



# **CENTRAL ELECTRICITY AUTHORITY**

## **TRANSMISSION CAPACITY ADDITION PROGRAMME DURING 2008-09**

(Published under Section 73(j) of the Electricity Act, 2003.)

**POWER SYSTEM PROJECT MONITORING DIVISION**

**NEW DELHI  
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**TRANSMISSION CAPACITY ADDITION  
PROGRAMME  
DURING  
2008-09**

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## **INTRODUCTION**

1.1 The role of electricity sector in an economy hardly needs to be emphasised. Notwithstanding the substantial development made in the power sector in the country, most of the regions in the country are suffering from shortage of electricity. Adequate capacity addition and its utilization in the most optimal manner remains the most important aspect of the power development.

Commensurate with the capacity addition, an extensive network of transmission and distribution has been developed over the years for evacuating power produced and utilizing the same by the ultimate consumers. The new capacity additions call for further expansion of the transmission system. The transmission works programme is being continuously monitored by the Power System Project Monitoring Division in the Central Electricity Authority.

### 1.2 **MONITORING**

The objective of Project Monitoring as enunciated under Section 73(f) of the Electricity Act, 2003 is to ensure timely completion of the schemes. The objective of monitoring is realised through the managerial techniques of “Planning & Control”. The two deliberative elements of Planning & Control are essential to every phase of capacity additions in the transmission systems. They are inter-dependent functions, for the one loses its significance without the other.

The primary responsibility arising under the planning element is the determination of the Programme of Construction for the year and laying down the general principles on the basis of which it will operate. These general principles basically involve availability of the finances, land and various clearances to undertake construction works etc. The construction programme for the year is decided and distributed properly into the four quarters of the year.

The programme is revised on the basis of discussion held at MOP with various transmission utilities in July, 2008 including slippages during 2007-08 as indicated in table 1.1(a) and 1.1(b). The revised targets for year 2008-09 for transmission schemes are shown in Table 2.1.

### 1.3 **ROLE OF CEA**

The Central Electricity Authority is a key institution in promoting and assisting the timely completion of the schemes for improving and augmenting the electricity system. The Power System Project Monitoring Division which acts as a facilitator in expediting construction of the transmission schemes and renders valuable help to the Utilities in solving their problems like technical, financial and arranging various clearances like forest clearance from MOE&F etc.. The site visits by the officers of the Power System Project Monitoring Division and the “Review Meetings” held in the Central Electricity Authority with the Utility representatives provide an excellent ground for inter-action to identify bottlenecks and identify action required to ensure completion of schemes as per targets.

### 1.4 **PROGRAMME FOR 2008-09**

Review meetings were held with states Power utilities and PGCIL during November 2007 to January 2008 to identify the transmission programme to be completed in the coming year i.e. 2008-09. Review meetings were also held with three state power utilities in April, 2008 who couldn't attend in earlier meetings fixed in November 2007 to January 2008. The representatives of various agencies also held detailed discussion with CEA officers regarding their performance during the year 2007-08. Based on the inputs given by power utilities, the programme of construction of Transmission lines and Sub-Stations (220 kV and above), for the year 2008-09 has been finalized.

The programme is revised to include the slippages of 2007-08 and on the basis of discussion held at MOP with various transmission utilities in July, 2008 as indicated in table 1.1(a) and 1.1(b). The revised targets for year 2008-09 for transmission schemes are shown in Table 2.1.

1.5 **FUND REQUIREMENT FOR TRANSMISSION SCHEMES FOR 11<sup>TH</sup> PLAN PERIOD**

Total fund requirement of transmission system development & related schemes has been estimated as follows: -

	Rs. Crores
Central Sector	75,000
State Sector	<u>65,000</u>
Total	1,40,000

The transmission function still remains with the public sector utilities who are heavily dependent on the plan outlays for undertaking construction programme. At times, the plan allocation, though meager, is not made available to these utilities by some State Governments. In some cases, the plan allocation is made available after deducting the dues outstanding against these utilities from CPSUs and others. The other sources of financing the transmission schemes like International and Domestic financial institutions etc are available for Utilities which can be utilized by them after meeting the norms set by such institutions. Utilities own contribution, however, is marginal. All these aspects contribute towards slower growth of capacity addition in transmission network.

# **CHAPTER – 1**

## **TRANSMISSION CAPACITY ADDITIONS** **DURING 2007-08**

The programme for construction of transmission works (220 kV and above) during 2007-08 for evacuation of power from generating stations as well as for strengthening of power system network was developed on the basis of capacity addition programme. The net achievement of the transmission capacity additions during the last two years is given below.

### **A. TRANSMISSION LINES:-**

(All figures in ckm)

	TRANSMISSION CAPACITY ADDITIONS DURING 2007-08				Growth as % of 2006-07 2007-08
	Prog. 2007-08	Ach. (upto Mar 08) 2007-08	Ach as % of prog. 2007-08	Ach. 2006-07	
765 kV lines	160	370	231.3	580	63.8
± 500 kV HVDC	0	120	0.0	0	0.0
400 kV lines	6907	6947	100.6	7940	87.5
220 kV lines	5448	4160	76.4	5226	79.6

### **B. SUBSTATIONS:-**

(All figures in MVA/MW)

± 500 kV HVDC CONVERTER TER.	0	1000	0.0	0	-
HVDC B/B S/S	0	0	0.0	0	-
765 kV S/S	2169	4500	207.5	0	-
400 kV S/S	12635	10265	81.2	9187	111.7
220 kV S/S	11020	9658	87.6	9580	100.8

Details of year wise targets Vs achievements of Transmission Lines and Sub-Stations for various voltage level is given in tables 1.1(a), 1.1(b).

TABLE - 1.1(a)

YEARWISE TARGETS VS ACHIEVEMENTS-UPTO 1ST YEAR OF 11TH FIVE YEAR PLAN &  
PROGRAMME FOR 2ND YEAR OF 11TH PLAN

TRANSMISSION LINES (CKM)

Voltage kV	Name of the Utility	2007-08		2008-09	
		P	A	P	Slipped from programme of 2007-08
765	POWERGRID (CS)	160	370	519	134
	<b>Total (All India)</b>	<b>160</b>	<b>370</b>	<b>519</b>	<b>134</b>
+/-500	POWERGRID (CS)	0	120	1250	0
	<b>Total (All India)</b>	<b>0</b>	<b>120</b>	<b>1250</b>	<b>0</b>
400	POWERGRID	4894	5688	4879	779
	DVC	0	0	0	0
	<b>TOTAL (CS)</b>	<b>4894</b>	<b>5688</b>	<b>4879</b>	<b>779</b>
	Delhi	0	0	0	0
	Himachal Pradesh	0	0	0	0
	Haryana	0	0	0	0
	J&K	139	136	0	0
	Punjab	0	0	0	0
	Rajasthan	199	268	495	10
	Uttar Pradesh	100	0	0	0
	Uttrakhand	390	0	0	0
	<b>TOTAL (NR)</b>	<b>828</b>	<b>404</b>	<b>495</b>	<b>10</b>
	Chattisgarh	514	382	30	132
	Daman-UT	0	0	0	0
	DNH-UT	0	0	0	0
	Gujarat	150	143	1013	10
	Goa	0	0	0	0
	Madhya Pradesh	10	20	8	2
	Maharashtra	0	141	0	0
	<b>TOTAL (WR)</b>	<b>674</b>	<b>686</b>	<b>1051</b>	<b>144</b>
	Andhra Pradesh	131	110	74	21
	Karnataka	0	0	316	0
	Kerala	0	0	0	0
	Tamilnadu	0	0	0	0
	<b>TOTAL (SR)</b>	<b>131</b>	<b>110</b>	<b>390</b>	<b>21</b>
	Bihar	0	0	0	0
	Orissa	50	2	172	1
	West Bengal	330	57	54	29
	Jharkhand	0	0	0	0
	<b>TOTAL (ER)</b>	<b>380</b>	<b>59</b>	<b>226</b>	<b>30</b>
	Arunachal Pradesh	0	0	0	0
	<b>TOTAL (NER)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
	<b>Total (SS)</b>	<b>2013</b>	<b>1259</b>	<b>2162</b>	<b>205</b>
<b>Total (All India)</b>	<b>6907</b>	<b>6947</b>	<b>7041</b>	<b>984</b>	

TABLE - 1.1(a)

**YEARWISE TARGETS VS ACHIEVEMENTS-UPTO 1ST YEAR OF 11TH FIVE YEAR PLAN &  
PROGRAMME FOR 2ND YEAR OF 11TH PLAN**

**TRANSMISSION LINES (CKM)**

Voltage kV	Name of the Utility	2007-08		2008-09	
		P	A	P	Slipped from programme of 2007-08
220	POWERGRID	159	317	37	154
	DVC	65	64	35	591
	<b>Total (CS)</b>	<b>224</b>	<b>381</b>	<b>72</b>	<b>745</b>
	Chandigarh	0	0	0	0
	Delhi	76	15	68	0
	Himachal Pradesh	185	101	11	0
	Haryana	299	199	228	112
	J&K	153	141	12	10
	Punjab	169	54	148	104
	Rajasthan	572	196	408	690
	Uttar Pradesh	420	142	317	144
	Uttrakhand	100	71	0	0
	<b>Total (NR)</b>	<b>1974</b>	<b>919</b>	<b>1192</b>	<b>1060</b>
	Chattisgarh	546	263	185	138
	Daman-UT	0	0	0	0
	DNH-UT	0	0	0	0
	Gujarat	282	402	12	253
	Goa	20	0	20	3
	Madhya Pradesh	380	371	86	624
	Maharashtra	303	179	132	102
	<b>TOTAL (WR)</b>	<b>1531</b>	<b>1215</b>	<b>435</b>	<b>1120</b>
	Andhra Pradesh	231	389	57	233
	Karnataka	201	136	336	312
	Kerala	33	2	33	0
	Tamilnadu	273	537	128	317
	<b>TOTAL (SR)</b>	<b>738</b>	<b>1064</b>	<b>554</b>	<b>862</b>
	Bihar	145	0	145	0
	Orissa	415	195	3	71
	West Bengal	361	266	0	184
	Jharkhand	60	120	0	50
	<b>TOTAL (ER)</b>	<b>981</b>	<b>581</b>	<b>148</b>	<b>305</b>
	Arunachal Pradesh	0	0	0	0
	Assam	0	0	0	0
<b>TOTAL (NER)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
<b>Total (SS)</b>	<b>5224</b>	<b>3779</b>	<b>2329</b>	<b>3347</b>	
<b>Total (All India)</b>	<b>5448</b>	<b>4160</b>	<b>2401</b>	<b>4092</b>	



**TABLE - 1.1(b)**

**YEARWISE TARGETS VS ACHIEVEMENTS-UPTO 1ST YEAR OF 11TH FIVE YEAR PLAN &  
PROGRAMME FOR 2ND YEAR OF 11TH PLAN**

**SUB-STATIONS (MVA/MW)**

Voltage kV	Name of the Utility	2007-08		2008-09	
		P	A	P	Slipped from programme of 2007 08
765	POWERGRID (CS)	2169	4500	0	0
	<b>Total (All India)</b>	<b>2169</b>	<b>4500</b>	<b>0</b>	<b>0</b>
HVDC TERM.	POWERGRID (CS)	0	1000	0	0
	<b>Total (All India)</b>	<b>0</b>	<b>1000</b>	<b>0</b>	<b>0</b>
HVDC B/B	POWERGRID (CS)	0	0	0	0
	<b>Total (All India)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
400	POWERGRID	8940	8375	4410	2205
	DVC	0	0	0	0
	<b>TOTAL (CS)</b>	<b>8940</b>	<b>8375</b>	<b>4410</b>	<b>2205</b>
	Delhi	0	0	0	0
	Himachal Pradesh	0	0	0	0
	Haryana	0	0	0	0
	J&K	0	0	0	0
	Punjab	0	0	0	0
	Rajasthan	630	0	0	0
	Uttar Pradesh	435	0	0	435
	Uttarakhand	0	0	0	0
	<b>TOTAL (NR)</b>	<b>1065</b>	<b>0</b>	<b>0</b>	<b>435</b>
	Chattisgarh	0	0	630	0
	Daman-UT	0	0	0	0
	DNH-UT	0	0	0	0
	Gujarat	630	315	0	315
	Goa	0	0	0	0
	Madhya Pradesh	0	0	0	0
	Maharashtra	0	0	0	0
	<b>TOTAL (WR)</b>	<b>630</b>	<b>315</b>	<b>630</b>	<b>315</b>
	Andhra Pradesh	630	945	315	315
	Karnataka	0	0	0	0
	Kerala	0	0	0	0
	Tamilnadu	0	630	0	0
	<b>TOTAL (SR)</b>	<b>630</b>	<b>1575</b>	<b>315</b>	<b>315</b>
	Bihar	0	0	0	0
	Orissa	0	0	630	0
	West Bengal	630	0	0	630
	Jharkhand	740	0	0	0
	<b>TOTAL (ER)</b>	<b>1370</b>	<b>0</b>	<b>630</b>	<b>630</b>
	Assam	0	0	0	0
	Arunachal Pradesh	0	0	0	0
	<b>Total (NER)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total (SS)</b>	<b>3695</b>	<b>1890</b>	<b>1575</b>	<b>1695</b>	
<b>Total (All India)</b>	<b>12635</b>	<b>10265</b>	<b>5985</b>	<b>3900</b>	

**TABLE - 1.1(b)**

**YEARWISE TARGETS VS ACHIEVEMENTS-UPTO 1ST YEAR OF 11TH FIVE YEAR PLAN &  
PROGRAMME FOR 2ND YEAR OF 11TH PLAN**

**SUB-STATIONS (MVA/MW)**

Voltage kV	Name of the Utility	2007-08		2008-09	
		P	A	P	Slipped from programme of 2007 08

