



Government of India
Ministry of Power
Central Electricity Authority

Resource Adequacy Plan for Transmission System of Karnataka up to the year 2034-35



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Executive Summary

Karnataka is blessed with a number of renewable energy (RE) sources due to its geographical location, climate and other natural factors. State receives abundant sunlight throughout the year, which makes it an ideal location for solar power generation. The state has a long coastline which makes it a favorable location for wind power generation. Overall, Karnataka's favorable climate and natural resources have enabled it to become one of the leading states in India in terms of renewable energy.

The generation capacity of the state of Karnataka including the Power Purchase Agreement of State ESCOMs with Central Generating Stations outside the State, as on 31st December 2025, is around 37 GW. Around 26 GW Renewable Energy capacity (including large Hydro) has been installed in Karnataka. Transmission system for integration of over 50 GW of RE (Solar and Wind) capacity has been planned to be integrated by 2034-35 which are under various stages of implementation.

There are five Discoms in Karnataka viz. BESCOM, MESCOM, HESCOM, GESCOM and CESC(Mysore). In the month of March, 2025, Karnataka witnessed an all-time peak demand of around 18,395 MW, which is about 6.8% higher than the peak demand of around 17,220 MW in 2023-24.

A comprehensive system study of the Transmission System of Karnataka has been carried out by CEA in association with KPTCL, CTUIL & Grid-India and Resource Adequacy Plan has been prepared indicating the transmission capacity required to be added in Karnataka till the year 2034-35.

Summary of transmission systems planned under ISTS and InSTS to be commissioned by 2029-30 is given below:

	765 kV	400 kV	220 kV	Total
Inter-State Transmission System (ISTS)				
Transformation Capacity (MVA)	63000	45000	0	108000
Transmission Line (ckm)	3521	1608	0	5129
Intra-State Transmission System (InSTS)				
Transformation Capacity (MVA)	13500	25815	4650	43965
Transmission line (ckm)	750	5068	2771	8589

Summary of transmission system planned under ISTS and InSTS to be commissioned between 2030-31 and 2034-35 is given below:

	765 kV	400 kV	Total
Inter-State Transmission System (ISTS)			
Transformation Capacity (MVA)	7500	2500	10000
Transmission Line (ckm)	1060	980	2040
Intra-State Transmission System (InSTS)			
Transformation Capacity (MVA)	9000	14500	23500
Transmission line (ckm)	750	110	860

Chapter-1

Power Scenario and Existing Transmission Network in Karnataka

1.1 Background

Karnataka is the sixth-largest Indian state by area. The state covers an area of 191,791 square km or 5.83 per cent of the total geographical area of India. Karnataka is the only southern state to have land borders with all of the other four southern Indian states. Karnataka state's growth fueled by many industrial and commercial hubs has resulted in its rising demand for energy. The capital of the state, Bengaluru, is known as the Silicon Valley of India, for its immense contributions to the country's information technology sector.

The state has huge Solar and Wind potential in north Karnataka and invests heavily in Renewable Energy generation sector based on the Generation Resource Adequacy requirement. A strong transmission system is crucial for Karnataka to meet its growing energy demands in south Karnataka and ensure a reliable power supply to its residential, businesses and industrial consumers. A strong transmission system helps to minimize power losses, prevent grid failures and enhance system stability, particularly during peak usage periods. Additionally, it enables the integration of renewable energy sources like solar and wind, which are becoming a significant part of Karnataka's energy mix. A well-developed transmission infrastructure ensures that power outages are minimized, contributing to the state's economic growth, quality of life and resilience against potential energy crises.

1.2 Present Power Scenario in Karnataka

1.2.1 Installed Generation Capacity (Intra-State)

The Power Company of Karnataka Limited (PCKL) is a Special Purpose Vehicle on behalf of the State ESCOMs for capacity addition and preparation of generation plan for resource adequacy. The State at present is having both Conventional and Non-conventional Generation capacities of State GENCO i.e. Karnataka Power Corporation Limited (KPCL), Central Generating Stations (GS) and Independent Power Producers (IPPs). Further, State through PCKL procures /trades / carries out bilateral exchange of power with other States / trades on behalf of ESCOMs to meet the day-to-day requirements of power. The generation capacity of the state of Karnataka including the Power Purchase Agreement of State ESCOMs with Central Generating Stations outside the State, as on 31st December 2025, is 37,073 MW, as given below.

Out of the generation capacity, the generation contracted capacity of the state of Karnataka including the Power Purchase Agreement of State ESCOMs with Central Generating Stations outside the State, as on 31st December 2025, is 23869.35 MW. Around 13,203 MW generation is connected to KPTCL network and selling through open access.

Table 1.1: Installed Electricity Generation Capacity

Installed capacity of generating projects connected to the KPTCL Network as on 31.12.2025 (including allocation of central sector projects)				
Sl. No.	Particulars	Installed Capacity (MW)	Karnataka. Share %	Karnataka. Share (MW)
1	KPCL Projects			
1.1	Hydro Projects			
	(i) Sharavathi Valley Project	1035.0	100.00	1035.0
	(ii) Kali Valley Project/Nagjhari	900.0	100.00	900.0
	(iii) Varahi Valley Project	460.0	100.00	460.0
	(iv) Kodalalli Dam Power House	120.0	100.00	120.0
	(v) Kadra Power House	150.0	100.00	150.0
	(vi) Gerusoppa Power House	240.0	100.00	240.0
	(vii) MGHE Jog falls	139.2	100.00	139.2
	(viii) Linganamakki Hydro	55.0	100.00	55.0
	(ix) Supa	100.0	100.00	100.0
	(x) Shivanasamudram	42.0	100.00	42.0
	(xi) Mani_Dam	9.0	100.00	9.0
	(xii) Munirabad	38.0	100.00	38.0
	(xiii) Bhadra Power House	39.2	100.00	39.2
	(xiv) Ghataprabha	32.0	100.00	32.0
	(xv) Almatti Dam power house	290.0	100.00	290.0
	(xvi) TBHE	72.0	20.00	14.4
	(xvii) Jurala	234.6	50.00	117.3
	(xviii) Simsha	17.2	100.00	17.2
	Sub-Total (1.1) (MW)			3798.3
1.2	Coal Projects			
	(i) RTPS UNIT I to 7	1470.0	100.00	1470.0
	(ii) RTPS UNIT 8	250.0	100.00	250.0
	(iii) BTPS-Unit I	500.0	100.00	500.0
	(iv) BTPS-Unit II	500.0	100.00	500.0
	(v) BTPS-Unit III	700.0	100.00	700.0
	(vi) RPCL/YTPS1-2	1600.0	100.00	1600.0
	(vii) IPP UPCL	1200.0	90.00	1080

	Sub-Total (1.2) (MW)			6100
1.3	Gas			
	Yelahanka	370	100.00	370
1.4	Waste to Energy- Bidadi	11.5	100.00	11.5
	Total -1 (1.1+1.2+1.3+1.4) (MW)			10279.8
2	Central Sector Allocation			
2.1	Thermal/Gas Projects			
	NTPC			
	(i) RSTPS I & II	2100	20.6	432
	(ii) Talcher STPS II	2000	17.5	350
	(iii) Simhadri STPS Stage I	1000	0.00	0.00
	(iv) Simhadri STPS Stage II	1000	17.6	176.4
	(v) Kudgi STPS Stage I	2400	50.0	1200
	(vi) NTPC NVVN Bundled power			70
	(vii) NTECL Vallur (JV with NTPC)	1500	7.4	111.5
	(viii) NTPL (JV with NTPC)	1000	15.8	157.9
	NLCIL			
	(i) NLC TPS- II Stage 1	630	13.3	84
	(ii) NLC TPS- II Stage II	840	13.7	115
	(iii) NLC TPS EXP-I	420	22	92.4
	(iv) NLC TPS EXP-II	500	22	110
	(v) NNTPS	1000	7.1	70.5
	(i) Damodar Valley Corporation KTPS	1000	23.6	235.6
	(ii) Damodar Valley Corporation KTPS	1000	18.9	188.5
	Sub-Total (2.1) (MW)			3393.8
2.2	Nuclear Projects			
	NPCL			
	(i) MAPS	440	6.6	29
	(ii) KGS 1&2	440	24.5	108
	(iii) KGS 3&4	440	27	119
	(iv) KKNPP 1	1000	22.1	221.00
	(v) KKNPP 2	1000	22.10	221.00
	Sub-Total (2.2) (MW)			698
2.3	Bundled Power- Solar	670	100.0	670
	Total- 2 (2.1+2.2+2.3) (MW)			4761.8
3.1	Solar Power Projects			4856
	Kusum-C			36.87
3.2	Wind Power Projects			3000.8
3.3	Bio-Mass			34.5
3.4	Small Hydro			553.58

3.5	Co-Gen			346
	Total -3 (3.1+3.2+3.3+3.4+3.5) (MW)			8827.75
4	Contracted capacity of generating projects (1+2+3) (MW)			23869.35
5	Generating projects in Karnataka don't have contract State ESCOMs			13203.65
	Grand Total (4+5) (MW)			37073.00

Table 1.2: Source wise details of the Wheeling & Banking and Open Access capacity as on 31st December 2025

Sl No	Source	Capacity in MW
1	Wind	2038.53
2	Solar	3443.17
3	Mini Hydel	181.31
4	Hybrid	302.80
5	Small Thermal	5.00
6	Co-Gen	0.00
7	Bio Mass	6.00
8	Captive (Non-RE)	1024.80
9	Open Access	4240.91
	Total	11242.514

1.2.2 Electricity Demand of Karnataka

There are five Discoms in Karnataka, BESCOM, MESCOM, HESCOM, GESCOM and CESC(Mysore). In the month of March 2025, Karnataka witnessed an all-time peak demand of around 18,395 MW, which is about 6.8% higher than the peak demand of around 17,220 MW in 2023-24. The Peak demand observed in each month during the last three years is given below in Table 1.3 and depicted in Fig.1.1. Year wise peak demand is given in Fig. 1.2.

Table 1.3: Recorded Peak Demand of Karnataka

Month	Peak electricity demand 2025-26 (MW)	Peak electricity demand 2024-25 (MW)	Peak electricity demand 2023-24 (MW)	Peak electricity demand 2022-23 (MW)
April	17330	16985	16110	14725
May	15952	16826	15111	12260

June	13917	14335	14198	11781
July	15014	13820	12359	10855
August	14700	12580	16950	11268
September	14486	16050	14698	11818
October	14013	12850	15978	10292
November	15978	14853	15203	12448
December		15312	15005	13149
January		17691	15668	14972
February		18350	16632	15543
March		18395	17220	15828
Max Peak	17330	18395	17220	15828

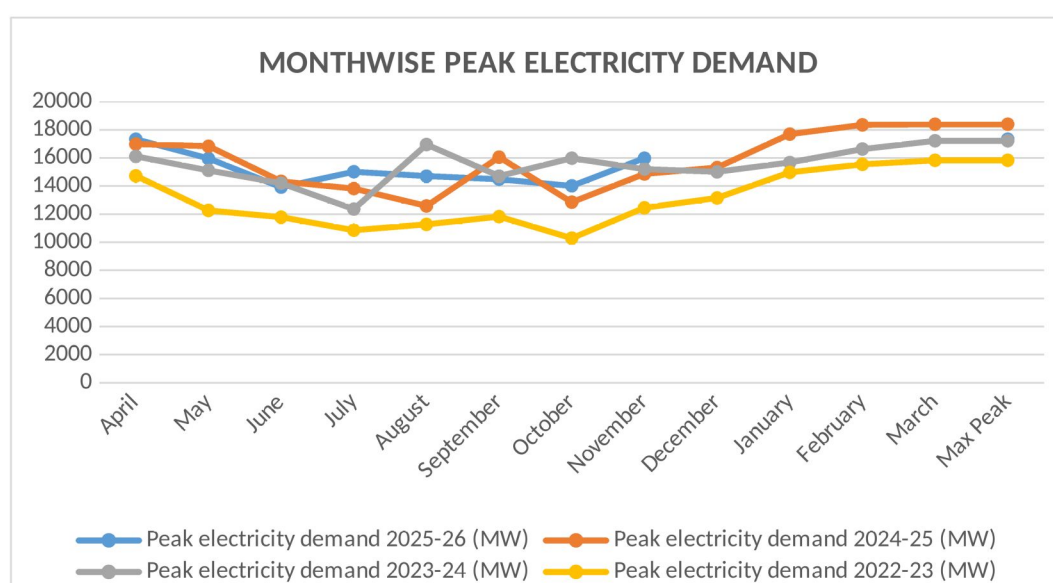


Fig. 1.1: Month wise peak electricity demand

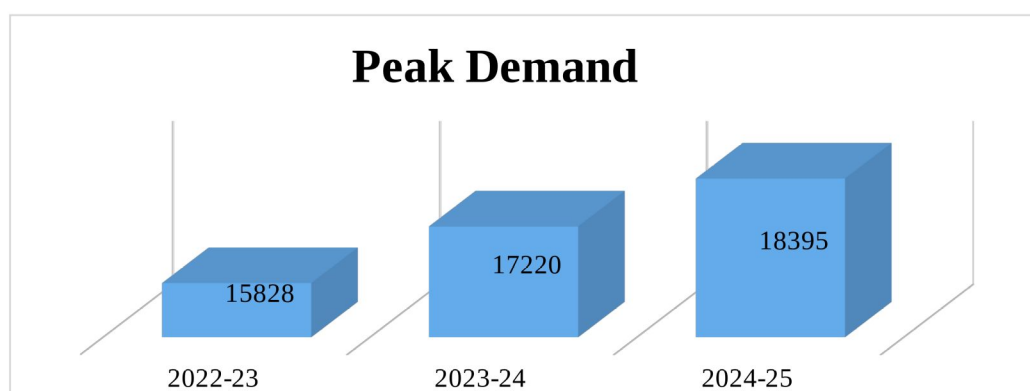


Fig. 1.2: Year wise Maximum peak electricity demand

1.2.3 Existing Transmission Network in Karnataka (as on December 2025)

1.2.3.1 Intra-State Transmission System in Karnataka

Karnataka has a vast transmission network that includes extensive 400 kV and 220 kV systems. Under Intra-state transmission network, the highest voltage is 400 kV. The number of sub-stations, transformation capacity and length of transmission lines at different voltage levels in intra-state is given below.

Table 1.3: Details of Intra-State sub-stations (MVA)

S.No	Voltage level	Existing Intra- State transmission system (Substations) (as on December 2025)		
		No of Substations	MVA	
1	400 kV	10	400/220 kV	11917
2	220 kV	137	220/110 kV	13510
			220/66 kV	22217
3	110 kV	543	110/33 kV	7680
			110/11 kV	11850
4	66 kV	748	66/11 kV	24453
	Total	1439		91627

Table 1.4: Details of Intra-State Transmission Lines (ckm)

S.No.	Voltage level	Existing Intra- State transmission system (Transmission Lines including cables as on December 2025)
		(ckm)
1	400 kV	3935
2	220 kV	13884
3	110 kV	13550
4	66 kV	13379
	Total	44748

List of existing intra-state substations at 400 kV voltage level is given below:

Table 1.5: List of Existing 400/220kV intra-state sub-stations

Sl. No.	Name of Substation	Transformation Capacity (MVA)
1.	Ferozabad	2x500
2.	Dhoni	2x500
3.	Guttur	2x315
4.	Talaguppa *	3x167 + 1 spare
5.	Hebbanahalli	3x315

Sl. No.	Name of Substation	Transformation Capacity (MVA)
6.	Nelamangala *	9x167 + 2 spare
7.	Hoody *	9x167 + 2 spare
8.	Devanahalli Hardware Park	3x500
9.	Mylasandra	3x500
10	Jagalur	2x500

* 3 No. single phase 167 MVA units to form one 500 MVA Transformer

Shunt Reactors

Shunt reactors are installed on the buses and transmission lines at the voltage levels of 400 kV. Details of the bus reactors in terms of numbers and MVAR capacity is included as follows:

Table 1.6: Details of Shunt Reactors

S. No.	Voltage level (kV)	Bus Reactors (Nos.)	Bus Reactors (MVAR)
1	400 kV	19 (3-Phase)	1804

Capacitor Banks

The capacitor banks are installed on 110 kV, 66 kV, 33 kV and 11 kV voltage level. Total 2,319 nos. capacitor banks have been installed in KPTCL network with total capacity of 10,020 MVAR.

1.2.3.2 Inter-State Transmission Network in Karnataka

The details of existing Inter-State transmission network in Karnataka is given below:

Table 1.7: Existing ISTS Substations (MVA)

S.No.	Voltage level	Existing Inter- State transmission system (Substations) (as on December 2025)		
		No of Substations	MVA	
1	765 kV	1	765/400 kV	3000
2	400 kV	16	400/220 kV	21020
	Total	17		24020

Table 1.8: Existing ISTS Transmission Lines (ckm)

S.No	Voltage level	Existing Inter- State transmission system (Transmission Lines) (as on December 2025)	
		(ckm)	
1	765 kV	654.9	

2	400 kV	10000.85
	Total	10655.75

List of existing ISTS substations at 765 kV and 400 kV voltage level is given below:

Table 1.9: Existing ISTS sub-stations

Sl. No.	Name of Substation	Voltage Ratio (kV)	Transformation Capacity (MVA)
1.	Raichur New	765/400kV	3000
2.	Narendra New (765kV Charged at 400 kV)	400/20kV	0
3.	Madhugiri (765kV Charged at 400 kV)	400/20kV	1500
4.	Guddadahalli	400/20kV	630
5.	Narendra	400/220kV	1000
6.	Beeranahalli	400/220kV	1130
7.	Pavagada Solar Park	400/220kV	3000
8.	Shantigrama(Hasana)	440/220kV	1130
9.	Bastipura	400/220kV	1630
10.	Bidadi	400/220kV	1000
11.	Somanahally	400/220kV	1500
12.	Singanayakanahalli	400/220kV	1000
13.	Kolar (HVDC)	400/220kV	1500
14.	Kudgi (NTPC)	400/220kV	1000
15.	Kaiga (NPCIL)	400/220kV	1000
16.	Koppal PS	400/220kV	3000
17.	Gadag PS	400/220kV	1000
	Total		24020

List of existing reactors (bus reactors and line reactors) under ISTS at 765 kV and 400 kV voltage level is given below:

Table 1.10: Details of reactors under ISTS

Sl. No.	Voltage level (kV)	Bus Reactors (Nos.)	Bus Reactors (MVAR)	Line Reactors (Nos.)	Line Reactor Capacity (MVAR)
1	765 kV	6 (1-Phase)	480	9 (1-Phase)	720
2	400 kV	28 (3-Phase)	2600	25 (3-Phase)	1517
	Total		3080		2237

1.3 Constraints in Transmission System in Karnataka:

1.3.1 Constraints in Intra-State Transmission System

A. Constraints in Bengaluru:

Constraints			Remedial measure by KPTCL	Status & Time line
Sl. No	Present Constraints (Overloading of ICT/Line)	Action to be taken		
1.	220 kV Bidadi-Bidadi D/C line	1. 2 nd line of 220 kV Somanhalli – Vrishabavathyvally is required to minimise the overloading of 220 kV Bidadi-Bidadi D/C line 2. LILO of 220 kV Bidadi – Somanahalli D/C at 220 kV Vrishabavathyvally	a. New 220 kV Vrishabavathyvally switching station has been planned b. New 400/220kV s/s in Kumbalagod/Ke mpegowda Layout has been planned c. Reconductoring of 220 kV Bidadi-Bidadi D/C line with HPC Above system would relieve the constraints at Bidadi and Kumbalagod area.	a. To be tendered. SCoD: May 2028 b. Survey is under process. SCoD: May 2028 c. Estimate received SCoD: Dec 2027
2	220 kV Bidadi-Kumbalagod S/C line			
3	220 kV Kumbalagod-Vrishabavathyvally S/C line			
4	220 kV Hoody-HAL D/C line	The following lines are required to be commissioned a. Providing 220 kV 1200 sq mm UG additional cable from 220 kV Hoody to 220 kV EDC S/C b. Providing 220 kV 1200 sq mm UG additional cable from 220 kV Peenya to A - Station S/C	a. 220 kV 1200sqmm UG Cable from 400 kV Hoody to EDC sub-station is already planned. b. Establishing 2x500MVA, 400/220 kV Peenya	a. Tendering stage SCoD: May 2028 b. Work under progress SCoD: March 26
5	220 kV Hoody-EDC S/C line (UG cable)			
6	220 kV Hoody-ITPL S/C	Need additional interconnection with Dommasandra such as: ▪ 220 kV Sobha Dreams – Dommasandra S/C line ▪ 220 kV EPIP – Dommasandra S/C line	Strengthening of 220 kV Hoody-EPIP and Hoody-Sobha Dreams D/C line by replacing Drake conductor by Drake equivalent HPC is planned to reduce the loading on 220 kV Hoody- ITPL S/C.	Line survey is in progress. SCoD: May 2028
7	220 kV HSR-Koramangala S/C line	Expedite Commissioning of ▪ 220 kV Hoody – EDC	a. 220 kV EDC-Kormangala UG cable is planned.	a. Tendering stage, SCoD: Dec-2027 b. Survey of lines

		S/C UG Cable 220 kV EDC – Koramangala UG Cable Requirement 220 kV HSR – Koramangala additional line	b. Providing additional 220kV UG Cable link between 220kV HSR and Koramangala sub-stations.	under process. SCoD: May-2027
8	220 kV Devanahalli-Hardware park D/C line	Expedite Commissioning of - MC line to link 400 kV Devanahalli to Doddaballapura and Gowribidanur to KIADB (80% work completed) - Reconductoring of 220 kV Devanahalli-Doddaballapura 1&2 by HPC 220kV Devanahalli – KIADB S/C line	a. MC line to link 400/220kV Devanahalli to 220kV Doddaballapura and providing additional S/C line from 220kV Gowribidanur to 220kV KIADB. b. Reconductoring of 220 kV Devanahalli-Doddaballapura 1&2 by HPC. c. 220kV Devanahalli – KIADB S/C line	a. Work under progress, SCoD: March, 2026 b. To be Tendered SCOD: December, 2027 c. Work under progress SCoD: March, 2026
9	220 kV Hardware park- Begur D/C line	Following additional lines to be planned/expedited: 220 kV KIADB – Gowribidanur line (80% work completed) 220 kV Devanahalli-DB Pura 1&2 220 kV Devanahalli – KIADB S/C line 220 kV Devanahalli-Hoody S/C line	- MC line to link 400/220kV Devanahalli to 220kV Doddaballapura and providing additional S/C from 220kV Gowribidanur to 220kV KIADB Doddaballapura. 400/220kV Adinarayanahosahalli has been planned	a. Work under progress SCoD: March 26 b. Work under progress; c. SCoD: Sep-2027
10	220 kV Yelahanka-Yelahanka (DG) D/C line 220kV Yelahanka-Sahakari Nagar D/C line	- Expedite Commissioning of LILO of 220 kV Manyatha/HRBR – ITI/Hoody lines at 400/220 kV Devanahalli - Reconductoring of 220kV Yelahanka-	a. MC line from 400 kV Devanahalli to link Hoody-Nelamangala is planned b. Reconductoring of existing 220 kV Yelahanka -	a. Work under progress SCoD: Sept 25 b. Line survey is in progress. SCoD: May 2028

		Sahakari Nagar D/C line is required 220kV Yelahanka-Yelahanka (DG) D/C-3rd Cable is required	Sahakarinagar D/C line by HTLS conductor/Additio nal D/C link is planned	
11	220 kV Tumkur (Madhugiri) – Antharasanahalli D/C line	- Reconductoring of 220 kV Tumkur – Antharasanahalli to HTLS (min 1400 A rating) to be considered to utilize the 400/220 kV Tumkur 2x500 MVA ICTs This would also relieve Nelamangala ICT loading and Support towards Shimoga - Plan 220 kV network in and around CN Halli S/S	- Reconductoring 220 kV Tumkur (Madhugiri) – Antharasanahalli D/C line with HPC is planned. - New 765/400 kV Substation is planned under ISTS	- Agreed in this meeting. - Under Bidding SCoD: December 2028
12	220 kV Mylasandra-HSR D/C line	Re-Conductoring of 220 kV Mylasandra-HSR D/C line to HTLS may be considered	a. Reconductoring of existing 220 kV Mylasandra- HSR Layout and Mylasandra-Naganathapura lines by HPC is planned	a. Survey of lines under process. SCoD: May-2027.
13	220kV Mylasandra-Nagnathpura S/C	Re-Conductor to HTLS along-with 220kV Naganathpura – HSR S/C	b. Establishing 2X500MVA, 400/220 kV Yerandanahalli NEW S/s	b. Survey of lines under process. SCoD: Dec-2027

B. Kolar Constraints:

Constraints			Remedial measure by KPTCL	Status &Time line
Sl. No	Present Constraints (Overloading of ICT/Line)	Action to be taken		
1	220 kV Kolar (PG)-Kolar (KA) D/C line	- Re-conductoring to be expedited for 220 kV Kolar (PG) – Kolar (KA) - Commissioning of 400/220kV Dommasandra	- Strengthening of 220 kV Kolar (PG)-Kolar (KA) D/C line by HPC - Establishing 2x500MVA, 400/220 kV Dommasandra S/s - Establishing 2x500MVA, 400/220 kV Doddathagahalli S/s	- NIT issued SCoD: March 26 - Work under progress SCoD: March 26 - Approved by CEA on 17.04.2025

C. Kali Complex constraints

Constraints			Remedial measure by KPTCL	Status & Time line
Sl. No	Present Constraints (Overloading of ICT/Line)	Action to be taken		
1	400 kV /220kV Narendra ICTs	400/220kV Mekhali	a. 400/220kV Mekhali	a. NIT issued on 02.05.2025 SCoD: Mar 2028
2	220 kV Bidnal-Hubli D/C	Expedite Commissioning of 220 kV Giriyal S/S	a. Strengthening of 220 kV Bidnal-Hubli D/C Drake line to HPC. b. 220kV Giriyal switching station	a. Estimate under preparation b. DPR under preparation

D. Mysore complex constraints

Constraints			Remedial measure by KPTCL	Status & Time line
Sl. No	Present Constraints (Overloading of ICT/Line)	Action to be taken		
1	400/220kV Mysore ICTs	- Even after commissioning of 4th ICT, Mysore ICTs loading is going beyond N-1 limits. - Expedite Commissioning of: 220 kV Somanhalli – Harohalli - Kanakpura – TK Halli – 2nd circuit to be expedited 400/220 kV Kadakola S/S, Hampapura, Santhemaranhalli S/S	a. Establishing 2x500MVA, 400/220 kV Kadakola S/s b. Establishing 2x500MVA, 400/220 kV Hampapura S/s c. Establishing 2X500MVA, 400/220kv Hebbani (Santhemaranahalli) S/s	a. Work under progress, SCoD: Sept-2025 b. NIT issued on 02.05.2025, SCoD: Sep-2027. c. To be tendered, SCoD: Nov-2027
2	220 kV Mysore – Hootagalli D/C line	Reconductoring of 220 kV Mysore – Hootagalli D/C to HTLS	Strengthening 220 kV Mysore – Hootagalli D/C line to HPC	Work under progress, SCoD: March-2027

3	220 kV Mysore – Kadakola D/C line and 220 kV Hootgally – Kadakola S/C line	Establishing 400/220kV Kadakola S/S	Establishing 2X500MVA, 400/220kV Kadakola S/s	Work under progress SCoD: April 2026
4	220kV Hootgally – Vajamangala S/c line	2 nd circuit to be expedited	Conversion from SC drake to DC AAAC Moose is in progress	Work under progress, SCoD: March-2027
5	220kV Kadakola – Adakanhalli D/C	Establishing 400/220kV Santhemaranhalli S/S	Strengthening of existing 220 kV Kadakola-Begur with LILO to Adakanahalli sub-station by replacing Drake by Drake equivalent HPC	Survey of lines under process.

