48.64	347.08	37.59	37.59	0.00	0.00	
								11468.80	1087.82	854.83	11701.79	1258.15	1258.15	0.00	0.00	

Form 1.1g - Loans
FY 2023-24

INDIAN LOANS & DEBENTURES

(Rs. In Crores)

Loan Type	Loan Agency (Source of Loan)	Loan Code*	Related Project Code	Year of incurring loan	Moratorium Period (in years)	Tenure of Loan (in years)	Rate of Interest	Balance at the beginning of the year	Amount received during the year	Amount redeemed during the year	Balance outstanding at the end of the year	Interest Expense incurred during the year	Interest Expense paid till end of the year	Interest payment defaulted on	Principle payment defaulted on	Remarks
Secured Loans:																
Bonds																
								0.00			0.00		0.00			
								0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Debentures																
								0.00			0.00		0.00			
								0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Funds from State Government																
								0.00			0.00		0.00			
								0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Secured Loans																
	REC				3 Years	13 Years	8-12.50%	5702.18	602.17	541.60	5762.75	611.63	611.63			
	PFC				3 Years	15 Years	8.25-12.50%	5606.83	315.91	373.43	5549.31	576.96	576.96			
	Federal Bank				1 Year	7 Years	10.75%	0.00			0.00	0.00	0.00			
	Canara Bank				-	-	-	0.00			0.00	0.00	0.00			
	Oriental Bank of Commerce				2 Years	10 Years	11.00%	4.90		4.90	0.00	0.19	0.19			
	ICICI				2 Years	10 Years	11.15%	0.00			0.00	0.00	0.00			
	Andhra Bank				2-3 Years	-	-	0.00			0.00	0.00	0.00			
	Syndicate Bank				2 Years	10 Years	9.50%	0.40		0.40	0.00	0.00	0.00			
	Karur Vysya Bank				2 Years	10 Years	11.00%	0.00			0.00	0.00	0.00			
	Bank of Baroda				1-3 Years	10 Years	11.00%	0.00			0.00	0.00	0.00			
	Bank of Maharashtra				2 Years	-	-	0.00			0.00	0.00	0.00			
	Punjab & Sind Bank				2 Years	9 Years	10.70%	0.00			0.00	0.00	0.00			
	Allahabad Bank				2 Years	10 Years	11.15%	0.00			0.00	0.00	0.00			
	Karnataka Bank Ltd.				2 Years	9 Years	11.15%	0.00			0.00	0.00	0.00			
	Corporation Bank				2 Years	9 Years	11.25%	0.00			0.00	0.00	0.00			
	Union Bank of India				2 Years	10 Years	11.15%	0.00			0.00	0.00	0.00			
	United Bank of India				-	-	-	0.00			0.00	0.00	0.00			
	UCO Bank				2 Years	10 Years	10.95%	0.00			0.00	0.00	0.00			
	NABARD				3 Years	12 Years	10.75%	36.23		6.34	29.89	3.06	3.06			
	South Indian Bank				2 Years	10 Years	11.50%	0.00			0.00	0.00	0.00			
	Tamilnadu Mercantile Bank				2 Years	9 Years	9.75%	4.17		2.51	1.66	0.29	0.29			
	Dena Bank				2 Years	10 Years	11.00%	0.00			0.00	0.00	0.00			
								11354.71	918.08	929.18	11343.61	1192.13	1192.13	0.00	0.00	
								11354.71	918.08	929.18	11343.61	1192.13	1192.13	0.00	0.00	
Unsecured Loans:																
Bonds																
								0.00			0.00		0.00			
								0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Debentures																
								0.00			0.00		0.00			
								0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Funds from State Government																
	Govt. of Telangana							347.08		48.64	298.44	32.28	32.28			
								347.08	0.00	48.64	298.44	32.28	32.28	0.00	0.00	
	Other Finance Charges							0.00			0.00		0.00			
								0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
								347.08	0.00	48.64	298.44	32.28	32.28	0.00	0.00	
								11701.79	918.08	977.82	11642.05	1224.41	1224.41	0.00	0.00	

Form 1.1 g(i) - New Loans

Please fill in the required details pertaining to each year

2018-19(Base Year)

