



**THE UTTAR PRADESH ELECTRICITY REGULATORY COMMISSION
LUCKNOW**

Petition No. 2200/2025

QUORUM

Hon'ble Shri Arvind Kumar, Chairman

Hon'ble Shri Sanjay Kumar Singh, Member

IN THE MATTER OF

Approval for Five-Year STU Transmission Plan for period of FY 2025-26 to FY 2029-30 before Uttar Pradesh Electricity Regulatory Commission in terms of Regulation 5.2 of Uttar Pradesh Electricity Regulatory Commission (Modalities of Tariff Determination) Regulations, 2023.

AND

IN THE MATTER OF

**Uttar Pradesh Power Transmission Corporation Ltd. in the capacity of
State Transmission Utility**

Managing Director, 7th Floor Shakti Bhawan, 14-Ashok Marg, Lucknow, Uttar Pradesh, Pin-226001

..... Petitioner

THE FOLLOWING WERE PRESENT

1. Sh. S.K. Das, Director (Planning & Commercial), UPPTCL
2. Sh. A.K. Shukla, SE (Commercial), UPPTCL
3. Sh. Satyendra Kumar, SE (Planning), UPPTCL
4. Sh. Saurabh Yadav, AE, UPPTCL

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ORDER

(DATE OF HEARING: 10.06.2025)

1. The instant Petition is filed by Uttar Pradesh Power Transmission Corporation Ltd. (UPPTCL) in the capacity of State Transmission Utility (STU) for approval of Five-Year STU Transmission Plan for period of FY 2025-26 to FY 2029-30 in terms of Regulation 5.2 of UPERC (Modalities of Tariff Determination) Regulations, 2023. The prayers of the Petitioner are as following:
 - (a) Approve the 05 Year STU Rolling Transmission Plan for the period FY 2025-26 to FY 2029-30.
 - (b) Allow the Petitioner to add/change/alter/modify this application at a future date.
 - (c) Issue any other relief, order or direction which the Commission may deem fit.

Submission of Petitioner

2. The Petitioner submitted its Petition and subsequently revised the data vide email dated September 12, 2025, September 20, 2025 and September 25, 2025. The revised data has been considered and listed subsequently.
3. As per Regulation 5.2 of UPERC (Modalities of Tariff Determination) Regulations 2023, STU has to prepare Five-Year STU Transmission Plan of the State for approval of the Commission by 28th February on the rolling basis every year.

Transmission Plan Background

4. The STU has submitted that the overall installed generating capacity in the State as on 31st Dec 2024 is 33,053.98 MW out of which thermal consists of 71.6 % and renewable energy source (RES) consists of 17.14 %.
5. Further, total of 9,140 MW of thermal capacities are expected to be commissioned within the State from FY 2025-26 to FY 2029-30. Some TPS projects, such as Obra D (2x880 MW), Anpara E (2x880 MW) and Meja Ext. (3x660 MW) are under execution stage and have expected CODs in FY 2028-29. Therefore, the transmission network for power evacuation from these TPS projects are yet to be finalized in consultation with CEA.



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However, tentative locations for the substations for the evacuation from these TPS have been mentioned in the Transmission Plan for the FY 2029-30.

6. Renewable Energy Source (RES), bulk solar parks of 3200 MW (2600 MW Connectivity planned through InSTS and 600 MW Connectivity planned through ISTS by Bundelkhand Saur Urja Limited in Jalaun), which are approved by MNRE, and distributed solar generating plants of 1400 MW are to be established in Bundelkhand region. In order to facilitate power transfer from 4000 MW RE Projects coming up in the State, in revised Green Energy Corridor (GEC)-II Plan total of 21 number of substations and their associated lines have been planned in two phases and the work of construction of transmission network is in progress.
7. The key performance parameters of STU for FY 2024-25 such as;
 - (a) Projected wheeled Energy from Transmission Network is estimated to be at 1,55,578.87 MUs,
 - (b) Transmission Loss has narrowed down to 3.16%,
 - (c) Transmission System Availability has reached 98.7393 % (Normative is 98%),
 - (d) Successfully met the continuously increasing peak electricity demand in the State from 16,110 MW in FY 2016-17 to 30,618 MW in FY 2024-25, and further to 31,486 MW in FY 2025-26.

Transmission Planning Methodology

8. The STU has submitted that the transmission system is in general planned to cater to the long-term requirements of eligible injecting and drawee entities/users including generators and distribution licensees. The transmission system is planned in a manner so that system parameters and loading of transmission elements remain within permissible limits under normal as well as under contingency conditions.
9. The STU has further submitted that the Transmission Plan has been prepared by assessing the long, medium and short-term demand forecast of different regions, based on nature and growth of load. Also, any new addition of conventional and RES generation capacity in the State is taken



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into consideration.

10. Transmission Network is prepared taking into ^{account} various factors such as area /location for capacity addition, load growth in the region, upcoming industrial and commercial loads, increase in domestic demand, improvement in the voltage profile, up-gradation etc.
11. Further, efforts are made to explore possibility of planning new substations instead of adding transformer capacity at an existing substation when the capacity of the existing sub-stations reach maximum permissible capacity as per Manual on Transmission Planning Criteria, and also taking into consideration N-1 contingency condition so that all the system parameters like voltages, loadings, frequency remain within permissible limits.
12. Augmentation of system is planned by considering factors such as rate of load growth, availability of space, operational constraints and feedback from injecting/drawing entities etc.
13. Transmission Network System Study is envisaged for operation of system under existing conditions as well as looking at its improvement and future expansion. System study reveals low voltage pockets and requirement of compensating reactive power, while also capturing voltage profile and transmission losses. Through system study, one can determine the EHV network required for evacuation of power from generating station and strengthening of lines required for grid stability. Study is carried out by way of load flow study, short circuit study etc. in PSSE, MI power software system.
- (a) Load Flow Study: The steady state of power system network is analysed through load flow study. It determines the operating state of the system for a given load generation balance in the system. It also helps in determination of loading on various transmission elements and in planning and operation of power system from steady state point of view.
- (b) Short Circuit Study: This study is carried out for arriving at proper circuit breaker ratings and providing adequate protection scheme for electrical power system based on fault levels.
14. Furthermore, M/s Power Research & Development Consultants Private



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Limited, Bangalore had been engaged to provide consultancy Services for carrying out perspective plan Studies for transmission network of UPPTCL for the period FY 2024-25 to FY 2033-2034. The Same is in process and the final report will be submitted before the Commission for approval.

Peak Power Demand Projections

15. The actual peak demand from the period FY 2019-20 to FY 2024-25 has been tabulated below:

Table 1: Year-wise Actual Peak Power Demand and YoY Growth for FY 2019-20 to FY 2024-25

Particulars	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
Actual Peak Demand (MW)	21,632	23,867	24,795	26,589	28,284	30,618
YoY increase (%)	-	10.33	3.89*	7.24	6.37	8.25
Actual Peak Demand CAGR (5 Years)						7.20%
*YoY increase is on lower side due to Covid-19 pandemic.						

16. STU has made Load projection as per Order dated 23.06.2023 of the Commission in matter of Suo-moto order for long-term procurement plan of UPDISCOMs for FY 2028 to FY 2040. STU has further submitted that methodology of varying and tapering growth rates for a period of 5-year slot has been adopted, consistent with the approach followed by the Central Electricity Authority (CEA) in its 20th Electric Power Survey (EPS) Report dated 16.11.2022.
17. Further, peak demand (MW) projections for FY 2024-25 to FY 2029-30 has been computed as per the Commission order dated 06.03.2024 in Petition No. 1526 of 2019. The projected peak demand (MW) from FY 2024-25 to FY 2029-30 with CAGR has been tabulated below:

Table 2: Peak demand Projection (MW) from FY 2024-25 to FY 2029-30

FY	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
Peak Power Demand (MW) of UPDISCOMS	31,590	34,434	37,533	40,535	43,778	47,280
Peak Power Demand (MW) of NPCL	753	864	973	1,093	1,228	1,371
Peak Power Demand (MW)	32,343*	35,298	38,506	41,628	45,006	48,651

*Actual peak demand for FY 2024-25 is 30,618 MW as on 13.06.2024



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Network Summary

18. STU has submitted that to cater the upcoming power demand and generation capacity in the State, it has planned the addition of 131 new substations with an aggregate transformation capacity of 78,768 MVA, along with laying of 13,738 Ckt. Km of transmission lines by FY 2029-30. The year-on-year and cumulative planned transmission network additions for the period FY 2024-25 to FY 2029-30 are summarised in the table below:

Table 3: Details of Year on Year and cumulative Planned Transmission Network from FY 2024-25 to FY 2029-30

FY	Particulars	132 kV	220 kV	400 kV	765 kV	Total	Cumulative Network
2024-25	No. of S/s	7	4	2	0	13	698
	Capacity (MVA)	4,316	3,400	2,460	0	10,176	1,99,347
	Line Length (Ckt. Km)	350	251	624	344	1,570	60,070
2025-26	No. of S/s	12	15	6	-	33	731
	Capacity (MVA)	6,252	7,520	8,870	-	22,642	2,21,989
	Line Length (Ckt. Km)	2,460	1,675	520	-	4,655	64,725
2026-27	No. of S/s	14	15	1	1	31	762
	Capacity (MVA)	5,581	6,300	2,945	1,500	16,326	2,38,315
	Line Length (Ckt. Km)	1,534	1,346	756	37	3,674	68,399
2027-28	No. of S/s	10	12	2	-	24	786
	Capacity (MVA)	3,517	4,720	3,075	-	11,312	2,49,627
	Line Length (Ckt. Km)	416	602	348	-	1,366	69,764
2028-29	No. of S/s	3	6	8	2	19	805
	Capacity (MVA)	831	3,160	8,130	6,000	18,121	2,67,748
	Line Length (Ckt. Km)	60	690	1,126	775	2,651	72,415
2029-30	No. of S/s	5	17	2	-	24	829
	Capacity	2,447	5,920	2,000	-	10,367	2,78,115





FY	Particulars	132 kV	220 kV	400 kV	765 kV	Total	Cumulative Network
	(MVA)						
	Line Length (Ckt. Km)	65	1,208	120	-	1,393	73,808

19. Glossary of Planned Transmission Network between FY 2025-26 till FY 2029-30 is tabulated below:

Table 4: Details of Planned Transmission Network

Network Plan	Substation (No.)	Capacity (MVA)	Line Length (Ckt. Km)
Network up-to March, 2025	698	1,99,347	60,070
Network up-to March, 2030	829	2,78,115	73,808
Net Addition during the plan	131	78,768	13,738

*Actual peak demand for FY 2024-25 was 30,618 MW as on 13.06.2024

20. STU has submitted that the implementation of planned new substations and capacity augmentations shall be contingent upon the actual load growth observed in the coming years. Accordingly, the Transmission Plan is subject to variation based on factors such as the prevailing load demand in different regions, land availability for new substations, technical feasibility or space constraints for augmentation, outcomes of load flow studies, and Right of Way (RoW) issues. Any modifications or changes necessitated due to the above constraints shall be duly incorporated in subsequent plans, which will be submitted to the Commission on a rolling basis.
21. The STU has further submitted that the Commission may permit the implementation of transmission schemes that are immediately necessary under the following circumstances: (a) to fulfil specific requirements of open access customers or deposit works; (b) for projects of strategic importance, technical upgradation, or similar special categories; and (c) to address urgent or unforeseen situations, with prior intimation to the Commission and subject to its final approval.

TBCB Schemes





22. The STU has submitted that, in accordance with the provisions of the UPERC (Modalities of Tariff Determination) Regulations, 2023, all new greenfield substations of 220 kV and above voltage level are to be implemented through the Tariff Based Competitive Bidding (TBCB) route. The STU has further submitted that any exemption from TBCB implementation shall be placed before the Commission for approval on a case-to-case basis. A total of 51 projects have been planned under the TBCB mode during the period FY 2024-25 to FY 2029-30, comprising 37 projects at 220 kV, 12 projects at 400 kV, and 2 projects at 765 kV voltage level.
23. The STU has further submitted that, as per Regulation 7.2 of the UPERC (Modalities of Tariff Determination) Regulations, 2023, augmentation and strengthening works (excluding O&M works) at the intra-State transmission substations and/or lines shall be carried out by the respective developer, with the prior approval of the Commission to be obtained by the STU on a case-to-case basis.