E. Mangalore constraints

Constraints			Remedial measure by KPTCL	Status & Time line
Sl. No	Present Constraints (Overloading of ICT/Line)	Action to be taken		
1	400/220kV UPCL ICTs and 220 kV UPCL-Kemar D/C	Expedite Commissioning of • 400/220kV Kadandale S/S and downstream. • LILO of 220 kV Kemar-MSEZ at Kadandale SS	Establishing 2x500MVA, 400/220 kV Kadandale S/s	Work under progress SCoD: Dec 25

F. North Karnataka constraints

Constraints			Remedial measure by KPTCL	Status & Time line
Sl. No	Present Constraints (Overloading of ICT/Line)	Action to be taken		
1	400/220 kV Kudgi NTPC ICTs	Expedite commissioning of 400/220 kV Yalwar S/S along-with the 220 kV downstream system	a. 400/220 kV Yalwar S/s b. 400/220 kV Mekhali S/s	a. Work under progress: SCoD: August, 2025 b. NIT issued on 02.05.2025. SCoD: March, 2028
2	220kV Almatti – Bagalkot D/C line		Strengthening of existing 220 kV Bagalkot-Alamatti D/C line by replacing Drake conductor by Drake equivalent HPC.	Survey of lines under progress. SCoD: Nov-2027.
3	220 kV Bagalkot –		Establishing 2x500	NIT issued on

	Vajramatti D/C line		MVA 400/220 kV Mekhali S/s	02.05.2025 SCoD: March 2028
4	During High wind in North Karnataka: • 400/220 kV Raichur TPS ICTs • 220 kV Gangavathy - Kusthagi S/C line • 220 kV Kusthagi - Lingasugur S/C line • 220 kV Lingasugur - RTPS D/C line • 220 kV Lingasugur - Malat D/C line	Expedite Commissioning of 400/220 kV Kushtagi S/S	a. Establishing 2x500MVA 400/220 kV Kushtagi S/s b. Strengthening of 220 kV Lingasugur-Kushtagi-Gangavathy-Lingapura lines by replacing Drake by Drake equivalent HPC.	a. Work under progress. SCoD: Dec 25 b. Line survey is in progress. SCoD: May 2028

G. Hiriyur area constraints

Constraints			Remedial measure by KPTCL	Status & Time line
Sl. No	Present Constraints (Overloading of ICT/Line)	Action to be taken		
1	Overloading of 220 kV Chitradurga-Hiriyur (Karnataka) S/C line	Connecting 220 kV Chitradurga – Hiriyur (Karnataka) through additional S/C line	Completion of connecting 220 kV Chitradurga – Hiriyur (Karnataka) through additional S/C line	Work under progress SCoD: March, 2026
2	Overloading of 220 kV Tallak-Hiriyur (PGCIL) S/C line	Connecting 220 kV Tallak – Hiriyur (PGCIL) through additional S/C line	Completion of connecting 220 kV Tallak – Hiriyur (PGCIL) through additional S/C line	Work under progress SCoD: March, 2026
3	Overloading of 220 kV Hiriyur_KA-Madhugiri S/C line	Conversion of 220 kV SC to DC from 220kV Hiriyur (KA) to Madhugiri	Conversion of existing 220kV SC to DC from 220kV Hiriyur (KA) to Madhugiri	Work under progress, SCoD: Septmber, 2026

H. Constraints in Nagjheri PH evacuation

Sl.	Present Constraints	Remedial measure by KPTCL	Status & Time line
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No	(Overloading of ICT/Line)		
1	• 220kV Nagjheri – Ambewadi DC, • 220kV Ambewadi – Narendra DC, • 220kV Kodalalli – Nagjheri D/C • 220kV Kaiga – Kodalalli SC & • 220kV Kadra –Kodalalli SC	Strengthening of existing 220kV lines emanating from Kali Generating complex from Drake conductor to Drake equivalent to HPC for a distance of 212.522 kms.	Phase- 1: Nagjheri-Hubli1,2 &3 & Nagjheri-Bidnal and Nagjheri-Ambewadi work under progress; Phase-2: Balance work to be tendered. SCoD:2026-27

I. Other Constraints

Sl. No	Present Constraints (Overloading of ICT/Line)	Remedial measure by KPTCL	Status & Time line
1	400/220 kV Guttur (2x315 MVA) ICTs	500 MVA, 400/220 kV ICT (3rd) at Guttur is being taken up.	Tender to be initiated SCoD: March 2027
2	400/220kV Jagalur (2 x 500 MVA) ICTs	500 MVA, 400/220 kV ICT (3rd) at Jagalur is being taken up.	SCoD: March 2027
3	400/220 kV Jindal (2x315 MVA) ICTs	Establishing 2X500MVA, 400/220kV at Tekkalkote is being planned.	SCoD: 2031-32
4	400/220kV Kalaburgi (2 x 500 MVA) ICTs	500 MVA, 400/220 kV ICT (3rd) at Kalaburgi is being taken up.	DPR under preparation. SCoD: 2028-29
5	400/220kV Nelamangala (3 x 500 MVA) ICTs	i. Establishing 2x500MVA, 400/220 kV at Peenya. ii. Establishing 2x500MVA, 400/220kV Sub-Station at Huliurudurga. iii. Construction of 220kV MC transmission line with AAAC Moose conductor from 400/220 kV Devanahalli Hardware park (2 Circuits) and Doddaballapura NRS S/s (2 Circuits)	Work under Progress and likely to be commissioned by December 2026.
6	400/220 kV Talaguppa (3x315 MVA) ICTs	Additional 4th 315MVA, 400/220kV ICT at Talaguppa is approved under Transmission scheme of Sharavathi Pumped Storage Plant.	Transmission scheme of Sharavathi Pumped Storage Plant is taken up under TBCB route. SCoD: 2029-30
7	400/220 kV Kaiga (2 x 500 MVA) ICTs	i. Establishing 220/110kV sub-station at Kumta in Uttara Kannada District is planned by KPTCL. ii. Additional 61 MVA load of Sea Bird project (Naval Project) is approved with 220kV DC line connectivity from 220kV Karwar sub-station.	SCoD: 2028-29

J. Lines requiring Reconductoring:

Sl. No.	Constraints	Remedial measure by KPTCL	Status & Time line
1	Overloading of 400 kV Devanahalli –Hoody Twin Moose line	Re-conductoring of 400 kV Nelamangala-Yelahanka-Devanahalli- Hoody S/C Twin Moose line with HTLS conductor	Line survey work is in progress. SCoD: May, 2028
2	Overloading of 400 kV Yelahanka-Devanahalli S/C Twin Moose		
3	Overloading of 220 kV Sedam – Tandur S/C line	Sedam-Tandur SC line re-conductoring by Drake equivalent HPC for the line in Karnataka portion	Re-conductoring of the line is being taken up with Andhra Pradesh as it is an inter-state line

K. Existing 220 kV Transmission lines which are already planned for Reconductoring (yet to be completed)

Sl. No.	Constraints	Remedial measure by KPTCL	Status & Time line
1	220kV Nelamangala – Dabaspur S/C line	220 kV Nelamangala – Dabaspur line to be reconducted with HTLS conductor	Work Award Issued SCoD: Dec-25
2	Kali Complex 220kV lines	Kali Complex 220 kV lines: re-conductoring by HPC	Work under progress SCoD: Oct 25
3	220 kV Shimoga – Bangalore 1,2,3&4 lines	220 kV Shimoga – Bangalore 1,2,3&4 lines: re-conductoring by HPC	LoI issued for survey
4	220 kV Mysore – Kadakola, 220kV Mysore – Hootgally D/C line	Mysore – Hootgally D/C line: re-conductoring by HPC	LoI issued SCoD: March 26
5	220kV Gadag – Doni D/C line	220 kV Gadag – Doni D/C line: re-conductoring by HPC	Work under progress SCoD: Dec 25

L. Issues of low voltages at Intra- State substations in Karnataka

During high electricity demand period, low voltages of the order of 380 kV is observed at 400 kV Munirabad, Doni, Hoody, Mylasandra, Jagalur, Devanahalli, Yelahanka, Nelamangla, Bidadi and Talaguppa Sub-stations. Suitable capacitor compensation needs to be provided in the downstream network. Commissioning of capacitors in the sub-transmission/distribution network is to be taken up expeditiously.

Remedial measures planned:

As per inputs furnished by KPTCL, total 2,319 nos. capacitor banks have been installed in KPTCL network with total capacity of 10,020 MVAR. The following actions are required by KPTCL for improvement of the voltage profile as well as to reduce the dependency on ISTS for MVAR drawl:

- About 1000 MVAR capacitive compensation is required to be established in the downstream network to avoid drawl of reactive power from the transmission network.
- Ensuring healthiness of available capacitors and expediting commissioning of new capacitors
- KPTCL/Discoms should ensure reactive power injection by RE generators.
- For loads, adequate reactive compensation to be ensured by Consumers/Discoms/KPTCL.
- At grid level, reactive interchange should be voltage based and billing shall be aligned. KPTCL /Discom was advised to implement a commercial mechanism for reactive interchange based on voltage. Discourage reactive drawl during low voltages and reactive injection during high voltages. The same has been envisaged in IEGC 2023.

1.3.2 Constraints in ISTS:

a) Operational constraints in 400/220 kV ICTs at Inter-State substations in Karnataka:

S. No.	ICT	Major Constraints	Remedial Solution	Status	SCoD
1	400/220 kV Bidadi (PG)	N-1 non compliance of ICTs	Augmentation with 3 rd 500 MVA ICT	Under Construction	Oct, 2026
2	400/220 kV Yelahanka (PG)	N-1 non compliance of ICTs	Augmentation with 3 rd 500 MVA ICT	Under Construction	Oct, 2026
3	400/220 kV Narendra (PG)	N-1 non compliance of ICTs	Augmentation with 3 rd 500 MVA ICT	Under Construction	Sep, 2026

b) Transmission line constraints

S. No.	Transmission line	Major Constraints	Remedial Solution	Status	SCoD
1	Raichur – Veltloor (Mahabubnagar) 400 kV S/c line	Over loading of the transmission line	Reconductoring of the line with higher capacity	Reconductoring of the line with HTLS conductor is in progress	March, 2026
2	400 kV Somanahalli – Bidadi D/c line	Over loading of the transmission line	Reconductoring of the line with higher capacity	Reconductoring of the line with HTLS conductor is in progress	June, 2026

Chapter-2

Transmission System Requirement by 2029-30

2.1 Scope of Load flow studies for preparation of Resource Adequacy of transmission system in Karnataka

2.1.1 Scope of Load flow studies:

System studies for the resource adequacy plan for Karnataka's InSTS have been carried out using PSSE Software. The studies that have been carried out include the following:

- (i) Steady state load flow studies
- (ii) Contingency Analysis
- (iii) Short Circuit Studies

The load flow studies have been carried out for two scenarios i.e. Solar peak electricity demand scenario and evening peak electricity demand Scenarios. The load flow studies have been carried out for the above scenarios for the two time frames: 2029-30 and 2034-35 with following considerations:

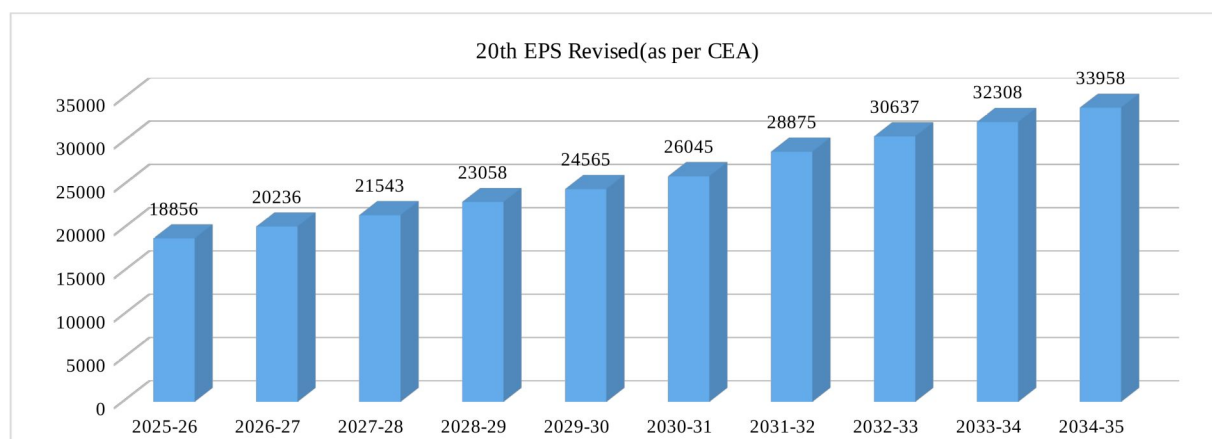
- (i) KPTCL's transmission network has been represented at 220 kV and above voltage levels, where loads have been considered incidental on 220 kV buses.
- (ii) Load power factor has been considered within ± 0.95 as per the Central Electricity Authority (Technical Standards for Connectivity to the Grid) (Amendment) Regulations, 2019.
- (iii) 'N-1' criterion has been considered as recommended in the Manual on Transmission Planning Criteria of CEA (2023).
- (iv) Transformation capacity of the substations have been considered as per the Manual on Transmission Planning Criteria of CEA (2023) as given below:
- (v) The system voltage has been considered within the following limits as per the Manual on Transmission Planning Criteria, 2023:

220 kV	Max 245 kV, Min 198 kV
400 kV	Max 420 kV, Min 380 kV
765 kV	Max 800 kV, Min 728 kV

2.2 Load Flow studies for the year 2029-30

(a) Electricity Demand by 2030:

As per revised 20th EPS, Peak demand is projected to increase to 24,565 MW by 2029-30.

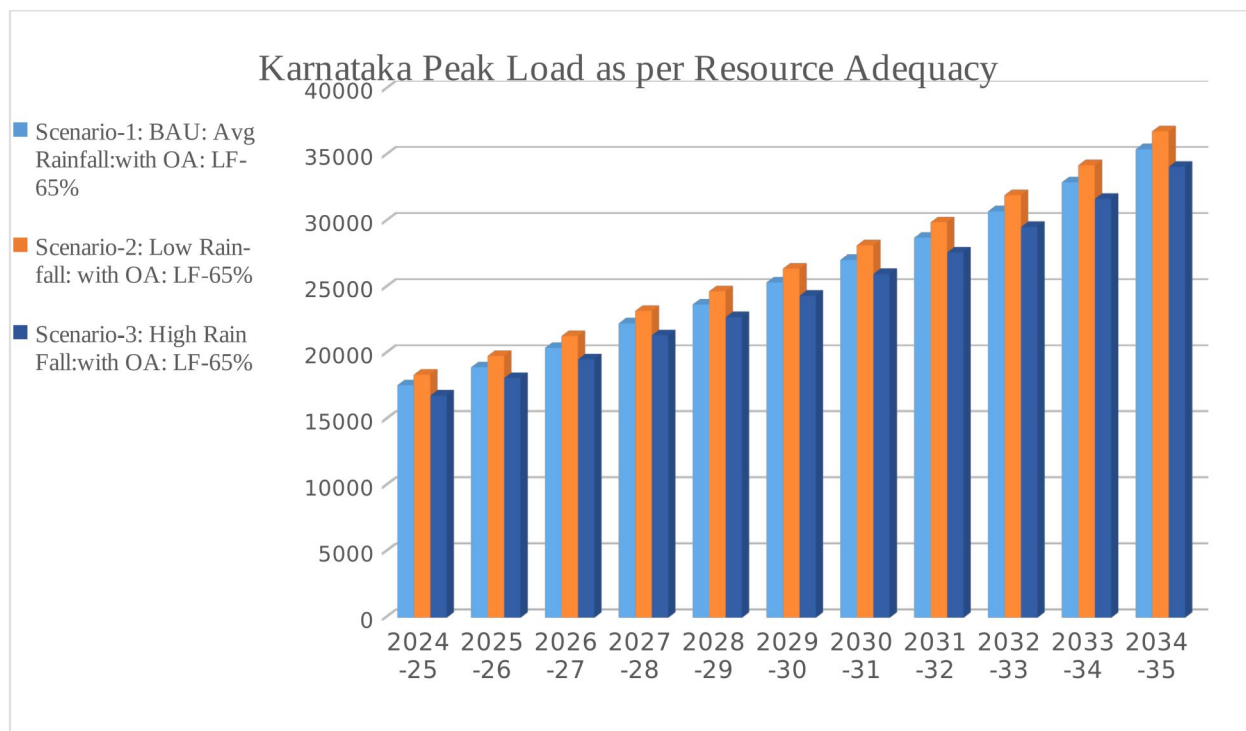


Karnataka has done the long-term demand forecasting study considering lift irrigation, solar rooftop and electric vehicles energy estimations from 2024-25 to 2034-35 for all ESCOMs and the State. However, the demand projection has not considered green hydrogen initiatives' energy and capacity requirements in the State of Karnataka. Green hydrogen manufacturing companies are believed to develop their own RE power plants or source the required generation through open access. Demand forecasting is done for following three scenarios:

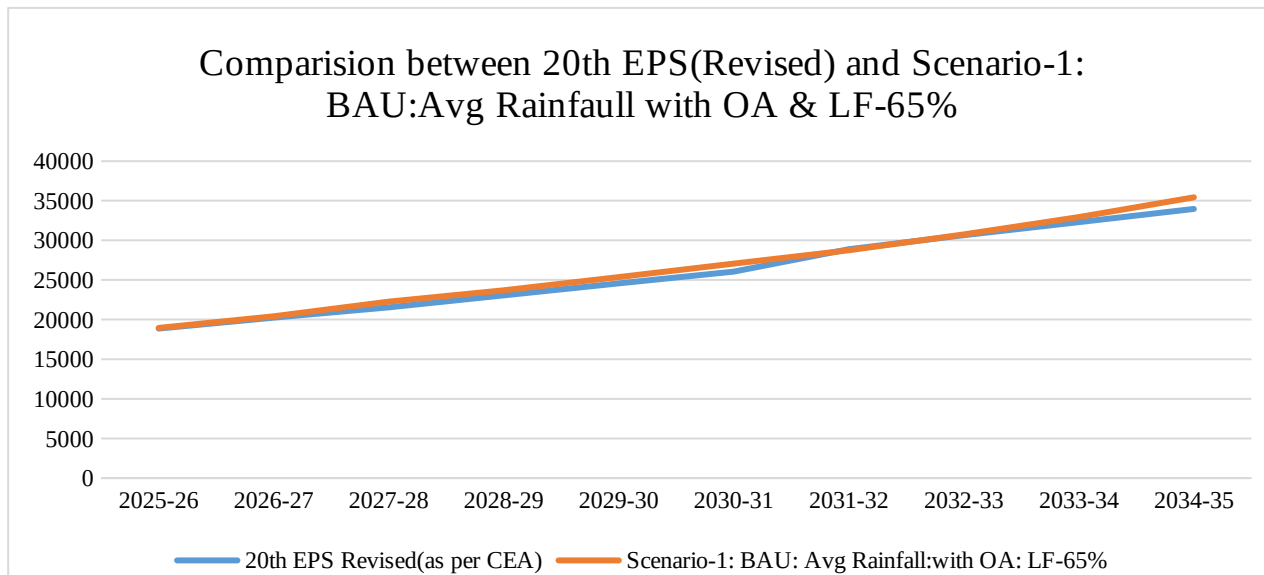
Scenario – 1: Business as Usual (BAU) – Average Rainfall with OA

Scenario – 2: Agriculture - Low Rainfall-with OA

Scenario – 3: Agriculture - High Rainfall-with OA



With the increased penetration of solar power generation, certain loads have been planned to be shifted to solar hours. Considering the shifting of loads to solar hours, peak demand is projected to increase to 22,266 MW by 2027-28 and to 25,358 MW by 2029-30. The comparison between 20th EPS estimated demand and scenario 1 demand considering average rain fall is given below:



It is observed that both the demands are almost comparable accordingly Electricity Demand of 25,358 MW is considered for 2029-30 for the study.

(b) Generation addition under Intra-State by 2030:

Karnataks has planned to connect around 19 GW RE capacity in the intra-state system, the location wise details are given below:

Table 2.1: Location-wise RE Capacity planned under intra-state system

Location	Solar (MW)	Wind (MW)	RE- Total (MW)
Kustagi New	850	900	1750
Yalwar New	1100	1000	2100
Dhoni New	800	230	1030
Lingapura New	600	500	1100
PD Kote	550	500	1050
Kottur	300	250	550
Holalkere	1000	500	1500
Ryapte	2000	0	2000
Benachagere	500	500	1000
Huliyudurga	500	0	500
Humnabad	1500	0	1500
Guttur	700	500	1200

Mekhali	500	500	1000
Jagalur	500	300	800
220 kV System	485	1450	1935
Total	11885	7130	19015

Pumped Storage Plants (PSP) to be added under Intra-State in Karnataka by 2030 is given below:

Table 2.2: PSP to be added under Intra-State

Sl. No	PSP Name	Capacity in MW/hrs
1	Sharavathi Pumped Storage	2000 MW/6 Hrs
2	Vantamuri	700 MW/8 Hrs

Substation wise details of the BESS to be added under Intra-State in Karnataka by 2030 is given below:

Table 2.3: Substation wise BESS to be added under Intra-State

Sl. No	Sub-station name	BESS (MW/MWh)
1	220/110 kV Humnabad	50 MW/100 MWh
2	220/66 kV Madhuvanahalli	50 MW/100 MWh
3	220/110 kV Mallat	50 MW/100 MWh
4	220/110 kV Shahapura	50 MW/100 MWh
5	220/110 kV Sindagi	50 MW/100 MWh
6	400/220 kV Doni	150 MW/300 MWh
7	400/220 kV Guttur	100 MW/200 MWh
8	220/110 kV Raichur	100 MW/200 MWh
9	220/110 kV M.K. Hubli	100 MW/200 MWh
10	220/110 kV Huygonahalli	100 MW/200 MWh
11	400/220 kV Doni New	150 MW/300 MWh
12	400/220 kV Kushtagi New	500 MW/1000 MWh
13	400/220 kV Yalwar New	500 MW/1000 MWh
14	400/220 kV Kottur	300 MW/600 MWh
15	400/220 kV Humnabad	250 MW/500 MWh
16	400/220 kV Ryapte	1000 MW/2000 MWh

Total	3500 MW/ 7000 MWh
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(c) Intra-State LGBR in Karnataka:

LGBR has been prepared based on the additional generation and demand for 2029-30 and the details are given below:

Table 2.4: Intra-State LGBR in Karnataka

Scenario	Total capacity considered for PSS for the 2029-30	Scenario-7		Scenario-8		Scenario-4	
Source		CUF /PLF	Gen. in MW	CUF /PLF	Gen. in MW	CUF /PLF	Gen. in MW
Solar-STU	24450	90%	22005	0%	0	80%	19560
Wind-STU	13821	10%	1382	10%	1382	75%	10366
Thermal	6590	65%	4284	90%	5931	55%	3625
Hydro	3667	70%	2567	70%	2567	70%	2567
Co-gen	1731	0%	0	0%	0	0%	0
Bio mass	139	0%	0	0%	0	0%	0
MHS	861	0%	0	0%	0	95%	818
Small Thermal	1378	0%	0	0%	0	0%	0
Railways	115	0%	0	0%	0	0%	0
BESS charging	3500	-100%	-3500	100%	3500	-100%	-3500
Pumped Storage-STATE	2700	-110%	-2970	90%	2430	-110%	-2970
	58952		23768		15810		30465
CGS Allocation	4481	100%	4481	100%	4481	55%	2465
DVC	450	90%	405	90%	405	55%	248
Pavagada Solar	2350	100%	2350	0%	0	80%	1880
	7281		7236		4886		4592
Total Gen	66233		31004		20696		35057
State Load		100%	25358	78%	19780	72%	18260

2.3 Transmission schemes to be added under Intra-State during 2025-26 to 2029-30:

Total 72,537 MVA transformation capacity is planned to be implemented during 2025-26 to 2029-30, out of which 61,515 MVA capacity is to be implemented at new substations and 11,022 MVA capacity is considered for augmentation at existing substations. Similarly, out of 17,727 ckm transmission lines, 13,054 ckm new transmission lines to be taken up for implementation and reconductoring of the existing lines is planned for 4,673 ckm.

Summary of Transformation Capacity (MVA) planned at new substations is given in Table 2.5 and details are given at **Annexure-A**.

Table 2.5: Transformation Capacity (MVA) planned at new substations

Transformation Capacity (MVA)				
Sl. No.	Voltage level	Under Construction	Planned	Total
1	765/400 kV	-	13500	13500
2	400/220 kV	7200	23815	31015
3	220/110 kV	1720	5880	7600
4	220/66 kV	2600	6800	9400
	Total	11520	49995	61515

Summary of augmentation of Transformation Capacity (MVA) at existing substations is given in Table 2.6 and details are given at **Annexure B**.

Table 2.6: Augmentation of Transformation Capacity (MVA) at existing substations

Augmentation of Transformation Capacity (MVA)				
Sl. No.	Voltage level	Under Construction	Planned	Total
1	400/220 kV	1000	1370	2370
2	220/110 kV	150	3720	3870
3	220/66 kV	500	4282	4782
	Total	1650	9372	11022

Summary of new transmission lines planned to be implemented is given in Table 2.7 and details are given at **Annexure A**.

Table 2.7: New transmission lines planned to be implemented (ckm)

Transmission line (ckm)				
Sl. No.	Voltage level	Under Construction	Planned	Total
1	765 kV	-	750	750
2	400 kV	1137	5328	6465
3	220 kV	1157	4682	5839
	Total	2294	10760	13054

Summary of of reconductoring of the existing lines planned to be implemented is given in Table 2.8 and details are given at **Annexure C**.

Table 2.8: Reconductoring of the existing lines

Voltage level (kV)	Under Construction		Planned		Total	
	No of lines	ckm	No of lines	ckm	No of lines	ckm
400	01	274	02	504	03	778
220	13	1314	31	2581	44	3895
Total	14	1588	33	3085	47	4673

Number of substations planned to be added are as given in Table 2.9.

Table 2.9: No of substations planned to be added

Voltage level	No of substations
765/400 kV	3
400/220 kV	26
220/110 kV	28
220/66 kV	34
Total	91

Reactive compensation (bus reactors and line reactors) planned during 2025-26 to 2029-30 are as given in table 2.10 and 2.11.