Amount in Rs. Crores

Particulars	Amount	Purpose	Status	Agency	Agreed Interest Rate	Moratorium Period (Years)	Repayment period (Years)	Remarks
Erection of 132KV lines for making LILO shapurnagar DC line at 132KV Kolanpak	7.02	Capital Works	Sanctioned	PFC	11.00%	3 Years	15 Years	
Raydurg Systems improvement Scheme	1778.26	Capital Works	Sanctioned	PFC	11.00%	3 Years	15 Years	
Counterpart funding for OPGW based communication	120.92	Capital Works	Sanctioned	PFC	11.00%	3 Years	15 Years	
Erection of 220/132KV Substation at Ammavaripet	87.24	Capital Works	Sanctioned	PFC	11.00%	3 Years	15 Years	
Erection of 132/33KV SS in various districts of Telangana & Augmentation of PTR capacities for various SS	357.58	Capital Works	Sanctioned	REC	11.00%	3 Years	13 Years	
Erection of 132/33KV SS in various districts of Telangana & Augmentation of PTR capacities for various SS	190.27	Capital Works	Sanctioned	REC	11.00%	3 Years	13 Years	
Enhancement of loan	416.86	Capital Works	Sanctioned	PFC	11.00%	3 Years	15 Years	
Total	2958.15							

2019-20

Amount in Rs. Crores

Particulars	Amount	Purpose	Status	Agency	Agreed Interest Rate	Moratorium Period (Years)	Repayment period (Years)	Remarks
Yadadri Power Evacuation Scheme	13.29	Capital Works	Sanctioned	REC	11.25%	3 Years	13 Years	
Reactor Scheme - III	4.75	Capital Works	To be Sanctioned	REC	11.25%	3 Years	13 Years	
KTPP System Improvement Scheme	14.72	Capital Works	Sanctioned	PFC	11.25%	3 Years	15 Years	
220/132KV Schemes	69.62	Capital Works	To be Sanctioned	REC	11.25%	3 Years	13 Years	
220/132KV Schemes	69.62	Capital Works	To be Sanctioned	PFC	11.25%	3 Years	15 Years	
Renovation & Modernisation Scheme	51.51	Capital Works	To be Sanctioned	REC	11.25%	3 Years	13 Years	
Telecom Schemes	81.29	Capital Works	To be Sanctioned	PFC	11.25%	3 Years	15 Years	
Total	304.80							

2020-21

Amount in Rs. Crores

Particulars	Amount	Purpose	Status	Agency	Agreed Interest Rate	Moratorium Period (Years)	Repayment period (Years)	Remarks
Yadadri Power Evacuation Scheme	549.96	Capital Works	Sanctioned	REC	11.25%	3 Years	13 Years	
Reactor Scheme - III	76.46	Capital Works	To be Sanctioned	REC	11.25%	3 Years	13 Years	
KTPP System Improvement Scheme	120.22	Capital Works	Sanctioned	PFC	11.25%	3 Years	15 Years	
220/132KV Schemes	202.83	Capital Works	To be Sanctioned	REC	11.25%	3 Years	13 Years	
220/132KV Schemes	202.83	Capital Works	To be Sanctioned	PFC	11.25%	3 Years	15 Years	
Renovation & Modernisation Scheme	53.16	Capital Works	To be Sanctioned	REC	11.25%	3 Years	13 Years	
Telecom Schemes	109.50	Capital Works	To be Sanctioned	PFC	11.25%	3 Years	15 Years	
Total	1314.96							

2021-22

Amount in Rs. Crores

Particulars	Amount	Purpose	Status	Agency	Agreed Interest Rate	Moratorium Period (Years)	Repayment period (Years)	Remarks
Yadadri Power Evacuation Scheme	569.93	Capital Works	Sanctioned	REC	11.25%	3 Years	13 Years	
Reactor Scheme - III	74.39	Capital Works	To be Sanctioned	REC	11.25%	3 Years	13 Years	
KTPP System Improvement Scheme	139.61	Capital Works	Sanctioned	PFC	11.25%	3 Years	15 Years	
220/132KV Schemes	222.24	Capital Works	To be Sanctioned	REC	11.25%	3 Years	13 Years	
220/132KV Schemes	222.24	Capital Works	To be Sanctioned	PFC	11.25%	3 Years	15 Years	
Renovation & Modernisation Scheme	56.68	Capital Works	To be Sanctioned	REC	11.25%	3 Years	13 Years	
Telecom Schemes	1.09	Capital Works	To be Sanctioned	PFC	11.25%	3 Years	15 Years	
Total	1286.18							