<b>220</b>	POWERGRID	200	200	360	0
	DVC	200	0	550	200
	<b>Total (CS)</b>	<b>400</b>	<b>200</b>	<b>910</b>	<b>200</b>
	Chandigarh	0	0	0	0
	Delhi	1060	0	0	1060
	Himachal Pradesh	190	0	0	150
	Haryana	400	500	750	400
	J&K	150	150	320	0
	Punjab	200	100	200	200
	Rajasthan	100	250	300	1260
	Uttar Pradesh	1360	603	1183	100
	Uttarakhand	300	0	0	0
	<b>TOTAL (NR)</b>	<b>3760</b>	<b>1603</b>	<b>2753</b>	<b>3170</b>
	Chattisgarh	640	160	160	480
	Daman-UT	0	0	0	0
	DNH-UT	0	0	0	0
	Gujarat	580	175	830	480
	Goa	0	0	100	0
	Madhya Pradesh	740	580	800	320
	Maharashtra	550	1600	300	450
	<b>TOTAL (WR)</b>	<b>2510</b>	<b>2515</b>	<b>2190</b>	<b>1730</b>
	Andhra Pradesh	400	820	300	100
	Karnataka	450	850	650	200
	Kerala	200	100	0	100
	Tamilnadu	350	1800	350	0
	<b>TOTAL (SR)</b>	<b>1400</b>	<b>3570</b>	<b>1300</b>	<b>400</b>
	Bihar	1450	200	0	1350
	Orissa	700	320	0	300
	West Bengal	800	800	320	320
	Jharkhand	0	400	0	0
	<b>TOTAL (ER)</b>	<b>2950</b>	<b>1720</b>	<b>320</b>	<b>1970</b>
	Assam	0	50	0	0
	Arunachal Pradesh	0	0	0	0
	<b>TOTAL (NER)</b>	<b>0</b>	<b>50</b>	<b>0</b>	<b>0</b>
	<b>Total (SS)</b>	<b>10620</b>	<b>9458</b>	<b>6563</b>	<b>7270</b>
<b>Total (All India)</b>	<b>11020</b>	<b>9658</b>	<b>7473</b>	<b>7470</b>	

## **CHAPTER – 2**

### **CONSTRUCTION PROGRAMME OF TRANSMISSION SCHEMES FOR THE YEAR 2008-09**

The construction programme of transmission schemes (220 kV and above) for the year 2008-09 was formulated in consultation with Central and State Power Utilities during the meeting with Central and State power utilities and are listed in the Annexure.

± 500 kV HVDC lines of 1250 Ckm are proposed during the current year as the construction of ± 500 kV Balia-Bhiwadi line is envisaged to be taken up expeditiously by POWERGRID. The programme of construction of 765 kV, 400 kV and 220 kV transmission lines for the year 2008-09 is 653 Ckm, 8025 Ckm and 6493 Ckm respectively and the programme for transformation capacity additions at 400 kV and 220 kV levels is 9885 MVA and 14943 MVA respectively commensurate with capacity addition programme during the year.

Table 2.1 depicts the programme of construction of the transmission schemes (220 kV and above) for the year 2008-09 at various voltage levels. Table 2.2(a) depicts the utility wise details of construction programme of transmission lines and table 2.2(b) depicts same for the transformation works (220 kV and above) for the year 2008-09 quarterwise.

The list at Annexure given at the end indicates the transmission lines and the sub-stations scheduled for completion during the year 2008-09 and also the transmission lines under construction scheduled for commissioning during the subsequent years, mainly the power evacuation lines associated with generating stations.

## TABLE – 2.1

### ABSTRACT OF THE CONSTRUCTION PROGRAMME OF THE TRANSMISSION SCHEMES (220 kV AND ABOVE) FOR THE YEAR 2008-09

#### ANNUAL ACTION PLAN

#### TRANSMISSION LINES (CKM) :

Voltage Level	Quarter (2008-09)				Total 2008-09
	1st	2nd	3rd	4th	
765 kV	147	200	215	91	653
+/- 500 kV					
HVDC	110	320	360	460	1250
400 kV	1609	2080	2126	2210	8025
220 kV	1140	1933	1717	1703	6493

#### SUB-STATIONS (MVA/MM) :

Voltage Level	Quarter (2008-09)				Total 2008-09
	1st	2nd	3rd	4th	
765 kV	0	0	0	0	0
HVDC TER.	0	0	0	0	0
HVDC B/B	0	0	0	0	0
400 kV	3150	1575	2205	2955	9885
220 kV	2450	2945	4255	5293	14943

NOTE: - The details of the construction programme of transmission lines and transformation works (220 kV and above) for the year 2008-09 utility wise are given in table – 2.2(a) and 2.2(b).

**TABLE - 2.2(a)**

**UTILITYWISE DETAILS OF THE CONSTRUCTION PROGRAMME OF  
TRANSMISSION SCHEMES FOR THE YEAR 2008-09**

**TRANSMISSION LINES (CKM) :**

Utility 1	Voltage 2	Q1 3	Q2 4	Q3 5	Q4 6	Total 7
POWERGRID (CS)	500 HVDC	110	320	360	460	1250
<b>Total (CS)</b>	500 HVDC	<b>110</b>	<b>320</b>	<b>360</b>	<b>460</b>	<b>1250</b>
<b>Total (All India)</b>	500 HVDC	<b>110</b>	<b>320</b>	<b>360</b>	<b>460</b>	<b>1250</b>
POWERGRID (CS)	765	147	200	215	91	653
<b>Total (CS)</b>	<b>765</b>	<b>147</b>	<b>200</b>	<b>215</b>	<b>91</b>	<b>653</b>
<b>Total (All India)</b>	<b>765</b>	<b>147</b>	<b>200</b>	<b>215</b>	<b>91</b>	<b>653</b>
POWERGRID (CS)	400	978	1500	1500	1680	5658
DVC	400	0	0	0	0	0
<b>Total (CS)</b>	<b>400</b>	<b>978</b>	<b>1500</b>	<b>1500</b>	<b>1680</b>	<b>5658</b>
Himachal Pradesh	400	0	0	0	0	0
Rajasthan	400	198	100	100	107	505
Uttar Pradesh	400	0	0	0	0	0
Uttarakhand	400	0	0	0	0	0
J & K	400	0	0	0	0	0
Chhattisgarh	400	134	28	0	0	162
Gujarat	400	191	250	300	282	1023
Madhya Pradesh	400	10	0	0	0	10
Maharashtra	400	0	0	0	0	0
Andhra Pradesh	400	0	41	54	0	95
Karnataka	400	0	50	125	141	316
Orissa	400	60	90	23	0	173
West Bengal	400	38	21	24	0	83
Jharkhand	400	0	0	0	0	0
<b>Total (SS)</b>	<b>400</b>	<b>631</b>	<b>580</b>	<b>626</b>	<b>530</b>	<b>2367</b>
<b>Total (All India)</b>	<b>400</b>	<b>1609</b>	<b>2080</b>	<b>2126</b>	<b>2210</b>	<b>8025</b>
POWERGRID (International)	220	48	60	28	0	136
POWERGRID (National)	220	12	6	0	37	55
DVC	220	150	225	213	38	626
<b>Total (CS)</b>	<b>220</b>	<b>210</b>	<b>291</b>	<b>241</b>	<b>75</b>	<b>817</b>
Chandigarh	220	0	0	0	0	0
Delhi	220	0	0	0	68	68
Himachal Pradesh	220	0	5	0	6	11
Haryana	220	48	100	100	92	340
Punjab	220	12	80	80	80	252
Rajasthan	220	184	300	300	314	1098
Uttar Pradesh	220	41	130	140	150	461
Uttarakhand	220	0	0	0	0	0
Jammu & Kashmir	220	0	0	10	12	22
Chhattisgarh	220	63	80	80	100	323
Gujarat	220	5	150	68	42	265
Goa	220	0	20	3	0	23
Madhya Pradesh	220	291	165	157	97	710
Maharashtra	220	0	75	75	84	234
Andhra Pradesh	220	54	111	64	61	290
Karnataka	220	91	175	200	182	648
Kerala	220	0	0	12	21	33
Tamilnadu	220	76	120	125	124	445
Bihar	220	0	0	0	145	145
Orissa	220	25	18	31	0	74
Jharkhand	220	0	0	0	50	50
West Bengal	220	40	113	31	0	184
Assam	220	0	0	0	0	0
<b>Total (SS)</b>	<b>220</b>	<b>930</b>	<b>1642</b>	<b>1476</b>	<b>1628</b>	<b>5676</b>
<b>Total (All India)</b>	<b>220</b>	<b>1140</b>	<b>1933</b>	<b>1717</b>	<b>1703</b>	<b>6493</b>

Legend

CS - Central Sector

SS - State Sector

Q - Quarter

**TABLE - 2.2(b)**

**SUBSTATION (MVA/MW) :**

Utility 1	Voltage 2	Q1 3	Q2 4	Q3 5	Q4 6	Total 7
<b>POWERGRID (CS)</b>	<b>765</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>POWERGRID (CS)</b>	<b>400</b>	<b>2520</b>	<b>1260</b>	<b>1260</b>	<b>1575</b>	<b>6615</b>
Delhi	400	0	0	0	0	0
Rajasthan	400	0	0	0	0	0
Uttar Pradesh	400	0	0	0	435	435
Uttarakhand	400	0	0	0	0	0
Chhattisgarh	400	315	315	0	0	630
Gujarat	400	0	0	0	315	315
Maharashtra	400	0	0	0	0	0
Andhra Pradesh	400	315	0	315	0	630
Karnataka	400	0	0	0	0	0
Tamilnadu	400	0	0	0	0	0
Jharkhand	400	0	0	0	0	0
Orissa	400	0	0	0	630	630
West Bengal	400	0	0	630	0	630
<b>Total (SS)</b>	<b>400</b>	<b>630</b>	<b>315</b>	<b>945</b>	<b>1380</b>	<b>3270</b>
<b>Total (All India)</b>	<b>400</b>	<b>3150</b>	<b>1575</b>	<b>2205</b>	<b>2955</b>	<b>9885</b>
POWERGRID	220	360	0	0	0	360
DVC	220	0	250	200	300	750
<b>Total (CS)</b>	<b>220</b>	<b>360</b>	<b>250</b>	<b>200</b>	<b>300</b>	<b>1110</b>
Chandigarh	220	0	0	0	0	0
Delhi	220	0	220	200	640	1060
Himachal Pradesh	220	0	25	25	100	150
Haryana	220	200	200	300	450	1150
Punjab	220	0	0	200	200	400
Rajasthan	220	0	100	100	100	300
Uttar Pradesh	220	700	600	620	523	2443
Uttarakhand	220	0	0	0	100	100
PDD, J & K	220	0	0	0	320	320
Chhattisgarh	220	160	160	160	160	640
Gujarat	220	530	320	360	100	1310
Goa	220	0	100	0	0	100
Madhya Pradesh	220	0	320	320	480	1120
Maharashtra	220	50	250	300	150	750
Andhra Pradesh	220	100	100	100	100	400
Karnataka	220	300	200	150	200	850
Kerala	220	0	0	0	100	100
Tamilnadu	220	50	100	100	100	350
Bihar	220	0	0	700	650	1350
Orissa	220	0	0	100	200	300
West Bengal	220	0	0	320	320	640
Jharkhand	220	0	0	0	0	0
Assam	220	0	0	0	0	0
<b>Total (SS)</b>	<b>220</b>	<b>2090</b>	<b>2695</b>	<b>4055</b>	<b>4993</b>	<b>13833</b>
<b>Total (All India)</b>	<b>220</b>	<b>2450</b>	<b>2945</b>	<b>4255</b>	<b>5293</b>	<b>14943</b>

Legend

CS - Central Sector

SS - State Sector

Q - Quarter

## CHAPTER 3

### TRANSMISSION LINES AND TRANSFORMATION CAPACITY EXISTING AT THE END OF VARIOUS PLAN PERIODS IN INDIA

The transmission line capacity additions (220 kV and above) during various plan periods till end of 1<sup>st</sup> year of 11<sup>th</sup> plan at various voltage levels viz 765 kV,  $\pm$  500 kV HVDC, 400 kV and 220 kV are indicated in table 3.1(a) and 3.1(b). Similarly, the transformation capacity (220 kV and above) during various plan periods till end of 1<sup>st</sup> year of 11<sup>th</sup> plan at various voltage levels viz 765 kV, 400 kV, 220 kV sub stations and  $\pm$  500 kV HVDC, HVDC (Back-to-Back) terminals are indicated in table 3.2(a) and 3.2(b). These tables provide information regarding the construction of transmission works, the achievement vis-à-vis programme during various plan periods.