Table 2.10: Details of bus reactors

Voltage level (kV)	Under Construction		Planned		Total	
	No of reactor	MVAR	No of reactor	MVAR	No of reactor	MVAR
765	0	0	6	1980	6	1980
400	09	1125	28	3500	37	4625
Total	09	1125	34	5480	43	6605

Table 2.11: Details of Line Reactors

Voltage level (kV)	Under Construction		Planned		Total	
	No of reactor	MVAR	No of reactor	MVAR	No of reactor	MVAR
765	0	0	4	1320	4	1320
400	0	0	0	0	0	0
Total	0	0	4	1320	4	1320

Major transmission schemes and substations planned to be added during 2025-26 to 2029-30 are given below:

1. Major Transmission schemes for evacuation of 19 GW RE under GEC-III

- (i) Establishing 3×1500MVA, 765/400kV Station at Kushtagi New (Koppal) in Kushtagi Taluk of Koppal District
- (ii) Establishing 3x1500MVA, 765/400kV station at Hiriyur New (Chitradurga) in Hiriyur Taluk, Chitradurga district
- (iii) Establishing 4x1500MVA,765/400kV S/s at Doddaballapura in Bengaluru Rural District
- (iv) Establishing 3×500MVA, 400/220kV Station at Kushtagi New (Koppal) in Kushtagi Taluk of Koppal District
- (v) Establishing 3×500MVA, 400/220kV Station at Yalwar New in Vijayapura District
- (vi) Establishing 3X500MVA, 400/220kV sub-Station at Humnabad (Bidar) in Bidar District in the existing premises of 220 kV Humnabad.
- (vii) Establishing 3x500MVA, 400/220 sub-station at Kotturu village in Kotturu Taluk & vijayanagara district
- (viii) Establishing 3×500MVA, 400/2220kV Station at Lingapura in Koppal District
- (ix) Establishing 2x500MVA, 400/220kV Sub-station near Benchagere in Gubbi Taluk in Tumakuru District

- (x) Establishing 3x500MVA Power Transformer, 400/220kV Substation at PD Kote in Chitradurga District
- (xi) Establishing 4x500MVA Power Transformer, 400/220kV Substation at Srirampura (Near Holalkere) in Holalakere Taluk, Chitradurga District
- (xii) Establishing 2x500MVA Power Transformer, 400/220kV Substation at Bilishivalaya, Bangalore Rural District
- (xiii) Establishing 3x500MVA Power Transformer, 400/220kV Substation at Dabaspet, Tumkur District
- (xiv) Establishing 5x500MVA, 400/220kV sub-station at Ryapte in Pavagada Taluk, Tumakuru District
- (xv) Transmission scheme for 2000 MW Sharavathy Pumped Storage plant
- (xvi) Establishing 2x160 MVA, 220/110kV Kembhavi substation in Shorapura Taluk, Yadgir District

2. Major Transmission schemes for evacuation of 2.64 GW RE under GEC-II

- (i) Establishing 2 x 500 MVA, 400/220 kV Kushtagi S/s in Koppal District
- (ii) Establishing 2x100 MVA, 220/110 kV substation at Savalagi, Bagalkot District
- (iii) Establishing 2x100 MVA, 220/66 kV sub-station at P.D Kote, Chitradurga District
- (iv) Establishing 2x100 MVA, 220/110 kV sub-station at Ron, Gadag District
- (v) Establishing 2x100MVA, 220/110 kV sub-station at Santhpur in Bidar district
- (vi) Establishing 2x100 MVA, 220/66 kV sub-station at Hangal in Chitradurga district
- (vii) Establishing 2x100 MVA, 220/110 kV sub-station at Yelburga in Koppal district
- (viii) Establishing 2x500 MVA, 400/220 kV substation at Yalwar in Bijapur (Vijayapur) district
- (ix) Establishing 2x100 MVA 220/66/11 kV Bharamasagara S/s in Chitradurga district

3. Major substations planned under other Transmission schemes:

- (i) Establishing 2x500MVA 400/220kV Sub-Station at Yalwar in Vijayapura District
- (ii) Establishing 2X500 MVA 400/220kV Peenya GIS substation in Bangalore
- (iii) Establishing 2X500MVA 400/220kV Dommasandra substation in Bangalore
- (iv) Establishing 2x500MVA, 400/220kV Kadandale Sub-Station in Dakshina Kannada district
- (v) Establishing 2x500MVA 400/220kV Kadakola substation in Mysore district
- (vi) Establishing 2x500 MVA 400/220kV and 2x100MVA 220/66kV Huliurdurga substation in Bangalore
- (vii) Establishing 3x500MVA, 400/220 kV GIS station at Doddathagalli sub-station in Kolar district
- (viii) Establishing 2x500MVA, 400/220kV S/s at Devanahalli (Adinarayana hosahalli) in Bangalore rural district
- (ix) Establishing 2 X 500 MVA , 400/220 kV sub-station at Hampapura in Mandya taluk and Madya District.
- (x) Establishing 2x500 MVA, 400/220kV sub-Station at Hebbani in Mandya District
- (xi) Establishing 2x500 MVA 400/220kV sub-station at Mekhali in RaibagTaluk, Belagavi District.

2.4 Transmission schemes to be added under Inter-State during 2025-26 to 2029-30:

Summary of the transmission schemes to be added under Inter-State (ISTS) during 2025-26 to 2029-30 is given below in Table 2.12, 2.13, 2.14 and 2.15. Details of the same are given at Annexure D.

Table 2.12: Transformation Capacity (MVA) to be added under inter-state

S. No.	Voltage level	Under Construction	Planned	Total
1	765/400 kV	48000	15000	63000
2	400/220 kV	33000	12000	45000
Total		81000	27000	108000

Table 2.13: Transmission lines (ckm) to be added under inter-state

S. No.	Voltage level	Under Construction	Planned	Total
1	765 kV	3261	260	3521
2	400 kV	1248	360	1608
Total		4509	620	5129

Table 2.14: Bus Reactors planned under inter-state

Voltage level (kV)	Under Construction		Planned		Total	
	No of reactor	MVAR	No of reactor	MVAR	No of reactor	MVAR
765	12	3960	2	660	14	4620
400	10	1250	2	250	12	3000
Total	22	5210	4	910	24	7620

Table 2.15: Line Reactors planned under inter-state

Voltage level (kV)	Reactor rating (MVar)	Under Construction		Planned		Total	
		No of	MVAR	No of	MVAR	No of	MVAR

		reactor		reactor		reactor	
765	330	10	3300	2	660	26	6960
	240	12	2880	0	0	12	2880
400	125	0	0	0	0	0	0
Total		22	6180	2	660	38	9840

Major transmission schemes and substations planned to be added during 2025-26 to 2029-30 are given below:

1. ISTS Network Expansion scheme in Western Region & Southern Region for export of surplus power during high RE scenario in Southern Region

- (i) Narendra New (GIS) – Pune (GIS) 765kV D/c line with 1x330MVAr switchable line reactor on each ckt at both ends (318 km)
- (ii) Upgradation of Narendra (New) (GIS) to its rated voltage of 765 kV level along with 4x1500 MVA transformer and 2x330 MVAr Bus Reactor

2. Transmission Scheme for integration of Renewable Energy Zone (Phase-II) in Koppal-II (Phase-A) and Gadag-II (Phase- A) in Karnataka

- (i) Establishment of 765/400 kV 2x1500 MVA, 400/220 kV, 2x500 MVA Koppal-II PS
- (ii) Koppal-II PS – Narendra (New) 765 kV D/c line with 240 MVAr SLR at Koppal-II PS end (120 km)
- (iii) 2x330 MVAr (765 kV) & 2x125 MVAr (400 kV) bus reactors at Koppal-II PS
- (iv) Establishment of 400/220 kV, 2x500 MVA Gadag-II PS
- (v) Gadag-II PS – Koppal-II PS 400 kV (Quad Moose) D/c line (46 km)
- (vi) 2x125 MVAr 420kV bus reactors at Gadag-II PS

3. Transmission Scheme for integration of Renewable Energy Zone (Phase-II) in Koppal-II (Phase-B)

- (i) Koppal-II PS – Raichur 765 kV D/c line with 330 MVAr SLR at Koppal-II PS end (145 km)
- (ii) Augmentation by 2x1500 MVA, 765/400 kV ICTs at Koppal-II PS
- (iii) Augmentation by 2x500 MVA, 400/220 kV ICTs at Koppal-II PS

4. Transmission Scheme for integration of Davanagere / Chitradurga REZ

- (i) Establishment of 765/400kV 4x1500 MVA, 400/220kV 4x500 MVA Pooling Station near Davanagere / Chitradurga, Karnataka with provision of two (2) sections of 4500 MVA each at 400kV level and provision of four (4) sections of 2500 MVA each at 220kV level
- (ii) LILO of Narendra New – Madhugiri 765kV D/c line at Davanagere / Chitradurga 765/400kV PS (~40 km) {with 240 MVAR SLR at both ends on Narendra New – Davanagere section (~280 km) and 330 MVAR SLR at Davanagere end on Davanagere – Madhugiri section (~200 km)}
- (iii) 2x330 MVAR (765kV) bus reactors at Davanagere/ Chitradurga PS
- (iv) Upgradation of Narendra New – Madhugiri 765kV D/c line (presently charged at 400kV level) at its rated 765kV voltage level
- (v) Upgradation of Madhugiri {Tumkur(Vasantnarsapura)} to its rated voltage of 765kV level alongwith 3x1500 MVA, 765/400kV ICTs and 2x330 MVAR, 765kV bus reactors

5. Transmission System for integration of additional RE capacity at Tumkur-II REZ (2.7 GW)

- (i) Augmentation of Tumkur-II PS by 400/220 kV, 6x500 MVA ICTs (5th to 10th)
- (ii) Tumkur-II – Madhugiri 400 kV (Quad) D/c line (100 km)
- (iii) $\pm$ 300 MVAR STATCOM at Tumkur-II PS with switching arrangement of under implementation 2x125 MVAR bus reactors

6. Transmission system strengthening for integration of additional RE potential at Davanagere (0.25 GW) and Bellary (2.75 GW)

- (i) Augmentation of transformation capacity by 2x1500 MVA, 765/400kV ICTs (6th & 7th) at Davanagere PS
- (ii) 4 Nos. of 220kV line bays and 1 no. of 400kV line bay at Davanagere PS for termination of dedicated transmission lines of RE generation projects.
- (iii) Augmentation of Bellary PS by 400/220kV, 6x500 MVA ICTs
- (iv) Bellary – Davanagere 2nd 400kV (Quad) D/c line (~ 80 km)
- (v) 5 nos. of 220kV line bays at Bellary PS for termination of dedicated transmission lines of RE developers

7. Transmission System for integration of Ananthapur-II REZ - Phase-II (3 GW)

- (i) Augmentation of Anantapur-II PS by 765/400kV, 2x1500 MVA and 400/220 kV, 7x500 MVA ICTs

- (ii) Establishment of 3x1500 MVA, 765/400 kV CN'Halli Station with 2x330 MVar (765 kV) bus reactors
- (iii) Ananthapuram-II PS – CN'Halli 765kV D/c line with (about 180 km) with 330 MVAR SLR at Ananthapuram-II end on both circuits
- (iv) LILO of one circuit of Talaguppa-Neelmangala 400 kV D/c line at CN'Halli (25 KM)
- (v) LILO at CN'Halli of already LILOed section of one circuit of Talaguppa - Neelmangala 400 kV line at Hassan (25 KM)

2.5 Short Circuit Studies:

As per the short circuit studies, fault level at various substations in Karnataka are either near or higher than the designed limits. List of substations with higher fault level is given below:

Table 2.16: List of Intra-State substations with higher fault level

Substation	Voltage Level (kV)	Fault Level (A)
Raichur	400	57253.9
Hoody	400	56378.8
Nelamangala	400	69558.8
Devanahalli	400	59419.3
CN Halli	400	57844
Doddabalapura	400	72180.9
Bilishivalaya	400	60618.6
Somanahalli	220	75570.1
Raichur	220	42486.1
Guttur	220	46503.1
Hoody	220	87011.6
Nelamangala	220	85648.9
Mylasandra	220	74747.4
Dodabalapura	220	40607.4
Itpl	220	51297.8
Hebbal	220	58077.9
Hootagalli	220	41238.4
Hootagali-Mhs	220	90118.2
Kadkola-Cogen	220	88174.7
Kadkola-Mhs	220	41408.5
Shimoga-Captive	220	58311.6
Shimoga-MHS	220	42406.7
Peenya 400/220 kV	220	62160.8
Sahakarinaragar	220	63475.1
Mathikere	220	49445.1
Keonics City	220	41910.3

Substation	Voltage Level (kV)	Fault Level (A)
Keonics CTT1	220	87713.1
Keonics CTT2	220	78513.6
Keonics CTT3	220	55974.2
Keonics CTT4	220	58381.9
Hoody_Spt	220	65701.2
Pavgada Solar Park	220	42283.1
Devanhalli	220	49234.8
Devanahalli_Tap	220	58116
Hebbaltap	220	50792.3
Jagalur_Wind	220	77377.7
Sobha Dreams	220	55978.5
Nagarbhavi	220	46123.1
Subramanyapura Switching Station	220	64068.2
Banashankari 3rd Stage	220	40536.6
Vrishabavathi Valley Switching Station	220	40564.6
Kadugodi	220	41262.7
Devangundi	220	41272.2
Banashankari 6th Stage	220	40789.7
Banashankari CTT	220	40896.3
Doddathagalli	220	82638.8
Hoskote New	220	81952.7
Soldevanahalli	220	86002.5

Table 2.17: List of ISTS substations with higher fault level

Substation	Voltage Level (kV)	Fault Level (kA)
Madhugiri	400	63.4
Tumkur	400	58.3
Bidadi	400	57.2
Raichur	400	56.2

Considering the high fault levels, it is recommended to implement remedial measures such as bus splitting and implementation of series reactors. As a long-term solution, it is recommended to replace the existing equipment with the higher rating equipment. It is also recommended that all new substations should be planned with higher short circuit capacity, i.e. 80 kA for 400 kV and 63 kA for 220 kV as per the CEA Manual on Transmission Planning Criteria, 2023 which is given below:

“The maximum short-circuit level on any new substation bus should not exceed 80% of the rated short circuit capacity of the substation equipment. The 20% margin is intended to take care of the increase in short-circuit levels as the system grows. The rated breaking current capability of switchgear at different voltage levels may be taken as given below:

Voltage Level	Rated Breaking Capacity
765 kV	50 kA / 63 kA
400 kV	63 kA / 80 kA
220 kV	40 kA / 50 kA / 63 kA
132 kV	25 kA / 31.5 kA / 40 kA
66 kV	31.5 kA

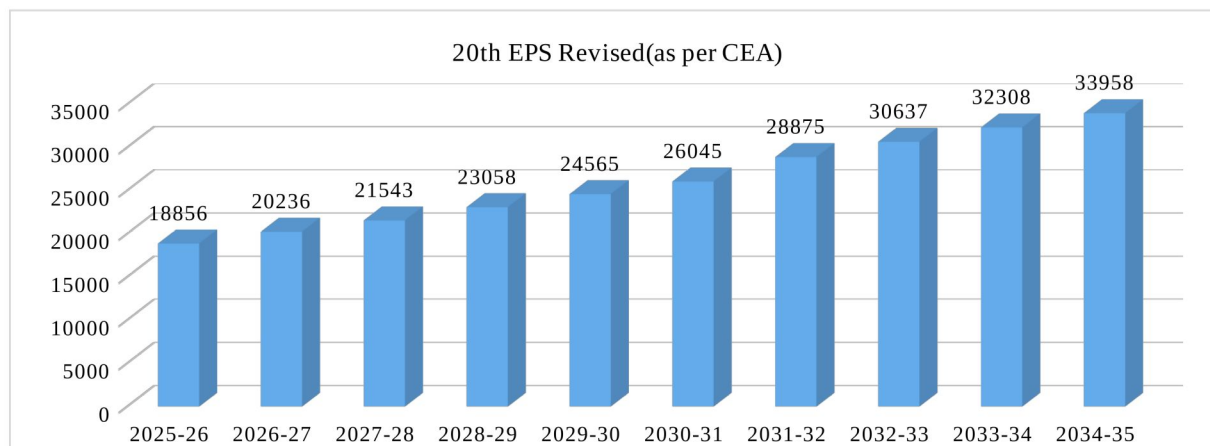
Chapter-3

Transmission System Requirement by 2034-35

3.1 Load Flow Studies for the year 2034-35:

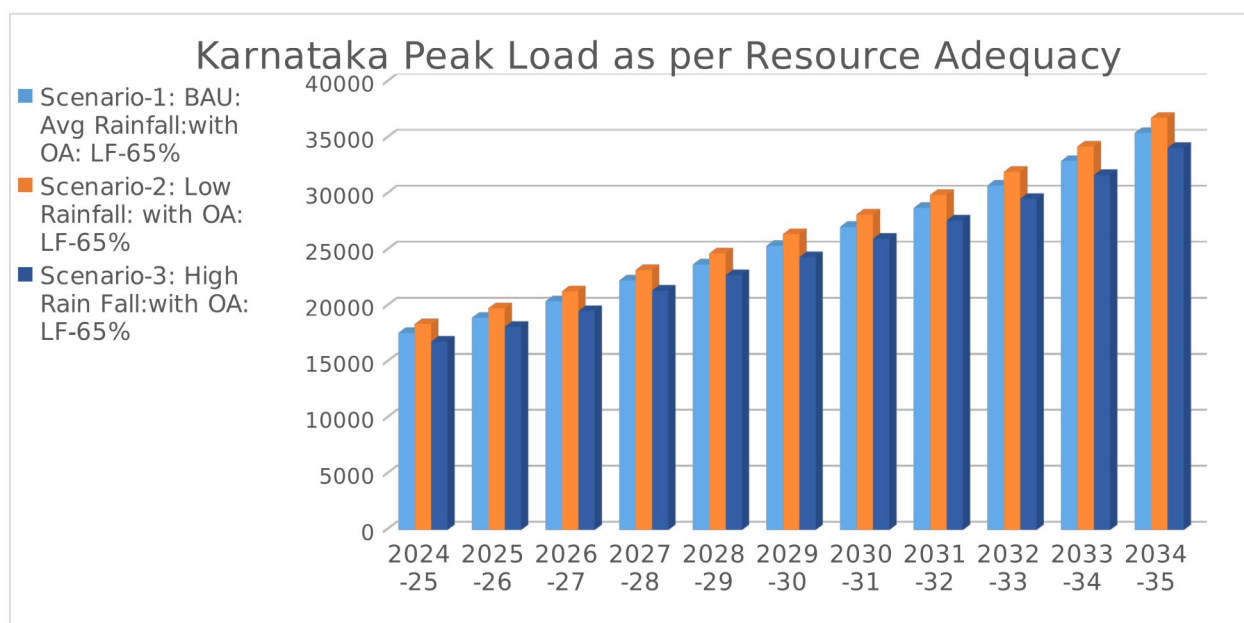
3.1.1 Electricity Demand in Karnataka by 2034-35:

As per revised 20th EPS, peak demand is projected to increase to 33,958 MW by 2034-35.

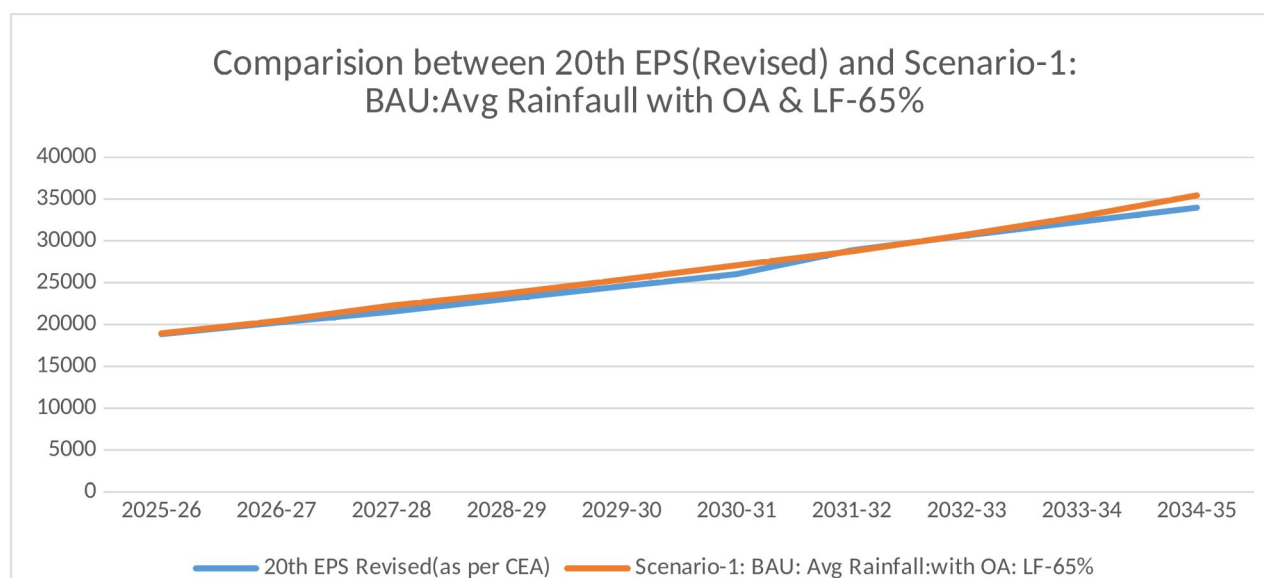


Karnataka has done the long-term demand forecasting study considering lift irrigation, solar rooftop, and electric vehicles energy estimations from 2024-25 to 2034-35 for all ESCOMs and the State. However, the demand projection has not considered green hydrogen initiatives' energy and capacity requirements in the State of Karnataka. Green hydrogen manufacturing companies are believed to develop their own RE power plants or source the required generation through open access. Demand forecasting is done for following three scenarios:

- Scenario – 1: Business as Usual (BAU) – Average Rainfall with OA
- Scenario – 2: Agriculture - Low Rainfall-with OA
- Scenario – 3: Agriculture - High Rainfall-with OA



With the increased penetration of solar power generation, certain loads have been shifted during solar hours. Considering the shifting of loads to solar hour, Peak demand is projected to increase to 35434 MW by 2034-35. Comparison between the 20th EPS and Scenario 1 with average rain fall is given below:



The estimated demand with average rain fall is almost matching with 20th EPS estimates accordingly the peak demand of 35,434 MW is considered for 2034-35.

3.1.2 Generation addition under Intra-State during 2030-31 to 2034-35:

Table 3.1: Generation addition under Intra-State

S.No.	Type	Capacity GW)	Remarks
-------	------	--------------	---------

1.	Wind	4.5	
2.	Solar	4.189	
3.	PSP	1.5	1500 MW Varahi
4.	BESS	2.25	

Substation wise details of major solar and wind generation planned to be added under Intra-State in Karnataka during 2030-35 is given below:

Table 3.2: Substation-wise major solar and wind generation planned to be added under Intra-State

Sl No	Location	Solar (MW)	Wind (MW)	Status
1	400 kV Kottur	1100	1000	Planned
2	400 kV Benachagere	500	500	Planned
3	400 kV Holalakere	500	500	Planned
4	400 kV PD Kote	500	500	Planned
5	400 kV Kushtagi New	500	500	Planned
6	400 kV Yalawar New	589	500	Planned
7	400 kV Doni New	0	500	Planned
8	400 kV Lingapura New	0	500	Planned
9	400 kV Ryapte	500	0	Planned
Total		4189	4500	

Substation wise details of the BESS planned to be added under Intra-State in Karnataka during 2030-31 to 2034-35 is given below:

Table 3.3: Substation-wise BESS planned to be added under Intra-State

Sl No	Location	BESS (MW)	Status
1	400 kV Kottur	500	Planned
2	400 kV Benachagere	250	Planned
3	400 kV Holalakere	250	Planned
4	400 kV PD Kote	250	Planned
5	400 kV Kushtagi New	250	Planned
6	400 kV Yalawar New	250	Planned
7	400 kV Doni New	250	Planned

8	400 kV Lingapura New	250	Planned
Total		2250	

Based on the above inputs, Load-generation balance (LGB) of the Karnataka for 2034-35 is given below:

Table 3.4: Load-generation balance (LGB) of the Karnataka for 2034-35

2034-35									
Scenario:	Total capacity considered for PSS for the 2029-30	Additions considered	Total capacity considered for PSS for the 2034-35	Scenario-7		Scenario-8		Scenario-4	
Source				CUF /PLF	Gen. in MW	CUF /PLF	Gen. in MW	CUF /PLF	Gen. in MW
Solar-STU	24450	4189	28639	90%	25775	0%	0	80%	22911
Wind-STU	13821	4500	18321	10%	1832	20%	3664	75%	13741
Thermal	6590	0	6590	65%	4284	90%	5931	55%	3625
Hydro	3667	0	3667	70%	2567	70%	2567	70%	2567
Co-gen	1731	0	1731	0%	0	0%	0	0%	0
Bio mass	139	0	139	0%	0	0%	0	0%	0
MHS	861	0	861	0%	0	0%	0	95%	818
Small Thermal	1378	0	1378	0%	0	0%	0	0%	0
Railways	115	0	115	0%	0	0%	0	0%	0
BESS charging	3500	2250	5750	-100%	-5750	100%	5750	-100%	-5750
Pumped Storage-STATE	2700	1500	4200	-110%	-4620	100%	4200	-110%	-4620
	58952	12439	71391		24088		22112		33291
CGS Allocation	4481	1226	5707	100%	5707	100%	5707	55%	3139
DVC	450	300	750	90%	675	90%	675	55%	413
Pavagada Solar	2350	0	2350	100%	2350	0%	0	80%	1880
	7281	1526	8807		8732		6382		5431
Total	66233	13965	80198		32820		28494		38723
State Load				100%	35434	78%	27639	72%	25512
Surplus					-2614		856		13210

Note: In Addition to the above capacity, as per CEA's Generation RAP of Karnataka, 4380 MW from Thermal, 906 MW from Hydro (Firm capacity) and 5800 MW from PSP to be contracted by 2034-35.

3.2 Transmission system planned to be added under Intra-State during 2030-31 to 2034-35

Summary of the transmission system planned to be added under Intra-State during 2030-35 are given in Table 3.5, 3.6, 3.7 and 3.8. Details are given at **Annexure E**.

Table 3.5: Transformation Capacity (MVA)

S. No.	Voltage level	Total
1	765/400 kV	9000
2	400/220 kV	11815
3	220/110 kV & 220/66 kV	1140
Total		21955

Table 3.6: Transformation Lines (ckm)

S. No.	Voltage level	ckm
1	765 kV	750
2	400 kV	601
3	220 kV	480
Total		1831

Table 3.7: No of substations to be added

Voltage level	No of substations
400 kV	4
220 kV	4
Total	8

Table 3.8: Details of Reactors planned

Voltage level (kV)	Bus Reactors		Line Reactor	
	No of reactor	MVAR	No of reactor	MVAR
765	3	990	4	1320
400	6	750	0	0

Major transmission schemes and substations planned to be added during 2030-31 to 2034-35 are given below:

1. 765 kV Kushtagi - Hiriur D/C line for evacuation of RE power
2. 765 kV Hiriur- Doddaballapura D/C line for evacuation of RE power
3. Major substations planned under other Transmission schemes:

- (i) 2x500 MVA, 400/220 kV Sub-station at Lokapur in Mudhol Taluka, Bagalkote District
- (ii) 5x500 MVA, 400/220 kV Sub-Station at Mallat in Raichur district
- (iii) 2x500 MVA, 400/220 kV Sub-Station at Bhadravathi, Bhadravathi Taluk, Shivamogga District.
- (iv) 3x500MVA, 400/220kV Substation at Tekkalkote, Ballari District

3.3 Transmission schemes to be added under Inter-State (ISTS) during 2030-35:

Summary of Transmission schemes to be added under Inter-State (ISTS) during 2030-35 is given in Table 3.9, 3.10, 3.11 and 3.12. Details are given at **Annexure F**.