2022-23

Amount in Rs. Crores

Particulars	Amount	Purpose	Status	Agency	Agreed Interest Rate	Moratorium Period (Years)	Repayment period (Years)	Remarks
Yadadri Power Evacuation Scheme	372.30	Capital Works	Sanctioned	REC	11.25%	3 Years	13 Years	
Reactor Scheme - III	23.86	Capital Works	To be Sanctioned	REC	11.25%	3 Years	13 Years	
KTPP System Improvement Scheme	41.39	Capital Works	Sanctioned	PFC	11.25%	3 Years	15 Years	
220/132KV Schemes	294.77	Capital Works	To be Sanctioned	REC	11.25%	3 Years	13 Years	
220/132KV Schemes	294.77	Capital Works	To be Sanctioned	PFC	11.25%	3 Years	15 Years	
Renovation & Modernisation Scheme	60.09	Capital Works	To be Sanctioned	REC	11.25%	3 Years	13 Years	
Telecom Schemes	0.64	Capital Works	To be Sanctioned	PFC	11.25%	3 Years	15 Years	
Total	1087.82							

2023-24

Amount in Rs. Crores

Particulars	Amount	Purpose	Status	Agency	Agreed Interest Rate	Moratorium Period (Years)	Repayment period (Years)	Remarks
Yadadri Power Evacuation Scheme	233.90	Capital Works	Sanctioned	REC	11.25%	3 Years	13 Years	
KTPP System Improvement Scheme	12.05	Capital Works	Sanctioned	PFC	11.25%	3 Years	15 Years	
220/132KV Schemes	303.81	Capital Works	To be Sanctioned	REC	11.25%	3 Years	13 Years	
220/132KV Schemes	303.81	Capital Works	To be Sanctioned	PFC	11.25%	3 Years	15 Years	
Renovation & Modernisation Scheme	64.46	Capital Works	To be Sanctioned	REC	11.25%	3 Years	13 Years	
Telecom Schemes	0.05	Capital Works	To be Sanctioned	PFC	11.25%	3 Years	15 Years	
Total	918.08							

Form 1.1h - FOREIGN CURRENCY LOANS & CREDIT

This form pertains to the Total Foreign Currency Loans and Debentures

2018-19 (Base Year)

Amount in Rs. Crores

Loan Type	Loan Agency (Source of Loan)	Year of Sanction (DD-MM-YY)	Reason for incurring Loan*	Related Project Code	Tenure of Loan (in years)	Currency of Loan	Amount sanctioned (in FCY)	Initial Exchange Rate	Current Exchange Rate	Moratorium Period (in years)	Rate of Interest	Balance at the beginning of the year	Amount received during the year	Amount redeemed during the year	Balance outstanding at the end of the year	Interest Expense incurred during the year	Interest Expense paid till end of the year	Interest payment defaulted on	Principle payment defaulted on	Pcode	Loan Code	Remarks
Secured Loans																						
												0.00			0.00							
												0.00			0.00							
												0.00			0.00							
							0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
Unsecured Loans																						
												0.00			0.00							
												0.00			0.00							
												0.00			0.00							
							0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
							0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					

2019-20

Amount in Rs. Crores

Loan Type	Loan Agency (Source of Loan)	Year of Sanction (DD-MM-YY)	Reason for incurring Loan*	Related Project Code	Tenure of Loan (in years)	Currency of Loan	Amount sanctioned (in FCY)	Initial Exchange Rate	Current Exchange Rate	Moratorium Period (in years)	Rate of Interest	Balance at the beginning of the year	Amount received during the year	Amount redeemed during the year	Balance outstanding at the end of the year	Interest Expense incurred during the year	Interest Expense paid till end of the year	Interest payment defaulted on	Principle payment defaulted on	Pcode	Loan Code	Remarks
Secured Loans																						
												0.00			0.00							
												0.00			0.00							
												0.00			0.00							
							0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
Unsecured Loans																						
												0.00			0.00							
												0.00			0.00							
												0.00			0.00							
							0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
							0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					