#### Growth in Transmission Lines (CKm) at the end of :

	6 <sup>th</sup> plan	7 <sup>th</sup> plan	8 <sup>th</sup> plan	9 <sup>th</sup> plan	10 <sup>th</sup> plan	1 <sup>st</sup> year of 11 <sup>th</sup> Plan
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#### **765 kV**

Central	0	0	0	751	1775	2145
State	0	0	0	409	409	409
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1160</b>	<b>2184</b>	<b>2554</b>

#### **$\pm$ 500 kV HVDC**

Central	0	1634	1634	3234	4368	4488
State	0	0	0	1504	1504	1504
<b>Total</b>	<b>0</b>	<b>1634</b>	<b>1634</b>	<b>4738</b>	<b>5872</b>	<b>5992</b>

#### **400 kV**

Central	1831	13068	23001	29345	50992	56680
State	4198	6756	13141	20033	24730	25989
<b>Total</b>	<b>6029</b>	<b>19824</b>	<b>36142</b>	<b>49378</b>	<b>75722</b>	<b>82669</b>

#### **220 kV**

Central	1641	4560	6564	8687	9444	9825
State	44364	55071	73036	88306	105185	108964
<b>Total</b>	<b>46005</b>	<b>59631</b>	<b>79600</b>	<b>96993</b>	<b>114629</b>	<b>118789</b>

**Growth in Sub-Stations (MVA) at the end of :**

	6 <sup>th</sup> plan	7 <sup>th</sup> plan	8 <sup>th</sup> plan	9 <sup>th</sup> plan	10 <sup>th</sup> plan	1 <sup>st</sup> year of 11 <sup>th</sup> Plan
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**765 kV**

Central	0	0	0	0	0	4500
State	0	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4500</b>

**HVDC B/B**

Central	0	0	500	2000	3000	3000
State	0	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>500</b>	<b>2000</b>	<b>3000</b>	<b>3000</b>

**± 500 kV HVDC TERMINAL**

Central	0	0	3000	3000	7000	8000
State	0	0	0	3000	3000	3000
<b>Total</b>	<b>0</b>	<b>0</b>	<b>3000</b>	<b>6000</b>	<b>10000</b>	<b>11000</b>

**400 kV**

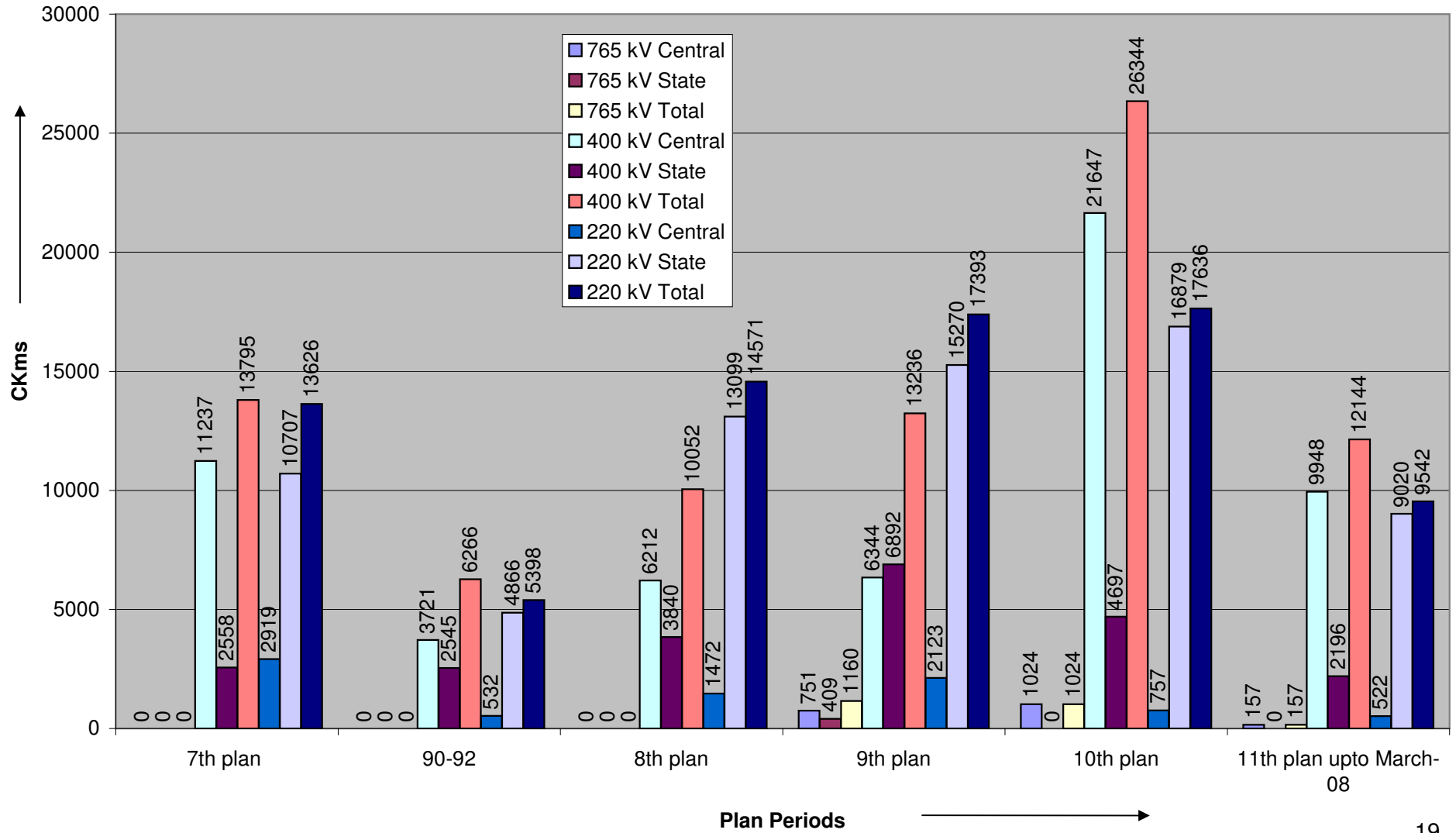
Central	715	6760	17340	23575	40455	48830
State	8615	14820	23525	36805	52487	54377
<b>Total</b>	<b>9330</b>	<b>21580</b>	<b>40865</b>	<b>60380</b>	<b>92942</b>	<b>103207</b>

**220 kV**

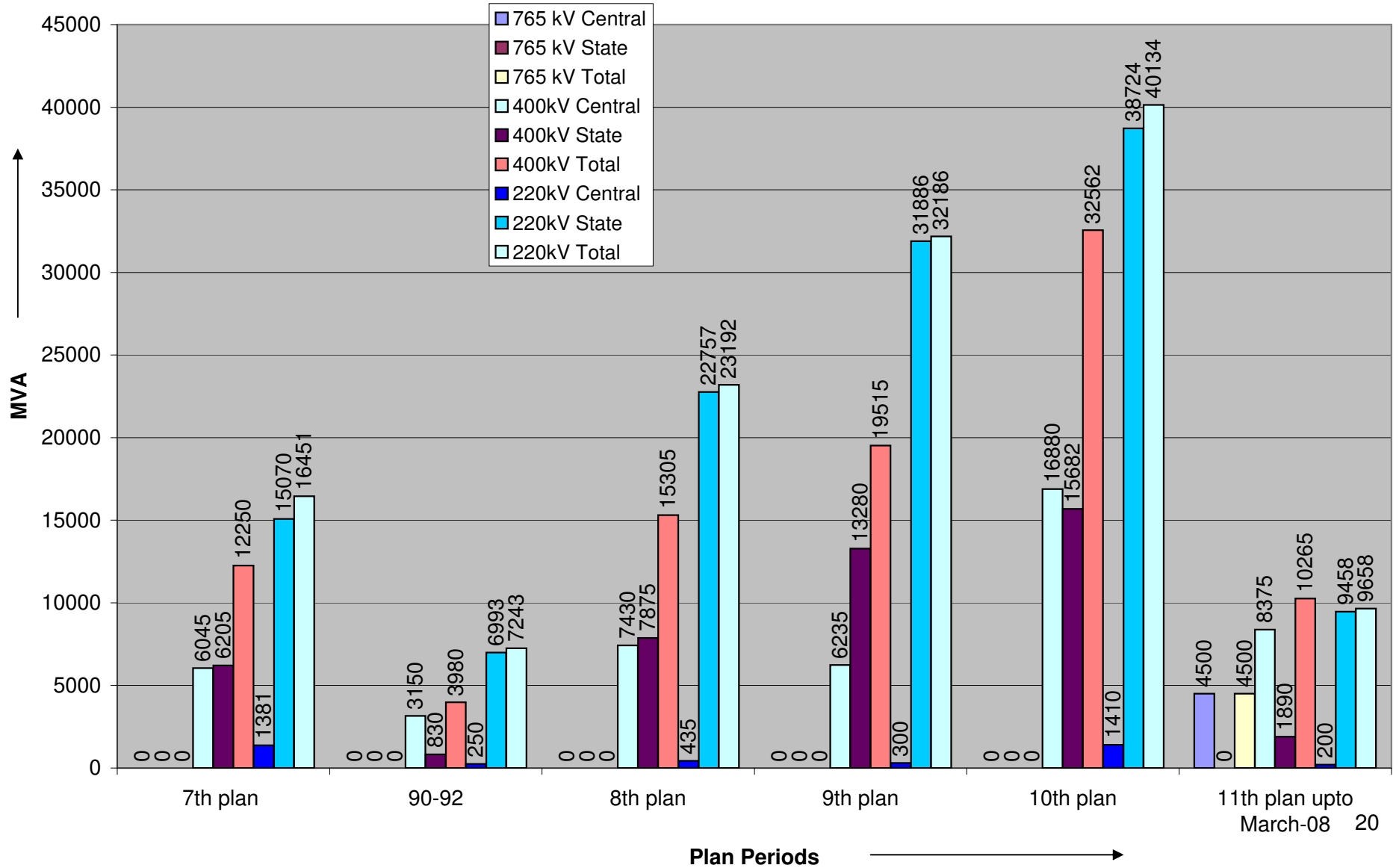
Central	500	1881	2566	2866	4276	4476
State	36791	51861	81611	113497	152221	161679
<b>Total</b>	<b>37291</b>	<b>53742</b>	<b>84177</b>	<b>116363</b>	<b>156497</b>	<b>166155</b>



## Growth in Transmission Lines (CKm) During Various Plan Periods



## Growth in Sub-Stations (MVA) During Various Plan Periods



**TABLE 3.1(b)**  
**TRANSMISSION LINES (CKM) ADDITIONS OF 400 KV & 220 KV IN INDIA**

400 KV TRANSMISSION LINES						220 KV TRANSMISSION LINES					
CENTRAL		STATE		TOTAL		CENTRAL		STATE		TOTAL	
Programme	Achievement	Programme	Achievement	Programme	Achievement	Programme	Achievement	Programme	Achievement	Programme	Achievement
<b>1. Transmission lines existing at the end of 6th plan</b>											
1831		4198		0		6029		1641		44364	
<b>2. Addition during 7th plan:</b>											
85-86	1138	1181	1290	623	2428	1804	546	617	3052	1930	3598
86-87	1577	2631	483	802	2060	3433	106	232	2601	1922	2707
87-88	1790	1800	904	884	2694	2684	214	214	2516	2473	2730
88-89	2474	2911	350	223	2824	3134	815	956	2380	2042	3195
89-90	2547	2714	303	26	2850	2740	898	900	2322	2340	3220
<b>Total</b>	<b>9526</b>	<b>11237</b>	<b>3330</b>	<b>2558</b>	<b>12856</b>	<b>13795</b>	<b>2579</b>	<b>2919</b>	<b>12871</b>	<b>10707</b>	<b>15450</b>
<b>3. Total at the end of 7th plan:</b>											
13068		6756		19824		4560		55071		59631	
<b>4. Addition during 1990-92:</b>											
90-91	2207	2011	1033	1897	3240	3908	327	148	2703	2341	3030
91-92	2137	1710	741	648	2878	2353	469	384	2556	2525	3025
<b>Total</b>	<b>4344</b>	<b>3721</b>	<b>1774</b>	<b>2545</b>	<b>6118</b>	<b>6266</b>	<b>796</b>	<b>532</b>	<b>5259</b>	<b>4866</b>	<b>6055</b>
<b>5. Total at the end of 1991-92:</b>											
16789		9301		26090		5092		59937		65029	
<b>6. Addition during 8th plan:</b>											
92-93	1283	870	1207	1087	2490	1957	512	501	2772	2536	3284
93-94	637	581	786	796	1423	1377	491	526	2479	2734	2970
94-95	855	1057	651	536	1506	1593	317	192	2783	2867	3100
95-96	1479	1569	419	876	1898	2445	80	12	2035	2532	2115
96-97	1872	2135	2096	545	3968	2680	496	241	2755	2430	3251
<b>Total</b>	<b>6126</b>	<b>6212</b>	<b>5159</b>	<b>3840</b>	<b>11255</b>	<b>10052</b>	<b>1896</b>	<b>1472</b>	<b>12824</b>	<b>13099</b>	<b>14720</b>
<b>7. Total at the end of 8th plan:</b>											
23001		13141		36142		6564		73036		79600	
<b>8. Addition during 9th plan:</b>											
97-98	2027	2061	963	706	2990	2767	418	345	2406	2569	2824
98-99	2024	2378	980	884	3004	3262	696	629	2514	2701	3210
99-2000	640	616	2488	2720	3128	3336	669	791	2884	3141	3553
2000-01	478	672	1495	1419	1973	2091	389	310	4669	3364	5058
2001-02	630	617	1150	1163	1780	1780	108	48	4132	3495	4240
<b>Total</b>	<b>5799</b>	<b>6344</b>	<b>7076</b>	<b>6892</b>	<b>12875</b>	<b>13236</b>	<b>2280</b>	<b>2123</b>	<b>16605</b>	<b>15270</b>	<b>18885</b>
<b>9. Total at the end of 9th plan:</b>											
29345		20033		49378		8687		88306		96993	
<b>10. Addition during 10th plan:</b>											
2002-03	2560	3424	638	380	3198	3804	68	133	2956	2886	3024
2003-04	1877	2173	1508	1115	3385	3288	486	313	3080	3415	3566
2004-05	377	435	905	701	4676	5052	72	76	2357	2716	2429
2005-06	3230	5120	620	1140	3850	6260	100	129	2638	2742	2738
2006-07	6509	6579	1439	1361	7948	7940	268	106	4000	5120	4268
<b>Total</b>	<b>17947</b>	<b>21647</b>	<b>5110</b>	<b>4697</b>	<b>23057</b>	<b>26344</b>	<b>994</b>	<b>757</b>	<b>15031</b>	<b>16879</b>	<b>16025</b>
<b>11. Total at the end of 10th plan:</b>											
50992		24730		75722		9444		105185		114629	
<b>12 Addition during 11th plan:</b>											
2007-08	4894	5688	2013	1259	6907	6947	224	381	5224	3779	5448
<b>Total</b>	<b>4894</b>	<b>5688</b>	<b>2013</b>	<b>1259</b>	<b>6907</b>	<b>6947</b>	<b>224</b>	<b>381</b>	<b>5224</b>	<b>3779</b>	<b>5448</b>
<b>13. Total at the end of 1st year of 11th plan:</b>											
56680		25989		82669		9825		108964		118789	