Table 3.9: Transformation Capacity (MVA)

S.No	Voltage level	Under Construction	Planned	Total
1	765/400 kV	-	7500	7500
2	400/220 kV	-	2500	2500
	Total	-	10000	10000

Table 3.10: Transmission Lines (ckm)

S.No	Voltage level	Under Construction	Planned	Total
1	765 kV	-	1060	1060
2	400 kV	-	980	980
	Total	15079	2040	2040

Table 3.11: Bus Reactors

Voltage level (kV)	Reactor rating (MVA)	Under Planning	
		No of reactor	MVAR
765	330	3	990
	240	1	240
400	125	2	250
Total	-	6	1480

Table 3.12: Line Reactors

Voltage level (kV)	Reactor rating (MVAR)	Under Planning	
		No of reactor	MVAR
765	240	8	1920
Total	-	8	1920

Major transmission schemes and substations planned to be added during 2030-31 to 2034-35 are given below:

1. Transmission System for supply of power to Green Hydrogen/ Green Ammonia manufacturing hub at Mangalore (2250 MW)

- (i) Establishment of 765/400 kV, 3x1500 MVA S/s near Mangalore with 2x330 MVAR (765 kV) & 2x125MVAR (420 kV) bus reactors
- (ii) Davanagere / Chitradurga - Mangalore 765 kV D/c line with 240 MVAR line reactor on each circuit at each end
- (iii) C. N. Halli - Mangalore 400 kV D/C line

2. Transmission System for integration of Bijapur REZ (2.5 GW Wind)

- (i) Augmentation of Bijapur PS by 5x500 MVA, 400/220 kV ICTs
- (ii) Bijapur PS – Raichur New 400 kV (Quad ACSR moose) (2nd) D/c line

3. Transmission system for integration of Ananthapuram -III REZ Phase-II

- (i) Establishment of 2x1500 MVA, 765/400 kV GIS substation near Malur with 1x240 MVAR (765 kV) bus reactor with space provision for establishment of 220 kV switchyard at Malur
- (ii) Ananthapuram-III – Malur 765kV D/c line with 240 MVAR SLR (convertible) at both ends on both circuits
- (iii) $\pm$ 300 MVAR STATCOM at Malur
- (iv) Malur – Somanahalli 400 kV (Quad) D/c line [utilization of existing RoW of Gooty – Somanahalli 400kV S/c line and conversion of part S/c towers as M/c towers]
- (v) Malur – Hosur 400 kV (Quad) D/c line
- (vi) Malur – Dommasandra 400 kV (quad) S/c line
- (vii) Malur – Yarandahalli 400 kV D/c (Quad) line or Somanahalli – Yarandahalli 400 kV S/c line or Hosur – Yarandahalli 400 kV (Quad) D/c line

Chapter-4

Transmission Plan for Renewable Energy Generation Plants in Karnataka

4.1 Introduction:

Karnataka is blessed with a number of renewable energy (RE) sources due to its geographical location, climate, and other natural factors. State receives abundant sunlight throughout the year, which makes it an ideal location for solar power generation. The state has a long coastline of about 343 km which makes it a favorable location for wind power generation. Overall, Karnataka's favorable climate and natural resources have enabled it to become one of the leading states in India in terms of renewable energy.

As of January, 2026, around 26 GW Renewable Energy capacity (including large Hydro) has been installed in Karnataka. Transmission system for integration of over 50 GW of RE (Solar and Wind) capacity has been planned to be integrated by 2034-35 which are under various stages of implementation. Karnataka was ranked No. 1 in wind energy capacity addition in 2024-25 with 1.3 GW. Share of Renewable energy in the total power capacity in the State is 68.84%. Karnataka is one of the top five States in the Renewable Energy Capacity in the country.

4.2 Status of transmission system under Intra-State for major REZ in Karnataka

Table 4.1: Transmission system under intra-state for major REZ (including schemes under GEC)

District Name	Belgaum	Bidar	Bijapur	Chitradurga	Davangere	Gadag	Koppal	Tumkur	Vijayanagara	Total (MW)
Solar										
Commissioned (MW)	133	624	440	1020	45	248	211	227	421	3369
Under implementation (MW)	164	56	167	585	123	376	215	250	80	2016
Planned (MW)	500	1500	1100	2050	700	800	1450	3000	300	11400
Total Solar (MW)	797	2180	1707	3655	868	1424	1876	3477	801	16785
Wind										
Commissioned (MW)	235	120	1054	835	480	492	373	34	423	4046
Under implementation (MW)	143		241	36	230	395	96		117	1258
Planned (MW)	1500		1000	1300	500	230	1400	500	250	6680
Total Wind	1878	120	2295	2171	1210	1117	1869	534	790	1198

(MW)										4
Grand Total (MW)	2675	2300	4002	5826	2078	2541	3745	4011	1591	28769

Status of Intra-State transmissions schemes planned under Green Energy Corridor (GEC) scheme is as given below:

Table 4.2: Intra-state transmission system planned under GEC

Scheme	RE (GW)	ckm	MVA	Status
GEC-I	4.5	618	2702	Commissioned
GEC-II	2.64	938	1225	Under implementation
GEC-III	19.01	8,306	35,305	Planned

4.3 Status of transmission system under Inter-state for major REZ in Karnataka

Table 4.3: Transmission system under inter-state for major REZ

RE Zones	Tumkur (GW)	Koppal (GW)	Gadag (GW)	Davanagere (GW)	Bellary (GW)	Bijapur (GW)	Bidar (GW)	Total (GW)
Commissioned (GW)	0	2.5	1	0	0	0	0	3.5
Under implementation (GW)	1.5	2	1	4	1.5	2	2.5	14.5
Under Bidding (GW)	2.7	0	0	0.25	2.75	0	0	5.7
Under Planning / To be planned (GW)	0	0	0	0	0	0	0	0
Total (GW)	4.2	4.5	2	4.25	4.25	2	2.5	23.7

4.4 Challenges in RE integration and planning of STATCOMs

India has set an ambitious target of 500 GW of non-fossil fuel-based Installed capacity by the year 2030. Going forward, the RE share in All India Installed Capacity will increase significantly in comparison to that of conventional generators. This transition is expected to have limitations of providing Short Circuit Power & Dynamic Reactive Power and may also introduce harmonics in the power system. Power System Inertia, Short Circuit Power and Dynamic Reactive Power, which are the key elements of grid stability have inherently been

provided by the conventional generators. Therefore, the increase in renewable energy sources coupled with the withdrawal of conventional energy-based plants will pose considerable challenges for grid stability in future.

Karnataka has a huge potential of Renewable energy. As mentioned above, transmission system for integration of over 50 GW of RE has already been planned which are under various stages of implementation. In view of the various challenges with integration of RE, STATCOMs have been planned in Karnataka for dynamic reactive compensation, details of which are given below:

Table 4.4: STATCOMs planned under InSTS

S.No.	Substation	Statcom	MSC/MSR	Status
1	Kushtagi New	+/- 300 MVAR, 400 kV	2x125 MVAR MSC & 1x125 MVAR MSR	Planned under GEC-III
2	Doddaballapura	+/- 300 MVAR, 400 kV	2x125 MVAR MSC & 1x125 MVAR MSR	Planned under GEC-III

Table 4.5: STATCOMs planned under ISTS

S.No	Substation	Statcom	MSC/MSR	Status
1	Tumkur-II	$\pm$ 300 MVAR, 400 kV	2x125 MVAR MSC, 1x125 MVAR MSR	Planned
2	Malur	$\pm$ 300 MVAR, 400 kV	2x125 MVAR MSC, 1x125 MVAR MSR	Planned

Chapter-5

Recommendations

1. In view of the huge integration of RE under Intra-State, KPTCL needs to implement adequate quantum of BESS so as to avoid curtailment of the solar power.
2. All the planned transmission network should be timely implemented. In the past, it has been observed that many of the planned intra-state transmission schemes in Karnataka have been delayed, causing the constraints in the transmission system. Tendering and award of the transmission elements should also be expedited.
3. KPTCL needs to ensure timely implementation of the planned dynamic reactive compensation i.e. STATCOMs.
4. In view of the low voltages experienced at various Intra-state substations and to reduce higher MVAR drawl from ISTS, KPTCL needs to implement capacitors as highlighted in the report and also ensure the healthiness of available capacitors.
5. As per the short circuit studies, it has been observed that the fault level at various substations is either near or higher than the designed limits. Therefore, bus splitting arrangement/ implementation of series reactors have been proposed at these substations. It is also suggested to replace the equipment with the higher rating equipment so as to restore the bus split arrangement and enhance the reliability of power supply. Considering the high fault levels in Karnataka, it is recommended that all new substations should be planned with higher short circuit capacity as per the manual on Transmission Planning Criteria.
6. KPTCL should keep adequate space provision in the new substations for extension/augmentation to integrate additional RE and to meet future load growth. Also, KPTCL should provide appropriate space provisions for 66 kV and 33 kV bays in their 220/66 kV and 220/33 kV grid substations for supply of power to DISCOMs.
7. Transmission schemes which are planned/under planning for implementation till 2029-30 and 2034-35, may be taken up earlier or later as per requirement of Discom, actual load growth,

integration of RE etc. Accordingly, the Resource Adequacy study for transmission system in the state may be reviewed in the coming years.

Annexure A**Transmission schemes to be added in Karnataka under Intra-State during 2025-26 to 2029-30**

Sl. No.	Transmission Scheme/Details	Voltage (kV)	Line Length (in ckm)	Total MVA	Status (Under Construction/ Planned)	Anticipated SCoD
1	Establishing 765/400 kV Kushtagi REZ pooling station in Koppal District 1. 765 kV DC Hexa Bersimis line from Kushtagi to 765/400 kV Hiriyur New sub-station. 2. 3x1500 MVA, 400/220 KV Power transformers at Kushtagi New. 3. 2x330MVAR, 765 kV bus reactors at Kushtagi New. 4. 1x330 MVA SLR at Kushtagi PS/Hiriyur end on both circuits. 5. STATCOM (±300 MVA) along with 2x125 MVA MSC & 1x125 MVA MSR and associated bays	765/400		4500	Planned	2029-30
		765	460		Planned	2029-30
2	Establishing 400/220kV Kushtagi New REZ station in Koppal District 1. 400 kV DC Quad moose line from 400/220 kV Kushtagi New sub-station to 765/400 kV Kushtagi sub-station. 2. 3X500 MVA, 400/220 KV Power transformers at Kushtagi New. 3. 2X125MVAR, 400kV bus reactor at Kushtagi New.	400/220		1500	Planned	2029-30
		400	100		Planned	2029-30
3	Establishing 400/220kV Yalwar New REZ station in Vijayapura District 1) 400 kV DC Quad moose line from prop. 765/400 kV Kushtagi sub-station. 2) 2X125MVAR, 400kV bus reactor at Yalwar New. 3) 4X500 MVA, 400/220 KV Power transformer.	400/220		2000	Planned	2029-30
		400	200		Planned	2029-30
4	Establishing 400/220kV Lingapur New REZ station in Raichur District 1) 400 kV DC Quad moose line from prop. 765/400 kV Kushtagi sub-station. 2) 2X125MVAR, 400kV bus reactor at Lingapura. 3) 3X500 MVA, 400/220 KV Power transformer.	400/220		1500	Planned	2029-30
		400	60		Planned	2029-30
5	Establishing 400/220kV Dhoni New REZ station in Gadag District 1) 400 kV DC Quad moose line from prop. 765/400 kV Kushtagi sub-station. 2) 2X125MVAR, 400kV bus reactor at Dhoni New. 3) 2X500 MVA, 400/220 KV Power transformer.	400/220		1000	Planned	2029-30
		400	160		Planned	2029-30
6	Establishing 765/400kV Hiriyur REZ pooling station in Chitradurga District 1. 765 kV DC Hexa Bersimis line from prop. 765/400 kV Doddaballapura sub-station. 2. 3X1500 MVA, 765/400 KV Power transformers at Hiriyur. 3. 2X330MVAR, 765kV bus reactors at Hiriyur New.	765/400		4500	Planned	2029-30
		765	290		Planned	2029-30

	4. 1x330 MVA SLR at Hiriyur/Doddaballapura end on both circuits.	400	300		Planned	2029-30
7	Establishing 400/220kV Kottur REZ station in Vijayanagara District 1. 400 kV DC Quad moose line from prop. 765/400 kV Hiriyur New sub-station. 2. 3X500 MVA, 400/220 KV Power transformers at Kottur. 3. 2X125MVAR, 400kV bus reactor at Kottur.	400/220		1500	Planned	2029-30
		400	240		Planned	2029-30
8	Establishing 400/220kV PD Kote REZ station in Chitradurga District 1) 400 kV DC Quad moose line from prop. 765/400 kV Hiriyur New sub-station. 2) 2X125MVAR, 400kV bus reactor at PD Kote. 3) 2X500 MVA, 400/220 KV Power transformer.	400/220		1000	Planned	2029-30
		400	100		Planned	2029-30
9	Establishing 400/220kV Holalkere(Srirampura) REZ station in Chitradurga District . 1) 400 kV DC Quad moose line from prop. 765/400 kV Hiriyur New sub-station. 2) 400 kV DC Quad moose line from prop. 765/400 kV CN Halli(PGCIL) sub-station. 3) 2X125MVAR bus reactor at Holalkere. 4) 3X500 MVA, 400/220 KV Power transformer. 5) 220 kV DC line with Twin Zebra conductor to 220 kV Benkikere s/s. 6) 220 kV DC line with Twin Zebra conductor to 220 kV Hosadurga s/s. 7) 220kV DC line with Twin Zebra conductor to 220kV Holalkere s/s 8) 220 kV DC line from 220kV Holalkere s/s with Twin Zebra conductor to 220 kV Bharamsagara s/s.	400/220		1500	Planned	2029-30
		400	360		Planned	2029-30
		220	234		Planned	2029-30
10	Establishing 3x1500MVA, 765/400KV station at Doddaballapura (Bengaluru Rural) in Doddaballapura Taluk, Bengaluru Rural District 1. 3X1500 MVA, 400/220 KV Power transformers at Doddaballapura. 2. 2X330MVAR, 765 kV bus reactors at Doddaballapura. 3. STATCOM (± 300 MVA) along with 2x125 MVA MSC & 1x125 MVA MSR and associated bays	765/400		4500	Planned	2029-30
11	Establishment of 3x500 MVA, 400/220 kV S/s at Bili Shivalaya in Bengaluru Rural District 1. 400 kV DC quad moose line from Prop. 765/400 kV Doddaballapura s/s. 2. 400 kV LILO of Devanahalli-Hoody DC line with Quad moose conductor. 3. 2X500 MVA, 400/220 KV Power transformer. 4. 1X125MVAR bus reactor at Bilishivalaya. 5. 220 kV double run 1200 sq.mm UG cable from 220 kV ITI sub-station. 6. 220 kV double run 1200 sq.mm UG cable from 220 kV HBR Layout s/s. 7. 220 kV double run 1200 sq.mm UG cable from 220 kV Kadugodi s/s.	400/220		1000	Planned	2029-30
		400	84		Planned	2029-30
		220	48		Planned	2029-30

12	Establishment of 3x500 MVA, 400/220 kV S/s at Dabaspet in Tumkur District 1. 400 kV DC quad moose line from Prop. 765/400 kV Doddaballapura s/s. 2. 400 kV DC quad moose line from Prop. 400 kV Bilishivalaya s/s. 3. 3X500 MVA, 400/220 KV Power transformer. 4. 1X125MVAR bus reactor at Dabaspet.	400/220		1500	Planned	2029-30
		400	246		Planned	2029-30
13	Transmission Scheme for 2GW Solar Park at Ryapte in Pavagada Taluk, Tumakuru District by M/s KREDL 1. Establishing 3X500MVA, 400/220kV sub-station at Ryapte. 2. 400 kV DC Quad Moose line from Ryapte Solar park to prop. 765/400 kV DB Pura sub-station 3. 400kV DC Quad Moose line from Ryapte Solar Park to 400kV Doddathagalli s/s. 4. 2X125MVAR bus reactor at Ryapte Solar Park.	400/220		1500	Planned	2029-30
		400	620		Planned	2029-30
14	Establishing 400/220kV Benachagere REZ station in Tumkur District 1) 400 kV DC Quad moose line from prop. 765/400 kV DB Pura sub-station. 2) 400 kV DC Quad moose line to prop. 765/400 kV CN Halli (PGCIL) sub-station. 3) 400 kV DC Quad moose line to prop. 400/220 kV Huliurdurga sub-station. 4) 2X125MVAR, 400kV bus reactors at Benchanagere. 5) 2X500 MVA, 400/220 KV Power transformer. 6) 220kV DC line with Twin Zebra from proposed 400/220kV Benchagere to 220kV Nittur sub-station. 7) 220kV DC line with Twin Zebra from proposed 400/220kV Benchagere to 220kV KB Cross sub-station. 8) 220kV DC line with Twin Zebra from proposed 400/220kV Benchagere to proposed 220kV Sampige Hosahalli sub-station. 9) 220kV DC line with Twin Zebra from proposed 400/220kV Benchagere to proposed 220kV Meesethimanahalli sub-station.	400/220		1000	Planned	2029-30
		400	440		Planned	2029-30
		220	290		Planned	2029-30

15	Establishing 400/220kV Doddathagalli station in Bengaluru Rural District . 1) 400 kV DC Quad moose line from prop. 765/400 kV DB Pura sub-station. 2) 400 kV DC Quad moose line to 400/220 kV Kolar (HVDC) sub-station. 3) 1X125MVAR, 400kV bus reactors at Doddathagalli. 4) 3X500 MVA, 400/220 KV Power transformer. 5) 220 kV DC line from proposed 400/220 kV Doddathagalli sub-station to existing 220/66kV Malur sub-station. 6. 220kV DC line proposed 400/220 kV Doddathagalli sub-station to 220kV Ekarajapura sub-station. 7. 220kV DC line proposed 400/220 kV Doddathagalli sub-station to proposed 220kV Hosakote New sub-station. 8. 220kV DC connectivity between existing 220kV Ekarajapura and proposed Hosakote new sub-station. 9. 220kV DC line proposed 400/220 kV Doddathagalli sub-station to 220kV Sarjapura sub-station. 10. 220kV SC line from 220kV Sarjapura to VT Park sub-station upto CTT to link the second circuit of UG Cable. 11. To delink the existing line tapped to 220 kV VT Park sub-station and creating radial connectivity from 220kV Sarjapura to EXORA.	400/220		1500	Planned	2028-29
		400	250		Planned	2028-29
		220	242		Planned	2028-29
16	Establishment of 3x500 MVA, 400/220 kV S/s at Kempegowda Layout in Bengaluru Urban District. 1. 400 kV D/C Quad Moose line from 400/220 kV S/s at Kempegowda Layout to 765/400 kV Doddaballapura. 2. 400 kV D/C Quad Moose line from 400/220 kV S/s at Kempegowda Layout to 400/220 kV Huliurdurga S/s. 3. 400 kV DC LILO of 400 kV Somanahalli-Bidadi DC line to 400/220 kV S/s at Kempegowda Layout. 4. 3X500 MVA, 400/220 KV – Power transformers. 5. 1X125MVAR, 400kV bus reactor at Kempegowda layout. 6. Two runs of 220 kV 1200 sq.mm UG cable to Prop. 220/66 kV Nagarbhavi sub-station. 7. Two runs of 220 kV 1200 sq.mm UG cable to Prop. 220/66 kV Banashankari 6th stage sub-station. 8. Two runs of 220 kV 1200 sq.mm UG cable to Prop. 220 kV Vrushabavathi Valley switching station.	400/220		1500	Planned	2029-30
		400	328		Planned	2029-30
		220	92		Planned	2029-30

17	Establishing 400/220kV Humnabad substation in Bidar District in the existing premises of 220/110 kV Humnabad sub-station. 1) DC LILO line with Quad Moose conductor from existing 400 kV YTPS-Gulbarga DC line 2) 3x500 MVA, 400/220 kV POWER TRANSFORMERS. 3) 2X125 MVA, 400kV BUS REACTORS. 4) 220 kV DC line with Twin Zebra conductor to 220 kV Santhpur s/s. 5) 220 kV DC line with Twin Zebra conductor to 220 kV Ganagapura s/s.	400/220		1500	Planned	2029-30
		400	200		Planned	2029-30
		220	110		Planned	2029-30
18	Establishing 400/220kV Mekhali substation in Belgaum District 1. 400 kV DC line with Quad Moose conductor from proposed 400 kV Yalwar substation to proposed 400 kV Mekhali substation for a distance of about 135km along with 2 nos of 400kV TB's at proposed 400kV Yalwar. 2. 400 kV DC line with Quad Moose conductor from existing 400 kV Dhoni substation to proposed 400 kV Mekhali substation for a distance of about 164km along with 2 nos of 400kV TB's at 400kV Dhoni. 3. 2X125 MVAR bus reactor. 4. 2X500 MVA, 400/220 kV Power transformer 5. 63 MVA Switchable line reactors at both ends along with Neutral Grounding Reactor (NGR) shall be provided for Dhoni (Existing) – Mekhali 400 kV D/c line (200 km). However, if there is change in the actual line length, the size of the line reactors may be reviewed and provision may be made for suitable capacity of reactors. 6. 220kV DC LILO of 220 kV Chikkodi-Mugalkhod line with Drake conductor to proposed 220kV Mekhali sub-station of about 10 Kms. 7. 220kV DC line with Twin Zebra conductor from 220kV Kudachi to proposed 220kV Mekhali sub-station for a distance of about 24km along with 2 nos of 220kV TB's at 220kV Kudachi s/s. 8. 220kV DC line with Twin Zebra conductor from 220kV Mahalingpur to proposed 220kV Mekhali sub-station for a distance of about 43km along with 2 nos of 220kV TB's at 220kV Mahalingapura s/s. 9. 220kV DC line with Twin Zebra conductor from 220kV AEQUS (Hathargi) to proposed 220kV Mekhali sub-station for a distance of about 40km along with 2 nos of 220kV TB's at 220kV AEQUS (Hathargi) s/s.	400/220		1000	Planned	2028-29
		400	600			
		220	270			

19	Transmission scheme for 2000 MW Sharavathy Pumped Storage plant by M/s KREDL. 1. 400 kV DC line with Quad Moose conductor/twin equivalent High Performance conductor from proposed Sharavathy Pumped Storage Station to 400/220kV Talaguppa sub-station by utilizing the existing 220 kV corridor in Sharavathy complex with 2 Nos of 400 kV TBs at 400 kV Talaguppa S/S (30kms) 2. Strengthening of 400 kV Talaguppa - proposed C.N.Halli DC Twin Moose line by higher ampacity conductor (Twin Moose equivalent HPC). (200kms) 3. Providing additional 1x315 MVA 400/220 kV transformers at Talaguppa. 4. Establishing 400 kV Switching station at Guttur adjacent to existing 400kV Guttur (Davanagere) sub-station and terminating proposed 400kV Doni-Guttur DC Quad line and BTPS-Guttur DC Quad line to the proposed 400kV switching station. 5. 400 kV DC line with Quad Moose conductor to link proposed 400 Guttur switching station to existing 400kV Guttur (Davanagere) sub-station. (10kms) 6. 400 kV DC line with Quad Moose conductor/twin equivalent High Performance conductor from proposed Sharavathy Pumped Storage Station to 400kV Guttur New station by utilizing the existing 400/220 kV corridor (150kms). 7. Strengthening existing 220 kV Sharavathy-Shimoga lines (S1, S2, S3 and S4) (120kms) and 220 kV Sharavathy- Talaguppa (20 kms) (ST-1 & ST-2) lines by HPC	400/220		315	Planned	2028-29
		400	780			
		220	520			
20	Establishing 220/110kV Kembhavi substation in Shorapura Taluk, Yadgir District 1) Conversion of 220kV Lingasugur-Shahpura SC line to DC line and with double circuit LILO to proposed 220kV Kembhavi sub-station. 2) 2x160 MVA, 220/110 kV power transformers. 3) Conversion of existing 110 kV Kembhavi-Nagnoor SC to DC line and DC LILO to proposed 220 kV Kembhavi sub-station with Lynx ACSR conductor. 4) 110 kV SC line with Lynx ACSR conductor from proposed 220 kV Kembhavi sub-station to 110 kV proposed Hunsihole sub-station. 5) 110 kV LILO of proposed Devapur-Shorapur SC line with Lynx ACSR conductor to 220/110 kV Kembhavi sub-station.	220/110		320	Planned	2028-29
		220	190			

21	Yalwar: Establishing 2X500MVA 400/220kV Sub-Station: 1) Construction of 106.01km of 400kV DC line with Quad Moose ACSR on DC towers from existing 400/220kV Kalaburagi Substation to proposed 400/220kV Yalwar (Hadagali) Substation . 2) Construction of 220kV DC line on DC towers from proposed 400/220kV Yalwar (Hadagali) Substation to existing 220/110kV Substation at Indi. 3) Construction of 220kV Double LILO line (220kV MC line) from existing 220kV Basavana Bagewadi-Nandyal DC line to proposed 400/220kV Yalwar (Hadagali) Substation. 4) Construction of 220kV DC line on DC towers from proposed 400/220kV Yalwar (Hadagali) Substation to existing 220/110kV Substation at Indi. 5) 2x125MVA bus reactors.	400/220		1000	Under Constrction	2027-28
		400	212.02			
		220	198.74			
22	Peenya GIS: Establishing 2X500 MVA 400/220kV substation with associated line. 1) Construction of 400 DC transmission line with HPC equivalent to twin ACSR Moose with 'V' strings from existing 400kV Nelamangala Station to the proposed 400/220kV Sub-station at SRS Peenya in the existing 220kV DC B1-B2 transmission line corridor. 2) Running of single circuit of 220kV Single Core, 1200 Sq mm XLPE Copper UG cable from proposed 400/220kV Peenya sub-staion to existing 220/66kV 'A' sub-staion. 3) Construction of 220kV MCMV line from 220/66kV SRS Peenya substation to 220/66kV NRS substation in the existing 66kV B1 B2 (bunched copper conductor) line corridor.	400/220		1000	Under Constrction	2027-28
		400	32.92			
		220	22.5			
23	Dommasandra: Establishing 2X500MVA 400/220kV substation with associated line 1) Construction of 400kV DC Transmission line with 2 circuits of Quad Moose ACSR and 1 circuit of TWIN Moose ACSR for a route length of 10.169 Kms to LILO one of the circuit of Dharmapuri-Somanahally DC Quad transmission line of PGCIL in the existing corridor of Somanahally-Kolar PGCIL SC transmission line. 2) Construction of 400kV transmission line with 1 circuit of Quad MOOSE ACSR and 1 circuit of TWIN MOOSE ACSR for a route length of 14.934 Kms between Mylasandra s/s in the existing corridor of Somanahaly-Kolar PGCIL SC transmission line. 3) Construction of 400kV LILO line from the existing 400kV Somanahally-Kolar (PGCIL) SC line to the proposed 400/220kV Dommasandra sub-station using TWIN Moose ACSR conductor for a distance of 0.820 kms (with 400kV MC towers in a new corridor). 4) Running 220kV MC line with 1200Sqmm UG cable from the proposed 400/220kV Dommasandra sub-station to LILO proposed	400/220		1000	Under Constrction	2027-28
		400	63.762			
		220	25.44			

	220kV Somanahally-Malur DC line to link 220/66kV VT Park, Sarjapura & proposed					
24	Kadandale:Establishing 2x500MVA, 400/220kV Sub-Station with associated line. 1) Construction of 400kV DC LILO Line using MC tower with QUAD-Moose ACSR conductor from 400kV UPCL-Shanthigrama DC line to the proposed 400/220kV Kadandale Sub-station. 2) Construction of 220kV DC LILO Line using MC towers with DRAKE conductor from 220kV Kemar-Bajpe DC line to the proposed 400/220kV Kadandale Sub-station. 3) Construction of 220kV LILO Line using 220kV MC tower with AAAC Moose conductor from 220kV Kemar-Kavoor SC Line to the proposed 400/220kV Kadandale Sub-station. 4) 1x125MVAR bus reactor	400/220		1000	Under Constrction	2027-28
		400	20.52			
		220	32.758			
25	Kushtagi:Establishing 2X500MVA 400/220kV substation with associated lines: 1) Construction of proposed 400kV DC line with QUAD Moose ACSR on DC towers from proposed 400/220kV Yalwar (Hadagali) Sub-station to proposed 400/220kV Kushtagi Sub-station. 2) Construction of proposed 400kV DC line with QUAD Moose ACSR on DC towers from existing 400/220kV Gadag (Doni) Sub-station to proposed 400/220kV Kushtagi Sub-station. 3) Conversion of existing 400kV Guttur-Gadag(Doni) Twin Moose SC line to DC line with QUAD Moose ACSR on DC towers from existing 400/220kV Guttur Sub-station to the existing 400/220kV Gadag (Doni) Sub-station. 4) Construction of 220kV DC line on MC/DC towers with high performance conductor (HTLS conductor equivalent to Drake) from the proposed 400/220kV Kushtagi Sub-station to the existing 220/110 kV Kushtagi Sub-station. 5)Construction of 220kV MC line on MC towers from proposed 400/220kV Kushtagi Sub-station to connect the existing 220kV DC lines towards 220kV Sindhanur Sub-station and 220kV Lingasugur Sub-station. 6) 2x125 MVAR bus reactors.	400/220		1000	Under Constrction	2027-28
		400	603.044			
		220	102.458			
26	Kadakola:Establishing 2X500MVA 400/220kV substation with associated lines: Construction of 400kV MC line with twin moose ACSR on MC tower by making double LILO from existing Shanthigrama-Basthipura line to the proposed Kadakola line. 2x125 MVAR bus reactors.	400/220		1000	Under Constrction	2027-28
		400	175.84			
27	Huliyurdurga:Establishing 2X500 MVA 400/220kV and 2X100MVA 220/66kV substation with associated line. 1) Construction of 400kV double LILO line on MC towers from existing 400kV Nelamangala-	400/220		1000	Under Constrction	2027-28
		220/66		200		