2020-21

Amount in Rs. Crores

Loan Type	Loan Agency (Source of Loan)	Year of Sanction (DD-MM-YY)	Reason for incurring Loan*	Related Project Code	Tenure of Loan (in years)	Currency of Loan	Amount sanctioned (in FCY)	Initial Exchange Rate	Current Exchange Rate	Moratorium Period (in years)	Rate of Interest	Balance at the beginning of the year	Amount received during the year	Amount redeemed during the year	Balance outstanding at the end of the year	Interest Expense incurred during the year	Interest Expense paid till end of the year	Interest payment defaulted on	Principle payment defaulted on	Pcode	Loan Code	Remarks
Secured Loans																						
												0.00			0.00							
												0.00			0.00							
												0.00			0.00							
							0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
Unsecured Loans																						
												0.00			0.00							
												0.00			0.00							
												0.00			0.00							
							0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
							0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					

2021-22

Amount in Rs. Crores

Loan Type	Loan Agency (Source of Loan)	Year of Sanction (DD-MM-YY)	Reason for incurring Loan*	Related Project Code	Tenure of Loan (in years)	Currency of Loan	Amount sanctioned (in FCY)	Initial Exchange Rate	Current Exchange Rate	Moratorium Period (in years)	Rate of Interest	Balance at the beginning of the year	Amount received during the year	Amount redeemed during the year	Balance outstanding at the end of the year	Interest Expense incurred during the year	Interest Expense paid till end of the year	Interest payment defaulted on	Principle payment defaulted on	Pcode	Loan Code	Remarks
Secured Loans																						
												0.00			0.00							
												0.00			0.00							
												0.00			0.00							
							0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
Unsecured Loans																						
												0.00			0.00							
												0.00			0.00							
												0.00			0.00							
							0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
							0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					

2022-23

Amount in Rs. Crores

Loan Type	Loan Agency (Source of Loan)	Year of Sanction (DD-MM-YY)	Reason for incurring Loan*	Related Project Code	Tenure of Loan (in years)	Currency of Loan	Amount sanctioned (in FCY)	Initial Exchange Rate	Current Exchange Rate	Moratorium Period (in years)	Rate of Interest	Balance at the beginning of the year	Amount received during the year	Amount redeemed during the year	Balance outstanding at the end of the year	Interest Expense incurred during the year	Interest Expense paid till end of the year	Interest payment defaulted on	Principle payment defaulted on	Pcode	Loan Code	Remarks
Secured Loans																						
												0.00			0.00							
												0.00			0.00							
												0.00			0.00							
							0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
Unsecured Loans																						
												0.00			0.00							
												0.00			0.00							
												0.00			0.00							
							0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
							0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					

2023-24

Amount in Rs. Crores

Loan Type	Loan Agency (Source of Loan)	Year of Sanction (DD-MM-YY)	Reason for incurring Loan*	Related Project Code	Tenure of Loan (in years)	Currency of Loan	Amount sanctioned (in FCY)	Initial Exchange Rate	Current Exchange Rate	Moratorium Period (in years)	Rate of Interest	Balance at the beginning of the year	Amount received during the year	Amount redeemed during the year	Balance outstanding at the end of the year	Interest Expense incurred during the year	Interest Expense paid till end of the year	Interest payment defaulted on	Principle payment defaulted on	Pcode	Loan Code	Remarks
Secured Loans																						
												0.00			0.00							
												0.00			0.00							
												0.00			0.00							
							0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
Unsecured Loans																						
												0.00			0.00							
												0.00			0.00							
												0.00			0.00							
							0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
							0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					

Form 1.1j - CURRENT ASSETS

This form refers to the total current assets

(Rs. in crores)

Particulars	2018-19 (Base Year)	2019-20	2020-21	2021-22	2022-23	2023-24
Material Stock and Related Accounts	148.22	150.00	160.00	170.00	180.00	200.00
Sundry Debtors	449.89	400.00	450.00	500.00	550.00	600.00
Cash and Bank Balances	110.82	120.00	130.00	140.00	150.00	160.00
Loans and Advances	2357.80	1434.80	1500.00	1550.00	1600.00	1650.00
Other Current Assets	756.58	565.72	525.72	312.92	350.00	400.00
Grand Total:	3823.31	2670.52	2765.72	2672.92	2830.00	3010.00

Form 1.1k - CURRENT LIABILITIES

This form refers to the total current liabilities in a particular (Rs. in crores)