**TABLE 3.1(a)**

**TRANSMISSION LINES (CKM) ADDITIONS OF 765 KV & +/-500 KV HVDC IN INDIA**

765 KV TRANSMISSION LINES						+/-500 KV TRANSMISSION LINES					
CENTRAL		STATE		TOTAL		CENTRAL		STATE		TOTAL	
Programme	Achievement	Programme	Achievement	Programme	Achievement	Programme	Achievement	Programme	Achievement	Programme	Achievement
<b>1. Transmission lines existing at the end of 7th plan</b>											
	0	0	0	0	0	0	0	0	0	0	0
<b>2. Addition during 1990-92:</b>											
90-91	0	0	0	0	0	1634	1634	0	0	1634	1634
91-92	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1634</b>	<b>1634</b>	<b>0</b>	<b>0</b>	<b>1634</b>	<b>1634</b>
<b>3. Total at the end of 1991-92:</b>											
	0	0	0	0	0	1634	1634	0	0	1634	1634
<b>4. Addition during 8th plan:</b>											
92-93	0	0	0	0	0	0	0	0	0	0	0
93-94	0	0	0	0	0	0	0	0	0	0	0
94-95	0	0	0	0	0	0	0	0	0	0	0
95-96	0	0	0	0	0	0	0	0	0	0	0
96-97	20	0	0	0	20	0	0	360	0	360	0
<b>Total</b>	<b>20</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>20</b>	<b>0</b>	<b>0</b>	<b>360</b>	<b>0</b>	<b>360</b>	<b>0</b>
<b>5. Total at the end of 8th plan:</b>											
	0	0	0	0	0	1634	1634	0	0	1634	1634
<b>6. Addition during 9th plan:</b>											
97-98	0	0	0	0	0	0	0	900	369	900	369
98-99	0	0	405	318	405	318	0	1135	1135	1135	1135
99-2000	325	325	91	91	416	416	0	0	0	0	0
2000-01	285	375	0	0	285	375	0	0	0	0	0
2001-02	224	51	0	0	224	51	1600	1600	0	1600	1600
<b>Total</b>	<b>834</b>	<b>751</b>	<b>496</b>	<b>409</b>	<b>1330</b>	<b>1160</b>	<b>1600</b>	<b>1600</b>	<b>2035</b>	<b>1504</b>	<b>3635</b>
<b>7. Total at the end of 9th plan:</b>											
	751	409	0	0	1160	1160	3234	3234	1504	1504	4738
<b>8. Addition during 10th plan:</b>											
2002-03	173	33	0	0	173	33	1134	1134	0	0	1134
2003-04	149	102	0	0	149	102	0	0	0	0	0
2004-05	71	22	0	0	71	22	0	0	0	0	0
2005-06	105	287	0	0	105	287	0	0	0	0	0
2006-07	660	580	0	0	660	580	0	0	0	0	0
<b>Total</b>	<b>1158</b>	<b>1024</b>	<b>0</b>	<b>0</b>	<b>1158</b>	<b>1024</b>	<b>1134</b>	<b>1134</b>	<b>0</b>	<b>0</b>	<b>1134</b>
<b>9. Total at the end of 10th plan:</b>											
	1775	409	0	0	2184	2184	4368	4368	1504	1504	5872
<b>10 Addition during 11th plan:</b>											
2007-08	160	370	0	0	160	370	0	120	0	0	120
<b>Total</b>	<b>160</b>	<b>370</b>	<b>0</b>	<b>0</b>	<b>160</b>	<b>370</b>	<b>0</b>	<b>120</b>	<b>0</b>	<b>0</b>	<b>120</b>
<b>11. Total at the end of 1st year of 11th plan:</b>											
	2145	409	0	0	2554	2554	4488	4488	1504	1504	5992

**TABLE - 3.2(b)**  
**TRANSFORMATION CAPACITY (MVA) ADDITIONS OF 400 KV & 220 KV IN INDIA**

	400 KV SUB-STATION (MVA)						220 KV SUB-STATION (MVA)					
	CENTRAL		STATE		TOTAL		CENTRAL		STATE		TOTAL	
	Programme	Achievement	Programme	Achievement	Programme	Achievement	Programme	Achievement	Programme	Achievement	Programme	Achievement
<b>1. Sub-Station (MVA) existing at the end of 6th plan</b>		715		8615	0	9330		500	0	36791	0	37291
<b>2. Addition during 7th plan:</b>												
85-86	1395	1395	1185	630	2580	2025	800	781	3265	2275	4065	3056
86-87	1065	1065	2195	2195	3260	3260	150	300	2485	2335	2635	2635
87-88	565	250	945	1750	1510	2000	300	150	2380	2770	2680	2920
88-89	1195	1575	1240	815	2435	2390	150	150	2686	3500	2836	3650
89-90	1575	1760	700	815	2275	2575	150	0	2956	4190	3106	4190
<b>Total</b>	<b>5795</b>	<b>6045</b>	<b>6265</b>	<b>6205</b>	<b>12060</b>	<b>12250</b>	<b>1550</b>	<b>1381</b>	<b>13772</b>	<b>15070</b>	<b>15322</b>	<b>16451</b>
<b>3. Total at the end of 7th plan:</b>												
		6760		14820		21580		1881		51861		53742
<b>4. Addition during 1990-92:</b>												
90-91	1890	1260	830	0	2720	1260	150	250	2898	4050	3048	4300
91-92	1825	1890	630	830	2455	2720	0	0	2571	2943	2571	2943
<b>Total</b>	<b>3715</b>	<b>3150</b>	<b>1460</b>	<b>830</b>	<b>5175</b>	<b>3980</b>	<b>150</b>	<b>250</b>	<b>5469</b>	<b>6993</b>	<b>5619</b>	<b>7243</b>
<b>5. Total at the end of 1991-92:</b>												
		9910		15650		25560		2131		58854		60985
<b>6. Addition during 8th plan:</b>												
92-93	2770	2455	1120	1710	3890	4165	300	150	2648	3992	2948	4142
93-94	1890	2140	1070	1070	2960	3210	185	150	3305	3903	3490	4053
94-95	315	315	2260	2075	2575	2390	35	35	3245	3495	3280	3530
95-96	1260	1260	1575	2075	2835	3335	0	0	2535	5790.5	2535	5790.5
96-97	1260	1260	3075	945	4335	2205	35	100	6800	5576.5	6835	5676.5
<b>Total</b>	<b>7495</b>	<b>7430</b>	<b>9100</b>	<b>7875</b>	<b>16595</b>	<b>15305</b>	<b>555</b>	<b>435</b>	<b>18533</b>	<b>22757</b>	<b>19088</b>	<b>23192</b>
<b>7. Total at the end of 8th plan:</b>												
		17340		23525		40865		2566		81611		84177
<b>8. Addition during 9th plan:</b>												
97-98	1260	945	1890	1260	3150	2205	50	0	5360	6016	5410	6016
98-99	0	630	2205	2205	2205	2835	150	50	4690	5435	4840	5485
99-2000	3085	2455	3905	3775	6990	6230	100	150	5335	8060	5435	8210
2000-01	1575	1575	4280	2520	5855	4095	150	0	6045	8155	6195	8155
2001-02	630	630	4780	3520	5410	4150	100	100	5310	4220	5410	4320
<b>Total</b>	<b>6550</b>	<b>6235</b>	<b>17060</b>	<b>13280</b>	<b>23610</b>	<b>19515</b>	<b>550</b>	<b>300</b>	<b>26740</b>	<b>31886</b>	<b>27290</b>	<b>32186</b>
<b>9. Total at the end of 9th plan:</b>												
		23575		36805		60380		2866		113497		116363
<b>10. Addition during 10th plan:</b>												
2002-03	3335	4280	1890	1345	5225	5625	150	150	5051.5	5315	5201.5	5465
2003-04	2205	1260	4150	3205	6355	4465	250	50	6283	8372	6533	8422
2004-05	2205	1260	3020	1760	5225	3020	460	500	6033	8662	6493	9162
2005-06	3885	4725	3570	5540	7455	10265	500	510	7260	6995	7760	7505
2006-07	6615	5355	4515	3832	11130	9187	900	200	7283	9380	8183	9580
<b>Total</b>	<b>18245</b>	<b>16880</b>	<b>17145</b>	<b>15682</b>	<b>35390</b>	<b>32562</b>	<b>2260</b>	<b>1410</b>	<b>31910.5</b>	<b>38724</b>	<b>34170.5</b>	<b>40134</b>
<b>11. Total at the end of 10th plan:</b>												
		40455		52487		92942		4276		152221		156497
<b>12 Addition during 11th plan:</b>												
2007-08	8940	8375	3695	1890	12635	10265	400	200	10620	9458	11020	9658
<b>Total</b>	<b>8940</b>	<b>8375</b>	<b>3695</b>	<b>1890</b>	<b>12635</b>	<b>10265</b>	<b>400</b>	<b>200</b>	<b>10620</b>	<b>9458</b>	<b>11020</b>	<b>9658</b>
<b>13. Total at the end of 1st year of 11th plan:</b>												
		48830		54377		103207		4476		161679		166155

**TABLE -3.2(a)**  
**TRANSFORMATION CAPACITY (MVA)/(MW) ADDITIONS OF 765 kV, +/- 500 KV HVDC TERMINALS &**  
**HVDC (BACK-TO-BACK) SUB-STATIONS (MW) IN INDIA**

765 KV SUB-STATION (MVA)					
CENTRAL		STATE		TOTAL	
Programme	Achievement	Programme	Achievement	Programme	Achievement
<b>1. Sub-Station (MVA) existing at the end of 10th plan</b>					
	0		0	0	0
<b>2 Addition during 11th plan:</b>					
2007-08	2169	4500	0	0	2169 4500
<b>Total</b>	<b>2169</b>	<b>4500</b>	<b>0</b>	<b>0</b>	<b>2169 4500</b>
<b>3. Total at the end of 1st year of 11th plan:</b>					
	4500		0		4500

+/- 500 KV HVDC CONVERTER TERMINALS (MW)						HVDC (BACK-TO-BACK) SUB-STATIONS (MW)					
CENTRAL		STATE		TOTAL		CENTRAL		STATE		TOTAL	
Programme	Achievement	Programme	Achievement	Programme	Achievement	Programme	Achievement	Programme	Achievement	Programme	Achievement
<b>1. Sub-station (MW) existing at the end of 8th plan</b>											
	3000		0	3000		500		0	0	500	
<b>2. Addition during 9th plan:</b>											
97-98	0	0	0	0	0	1000	0	0	0	1000	
98-99	0	0	3000	3000	3000	500	0	0	0	500	
99-2000	0	0	0	0	0	0	0	0	0	0	
2000-01	0	0	0	0	0	0	0	0	0	0	
2001-02	0	0	0	0	0	0	0	0	0	0	
<b>Total</b>	<b>0</b>	<b>0</b>	<b>3000</b>	<b>3000</b>	<b>3000</b>	<b>1500</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1500</b>	
<b>3. Total at the end of 9th plan:</b>											
	3000		3000	6000		2000		0		2000	
<b>4. Addition during 10th plan:</b>											
2002-03	4000	4000	0	0	4000	4000	500	500	0	0	500 500
2003-04	0	0	0	0	0	0	0	0	0	0	0
2004-05	0	0	0	0	0	0	500	500	0	0	500 500
2005-06	0	0	0	0	0	0	0	0	0	0	0
2006-07	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>4000</b>	<b>4000</b>	<b>0</b>	<b>0</b>	<b>4000</b>	<b>4000</b>	<b>1000</b>	<b>1000</b>	<b>0</b>	<b>0</b>	<b>1000 1000</b>
<b>5. Total at the end of 10th plan:</b>											
	7000		3000	10000		3000		0		3000	
<b>6 Addition during 11th plan:</b>											
2007-08	0	1000	0	0	0	1000	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>1000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
<b>7. Total at the end of 1st year of 11th plan:</b>											
	8000		3000	11000		3000		0		3000	







	<b>Total</b>		<b>606</b>		
<b>GUJARAT (GETCO) :</b>					
1	Mundra-Dehgam	D/C	858	Jan-09	
2	TPGL-Pirana	D/C	220	Mar-08	Mar-09
3	LILO of one Ckt of Asoj-Amreli at Chorania	D/C	39	Dec-07	Aug-08

**Total 259**

<b>MADHYA PRADESH (MPPTCL)</b>					
1	LILO of Birsinghpur - Damoh D/C at Damoh	D/C	26	Jun-07	Aug-08
2	Interconnector of Birsinghpur-Katni-Damoh at Birsinghpur	D/C	1	Mar-08	Aug-08
3	Interconnector of Birsinghpur-Katni-Damoh at Katni	D/C	2	Mar-08	Aug-08

**Total 29**

<b>MAHARASHTRA (MSEB) :</b>					
1	Dabhol-Nagothane Ckt.-II	S/C	136	Feb-06	Oct-08

**Total 136**

**Total 400 kV WR 1030**

<b>SOUTHERN REGION (SR) :</b>					
<b>ANDHRA PRADESH (APTRANSCO) :</b>					
1	LILO of Srisailam-Nunna at VTPS	D/C	20	Sep-08	
2	LILO of Ramagundam -Ghanapur at Malkaram	D/C	54	Sep-08	
3	LILO of Ramagundam -Ghanapur at Gazwel	D/C	21	Dec-07	Aug-08
4	LILO of Srisailam-Vijayawada at Narasaraopet	D/C	5	Dec-07	Mar-09
5	Ramagundam(NTPC)-Ditchpally	S/C	171	Jun-07	May-08

**Total 271**

<b>Karnataka(KPTCL)</b>					
1	BTPS- Hiriyur	D/C	302	Dec-08	
2	LILO of RTPS- Guttur at Thorangallu JSW	S/S	D/C	15	Dec-08

**Total 317**

**Total 400 kV SR 588**

**EASTERN REGION (ER) :**

**ORISSA (OPTCL) :**

1	Meramundali-Mendhasal (Chandaka)	D/C	200	Jun-02	Aug-08
2	Meramundali-Duburi	D/C	192	Sep-02	Dec.08

**Total 392**

**WEST BENGAL (WBSETC) :**

1	Sagardighi - Parulia (PGCIL)	D/C	127	Dec-08	
2	LILO of Farakka-Subhashgram at Sagardighi	D/C	13	Jul-08	

**Total 140**

**Total 400 kV 532**

-- **Total 400 kV 3807**

-- **Total 400 kV CS &SS 9977**

**220 kV CENTRAL SECTOR (CS) :**

**POWERGRID (PGCIL) :**

**A. International Lines**

1	Kabul-Pul-e-Khumri (Afghanistan)	D/C	404	Oct-08	
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**Total ( International Lines) 404**