		400	28.912			
	Bastipura DC line to proposed 400/220/66kV Huliurdurga. 2) Construction of 220kV Double LILO line from 220kV Anchepalya- Nagamangala DC line Establishing 2x500MVA, 400/220kV S/s at Devanahalli (Adinarayana hosahalli) in Bangalore rural district.	220	46.08			
28	1) 400kV DC LILO of Pavagada-Devanahalli DC line with Quad Moose conductor to proposed 400kV Adinarayana hosahalli sub-station. 2) 220kV DC line to prop. 220/66kV Devanahalli new sub-station. 3) 220kV DC line to prop. 220/66kV CB Pura IA sub-station.	400/220		1000	Planned	2027-28
		400	40			
		220	80			
29	Establishing 2 X 500 MVA , 400/220 kV sub-station at Hampapura in Mandya taluk and Madya District. 1) 400kV DC LILO of 400kV Kadakola-CN Halli line(Between CN Halli and Hebbani sub-stations) to 400/220kV Hampapura s/s. 2) 220kV DC line to 220/66kV KR Pete sub-station. 3) 220kV DC line to 220/66kV Tubinkere sub-station. 4) 220kV DC line to 220/66kV Maddur sub-station. 5) 220kV DC line to 220/66kV Nagamangala sub-station. 6) 2x125MVAR bus reactors.	400/220		1000	Planned	2027-28
		400	80			
		220	196			
30	Establishing 2x500 MVA, 400/220kV sub-Station at Hebbani in Mandya District. 1) 400kV DC LILO of 400kV Kadakola-CN Halli line(Between Hebbani and Kadakola sub-stations) to 400/220kV Hebbani s/s. 2) 220kV DC line to 220/66kV KR Pete sub-station. 3) 220kV DC line to 220/66kV Tubinkere sub-station. 4) 220kV DC line to 220/66kV Maddur sub-station. 5) 220kV DC line to 220/66kV Nagamangala sub-station. 6) 2x125MVAR bus reactors.	400/220		1000	Planned	2027-28
		400	140			
		220	120			
31	Bilagi:Establishing 2X100MVA 220/110kV and 1X10MVA 110/11kV substation with associated lines 1) 220kV DC LILO of 220kV Vajramatti-Kudgi DC line to prop. 220/110kV Bilagi sub-station. 2) 110kV SC lynx line to 110kV Girisagar Substation. 3) 110kV SC lynx line to 110kV Bisnal Substation 4) 110kV SC lynx line to 110kV Bilagi Substation 5) 110kV SC lynx line to proposed 110kV Tolmatti Substation	220/110		200	Under Constrction	2026-27
		220	73.82			

32	Mache:Establishing 2X100MVA 220/110kV substation with associated lines 1) 220kV DC line from 220kV M. K. Hubli Sub station using DRAKE ACSR conductor upto proposed 220/110kV Mache Sub station premises and 220kV, 1200sqmm UG Cable near proposed 220 kV Mache substation premises. 2) Single circuit LILO of 220kV Narendra-Kanabargi DC line using DRAKE ACSR conductor upto proposed 220/110kV Mache Sub station premises and 220kV, 1200sqmm UG Cable near proposed 220 kV Mache substation premises. 3)Existing 110kV connectivity from Mache sub-station towards 220kV Belagavi substation. 4) Conversion of existing 110kV SC to DC line between MK Hubli & Mache tap point (Allarwad) to LILO the existing 110kV Belgaum – Mache tap point (Allarwad) line. 5) In view of conversion of existing 110kV SC line between MK Hubli – Mache Tap point (Allarwad) to DC line, LILO arrangement of one circuit to 110kV Vikas Soudha sub-station and LILO of another circuit to 110kV Hirebagewadi sub-station shall be made such that, 110kV Hirebagewadi is LILOed between 220/110kV M K Hubli and 110kV Kanabargi-Belagavi line and 110kV Vikas soudha is LILOed between 220/110kV M K Hubli & proposed 220kV Mache Sub station. 6) Existing 110kV Mache sub-station to be linked with proposed 220kV Mache substation. 7)Two circuits (6 runs) 110kV, 630sqmm UG Cable from VTU point upto proposed 220 kV Mache substation premises.	220/110		200	Under Constrcution	2027-28
		220	80.102			
33	Savalagi:Establishing 2X100MVA 220/110kV substation with associated lines: 1) Double LILO of proposed 220 kV Kudgi-Vajramatti DC line to the proposed 220/110 kV Savalagi sub-station. 2)LILO of existing SC 110 kV Todalbagi-Mamadapura line to proposed 220/110 kV Savalgi. 3) LILO of existing SC 110 kV Bableshtar-Mamadapura line to proposed 220/110 kV Savalgi.	220/110		200	Under Constrcution	2026-27
		220	65.088			
34	Ron (Itagi Cross):Establishing 2X100MVA 220/110 & 1X10MVA 110/11kV substation with associated line: 1) 220kV DC line from 400/220kV Dhoni sub-station. 2)110 kV LILO of existing Ron-Gajendragad DC line to proposed 220 kV Ron. 3) 110 kV LILO of DC line between Gadag and 110 kV Ron to proposed 220 kV Ron (Existing SC line via Naregal and proposed ongoing 2nd circuit directly to 110 kV Ron).	220/110		200	Under Constrcution	2027-28
		220	87.308			
35	Nagarabhavi: Establishing 2X150MVA 220/66kV substation with associated lines:	220/66		300	Under Constrcution	2026-27

	i) LILO of 220 kV Peenya-Subramanyapura SC line (proposed for DC conversion from 220 kV Peenya sub-station to 400 kV Mylasandra sub-station) to Nagarbhavi sub-station. ii) Single circuit 66 kV, 1000 sq.mm UGC to existing 66/11 kV Chandra layout sub-station. iii) Single circuit 66 kV, 1000 sq.mm UGC to existing 66/11 kV Srigandadakaval sub-station.	220	4.95			
36	Chikkaballapura I/A: Establishing 2X150MVA 220/66 and 1X20MVA 66/11kV substation with associated line: 1) 220kV Double circuit LILO of proposed 220kV Chintamani-Mittermari DC line to proposed 220kV Chikkaballapura I.A substation using DRAKE ACSR conductor /1200sqmm UG cable. 2) Existing 66kV Single circuit line from 66kV C.B Pura Urban substation to be terminated to proposed 220/66kV Chikkaballapura I.A substation by replacing existing coyote with 66kV Coyote equivalent HPC conductor. 3) 66kV Double circuit line from 66kV Nallimaradahalli substation to be terminated to proposed 220/66kV Chikkaballapura I.A substation. 4) Existing 66kV D.B Pura- C.B Pura I.A double circuit line to be terminated to proposed 220/66kV Chikkaballapura I.A substation.	220/66		300	Under Constrction	2026-27
		220	1.52			
37	Mathikere GIS: Establishing 2X150 MVA 220/66kV substation with associated line: 1) 220kV 1200sq mm UG cable from proposed 220/66kV Sahakaranagar substation with one 220 kV terminal bay at prop. 220 kV Sahakaranagar sub-station. 2) 220kV 1200sq mm UG cable from 220/66kV NRS substation with one 220 kV terminal bay at 220 kV NRS sub-station. 3) The existing 66/11kv Mathikere will be connected to the 220kV bus of proposed 220/66kV Mathikere substation by 1 no of 66 kV inter-connecting bay. 4) SC LILO of existing 66 kV Gokula – RMV line to proposed 220 kV Mathikere substation. 5) 66kV 1000sq mm UG cable to 66/11kV IISC substation from proposed 220 kV Mathikere sub-station with one 66 kV terminal bay at IISC sub-station.	220/66		300	Under Constrction	2027-28
		220	13.399			
38	Nelamangala:Establishing 2X150 MVA 220/66kV substation with associated line (existing 66kV station premises) 1) 220kV DC line from 400/220kV Nelamangala sub-station to proposed 220kV Nelamangala sub-station with 1200Sqmm UG cable. 2)66kV, 1000Sqmm UG cable for connecting existing Overhead lines of 66kV Nelamangala-Widia line, 66kV Nelamangala-MEI line and 66kV DC Nelamangala-Dabaspeth Line to proposed 66kV Outdoor GIS at 220/66kV GIS Nelamangala sub-station. 3) 66kV SC 1000Sqmm UG cable from the	220/66		300	Under Constrction	2026-27
		220	8.8			

	proposed 220/66kV sub-station at Nelamangala to link the existing 66kV SBT line for a distance of 1.845km. 4) Conversion of existing 66kV SC Coyote line to DC line from existing 66/11kV Nelamangala sub-station to tapping point of 66/11kV Widia sub-station using 110kV Narrow based towers with drake conductor for a distance of 14.068km. 5) Replacement of existing 66kV SC Coyote conductor of existing 66kV Peenya-Nelamangala					
39	Banashankari 3rd Stage Vertical Configuration: Establishing 2X150MVA 220/66kV substation with associated line. 1) 220kV 1200sqmm UG Cable from proposed 220kV VValley switching station to proposed 220/66kV Banashankari 3rd Stage sub-station. 2) 220kV 1200sqmm UG Cable from proposed 220kV Nagarbhavi substation to proposed 220/66kV Banashankari 3rd Stage sub-station. 3) Running 66kV 1000sqmm UG cable from existing 66/11kV National college Sub station to proposed 220/66kV Banashankari 3rd stage Sub station. 4) Single circuit LILO of existing 66kV line between REMCO and R R Nager tap point to proposed 220kV Banashankari 3rd stage Sub station using 1000sqmm UG cable.	220/66		300	Under Constrction	2026-27
		220	8.889			
40	Banashankari 6th Stage: Establishing 2X150MVA 220/66kV substation with associated line: 1) 220 kV 1200 sq.mm UG cable from prop.220 kV Banashakari 6th stage sub-station to LILO the prop. Bidadi-V.Valley switching station line (MC line with AAAC). 2) 66 kV 1000 sq.mm UGC from existing Shobha Forest view sub-station to proposed 220kV Banashankari 6th stage sub-station. 3) 66 kV 1000 sq.mm UGC from existing Provident Sun Worth sub-station to proposed 220kV Banashankari 6th stage sub-station. 4) 66 kV 1000 sq.mm UGC from existing R.R.Nagar sub-station to proposed 220kV Banashankari 6th stage sub-station. 5) 66 kV 1000 sq.mm UGC from Proposed Kambipura sub-station to proposed 220kV Banashankari 6th stage sub-station.	220/66		300	Under Constrction	2026-27
		220	14.84			
41	Nadamanchale: Establishing 2x100MVA 220/110kV, 1X10MVA 110/11kV Sub-Station with associated line: 1) 220kV LILO of 220kV S1(Sharavathy-	220/110		200	Under Constrction	2026-27
		220	8.8			

	Shimoga) and STRP-1 lines (Gerusoppa-Shimoga) to proposed 220/110kV Nadamanchale sub-station.”					
42	Yelburga: Establishing 2X100MVA 220/110kV 1X10MVA 110/11kV substation with associated lines: 1) 220kV DC line from 220/110 kV Kushtagi sub-station to proposed 220 kV Yelburga sub-station. 2) Double circuit LILO of proposed 220kV Doni - Ron DC line to proposed 220/110 kV Yelburga sub-station. 3) 110kV DC line from proposed 220kV Yelburga substation to existing 110kV Yelburga substation. 4) 110kV DC line from proposed 220kV Yelburga substation to existing 110kV Bevoor substation .	220/110		200	Under Constrcution	2027-28
		220	67.588			
43	Hanagal: Establishing 2X100MVA 220/66kV & 1X12.5MVA 66/11kV substation with associated line: 1) 220kV DC line from 400/220 kV Jagalur to prop. 220kV Hangal sub-station. 2) LILO of existing 66kV Gudikote-Hangal SC Drake line (proposed) using Drake conductor to proposed 220/66 kV Hangal. 3) Double LILO of 66kV Hangal-Nagasamdura DC line (Additional 66kV SC line having Coyote conductor from 66/11kV Hangal substation to 66/11kV Rampura substation with LILO at 66/11 kV Nagasamudra substation is approved earlier) to proposed 220/66 kV Hangal. 4) 66 kV SC line from proposed 220/66 kV Hangal s/s to proposed 66 kV Konasagara Sub-Station using Coyote conductor.	220/66		200	Under Constrcution	2026-27
		220	72.608			
44	PD Kote:Establishing 2X100MVA 220/66kV and 1X12.5MVA 66/11kV substation with associated line: 1) 220kV DC LILO of 220kV Hiriyur-Gowribidanur DC line to proposed 220/66 kV P.D.Kote sub-station. 2) 66kV LILO of 66kV Hariyabbe-P.Kote DC line (SC to DC line approved earlier) to proposed 220/66 kV P. D Kote. 3) 66kV LILO of 66kV Hiriyur-Kalmaranahalli-P. R Pura SC line to proposed 220/66 kV P. D Kote.	220/66		200	Under Constrcution	2026-27
		220	137.352			
45	Bharamasagara:Establishing 2X100 MVA 220/66kV and 1X12.5MVA 66/11kV substation with associated line: 1) 220kV DC line with Drake ACSR conductor from 400/220kV Jagalur to proposed 220/66kV Bharamsagara sub-station. 2) 66kV multi circuit lines from proposed 220/66kV Bharamasagara substation to LILO existing 66kV Davangere-Chitradurga line 1 & 2 with Coyote ACSR conductor. 3) 66kV SC line from proposed 220/66 kV	220/66		200	Under Constrcution	2026-27
		220	55.514			

	Bharamasagara substation to link existing 66kV SC line between Jagalur and Bidarekere tap with Coyote ACSR conductor.					
46	Establishing 2X150MVA, 220/66/11kV S/s at Devangundi along with associated line: 1) 220kV DC line with partial OH/UG cable from 400/220kV Doddathagalli to prop. 220kV Devangundi sub-station. 2) 2 runs of 220kV 1200sq.mm UGC from Devangudi to 220kV Kadugodi sub-station. 3) 66kV bus extension to 66/11kV Devangundi s/s. 4) 66kV DC Drake line from 220kV Devangundi to 66kV Lakkur sub-station utilising the existing 66kV Devangundi-Lakkur line corridor. 5) Conversion of 66kV tap to LILO to 66/11kV Masti sub-station.	220/66		300	Planned	2028-29
		220	20			
47	Establishing 2x150MVA, 220/66/11kV S/s at Devanahalli along with associated line: 1) 220kV 2 runs of 1200sq.mm UG cable from 220kV Haralur Muddenahalli to 220kV Devanahalli new sub-station. 2) 66kV bus extension to 66/11kV Devanahalli new s/s. 3) Termination of existing 66kV DB Pura-Devanahalli DC line to prop. 220kV Devanahalli s/s through 1000sq.mm UGC. 4) Providing 66kV LILO arrangement to 66kV Kundana sub-station. 5) Termination of 66kV Brigade Orchids line to prop. 220kV Devanahalli sub-station.	220/66		300	Planned	2028-29
		220	54			
48	Establishing: 2x150MVA, 220/66/11kV S/s at Sompura I/A, Dobbaspote along with associated line: 1) 220kV D/C line with Drake equivalent HPC conductor from proposed 220/66kV Sompura IA substation to the existing 220kV Antarasanahalli – Nelamangala (B1) Line for carrying out S/C LILO arrangement. 2) 66kV D/C line with Drake conductor upto existing 66kV SK Steel – Kolala line and make LILO arrangement to feed 66kV SK Steel substation and 66kV Kolala substation radially. 3) 66kV D/C line with Drake conductor upto approved 66kV Dobbaspote – Doddabelavangala line and make LILO arrangement to feed proposed 66kV ObalapuraIA substation.	220/66		300	Planned	2028-29
		220	15			

49	Establishing 2X160MVA, 220/110KV S/s at Kumta in Kumta Tq along with associated line: 220 kV Connectivity: 1) Construction of 220kV DC line with AAAC Moose conductor from the existing 220kV Karwar R/s to the proposed 220/110kV Kumta R/s via proposed 220kV GIS S/s of Project Sea-Bird at Arga. 110 kV Connectivity: 3) Termination of existing 110kV Sirsi – Kumta DC line to proposed 220/110kV Kumta Receiving station. 4) Termination of existing 110kV Karwar – Kumta SC line and the proposed 2nd Circuit (after conversion of 110kV Karwar – Kumta SC line to DC line) to proposed 220/110kV Kumta Receiving station. 5) 110kV bus extension from the proposed 220/110kV Kumta R/s to the existing 110kV Kumta Sub-station by construction of interconnecting bay (or) by re-arrangement & upgradation of existing Sub-station in phased manner (to be finalized in consultation with Technical section based on site conditions & to ensure minimal interruptions).	220/110		320	Planned	2029-30
	6) Construction of 110kV DC line with AAAC Moose conductor on 220kV MCMV towers from the proposed 220/110kV Kumta Sub-station to the existing 110kV Honnavara Sub-station in new corridor (two circuits to be kept as spare for future 220kV line in coastal corridor without stringing of conductor). 7) Construction of 110kV DC line with AAAC Moose conductor on 220kV MCMV towers from the existing 110kV Honnavara Sub-station to the existing 110kV Murdeshwara Sub-station in new corridor (two circuits to be kept as spare for future 220kV line in coastal corridor without stringing of conductor).	220	200			
50	Establishing 2X150MVA, 220/66/11kV GIS S/s at Hoskote along with associated line. 1) 220kV DC line with partial AAAC Moose and partial 1200sq mm UG cable (based on field conditions) from proposed 400/220kV Doddathagahalli substation to proposed 220kV Hosakote (New). 2) 2 no. of 220kV TBs at proposed prop. Hosakote New substation. 3) runs of 220kV 1200sqmm UG cable (based upon field conditions) from 220kv Ekrajpura to proposed Hosakote New sub-station along with 2 nos of 220kV TB's at 220kV Ekrajpura substation. 66kV connectivity: 4) 66kV bus extension to existing 66/11kV Hosakote sub-station. 5) LILO of DG3 and DG4 line to proposed 220kv Hosakote new sub-station along with conversion of 66KV DG3 and DG4 Coyote lines from proposed 220kV Hosakote (new) sub-	220/66		300	Planned	2028-29
		220	20			

	station upto 12 pole structure with LILO to 66kv Konadasapura on DG3 line to Coyote equivalent HPC. 6)LILO arrangement to 66kV Mandur on DG4 line with 66KV 1000sq mm UG Cable for LILO portion along with 2 nos of 66kV TB's at Mandur. 7) Termination of existing 66kV SC line from 66/11kV Jadigenahalli substation to proposed 220/66kV Hosakote (New) substation.					
51	Establishing 2x150 MVA, 220/66 kV sub-station at Holehatti (near Holalur) along with associated line: 1) 220kV Double circuit line from 400/220kV Guttur substation to prop. Holehatti (near Holalur). 2) 220kV Double circuit line from 220/110/66kV MRS Shivamoga substation to prop. Holehatti (near Holalur). 3) LILO of proposed 66kV Shivamoga-Honnali DC line (between 66kV Holehonnur and Holalur substations) to proposed 220/66kV Holehatti substation. 4) 66kV DC Panther line from proposed 220/66kV Holehatti substation to proposed 66kV Haramaghatta substation.	220/66		300	Planned	2029-30
		220	200			
52	Establishing 2 X 150 MVA,220/66/11 kV substation at H.D Kote along with associated lines: 1) 220 kV DC line from 400 kV Kadakola substation with 220 kV Drake conductor along with two numbers of 220kV TBS at 400/220kV Kadakola sub-station. 2) 66kV MC line with Panther ACSR conductor from prop. 220kV HD Kote s/s to LILO the existing 66kV Kadakola-Santhesargur line (Considering the proposal of strengthening of 66kV Kadakola-Santhesargur DC line from 66kV Coyote to Coyote equivalent HPC). 3) Construction of 66kV DC line using Panther conductor from 66 kV HDKote substation to the proposed 220 kV HDKote substation along with 2nos of 66kV TB at 66/11kV HD Kote sub-station. 4) Construction of 66kV DC line with Coyote conductor from proposed 66 kV Chakkondanahalli substation to the proposed 220 kV HDKote substation along with 2no of 66kV TB at 66/11kV Chakkondanahalli sub-station. 5) 1x12.5MVA, 66/11kV power transformer.	220/66		300	Planned	2029-30
		220	100			

53	Establishing 2X150MVA, 220/66kV Kalkere substation along with associated lines: 220kV Connectivity: • 220 kV DC line with Drake ACSR conductor from 220/66 kV Nagamangala s/s along with two number of 220kV terminal bays at Nagamangala sub-station. • 220 kV DC line with Drake ACSR conductor from 400/220 kV Shantigram (PGCIL) s/s along with two number of 220kV terminal bays at 400/220 kV Shantigram (PGCIL) sub-station-subject to concurrence from PGCIL. 66kV Connectivity: • Conversion of existing 66kV SC Coyote line on DC towers from 66/11 kV Sathenahalli tap point to 66/11 kV Rampura s/s with 66kV DC line on DC towers using 66 kV Coyote equivalent HPC in existing corridor with one number of 66 kV Terminal bay at 66/11 kV Rampura sub-station. • Strengthening of 66kV existing DC Coyote ACSR conductor from 66kV Udayapura to Sathenahalli tap point by 66 kV Coyote equivalent HPC. • Stringing 2nd circuit on existing DC towers from 66/11 kV Sathenahalli to tap point using 66kV Coyote equivalent HPC along with conversion of existing 66 kV SC Coyote line to 66kV Coyote equivalent HPC with one number of 66 kV Terminal bay at 66/11 kV Sathenahalli sub-station. • Stringing 2nd circuit on existing DC towers from 66/11 kV K.Byrapura to tap point using 66kV Coyote equivalent HPC along with conversion of existing 66 kV SC Coyote line to 66kV Coyote equivalent HPC with one number of 66 kV Terminal bay at 66/11 kV K.Byrapura sub-station. • Stringing 2nd circuit on existing DC towers from 66/11 kV Kundurmata to tap point using 66kV Coyote equivalent HPC along with conversion of existing 66 kV SC Coyote line to 66kV Coyote equivalent HPC with one number of 66 kV Terminal bay at 66/11 kV Kundurmata sub-station. • Stringing 2nd circuit on existing DC towers from 66/11 kV M.Dasarapura to tap point using 66kV Coyote equivalent HPC along with conversion of existing 66 kV SC Coyote line to 66kV Coyote equivalent HPC with one number of 66 kV Terminal bay at 66/11 kV M.Dasarapura sub-station. • 66 kV MC line using 66 kV Coyote equivalent HPC conductor from proposed 220/66 kV Kalkere s/s to DC LILO 66kV Sathenahalli-K.Byrapura SC line and 66kV Bagur-Rampura SC line. • Conversion of existing 66kV SC Coyote line on SC/DC towers from 66/11 kV C.R.Patna s/s to Hirisave to 66kV DC line with Panther conductor on DC/MC towers in existing corridor with one	220/66 220	220	300	Planned	2029-30
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	number of 66kV terminal bay each at 66/11 kV C.R.Patna and Hirisave sub-stations (including LILO portion to 66kV Shettihalli & Mattnaville sub-stations to be converted to 66kV Panther conductor). • 66 kV MC line using 66 kV Panther ACSR conductor from proposed 220/66 kV Kalkere s/s to DC LILO 66 kV CR Patna-Hirisave DC line. • Providing radial connectivity to 66/11 kV Juttanahalli sub-station by stringing 2nd circuit from 66kV Mattanavile sub-station to Mattanavile tap point using Coyote conductor along with one number of 66kV terminal bay at 66kV Mattanavile s/s. • Stringing additional circuit from Shravanabelagola-1 line GOS point to Mattanavile sub-station using Coyote conductor along with one number of 66kV terminal bay at 66kV Mattanavile s/s. • Providing Radial connectivity to prop. 66/11 kV M.Shivara sub-station from 66/11 kV Sathenahalli and 66/11 kV K.Byrapura sub-stations by construction of 66 kV DC line with					
54	Upgradation of existing (2X20)MVA, 66/11kV Hirehalli substation to 2X150MVA, 220/66/11kV GIS along with associated lines: 1) LILO of 220kV Shivamoga-K.B Cross-Nelamangala (B2) line to prop 220/66kV Hirehalli substation. 2) Providing 2nd circuit from proposed 220/66kV Hirehalli substation upto tapping point of 66kV Honnudike substation and linking it to existing line connecting 66kV Honnudike substation. 3)Existing 66kV Single circuit line from 66kV Urdigere substation to be terminated to proposed 220/66kV Hirehalli substation along with	220/66		300	Planned	2028-29
		220	22			

	strengthening of 66kV Hirehalli-Urdigere-Kolala-Dabaspet line to drake/Drake equivalent HPC. 4) 66kV DC line from existing 66kV Tumkur					
55	Establishing 2x150MVA, 220/66kV & 1x8MVA, 66/11kV Sub-station at Kaniyaru along with associated lines: 1) Construction of 220-66kV MCMV Towers from LILO point of 66/11kV Ganguru S/s to proposed 220/66/11kV Allapatna (Kaniyaru) s/s and stringing of 220kV DC Drake ACSR Line from 220 kV Kadavinakote s/s to proposed 220/66/11kV Allapatna (Kaniyaru) s/s along with 2 numbers of 220kV TBs at 220/66/11kV Kadavinakote s/s. 2) Construction of 66 kV DC Coyote Line from 66/11kV Ganguru S/s to proposed 220/66/11kV Allapatna (Kaniyaru) s/s along with two numbers of 66 kV TBs at 66/11 kV Ganguru s/s. 3) Construction of 66kV MC line (4 lines) with Coyote ACSR conductor from Proposed 220kV Allapatna R/s to link existing 66kV Arakalagudu-Mallipatna SC line on DC towers along with conversion of 66kV Arakalagudu-Mallipatna to DC line on DC towers (upto 66kV Doddamagge tap point) with one number of 66kV TB at 66/11kV Mallipatna S/s and 66/11kV Arakalagudu S/s. 4) Conversion of 66kV Tap line to 66kV DC line from 66/11kV Bychanahally S/s to LILO point and Bandishettyhally tap point to LILO point existing 66kV Bandishettyhally-Bychanahally-Ramanathapura line to make LILO proposed MCMV line along with 66kV TB at 66/11kV Bychanahally S/s. 5) Stringing of 2nd circuit from proposed 220-66kV MCMV line to 66kV Doddamagge S/s along with one number of 66kV TB at 66/11kV Doddamagge S/s. 6) Construction of 66kV DC line with Coyote ACSR conductor from proposed 220/66/11kV Allapatna R/s to LILO existing 66kV Doddamagge-Doddabemmatti SC line for providing radial connectivity to both the S/s.	220/66		300	Planned	2029-30
		220	60			
56	Pandavapura(Anavalu): Establishing 3x150MVA, 220/66kV & 2X8MVA 66/11kV Station. 1) Construction of 220kV DC LILO line of proposed Hampapura-Tubinkere DC Line to proposed 220kV Pandavapura for a distance of 5.5kms. 66kV Connectivity: 2) DC line from proposed Pandavapura substation to existing 66kV Pandavapura substation using Coyote ACSR conductor. 3) MC line from proposed Pandavapura substation	220/66		450	Planned	2029-30
		220	22			

	for a distance of 2.5km and to extend 2 nos of DC lines, one DC line to make LILO between Chinakurali and Bookanakere sub-stations, point, another DC line to LILO existing 66kV Pandavapura-Bookankere SC line between 66kV Pandavapura and tap point of proposed Babybetta sub-station using Coyote conductor. 4) SC line from proposed 220/66kV Pandavapura					
57	220kV KR Nagara (Mirle / Byadarahalli): Establishing 2x150MVA 220/66kV Sub-station by Double LILO of 220kV Bastipura-Shantigram DC line to the proposed 220/66/11kV Mirle sub-station.(Between KR.Pet- Tubinakere)	220/66		300	Planned	2029-30
		220	28			
58	Establishing 2x160MVA, 220/110 kV Sub-Station at Ittangihal with associated lines: • Construction of 220kV MC line with AAAC Moose conductor to DC LILO the prop. 220kV Babaleshwara-Yalwar New DC line. • 110kV DC line with Panther ACSR conductor from 110kV Tekkalaki sub-station to proposed 220 kV Ittangihal substation along with two number of 110kV TBs at 110kV Tekkalaki sub-station. • 110kV DC line with Panther ACSR conductor from 110kV Toravi sub-station to proposed 220 kV Ittangihal substation along with two number of 110kV TBs at 110kV Toravi sub-station. • 110kV SC line with Panther ACSR conductor from 110kV Kannur sub-station to proposed 220 kV Ittangihal substation along with one number of 110kV TB at 110kV Kannur sub-station.	220/110		320	Planned	2029-30
		220	66			
59	Construction of 220kV GIS switching station with double bus bar arrangements in the vacant land of BWSSB adjacent to the existing 220/66kV Vrishubavathi valley S/s along with strengthening of Somanahalli-Tataguni-Vrishubavathi valley 220kV SC over head line. 1) Running 220 kV 1200 sq.mm SC UG cable for a distance of about 5.5 km from 400/220 kV PGCIL Bidadi s/s upto 220/66 kV KPTCL Bidadi s/s and to connect one circuit of 220 kV Bidadi-Somanahalli DC line. 2) Construction of 220 kV MC transmission line with AAAC/Drake ACSR conductor from LILO point of 220 kV TK Halli-Peenya line near Somanahalli sub-station upto proposed GIS Switching station near 220 kV V.Valley s/s with LILO of one circuit of 220 kV Somanahalli-Bidadi DC line. With this connectivity, one circuit from 400kV Bidadi (PGCIL), two circuits from Somanahalli, and another circuit from	220	15		Planned	2028-29