Deposit Schemes

24. With respect to deposit schemes, STU has submitted that UPPTCL, in its Petition No. 1995/2023, had requested the Commission to exempt the requirement of obtaining prior approval for schemes related to deposit work as UPPTCL does not make any investment in such works and all related expenses are borne entirely by the users/ consumers.

The Commission, vide its Order dated 30.08.2023, has relaxed the requirement of prior approval for deposit work schemes. The relevant extract is reproduced below:

"Commission's view

The Commission has considered the submission of the Petitioner seeking relaxation for prior approval of deposit schemes. In this regard, the relevant extract of the UPERC (Modalities of Tariff Determination) Regulations, 2023 is reproduced below:

".....Provided that following new Greenfield intra-State transmission projects, being part of the STU Transmission Plan, shall be covered under RTM framework (under Section 62 of the Act) subject to prior approval of the Commission:

.....





(d) Deposit works, whose funds are accounted for under consumer contribution;

.....”

From above, it is observed that Regulation 6.1 of UPERC (Modalities of Tariff Determination) Regulations, 2023 requires UPPTCL to seek prior approval of the Commission for deposit schemes. However, the Commission is of view that since deposit work schemes are to be implemented as and when required by the consumer/user for which there is no prior information to UPPTCL and that the cost of such schemes are not passed on in ARR/ tariff as all the works are carried out at the expenses of particular users/consumers therefore the Commission in exercise of its powers conferred under Regulations 9 of UPERC (Modalities of Tariff Determination) Regulations, 2023 has relaxed the requirement of prior approval of the Commission for deposit work schemes. However, UPPTCL is directed to continue to intimate about the deposit works schemes on a quarterly basis.”

Capital Expenditure Estimation for Transmission Projects (FY 2024-25 to FY 2029-30)

25. The STU has submitted that the estimated capital expenditure (Capex) for the construction of new substations and associated transmission lines, as well as for augmentation and strengthening works, during the period FY 2024-25 to FY 2029-30, has been assessed based on the mode of implementation and the status of project approvals. The year-wise capital expenditure for transmission works is summarised in the table below:

Table 5: The Capital expenditure for Transmission works (FY 2024-25 to FY 2029-30)

FY	132 kV	220 kV	400 kV	765 kV	Total (Rs. in Cr.)
FY 2024-25	897.99	565.02	464.28	-	1,927.29
FY 2025-26	3,826.11	3,533.58	3,134.14	-	10,493.83
FY 2026-27	2,330.70	2,564.55	1,654.84	799.54	7,349.63
FY 2027-28	923.98	1,870.30	1,293.01	-	4,087.29
FY 2028-29	303.08	1,126.44	5,331.21	3,630.42	10,391.15
FY 2029-30	469.55	2,749.12	1,007.82	-	4,226.49
Total (Rs. in Cr.)	8,751.40	12,409.02	12,885.30	4,429.96	38,475.68



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Scrutiny of the Petition and Clarifications Sought

26. The Commission, after scrutinizing the Petition, observed certain deficiencies and data gaps, which were communicated to the Petitioner (UPPTCL) vide Minutes of Meeting dated April 04, 2025.
27. In response, STU, through its subsequent submissions dated June 06, 2025, September 12, 2025, September 20, 2025, and September 25, 2025, provided clarifications and additional information addressing the queries raised by the Commission. The queries raised by the Commission and the corresponding responses submitted by the Petitioner are detailed below:

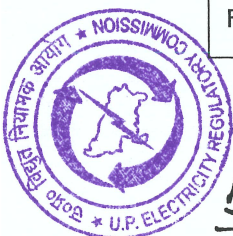
Query No.1: The Petitioner was directed to provide a comparison of item-wise transmission network growth proposed in the current rolling plan (FY 2025-26 to FY 2029-30) with that approved in the previous plan (FY 2024-25 to FY 2028-29).

Response submitted by Petitioner:

The petitioner has submitted the comparison of item-wise transmission network growth proposed in the current rolling plan (FY 2025-26 to FY 2029-30) with that approved in the previous plan (FY 2024-25 to FY 2028-29). The brief summary has been tabulated below-

Table 6: Proposed item-wise Transmission Network Growth (FY 2025-26 to FY 2029-30)

Year	No. of S/s as per Previous Plan FY 2024-29	Dropped S/s	Deferred S/s to Subsequent years	Net S/s to be Commissioned during the year	Rollover S/s from earlier years	New Planned S/s	Total no. of S/s submitted for STU FY 2025-30
	A	B	C	D=A-B-C	E	F	G=D+E+F
FY 2024-25	27	1	13	13	0	0	0
FY 2025-26	39	5	15	19	14	0	33
FY 2026-27	15	2	6	7	16	8	31
FY 2027-28	13	-	2	11	8	5	24
FY 2028-29	8	4	0	4	4	11	19





Year	No. of S/s as per Previous Plan FY 2024-29	Dropped S/s	Deferred S/s to Subsequent years	Net S/s to be Commissioned during the year	Rollover S/s from earlier years	New Planned S/s	Total no. of S/s submitted for STU FY 2025-30
	A	B	C	D=A-B-C	E	F	G=D+E+F
FY 2029-30	-	-	0	0	3	21	24
	102	12	36	54	45	45	131

Commission's Observation:

The Commission notes that the Petitioner has provided a comparative statement of item-wise transmission network growth between the previous rolling plan (FY 2024-25 to FY 2028-29) and the current plan (FY 2025-26 to FY 2029-30). Out of 102 substations envisaged earlier, 12 have been dropped, and a sizeable number have been deferred to subsequent years, resulting in rollover in the subsequent years. There will be network growth of 131 S/s during FY 2025-26 to FY 2029-30, including 45 newly planned S/s. The Commission notes that the new S/s are being delayed.

The Commission is of the view that deferments and rollover work other than those which are required for matching the timeline of interlinked schemes/ load, undermines the reliability of the transmission system and delays the timely augmentation of the State transmission network. Therefore, the Petitioner is directed to strengthen project monitoring mechanisms, address execution bottlenecks, and ensure that the revised timelines are strictly adhered to, and ensure that network growth keeps pace with demand and generation additions.

Query No.2: The Petitioner was directed to provide a bifurcation of the 220/132 kV and 220/33 kV transmission network along with trend analysis of network growth as well as transmission capacity at T-D point.

Response submitted by Petitioner: The Petitioner has submitted the bifurcation of the 220/132 kV and 220/33 kV transmission network along with trend analysis of network growth as well as transmission capacity at T-D point.





Table 7: Year Wise Growth Trends of 220/132 kV and 220/33 kV Transmission Network

Voltage Ratio (KV)	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
220/ 132	41,920	44,220	47,120	52,560	56,520	59,680
220/ 33	2,980	3,200	3,660	4,340	5,000	5,240
132/ 33	50,410	53,810	57,906	61,194	65,213	69,529

The total transmission capacity at T-D point is 74,769 MW.

Commission's Observation:

The Commission observes that the Petitioner has furnished the bifurcation of the 220/132 kV and 220/33 kV transmission network, along with the trend analysis of network growth and transmission capacity at the T-D interface. The submission made by the Petitioner shows a steady increase in transformation capacity across all voltage levels during FY 2019-20 to FY 2024-25:

- 220/132 kV capacity has grown from 41,920 MVA in FY 2019-20 to 59,680 MVA in FY 2024-25, reflecting an average growth of 7.3%.
- 220/33 kV capacity has expanded from 2,980 MVA to 5,240 MVA in the same period with an average growth of 12.1%, indicating focused strengthening at lower-voltage transformation points.
- 132/33 kV capacity has consistently increased from 50,410 MVA to 69,529 MVA with an average growth of 6.6%, supporting downstream distribution requirements.

Further, the total transmission capacity at the T-D point stands at 74,769 MW, which is critically assessed against projected demand growth and planned generation additions. The Commission notes that although capacity enhancement trends are positive, timely commissioning of planned augmentations and balanced development across voltage ratios remain essential to avoid bottlenecks and maintain system reliability.

Therefore, the Petitioner is directed to continue close monitoring of substation augmentation and new capacity addition works, ensuring that future growth in transformation capacity remains aligned with load projections and distribution utility requirements. Further, a more granular year-wise capacity utilization analysis at T-D points should be provided in subsequent filings to assess the adequacy of transformation capacity vis-





à-vis actual load.

Further shifting of feeders from overloaded 132/33 kV & 220/33 kV S/s to new Sub-stations, which are feasible and necessary shall be carried out on priority.

Query No.3: The Petitioner was directed to provide the details of transformers and transmission lines operating at 75% or higher load during peak periods in FY 2024-25, along with the proposal with timeline for mitigating the same.

Response submitted by Petitioner: The Petitioner has submitted the list of 15 ICTs/transformers of 06 substations and 05 lines (400 kV- 1 and 220 kV- 04) having reached nearly 75% and higher loading during the peak load of 29,692 MW recorded on 31.05.2024 at 21:45 hours. The submission also includes a work plan and timelines for addressing the overloading of these transmission elements, as shown in the table below:

Table 8: Details of ICTs/Transformers with 75% and Above Loading

S. No.	Name of Substation	Transmission Capacity	ICT I	ICT II	ICT III	Mitigation Plan
1	Allahabad PG	3x315	256	256	242	Additional 500 MVA ICT to be installed in Sept, 2025
2	GRKPR 400kV	500+315	391	249	0	Additional 500 MVA ICT charged in June 2024
3	Sikandrabad	2x100+1x160	84	84	129	2nd 160 MVA ICT in place of 100 MVA ICT is under implementation and to be charged in Dec, 2025
4	Unnao 400kv	3x160	122	121	133	To reduce loading of Unnao 400kV, Upgradation of 132kV Kundan Road is required and additional 160 MVA T/F at 220kV Dahi Chowki to overcome the loading. TWC proposal awaited from field unit
5	Harduaganj	1x100+1x160	0	105		2nd 160 MVA ICT in place of defective 100 MVA ICT is under implementation and to be charged in June, 2025
6	Hardoi Road	2x200	141	152		Additional 160 MVA ICT installed in January, 2025





Table 9: Details of Transmission lines with 75% and Above Loading

S. No.	Transmission line	Loading (in MW)	Mitigation Plan
1	400kV Anpara-Obra	605	The loading can be managed by keeping the 400 kV Anpara-Singrauli line open, allowing power evacuation through the 765 kV network.
2	220 kV Allahabad (PG)-Jhusi	231	The LILO of the 220 kV Phoolpur-Jhusi line at 400 kV Jaunpur has been completed. Power flow is currently restricted due to the non-availability of the second 315 MVA, 400/220 kV transformer. At present, only one 315 MVA transformer is in service, while the second transformer is expected to be commissioned by July 2025, against the approved capacity of 3×315 MVA.
3	220 kV Azamgarh-Jaunpur	198	The 400 kV Jaunpur substation has been energised. Overloading on this line is expected to reduce upon commissioning of the 400/220 kV transformer at Jaunpur.
4	220 kV Bachhrawan-Raibareilly	-197	The overloading on this line is expected to reduce after commissioning of the 400 kV Raebareilly substation, which is scheduled for completion by September 2026.
5	220 kV Phulpur-Allahabada PG	-203	The LILO of the 220 kV Phoolpur-Jhusi line at 400 kV Jaunpur has been completed. Power flow is restricted due to the non-availability of the second 315 MVA, 400/220 kV transformer; currently only one 315 MVA transformer is operational. The second transformer is expected to be energised by July 2025, against the approved capacity of 3×315 MVA.

Commission's Observation:

The Commission notes that the Petitioner has proposed mitigation plan such as installation of additional ICTs, replacement of existing transformers with higher capacity units, commissioning of new transformers at downstream substations, with workplan/timelines for relieving the overloading of the transmission elements operating at 75% or higher load during peak periods in FY 2024-25. The Petitioner must adhere to the proposed plan in timely manner.

Query No.4: As per UPEGC, STU had to carry out planning studies for reactive power compensation of Intra-State transmission system including reactive power requirement at the SSGS's switchyard, therefore, the Petitioner is required to submit estimation of reactive power for period from FY 2025-26 to FY 2029-30 and STU's work plan/timelines/study for meeting the same.