**B. National Lines**

1	LILO of one ckt. of Tanakpur-Bareilly at Sitarganj		44	Jun'08	
2	220KV Vapi (PG) - Kharadpada (DNH) D/C line		34	Jun'08	
3	220KV Vapi (PG) - Magarwada D/C line		31	Apr-08	

**Total 109**

**DAMODER VALLEY CORPORATION (DVC) :**

1	Mejia-Gola - Ramgarh	D/C	406	Dec.05	Dec.08
2	LILO of Kalyaneshwari-CTPS at Dhanbad	2xD/C	8	Mar-09	
3	LILO of CTPS-MTPS ckt 1 at Kalyaneshwari	D/C	89	Oct-08	
4	LILO of CTPS-MTPS ckt 2 at Kalyaneshwari	D/C	90	Oct-08	
5	Kalyaneshwari - Pithakari	D/C	8	Oct-08	

**Total 601**

**Total (CS) 220 kV 1114**

**220 kV STATE SECTOR :**

**NORTHERN REGION (NR) :**

**CHANDIGARH :**

1	Ganguwal-Mohali (2nd Ckt. Stringing) (Incl of re-alignment)	S/C	72.4	Jun-06	Sep-08
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	<b>Total</b>		<b>72.4</b>		
<b>DELHI (DTL) :</b>					
1	Gazipur-Noida	D/C	16	Mar-04	
2	LILO of Bawana-Najafgarh at Khanjawla	2XD/C	12	Jun-03	
3	Papankalan-I- Papankalan-II	D/C	11	Mar-06	
4	LILO of Bawana - Narela at Bawana DSIDC	2XD/C	14	Dec-05	
5	U/G of Maharani Bagh(PG)-Masjid Moth	D/C	19	Mar-08	Mar-09
	<b>Total</b>		<b>72</b>		
<b>HIMACHAL PRADESH (HPSEB) :</b>					
1	Kashang-Bhaba	D/C	76	Mar-07	Sep-08
2	Khodri-Majri (2 <sup>nd</sup> circuit)	S/C on D/C	35	Mar-08	Mar-09
	<b>Total</b>		<b>111</b>		
<b>HARYANA (HVPN) :</b>					
1	YTPP-Abdullapur	D/C	56	Mar-08	Oct-08
2	YTPP-Nilokheri	D/C	104	Mar-08	Oct-08
3	Nilokheri-Karnal	S/C	19	Mar-08	Jun-08
4	Badshahpur – Rewari (2nd Ckt) Stringing	S/C	51	Jun-06	Aug-08
5	Badshahpur-IMT Manesar 2 <sup>nd</sup> Ckt Stringing	S/C	12	Mar-07	Sep-08
6	LILO of 2nd ckt of Narwana-Fatehabad at Bhuna	D/C	16	Dec-07	Aug-08
7	Hissar (Mayyar)-Isharwal	D/C	90	Apr-08	Aug-08
8	LILO Narwana-Fatehabad & Fatehabad-Sirsa at Fatehabad (PG)	D/C	5	Dec-07	Aug-08
9	Cheeka-Durala	D/C	106	Nov-08	
10	LILO one ckt Shahbad-Pehova at Durala	D/C	6	Nov-08	
	<b>Total</b>		<b>465</b>		
<b>PUNJAB (PSEB) :</b>					
1	GHTP-Himatpura D/C	D/C	70	Dec.07	Sept.08
2	GNDTP-Muktsar (2nd ckt)	S/C on D/C	53	May-07	Sep-08
3	LILO one ckt of Lalton- Jagron at Ludhiana (PG)	D/C	4	Jun-08	
4	LILO of Patti-Verpal at Tarn-Taran	S/C	20	Mar-06	Mar-09

5	Ranjit Sagar Dam – Sarna (circuit 4)	D/C	30	Jun-05	Jun-08
6	Khasa – Amritsar (at Balachak (PGCIL))	D/C	44	Jun-05	Jul-08
7	LILO of Malerkotla – Lalton Kalan S/C at Pakhowal	D/C	2	Mar-06	Dec-08
8	LILO of Mohali-I – Dera Bassi at Mohali-II	D/C	1	Mar-07	Sep-08
9	LILO of Gobindgarh-I - Gobindgarh-II at Amloh Road Gobindgarh	D/C	2	Mar-07	Jun-08
10	Humbran–FZR Rd Ludhiana	D/C	30	Mar-07	Aug-08
11	Phagan Majra (400 kV) - F.P.Nabha	D/C	65	Mar-08	Oct-08
12	Mohali-Dera Bassi (2nd ckt stringing)	S/C on D/C	29	Jun-07	Sep-08
13	LILO of one circuit of GGSSTP – Mohali-I at Kharar	D/C	10	Dec-07	Dec-08
14	Nalagarh-Mohali -I	D/C	100	Jul-07	Aug-08
15	LILO of one ckt. of Moga- Mukatsar DC at Sadiq	D/C	50	Mar-09	
16	Moga (400 KV) - Baghapurana	D/C	36	Mar-09	
17	Mukatsar- Malout SC on DC	S/C	32	Mar-09	
18	Moga (400 KV)- Jagraon	D/C	1	Jul-08	

**Total 579**

### Rajasthan

1	Giral TPS-Barmer 2nd S/C	S/C	40	Mar-07	Aug.08
2	Dhorimanna-Bhinmal S/C	S/C	92	Jun-07	Aug.08
3	Giral TPS-Balotra S/C	S/C	100	Mar-09	
4	Barsinghsar -Khinvsar S/C	S/C	100	Mar-08	Aug.08
5	LILO Bhilwara-Kankroli at Kankroli(PG)	S/C	9.5	Mar-08	May-08
6	LILO Kota-Bhilwara at Kota (PG)	D/C	4	Mar-08	Aug.08
7	Kankroli (PG)-Kankroli	S/C	22	Apr-08	Aug.08
8	Chhabra TPS-Jhalawar S/C	S/C	142	Sep-08	
9	LILO Bhilwara-Pali at Bhilwara (400 kV)	D/C	10	Sep-08	
10	LILO Bhilwara-Bali at Bhilwara (400 kV)	D/C	10	Sep-08	
11	Hindaun (400 kV)-Hindaun (220 kV)	D/C	16	Sep-08	

12	Hindaun (400 kV)-Mandawar	D/C	46	Sep-08	
13	Chhabra-Baran-Dahra	D/C	110	Sep-08	
14	LILO of Chhabra-Baran-Dahra at Kawai	D/C	2	Jul-08	
15	LILO Bikaner-Sridungargarh at Bikaner (400 kV)	D/C	20	Oct-08	
16	LILO Bikaner- Nagaur at Bikaner (400 kV) D/C	D/C	20	Oct-08	
17	STPS-Bhadra S/C	S/C	114	Oct-08	
18	Opening of one ckt of Heerapura-Bassi line and connecting Sanganer & Phulera	S/C	59	Mar-04	May-08
19	LILO of Jaipur – Kota at Duni	D/C	6	Mar-08	Aug-08
20	Bhiwadi(Khushkhera)-Neemrana	S/C	58	Mar-08	Aug-08
21	Kankroli (PG)-Debari	S/C	70	Mar-08	Sep-08
22	LILO one ckt Bassi-Heerapura at Jagatpura	D/C	22	Mar-09	Dec-08
23	Giral LTPS- Balotra	S/C	100	Mar-09	
24	LILO Heerapura-Kukas at VKIA	D/C	2	Jul-08	
25	LILO Bhiwali-Neemrana at Khushkhera	D/C	8	Dec-08	
26	LILO Alwar-Bhiwadi at Khushkhera	D/C	5	Dec-08	

**Total 1188**

**UTTAR PRADESH (UPPCL) :**

1	Matore(PG)-Nehtaur	S/C	73	Dec-07	Jun-08
2	Nanauta-Muzaffarnagar	S/C	65	Apr-08	Mar-09
3	Muzaffarnagar-Shamli	S/C	65	Mar-08	Dec-08
4	LILO of Saharanpur-Shamli at Nanouta	D/C	6	Apr-08	Mar-09
5	Metore(Meerut) (PG)-Gajraula	S/C	87	Apr-08	Jun-08
6	LILO of Moradabad-NAPP at Sambhal	D/C	4	Mar-08	Mar-09
7	Loni-Muradnagar(400 kV S/S)	D/C	27	Mar-08	Jun-08
8	LILO of Khurja-Muradnagar at Dadri	D/C	23	Mar-08	Sep-08
9	LILO of Khurja-Muradnagar at Sikandrabad	D/C	38	Jun-08	Sep-08
10	LILO of Sarojininagar-Chinhat at Gomtinagar	D/C	6	Jun-08	Mar-09
11	Bhauti(PG)-Orai	S/C	90	Jul-08	Mar-09
12	LILO of Paricha-Safai at Bharthana	D/C	5	Sep-08	
13	LILO of Paricha-Orai at Jhansi	D/C	42	Sep-08	

14	Loni-Muradnagar	D/C	27	Sep-08	
	<b>Total</b>		<b>558</b>		

**UTTARAKHAND (PTCUL)**

1	Rishikesh-Maneribali Stage-II (3rd ckt)	S/C	79	Dec-05	Oct-08
2	LILO of Maneri I-Rishikesh at Maneri II	D/C	4	Mar-07	May-08
3	Kashipur - Barheni	D/C	52	Dec-06	Aug-08
4	Barheni - Pantnagar	S/C	35	Dec-06	Aug-08
	<b>Total</b>		<b>170</b>		

**JAMMU & KASHMIR (J&K) :**

1	LILO of Zainkote – Wagoora at Budgam	D/C	8.6	Mar-09	
2	Barn-Kishenpur	D/C	74.8	Mar-08	May-08
3	Gladni-Udhampur	S/C	48	Apr-08	Mar-09
4	Thein (RSD)-Hiranagar (2nd ckt)	S/C	40	Mar-08	Mar-09
	<b>Total</b>		<b>171</b>		

**Total 220 kV NR 3386**

**WESTERN REGION (WR) :**

**CHATTISGARH :**

1	JTPS-Raigarh	D/C	114	Jun-07	Oct-08
2	NSPCL-Gurur (CSEB)	S/C	20	Oct-07	Apr-08
3	NSPCL-BSP MSDS-6	D/C	8	May-08	
4	NSPCL-BSP MSDS-5	D/C	7	Sep-08	
5	LILO of Raipur(PG)- Suhela (Bhatapara) at Doma	D/C	42	Mar-08	Mar-09
6	Bhatapara 400 kV (PGCIL)–Bhatapara (Suhela) (New)	S/C	27	Dec-07	Oct-08
7	Raigarh 400 kV (PGCIL) S/S – Raigarh	S/C	21	Dec-07	Sep-08
8	Khedamara- Rajnandgaon	D/C	53	Dec-08	
9	LILO of Korba-Siltara at Mopka	D/C	24	Apr-08	Oct-08
	<b>Total</b>		<b>316</b>		

**GUJARAT(GETCO) :**

1	Mangrol - Mobha	D/C	218	Oct-08	
2	Akhakol-Puna	D/C	72	Apr-07	May-08
3	Akhakol-Bhatar	D/C	136	Apr-07	May-08
4	Akhakol-Ved	D/C	52	Apr-07	Jun-08

5	Akhakhhol-Kim	D/C	8	Apr-07	Apr-08
6	Bardoli-Chikali	D/C	96	Dec-07	Sep-08
7	LILO of one Ckt of Anjar - Panadhro at Kukma	D/C	5	Mar-08	May-08
8	LILO of Vav-Jagadia on Ckt-1 at Kosamba	D/C	10	Mar-08	Mar-09
9	LILO of 2nd ckt of Ukai(T)-Vav at Bardoli	D/C	10	Mar-08	Aug-08
10	Raipur - Dudhrej	D/C	20	Mar-09	
11	Mundra (Adani) -Nani khakher	D/C	33	Jul-08	
12	Chorania - Bala	D/C	59	Dec-08	
<b>Total</b>			<b>719</b>		

**GOA :**

1	LILO of one ckt of Kolhapur - Ponda at Amona	D/C	3	Sep-08	
<b>Total</b>			<b>3</b>		

**MADHYA PRADESH (MPPTCL) :**

1	LILO of Birsinghpur-Satna at Amarkantak	D/C	88	Mar-07	Sep-08
2	LILO of Birsinghpur-Rewa for Sidhi	D/C	118	Mar-07	Sep-08
3	LILO of both ckts of Bhopal-Itarsi at Itarsi	2xD/C	2	Apr-07	Apr-08
4	LILO of Barwaha-Nepanagar (Khandwa) at Omkareshwar	2xD/C	91	Apr-07	Jun-08
5	LILO of Gwalior-Malanpur at Gwalior 400 kV (PG)	D/C	17	Mar-08	Sep-08
6	Shivpuri-Sabalgarh	D/C	200	Apr-08	Nov-08
7	LILO of 1st Ckt of Itarsi-Bhopal at Mandideep	D/C	12	Mar-08	Jun-08
8	LILO of 1st Ckt Damoh-Tikamgarh at Damoh(400 kV)	D/C	2	Mar-08	Aug-08
9	LILO of 1st Ckt Jabalpur-Itarsi at Piparia	D/C	8	Mar-08	Mar-09
10	Seoni (PG)-Chindwara	D/C	140	Apr-08	Dec-08
11	Pitampur-Raigarh (2nd) Ckt	S/C	69	Apr-08	Jun-08
12	LILO of both circuits of Pitampur-Raigarh D/C at Rajgarh(PG)	2xD/C	92	Apr-08	Aug-08
13	LILO of 1st Ckt of Damoh - Bina D/C at Sagar	D/C	15	Jun-07	Sep-08
14	LILO of 2nd Ckt of Damoh - Bina D/C at Sagar	D/C	10	Jun-07	Sep-08
15	LILO of Jabalpur-Itarsi(2nd ckt) at Narsinghpur	D/C	3	May-08	Sep-08
16	Chhindwara-Betul D/C	D/C	270	Feb-09	