Particulars	2018-19 (Base Year)	2019-20	2020-21	2021-22	2022-23	2023-24
Liabilities for Capital Works	212.92	220.00	240.00	260.00	280.00	300.00
Liability for O&M Supplies	71.84	75.00	80.00	85.00	90.00	95.00
Staff Related Liabilities	104.58	110.00	120.00	130.00	140.00	150.00
Other Liabilities and Provisions	578.81	296.23	240.00	260.00	280.00	300.00
Deposits and retentions from suppliers and contractors	3988.39	3570.16	4740.53	4117.04	4026.63	1578.19
Liability for expenses	107.80	110.00	120.00	130.00	140.00	150.00
Accrued liability amounts relating to borrowings	44.80	50.00	60.00	70.00	80.00	90.00
Others	443.78	252.92	212.92	-	-	-
Grand Total:	5552.92	4684.31	5813.45	5052.04	5036.63	2663.19

Form 1.1m - Discom Contracts

Particulars	2018-19 (Base Year)	2019-20	2020-21	2021-22	2022-23	2023-24
TS SPDCL						
Contracted Demand (MW)	10935.00	10668.56	12307.99	12307.99	13725.62	14797.98
Coincident Peak Demand (MW)						
Non coincident Peak Demand (MW)						
TS NPDCL						
Contracted Demand (MW)	5111.00	4520.69	5205.06	5205.06	5800.25	6247.89
Coincident Peak Demand (MW)						
Non coincident Peak Demand (MW)						
OTHERS						
Contracted Demand (MW)	1.00	46.25	50.88	55.96	61.56	67.72
Coincident Peak Demand (MW)						
Non coincident Peak Demand (MW)						
Total	16047.00	15235.50	17563.93	17569.01	19587.43	21113.59

Form 1.1n - RESERVES

This form pertains to the total reserves in a particular year

(Rs. in crores)

PARTICULARS	2018-19 (Base Year)	2019-20	2020-21	2021-22	2022-23	2023-24
Restructuring Reserve	138.86	138.86	138.86	138.86	138.86	138.86
Capital Reserve	4.60	4.60	4.60	4.60	4.60	4.60
Contingency Reserve	42.39	45.39	48.39	51.39	54.39	57.39
Reorganisation Resultant Reserve	463.41	447.96	447.96	447.96	447.96	447.96
Retained Surplus	954.59	1258.43	1585.44	1998.34	2472.63	2973.83
Total:	1603.85	1895.24	2225.25	2641.15	3118.44	3622.64

Form : 1.2 - Cash Flow Statement

(Rs. in crores)

	2018-19 (Base Year)	2019-20	2020-21	2021-22	2022-23	2023-24
Cash Flows from Operating Activities						
Profit before Tax	350.52	391.12	420.66	530.14	608.40	642.69
Adjustments for depreciation	738.85	899.66	1032.35	1277.14	1482.28	1666.36
Adjustments for foreign exchange loss/(gain)	-	-	-	-	-	-
Provision for diminution in value of investments	-	-	-	-	-	-
Interest expense	659.77	816.53	1046.56	1208.62	1258.15	1224.41
Adjustment for employee terminal benefits	-	-	-	-	-	-
Operating income before working capital charges	1749.14	2107.31	2499.57	3015.90	3348.83	3533.46
Decrease/(increase) in trade and other receivables	359.17	49.89	(50.00)	(50.00)	(50.00)	(50.00)
Decrease / (increase) in inventories	0.55	(1.78)	(10.00)	(10.00)	(10.00)	(20.00)
Decrease / (increase) in other current assets	(100.65)	1,113.86	(25.20)	162.80	(87.08)	(100.00)
Decrease / (increase) in miscellaneous expenditure not written off	-	-	-	-	-	-
Interest to consumers on security deposit	-	-	-	-	-	-
Increase/(Decrease) in Current Liabilities	(190.59)	(939.29)	1,099.14	(791.41)	(45.41)	(2,403.44)
Cash generated from operations	1817.62	2329.99	3513.51	2327.29	3156.34	960.02
Interest paid	-	-	-	-	-	-
Provision for Income Tax	75.53	84.28	90.65	114.24	131.10	138.49
Extraordinary gain / (loss)	-	-	-	-	-	-
Net cash from generated from operating activities	1742.09	2245.71	3422.86	2213.05	3025.24	821.53
Cash Flows from Investing Activities						
Acquisition of subsidiary	-	-	-	-	-	-
Purchase of Fixed Assets (Including Interest capitalised)	3547.49	3521.67	3968.20	3120.93	1669.57	1397.91
Reserves in Government Bonds	-	-	-	-	-	-
Interest received	-	-	-	-	-	-
Dividends received	-	-	-	-	-	-
Purchase of Other Investment Activities	-	-	-	-	-	-
Sale of Other Investment Activities	-	-	-	-	-	-
Increase /(Decrease) in liability for Capital works	(129.83)	7.08	20.00	20.00	20.00	20.00
Accumulated interest on investments through contingency reserve	-	-	-	-	-	-
Net cash used in (from) investment activities	3677.32	3514.59	3948.20	3100.93	1649.57	1377.91
Cash Flows from Financing Activities						
Proceeds from issuance of share capital	-	-	-	-	-	-
Proceeds from Long Term Debt	2637.34	1845.85	2256.09	1798.29	1087.82	918.08
Repayment of long term debt	1390.28	1431.81	586.01	684.34	854.83	977.82
Proceeds from Govt. Subsidies and Grants	1344.69	1675.35	-98.19	982.55	-350.51	1840.53
Payment of financial lease liabilities	-	-	-	-	-	-
Interest Paid	651.39	811.33	1036.56	1198.62	1248.15	1214.41
Dividends paid	-	-	-	-	-	-
Net cash from (used in) financing activities	1940.36	1278.06	535.33	897.88	-1365.67	566.38
Net Change in Cash Equivalents						
Cash and Cash Equivalents at Beginning of Year	105.69	110.82	120.00	130.00	140.00	150.00
Cash and Cash Equivalents at End of Year	110.82	120.00	130.00	140.00	150.00	160.00