Response submitted by Petitioner: As per CEA Planning Criteria 2023, the Steady-State Voltage limits are as given below:



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Table 10: Steady-State Voltage Limits as per CEA Planning Criteria 2023

Nominal	Normal rating		Emergency Rating	
	Maximum	Minimum	Maximum	Minimum
765 (1 pu)	800 (1.05 pu)	728 (0.95 pu)	800 (1.05 pu)	713 (0.93 pu)
400 (1 pu)	420 (1.05 pu)	380 (0.95 pu)	420 (1.05 pu)	372 (0.93 pu)
220 (1 pu)	245 (1.11 pu)	198 (0.90 pu)	245 (1.11 pu)	194 (0.88 pu)

The Petitioner has submitted that the maximum load demand recorded in FY 2024-25 was 30,618 MW (on 13.06.2024) and the minimum load demand was 8,768 MW. At this load, the total installed reactor capacity (bus and line) at 765 kV and 400 kV levels is 11,731 MVar, and, as per the SLDC report, the voltage at 765 kV and 400 kV bus switchyards remained within the prescribed CEA limits.

The Petitioner has further submitted that, based on projected load growth, the maximum and minimum demands are expected to reach 47,110 MW and 14,000 MW, respectively, by FY 2029-30. To maintain voltage within the prescribed limits, an additional 6,241 MVar of reactor capacity (bus and line) is planned at the 765 kV and 400 kV levels. The summary of planned reactor additions is provided in the table below.

Table 11: Existing and Planned Reactor Capacity for Reactive Power Compensation (FY 2024-25 to FY 2029-30)

FY	Minimum Load Demand (MW)	Maximum Load Demand (MW)	Total Reactors (Bus & Line) (MVar)
2024-25	8,768	30,618	11,731
Up to 2029-30	14,000	47,110	17,972
Net addition of Reactors (Bus & Line)			6,241 MVar

Table 12: Summary Table: Bus and Line Reactors by Voltage Level (Existing Vs Planned)

Particulars	Voltage Level (kV)	Existing (MVar)	Planned (MVar)	Total MVar
Bus Reactor	765	2,667	1,839	4,506
	400	3,884.10	2,376	6,260.10
Line Reactor	765	4,128	1,800	5,928
	400	1,052	226	1,278
Total MVar		11,731	6,241	17,972



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Commission's Observation:

The Commission notes that the Petitioner has projected a peak demand of 47,110 MW and minimum demand of 14,000 MW by FY 2029-30. To maintain steady-state voltage within prescribed limits, the Petitioner has proposed an additional 6,241 MVar of bus and line reactors at 765 kV and 400 kV levels, increasing the total installed reactor capacity to 17,972 MVar. The Commission directs STU/UPPTCL to firm up timelines for installation, ensure coordinated planning with SSGS switchyards and submit annual progress updates on the implementation of reactive power compensation.

Query No.5: The Petitioner was required to submit a comprehensive analysis, including calculations, of the theoretical transmission losses within the system.

Response submitted by Petitioner: The Petitioner has submitted the projected transmission losses as per the load flow study.

Table 13: Summary Table: Transmission losses Projection

S. No.	FY	Generation	Peak Load	Losses	% Losses
1.	2024-25	15,656	30,908	989	3.24
2.	2025-26	18,806	33,374	1,140	3.29
3.	2026-27	20,234	36,377	13,706	3.27
4.	2027-28	27,270	39,651	1,526	3.27
5.	2028-29	29,655	43,220	1,620	3.31
6.	2029-30	37,702	47,110	2,110	3.33
Average Losses (%)					3.28

Further, in response to the Commission's query regarding the variation in transmission losses for FY 2024-25 and FY 2025-26 as claimed in the STU Plan vis-à-vis the Tariff Petition, the Petitioner submitted that the projected figures in the State Transmission Plan for FY 2025-26 to FY 2029-30 have been derived from a load-flow study conducted using PSSE software, which represents a static operating scenario, undertaken by considering the peak system demand expected during the year and the anticipated generation availability at that peak. The outcome of such a study provides a single-point estimate of losses under peak-load conditions, which is a standard approach for long-term system planning and network strengthening.

However practically, the actual transmission loss across the state network is dynamic in nature. Electricity demand varies continuously throughout





the day and also fluctuates seasonally due to changes in temperature, agricultural pumping requirements, and industrial activity. Similarly, the generation changes in real time because of renewable energy variability, RPO, scheduled or forced outages of generating units.

The actual annual loss in the transmission system is the result of a continuously changing load-generation balance rather than a fixed peak-demand scenario.

Accordingly, the state transmission loss submitted in the Tariff Petition for FY 2024-25 & FY 2025-26 has been assessed at 3.22% (actual) & 3.18 % (projected) respectively, which reflects the average annual loss during the entire financial year after considering the dynamic nature of the system. However, the State Transmission Utility (STU) Plan indicates a higher loss figure of 3.24% & 3.29 %, as it is based solely on the load-flow study carried out for the peak-demand scenario.

Commission's Observation:

The Commission notes that the transmission losses submitted in the STU Plan for FY 2024-25 and FY 2025-26 (3.24% and 3.29% respectively) has been derived from a load-flow study conducted using PSSE software, which represents a static operating scenario, undertaken by considering the peak system demand expected during the year and the anticipated generation availability at that peak. Whereas the transmission losses considered under Tariff Petition is of dynamic nature of continuously varying demand and generation and reflects the average annual loss during the entire financial year after considering the dynamic nature of the system. The above argument of the petitioner is completely justified and in sync with technical reality of transmission system. However, what belies logic is the movement of Loss Level i.e. when average loss level is dropping from 3.22% (FY 2024-25) to 3.18% (in FY 2025-26) the loss level, as determined by load flow studies is increasing by a significant percentage i.e. from 3.24% to 3.29% between FY 2024-25 & FY 2025-26. This reverse movement of loss that too significant variation is the factor, which petitioner should examine. Further, the Commission in Tariff Order has directed UPPTCL to conduct a detailed study of impact of transmission

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losses for the control period considering 220 kV and above transmission system to be developed through TBCB by other transmission licensees. The same will be dealt accordingly.

Query No.6: The Petitioner was directed to submit the methodology adopted for forecasting the trend of peak power demand, along with supporting calculations. This submission should include a comparison with the previous plan and a growth comparison between Uttar Pradesh and national figures. Additionally, the rationale underlying the year-on-year growth projections for the transmission network under the present petition should also be provided.

Response submitted by Petitioner: The Petitioner has submitted that the Hon'ble UPERC in its order dated 27.03.2024, approved the demand projections submitted by the Petitioner in its previous STU Plan (FY 2024-25 to FY 2028-29), based on a 9% CAGR from the actual demand of FY 2022-23 (i.e., 26,589 MW)

Table 14: UPERC-Approved Peak Demand Projections

FY	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
Projected Demand	28,982	31,590	34,434	37,533	40,535	43,778	47,280

However, the CEA, in its Report on the Resource Adequacy Plan for UPPCL, has considered a demand growth rate of 6.5%, which, according to the Petitioner, is on the lower side. The Petitioner has submitted that the actual peak demand in Uttar Pradesh over the past 10 years (FY 2014-15 to FY 2024-25) has witnessed a Compound Annual Growth Rate (CAGR) of approximately 9%, increasing from 13,003 MW in FY 2014-15 to 30,618 MW in FY 2024-25.

Table 15: Historical Actual Peak Demand in Uttar Pradesh (FY 2014-15 to FY 2024-25)

FY	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Actual Demand (MW)	13,003	14,503	16,110	18,061	20,062	21,632	23,867	24,795	26,589	28,284	30,618
% Increase	-	12%	11%	12%	11%	8%	10%	4%	7%	6%	8%

Therefore, the Petitioner, has considered the CAGR of 9% and FY 2024-25 as the base year for projecting peak demand and accordingly, the peak





demand for the next rolling plan period i.e., FY 2025-26 to 2029-30 is as below-

Table 16: Projected Peak Demand under Current Rolling Plan (FY 2025-26 to FY 2029-30)

FY	2025-26	2026-27	2027-28	2028-29	2029-30
Projected Demand (MW)	33,374	36,377	39,651	43,220	47,110

Further, with respect to the comparison between Uttar Pradesh and the national figures, the Petitioner has submitted that the peak demand in the State increased from 23,867 MW in FY 2020-21 to 30,618 MW in FY 2024-25 (a rise of 28.3%) exhibiting greater variability in the growth rate. In contrast, the all-India peak demand grew from 190,198 MW to 243,270 MW, (reflecting a 27.9% increase with a more consistent trend), as shown in table below:

Table 17: Comparative Growth of Uttar Pradesh and All-India Peak Demand

FY	All India Peak Demand (MW)	All India YoY % Increase	U.P. Peak Demand (MW)	U.P. YoY % Increase	U.P. Contribution in All India Demand (%)
2020-21	1,90,198		23,867		12.55
2021-22	2,03,014	6.74	24,795	3.89	12.21
2022-23	2,15,888	6.34	26,589	7.24	12.32
2023-24	2,21,370	2.54	28,284	6.37	12.78
2024-25	2,43,270	9.89	30,618	8.25	12.59

The Petitioner has further highlighted that U.P.'s peak demand growth has marginally outpaced the national average over the past five years. While the state's share of national peak demand has remained relatively stable at around 12.5%, its higher growth rate compared to the national average points toward increasing energy requirements, likely driven by rapid urbanization and industrialization.

Commission's Observation:

The Commission notes that the petitioner has projected peak demand for FY 2025-26 to FY 2029-30 considering 9% CAGR derived from actual peak



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demand growth between FY 2014-15 (13,003 MW) and FY 2024-25 (30,618 MW). The approach is consistent with historical state-level trends and aligns with demand projections previously approved by the Commission in its Order dated 27.03.2024.

The Commission opines that the adequate Transmission System must be in place to cater the peak demand of the state, for which the Petitioner shall carry out the system study to prudently and optimally plan and implement transmission network of the State.

Query No.7: The Petitioner was directed to provide the year-wise status of all projects currently under planning or proposal stage, which has not yet been approved by the Transmission Works Committee (TWC).

Response submitted by Petitioner: The Petitioner has submitted a list of 78 projects, detailing the substation name, district-wise location, voltage level (kV), mode of execution, planned year of commissioning, and current status of each project.

Commission's Observation:

The Commission notes that the Petitioner has furnished a list of 78 transmission projects presently at the planning or proposal stage which have not yet received approval from the Transmission Works Committee (TWC). The transmission projects shall be considered by the Commission for inclusion in STU Plans only upon approval by the TWC. Hence, the Petitioner should expedite approval of TWC in timely manner.

Query No.8: The Petitioner was directed to provide the proposed plan for establishing transmission connectivity for upcoming Pumped Storage Plants and Green Energy Corridor-III (GEC-III) projects.