17	Chegaon-Nimrani D/C	D/C	220	Feb-09	
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	<b>Total</b>		<b>1357</b>		
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**MAHARASHTRA (MSETCL) :**

1	LILO Tarapur-Borivli at Boisar II	D/C	16	Mar-07	Aug-08
2	Boisar (PG)-Wada S/C on D/C	S/C	57	Mar-07	Oct-08
3	Kolhapur II-Kolhapur-III interconnector	S/C on D/C	18	Mar-08	Oct-08
4	LILO of Pune Ring Main at Khadakwasala S/S	D/C	24	Mar-09	
5	Theur - Magarpatta	D/C	24	Mar-09	
6	Pune (400kVPG) - Talegaon S/S	D/C	20	Mar-09	
7	LILO of Pune Ring Main at Talegaon S/S	D/C	10	Mar-09	
8	Paras - Balapur MIDC	M/C	24	Mar-09	

	<b>Total</b>		<b>193</b>		
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	<b>Total 220 kV WR</b>		<b>2588</b>		
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**SOUTHERN REGION (SR) :**

**ANDHRA PRADESH (APTRANSCO) :**

1	Bhimavaram-Gudivada	D/C	122	Sep-07	Mar-09
2	Vijayawada TPS-Tallapally	D/C	130	Jun-08	Dec-08
3	Ramagundam- Bellampalli S/C on D/C	S/C	43	Mar-08	Dec-08
4	Boddepallipeta-Tekkali S/C on D/C	S/C	44	Dec-07	Sep-08
5	Vetloor- Wanaparthy	D/C	40	Jun-08	Mar-09
6	Kalpaka S/S - Ms. Brandix	D/C	42	Jun-08	Dec-08
7	Gajwel -Kamareddy S/C on D/C	S/C	67	Jun-08	Sep-08
8	Oglapur 400kV PGCIL-Nagaram	D/C	25	Mar-09	

	<b>Total</b>		<b>513</b>		
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**KARNATAKA (KPTCL) :**

1	RTPS - Raichur	D/C	40	Dec-07	Oct-08
2	Chikkodi-Kudachi	D/C	70	Sep-06	Dec-08
3	LILO of Hoody-Kolar at Hoskote	D/C	32	Sep-07	Sep-08
4	Hiriyur 400kV S/S- Gowribidanur	D/C	242	Mar-08	Mar-09
5	Bastipura - Kadakola	D/C	54	Mar-08	Mar-09
6	Hiriyur 400kV S/S- Tallak	D/C	80	Jun-08	Dec-08
7	Bidadi- Kothipura(Ramanagar) S/S	M/C	36	Jan-09	



8	LILO of Mahalingar-Hubli line at Soundatti	D/C	18	Dec-08	
9	Guruvanyankere-Puttur	D/C	48	Sep-08	
10	Indi- Basavanabagevadi	D/C	160	Sep-08	
11	LILO of Mahalingpur- Kudachi at Athani	D/C	48	Aug-08	Dec-08
12	LILO of SMG- Mysore at Kadavinakote	D/C	33	Aug-08	
<b>Total</b>			<b>861</b>		

**KERALA (KSEB) :**

1	LILO of Kayamkulam-Edaman (ckt-2) at Edappon	D/C	17	Mar-08	Mar-09
2	Tap line to Vadamara S/S	D/C	2	Mar-08	Aug-08
4	LILO both ckts of Kalamassery-Brahmapuram at Pallikkara (Kochi East)	M/C	20	Dec-07	Mar-09
5	Areacode(PGCIL)400kV S/S- Areacode S/S	M/C	1	Dec-07	Aug-08
<b>Total</b>			<b>40</b>		

**TAMILNADU (TNEB) :**

1	Valuthur - Paramakudi S/C on D/C	S/C	50	Dec-07	Sep-08
2	Tirunelveli 400kVS/S - Udayathur	S/C on D/c	67	Dec-08	
3	Arasur 400kV S/S- Arasur 230kV S/S	D/C	38	Sep-08	
4	Arasur 400kV S/S- Palladam	S/C on D/c	55	Mar-09	
5	Arasur 400kV S/S- Karamadai	S/C on D/c	48	Mar-09	
6	S.P.Koil-Tharamani (Perambakkam-Tharamani portion)	S/C	45	Jun-06	Sep-08
7	LILO of Neyveli TS-II-Neyveli Zero Unit at Cuddalore	D/C	28	Jun-06	Sep-08
8	Sriperumbudur -Korattur (Changing of conductor)	S/C	20	Sep-06	Sep-08
9	Alamathy S/S - Manali	D/C	50	Jun-07	Sep-08
10	LILO of Pugalur-Checkanoorani at Renganathapuram	D/C	32	Jun-07	Apr-08
11	Alamathy S/S - Avadi (cable)	D/C	35	Sep-07	Sep-08
12	Malumichampatty- Common point	D/C	81	Jun-08	Dec-08
13	Common point - Myvadi S/S S/C on D/C	S/C	17	Mar-08	Dec-08
14	Common point -Ponnapuram S/C on D/C	S/C	17	Dec-08	
15	Kayathar-Chekkanoorani	D/C	244	Dec-07	Jul-08

16	LILO of S P Koil- Tharamani II at Kalivanthapattu 400kV S/S	D/C	14	Jul-08
17	Sriperumbudur 400 kV S/S-Nokia	D/C	20	Sep-08
	<b>Total</b>		<b>861</b>	
	<b>Total 220 kV SR</b>		<b>2275</b>	

**EASTERN REGION (ER) :**

**ORISSA (OPTCL) :**

1	Budhipadar-Bolangir	D/C	358	Dec-08
2	Mendhasal-Bidanasi	D/C	62	Aug-08
3	Duburi-Paradeep	D/C	226	Aug-08
4	Padmanavpur - Balasore	D/C	44	Aug-08
	<b>Total</b>		<b>690</b>	

**WEST BENGAL (WBSETC) :**

1	Santaldih TPS-Bishnupur	D/C	223	Oct-08
2	LILO of Aramgarh-Rishra at Singur	D/C	20	Aug-08
3	Jeerat-Rishra	D/C	133	Aug-08
	<b>Total</b>		<b>376</b>	
	<b>Total 220 kV ER</b>		<b>1066</b>	

**NORTH-EASTERN REGION (NER) :**

**ASSAM (ASEB) :**

1	Kathalguri-Tinsukia (2nd Circuit)	S/C	50	Oct-05	Sep-08
	<b>Total</b>		<b>50</b>		
	<b>Total 220 kV NER</b>		<b>50</b>		
	<b>Total 220 kV SS</b>		<b>9365</b>		
	<b>Total 220 kV CS &amp; SS</b>		<b>10479</b>		

## LIST OF SUB-STATIONS FOR 2008-09

Sl. No.	Name of the Sub-Station	Voltage ratio (kV/kV)	Capacity MW/MVA	MW/MVA	Target	
					Original	Revised

### 400 kV CENTRAL SECTOR (CS) POWERGRID(PGCIL)

1	Ludhiana Sub-station	400/220	2x315	315	Mar'08	July'08
2	Kankroli S/S	400/220	3x315	315	Mar.'08	Sep.'08
3	Kota S/S	400/220	2x315	315	Mar.'08	Dec.'08
4	2nd ICT of Rajgarh S/S	400/220	315	315	Feb'07	Sep.'08
5	2nd ICT of Bhatapara S/S	400/220	315	315	Aug'07	Oct'08
6	Itarsi S/S Aug.	400/220	315	315	Nov'07	Apr'08
7	Wardha Sub station	400/220	2x315	630	Jun'08	Dec.'08
8	Damoh S/S	400/220	2x315	630	Aug'08	
9	Tirunelveli S/S	400/220	2x315	315	May'07	
10	Muvattupuzha	400/220	2x315	630	Nov'08	
11	Ext. Udumalpet (PG)	400/220	1x315	315	Dec'07	Nov'08
12	Ext. Trivandrum (PG)	400/220	1x315	315	Nov'08	
13	Melakottaiyur S/Stn.	400/220	630	315	May'08	
14	Kozhikode S/Stn.	400/220	630	315	Dec'08	
15	Pugalur S/S	400/220	2x315	630	Mar'09	
16	Baripada Sub-station Extn.	400/220	315	315	May'08	Apr'08

**Total 400 kV CS**

**6300**

### 400 kV STATE SECTOR (SS) :

**NORTHERN REGION (NR) :**

**HIMACHAL PRADESH (HPSEB) :**

1	Kunihar (1st)	400/132	1x315	315	Jul-06	Mar-09
2	Kunihar (2nd )	400/132	1x315	315	Jul-06	Mar-09
				<b>630</b>		

**UTTAR PRADESH (UPPCL) :**

	Sarnath Extn.2x(160-100)	400/220	120	120	Mar-08	Mar-09
				<b>120</b>		
<b>Total 400 kV NR</b>				<b>750</b>		

**WESTERN REGION (WR) :**

**Chhattisgarh**

1	NSPCL (2x315 MVA)	400/220	630	630	Oct.07	Sep. 08
<b>Total</b>				<b>630</b>		

**GUJARAT (GETCO) :**

1	Rajkot(Hadala) ICT-II	400/220	1x315	315	Mar-09	
<b>Total</b>				<b>315</b>		

**Total 400 kV WR 945**

**SOUTHERN REGION (SR) :**

**ANDHRA PRADESH (APTRANSCO) :**

1	Gajwel	400/220	2x315	315	Dec-07	Sep-08
<b>Total</b>				<b>315</b>		

**KARNATAKA (KPTCL) :**

1	Talaguppa (3rd)	400/220	1x315	315	Sep-07	Jun-08
<b>Total</b>				<b>315</b>		

**Total 400 kV SR 630**

**EASTERN REGION (ER) :**

**ORISSA**

1	Menddhsal (2x315)	400/220	630	315	May-08	Mar-09
2	Dubri 400/220 (2x315)	400/220	630	315	May-08	Mar-09
<b>Total</b>				<b>630</b>		

**WEST BENGAL (WBSEB) :**

1	Durgapur(6x105)	400/220	630	630	Sep-08	
				<b>630</b>		

**Total 400 kV ER 1260**

<b>Total 400 kV SS</b>	<b>3585</b>
<b>Total 400 kV CS &amp;SS</b>	<b>9885</b>

**220 kV CENTRAL SECTOR (CS) :**

**POWERGRID (PGCIL) :**

**A. International S/S**

1	Chimtala (Afghanistan)	220/110	1x160	160	Aug-08
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**B. National S/S**

1	Sitarganj Sub station	220/132	2x100	200	Mar'07	Sep.'08
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**Total 360**

**DAMODER VALLEY CORPORATION (DVC) :**

1	Barjora Extn (1x100)	220/33	100	100	Sep-08	
2	Barjora Extn (2x150)	220/132	300	150	Sep-08	Dec-08
3	Dhanbad(2x150+2x50))	220/132	400	300	Mar-09	

**Total 550**

**Total 220 kV CS 910**

**220 kV STATE SECTOR (SS) :**

**NORTHERN REGION (NR) :**

**CHANDIGARH (CHND) :**

1	Manimajra (Chandigarh)	220/66	1x100	100	Apr-07	Sep-08
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**Total 100**

**DELHI (DTL) :**

1	Masjid-Moth (Sirifort)	220/33/11	1x100	100	Mar-06	Mar-09
2	Shalimar Bagh (3rd)	220/33/11	1x100	100	Mar-06	Mar-09
3	Bawana DSIDC	220/66	2x100	200	Apr-06	Sep-08
4	Gopalpur (4th)	220/33	1x100	100	Mar-07	Sep-08
5	Vasant Kunj (3rd)	220/66	1x100	100	Mar-07	Sep-08
6	GT S/S (Aug)	220/33	2x160	320	Mar-07	Sep-08
7	South of Wazirabad (1x100 MVA-4 <sup>th</sup> ICT)	220/66	1x100	100	Mar-08	Sep-08

**Total 1020**

**HIMACHAL PRADESH (HPSEB) :**

1	Pong (Aug) (40-20 )	220/66	1x20	20	Mar-07	Sep-08
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2	Jassure S/S 1x25 MVA	220/33	1x25	25	Mar-08	Sep-08
<b>Total</b>				<b>45</b>		

**HARYANA (HVPN) :**

1	Salempur (2nd ICT)	220/132	1x100	100	Mar-08	May-08
2	IMT Manesar (2nd)	220/66	1x100	100	Mar-06	Mar-09
3	Nilokheri S/S (2x100 MVA)	220/132	2x100	200	Mar-08	Jul-08
4	Bhuna (2x 100 MVA)	220/132	2x100	200	Dec-07	Sep-08
5	Isharwal	220/132	1x100	100	Jun-08	Sep-08
6	Durala	220/132	2x100	200	Oct-08	
7	Pehowa Aug (100-50)	220/132	50	50	Dec-08	
8	Nissing Aug	220/132	100	100	Dec-08	
9	Ballabgarh Aug	220/132	100	100	Jul-08	
10	Yamunanager(Jorian) 3rd ICT	220/132	1x100	100	Sep-08	
11	Dautabad 2nd ICT	220/66	1x100	100	Jul-08	
12	Palli (Aug.)	220/66	1x100	100	Sep-08	
<b>Total</b>				<b>1450</b>		

**PUNJAB (PSEB) :**

1	Himatpura S/S	220/66	100	100	Dec.07	Mar-09
2	Mohali-II	220/66	100	100	Mar-06	Sep-08
3	Kartarpur (Aug) (2nd)	220/66	100	100	Mar-06	Aug-08
4	Pakhowal (new)	220/66	100	100	Mar-06	Mar-09
5	Dhuri (Aug) (2nd )	220/66	100	100	Mar-06	Jun-08
6	Amloh Rd Gobindgarh	220/66	100	100	Mar-07	Jun-08
7	Ferozepur Road Ludhiana	220/66	100	100	Mar-07	Dec-08
8	Kharar	220/66	100	100	Mar-07	Dec-08
9	GHTP Aug. (1x100-1x50)	220/66	50	50	Mar-07	Sep-08
10	Nabha	220/66	100	100	Aug-07	Sep-08
11	Rajla (Aug)	220/66	100	100	Sep-08	
12	Majitha (U/G)	220/66	100	100	Mar-09	
<b>Total</b>				<b>1150</b>		