Form 1.3a - Operation and Maintenance Expenses

This form pertains to the Operation and Maintenance Expenses during a particular year

2018-19 (Base Year)

Code	Particulars	Amount
10001	Total O&M Expenses (Rs. in crores)	634.26
10014	Line Length ckt-km	21582
10011	Number of Substations (Bays)	2667
10025	O&M Expenses per Line Length (Rs.)	88165
10026	O&M Expenses per Sub Station (Rs.)	1664724

2019-20

Code	Particulars	Amount
10001	Total O&M Expenses (Rs. in crores)	791.53
10014	Line Length ckt-km	24747
10011	Number of Substations (Bays)	3105
10025	O&M Expenses per Line Length (Rs.)	94936
10026	O&M Expenses per Sub Station (Rs.)	1792575

2020-21

Code	Particulars	Amount
10001	Total O&M Expenses (Rs. in crores)	937.70
10014	Line Length ckt-km	26603
10011	Number of Substations (Bays)	3449
10025	O&M Expenses per Line Length (Rs.)	102227
10026	O&M Expenses per Sub Station (Rs.)	1930245

2021-22

Code	Particulars	Amount
10001	Total O&M Expenses (Rs. in crores)	1048.04
10014	Line Length ckt-km	27498
10011	Number of Substations (Bays)	3586
10025	O&M Expenses per Line Length (Rs.)	110078
10026	O&M Expenses per Sub Station (Rs.)	2078488

2022-23

Code	Particulars	Amount
10001	Total O&M Expenses (Rs. in crores)	1141.66
10014	Line Length ckt-km	28096
10011	Number of Substations (Bays)	3613
10025	O&M Expenses per Line Length (Rs.)	118532
10026	O&M Expenses per Sub Station (Rs.)	2238116

2023-24

Code	Particulars	Amount
10001	Total O&M Expenses (Rs. in crores)	1245.06
10014	Line Length ckt-km	28497
10011	Number of Substations (Bays)	3657
10025	O&M Expenses per Line Length (Rs.)	127636
10026	O&M Expenses per Sub Station (Rs.)	2410003

Form 1.3(i) - WORKING CAPITAL

(Rs. in crores)

PARTICULARS	2018-19 (Base Year)	2019-20	2020-21	2021-22	2022-23	2023-24
O&M expenses	713.49	912.41	1070.66	1194.30	1302.55	1422.04
O&M Stores						
Working Capital Requirement (1/8th of total O&M Expenses+ O&M Stores)	87.96	112.49	132.00	147.24	160.59	175.32

Form 1.3i - Other Expenses

(Rs. in Crores)

Particulars	2018-19 (Base Year)	2019-20	2020-21	2021-22	2022-23	2023-24
Special appropriations (debt redemption obligation, etc)		(367.15)	-	-	-	-
Other Debits	8.48	-	-	-	-	-
Prior Period Items						
TOTAL OTHER EXPENSES	8.48	(367.15)	-	-	-	-