Response submitted by Petitioner: The Petitioner has submitted the power evacuation plan for a total capacity of 17,668 MW under GEC-III, comprising 4,000 MW from land-based solar power projects, 2,400 MW from pumped storage plants (PSPs), and 11,268 MW from floating solar power projects. It has been further submitted that UPNEDA has informed that the evacuation infrastructure for these planned capacities is to be developed by FY 2032-33. At present, under the GEC-II scheme, construction is underway for 1 no. 765 kV, 4 nos. 400 kV, 10 nos. 220 kV,



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and 6 nos. 132 kV substations along with associated transmission lines in the Bundelkhand region, aimed at evacuating 4,000 MW of solar power. The total cost of the GEC-II project is estimated at ₹5,376 crore. The Petitioner has also submitted that, with the upgradation of substations and lines planned under GEC-II, an additional 4,000 MW of land-based solar capacity can be evacuated under GEC-III. Further, it is planned to develop 2 nos. 400 kV substations at Robertsganj and Pipri to evacuate 2,400 MW of power from two PSPs. Additionally, to evacuate 11,268 MW of floating solar power, it is proposed to develop 1 no. 765 kV, 8 nos. 400 kV, 2 nos. 220 kV, and 1 no. 132 kV new substations along with associated transmission lines, as shown in Table below:

Table 18: Up-gradation of GEC-II project to get additional 4,000 MW capacity

S. No.	Name of Substation	Green Energy Capacity GEC III (MW)	Expected Cost (in Cr.)
1	400/220 kV Chitrakoot S/s	700	442
2	400/220/132 kV Banda S/s (2x160 MVA)	250	145
3	400/220/132 kV Maheba S/s (2x500+2x160 MVA)	400	322
4	400/220 kV Garotha S/s (3x500 MVA)	600	42
5	765/400/220 kV Talbehat, Lalitpur S/s (1x1500+2x500 MVA)	1,200	248
6	400/220/132 kV Farrukhabad S/s (2x500+2x160 MVA)	200	227
7	220/132 kV Hamirpur S/s (2x160 MVA)	100	80
8	220/132/33 kV Charkhari S/s (1x160 MVA)	50	60
9	220/132/33 kV Dakor S/s (1x160 MVA)	100	88
10	220/132/33 kV Bamaur, Jhansi S/s (1x160 MVA)	100	42
11	220/132/33 kV Bangra S/s (1x160 MVA)	100	42
12	220/132/33 kV Bridha S/s (1x160 MVA)	100	58
13	220/132/33 kV Mandwara S/s (1x160 MVA)	100	42
Total		4,000	1,838

Table 19: Power evacuation planning of network for evacuation of 2400 MW power of PSP

S. No.	Name of Substation	Green Energy Capacity	Expected Cost (Rs. in Cr.)
		GEC-III (MW)	
1	400/220 kV Robertsganj Substation (2x500 MVA)	1,500	708





S. No.	Name of Substation	Green Energy Capacity	Expected Cost (Rs. in Cr.)
		GEC-III (MW)	
2	400/220 kV Pipari Substation (3x500 MVA)	900	600
Total		2,400	1,308

Table 20: Power evacuation planning of network for evacuation of upcoming 11268 MW Floating Solar Power

S. No.	Dam Name	District	Substation & Capacity	Solar Potential in MW Provided	Expected Cost (in Cr.)
1	Matatila	Lalitpur	765/400/220 kV Matatila Pooling-I S/s- 3x1500+2x500 MVA	4,035	3,956
			400/220 kV Matatila Pooling-II S/s - 3x500 MVA		
			400/220 kV Matatila Pooling-III S/s- 3x500 MVA		
2	Rajghat Dam	Lalitpur	at 400/220 kV Rajghat Pooling-I S/s- 5x500 MVA	2,631	1,306
			400/220 kV Rajghat Pooling-II S/s- 4x500 MVA		
3	Dhadraul Dam	Sonebhadra	400/220 kV Dhadraul Pooling S/s- 5x500 MVA	1,544	1,038
4	Adwa Dam	Mirzapur	400/132 kV Adawa Pooling S/s- 4x315 MVA	1,030	562
5	Moosakhanda Dam	Chandauli	400/132 kV Moosakhanda Pooling S/s- 5x200 MVA	730	900
6	Latif Shah Dam	Chandauli	220/132 kV Latif Shah Pooling S/s- 3x160 MVA	316	279
7	Rihand Dam	Jhansi	400/220 kV Pipri Substation. (This substation is already planned under 5600 MW Thermal Power evacuation)	600	80
8	Sajnam Dam	Lalitpur	220/132 kV Sajnam Pooling S/s- 3x160 MVA	262	189
9	Pathrai Dam	Jhansi	Additional 200 MVA ICT at Bangra S/s(1x160 to 1x160+1x200 MVA)	120	30
Total				11,268	8,340



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Table 21: Summary of Transmission Project Cost under GEC-III

S. No.	Scheme Type	Plant Capacity (in MW)	Expected Transmission Project Cost (in Cr.)
A	Solar Plant	4,000	1,838
B	Pump Storage Plan (PSP)	2,400	1,308
C	Floating Solar Plant (FSP)	11,268	8,340
Total		17,668	11,486

Commission's Observation:

The Commission notes that the Petitioner has submitted a detailed power evacuation plan for a total renewable capacity of 17,668 MW under GEC-III, including 4,000 MW of land-based solar, 2,400 MW of pumped storage plants (PSPs), and 11,268 MW of floating solar projects, to be developed by FY 2032-33. The Petitioner has highlighted that ongoing GEC-II infrastructure in Bundelkhand—comprising 1×765 kV, 4×400 kV, 10×220 kV, and 6×132 kV substations—will also support an additional 4,000 MW of solar evacuation under GEC-III through targeted substation up-gradations (Table 18). For PSP integration, 400 kV Robertsganj and 400 kV Pipri substations have been identified to evacuate 2,400 MW at an estimated cost of ₹1,308 crore (Table 19). Further, a significant portion—11,268 MW—relies on new 765 kV/400 kV pooling substations and associated lines for floating solar evacuation (Table 20), requiring ₹8,340 crore of investment. The overall transmission project cost under GEC-III is Rs. 11,486 crore (Table 21).

The Commission further notes that the 220 kV and above projects under GEC-II Schemes were executed under RTM by UPPTCL instead of TBCB mode. The Petitioner has not provided the details of GEC-III Scheme like means of finance, mode of implementation and other details. Therefore, the Petitioner shall submit necessary details of GEC scheme for consideration of the Commission.

Query No.9: The Petitioner was directed to provide the progress of 21 substations planned under the Green Energy Corridor-II scheme for evacuation of 4,000 MW of solar power and status solar projects.

Response submitted by Petitioner: The Petitioner has submitted the



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district wise physical and financial progress of 21 substations planned under the Green Energy Corridor-II scheme as shown in the Table below:

Table 22: District-Wise Physical and Financial Progress of 21 Substations under Green Energy Corridor-II Scheme for 4,000 MW Solar Evacuation

S. No	Zone	District	Mode of Execution	Voltage (kV)	Name of S/s	Expected Commissioning in Old STU Plan Year (FY 2024-29)	Expected Commissioning in Revised STU Plan Year (FY 2025-30)	Physical Progress (%)	Financial Progress (%)
1	TSC	Hamirpur	RTM gec	132	132 kV 2*40 MVA Gohand	2024-25	2025-26	90	66
2	TSC	Jalaun	RTM gec	132	132 kV 2*40 MVA Kadaura	2024-25	2025-26	95	66
3	TSC	Jalaun	RTM gec	132	132 kV 2*40 MVA Kuthond	2024-25	2025-26	92	66
4	TSC	Lalitpur	RTM gec	132	132 kV 2*40 MVA Mehrauni New	2024-25	2025-26	80	66
5	TSC	Banda	RTM gec	132	132/33 kV 2*40 MVA Baberu	2024-25	2025-26	90	33.16
6	TSC	Hamirpur	RTM gec	132	132/33 kV 2*40 MVA Muskara	2024-25	2025-26	23	4
7	TSC	Banda	RTM gec	220	Creation of 132 kV Volatge level at 400/220 kV 2*160 MVA Banda ICT at Banda 400 kV	2024-25	2025-26	34	33.16
8	TSC	Mahoba	RTM gec	220	220 kV 1*160+1*40 MVA Kabarai	2025-26	2025-26	56	41
9	TSC	Jhansi	RTM gec	220	220 kV 1*160+1*40 MVA Bamaur	2025-26	2025-26	70	41
10	TSC	Jhansi	RTM gec	220	220 kV 1*160+1*40 MVA Bangra	2025-26	2025-26	65	41
11	TSC	Lalitpur	RTM gec	220	220 kV 1*160+1*40 MVA Birdha	2025-26	2025-26	61	41
12	TSC	Mahoba	RTM gec	220	220 kV 1*160+1*40 MVA Charkhari	2025-26	2025-26	50	33.16
13	TSC	Jalaun	RTM gec	220	220 kV 1*160+1*40 MVA Dakaur	2025-26	2025-26	59	41
14	TSC	Mahoba	RTM gec	220	220 kV 1*160+1*	2025-26	2025-26	43	33.16



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S. No	Zone	District	Mode of Execution	Voltage (kV)	Name of S/s	Expected Commissioning in Old STU Plan Year (FY 2024-29)	Expected Commissioning in Revised STU Plan Year (FY 2025-30)	Physical Progress (%)	Financial Progress (%)
					40 MVA Jaitpur				
15	TSC	Lalitpur	RTM gec	220	220 kV 1*160+1* 40 MVA Mandwara	2025-26	2025-26	53	41
16	TSC	Hamirpur	RTM gec	220	220 kV 2*160+2* 40 MVA Hamirpur	2025-26	2026-27	12	4
17	TSC	Chitrakoot	RTM gec	400	400 kV 2*500 MVA Chitrakoot	2025-26	2027-28		
18	TSC	Farrukhabad	RTM gec	400	400 kV 2*500 + 2*160 MVA Farrukhabad	2025-26	2026-27	30	15.76
19	TSC	Jalaun	RTM gec	400	400 kV 2*500 + 2*160 MVA Maheba	2025-26	2025-26	54	21
20	TSC	Jhansi	RTM gec	400	400 kV 3*500 MVA Gursarai, Garautha	2025-26	2025-26	63.5	21
21	TSC	Lalitpur	RTM gec	765	765 kV 1*500 + 2*500 MVA Talbehat	2025-26	2026-27	35.5	21.67

Commission's Observation:

The Commission notes that the Petitioner has provided district-wise physical and financial progress for the 21 substations planned under the Green Energy Corridor-II (GEC-II) scheme for evacuation of 4,000 MW of solar power. While several 132 kV substations such as Gohand, Kadaura, and Kuthond have achieved over 90% physical progress, a number of higher-voltage installations including the 400 kV Chitrakoot and 765 kV Talbehat substations remain significantly behind their original commissioning schedules, with timelines revised from FY 2024-25 to FY 2025-26 or later, and certain key assets now planned for FY 2026-27 to FY 2027-28. The Commission further observes that financial progress for several projects lags behind physical execution. Such delays could impede timely evacuation of renewable power and create bottlenecks for upcoming solar projects. The Commission therefore directs the Petitioner to identify and address project-specific bottlenecks, synchronize financial outflows



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with physical milestones, coordinate closely with UPNEDA and solar developers to align commissioning schedules and implement risk mitigation strategies to ensure adherence to the overall GEC-II evacuation plan.

Query No.10: The Petitioner was directed to provide the details of Inter-State and Intra-State, ATC and TTC power generation for the current financial year.

Response submitted by Petitioner: The Petitioner has submitted the required TTC power generation data for the FY 2025-26 is as follows:-

Table 23: TTC for FY 2025-26

Particular	Capacity
Total Transfer Capability (TTC)	18,000 MW
Intrastate Generation	16,500 MW
Transmission capacity	34,500 MW

Commission's Observation:

The Commission notes that the Total Transfer Capability (TTC) for FY 2025-26 is 18,000 MW.

Query No.11: The Petitioner was directed to provide the details of total installed capacity of Uttar Pradesh and plant wise share of capacity allocated for the State of Uttar Pradesh and projections for 5 year along with inter-state capacity data.

Response submitted by Petitioner: The Petitioner has submitted the following details as below:-

Table 24: Installed capacity as on 30/04/2025 (Source CEA)

Ownership / Sector	Mode wise breakup							Grand Total
	Thermal			Renewable				
	Coal	Gas	Sub Total	Hydro	RES	Nuclear	Sub Total	
State Sector	8,455	0	8455	724.10	50.60	0	774.70	9,229.70
Pvt. Sector	8,814.33	0	8814.33	842.40	5,648.01	0	64,90.41	15,304.74
Central Sector	5,965.44	1,029.51	6994.95	2,017.52	30	370.45	2,047.52	9,412.92
Total	23,234.77	1,029.51	24,264.28	3,584.02	57,28.61	370.45	93,12.63	33,947.36

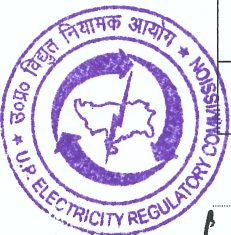




Table 25: UPPCL Resource-wise projection of capacity for next 05 years

Category	Upto March 2025	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	Addition from April 2025 to March 2030	Total Upto March 2030
Coal	24,291	3,398	0	0	1,600	1800	6,798	31,089
Gas	549	0	0	0	0	0	0	549
Nuclear	370	162	0	0	0	0	162	532
Hydro	3,787	455	260	0	100	0	815	4,602
Solar	Inside State	2,600	20	0	1,300	0	1320	3,920
	Outside State	1,169	3,025	0	700	0	3,725	4,894
Wind	Inside State	0	0	0	0	0	0	0
	Outside State	1,566	1,656	1,175	0	0	2,831	4,397
Biomass	1,535	14	0	0	0	0	14	1,549
Hybrid	0	0	300	0	0	0	300	300
FDRE	0	0	2,480	1,530	0	0	4,010	4,010
DRE (Kusum + RTS)	324	1,010	3,809	0	0	0	4,819	5,143
Total	36,191	9,740	8,024	3,530	1,700	1,800	24,794	60,985

Commission's Observation:

The Commission has noted the Resource Wise Projection of capacity increase for next five years.