**RAJASTHAN (RVPN) :**

1	Baran S/S	220/132	100	100	Sep-08	
2	Bhadra (Hanumangarh)	220/132	100	100	Oct-08	

3	Kishangarh (Ajmer)	220/132	100	100	Mar-09
4	Kawai	220/132	100	100	Jul-08

**400**

**UTTAR PRADESH (UPPCL) :**

1	Nanauta (160+100)	220/132	260	160	Mar-08	Feb-09
2	Sambhal, Muradabad	220/132	2x100	100	Dec-07	Feb-09
3	Gajraula	220/132	2x100	100	Mar-08	Feb-09
4	Loni	220/132	2x100	100	Dec-07	Sep-08
5	Dadri	220/132	2x100	200	Mar-08	Sep-08
6	Sikandrabad	220/132	2x100	100	Dec-07	Sep-08
7	Muzaffarnagar (160+100)	220/132	260	100	Mar-08	Dec-08
8	Dohna, Bareilly	220/132	2x100	100	Mar-08	Sep-08
9	Sohawal	220/132	2x100	100	Mar-08	Dec-08
10	Atrauli Extn. 2	220/132	1x100	100	Mar-08	Jun-08
11	Bharthana	220/132	2x100	100	Dec-07	Sep-08
12	Azamgarh Aug.2x(160-100)	220/132	120	120	Mar-08	Sep-08
13	Basti Aug. (160-100)	220/132	60	60	Mar-08	Dec-08
14	Nehtaur Aug. (160-100)	220/132	60	60	Mar-08	Mar-09
15	Shahjahanpur Extn. (160-60)	220/132	60	60	Feb-09	
16	Gaumti Nagar	220/132	3x63	63	Feb-09	

**Total**

**1623**

**UTTARAKHAND (PTCUL) :**

1	Dehradun	220/132	2x100	100	Jun-06	Mar-09
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**Total**

**100**

**JAMMU & KASHMIR (J&K):**

1	Barn	220/132	2x160	320	Mar-09
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**Total**

**320**

**Total 220 kV NR**

**6208**

**WESTERN REGION (WR) :**

**CHHATTISGARH (CSEB) :**

1	Suhela (Bhatapara)	220/132	1x160	160	Apr-07	Sep-08
2	Rajnandgaon	220/132	1x160	160	Mar-08	Dec-08

3	Doma	220/132	1x160	160	Apr-07	Mar-09
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<b>Total</b>				<b>480</b>		
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**GUJARAT( GETCO) :**

1	Puna (2x160 MVA)	220/66	320	160	Mar-08	Jul-08
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2	Bhatar (2x160 MVA)	220/66	320	160	Mar-08	Jul-08
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3	Ved (2x160 MVA)	220/66	320	160	Mar-08	Sep-08
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4	Kosamba (1x100 MVA)	220/66	1x100	100	Mar-08	Mar-09
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5	Kukma(1x100 MVA)	220/66	1x100	100	Mar-09	Aug-08
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6	Botad (1x50 MVA)	220/66	1x50	50	Mar-08	Mar-09
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7	Bhat (Bavla) (1x100 MVA)	220/66	1x100	100	Mar-09	
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<b>Total</b>				<b>830</b>		
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**GOA :**

1	Amona	220/33	2x50	100	Sep-08	
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<b>Total</b>				<b>100</b>		
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**MADHYA PRADESH (MPPTCL) :**

1	Sidhi S/S (1X160)	220/132	160	160	Mar-08	Sep-08
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2	Sabalgarh	220/132	1x160	160	Mar-08	Feb-09
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3	Chhatarpur	220/132	1x160	160	Mar-08	Feb-09
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4	Mandideep	220/132	1x160	160	Mar-08	Sep-08
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5	Sagar	220/132	1x160+1x 100	160	Aug-08	
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6	Piparia	220/132	1x160	160	Oct-08	
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7	Badod	220/132	1x160	160	Feb-09	
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<b>Total</b>				<b>1120</b>		
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**MAHARASHTRA (MSEB) :**

1	Magarpatta	220/22	2x50	50	Mar-08	Mar-09
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2	Wather	220/132	2x100	100	Mar-08	Mar-09
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3	Wather	220/33	2x50	50	Mar-08	Mar-09
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4	Chakan	220/132	2x200	200	Mar-08	Mar-09
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5	Chakan	220/33	2x50	50	Mar-08	Mar-09
6	Wada	220/22	1x50	50	Apr-08	
7	Kolshet	220/22	1x50	50	Jul-08	

**Total 500**

**Total 220 kV WR 3030**

**SOUTHERN REGION (SR) :**

**ANDHRA PRADESH (APTRANSCO) :**

1	Brandix	220/132	2x100	100	Mar-08	Sep-08
2	Kamareddy	220/132	2x100	100	Mar-09	
3	Bellampally	220/132	1x100	100	Sep-08	

**Total 300**

**KARNATAKA (KPTCL) :**

1	Puttur	220/110	2x100	0	Jun-06	Sep-08
2	HAL	220/66	2x100	0	Dec-07	Sep-08
3	Nimhans	220/66	2x150	150	Sep-08	
4	A Station compound	220/66	2x150	300	Sep-08	
5	Tallak	220/66	2x100	100	Dec-08	
6	Athani	220/110	2x100	100	Dec-08	

**Total 650**

**KERALA (KSEB) :**

1	Edappon	220/110	2x200	200	Jun-05	Dec-08
2	Vadakara	220/110	2x100	100	Jun-07	Mar-09

**Total 300**

**TAMILNADU (TNEB) :**

1	Renganathapuram	230/110	2x50	50	Jun-07	Apr-08
2	Oragadam	230/110	2x100	100	Dec-08	
3	Sriperumbudur SIPCOT	230/110	2x100	100	Sep-08	
4	Palladam	230/110	2x100	100	Jun-08	

**Total 350**

**Total 220 kV SR 1600**

**EASTERN REGION (ER) :**

**BIHAR (BSEB) :**

1	Biharshariff Extn.	220/132/3 3	1x150	150	Mar-09
2	Pusauli	220/132	2x150	150	Mar-09
3	Dehri	220/132	1x100	100	Mar-09
4	Khagaul	220/132	1x100	100	Mar-09
5	Fatuha	220/132/ 33	1x100	100	Nov-08
6	Muzaffarpur	220/132	1x100	100	Dec-08
<b>Total</b>				<b>700</b>	

**ORISSA (OPTCL) :**

1	Bolangir(2x100)	220/132	200	200	Sep-08
2	Pardeep(1st)	220/132	100	100	Sep-08
<b>Total</b>				<b>300</b>	

**WEST BENGAL (WBSETC) :**

1	Subhasgram (2x160)	220/132	320	160	Feb-09
2	New Town AA-III (2x160)	220/132	320	160	Dec-08
3	Singur(2x160)	220/132	320	160	Sep-08
<b>Total</b>				<b>480</b>	

**Total 220 kV ER 1480**

**NORTH-EASTERN REGION (NER) :**

**ASSAM (ASEB) :**

1	Agia	220/132	1x50	50	Dec-04	Dec-08
2	Balipara (Tezpur)	220/132	1x50	50	Dec-05	Apr-08
<b>Total</b>				<b>100</b>		

**ARUNACHAL PRADESH (APSEB) :**

1	Deomali	220/132	4x11.1	45	Dec-04	Mar-09
<b>Total</b>				<b>45</b>		

**Total 220 kV NER 145**

**Total 220 kV SS 12463**

**Total 220 kV CS& SS 13373**

**132 kV STATE SECTOR :**

**ARUNACHAL PRADESH (APSEB) :**

1	Itanagar	132/33	1x20	20	Jun-06	Sep-08
				<b>20</b>		

**MEGHALAYA**

1	Lumshung 2x5	132/33	2x5	25	Jun-06	Sep-08
2	Nangalbibra (Aug.)	132/33	1x12.5	12.5	Jun-06	Mar-09
3	Umiam	132/33	2x20	20	Mar-07	Sep-08

**Total** **57.5**

**MIZORAM**

1	Kolasib	132/66		0	Aug-05	Sep-08
2	Saitual	132/33		0	Jun-06	Sep-08

**Total** **0**

**Total (SS) 132 kV** **77.5**

**LEGEND:**    →    \*

	*	Outside programme
	S/C	Single circuit
	D/C	Double circuit
	M/C	Multi circuit
	S/C on D/C	Single circuit on Double circuit
	kV	Kilo- volt
	CKm	Circuit kilometer
	LILO	Loop in Loop out
	TPS	Thermal Power station
	CR Panel	Control and Relay panel
	Aug	Augmentation



17	Chamera Pooling Station - Chamera-II HEP (Part-I)	S/C	1	Mar'10
18	Gorakhpur - Lucknow	D/C	510	Dec'09
19	LILO of Ballabgarh - Bhiwadi at Gurgaon	D/C	54	Jul'09
20	LILO of 1 ckt of Madurai (PG) - Trichy (PG) at Karaikudi	D/C	100	July'09
21	LILO of 1 ckt of exist. Talguppa (KPTCL) - Neelamangla (KPTCL) at Hassan	D/C	148	July'09
22	Durgapur-Jamshedpur	D/C	362	Oct'09
23	Jamshedpur - Baripada	D/C	270	Oct'09
24	Baripada - Mendhasal	D/C	510	Oct'09
25	LILO of 1 ckt of Madurai (PG) - Trichy (PG) at Karaikudi	D/C	100	July'09
26	LILO of 1 ckt of exist. Talguppa (KPTCL) - Neelamangla (KPTCL) at Hassan	D/C	148	July'09
27	Durgapur-Jamshedpur	D/C	362	Oct'09
28	Jamshedpur - Baripada	D/C	270	Oct'09
29	Baripada - Mendhasal	D/C	510	Oct'09

**Total 7899**

**Damoder Valley Corporation**

1	LILO of Durgapur-Jamshedpur (PG) at Durgapur STPS	D/C	372	Aug'09
2	LILO of Maithon-Ranchi (PG) at Raghunathpur	D/C	7	May'09

**Total 379**

**Total 400 kV CS 8278**

**400 kV STATE SECTOR :**

**NORTHERN REGION (NR) :**

**RAJASTHAN (RVPN) :**

1	Jaisalmer- Barmer	S/C	150	Apr-09
2	Jaisalmer- Jodhpur	S/C	230	Apr-09
3	Rajwest- Jodhpur	D/C	440	Apr-09

**Total 820**

**HARYANA (HVPN) :**

1	Jhajjar-Daulatabad	D/C	120	Mar-10
2	Jhajjar-Mundka (Delhi)	D/C	120	Mar-10
3	Hissar - Kirori	D/C	24	Mar-10
4	Hissar - Fatehbad (PGCIL)	D/C	100	Mar-10

**Total 364**

**UTTARANKHAND (PTCUL) :**

1	Srinagar-Nehtaur	S/C	150	Dec-08	Dec-09
2	Srinagar-Kashipur	S/C	175	Dec-08	Dec-09
3	Lohri Nagpala-Srinagar	S/C	150	Dec-08	Dec-09
4	Lohri Nagpala-Rishikesh	S/C	200	Dec-08	Dec-09
5	Lohri Nagpala-Pala Maneri	S/C	50	Dec-08	Dec-09
6	Tapovan-Bawla Nand-Prayag	S/C	40	Dec-08	Dec-09
7	Tapovan -Srinagar	S/C	100	Dec-08	Dec-09
8	Tapovan-Vishnu Prayag	S/C	50	Dec-08	Dec-09
9	Kotli Behl-Rishikesh	D/C	50	Dec-08	Dec-09
10	Kotli Behl-Kahipur	S/C	150	Dec-08	Dec-09
11	Kishau Bandh-Rishikesh	S/C	150	Dec-08	Dec-09
12	Kishau Bandh-Dakpathar	S/C	50	Dec-08	Dec-09
<b>Total</b>			<b>1315</b>		

**UTTAR PRADESH (UPPCL) :**

1	Parichha-Mainpuri	D/C	225	Apr-09	
<b>Total</b>			<b>225</b>		

**Total 400 kV NR 2724**

**WESTERN REGION (WR) :**

**CHHATTISGARH (CSEB) :**

1	LILO Korba (West)-Bhilai at Raipur	D/C	100	Mar-10	
<b>Total</b>			<b>100</b>		

**MAHARASHTRA (MSETCL) :**

1	Bhusawal-II-Bhusawal (Khadaka)	D/C	20	Mar-10	
2	Bhusawal – II – Aurangabad	D/C	368	Mar-10	
3	LILO of Koradi- Chandrapur at Khaparkheda II	D/C	2	Mar-10	
4	Koradi- Khaparkheda II	D/C	6	Mar-10	
5	LILO of Bhadravati- Chandrapur at Chandrapur II	D/C	20	Mar-10	
6	LILO of Parli- Chandrapur at Chandrapur II	D/C	20	Mar-10	
7	LILO of Khaparkheda- Chandrapur at Chandrapur II	D/C	20	Mar-10	
8	LILO of Warora - Chandrapur at Chandrapur II	D/C	20	Mar-10	

**Total 476**

**GUJARAT (GETCO) :**

1	Adani-Hadala	D/C	230	Dec-09	
2	LILO of Adani-Hadala at Versana	D/C	230	Dec-09	
3	LILO of Asoj-Ukai at Kosamba	D/C	60	Jun-09	

**Total 520**

**Total 400 kV WR 1096**

**SOUTHERN REGION (SR) :****ANDHRA PRADESH (APTRANSCO) :**

1	Narasaraopet -Vemagiri	D/C	170	Dec-07	Dec-09
2	VTPS- Suryapeta	D/C	41	Sep-09	
3	Suryapeta- Malkaram	D/C	127	Sep-09	

**Total 338**

**TAMILNADU (TNEB) :**

1	LILO of Sripermbudur- Kalivanthapathu at S.V Chatram	D/C	11	Mar-10	
2	Alamathy- S.V Chatram	D/C	41	Mar-10	
3	Kanarpatty- Abishekapatty	D/C	30	Mar-10	