	Soamnahalli via Tataguni are connected to proposed 220 kV V.Valley switching station. 3)) Connecting the existing 220 kV V.Valley sub-station to the proposed GIS Switching station by GIS bus duct. 4) Terminating the proposed 220 kV 1200 sq.mm UGC from prop. Kumbalagodu substation to prop. GIS switching station. 5) Modifications to connect the existing OH line towards NRS sub-station to prop. 220kV Switching station.					
60	Establishing 2x160 MVA, 220/110kV Receiving station at Sampige Hosahalli Village along with associated lines: • 220kV D/C line with Drake conductor from proposed 220/110kV Sampige Hosahalli substation to the existing 220kV Shimoga – Arasikere - Nittur (B4) Line for carrying out S/C LILo arrangement . • 110kV D/C line on D/C towers with Lynx/Panther conductor from proposed 220kV Sampigehosahalli substation, in which 1st S/C line to connect 110kV Kadaba and 2nd S/C line to connect 110kV Kalluru substation along with 1 no of 110kV TB at both Kadaba and Kalluru substation. • 110kV D/C line on D/C towers with Lynx/Panther conductor from proposed 220kV Sampigehosahalli substation, in which 1st S/C line to connect 110kV Ammasandra and 2nd S/C line to connect 110kV Sampige substation along with 1 no of 110kV TB at both Ammasandra and Sampige substation. • 110kV D/C line on D/C towers with Lynx/Panther conductor from proposed 220kV Sampigehosahalli substation, in which 1st S/C line to connect 110kV Mayasandra and 2nd S/C line to connect 110kV Shettigondanahalli substation along with 1 no of 110kV TB at both Mayasandra and Shettigondanahalli substation. • 110kV D/C line on D/C towers with Lynx/Panther conductor from proposed 220kV Sampigehosahalli substation, in which 1st S/C line connect 110kV Talakere and 2nd S/C line to connect 110kV Turuvekere substation along with 1 no of 110kV TB at both Talakere and Turuvekere substation. • 1x10 MVA, 110/11kV power transformer.	220/110		320	Planned	2029-30
61	Establishing 2x160MVA, 220/110 kV sub-station at Babaleshwara (Shegunashi) along with associated 110kV lines : a) Construction of 220kV DC line with AAAC Moose conductor from prop. 400kV Yalwar New sub-station along with 2 number of 220kV DC line at prop. 400kV Yalwar New sub-station. c) Construction of 110kV MC line with Lynx conductor to DC LILo Mamadapura-Bagewadi DC line to prop. 220kV Babaleshwara sub-station. d) Construction of 110kV SC link line with	220/110		320	Planned	2029-30
		220	110			

	Panther ACSR conductor between 110kV Belubbi and 110kV Kolhar sub-station along					
62	Establishing 2x160 MVA, 220/110 kV Sub-Station at Badami along with associated 220 kV & 110 kV Lines : • 220 kV DC LILO of 220 kV Gadag-Bagalkot DC line with Drake ACSR conductor. • 110 kV DC LILO of existing 110 kV Bidnal-Bagalkot DC line with Lynx ACSR conductor to prop. 220/110kV Badami sub-station. • 110kV DC line with Lynx ACSR conductor from 220kV Badami sub-station to LILO one circuit of earlier approved 110kV DC line from Hebballi s/s to LILO the existing 110kV Badami-Hirehal SC line (Approved in 89th TCCM). • 110kV DC line with Lynx ACSR conductor from existing 110 kV Kulageri cross sub-station to LILO second circuit of 110 kV Bidnal-Bagalkot DC line along with two number of 110kV TBs at 110kV Kulageri cross sub-station. • 1x10 MVA, 110/11 kV power transformer.	220/110		320	Planned	2029-30
		220	12			
63	Chadachan: Establishing 2X160 MVA, 220/110 kV Sub-Station at Chadachan along with associated 220 kV & 110 kV lines: 1. 220kV AAAC Moose DC line from existing 220kV Indi R/s along with two number of 220kV terminal bays at 220/110kV Indi s/s. 2. 110kV SC line with Panther ACSR conductor from proposed 220/110kV Chadachan to 110kV Kerur substation along with one number of 110kV terminal bays at 110kV Kerur s/s. 3. 110 kV SC LILO of the 110 kV Zalki-Chadchan line to the proposed 220 kV Chadchan substation with 110 kV Lynx conductor. 4. 110kV DC line with Panther ACSR conductor from proposed 220/110kV Chadachan to 110kV Dhulked substation along with two number of 110kV terminal bays at 110kV Dhulked s/s. 5. 110kV DC line with Panther ACSR conductor from proposed 220/110kV Chadachan to 110kV Jigajeevanagi substation two number of 110kV terminal bays at 110kV Jigajeevanagi s/s. 6. 1x10 MVA, 110/11kV transformer.	220/110		320	Planned	2028-29
		220	72			
64	Establishing 2x160 MVA, 220/110 kV Sub-Station at Hungund & with associated 220 kV & 110 kV Lines : • 220kV DC line from proposed 400/220 kV Kushtagi substation to proposed 220kV Hungund substation with AAAC Moose conductor along with 2 no. of 220kV TBs at prop. 400/220kV Kushtagi substation. • 220kV LILO of 220kV Balkundi-Marol LIS SC line (connecting 220kV Balakundi LIS and 220kV Marol LIS radially from proposed 220/110kV Hungund substation) with drake conductor. • DC LILO of 110kV Hungund-Ilkal DC line to prop. 220 kV Hungund sub-station.	220/110		320	Planned	2029-30
		220	80			

	Stringing of 2nd circuit with Lynx ACSR conductor from 110 kV Hungund s/s to 110 kV Kudalsangama s/s in the existing corridor along					
65	Establishing 2x160 MVA, 220/110/11kV Receiving station at Nelavagilu along with associated lines: - Construction of 220kV DC line with Drake ACSR conductor from the existing 220kV Shiralakoppa (Balligavi) R/s to the proposed 220kV Nelavagilu R/s. - Conversion of existing SC line on DC towers with Lynx conductor to DC line with Lynx conductor by stringing of 2nd Circuit from Kittadahalli tapping point (near Masur road cross) upto 110kV Kittadahalli Sub-station and from tapping point of 110kV Hosur Sub-station upto 110kV Hosur Sub-station along with construction of 1 no. of 110kV Terminal Bays each at 110kV Kittadahalli & Hosur Sub-stations. - Construction of 110kV MC line on MC towers with Lynx ACSR conductor from proposed 220/110kV Nelavagilu R/s to make LILO of both the circuits of the above DC Line. LILO of one circuit to have radial arrangement to 110kV Hosur Sub-station & 110kV Kittadahalli Sub-station from proposed 220kV Nelavagilu R/s and to have 110kV interconnectivity between 110kV Hosur & Kittadahalli Sub-stations. LILO of another circuit to have connectivity to Bhaktanakoppa tapping point and to have radial arrangement to 110kV Shikaripura Sub-station (to be linked to tapping point of 110kV Balligavi – Shikaripura line near 110kV Shikaripura SS). - Construction of 110kV DC line on DC towers with Lynx ACSR conductor to make LILO of existing 110kV Ambaragoppa-Essur tap-Shikaripura SC line. 1x10MVA, 110/11kV Power Transformer.	220/110		320	Planned	2029-30
		220	46			
66	Establishing 2x150 MVA, 220/66kV Receiving station at T.Narasipura along with associated lines: 220 kV DC LILO of 220 kV Vajamangala-TKHalli line to the proposed 220 kV T-Narsipura substation with 220 kV Drake conductor. - Conversion of 66 kV existing SC line to DC line from 66 kV Gargeshwari to 66kV Tayuru sub-station with coyote conductor along with one number of 66kV TB each at 66/11kV Gargeshwari and Tayuru sub-stations. 66kV MC line from prop. 220kV T.Narasipura sub-station to DC LILO the 66kV Garageshwari-Tayuru DC line. 66 kV SC line to 66 kV Vyasaraajapura with coyote conductor to proposed 220 kV Tnarsipura substation along with 1no. of 66kV TB at 66 kV Vyasaraajapura sub-station.	220/66		300	Planned	2029-30
		220	38			

	• 66 kV SC LILO of 66 kV Parinampura-Talkad line to proposed 220 kV T-Narsipura substation. Establishing 2 X 150 MVA, 220/66/11 kV substation at Hanur Limits along with associated lines: • 220 kV DC line from the 220 kV Madhuvinahalli substation to the proposed 220 kV Hanur substation with 220 kV Drake conductor along with 2 nos. of 220kV TBs at 220kV Madhuvanahalli substation. • 66 kV SC LILO of Kothanur-Bandally line to the proposed 220 kV Hanur substation with 66 kV coyote conductor. • 66 kV SC radial connectivity from the proposed 220 kV Hanur substation to 66 kV Rampura substation with 66 kV Drake conductor along with 1 no. of 66kV TB at 66kV Rampura substation. • 66 kV SC radial connectivity from the proposed 220 kV Hanur substation to 66 kV Ajjipura substation with 66 kV coyote conductor along with 1 no. of 66kV TB at 66kV Ajjipura substation. • 66 kV SC radial connectivity to 66 kV Lokanahalli substation from the proposed 220 kV Hanur substation with 66 kV coyote conductor along with 1 no. of 66kV TB at 66kV Lokanahalli substation. • 66 kV LILO of the proposed 66 kV Doddinduvadi- Hanur line to the proposed 220 kV Hanur substation with 66 kV coyote conductor. • 1x12.5MVA, 66/11kV power transformer.	220/66		300	Planned	2029-30
67		220	25			
68	Establishing 2x160 MVA, 220/110 kV Receiving station at Meesethimmanahalli village along with associated lines: • 220kV D/C line with Drake equivalent HPC conductor from proposed 220/110kV Meesethimmanahalli substation to the existing 220kV Shimoga – K.B.Cross (B2) Line for carrying out S/C LILO arrangement. • 110kV D/C line on D/C towers with Lynx/panther conductor from proposed 220kV Meesethimmanahalli substation to 110kV Bandihalli substation along with 2 new 110kV TBs at both Bandihalli substation. • 110kV D/C line on D/C towers with Lynx/panther conductor from proposed 220kV Meesethimmanahalli substation to 110kV Shettikere substation along with 2 no of 110kV TBs at both Shettikere substations. • 110kV M/C line on M/C towers with Lynx/panther conductor from proposed 220kV Meesethimmanahalli substation to existing 110kV Halkurke line i.e. upto point 'A' shown in Final Connectivity and then distribute the 110kV lines. 1x10 MVA, 110/11kV power transformer.	220/110		320	Planned	2029-30
		220	8			

69	Establishing 2 X 160 MVA , 220/110/11 kV sub-station near Tekkalakote along with associated lines: • 220kV DC line with 220 kV Drake conductor from proposed 220kV Somasamudra sub-station to proposed 220 kV Tekkalkote substation. • 220 kV DC line with 220 kV Drake conductor from 220 kV Sindhanoor to proposed 220 kV Tekkalkote substation. • Stringing of second 110 kV circuit with lynx conductor from 110 kV Kurgod substation to 110 kV Siriguppa substation and DC LILO of Kurgod – Siriguppa line and Sirigere cross-Tekkalkote line with lynx conductor. • Shifting the proposed 110 kV Nadavi substation to the proposed second circuit from 110 kV Kurgod – Siriguppa line. • Second LILO to 110 kV Sirigeres cross substation from 110 kV Kurgod – Siriguppa line. • Terminating the 110 kV Alipur- Somasamudra line to Kurgod tap line by constructing second circuit • Construction of 110 kV LILO line for 110 kV Kurugod sub-station for a distance of about 3.0 kms on existing DC towers from Sirigere Cross tap point in Kurugod Taluk, Ballari District which is approved in 89th TCCM held on 29.08.2022 and the work of Providing radial arrangement to 110 kV Kurugodu sub-station from proposed 220 kV Somasamudra sub-station by conversion of existing 110 kV SC line on SC towers to 110 kV DC line in Kurugod Taluk, Ballari District which is approved in 90th TCCM held on 12.09.2023 is dropped.	220/110		320	Planned	2029-30
		220	118			
70	Establishing 2x150 MVA, 220/66/11 kV sub-station at Sirivara (Kodimuddabahalli) with associated lines: 1.SC LILO of existing 220kV Shivamoga-Anthrasanahalli (B1) line to proposed 220/66/11kV Sirivara substation using HPC conductor. 2. 1X12.5MVA, 66/11kV Power transformer. 3. DC LILO of 66kV Anthrasanahalli-Anchepalya DC line to proposed 220/66/11kV Sirivara substation to connect 66/11kV Doddasarangi and Proposed Honnenahalli on one line and to connect 66/11kV Heggere (tap point) and Thimmasandra(tap point) on the other line with a LILO distance of 7km on MC line on MC towers with Drake ACSR conductor i.e 66kV lines emanating from prop. 220kV Sirivara that are connected to 66kV Anthrasanahalli-Anchepalya DC line (66kV line between prop 220/66kV Sirivara and 66kV Heggere, 66kV line between prop 220kV Sirivara and 66kV Doddasarangi, 66kV line between prop 220kV Sirivara and 66kV Tapping point of Thimmasandra and 66kV line between prop 220kV Sirivara and Honnenahalli line) to Drake ACSR conductor.	220/66		300	Planned	2027-28
		220	9			

	4. 66kV DC line to 66/11kV Honnudike substation from proposed 220/66/11kV Sirivara Establishing 2x150 MVA, 220/66/11kV Receiving station at Thattehalli with associated lines:					
71	• Construction of 220kV DC line with Drake conductor from the existing 220kV Chikkamagaluru (Mugulavally) R/s to the proposed 220kV Thattehalli R/s along with construction of additional 2 nos. of 220kV Terminal Bays at 220kV Chikkamagaluru (Mugulavally) R/s. • Construction of 66kV DC line on DC/MC towers with Coyote ACSR Conductor from the proposed 220kV Thattehalli R/s to make LILO arrangement of existing 66kV Belur-Ugane-Hassan line. • Construction of 66kV DC line on DC/MC towers with Coyote ACSR Conductor from the proposed 220kV Thattehalli R/s to make LILO arrangement of existing 66kV Belur tap – Hagare line. • Construction of 66kV DC line on DC towers with Coyote ACSR Conductor from the proposed 220kV Thattehalli R/s to make LILO arrangement of existing 66kV Belur tap - Halebeedu (Proposed 66kV Belur – Halebeedu) line. • 1x12.5, 66/11kV Power Transformer.	220/66		300	Planned	2028-29
		220	67			
72	Establishing 220 kV Switching station near Giriyal village with associated lines: • LILO of 220 kV Nagjari-Hubli lines to 220 kV Giriyal switching station. • LILO of 220 kV Nagjari-Bidnal SC line to 220 kV Giriyal switching station. • LILO of 220 kV Hubli-Sirsi DC line to 220 kV Giriyal switching station. • LILO of 220 kV Narendra-Haveri SC line to 220 kV Giriyal switching station. • LILO of 220 kV Narendra-Bidnal SC line to 220 kV Giriyal switching station.	220	75		Planned	2027-28
73	GIS Switching station (GIS-SS) near 220/66/11 kV Khodays Glass Factory(KGF) s/s: Construction of 220kV Un manned GIS-SS(with remote operation from KGF S/s) with double bus arrangement in the BDA open area below the 220kV Peenya-Singarpet SC line with following compresive transmission scheme. • Construction of 220kV Un-manned GIS Switching station (With remote operation from 220 kV Khodays Glass Factory sub-station) with double bus bar arrangement in the BBMP Park (Land to be acquired) near 220/66/11kV KhodaysGlass factory substation. • Conversion of 220kV SC to DC line from Mysandra upto Somanhalli LILO point and MC line from Somanahalli LILO point upto CTT near the proposed 220kV GIS Switching station with AAAC Moose conductor and connecting the said	220	22		Planned	2028-29

	MC overhead line to switching station using 220kV 1200sq mm UG cable. • Conversion of SC to DC line from 220/66kV Peenya substation upto CTT near the proposed 220kv GIS switching station (Peenya-Subramanyapura line) with AAAC Moose conductor and connecting the said DC overhead line to switching station using 1200sq mm 220kV UG cable. • Connecting the existing LILO portion of 220kV Subramanyapura DC overhead line to the proposed switching station radially using 1200sq mm 220kV UG cable. • Since 220 kV Nagarbhavi is approved with LILO of one of the circuits of Peenya-Singarpet line which is proposed for DC conversion from 220 kV Peenya s/s to 400 kV Mylasandra sub-station it may be apt to take up the work of 220 kV Nagarabhavi to commensurate with the upstream 220 kV network.					
74	Establishing 2x150MVA, 220/66/11KV Receiving Station at Dyagerahalli, Sira Taluk, Tumakuru District- Conversion of switching station to sub-station. 1) 66kV DC Panther line from 220kV Dyagerahalli to existing Bevinahalli sub-station. 2) 66kV DC Panther line from 220kV Dyagerahalli to existing Ranganathapura sub-station. 3) 66kV DC Panther line from 220kV Dyagerahalli to existing JG Halli sub-station.	220/66		300	Planned	2027-28
75	Establishing 2x100 MVA, 220/66/11 kV sub-station at Maddur (Somanahalli area) with associated lines: 1. Double LILO of 220 kV line between Tubinakere and Channapatna substation to the proposed 220 kV Maddur sub-station (Somanahalli Area) with Drake ACSR conductor. 2. Construction of 66 kV multi circuit line on multi circuit towers from the proposed Maddur (Somanahalli area) 220 kV station with two circuits to existing Maddur substation, one circuit to existing 66/11 kV KIADB Maddur substation and 01 circuit up to Mandya KIADB LILO point to link the newly proposed 66 kV line from 10 pole structure KIADB Mandya LILO point. 3. Construction of 66 kV multi circuit line on multi circuit towers from the proposed Maddur (Somanahalli area) 220 kV station with one circuit to existing 66/11 kV Somanahalli substation, one circuit to existing 66/11 kV Honnalagere substation and two circuit up to Somanahalli LILO point to link the proposed/approved 66 DC line on DC tower from KM Doddi substation to Somanahalli LILO point. 4. Construction of 66 kV DC line on DC towers from the proposed 220/66/11 kV Maddur to existing 66/11 kV substation at Besagarahalli in	220/66 220	20	200	Planned	2026-27

	Maddur taluk, Mandya district with coyote ACSR conductor.					
76	220kV Afzalpur: Establishing 2x200MVA, 220/110kV with associated 220 & 110kv lines sub-Station at Afzalpur in Kalaburagi Dist. 1) 220kV MC line to DC LILO the existing 220kV Ghanagapura-Sindagi DC line to prop. 220kV Afzalpura sub-station. 2) 110kV DC Lynx line from prop. 220kV Afzalpura to link 110kV Afzalpura-Chowdapura SC Lynx line. 3) 110kV DC Lynx line from prop. 220kV Afzalpura to link 110kV Afzalpura-Devagaon SC Lynx line. 4) 110kV DC Lynx line from prop. 220kV Afzalpura to link 110kV Ghanapura-Karajagi SC Lynx line.	220/66		400	Planned	2028-29
		220	60			
77	Holalkere : Establishing 3 x 150 MVA, 220/66kV Sub-Station at Holalkere in Chitradurga district 220kV connectivity: • 220kV DC line with Drake ACSR conductor from proposed 220/66kV Bharamsagara substation to proposed 220kV Holalkere sub-station along with 2 nos. of 220kV TBs at 220kV Bharamsagara substation. 66kV connectivity: • 66kV multi circuit line suitable for drake from proposed 220/66 kV Holalkere substation to LILO existing 66kV DC Holalkere-Chikkajajur line with Drake conductor for connecting 66kV Holalkere substation and coyote conductor for connecting 66kV Chikkajajur substation. • Conversion of existing 66 KV DC line from Coyote to Drake between MC LILO point to existing 66 KV Holalakere substation with suitable modification for 66kV bus arrangement and protection equipment's of the 66 KV Holalakere substation. • Conversion of existing 66 KV DC line from Coyote to Coyote equivalent HPC between existing 66 KV Holalakere substation & Ramagiri substation with suitable modification in 66kV bus arrangement and protection equipment's of the respective 66 KV substation. • 66kV multi circuit line from proposed 220/66 kV Holalkere substation to LILO of 66kV existing Holalkere-Pandrahalli DC line (between 66kV H.D Pura and Pandrahalli substation) with Coyote conductor for three circuits & Coyote equivalent HPC for connecting 66kV H.D Pura substation with suitable modification in protection equipments.	220/66		450	Planned	2027-28
		220	140			
78	Up-gradation of existing 110/11kV Thirthahalli sub-station to 2x100MVA, 220/110 kV GIS in Thirthahalli along with associated lines: a) 220kV DC LILO using 4 runs of 1200sq.mm UG cable from existing 220kV Varahi-Shimoga DC line with Drake conductor. It is suggested	220/110		200	Planned	2028-29
		220	24			

	that, Overhead Multicircuit Towers are preferred for LILO arrangement. Since the Zonal CEE/SEE Projects are of the opinion that, getting Forest Clearance is difficult, UG Cable is approved. b) Termination of existing 110kV terminal bays at 110kV Thirthahalli s/s to 220kV Thirthahalli GIS through OH/UG cable as per site condition within sub-station premises. c) Stringing 110kV second circuit on existing DC towers with Lynx conductor from Konandur tap point to Konandur sub-station and LILO to the existing 110kV Varahi-Shimoga SC line					
79	220kV Seeguru (Kaggundi): Establishing 2x100MVA 220/66kV Sub-station. Periyapatna Taluk, Mysuru District. Evacuation lines. 220 kV Connectivity: Ø Double LILO of 220kV Bastipura-Kushalnagar DC line to the proposed 220kV Periyapatna, Seeguru limits sub-station. 66 kV Connectivity: Ø DC LILO of 66kV Mysore line 1 and Mysore line 2 emanating from 220kV Kushalnagar to proposed 220/66/11kV substation at Periyapatna, Seeguru limits. Ø DC LILO of 66kV Periyapatna line 1 and Periyapatna line 2 emanating from 220kV Kushalnagar to proposed 220/66/11kV substation at Periyapatna, Seeguru limits.	220/66		200	Under Constrction	2027-28
		220	20			
80	Establishing of 2x160MVA, 220/110kV receiving station at Halki village in Yargatti Tq, Belagavi district with associated lines. 220kV Connectivity: • 220 kV DC LILO of 220 kV Narendra (PGCIL)-Ghattaprabha DC line with Drake ACSR conductor 110kV Connectivity: • 110 kV DC line with Lynx conductor to LILO the existing 110kV Yargatti-Benakatti SC line. • 110kV SC line with Panther ACSR conductor to existing 110 kV Mallur s/s along with one number of 110kV TB at Mallur sub-station. • 110kV SC line with Panther ACSR conductor to Prop. 110 kV Murugod s/s along with one number of 110kV TB at Prop. 110 kV Murugod sub-station. • 110kV SC line with Panther ACSR conductor to Prop. 110 kV K.Shivapura s/s along with one number of 110kV TB at Prop. 110 kV K.Shivapura sub-station.	220/110		320	Planned	2028-29
		220	8			

81	Establishing 2x150MVA, 220/66/11kV sub-station at Hirehadagali village along with associated lines: • Construction of DC line with drake conductor from 400/220kV Dhoni sub-station to proposed 220kV Hire Hadagali sub-station. • Construction of DC LILO with drake conductor of existing 66 kV Ittagi -Hire Hadagali DC Coyote line to the proposed 220kV Hire Hadagali sub-station. • Construction of DC line with drake conductor from proposed 220kV Hire Hadagali to 66kV Huvinahadagali sub-station along with two terminal bays at 66kV Huvinahadagali. • 1x12.5 MVA, 110/11 kV power transformer.	220/66		300	Planned	2028-29
		220	120			
82	220 KV Koujalagi: Establishing 2x200 MVA, 220/110 KV S/S at Koujalagi in Gokak Taluka along with 220 KV associated line and 110 KV Link Line. 220 kV Connectivity: • 220 kV DC LILO of 220 kV Mahalingapura-Soundatti DC line with Drake ACSR conductor to prop. 220 kV Koujalgi sub-station. 110 kV Connectivity: • 110 kV DC line with Panther conductor from proposed 220 kV Koujalagi sub-station to 110 kV Kulagod sub-station along with two number of 110kV TBs at Kulagod s/s. • 110 kV DC line with Panther conductor from proposed 220 kV Koujalagi sub-station to 110 kV Yadawad sub-station along with two number of 110kV TBs at Yadawad s/s. • 110 kV DC line with Drake conductor from proposed 220 kV Koujalagi sub-station to 110 kV Gosbal sub-station along with two number of 110kV TBs at Gosbal s/s. • 110 kV DC Line with Panther conductor from proposed Koujalagi s/s to 110 kV Mugilihal sub-station along with two numbers of 110kV TBs Mugilihal s/s. • 110 kV DC Line with Panther conductor from proposed Koujalagi s/s to 110 kV Hadaginal sub-station along with two numbers of 110kV TBs Hadaginal s/s. • 110 kV SC Line with Panther conductor on DC Towers from 110 kV Aralimatti s/s to 110 kV Kulagod s/s along with one no. of TB each at Aralimatti s/s and Kulagod s/s. • Stringing of 110 kV 2nd circuit with Panther conductor on DC Towers from 110 kV Mamadapura s/s to 110 kV Gosbal s/s along with one no. of 110 kV TB each at Mamadapura s/s and Gosbal s/s.	220/110		400	Planned	2028-29
		220	16			
83	Byadagi (Lakamajikoppa): Establishing 2x100MVA, 220/110kV & 1x10MVA, 110/11kV Sub-station at Byadagi (Lakamajikoppa). 220 kV connectivity: a. DC LILO of 220 kV Guttur - Haveri DC line to the proposed 220/110 kV Byadgi substation	220/110		200	Under Constrcution	2027-28
		220	3.008			