Query No.12: The Petitioner was directed to provide the list of existing reactors which are in running conditions along with their running hours for past 5 years.

Response submitted by Petitioner: The Petitioner has submitted the list of existing reactors in running conditions with their running hours of past 05 years i.e. from FY 2020-21 to FY 2024-25 as shown in the Table below:

Table 26: Status of Existing Reactors and Their Running Hours

Zone	Name of S/s	Voltage level at which Bus Reactor is Connected (kV)	Capacity of Reactor (MVA)	Running Hours of Reactor					Remarks
				FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	
TC, Lucknow	765 kV S/s Unnao	765	3*63	4935	2666	2371	4566	4360	
TC, Lucknow	400/220/132 kV GIS S/s Jehta	400	63	-	5257	8735	8774	8751	
TC, Lucknow	400 kV S/s Sarojni Nagar	400	80	8472	8530	8750	7818	5112	



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Zone	Name of S/s	Voltage level at which Bus Reactor is Connected (kV)	Capacity of Reactor (MVA)	Running Hours of Reactor					Remarks
				FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	
TC, Lucknow	400 kV S/s Unnao	400	63	2881	2857	3024	1704	1210	
TC, Lucknow	400 kV S/s Sultanpur	400	80	5932	5836	6025	5957	6008	
TC, Lucknow	400 kV S/s Bareilly	400	80	8101	6773	8226	6442	5920	
TNE, Gorakhpur	400 kV S/s Gorakhpur	400	125	7767	7212	6454	5552	7490	
TNE, Gorakhpur	400 kV S/s Rasra	400	125	-	-	4488	6894	6985	
TNE, Gorakhpur	400 kV S/s Kasara, Mau	400	125	-	-	270	8770	8697	Charged on 20.03.2025
TNE, Gorakhpur	400/220/132 kV GIS S/s Basti	400	125	343	8750	8717	8267	7668	Charged on 17.03.2021
TSC, Jhansi	400 kV S/s Banda	400	125	-	7474	8752	8712	8707	
TSC, Jhansi	400 kV S/s Orai	400	63	8775	8512	8482	8694	8753	
TSE, Prayagraj	400/132 kV GIS S/s Masauli, Prayagraj	400	125	8760	8760	8755	8760	8464	Charged on 15.06.2024
TSE, Prayagraj	400 kV GIS S/s Sahupuri	400	125	-	-	-	-	6137	
TSE, Prayagraj	400 kV S/s Sarnath, Varanasi	400	125	663	400	0	502	3364	
TSE, Prayagraj	400 kV S/s Machhalishahar, Jaunpur	400	63	-	-	-	7110	7695	
TSW, Agra	765 kV S/s Fatehabad	765	240	8739	8565	8144	7401	6919	
	766 kV S/s Fatehabad	400	125	8747	8538	8682	8581	7585	
TSW, Agra	400 kV S/s Agra	400	125	1620	6570	6752	7190	7483	
TSW, Agra	400 kV S/s Akbarabad, Aligarh	400	63	8730	8735	8740	8748	8749	
TSW, Agra	400 kV S/s Manth, Mathura	400	80	8692	8639	8486	7784	8517	
TSW, Agra	400 kV GIS S/s Agra South	400	80	8609	8746	8730	8240	8270	
TSW, Agra	400 kV S/s Panki Kanpur	400	125	-	-	2729	5461	3129	
TW, Meerut	400 kV S/s -II Muradnagar	400	63	8700	8391	7733	5318	8017	
TW, Meerut	400 kV S/s Jolly Road Muzaffargarh	400	63	7534	6649	5003	5577	4324	





Zone	Name of S/s	Voltage level at which Bus Reactor is Connected (kV)	Capacity of Reactor (MVA)	Running Hours of Reactor					Remarks
				FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	
TW, Meerut	400 kV GIS S/s Shamali	400	125	-	-	-	-	4794	

Commission's Observation:

The Commission has noted the status of existing reactors along with their running hours for the past five years. It is observed that the running hours of certain reactors have shown an abrupt or instant increase in recent years, whereas others reflect irregular or inconsistent operation patterns across different substations. The Commission directs the Petitioner to examine the underlying reasons for such variations and the sudden increase in running hours of specific reactors and to furnish detailed justification in the next filing.

Query No.13: The Petitioner was directed to provide the details of Users i.e. generating companies including captive generating plants, distribution licensees, transmission licensees (other than STU), captive users, open access consumers, in the following manner:

- Complete list of Users of intra-State transmission system
- Discom wise list of 33 kV bays which are currently not connected to the Transmission system.
- Fuel-wise generating capacity growth in the state up to 31st March 2025.
- Copies of Power Purchase Agreements (PPAs) related to the upcoming generating stations cited by UPPTCL, to assess the likelihood of their commissioning during the five-year plan period.
- The present status of solar parks in terms of installed capacity (MW).
- The status of connectivity for the aforementioned solar parks.
- User-wise details of connection agreements (bi-partite or tri-partite):
 - Date of execution of connection agreement,
 - Quantum of connectivity,



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(c) Point of connectivity (with voltage level)

Response submitted by Petitioner: The Petitioner has submitted the details as listed out below:

- (i) 472 User wise details of connection agreement i.e. generating companies including captive generating plants, distribution licensees, transmission licensees (other than STU), captive users, open access consumers.
- (ii) Discom wise details of 33 kV sub-stations and bays which are currently not connected to the Transmission system.

Table 27: Discom wise details of 33 kV Sub-stations

S. No.	Distribution Companies	Total No. of 33 kV	No. of 33 kV Bay not connected	No. of 33 kV Bay Allocated to Projects/ Other Institutions
	(1)	(2)	(3)	(4)
1.	PVVNL	654	203	137
2.	DVVNL	410	123	83
3.	KESCO	55	6	6
4.	PuVVNL	754	226	124
5.	MVVNL	734	247	145
Total		2,607	805	495

- (iii) Details of Thermal generating capacity growth in the state from March 2018 to March 2025 with a CAGR of 3.85%.

Table 28: Generation Thermal Capacity from March 2018 to March 2025 (MW)

Period	State	Private	Central	Total
Mar-18	5,563	8,714	4,345	18,622
Mar-19	5,469	8,814	4,345	18,628
Mar-20	5,469	8,814	4,956	19,239
Mar-21	5,469	8,814	6,020	20,303
Mar-22	6,129	8,814	6,089	21,032
Mar-23	6,035	8,814	6,568	21,417
Mar-24	7,135	8,814	6,568	22,517
Mar-25	8,455	8,814	6,995	24,264

- (iv) Copies of Power Purchase Agreements (PPAs) related to the upcoming generating stations, for assessing the likelihood of their commissioning during the five-year plan period shall be provided by UPPCL.
- (v) The present status of 11 solar projects application for developing solar parks in terms of installed capacity (MW) has been submitted by the Petitioner as shown in the table below:



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Table 29: Status of Applications submitted by Solar Park Developers

S. No.	Project ID	Organisation Name	Application Status	Name of S/s	Capacity (MW)	Date of Application	Status
1	2502556	M/s GPES Solar 10 Pvt. Ltd.	Solar Power Park Developer	765 kV S/s Talebhat	100	29.05.2025	Forwarded to Zone & Dir (C&P) Office
2	2502563	M/s Lucknow Solar Power Development Corporation Ltd.	Solar Power Park Developer	132 kV S/s Jaunpur	35	29.05.2025	Forwarded to Zone & Dir (C&P) Office
3	25022553	M/s Sunsire Solar Park Gj. One Pvt. Ltd.	Solar Power Park Developer	220/132 kV S/s Kabrai	20	20.05.2025	Forwarded to Zone & Dir (C&P) Office
4	2502544	M/s Lucknow Solar Power Development Corporation Ltd.	Solar Power Park Developer	220/132 kV S/s Rania	75	20.05.2025	Forwarded to Zone & Dir (C&P) Office
5	2502537	M/s Ganesha Wind Park Pvt. Ltd.	Solar Power Park Developer	132/33 kV S/s Chanbey	100	07.05.2025	Forwarded to Zone & Dir (C&P) Office
6	2502522	M/s Clean Max Enviro Energy Solutions Pvt. Ltd.	Solar Power Park Developer	220/132 kV S/s Charkhari	30	12.04.2025	Forwarded to Zone & Dir (C&P) Office
7	2502526	M/s Tata Power Renewable Energy Ltd.	Solar Power Park Developer	132 kV S/s Gohand	50	05.04.2025	BG not submitted by the applicant
8	2502477	M/s radiant Sunpower Innovation pvt. Ltd.	Solar Power Park Developer	220/132 kV S/s Charkhari	50	10.02.2025	BG not submitted by the applicant
9	2402372	M/s Lucknow Solar Power Development Corporation Ltd.	Solar Power Park Developer	400 kV S/s Maheba	300	19.05.2024	Con 4 pending at applicant side and BGs has not been submitted by the applicant
10	2402442	M/s Garda Solar Pvt. Ltd.	Solar Power Park Developer	220 kV S/s Charkhari	50	29.11.2024	Connection agreement Signed
11	2402435	M/s Fujiyama Power Systems Pvt. Ltd.	Solar Power Park Developer	132/33 kV S/s Nareni	15	25.10.2024	Connection agreement Signed

Commission's Observation:

The Commission has noted the submissions of the Petitioner regarding user wise details of connection agreement, Discom-wise 33 kV connectivity, and generation capacity growth. It is observed that out of 2,607 bays, 805 are yet to be connected to the transmission system, and UPPTCL is directed to coordinate with the respective DISCOMs for connectivity.

Query No.14: The Petitioner was directed to provide following details in tabular form w.r.t. details of LTOA Customers i.e. generating companies



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including captive generating plants, distribution licensees, trading licensees, captive users, open access consumers-

- (i) Complete list of LTOA Customers of intra-State transmission system.
- (ii) LTOA Customers-wise details of BPTAs/TSAs,
 - (a) Date of execution of BPTA/TSA,
 - (b) Quantum of long-term open access,
 - (c) Period/duration of long-term open access.

Response submitted by Petitioner: The Petitioner has submitted details of 196 LTOA customer wise details of BPTA (executed by UPPTCL) with date of execution, quantum and period of long term open access.