Form 7.0 - Consumer Contributions and Grants

This form pertains to the Contribution and Grants in a particular year

2018-19 (Base Year)

Rs. in crores

Particulars	Opening Balance at the beginning of the year	Additions during the year	Deductions during the year	Closing Balance at the End of the Year	Remarks
Consumer Contributions & Grants towards cost of capital assets	573.58	1481.39	136.70	1918.27	
Total	573.58	1481.39	136.70	1918.27	

2019-20

Rs. in crores

Particulars	Opening Balance at the beginning of the year	Additions during the year	Deductions during the year	Closing Balance at the End of the Year	Remarks
Consumer Contributions & Grants towards cost of capital assets	1918.27	1914.19	238.84	3593.62	
Total	1918.27	1914.19	238.84	3593.62	

2020-21

Rs. in crores

Particulars	Opening Balance at the beginning of the year	Additions during the year	Deductions during the year	Closing Balance at the End of the Year	Remarks
Consumer Contributions & Grants towards cost of capital assets	3593.62	197.72	295.91	3495.43	
Total	3593.62	197.72	295.91	3495.43	

2021-22

Rs. in crores

Particulars	Opening Balance at the beginning of the year	Additions during the year	Deductions during the year	Closing Balance at the End of the Year	Remarks
Consumer Contributions & Grants towards cost of capital assets	3495.43	1333.72	351.17	4477.98	
Total	3495.43	1333.72	351.17	4477.98	

2022-23

Rs. in crores

Particulars	Opening Balance at the beginning of the year	Additions during the year	Deductions during the year	Closing Balance at the End of the Year	Remarks
Consumer Contributions & Grants towards cost of capital assets	4477.98	0.00	350.51	4127.47	
Total	4477.98	0.00	350.51	4127.47	

2023-24

Rs. in crores

Particulars	Opening Balance at the beginning of the year	Additions during the year	Deductions during the year	Closing Balance at the End of the Year	Remarks
Consumer Contributions & Grants towards cost of capital assets	4127.47	2275.84	435.31	5968.00	
Total	4127.47	2275.84	435.31	5968.00	

Revenue Surplus / (deficit) at current tariffs

Form 8

(Rs. in crores)

Items of Non - Tariff Income (Rs. Crs.)	2018-19 (Base Year)	2019-20	2020-21	2021-22	2022-23	2023-24
Aggregate Revenue Requirement	1869.85	2012.08	2828.18	3345.98	3974.39	4274.77
Revenue from current tariffs	1755.01	1336.90	1541.22	1541.67	1718.78	1852.70
Revenue Surplus/(Deficit) at current tariffs	(114.84)	(675.18)	(1286.96)	(1804.31)	(2255.61)	(2422.07)

Revenue Surplus / (deficit) at Proposed tariffs**Form 9**

(Rs. in crores)

	2019-20	2020-21	2021-22	2022-23	2023-24
Aggregate Revenue Requirement	2012.08	2828.18	3345.98	3974.39	4274.77
Revenue from proposed tariffs	2012.08	2828.18	3345.98	3974.39	4274.77
Revenue Surplus / (deficit) at proposed tariffs	0.00	0.00	0.00	0.00	0.00

Form 10 - Non Tariff Income

This form captures the Total Non-tariff income during a particular year

(Rs. in crores)

Particulars	2018-19 (Base Year)	2019-20	2020-21	2021-22	2022-23	2023-24
Interest on Staff loans and advances	0.68	1.00	1.00	1.00	1.00	1.00
Income from investments	10.36	8.50	8.50	8.50	8.50	8.50
Interest on Contingency Reserve investments	4.06	4.00	4.00	4.00	4.00	4.00
Income from sale of scrap etc.,	4.22	4.00	4.00	4.00	4.00	4.00
Supervision Charges	122.20	160.00	17.00	111.00	5.00	5.00
Amortisation of Consumer Contributions, Grants towards cost of fixed assets - LIS Assets	72.62	153.36	208.43	248.69	283.03	342.83
Amortisation of Consumer Contributions, Grants towards cost of fixed assets - Other than LIS Assets	64.08	85.48	87.48	102.48	67.48	92.48
Others	9.55	10.00	10.00	10.00	10.00	10.00
Total Non-Tariff Income	287.77	426.34	340.41	489.67	383.01	467.81