	110 kV connectivity: a. 110 kV DC line to the existing 110 kV Byadgi substation with Lynx conductor.					
84	b. 110kV DC line to the existing 110 kV Establishing 2x150MVA Power Transformer, 220/66kv Receiving Substation at Jagalur along with associated lines: • 220KV Double circuit line with Drake ACSR conductor from 400/220kV Hiremallanahole(Jagalur) to proposed 220kV Jagalur substation along with 2 number of 220kV TBs at 400/220kV Hiremallanahole substation. • Construction of 66kV DC line on Multi-circuit towers with coyote ACSR Conductor from the proposed 220kV Jagalur substation to make LILO arrangement of existing 66kV Jagalur-Sokke SC line and drawing another 66kV Single circuit line from proposed 220/66kV Jagalur substation to 66/11 kV Sokke substation with coyote conductor on same MC tower and by utilizing existing vacant cross arms of existing DC towers along with one number of 66kV TB at 66kV Sokke s/s. • Construction of 66kV Double circuit line with panther conductor from proposed 220/66kV Jagalur substation to proposed 66/11 kV Anuburu substation along with 2 number of 66kV TBs at Anuburu s/s. • Construction of 66kV Double circuit line with panther conductor from proposed 220/66kV Jagalur substation to 66/11 kV Hosahalli substation along with 2 number of 66kV TBs at Hosahalli s/s. • 1x12.5 MVA, 66/11 kV transformer.	220/66		300	Planned	2028-29
		220	35			
85	Establishing 2x160MVA, 220/110/11 kV Receiving Station at 110kV sub-station Kalaburagi(South), Kalaburgi Taluk and District with associated lines: 1. 220kV DC LILO from existing 220kV Firozabad – Kapanoor DC line to proposed 220kV Kalaburagi (South) with Drake ACSR conductor / Partial 1200 Sq mm UG Cable (NBT/Monopoles/UG cable shall be considered depending on field condition & most economical way for execution of works). 2. Termination of existing 110kV University lines 1&2 to proposed 220/110kV Kalaburagi (South) Receiving station. 3. Termination of existing 110kV Kalaburagi West lines 1&2 to proposed 220/110kV Kalaburagi (South) Receiving station. 4. Termination of existing 110kV Farhatabad line to proposed 220/110kV Kalaburagi (South) Receiving station. 5. 110kV bus extension from the proposed 220/110kV Kalaburagi (South) R/s to the existing 110kV Kalaburagi South Sub-station by	220/110		320	Planned	2029-30
		220	16			

	construction of interconnecting bay or drawing of 110kV 1000 Sq.mm UG cable from 220/110kV Kalaburagi (South) R/s to existing 110kV					
86	Gubbi: Establishing 2*160MVA, 220/110/11KV Receiving Station at Gubbi in Gubbi Taluk, Tumakuru District. 220kV Connectivity: 1) 220kV LILO of 220kV Shimoga-Antharsanahalli B1 SC line to proposed 220/110kV Gubbi sub-station using HPC conductor. 2) 2 additional 220kV TB"s may be provided for bypassing arrangement of 220kV Nelamangala-K B Cross B2 line at proposed 220kV Gubbi sub-station, thereby providing total 4 nos of 220kV terminal bays at proposed Gubbi sub-station. 3) 2x160 MVA, 220/110 kV transformers. 110kV Connectivity: 4) Conversion of existing 110 kV SC line on SC towers by DC line with Panther ACSR on 110 kV MC/DC towers from existing 220/110kV Nittur substation to proposed 220/110 kV Gubbi substation with 1 no of 110kV TB on both ends. 5) SC LILO of second circuit of 110 kV Nittur-proposed Gubbi line to proposed 110 kV Torehalli substation. 6) Conversion of existing 110 kV Bidare SC tap line to 110 kV DC line using 110 kV MC/DC towers from proposed 220/110 kV Gubbi receiving station	220/110		320	Under Constrction	2027-28
		220	6			
87	Bayidoddi: Establishment of 2X160MVA, 220/110kV and 1X10MVA, 110/11kV S/s at Bayidoddi in Raichur Tq and Dist. 220kV Connectivity: • 220kV DC LILO of existing 220kV Raichur - Jurala DC line with Drake conductor. (Metering at 220kV Raichur sub-station for 220kV Raichur-Jurala DC line shall be shifted to prop. 220kV Bayidoddi sub-station) 110kV Connectivity: • Stringing of 2nd circuit with Lynx conductor on existing DC towers from 110 kV Matamari s/s upto LILO point of Maliyabad-Yeragera line (Loc no:4) for a distance of about 22.9 km along with one terminal bay at 110 kV Matamari sub-station. • Stringing of 2nd circuit with Lynx conductor on existing DC towers from 110 kV Yeragera s/s upto Yapaldinni tapping point along with one terminal bay at 110 kV Yeragera sub-station. • Construction of 110 kV LILO line with Lynx conductor on DC towers from prop. 220/110 kV Bayidoddi s/s to the proposed 110 kV Yeragera-Yapaldinni tapping point along with two terminal bays at 220/110 kV Bayidoddi sub-station. • Construction of 110 kV LILO line with Lynx conductor on DC towers from prop. 220/110 kV	220/110		320	Planned	2027-28
		220	8			

	Bayidoddi s/s to the existing 110 kV Vadavatti-KIADB line at Loc no: 97 along with two terminal bays at 220/110 kV Bayidoddi sub-station. • Stringing of 2nd circuit with Lynx conductor on existing DC towers from 110 kV Yapaldinni s/s to 110 kV Shaktinagara s/s along with one					
88	220/110/11KV Ingaligi: Establishing 2x100MVA, 220/110/11kV sub-station at Ingaligi village in Hosapete Taluk & vijayanagara district. 220 kV Connectivity: a)220kV DC line with 220 kV Drake conductor from 400 kV Guddadahalli substation to proposed 220 kV Ingalagi substation for about 20 km.(with concurrence from M/s PGCIL) 110kV connectivity: b)110 kV DC line from existing 110 kV Kamalapur substation to proposed 220 kV Ingalagi substation for about 9 km with two number of TBs at 110 kV Kamalapura substation with 110 kV Panther/lynx conductor. c)110 kV SC LILO from existing 110 kV BVGere-Thorungal line to proposed 220 kV Ingalagi substation for about 4.5 km with 110 kV lynx conductor. d)110 kV DC line from proposed 110 kV Rayarakere substation to proposed 220 kV Ingalagi substation for about 2.5 km with two number of TBs at proposed 110 kV Rayarakere substation with 110 kV Panther/lynx conductor.	220/110		200	Planned	2029-30
		220	35			
89	220/66/11KV Ayyanahalli: Establishing 2x150MVA, 220/66/11kV sub-station at Ayyanahalli village in Hosapete Taluk & vijayanagara district. 220kV Connectivity: • Construction of 2nd circuit LILO of 220 kV Ittagi-Lingapura (under construction) Drake line to 220kV Ayyanahalli sub-station. 66 kV Connectivity: • Strengthening of 66kV MHD line i.e., Munirabad-UP Halli-HB Halli SC line with Coyote conductor to DC line with Panther conductor from Venkatapura tap point to HB Halli sub-station with DC LILO to 66/11kV UP Halli and HB Halli sub-stations along with two number of terminal bays at UP Halli s/s and one number of terminal bay at HB Halli s/s. • Conversion of 66 kV Venkatapura tap SC coyote line to DC line with Panther conductor from Venkatapura s/s upto tap point and linking to the proposed MHD DC line with panther conductor along with one number of 66 kV	220/66		300	Planned	2028-29
		220	1			

	terminal bay at Venkatapura s/s. • Construction of 66kV MC line (4 circuits) with Panther conductor from 220kV Ayyanahalli s/s to LILO 66kV MHD line (proposed for SC to DC conversion with Panther conductor from					
90	Establishing 220/66/11kV S/s at Sathanur(Harobele) along with associated line. 1) 220kV DC LILO of prop. 220kV Hebbani-Kanakapura DC line to prop. 220kV Harobele sub-station. 2) 2x150MVA, 220/66kV power transformers. 3) 66kV bus extension from existing HARobele to prop. 220kV Harobele GIS. 4) Conversion of existing 66kV SC tap line with Coyote line by DC line with drake conductor with LILO arrangements between 220kV Kanakapura-TKHalli along with construction of 66kV TBs at 66/11kV Harobele s/s. 5) Conversion of existing 66kV SC line on DC towers from Harobele to Kunur by DC line with Coyote conductor on existing towers along with 66kV TBs at both the sub-stations. 6) Conversion of existing 66kV SC line on DC towers from Harobele to Kodihalli by DC line with Coyote conductor on existing towers and making LILO to 66kV Hukuda sub-station along with 66kV TBs at all the sub-stations and terminating at prop. 220kV Harobele sub-station. 7) Conversion of existing 66kV SC tap line on DC towers to DC line with Drake conductor with LILO arrangements and construction of TBs at 66kV Doddalahalli s/s.	220/66		300	Planned	2028-29
		220	28			
91	Bhalki: Establishing 2x100MVA Power Transformer, 220/110kv Receiving Substation at Bhalki in Bidar district. 220kV connectivity: 1) 220kV DC line with Drake ACSR conductor from the existing 220kV Humnabad to the proposed 220kV Bhalki. 110kV connectivity: 2) 110kV DC line with Lynx conductor from proposed 220kV Bhalki to 110kV Ladha s/s along with two number of 110kV TBs at 110kV Ladha s/s. 3) 110kV DC line with Lynx conductor from proposed 220kV Bhalki to 110kV proposed Lakhangaon s/s along with two number of 110kV TBs at prop. 110kV Lakhangaon s/s. 4) Conversion of existing 110kV Bhalki-Ladha SC line to DC line with Lynx line along with one number of 110kV TB each at 110kV Bhalki and 110kV Ladha sub-stations.	220/110		200	Planned	2028-29
		220	35			
	Total		13054.6	61515		

Annexure-B**Augmentation of Transformation Capacity (MVA) at existing substations**

Sl. No	Transmission Scheme/Details	Voltage (kV)	MVA	Details	Status (Under Construction/ Planned)	Anticipated SCoD
1	Augmentation of 4 th additional 1x500 MVA, 400/220 kV ICT at Hoody Sub-Station, Bangalore Urban district.	400/220	500	1*500	Planned	2027-28
2	Augmentation of 3 rd additional 1x500 MVA, 400/220 kV ICT at Guttur sub-station Davangere district.	400/220	500	1*500	Under Construction	2026-27
3	Augmentation of 3 rd additional 1x500 MVA, 400/220 kV ICT at 400/220kV Jagalur Sub-Station, Chitradurga district.	400/220	500	1*500	Under Construction	2026-27
4	400kV Guttur: Augmentation of 2x315 MVA Power Transformer by 2x500 MVA Power Transformer at 400/220kV R/S Guttur.	400/220	370	2*315 by 2*500 MVA	Planned	2027-28
5	400/220 Doni: Providing 3 rd additional 1X500MVA 400/220KV ICT at 400/220KV Doni receiving station	400/220	500	1*500	Planned	2027-28
6	Enhancement of existing 1x67.5MVA Transformer-1 by 1x150MVA power transformer at 220/66/11kV SRS Peenya	220/66	82.5	1*67.5 to 1*150 MVA	Planned	2027-28
7	Replacement of 3x100MVA, 220/72.5 kV & 220/66 kV Power Transformers by 3x150 MVA,220/66kV Power Transformers at 220/66kV NRS Doddaballapura Receiving station.	220/66	150	3*100 by 3*150 MVA	Planned	2027-28
8	Augmentation of 2X100MVA, 220/66/11kV Power Transformers-1 & 2 by 2x150MVA, 220/66/11kV Power Transformers at 220/66/11 kV Kolar sub-station in Kolar Taluk and District	220/66	100	2*100 by 2*150 MVA	Planned	2027-28
9	Augmentation of 2x100MVA, 220/66kV Power Transformers by 2x150MVA, 220/66kV Power Transformers at 220k Kanakapura sub-station in Ramanagar district.	220/66	100	2*100 by 2*150 MVA	Planned	2027-28
10	Additional 100MVA, 220/66kV Power Transformer at 220kV Channapatna sub-station in Ramanagar district.	220/66	100	1*100 MVA	Planned	2027-28
11	Augmentation of 1x100MVA, 220/66kV Power Transformers by 1x150MVA, 220/66kV Power Transformers at 220kV HSR Layout sub-station in Bengaluru district.	220/66	50	1*100 by 1*150 MVA	Planned	2027-28
12	Augmentation of 1x100MVA, 220/66/11kV Power Transformers by 1x150 MVA, 220/66/11 kV Power Transformers at 220/66/11kV Ekarajapura sub-station in Hosakote Taluk & Bengaluru North District	220/66	50	1*100 by 1*150 MVA	Planned	2027-28
13	Augmentation of existing 2x100 MVA, 66/11 kV Power Transformers by 2x150MVA 66/11 kV Power Transformer at 220/66/11 kV Mitemari sub-station & Providing addln 1X150MVA, 220/66kV in Operations Division, Gowribidanur	220/66	100	2*100 by 2*150 MVA	Planned	2027-28
14	Providing additional 150 MVA, 220/66/11 kV Power transformer at Vrishabhavathi valley S/s	220/66	150	1*150 MVA	Planned	2027-28

15	Augmentaion of 220/66KV, 3X100MVA by 3X150MVA at Chitradurga	220/66	150	3*100 by 3*150 MVA	Planned	2027-28
16	Augmentaion of 220/110KV, 2X100MVA by 2X160MVA at Nittur	220/110	120	2*100 by 2*160 MVA	Planned	2027-28
17	Augmentaion of 220/66KV, 2X100MVA by 2X150MVA at Sira and Additional 1X150MVA at 220/66KV Sira R/S	220/66	250	2*100 by 2*150 MVA	Planned	2027-28
18	Augmentaion of 220/66KV, 2X100MVA by 2X150MVA at Benkikere and Additional 1X100MVA at 220/66KV Benkikere R/S as Spare	220/66	200	2*100 by 2*150 MVA + 1x100 MVA	Planned	2027-28
19	Augmentaion of 220/110KV, 3X100MVA by 3X160MVA at K.B Cross	220/110	180	3*100 by 3*160 MVA	Planned	2027-28
20	Augmentaion of 220/66KV, 2X100MVA by 2X150MVA at Madhugiri and Additional 1X100MVA at 220/66KV Madhugiri R/S as spare	220/66	200	2*100 by 2*150 MVA	Planned	2027-28
21	Augmentaion of 220/66KV, 1X100MVA Transformer-3 by 1X150MVA at Antharasanahalli and Providing Spare 100MVA at 220/66KV R/S Antharasanahalli	220/66	50	1*100 by 1*150 MVA	Planned	2027-28
22	Augmentaion of 220/66KV, 2X100MVA by 2X150MVA at Honnali	220/66	100	2*100 by 2*150 MVA	Planned	2027-28
23	Augmentaion of 220/66KV, 3X100MVA by 3X150MVA at Hiriyur	220/66	150	3*100 by 3*150 MVA	Planned	2027-28
24	Augmentaion of 220/66KV, 3X100MVA by 3X150MVA at Thallak	220/66	150	3*100 by 3*150 MVA	Planned	2027-28
25	Augmentation of 2x100 MVA by 2x150 MVA Power Transformer and Providing Spare 1X100MVA at 220/66KV Pavagada R/S	220/66	100	2*100 by 2*150 MVA	Planned	2027-28
26	Augmentaion of 220/66KV, 2X100MVA by 2X150MVA at Hosadurga(Madhure)	220/66	100	2*100 by 2*150 MVA	Planned	2027-28
27	220/66/11KV SRS Davangere : Replacement of 2X100MVA Power Transformers by 2X150 MVA 220/66KV Power Transformer at 220/66/11KV SRS Davangere	220/66	100	2*100 by 2*150 MVA	Planned	2027-28
28	Honnali: Providing additional 1X100MVA 220/66KV power transformer at 220/66KV Honnali substation in Honnali taluk, Davanagere district.	220/66	100	1*100 MVA	Planned	2027-28

29	Chikkamagaluru (Muguluvalli): Work of providing additional 1x150MVA 220/66/11KV Power Transformer at 220/66/11KV Receiving station, Muguluvalli	220/66	150	1*150 MVA	Planned	2027-28
30	Augmentation of 2X100MVA 220/110kV Power Transformers by 2X160MVA , 220/110kV Power Transformer at 220kV MRS Shivamogga	220/110	120	2*100 by 2*160 MVA	Planned	2027-28
31	Hassan 220kV: Augmentation of 2X100 MVA, 220/66 kV Power Transformer by 2X150 MVA, 220/66 kV Power Transformers at 220kV Hassan Sub-station.	220/66	100	2*100 by 2*150 MVA	Planned	2027-28
32	Kadavinakote : Augmentation of 2x100 MVA 220/66kV Power Transformers by 2x150MVA 220/66kV Power Transformers, Kadavinakote in Holenarasipura Taluk, Hassan District	220/66	100	2*100 by 2*150 MVA	Planned	2027-28
33	Yachenahally : Augmentation of 2x100 MVA 220/66kV Power Transformers by 2x150MVA 220/66kV Power Transformers in Channarayapatna Taluk, Hassan District.	220/66	100	2*100 by 2*150 MVA	Planned	2027-28
34	Providing additional 1x160 MVA, 220/110 kV power transformer at 220kV MRS Shivamogga sub-station	220/110	160	1*160 MVA	Planned	2027-28
35	Kadakola: Augmentation of existing 220/66/11kV, 2X100MVA by 220/66/11kV 2X150MVA Power transformers at 220/66/11kV Kadakola R/s, Hootagally Operations division, Mysuru.	220/66	100	2*100 by 2*150 MVA	Planned	2027-28
36	Chamarajanagara: Augmentation of existing 220/66/11kV, 2X100MVA by 220/66/11kV 2X150MVA Power transformers at 220/66/11kV Chamarajanagara R/s, Chamarajanagara Operations Division,Chamarajanagara	220/66	100	2*100 by 2*150 MVA	Planned	2027-28
37	Kushalanagara: Replacement of 2 X 100 MVA By 2 X 150 MVA, 220/66 KV Power Transformer at 220/66/11kV Receiving station in Kushalnagara Taluk, Kodagu District.	220/66	100	2*100 by 2*150 MVA	Planned	2027-28
38	Augmentation of 2X100MVA Power Transformers by 2X150 MVA at 220/66/11KV Huygonahalli R/s at KR Pete Taluk, Mandya District.	220/66	100	2*100 by 2*150 MVA	Planned	2027-28
39	Madhuvanahalli: Augmentation of existing 220/66/11kV, 2X100MVA by 220/66/11kV 2X150MVA Power transformers at 220/66/11kV Madhuvanahalli R/s, Chamarajanagara Operations Division,Chamarajanagara	220/66	100	2*100 by 2*150 MVA	Planned	2027-28
40	Hebbani: Augmentation of existing 220/66/11kV, 2X100MVA by 220/66/11kV 2X150MVA Power transformers at 220/66/11kV Hebbani R/s, Malavalli (T), Mandya (D)	220/66	100	2*100 by 2*150 MVA	Planned	2027-28
41	Tubinkere: Providing additional 3rd 150 MVA, 220/66/11kV Power transformer at 220/66/11kV Tubinkere R/s,	220/66	150	1*150 MVA	Planned	2027-28

	Mandya (D)					
42	Nagamangala: Augmentation of existing 220/66/11kV, 2X100MVA by 220/66/11kV 2X150MVA Power transformers at 220/66/11kV Nagamangala R/s, Mandya (D)	220/66	100	2*100 by 2*150 MVA	Planned	2027-28
43	220 KV Ghataprabha : Providing additional 1X100 MVA, 220/110 KV Power Transformer at 220/110/11 KV Ghataprabha Sub Station in Belagavi District	220/110	100	1*100 MVA	Planned	2027-28
44	Enhancement of capacity of existing 2X100MVA, 220/110kV Power Transformers to 2X160MVA, 220/132-110kV Power Transformers at 220kV R/S Ranebennur in TL&SS Division Haveri	220/110	120	2*100 by 2*160 MVA	Planned	2027-28
45	Enhancement of existing 2X100MVA, 220/110kV Power Transformers by 2X160MVA, 220/110kV at 220kV R/s Ambewadi in Haliyal Tq, in Operation Division, KPTCL Sirsi	220/110	120	2*100 by 2*160 MVA	Planned	2027-28
46	Providing 3rd 100MVA, 220/110kV Power Transformer at 220/110-11kV R/S Mugalkhod (Kabbur) in Chikkodi Taluk, Belagavi district in TL&SS Division KPTCL Chikkodi	220/110	100	1*100 MVA	Planned	2027-28
47	Additional 1X160MVA 220/110kV Power transformer at 220kV R/S Mahalingpur	220/110	160	1*160 MVA	Planned	2027-28
48	Providing Additional 100MVA 220/110kV Power transformer at 220kV R/S Aheri	220/110	100	1*100 MVA	Planned	2027-28
49	Providing additional 2X100MVA, 220/66/11kV Power Transformer-3 at 220/66kV Badeladaku (Kudligi) sub-station in Kudligi taluk, Vijayanagara District.	220/66	200	2*100 MVA	Planned	2027-28
50	Replacement of 2X100 MVA by 2X160 MVA and providing additional 1x160MVA, 220/110/11kV Power Transformer at 220kV Shahapur (Hattiguduru) in sub-station, Yadgir District.	220/110	280	2*100 by 2*160 MVA + 1*160 MVA	Planned	2027-28
51	Providing additional 1x100MVA, 220/110/11kV Power Transformer at 220kV Kapnoor sub-station, Kalaburagi District.	220/110	100	1*100 MVA	Planned	2027-28
52	Replacement of 2X100 MVA by 2X160 MVA and providing additional 1x160MVA, 220/110/11kV Power Transformer 220kV Humnabad sub-station in Bidar district.	220/110	280	2*100 by 2*160 MVA + 1*160 MVA	Planned	2027-28
53	Replacement of 2X100 MVA by 2X150 MVA and providng additional 1x150MVA, 220/66/11kV Power Transformer at 220/66/11 kV Ittagi in Huvina Hadagali Taluk, Ballari District	220/66	100	2*100 by 2*150 MVA	Planned	2027-28
54	Providing additional 2x100 MVA, 220/110kV Power Transformer at 220/110/33/11kV Raichur sub-station.	220/110	200	2*100 MVA	Planned	2027-28
55	Replacement of 2X100 MVA by 2X160 MVA and providng additional 1x160MVA, 220/110/11kV Power Transformer at 220kV Lingasugur, Raichur District.	220/110	120	2*100 by 2*160 MVA	Planned	2027-28
56	Replacement of 2X100 MVA by 2X160 MVA and	220/110	120	2*100	Planned	2027-28

	providng additional 1x160MVA, 220/110/11kV Power Transformer at 220kV Sulekal s/s.			by 2*160 MVA		
57	Replacement of 2X100 MVA by 2X160 MVA and providng additional 1x160MVA, 220/110/11kV Power Transformer at 220/110/33/11kV Sindanur sub-station, Raichur District	220/110	280	2*100 by 2*160 MVA + 1*160 MVA	Planned	2027-28
58	Replacement of 2X100 MVA by 2X160 MVA and providng additional 1x160MVA, 220/110/11kV Power Transformer at 220/110/33/11kV Halvarthy sub-station, Koppal District	220/110	280	2*100 by 2*160 MVA	Planned	2027-28
59	Providng additional 2x100MVA, 220/110/11kV Power Transformer at 220/110/33/11kV Sedam sub-station, Kalaburagi District	220/110	200	2*100 MVA	Planned	2027-28
60	Providng additional 3x160 MVA, 220/110/11kV Power Transformer at 220/110/33/11kV Somasamudra	220/110	480	3*160 MVA	Planned	2027-28
61	Providing additional 1X150MVA, 220/66/11kV Power Transformer-3 at 220/66kV Badeladaku (Kudligi) sub-station in Kudligi taluk, Vijayanagara District.	220/66	150	1*150 MVA	Planned	2027-28
62	Providing additional 100MVA, 220/110/11kV Power Transformer at 220kV Mallat sub-station, Raichur District.	220/110	100	1*100 MVA	Planned	2027-28
63	MRS Shivamogga: Providing additional 3rd 100MVA, 220/110/11kV power transformer at MRS Shivamogga in Shivamogga Taluk & District	220/110	100	1*100 MVA	Under Construction	2026-27
64	Dabaspete: Augmentation of 2X100 MVA, 220/66/11 kV Power Transformers by 2X150MVA, 220/66/11kV Power Transformers at 220/66/11kV Dabaspete Sub-station along with strengthening of existing 220 kV Dabaspet-Nelamangala SC line to HPC for a distance of 24.469 Kms.	220/66	100	2*100 by 2*150 MVA	Under Construction	2027-28
65	Yarandanahalli: Augmentation of 1x100 MVA Power transformer-3 by 1x150 MVA Power transformer	220/110	50	1*100 by 1*150 MVA	Under Construction	2026-27
66	Antharasanahalli : Augmentation of 2X100 220/66 KV Power Transformer by 2X150MVA 220/66KV Power Transformer	220/66	100	2*100 by 2*150 MVA	Under Construction	2026-27
67	NRS: Aug of 2X100MVA by 2x150 MVA TR at NRS near BESCOM stores and modernization of AIS by GIS on 220 kV side and Hybrid on 66 kV side.	220/66	100	2*100 by 2*150 MVA	Under Construction	2026-27
68	220/66kV Hoody: Replacement of 2x100MVA Power Transformer by 2x150MVA 220/66kV Power Transformer at 220/66kV Hoody Sub-station.	220/66	100	2*100 by 2*150 MVA	Under Construction	2026-27
69	220KV Ekrajapura : Addnl 220/66KV, 1X100 MVA & 2X12.5MVA at 220kV Hoskote station	220/66	100	1*100 MVA	Under Construction	2026-27
Total			11022.5			

Annexure-C**Reconductoring of the existing Intra-State lines of KPTCL planned during 2025-26 to 2029-30**