Additional Submission:

The Petitioner, along with its response to the queries, has sought approval for the inclusion of 10 Transmission Assets that were duly approved by the Transmission Works Committee (TWC) but were inadvertently omitted from the detailed submission under the Rolling Plan Petition for FY 2025-26 to FY 2029-30. The details of the said transmission assets are as follows:

Table 30: Details of Transmission Assets

S. No.	Assets Type	Zone	District	Mode of Ex.	Voltage (kV)	TWC	TWC Date	Name of S/s	Capacity (MVA) / Line Length (Ckm.)	Cost (in Rs. Cr.)	Planned Year
1	New S/s	TC	Lucknow	Deposit	132	6th FY 2024-25	19-12-2024	132/33 kV 3x40 MVA Attari Malihabad (PM Mitra Textile Park)	3x40	97.1	2026-27
2	Line strengthening	TW	Meerut	Deposit	132	7th FY 2024-25	03-02-2025	Construction work of 132 kV line and 'bay' for power supply from 220/132 kV Charla S/s to DFCCIL, Sakauti (Meerut) TSS	11.98 km	28.91	2026-27





S. No	Assets Type	Zone	District	Mode of Ex.	Voltage (kV)	TWC	TWC Date	Name of S/s	Capacity (MVA) / Line Length (Ckm.)	Cost (in Rs. Cr.)	Planned Year
3	Line strengt hening	TC	Unnao	RTM	132	7th FY 2024 -25	03-02-2025	Constructio n work of 132 kV Mallawan (220) - Bangarmau DC line and 'Bay' related works.	17 km	23.22	2026-27
4	Railway	TSE	Sonbhad ra	Deposi t	132	1st FY 2025 -26	03-05-2025	Constructio n work related to power supply through 3 phase DC line for Railway's new proposed 132/25 kV Renukoot TSS and 132/25 kV Obra TSS	5.4km	62.5	2026-27
5	Line strengt hening	TS W	Mathura	RTM	220	1st FY 2025 -26	03-05-2025	Connecting 220 kV substation Mant (Mathura) with 400 kV substation Mant by expanding the 220 kV main bus and using 2 bays vacant after connection, construction work of existing 220 kV Chhata-Vrindavan line at Lilo 400 kV Mant substation to connect 220 kV substation Vrindavan (Mathura) with an independent second source	22km	38.19	2026-27
6	Line strengt hening	TC	Shanjah anpur	RTM	132	1st FY 2025 -26	03-05-2025	To provide additional source to 132 kV sub-station	4.79	20.3	2026-27



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S. No	Assets Type	Zone	District	Mode of Ex.	Voltage (kV)	TWC	TWC Date	Name of S/s	Capacity (MVA) / Line Length (Ckm.)	Cost (in Rs. Cr.)	Planned Year
								Tilhar, 132 kV Shahjahanpur- Faridpur line's LILO at 132 kV Tilhar and other related construction work			
7	I/c	TNE	Basti	RTM	400	7th FY 24-25	03-02-2025	400/220 kV GIS Bhaukhari (Basti)	2x500 To 3x500	45.08	2027-28
8	I/c	TW	Ghaziabad	RTM	400	7th FY 24-25	03-02-2025	400/220 kV Muradnagar-II	2x240 +1x315 To 1x240 +2x315	30.61	2027-28
9	I/c	TC	Sultanpur	RTM	400	1st FY 2025-26	03-05-2025	400/220 kV Sultanpur	3x315 To 3x315 +1x500	43.27	2027-28
10	Line strengthening	TW	Ghaziabad	Deposit	220	7th FY 2024-25	03-02-2025	Construction work of 220 kV Indirapuram (400) - Pratap Vihar line with underground cable instead of overhead line	1.44 km	37.72	2027-28

Commission's Observation:

The Commission has examined the submission of the Petitioner regarding inclusion of above 10 Transmission Assets, which were approved by the Transmission Works Committee (TWC) but were inadvertently omitted from the original submission of the Rolling Transmission Plan for FY 2025-26 to FY 2029-30. Considering that these assets have already received due approval from the TWC and the omission appears to be inadvertent, the Commission approves the inclusion of the said 10 Transmission Assets under the current Rolling Plan.

Further vide email dated September 12, 2025, the Petitioner has provided the details of 12 ICTs/transformers of 03 S/s and 09 transmission lines





(400 kV -01 & 220 kV- 08) that had experienced loading of more than 80% during the peak demand period

Table 31: Details of ICTs/Transformers with 80% and Above Loading

S. No.	Name of S/s	Transmission Capacity (MVA)	Total S/s Capacity (MVA)	Loading (MW)	Loading %
1	400kV Panki	1x500+1x315	815	674	83%
2	220kV Gokul	2x160	320	282	88%
3	220kV Unnao	3x160	480	383	80%

Table 32: Details of Transmission line with 80% and Above Loading

S. No	Name of Line	Loading (MW)
1	400 kV Azamgarh-Mau line	727
2	220 kV Sahibabad-Indirapuram line	230
3	220 kV Allahabad (PG)-Jhusi line	200
4	220 kV Allahabad (PG)-Phulpur line	201
5	220 kV Raebareli-Unchahar ckt-I	234
6	220 kV Raebareli-Unchahar ckt-II	233
7	220 kV Raebareli-Unchahar ckt-III	209
8	220 kV Raebareli-Bachrawan line	203
9	220 kV Unnao (400 kV)-Dahi Chowki line	210

Hearing dated 10.06.2025

28. The Commission heard the matter on 10.06.2025 and during the hearing, Sh. A.K. Shukla appearing on behalf of STU/UPPTCL submitted that instant Petition was filed in compliance of Regulation 5.2 of UPERC (Modalities of Tariff Determination) Regulations, 2023, for approval of Five-Year STU Transmission Plan of the State for period of FY 2025-26 to FY 2029-30.
29. The Commission during the hearing raised following queries:
 - (i) The manner in which demand projections have been carried out. Whether the relevant stakeholders (UPPCL, Private Distribution Companies and Indian railways have been consulted during the formulation of STU Transmission Rolling Plan?
 - (ii) The reasons for deviation in the commissioning timelines of the 7 substations under the GEC-II scheme, which were originally scheduled to be commissioned in FY 2024-25, as per the first Rolling Transmission Plan for the period FY 2024-25 to FY 2028-29?
 - (iii) What types of land (private or government-owned) have been considered for substation development? Has the availability of land



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been factored in by the Petitioner, while preparing the STU Rolling Transmission Plan?

30. The Petitioner's reply on the above issues along with Commission's observations are provided below:

Query No. 1: The manner in which demand projections have been carried out. Whether the relevant stakeholders (UPPCL, Private Distribution Companies and Indian railways have been consulted during the formulation of STU Transmission Rolling Plan?

Petitioner's Submission

31. In response to the query, Sh. A.K. Shukla informed the Commission in the current rolling transmission plan, demand projection growth has been projected with CAGR of 9%. He submitted that while preparing the Rolling Transmission Plan, the Resource Adequacy Plan prepared by the Central Electricity Authority (CEA) for UPPCL was considered, which projected a year-on-year demand growth rate of 6.5%. However, upon analyzing the actual peak demand trend over the past ten years in Uttar Pradesh, it was noted that demand has grown at a Compound Annual Growth Rate (CAGR) of approximately 9%, increasing from 13,003 MW in FY 2014-15 to 30,618 MW in FY 2024-25. Additionally, he submitted that the Commission, in its order dated 27.03.2024, had accepted the demand projections submitted by UPPTCL for FY 2024-25 to FY 2028-29 based on a 9% CAGR from the actual peak demand of 26,589 MW in FY 2022-23. He also highlighted that, in recent years, demand has been rising at a CAGR of around 8.25%, further justifying the use of a 9% CAGR in the Rolling Plan projections.

Commission's View

The Commission took note of the submissions made by the Petitioner and emphasized the need for stakeholder consultation while projecting future demand. The Commission directed the Petitioner to institutionalize a consultation mechanism involving key beneficiaries such as UPPCL, private distribution companies, and Indian Railways before finalizing demand forecasts from the next STU Transmission Rolling Plan.



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Query No. 2: The reasons for deviation in the commissioning timelines of the 7 substations under the GEC-II scheme, which were originally scheduled to be commissioned in FY 2024-25, as per the first Rolling Transmission Plan for the period FY 2024-25 to FY 2028-29?

Petitioner's Submission

32. Sh. A.K. Shukla informed that due to delays in land approval and allotment, the commissioning timelines for the 7 substations initially planned under GEC-II scheme, for commissioning in FY 2024-25 had been revised. These have now been rescheduled for commissioning in FY 2025-26 (3 substations), FY 2026-27 (3 substations), and FY 2027-28 (1 substation).

He further informed that 6 substations of 132 kV and 1 Substation of 220 kV were expected to be commissioned by July 2025, including the 3 substations deferred to FY 2025-26, as these have already achieved approximately 90% physical progress, as reported in the Rolling Transmission Plan for FY 2025-26 to FY 2029-30. Additionally, he affirmed that all 17 substations planned for commissioning in FY 2025-26, which include 14 originally scheduled for that year and 3 carried forward from FY 2024-25, would be commissioned within the stipulated timeline.

Commission's View

The Commission during the hearing, emphasized that in view of the critical importance of the GEC-II projects, all necessary measures must be taken to avoid any further delays in their execution.

Query No. 3: What types of land (private or government-owned) have been considered for substation development? Has the availability of land been factored in by the Petitioner, while preparing the STU Rolling Transmission Plan?

Petitioner's Submission

33. In regard to query at above, Sh. A.K. Shukla submitted that preference is given to government land for substation projects. For 132 kV substations, land availability is typically assessed 4-5 months before project initiation, as the precise requirement for the projects becomes clear only at that stage. However, for higher voltage level projects such as 400 kV and 765



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kV, the land requirement is determined well in advance, approximately four years prior, considering the scale and planning involved.

Commission's View

The Commission noted the submission of the Petitioner and observed that land availability is a critical factor in timely project execution. Therefore, it is imperative that proper planning and early coordination with relevant authorities are undertaken to ensure that land acquisition does not lead to delays, especially for priority projects under the GEC schemes.

Additional Directions:-

34. Besides above, the Commission has comprehensively considered oral as well as written submission/replies submitted by the Petitioner. In this regard, following directions are issued to the Petitioner for compliance:
- (i) The Petitioner shall ensure the compliance of work plan/timelines submitted for relieving the overloading of transmission elements of 220 kV & above voltage level by 31st May 2026.
 - (ii) The total additional 6,241 MVAR reactors (bus and line) planned to be installed at 765 kV and 400 kV voltage levels from FY 2025-26 to FY 2029-30, as submitted by the Petitioner in reply dated June 06, 2025, shall be integral part of STU Transmission Plan.
 - (iii) Further, the Petitioner shall, in future, include in STU Transmission Plan the requirement of reactive power for Five-Year period along with STU's work plan/timelines for meeting the same.
 - (iv) It is observed that there are projects/schemes under STU Transmission Plan, which are not yet approved by STU-Transmission Works Committee (STU-TWC). Therefore, the Petitioner in future shall ensure that the projects/schemes shall be approved under STU-TWC prior to its inclusion in STU Transmission Plan.
 - (v) The Petitioner shall ensure that schemes should have provision of sufficient land space at proposed substation/switchyard for its future extension, if any, for installation of transformers for capacity enhancement along with transformer bays, and additional feeder bays



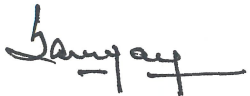
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for upcoming upstream/ downstream network to meet the future load requirement.

- (vi) The projects planned to cater an urgent situation after approval of the STU Transmission Plan but before filing the next rolling Five-Year STU Transmission Plan, shall be submitted by the Petitioner along with justification/reasons that why these were not included in the earlier STU Transmission Plan. The Commission may consider to include the same in STU Transmission Plan, as considered deemed fit.
- (vii) Implementation of augmentation/strengthening works at the intra-State transmission sub-station and /or line being part of the STU Transmission Plan shall be carried out in accordance with the Regulation 4 of the UPERC MYT for Transmission Regulation, 2025.
35. With above directions, the Commission approves the Five-Year STU Transmission Plan for FY 2025-26 to FY 2029-30 subject to all applicable approvals (like STU-TWC, Borad of Directors, Appraisal & Evaluation Committee, Energy Task Force) being obtained by the Petitioner before their implementation.
36. Accordingly, the Petition is disposed of.


(Sanjay Kumar Singh)
Member




(Arvind Kumar)
Chairman

Place: Lucknow
Dated: 28.10.2025



Annexure-1

List of Planned Substation for FY 2025-26 to 2029-30

Sr. No.	Zone	District	Mode of Ex.	Voltage (kV)	Name of Substation	Estimated Cost (Rs. in Cr.)
2024-25						
1	TC	Ayodhya	RTM	220	Upgradation of 132 kV Darshan Nagar (Ayodhya) to 220 kV 1x160+2x40 MVA GIS	92.32
2	TC	Barilly	RTM	220	220/33 kV 2x60 MVA GIS Badaun Road (Barilly)	72.40
3	TC	Raibareilly	RTM	132	132/33 kV 2x40 MVA Newajganj	40.15
4	TC	Unnao	Deposit	220	220/33 kV 3x60 MVA Transgunga City	148.53
5	TNE	Gorakhpur	Deposit	132	132/33 kV 2x40 MVA Bhagwanpur	61.72
6	TNE	Siddharthnagar	RTM	132	132/33 kV 2x40 MVA Soharatgarh (Siddharthnagar)	39.72
7	TSE	Chandauli	RTM	400	400/220 kV 2x500 MVA Sahupuri (Chandauli)	449.83
8	TSE	Prayagraj	Deposit	132	132 kV 2x40 MVA Hetapatti (Prayagraj)	52.53
9	TSE	Sonbhadra	RTM	220	220/132/33 kV 2x160+2x40 MVA Myorepur	79.98
10	TSW	Firozabad	RTM	132	132/33 kV 2x40 MVA Fariha (Firozabad)	46.71
11	TW	Amroha (J. P. Nagar)	RTM	132	132/33 kV 2x40 MVA Dhanaura	48.31
12	TW	Gautam Buddha Nagar	RTM	132	132 kV 2x63 MVA Bhangel (G. B. Nagar)	40.99
13	TW	Gautam Buddha Nagar	RTM	220	220/132 kV 2x160 MVA GIS Sec- 62 at existing 132 kV AIS Sector 62	102.20
14	TW	Gautam Buddha Nagar	Deposit	132	132/33 kV 2x63 MVA GIS Eco Tech- 8 (G. B. Nagar)	161.06
15	TW	Gautam Buddha Nagar	Deposit	132	132/33 kV 2x63 MVA GIS Eco Tech-10 Narrow base/monopole with Zebra conductor.	52.14
16	TW	Gautam Buddha Nagar	Deposit	132	132/33 kV 2x63 MVA Sector 115 II	60.00
17	TW	Gautam Buddha Nagar	Deposit	220	220/132/33 kV 2x160+1x63 MVA Jewar GIS (Greater Noida) at 220/33 kV 2x60 MVA Jewar	108.39
18	TW	Gautam Buddha Nagar	Deposit	220	220/132/33 kV 2x160+2x63 MVA Metro Depot Extn. GIS (Greater Noida)	80.66
19	TW	Muzaffarnagar	RTM	132	132/33 kV 2x63 MVA Budhana-II	66.86
20	TW	Saharanpur	RTM	132	132/33 kV 2x40 MVA Dudhali	38.75
2024-25 Total						1,843.25
2025-26						
1	TC	Raibareilly	RTM	400	400/220/132 kV 2x500+2x160 MVA GIS Sirsira (Raibareilly)	375.38
2	TSC	Banda	RTM-GEC	132	132/33 kV 2x40 MVA Baberu	58.23
3	TSC	Banda	RTM-GEC	220	Creation of 132 kV voltage level at Banda 400/220 2x160 MVA ICT at Banda 400 kV	52.14
4	TSC	Hamirpur	RTM-GEC	132	132/33 kV 2x40 MVA Gohand	39.13
5	TSC	Hamirpur	RTM-GEC	132	132/33 kV 2x40 MVA Muskara	32.60
6	TSC	Jalaun	RTM-GEC	132	132/33 kV 2x40 MVA Kadnara	45.20
7	TSC	Jalaun	RTM-GEC	132	132/33 kV 2x40 MVA Kuthond	46.71
8	TSC	Jalaun	RTM-GEC	220	220 kV 1x160+1x40 MVA Dakaur	90.59
9	TSC	Jalaun	RTM-GEC	400	400 kV 2x500+2x160 MVA Maheba	459.81
10	TSC	Jhansi	RTM-GEC	220	220 kV 1x160+1x40 MVA Bamaur	76.83
11	TSC	Jhansi	RTM-GEC	220	220 kV 1x160+1x40 MVA Bangra	91.35
12	TSC	Jhansi	RTM-GEC	400	400 kV 3x500 MVA Gursarai, Garauttha	694.26
13	TSC	Lalitpur	RTM-GEC	132	132/33 kV 2x40 MVA Mehrauni New	42.94
14	TSC	Lalitpur	RTM-GEC	220	220 kV 1x160+1x40 MVA Birdha	74.12
15	TSC	Lalitpur	RTM-GEC	220	220 kV 1x160+1x40 MVA Mandwara	90.43
16	TSC	Mahoba	RTM-GEC	220	220 kV 1x160+1x40 MVA Charkhari	141.92
17	TSC	Mahoba	RTM-GEC	220	220 kV 1x160+1x40 MVA Jaitpur	94.86
18	TSC	Mahoba	RTM-GEC	220	220 kV 1x160+1x40 MVA Kaharai	91.93
19	TSE	Fatehpur	TBCB	220	220 kV 2x160+2x40 MVA Khaga	180.29
20	TSE	Ghazipur	RTM	132	132/33 kV 2x40 MVA Ghazipur-II	61.68
21	TSE	Varanasi	TBCB	220	220 kV 2x60 MVA Varanasi Cantt.	191.14
22	TSW	Firozabad	RTM	132	132/33 kV 2x40 MVA Sofipur (Firozabad) (Double main transfer)	45.53
23	TSW	Kannauj	TBCB	220	220 kV 2x160+2x63 MVA Tirwa	109.84
24	TW	Gautam Buddha Nagar	TBCB	400	400 kV 2x500 MVA Metro Depot (Gr. Noida)	241.80
25	TW	Gautam Buddha Nagar	TBCB	400	400/220/132 kV 2x500 MVA GIS Jalpura (Gr. Noida)	595.97
26	TW	Gautam Buddha Nagar	TBCB	400	400/220/132 kV 2x500 MVA GIS Jewar	220.18
27	TW	Gautam Buddha Nagar	Deposit	220	220/132, 220/33 kV 1x160+2x60 MVA GIS Sector 45, Noida	123.90
28	TW	Ghaziabad	TBCB	220	220 kV 3x60 MVA Vasundhara	122.09
29	TW	Rapur	RTM	132	132/33 kV 2x40 MVA Dhaulana	48.35

Signature

Signature

Signature

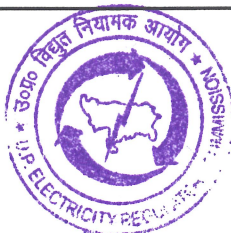
अधीक्षक अभियन्ता
समग्र निदेशक (नियोजन एवं वाणिज्य)
उत्तर प्रदेश विद्युत नियामक आयोग





Sr. No.	Zone	District	Mode of Ex.	Voltage (kV)	Name of Substation	Estimated Cost (Rs. In Cr.)
30	TW	Meerut	RTM	220	220/132/33 kV 2x160 MVA GIS Mawana & 1/c 2x63 to 3x63 MVA	83.55
2025-26 Total						4,622.75
2026-27						
1	TC	Barabanki	TBCB	220	220/132/33 kV 2x160+2x40 MVA Shahpur	167.87
2	TC	Bareilly	RTM	132	132/33 kV 2x63 MVA Ram Ganga Nagar Vihar	70.15
3	TC	Lucknow	Deposit	220	220 kV 2x160+4x63 MVA Mohan Road	84.04
4	TC	Sultanpur	RTM	132	132/33 kV 2x40 MVA Asroga	61.37
5	TC	Unnao	RTM	220	Upgradation of 132 kV Kundan Road S/s at 220 kV 2x160 MVA	65.98
6	TC	Unnao	TBCB	220	220/132 kV 2x100 MVA GIS Bangarmanu	185.09
7	TC	Unnao	TBCB	220	220/132 kV 2x160 MVA GIS Maurawa	130.81
8	TNE	Deoria	RTM	132	132/33 kV 2x40 MVA Bhatparrani	88.46
9	TNE	Deoria	RTM	132	132/33 kV 2x40 MVA Narayanpur	94.71
10	TNE	Deoria	TBCB	220	220/132 kV 2x160+2x40 MVA Barhaj	143.56
11	TNE	Mau	TBCB	220	220/132/33 kV 2x160+2x40 MVA Ranipur	176.62
12	TSC	Hamirpur	RTM-GEC	220	220 kV 2x160+2x40 MVA Hamirpur	110.04
13	TSC	Lalitpur	RTM-GEC	765	765 kV 1x1500+2x500 MVA Talbehat	1,496.09
14	TSE	Prayagraj	Deposit	220	220 kV 3x60 MVA Naini UPSIDC	137.41
15	TSW	Farrukhabad	RTM-GEC	400	400 kV 2x500+2x160 MVA Farrukhabad	926.77
16	TW	Bijnor	RTM	132	132/33 kV 2x40 MVA Swaheri	50.95
17	TW	Gautam Buddha Nagar	TBCB	220	220/33 kV 2x60 MVA Surajpur-II	136.19
18	TW	Meerut	RTM	132	132/33 kV 2x40 MVA Parikshitgarh	71.79
19	TW	Moradabad	RTM	132	132/33 kV 2x40 MVA Dilari	71.79
20	TW	Rampur	RTM	220	Upgradation of existing 132 kV Tanda to 220 kV voltage 2x160+2x40 MVA	151.66
21	TW	Saharanpur	RTM	132	132/33 kV 2x40 MVA Muzaffarnabad	66.58
22	TW	Sambhal	RTM	132	132/33 kV 2x40 MVA Bahjoi	47.10
2026-27 Total						4,535.00
2027-28						
1	TC	Ambedkar nagar	TBCB	220	220/132 kV 2x160+2x40 MVA Akbarpur	163.50
2	TC	Barabanki	TBCB	220	220/132/33 kV 2x160+2x40 MVA Deviganj (between Ramsnachi Ghat- Haiderdarh)	167.75
3	TC	Budaun	TBCB	220	220/33 kV 2x60 MVA Badaun-II (Bisauli)	134.49
4	TC	Raibareilly	RTM	132	132/33 kV 2x40 MVA Unchiatar	58.97
5	TC	Sitapur	RTM	132	132/33 kV 2x40 MVA Bhawanipur	69.91
6	TC	Unnao	RTM	132	132/33 kV 2x40 MVA Bighapur-II	64.44
7	TNE	Azamgarh	RTM	132	132/33 kV 2x40 MVA Sarai Mir	75.38
8	TNE	Ballia	RTM	132	132/33 kV 1x63+1x40 MVA Sisain, Belihara Road	54.81
9	TSC	Chitrakoot	RTM-GEC	400	400 kV 2x500 MVA Chitrakoot	619.90
10	TSE	Chandauli	TBCB	220	220 kV 2x160+2x40 MVA Amra	167.75
11	TSE	Jaunpur	TBCB	220	220 kV 2x160+2x40 MVA Jaunpur-II	120.96
12	TSE	Mirzapur	RTM	220	Upgradation existing 132 kV Chunar to 220 kV 2x160+2x40 MVA	135.53
13	TSE	Pratapgarh	RTM	132	132/33 kV 2x40 MVA Kusawapur	56.23
14	TSE	Sonbhadra	TBCB	220	220/132 kV 2x160+2x63 MVA Robertganj-II	130.66
15	TSE	Varanasi	RTM	132	132/33 kV 2x40 MVA Belawa	53.50
16	TSW	Agra	TBCB	220	200/132 kV 2x160+2x40 MVA Agra-II	133.72
17	TW	Bijnor	TBCB	220	220 kV 2x160+2x40 MVA Nohaitar-II	112.45
18	TW	Gautam Buddha Nagar	TBCB	400	400 kV 3x500 MVA YEIDA Sector 28	428.30
19	TW	Gautam Buddha Nagar	Deposit	220	220 kV 2x160+2x63 MVA YEIDA Sector 28	140.73
20	TW	Hapur	TBCB	220	220/33 kV 3x60 MVA Simbholi-II	169.81
21	TW	Muzaffarnagar	RTM	132	132 kV 2x40 MVA Bhatnara (Muzaffarnagar)	53.50
22	TW	Muzaffarnagar	RTM	132	132/33 kV 2x40 MVA Shahpur	77.56
23	TW	Rampur	RTM	132	132 kV 1x63+1x40 MVA Nababganj	52.61
2027-28 Total						3,242.44
2028-29						
1	TC	Bahraich	RTM	220	Upgradation of Existing 132 kV Nanpara to 220 kV 2x160 MVA	215.69
2	TC	Barabanki	TBCB	400	400/220 kV 2x500+2x160 MVA Barabanki	525.02
3	TC	Budaun	RTM	220	Upgradation of Existing 132 kV Bisauli to 220 kV 2x160 MVA	126.35
4	TC	Lucknow	TBCB	400	400 kV 2x315 MVA Daud Nagar (Nagrain Road)	484.59
5	TC	Lucknow	TBCB	400	400/220 kV 2x500 MVA Ansal API (IT City)	603.28
6	TC	Lucknow	TBCB	400	400/220 kV 2x500 MVA Sultanpur Road	511.39