Sr. No.	Name of transmission line	Voltage (kV)	ckm (km)	Status (Under Construction/Planned)	Actual / Anticipated SCoD
1	400 kV S/C BTPS-Guttur line (Excluding Jindal LILO line) to 400 kV D/C Quad Moose line	400	274	Under Construction	2027-28
2	400 kV RTPS-BTPS S/C Twin Moose line to D/C line with Quad Moose	400	304	Planned	2028-29
3	400 kV Nelamangala-Hoody DC Twin Moose line by Twin equivalent HPC (LILO at Singanayakanahalli and Devanahalli)	400	200	Planned	2028-29
4	i) 6.208 km of 220 kV D/C line using partly (on M/C towers) from Guttur station to Davangere Lingapura LILO point ii) Conversion of 21.203 km of S/C to D/C line from Davangere Lingapura LILO point to Neelgunda LILO point iii) 3.902 km of D/C line (on M/C towers) upto Neelgunda station in new corridor	220	75	Under construction	2026-27
5	220 kV Gowribidanur-Madhugiri S/C line to 220 kV D/C line with AAAC Moose conductor	220	61	Under construction	2026-27
6	220 kV Hiriur-Madhugiri S/C line on S/C tower to 220 kV D/C line on D/C towers with drake conductor between 220 kV Hiriur receiving station and tapping point of Antharasanahalli-Madhugiri 220 kV line	220	140	Under construction	2026-27
7	400 kV Bastipura Station-220 kV Hootagally station Drake ACSR Conductor to Drake HTLS Conductor	220	13	Under construction	2026-27
8	220 kV S/C Hootagally-Vajamangala-T.K. Halli to D/C line with Drake ACSR Conductor	220	140	Under construction	2026-27
9	220 kV D/C line between 220/110 kV Gadag and Lingapur Switching Station via proposed 400/220 kV Doni Station & 220 kV Halavarthy station with Drake equivalent HTLS conductor	220	180	Under construction	2026-27
10	220 kV D/C lines of Kali generating complex having Drake conductor to Drake equivalent HTLS conductor: (i) 220 kV Nagzari-Ambewadi D/C line (ii) 220 kV Nagzari-SRS Hubballi D/C line (iii) 220 kV Nagzari-Bidnal D/C line	220	212.52	Under construction	2026-27
11	220 kV Gowribidanur-DB Pura S/C line Drake ACSR conductor to 220 kV D/C line with AAAC Moose conductor by terminating one of the circuits at D.B.Pura and other circuit at proposed 400 kV Devanahalli Hardware Park by using 1000sqmm single circuit 220 kV UG Cable for a distance of 2.4 km	220	45.376	Under construction	2026-27
12	Construction of 220KV Multi Circuit (4Ckts) line with AAAC Moose conductor with V string and partially 220kV UG cable from existing 400/220	220	52	Under construction	2026-27

	kV Nelamangala Station to strengthen the 220kV Transmission line connecting the 220kV SRS Peenya, 220kV NRS Rajajinagara, ongoing 220kV Brindavana Sub-station and Proposed 220kV Sahakaranagra Sub-stations by utilizing 13Kms of idle 110kV SBT corridor				
13	Construction of 220kV D.C line on DC towers from the existing 220kV SRS Lingapura to the existing 220kV R/s at Neelagunda, LILO'ed at Ittagi 220kV and Neelagunda 220kV s/s in the existing corridor for a route length of 91.425 km	220	182	Under construction	2026-27
14	220 kV D/C Line from Davanagere-Honnali-Shivamogga to HPC	220	186	Planned	2027-28
15	Re-conductoring of existing 220 kV lines of 220 kV Guttur-Davanagere-1 & 3	220	85	Planned	2027-28
16	Reconductoring of 220 kV Tumkur (Vasanathanarsapura)-Antharasanahalli D/C	220	12	Planned	2027-28
17	220 kV Madhugiri R/S-220KV Pavagada R/S D/C Drake line to HPC	220	180.65	Under construction	2027-28
18	220 kV Hiriyur(PGCIL)-Hiriyur line Drake conductor to Drake equivalent HTLS Conductor	220	14	Planned	2027-28
19	220 kV Nelamangala-Anchepalya (ckt-1) & Nelamangala-Magadi-Anchepalya (ckt-2) D/C line drake ACSR conductor to HTLS conductor	220	177	Planned	2027-28
20	220 kV Shimoga-Nelamangala lines i.e. B1, B2, B3 and B4 lines from Drake conductor to HPC	220	300	Planned	2027-28
21	220 kV Hootagalli Kadakola S/C Line on S/C towers (CORSET Design) to D/C line on D/C Towers from 220/66/11 kV Hootagalli R/s to Kadakola LILO Point (Mavinahalli limits) for a distance of 15.3 Kms and conversion of existing 220 kV Kadakola LILO line into Multi circuit line from Kadakola LILO Point (Mavinahalli limits) to 220/66/11 kV Kadakola R/s for distance of 15.6 Kms	220	93	Planned	2027-28
22	220 kV Bidnal-Harti line between location no 01 to 03, 18 to 161 and 1 to 3 Drake conductor to HTLS conductor	220	122	Planned	2027-28
23	220 kV Narendra –Belagavi line-I & II D/C lines to HTLS/AAAC	220	140	Planned	2027-28
24	Reconductoring of 220 kV line Mahalingpura to Vajjramatti to 220 kV Bagalkot to ADPH to 220 kV Basavanabagewadi	220	61	Planned	2027-28
25	220 kV Sirsi – SRS Hubballi D/C line from location No: 01 to 24 (LILO), 154 to 401 drake conductor to HTLS conductor	220	184	Planned	2027-28
26	220 kV SRS Hubballi-Narendra D/C line from location No. 01 to 95, 01 to 32 (LILO) Deer & Drake Conductor to Drake HTLS conductor	220	100	Planned	2027-28
27	Replacement of existing Drake conductor by new Drake HTLS conductor of 220 kV Sharavati-Esale (Sirsi) M/C (Including Sharavati-Talaguppa) line from Loc. No: 01-45 from 46-453 D/C towers and 01-29 M/C towers (LILO) including 02 numbers of D/C towers.	220	108	Planned	2027-28
28	220 kV Narendra-MK Hubli D/C line Drake conductor to Drake equivalent HPC	220	68	Planned	2027-28
29	220 kV S/C line from Sharavathi to Guttur (Via	220	180	Planned	2027-28

	Belligavi, Rannebennur) to D/C twin Zebra conductor				
30	220 kV Ferozabad- Sedam S/C line to D/C line	220	124	Planned	2027-28
31	220 kV Lingapura-Somasamudra S/C line to D/C line	220	140	Planned	2027-28
32	220 kV Lingasgur-Kustagi-Gangavathi-Lingapura line Drake conductor to Drake equivalent HPC	220	170	Planned	2027-28
33	220 kV S/C line from Alipura to Somasamudra with HPC	220	41	Planned	2027-28
34	220 kV RTPS- Sedam line with HPC Conductor	220	30	Planned	2027-28
35	220 kV Kolar-HVDC (PGCIL)-Kolar D/C line Drake conductor to Drake equivalent HPC	220	14	Under construction	2027-28
36	220 kV Devanahalli-DHP (KIADB) D/C line with AAAC and DHP (KIADB) –BIAL Drake conductor to HPC	220	20	Planned	2027-28
37	220kV Hoody-EPIP-HSR & Hoody-Shoba dreams -Somanahally D/C Line drake conductor to HTLS conductor	220	47.4	Planned	2027-28
38	220 kV Peenya-NRS-Vrushabhavathy line drake conductor by HTLS conductor	220	19	Planned	2027-28
39	220 kV Hodoy-HAL D/C line Moose conductor by HTLS conductor	220	14.1	Planned	2027-28
40	220 kV LILO portion line of 220 kV HSR and Naganathapura conductor/cable in stations by HTLS/high ampacity Cable.	220	4.85	Planned	2027-28
41	220 kV Bidadi(PGCIL)-Bidadi D/C Line conductor by HTLS conductor	220	6.7	Planned	2027-28
42	220 kV Bidadi-Somanahalli D/C line Drake conductor to Drake equivalent HPC	220	22.7	Planned	2027-28
43	220 kV PGCIL Kolar-Chintamani D/C line Drake conductor to Drake equivalent HPC	220	50	Planned	2027-28
44	220 kV BIAL-Hoody S/C line Drake conductor to Drake equivalent HPC	220	23.5	Planned	2027-28
45	Additional 220 kV UG cable link between 220 kV HSR an Koramangala sub-stations	220	8.3	Planned	2027-28
46	220 kV Mylasandra-HSR Layout and Mylasandra-Naganathapura lines by HPC	220	29.5	Planned	2027-28
47	Strengthening of inner ring 220kV transmission network in Bengaluru City 1. Running 220 kV 1200sqmm UG Cable from 400kV Hoody to EDC substation for a length of 13.930 km. 2. Running 220 kV 1200sqmm UG Cable from 220 kV Koramangala to EDC sub-station for a length of 4.683 km.	220	18.61	Under construction	2027-28
	Total		4673.20		

Annexure D**Transmission schemes to be added in Karnataka under Inter-State during 2025-26 to 2029-30**

S.No	Scheme /details	Voltage level (kV)	Total ckm	Total MVA	Status	Anticipated SCoD
1	Transmission Scheme for Solar Energy Zone in Bidar (2500 MW), Karnataka				Under Construction	2026-27
	Establishment of Bidar PS 3x1500 MVA, 765/400 kV and 5x500 MVA, 400/220 kV ICTs	765/400/220		7000		
	Bidar PS–Maheshwaram (PG) 765KV D/C line along with 1x240 MVAR switchable Line Reactor on Bidar PS end of each circuit	765	479			
2	Transmission System for 400 kV Udupi (UPCL) – Kasargode D/C Line				Under Construction	2026-27
	2x500MVA, 400/220 kV Kasargode	400/220		1000		
	Mangalore (Udupi PCL) – Kasargode 400kV D/c line	400	232			
3	Transmission Scheme for Solar Energy Zone in Gadag (1500 MW), Karnataka – Part-A, Phase-II				Under Construction	2025-26
	400/220 kV, 3x500MVA ICT Augmentation at Gadag	400/220		1500		
	Gadag Pooling station – Koppal PS 400 kV D/C line	400	100			
4	ISTS Network Expansion scheme in Western Region & Southern Region for export of surplus power during high RE scenario in Southern Region				Under Construction	2026-27
	Narendra New (GIS) – Pune (GIS) 765kV D/c line with 1x330MVAR switchable line reactor on each ckt at both ends (318 km)	765	636			
	Upgradation of Narendra (New) (GIS) to its rated voltage of 765 kV level along with 4x1500 MVA transformer and 2x330 MVAR Bus Reactor	765/400		6000		
5	Transmission Scheme for integration of Renewable Energy Zone (Phase-II) in Koppal-II (Phase-A & B) and Gadag-II (Phase- A) in Karnataka				Under Construction	2026-27
	Establishment of 765/400 kV 2x1500 MVA, 400/220 kV, 2x500 MVA Koppal-II (Phase- A) with 2x330 MVAR (765 kV) &	765/400/220		4000		

	2x125 MVA (400 kV) bus reactors at Koppal-II PS					
	Establishment of 400/220 kV, 2x500 MVA Gadag-II (Phase -A) Pooling Station with 2x125 MVA 420kV bus reactors at Gadag-II PS	400/220		1000		
	Koppal-II PS – Narendra (New) 765 kV D/c line with 240 MVA SLR at Koppal-II PS end	765	238			
	Gadag-II PS – Koppal-II PS 400 kV (Quad Moose) D/c line	765	77			
	Koppal-II PS – Raichur 765 kV D/c line	765	293			
	Augmentation by 2x1500 MVA, 765/400 kV ICTs at Koppal-II PS	765/400		3000		
	Augmentation by 2x500 MVA, 400/220 kV ICTs at Koppal-II PS	400/220		1000		
6	Transmission scheme for integration of Tumkur-II REZ in Karnataka				Under Construction	2026-27
	Establishment of 400/220 kV 4x500 MVA Pooling Station near Tumkur, Karnataka with 2x125 MVA 420 kV bus reactors at Tumkur-II PS	400/220		2000		
	Tumkur-II – Tumkur (Pavagada) line 400 kV (Quad ACSR moose) D/c line.	400	53			
7	Transmission Scheme for integration of Davanagere/ Chitradurga and Bellary REZ in Karnataka				Under Construction	2026-27
	Establishment of 765/400 kV, 4x1500 MVA, 400/220 kV 4x500 MVA Pooling Station near Davanagere / Chitradurga, Karnataka 2x330 MVA (765kV) bus reactors at Davanagere/ Chitradurga PS	765/400/220		8000		
	LILO of Narendra New – Madhugiri 765 kV D/C line at Davanagere / Chitradurga 765/400 kV PS with 240 MVA SLR at both ends on Narendra New – Davanagere section and 330 MVA SLR at Davanagere end on Davanagere – Madhugiri section	765	137			
	Upgradation of Madhugiri {Tumkur (Vasantnarsapura)} substation to its rated voltage of 765 kV level alongwith 3x1500 MVA, 765/400 kV ICTs and 2x330 MVA, 765 kV bus reactors	765/400		4500		
	Upgradation of Narendra New – Madhugiri 765 kV D/C line (presently charged at 400 kV level) at its rated 765 kV voltage level	765				
	Establishment of 4x500 MVA, 400/220 kV Pooling Station near Bellary area (Bellary PS), Karnataka with 2x125 MVA 420 kV bus reactors at Bellary PS	400/220		2000		

	Bellary PS – Davanagere / Chitradurga 400 kV D/C line	400	200			
8	Transmission Scheme for integration of Bijapur REZ in Karnataka				Under Construction	2026-27
	Establishment of 400/220 kV, 5x500 MVA Pooling Station near Bijapur (Vijayapura), Karnataka with 2x125 MVA 420 kV bus reactors at Bijapur PS	400/220		2500		
	Bijapur PS – Raichur New 400 kV (Quad ACSR moose) D/c line	400	276			
9	System Strengthening at Koppal-II and Gadag-II for integration of RE generation projects				Under Construction	2026-27
	Gadag-II PS – Koppal-II PS 400 kV (Quad) 2nd D/c line	400	77			
	Augmentation by 3x1500 MVA (5th, 6th & 7th), 765/400kV ICTs at Koppal-II PS	765/400		4500		
	Augmentation by 5x500 MVA, 400/220kV ICTs (5th, 6th, 7th, 8th & 9th) at Koppal-II PS	400/200		2500		
	Augmentation by 7x500 MVA, 400/220kV ICTs (3rd, 4th, 5th, 6th, 7th, 8th & 9th) at Gadag-II PS	400/200		3500		
10	Augmentation of transformation capacity at Bidar PS				Under Construction	2026-27
	Augmentation by 1x1500 MVA (4th), 765/400kV ICT at Bidar PS	765/400		1500		
	Augmentation by 3x500 MVA, 400/220kV ICTs (6th, 7th, & 8th) at Bidar PS	400/220		1500		
11	Transmission System Strengthening at Davanagere for Integration of RE Generation				Under Construction	2026-27
	Augmentation of Transformation Capacity by 4x500 MVA, 400/220 kV ICTs (5th-8th) at Davanagere PS	400/220		2000		
	Augmentation of Davanagere/Chitradurga PS by 765/400kV, 1x1500 MVA ICTs	765/400		1500	Under Construction	2027-28
12	Inter-Regional Strengthening between SR Grid and WR Grid				Under Construction	2027-28
	Parli New – Bidar 765 kV D/C line with 240 MVA SLR at Bidar end on both circuits	765	240			
	LILO of one ckt. of Narendra (existing) - Narendra (New) 400kV D/c line at Xeldem	400	210			
13	Augmentation of transformation capacity by 2x500 MVA (9th & 10th), 400/220 kV ICTs at Tumkur (Pavagada) 400/220 kV				Under Construction	2026-27

	Pooling Station in Karnataka and Implementation of 1 Nos. of 220 kV line bay at Tumkur (Pavagada) 400/220 kV PS for providing Connectivity to RE generation project					
	Augmentation of Transformation Capacity by 2x500MVA (9th & 10th), 400/220kV ICTs at Tumkur (Pavagada) 400/220 kV Pooling Station in Karnataka	400/220		1000		
14	Augmentation of transformation capacity by 2x500MVA (7th & 8th), 400/220kV ICTs at Tumkur (Pavagada) 400/220kV Pooling Station				Under Construction	2026-27
	1x500MVA (7th), 400/220kV ICTs at Tumkur (Pavagada)	400/220		500		
	1x500MVA (8th), 400/220kV ICTs at Tumkur (Pavagada)	400/220		500		
15	Augmentation of Transformation Capacity at 400/220KV Yelahanka (GIS) S/s in Karnataka by 400/220KV, 1x500MVA ICT (3rd)				Under Construction	2026-27
	Augmentation of Transformation Capacity at 400/220KV Yelahanka (GIS) S/s in Karnataka by 400/220KV, 1x500MVA ICT (3rd)	400/220		500		
16	Augmentation of transformation capacity at 400/220kV Bidadi (GIS) S/s in Karnataka by 1x500 MVA, 400/220kV ICT (3rd)				Under Construction	2026-27
	500MVA, 400/220kV ICT – 1no.	400/220		500		
17	Reconductoring of Somanahalli – Bidadi 400kV kV D/c line with HTLS conductor	400			Under Construction	2026-27
18	Augmentation of Transformation capacity by 1x500 MVA, 400/220kV ICT (3rd) at Narendra (existing) S/s in Karnataka				Under Construction	2027-28
	500 MVA, 400/220 kV ICT – 1 No.	400/220		500		
19	Transmission System for Integration of Ananthapur-II REZ - Phase-I (for 4.5 GW)				Under Construction	2026-27
	Establishment of 4x1500 MVA, 765/400 & 6x500 MVA, 400/220 kV Ananthapuram-II Pooling Station near Kurnool, Andhra Pradesh	765/400/220		9000		
	Ananthapuram- II - Davangere 765 kV D/c line	765	236			
	Ananthapuram- II - Cuddapah 765 kV D/c line	765	565			
	±300 MVAr STATCOM at Ananthapuram-II PS along with 2x125 MVAr MSR					
20	Transmission System for Integration of Ananthapuram-II REZ - Phase-II (3 GW)				Under Construction	2028-29

	Augmentation of Ananthapuram-II PS by 400/220 kV, 1x500 MVA ICT	400/220		500		
	Augmentation of Ananthapuram-II PS by 765/400 kV, 2x1500 MVA and 400/220 kV, 6x500 MVA ICTs	765/400		3000		
	Establishment of 3x1500 MVA, 765/400 kV CN'Halli Station with 2x330 MVA (765 kV) bus reactors	765/400		4500		
	Ananthapuram-II PS – CN'Halli 765 kV D/c line with 330 MVA SLR at Ananthapuram-II end on both circuits	765	360			
	LILLO of one circuit of Talaguppa - Neelmangala 400 kV D/c line at CN'Halli	400	50			
	LILLO at CN'Halli of already LILLOed section of one circuit of Talaguppa - Neelmangala 400 kV line at Hassan	400	50			
21	Transmission system strengthening for integration of additional RE potential at Davanagere (0.25 GW) and Bellary (2.75 GW)				Planned	2027-28
	Augmentation of transformation capacity by 2x1500 MVA, 765/400 kV ICTs (6th & 7th) at Davanagere PS	765/400		3000		
	Augmentation of Bellary PS by 400/220 kV, 6x500 MVA ICTs	400/220		3000		
	Bellary – Davanagere 2nd 400 kV (Quad) D/c line	400	160			
22	Transmission system strengthening at Tumkur-II for integration of RE potential (2.7 GW)				Planned	2027-28
	Augmentation of Tumkur-II PS by 400/220 kV, 3x500 MVA ICTs (5th to 7th)	400/220		1500		
	Tumkur-II – Madhugiri 400kV (Quad) D/c line	400	200			
	± 300 MVAR STATCOM at Tumkur-II PS with switching arrangement of under implementation 2x125 MVA bus reactors					
	Augmentation of Tumkur-II PS by 400/220 kV, 3x500 MVA ICTs (8th to 10th)	400/220		1500		
23	Augmentation of transformation capacity by 1x500 MVA, 400/220 kV ICT (9th) at Davanagere PS	400/220		500	Planned	
24	Augmentation of transformation capacity by 2x500 MVA, 400/220 kV ICTs (9th & 10th) and 1x1500 MVA, 765/400 kV ICT (5th) and implementation of line bays at Bidar PS for providing Connectivity to various RE generation projects				Planned	
	Augmentation of transformation capacity of 1x1500 MVA (5 th), 765/400kV ICT at Bidar PS	765/400		1500		

	Augmentation of transformation capacity by 2x500 MVA, 400/220kV ICTs (9 th & 10 th) at Bidar PS	400/220		1000		
25	Transmission System for integration of Ananthapuram-III REZ - Phase-I				Planned	
	Establishment of 4x1500 MVA, 765/400 kV and 9x500 MVA, 400/220kV Ananthapuram-III Pooling Station along with 2x330 MVar (765 kV) bus reactors at Ananthapuram-III PS	765/400/220				
	+/- 300 MVar STATCOM at Ananthapuram-III PS					
	Ananthapuram-III – Krishnagiri 765 kV D/c line with 330 MVar SLR (convertible) at Ananthapuram-III end on both circuits	765	170			
	Upgradation of existing 400/220kV Bidadi GIS to 765kV level GIS with 3x1500 MVA, 765/400 kV ICTs	765/400		4500		
	Ananthapuram-III – Bidadi 765kV D/c line	765	90			
Total			5129	10800 0		

Annexure E**Transmission system planned to be added under Intra-State during 2030-31 to 2034-35**

S.No	Scheme/Details	Voltage (kV)	Tentative Line Length (in ckm)	Total MVA	Status	Anticipated SCoD
1	Augmentation of 2x1500MVA ICT at 765/400 kV Kushtagi with 330 MVAR, 765 kV bus reactor	765/400		3000	Planned	2032-33
2	2 nd Kustagi- Hiriyur 765 kV D/c line with 330 MVAR line reactors	765	460		Planned	2032-33
3	Augmentation of 2x1500MVA ICT at 765/400 kV Hiriyur with 330 MVAR, 765 kV bus reactor	765/400		3000	Planned	2032-33
4	2 nd Hiriyur- Doddaballapura 765 kV D/c line with 330 MVAR line reactors	765	290		Planned	2032-33
5	Augmentation of 2x1500MVA ICT at 765/400 kV Doddaballapura with 330 MVAR, 765 kV bus reactor	765/400		3000	Planned	2032-33
6	Augmentation of 3x500MVA ICT at 400/220 kV Kushtagi New	400/220		1500	Planned	2032-33
7	Augmentation of 3x500MVA ICT at 400/220 kV Yalwar New	400/220		1500	Planned	2032-33
8	Augmentation of 2x500MVA ICT at 400/220 kV PD Kote	400/220		1000	Planned	2032-33
9	Augmentation of 5x500MVA ICT at 400/220 kV Kottur	400/220		2500	Planned	2032-33
10	Augmentation of 2x500MVA ICT at 400/220 kV Holalkere	400/220		1000	Planned	2032-33
11	Augmentation of 1x500MVA ICT at 400/220 kV Ryapte	400/220		500	Planned	2032-33
12	Augmentation of 3x500MVA ICT at 400/220 kV Benachagere	400/220		1500	Planned	2032-33
13	Lokapura: Establishing 3x500MVA Power Transformer, 400/220kV Substation at Lokapura, Bagalkote District 1) 400kV DC LILO of 400kV Yalwar-Mekhali DC line to prop. 400kV Lokapura sub-station. 2) 220kV DC LILO of 220kV Mahalingapura-Soundatti DC line to prop. Lokapura sub-station. 3) 220kV DC line to 220/110kV Vajramatti s/s. 4) 220kV DC line to 220/110kV Bannur (Salahalli) sub-station. 5) 2x125 MVAR bus reactors.	400/220		1500	Under Planning	2030-31
		400	350			
		220	180			
14	Mallat: Establishing 5x500MVA Power Transformer, 400/220kV Substation at Mallat, Raichur District 1) 400 kV DC line from RTPS generating station. 2) 220kV DC LILO of 220kV Lingasugur-Mallat DC line to prop. 400/220kV Mallat s/s. 3) 220kV DC line to existing 220kV Raichur sub-station. 4) 2x125MVAR bus reactors.	400/220		2500	Under Planning	2030-31
		400	121			
		220	140			
15	2x500 MVA, 400/220 kV Sub-Station at	400/220		1000	Under	2030-31

	Bhadravathi, Bhadravathi Taluk, Shivamogga District.	0			Planning	
16	Augmentation of 3x500 MVA, 400/220 kV Sub-Station at Kalaburgi	400/220		1500	Under Planning	2030-31
17	Augmentation of 1x500 MVA, 400/220 kV Sub-Station at RTPS	400/220		500	Planned	2031-32
18	Augmentation of 1x500 MVA, 400/220 kV Sub-Station at Yalwar	400/220		500	Planned	2031-32
19	Augmentation of 1x315 MVA, 400/220 kV Sub-Station at Talaguppa	400/220		315	Planned	2031-32
20	Establishing 2x160MVA, 220/110 kV S/s at Kusagur in Ranebennur Taluk, Haveri District	220/110		320	Planned	2031-32
21	Establishing of 2x150MVA, 220/66 kV Substation at Aymangala	220/66		300	Planned	2031-32
22	Establishing 2x160MVA, 220/110 kV Sub-Station at Deodurga	220/110		320	Planned	2031-32
23	Establishing 2x100 MVA, 220/110 kV sub-station at Talakal in Yelburga Taluk, Koppal District	220/110		200	Planned	2031-32
24	Tekkalkote: Establishing 3x500MVA Power Transformer, 400/220kV Substation at Tekkalkote, Ballari District 1) 400 kV DC line from prop. 400/220kV Mallat sub-station. 2) 220kV DC line from 220/110kV Tekkalkote to prop. 400/220kV Tekkalkote s/s. 3) 220kV DC line from prop. 220/110kV Ingaldi to prop. 400/220kV Tekkalkote sub-station. 4) 2x125 MVAR bus reactors at prop. 400/220kV Tekkalkote sub-station.	400/220		1500	Under Planning	2030-31
		400	130			
		220	160			
25	Providing Additional 3X500 MVA ,400/220kV Power Transformers at Doni Receiving Station	400/220		1500	Under planning	2030-31
	Total		1831	21955		

Annexure F**Transmission system planned to be added under ISTS during 2030-31 to 2034-35**

S.No.	Scheme /details	Voltage level (kV)	Total ckm	Total MVA	Status	Anticipated SCoD
1	Transmission System for supply of power to Green Hydrogen/ Green Ammonia manufacturing hub at Mangalore (2250 MW)					
	Establishment of 765/400 kV, 3x1500 MVA S/s near Mangalore with 2x330 MVar (765 kV) & 2x125MVar (420 kV) bus reactors	765/400 kV		4500	Under Planning	--
	Davanagere / Chitradurga - Mangalore 765 kV D/c line with 240 MVAR line reactor on each circuit at each end.	765 kV	560			
	C. N. Halli - Mangalore 400 kV D/C line	400 kV	400			
2	Transmission System for integration of Bijapur REZ (4.5 GW)				Under Planning	---
	Phase II: Transmission System for integration of Bijapur REZ (2.5 GW Wind)					
	Augmentation of Bijapur PS by 5x500 MVA, 400/220 kV ICTs	400/220		2500		
	Bijapur PS – Raichur New 400 kV (Quad ACSR moose) D/c line (2 nd)	400	300			
3	Transmission system for integration of Ananthapuram -III REZ Phase-II				Under Planning	---
	Establishment of 2x1500 MVA, 765/400 kV GIS substation near Malur with 1x240 MVar (765 kV) bus reactor with space provision for establishment of 220 kV switchyard at Malur	765/400		3000		
	Ananthapuram-III – Malur 765kV D/c line with 240 MVar SLR (convertible) at both ends on both circuits (~250 km)	765	500			
	± 300 MVar STATCOM at Malur					
	Malur – Somanahalli 400 kV (Quad) D/c line [utilization of existing RoW of Gooty – Somanahalli 400kV S/c line and conversion of part S/c towers as M/c towers]	400	80			

	Malur – Hosur 400 kV (Quad) D/c line	400	160			
	Malur – Dommasandra 400 kV (quad) S/c line (~40 km)	400	40			
	Malur – Yarandahalli 400 kV D/c (Quad) line or Somanahalli – Yarandahalli 400 kV S/c line or Hosur – Yarandahalli 400 kV (Quad) D/c line	400				
Total			2040	10000		