अधीक्षक अभियन्ता
सम्बद्ध निदेशक (नियोजन एवं वसतिज)
उपसंचालक कार्यालय





Sr. No.	Zone	District	Mode of Ex.	Voltage (kV)	Name of Substation	Estimated Cost (Rs. in Cr.)
7	TC	Lucknow	TBCB	765	765/400 kV 2x1500 MVA Sultanpur Road (Lucknow)	2,609.38
8	TC	Raibareilly	RTM	220	Upgradation of Existing 132 kV Dalman to 220 kV 2x160 MVA	95.08
9	TC	Sitapur	TBCB	400	400/220 kV 2x500+2x160 MVA Sitapur	1,182.69
10	TNE	Mirzapur	TBCB	765	765/400 kV 2x1500 MVA Mirzapur (Pooling Point)	1,296.72
11	TSC	Kanpur Nagar	RTM	132	132/33 kV 2x40 MVA Syam Nagar	58.98
12	TSE	Ghazipur	TBCB	400	400 kV 2x500 MVA Ghazipur	724.12
13	TSE	Mirzapur	RTM	400	Upgradation of existing 220 kV Mirzapur to 400 kV 2x500 MVA Mirzapur	695.18
14	TSW	Etawah	TBCB	400	400 kV 2x500+2x160 MVA Barhana	517.36
15	TSW	Mainpuri	TBCB	220	220/132 kV 2x160 MVA Mainpuri-II	99.54
16	TSW	Mathura	TBCB	220	200/33 kV 2x60 MVA Mathura New (Near Kosikalan)	159.08
17	TW	Bijnor	RTM	220	Extension of existing 400 kV Nehtaur to 220 kV 2x160 MVA	90.61
18	TW	Ghaziabad	RTM	132	132/33 kV 2x40 MVA Karera	50.43
19	TW	Saharanpur	RTM	132	132/33 kV 2x40 MVA Chilkana	61.91
2028-29 Total						10,107.39
2029-30						
1	TC	Barabanki	TBCB	220	220/132 kV 2x160+2x40 MVA Haidergarh	194.33
2	TC	Gonda	TBCB	220	220/132 kV 2x160+2x40 MVA Colonelganj-II	175.57
3	TC	Shahjahanpur	TBCB	220	220/132 kV 2x160+2x40 MVA Powayan	184.95
4	TC	Unnao	RTM	132	Creation of 132 kV 2x40 MVA voltage level at Dahi choki 220/33kV 2x60 MVA substation.	58.98
5	TC	Unnao	TBCB	220	220/132 kV 2x160+2x40 MVA Chakalbanshi	175.57
6	TNE	Azamgarh	RTM	220	Upgradation of 132kV Phulpur to 220 kV level (2x160) Azamgarh	90.45
7	TNE	Azamgarh	TBCB	220	220/132 kV 2x160+2x40 MVA Atrauli, Azamgarh	184.95
8	TNE	Basti	RTM	132	132/33 kV 2x40 MVA Basti Town	61.99
9	TNE	Jaunpur	TBCB	220	220/132 kV 2x160+2x40 MVA Shahganj	184.95
10	TNE	Sonbhadra	RTM	400	Upgradation of 220 kV Robertsganj S/s at 400/220 KV 2x500 MVA	392.23
11	TSC	Kanpur Dehat	RTM	132	132/33 kV 2x40 MVA Arshadpur	71.04
12	TSC	Kanpur Nagar	RTM	132	132 kV 2x40 MVA IIT Kanpur	52.95
13	TSC	Kanpur Nagar	TBCB	220	220/132 kV 2x160+2x40 MVA Rasoolabad	166.19
14	TSC	Kanpur Nagar	TBCB	220	220/132/33 kV 2x160+2x40 MVA Navabganj(kanpur)	128.66
15	TSC	Kanpur Nagar	TBCB	400	400/220/132 kV 2x500+2x160 MVA Panki-II	615.59
16	TW	Aligarh	TBCB	220	220/132 kV 2x160+2x40 MVA Khair-II	166.19
17	TW	Bijnor	TBCB	220	220/132 kV 2x160+2x40 MVA Tnjpur-II	184.95
18	TW	Gautam Buddha Nagar	TBCB	220	220/132 kV 2x160 MVA Builder Area, Greater Noida	113.90
19	TW	Gautam Buddha Nagar	TBCB	220	220/132 kV 2x160 MVA Ecotech, Greater Noida	95.14
20	TW	Gautam Buddha Nagar	TBCB	220	220/132 kV 2x160 MVA Sector 2, Greater Noida	113.90
21	TW	Gautam Buddha Nagar	TBCB	220	220/132 kV 2x160+2x40 MVA Birondi, Greater Noida	142.74
22	TW	Meerut	TBCB	220	220 kV 3x60 MVA Meerut By Pass	215.36
23	TW	Moradabad	TBCB	220	220kV 2x160+2x40 MVA Moradabad II	138.05
24	TW	Muzaffarnagar	RTM	132	132kV 2x40 MVA Bhatua (muzaffarnagar)	58.98
2029-30 Total						3,967.60
Grand Total						28,318.42

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अधीक्षक अभियन्ता
समृद्ध निदेशक (नियोजन एवं बाणिज्य)
उत्तर प्रदेश विद्युत नियामक आयोग

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List of TBCB Substation

Sr. No.	Row Labels	District	Voltage (kV)	Name of Substation	Estimated Cost (Rs. in Cr.)
2025-26					
1	TSE	Fatehpur	220	220 kV 2x160+2x40 MVA Khaga	180.29
2	TSE	Varanasi	220	220 kV 2x60 MVA Varanasi Cantt.	191.14
3	TSW	Kannauj	220	220 kV 2x160+2x63 MVA Tirwa	109.84
4	TW	Gautam Buddha Nagar	400	400 kV 2x500 MVA Metro Depot (Gr. Noida)	241.80
5	TW	Gautam Buddha Nagar	400	400/220/132 kV 2x500 MVA GIS Jalpura (Gr. Noida)	595.97
6	TW	Gautam Buddha Nagar	400	400/220/132 kV 2x500 MVA GIS Jewar	220.18
7	TW	Ghaziabad	220	220 kV 3x60 MVA Vasundhara	122.09
2025-26 Total					1,661.31
2026-27					
1	TC	Barabanki	220	220/132/33 kV 2x160+2x40 MVA Shahpur	167.87
2	TC	Unnao	220	220/132 kV 2x100 MVA GIS Bangarmau	185.09
3	TC	Unnao	220	220/132 kV 2x160 MVA GIS Maurawa	130.81
4	TNE	Deoria	220	220/132 kV 2x160+2x40 MVA Barhaj	143.56
5	TNE	Mau	220	220/132/33 kV 2x160+2x40 MVA Ranipur	176.62
6	TW	Gautam Buddha Nagar	220	220/33 kV 2x60 MVA Surajpur-II	136.19
2026-27 Total					940.13
2027-28					
1	TC	Ambedkar nagar	220	220/132 kV 2x160+2x40 MVA Akbarpur	163.50
2	TC	Barabanki	220	220/132/33 kV 2x160+2x40 MVA Deviganj (between Ramsnehi Ghat- Haidardarh)	167.75
3	TC	Budaun	220	220/33 kV 2x60 MVA Badaun-II (Bisauli)	134.49
4	TSE	Chandauli	220	220 kV 2x160+2x40 MVA Amra	167.75
5	TSE	Jaunpur	220	220 kV 2x160+2x40 MVA Jaunpur-II	120.96
6	TSE	Sonbhadra	220	220/132 kV 2x160+2x63 MVA Robertganj-II	130.66
7	TSW	Agra	220	200/132 kV 2x160+2x40 MVA Agra-II	133.72
8	TW	Bijnor	220	220 kV 2x160+2x40 MVA Nehtaur-II	112.45
9	TW	Gautam Buddha Nagar	400	400 kV 3x500 MVA YEIDA Sector 28	428.30
10	TW	Hapur	220	220/33 kV 3x60 MVA Simbholi-II	169.81
2027-28 Total					1,729.39
2028-29					
1	TC	Barabanki	400	400/220 kV 2x500+2x160 MVA Barabanki	525.02
2	TC	Lucknow	400	400 kV 2x315 MVA Daud Nagar (Nagram Road)	484.59
3	TC	Lucknow	400	400/220 kV 2x500 MVA Ansal API (IT City)	603.28
4	TC	Lucknow	400	400/220 kV 2x500 MVA Sultanpur Road	511.39
5	TC	Lucknow	765	765/400 kV 2x1500 MVA Sultanpur Road (Lucknow)	2,609.38
6	TC	Sitapur	400	400/220 kV 2x500+2x160 MVA Sitapur	1,182.69
7	TNE	Mirzapur	765	765/400 kV 2x1500 MVA Mirzapur (Pooling Point)	1,296.72
8	TSE	Ghazipur	400	400 kV 2x500 MVA Ghazipur	724.12
9	TSW	Etawah	400	400 kV 2x500+2x160 MVA Barthana	517.36

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अधीक्षक अभियंता
सम्बद्ध निदेशक (नियोजन एवं वाणिज्य)
एन.ए.ए.सी.सी.सी.





List of TBCB Substation

Sr. No.	Row Labels	District	Voltage (kV)	Name of Substation	Estimated Cost (Rs. in Cr.)
10	TSW	Mainpuri	220	220/132 kV 2x160 MVA Mainpuri-II	99.54
11	TSW	Mathura	220	200/33 kV 2x60 MVA Mathura New (Near Kosikalan)	159.08
2028-29 Total					8,713.17
2029-30					
1	TC	Barabanki	220	220/132 kV 2x160+2x40 MVA Haidergarh	194.33
2	TC	Gonda	220	220/132 kV 2x160+2x40 MVA Colonelganj-II	175.57
3	TC	Shahjahanpur	220	220/132 kV 2x160+2x40 MVA Powayan	184.95
4	TC	Unnao	220	220/132 kV 2x160+2x40 MVA Chakalbanshi	175.57
5	TNE	Azamgarh	220	220/132 kV 2x160+2x40 MVA Atrauli, Azamgarh	184.95
6	TNE	Jaunpur	220	220/132 kV 2x160+2x40 MVA Shahganj	184.95
7	TSC	Kanpur Nagar	220	220/132 kV 2x160+2x40 MVA Rasoolabad	166.19
8	TSC	Kanpur Nagar	220	220/132/33 kV 2x160+2x40 MVA Navabganj(kanpur)	128.66
9	TSC	Kanpur Nagar	400	400/220/132 kV 2x500+2x160 MVA Panki-II	615.59
10	TW	Aligarh	220	220/132 kV 2x160+2x40 MVA Khair-II	166.19
11	TW	Bijnor	220	220/132 kV 2x160+2x40 MVA Tajpur-II	184.95
12	TW	Gautam Buddha Nagar	220	220/132 kV 2x160 MVA Builder Area, Greater Noida	113.90
13	TW	Gautam Buddha Nagar	220	220/132 kV 2x160 MVA Ecotech, Greater Noida	95.14
14	TW	Gautam Buddha Nagar	220	220/132 kV 2x160 MVA Sector 2, Greater Noida	113.90
15	TW	Gautam Buddha Nagar	220	220/132 kV 2x160+2x40 MVA Birondi, Greater Noida	142.74
16	TW	Meerut	220	220 kV 3x60 MVA Meerut By Pass	215.36
17	TW	Moradabad	220	220kV 2x160+2x40 MVA Moradabad II	138.05
2029-30 Total					3,180.97
Grand Total					16,224.97

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अधीक्षक अभियन्ता
सम्बद्ध निर्देशक (नियोजन एवं वाणिज्य)
उपप्रबंधन विभाग