**Total 82**

**Total 400 kV SR 420**

**Total 400 kV SS 4240**

**Total 400 kV CS &SS 12518**

**220 kV CENTRAL SECTOR (CS) :****DAMODER VALLEY CORPORATION (DVC) :**

1	Giridih-Kodarma	D/C	212	Feb-10	
2	Dhanbad-Giridih	D/C	86	Sep-09	

**Total 298**

**Total (CS) 220 kV 298**

**220 kV STATE SECTOR :****NORTHERN REGION (NR) :****DELHI (DTL) :**

1	U/G cable Maharani Bagh-Electric lane		22	Mar-08	Mar-10
2	U/G cable Maharani Bagh-Trauma Centre/AIIMS		19	Mar-08	Mar-10
3	U/G cable Ridge Valley -Naraina		5	Mar-10	
4	LILO of Bamnauli- Mehrauli at IGI Airport U/G cable		24	Mar-10	

**Total 70**

**HIMACHAL PRADESH (HPSEB) :**

1	LILO of Kashang-Bhaba at Bhoktoo	D/C	63	Jan-08	Dec-09
2	Nalagarh(Reeru Majra)(PGCIL)-Nalagarh	D/C	12	Mar-07	Mar-10
3	Giri - Moginand (Kala Amb)	D/C	30	Mar-08	Mar-10
4	Kangoo-Rauri	S/C	24	Jun-09	
5	Allain Duhangan-Panarsa-Nalagarh D/C	D/C	350	Jun-09	

**Total 479**

**HARYANA (HVPN) :**

1	Kirori (400 kV)-Hansi	D/C	80	Jun-09	
2	Sawra-Kuddu – Moginand	D/C	266	Mar-10	
	<b>Total</b>		<b>346</b>		
<b>PUNJAB (PSEB) :</b>					
1	LILO one ckt of Lalton- Dhandarikalan at Ludhiana (PG)	D/C	5	Apr-09	
2	LILO one ckt of Lalton-Sahnewal at Ludhiana (PG)	D/C	3	Apr-09	
3	Sahnewal- Doraha DC line	D/C	12	Jun-09	
4	Ludhiana (400kV) - Doraha (220kV)	S/C on D/C	18	Jun-09	
5	Kapurthala-Jalandhar(400 KV )	S/C on D/C	15	Jun-09	
6	Patti- Algaon	S/C on D/C	20	Jun-09	
7	LILO of one ckt. of Moga- Jagraon DC at Ajitwal	D/C	2	Jun-09	
8	Botianwala - Mastewala	D/C	10	Jun-09	
9	LILO of one ckt. of Fateh Garh Churian- Civil Line Amritsar at Majitha	D/C	5	Jun-09	
10	Botianwala- Mastewala	S/C on D/C	10	Jun-09	
	<b>Total</b>		<b>100</b>		
<b>RAJASTHAN (RVPN) :</b>					
1	Barsinghsar TPS-Phalodi S/C	S/C	140	Mar-09	Jun-09
2	Raj West-Barmer	D/C	30	Jun-09	
3	Raj West-Dhorimanna	D/C	90	Jun-09	
4	LILO of Giral -Barmer ckt 1 at RAJ West LTPS	D/C	5	Apr-09	
5	Extension of Bikaner- Barsinghsar at Barsinghsar TPS	S/C	3	Apr-09	
	<b>Total</b>		<b>265</b>		
<b>UTTAR PRADESH (UPPCL) :</b>					
1	Basti-Gonda	D/C	103	Apr-08	Sep-09
2	Sarnath - Gorakhpur/ Gajokhar	S/C	25	Mar-10	
3	Gajokhar - Jaunpur	S/C	35	Mar-10	
4	Bhelupur - Varanasi (GIS)	D/C	60	Mar-10	
5	Bhelupur-Sahupuri	D/C	20	Mar-10	
6	Ghazipur-Ballia	S/C	60	Mar-10	
7	Deoria-Ballia	S/C	120	Mar-10	
8	Dohna-Roja	S/C	110	Apr-09	
9	Roja-C.B.Ganj	S/C	125	Apr-09	



10	Roja-Badaun	S/C	100	Apr-09	
11	LILO of Shatabdinagar-Muradnagar at Indira	D/C	25	Apr-09	
12	LILO of Noida (400)-Noida Sec.20 (220) at Noida Sec.123	D/C	1	Apr-09	
13	G.Noida - Noida (400) Sec. 129	D/C	20	Apr-09	
14	G.Noida - Noida (220) SBB	II Ckt.	1	Apr-09	
15	Harduaganj-Jahangirabad	D/C	70	Apr-09	
16	G.Noida (400)-Noida (Sec.20)	D/C	4	Apr-09	
17	Metore-Sardhana	S/C	40	Mar-10	
18	Unnao-Kanpur South	D/C	25	Dec-09	
19	Parichha-Banda	D/C	200	Apr-09	
20	Parichha-Zhavri	D/C	30	Apr-09	
21	LILO of Moradabad-C.B.Ganj at Rampur	D/C	12	Mar-08	Apr-09
22	Gokul-Hathras	S/C	40	Apr-09	
23	LILO of Moradabad-C.B.Ganj at Rampur	D/C	12	Apr-09	
24	LILO of C.B.Ganj- Bareilly at Dohane	D/C	4	Apr-09	

**Total 1242**

**JAMMU & KASHMIR (J&K) :**

1	Zainkote-Alusteng-Mirbazar	D/C	254	Mar-10	
2	Wagoora-Mirbazar	D/C	104	Mar-09	Oct-09
3	Wagoora-Budgam- Zainkote	D/C	60	Mar-09	Oct-09
4	Zainkote-Amargarh	D/C	85	Mar-10	
5	LILO Kishenpur-Pampore at Ramban	D/C	4	Mar-09	Mar-10
6	Hira Nagar-Bishnah	D/C	89	Mar-09	Jun-09
7	Bishnah-Barn	D/C	75	Mar-09	Jun-09

**Total 671**

**Total 220 kV NR 3173**

**WESTERN REGION (WR) :**

**CHATTISGARH :**

1	Korba(Darri)-Vishrampur	DC	153	Mar-08	Dec-09
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**Total 153**

**GUJARAT (GETCO) :**

1	Utran - Kosamba 2xD/C	2 x D/C	160	Dec-08	Dec-09
2	Kosamba-Mobha 2xD/C	2 x D/C	440	Dec-08	Mar-10
3	LILO of Karamsad - Vartej at Botad	D/C	100	Jun-09	
4	Adani - Kukma	D/C	140	Feb-10	
5	Adani - Versana	D/C	180	Jun-09	
6	Versana- Morbi	D/C	170	Feb-10	

7	LILO Jetpur-Jamnagar at Sikka	2XD/C	64	Mar-10	
8	Sikka-Rajkot	D/C	160	Mar-10	
	<b>Total</b>		<b>1414</b>		
<b>GOA :</b>					
1	Xeldem-Cuncolim	D/C	20	Jun-07	Feb-10
	<b>Total</b>		<b>20</b>		
<b>MADHYA PRADESH (MPPTCL) :</b>					
1	LILO Amarkantak-Birsinghpur at Sukha (PG)	2xD/C	300	Apr-09	
2	Satna-Chhatarpur	S/C on D/C	140	Apr-08	Jun-09
3	Bhopal(400 kV)-Ashta	D/C	194	Apr-08	Feb-10
4	Sujalpur-Rajgarh	D/C	134	Jun-09	
5	Sujalpur-Sujalpur (PGCIL)	D/C	10	Jun-09	
6	Maheshwar – Pitampura	D/C	106	Mar-10	
7	LILO of Omkareshwar – Nimrani/Julvania	D/C	40	Mar-10	
8	Malwa TPS – Chhegaon	D/C	160	Mar-10	
9	LILO of Jabalpur-Narsinghpur Part line at Sukha (PG)	D/C	158	Jun-09	
10	LILO of Satpura-Itarsi at Handia	D/C	170	Jun-09	
11	Makronia- Sagar	D/C	11	Apr-09	
12	LILO of 2nd ckt of Damoh -Bina at Sagar	D/C	11	Apr-09	
13	LILO of 2nd ckt of Pitampur- Retlam at Bad Nagar	D/C	20	Apr-09	
14	LILO of both Ckt of Ujjain- Kota at Badod	D/C	15	Apr-09	
15	LILO of one Ckt Itarsi - Bhopal at Hosangabad	D/C	12	Apr-09	
	<b>Total</b>		<b>1481</b>		
<b>MAHARASHTRA (MSETCL) :</b>					
1	Talegaon 400 kV(PG)S/S – Talegaon 220 kV S/S	D/C	20	Mar-08	Jun-09
2	LILO of Karad – Kolhapur D/C at Wather	D/C	6	Mar-08	Jun-09
3	LILO of Pusad – Nanded (ckt-1) at Hingoli	D/C	72	Mar-08	Jun-09
4	LILO of Nasik – Kalwa Ckt 3&4 at Bapgaon	2xD/C	6	Mar-08	Jun-09
5	LILO of Padghe – Wada (Ckt-1) at Kudus	D/C	2	Mar-08	Jun-09
6	LILO of Kalwa – Padghe (Ckt-1)at Airoli (Knowledge Park)	D/C	2	Mar-08	Jun-09
7	LILO of Kandalgaon – Chinchwad D/C at Hinjewadi-II	2xD/C	6	Mar-08	Jun-09

8	Warora - Wani	D/C	70	Jun-09	
9	LILO of Waluj - Jalna at Shendra S/S	D/C	30	Jun-09	
10	LILO of Pusad - Nanded II at Hingoli S/S	D/C	44	Jun-09	
11	Buttibori (Old) - Buttibori (New)	M/C	4	Jun-09	
12	Buttibori (New) - Ambazari	M/C	124	Jun-09	
13	Ambazari - Mankapur	M/C	52	Jun-09	
14	LILO of Padghe - Boisar II at Vasai S/S	D/C	18	Jun-09	
15	LILO of Padghe - Kalwa at Bapgaon S/S	D/C	6	Jun-09	
16	LILO of Chandrapur I - Chandrapur MIDC at Chandrapur II	D/C	20	Mar-10	
17	Uran- Apta	D/C	35	Mar-10	
18	Uran- Kharghar	D/C	30	Mar-10	
19	Khaparkheda I- Khaparkheda II	M/C	7	Mar-10	
20	Kolhapur II- Chalkarangi II	S/C	18	Apr-09	
	<b>Total</b>		<b>572</b>		
	<b>Total 220 kV WR</b>		<b>3487</b>		
	<b>SOUTHERN REGION (SR) :</b>				
	<b>ANDHRA PRADESH (APTRANSCO) :</b>				
1	Narasaraopet 400kV -Narsaraopet 220kV	D/C	50	Dec-09	
2	Narasaraopet 400 kV -Parchur 220 kV	D/C	120	Dec-09	
3	Parchur -Podili	D/C	152	Dec-09	
4	RTPP-Pulivendala	D/C	80	May-07	Jun-09
5	Pulivendula-Hindupur	D/C	238	Dec-07	Jun-09
6	Oglapur- Durshed	D/C	103	Sep-09	
	<b>Total</b>		<b>743</b>		
	<b>KARNATAKA (KPTCL) :</b>				
1	Tubinakere-Kothipura	D/C	137	Jun-09	
2	Basthipura-Kushalanagara	D/C	154	Jun-09	
3	Narendra 400kV S/S-Mahalingapur	D/C	240	Mar-10	
4	Narendra 400kV S/S-Ghataprabha	D/C	154	Mar-10	
5	LILO of Lingasugur- Lingapur line at Sindhanur	D/C	70	Apr-09	
6	Varahi-Khemar in the existing 110 kV corridor	D/C	113	Dec-09	
	<b>Total</b>		<b>868</b>		
	<b>KERALA (KSEB) :</b>				
1	LILO of New Pallom- Mavelikkara at Punnapra	D/C	37	Mar-08	Sep-09
	<b>Total</b>		<b>37</b>		
	<b>TAMILNADU (TNEB) :</b>				

1	Perumanallur- Gobi	D/C	20	Mar-10	
2	Perumanallur- Chithode	D/C	20	Mar-10	
3	Oragadam -S V Chatram	D/C	15	Mar-10	
4	LILO of Palladam-Pugalur at Kurukuthi	D/C	15	Mar-10	
5	Myvadi- Vagarai	D/C	20	Mar-10	
6	Devakkurichi- Pudhanchandi	S/C on D/C	169	Apr-09	
	<b>Total</b>		<b>259</b>		
	<b>Total 220 kV SR</b>		<b>1907</b>		

**EASTERN REGION (ER) :**

**BIHAR (BSEB) :**

1	Begusarai-Purnea	D/C	346	Sep-03	Jan-10
2	Patna-Sipara	D/C	10	Jan-10	
3	LILO of 2nd ckt of Fatuha- Khagaul at Sipara(New)	D/C	20	Jan-10	
4	LILO of one ckt of Sipara(BSEB)- Patna at Sipara(New)	D/C	1	Jan-10	
	<b>Total</b>		<b>377</b>		

**WEST BENGAL (WBSETC) :**

1	Teesta LD IV - NJP	D/C	140	Sep-09	
2	Teesta LD III - Teesta LD IV	D/C	9	Sep-09	
3	Teesta LD III - NJP	S/C	75	Sep-09	
	<b>Total</b>		<b>224</b>		

**JHARKHAND (JSEB) :**

1	Hatia-Lohardagga	D/C	122	Aug-07	Sep-09
2	Lohardagga-Lateher-Daltonganj-Garwa	D/C	302	Dec-09	
	<b>Total</b>		<b>424</b>		
	<b>Total 220 kV ER</b>		<b>1025</b>		

**NORTH-EASTERN REGION (NER) :**

**ASSAM (ASEB) :**

1	BTPS-Agia-Sarusajai (2nd Circuit)	S/C	396	Oct-05	Jul-09
	<b>Total</b>		<b>396</b>		

**MEGHALAYA**

1	Misa - Byrnihat	D/C	115	Mar-10	
	<b>Total</b>		<b>115</b>		
	<b>Total 220 kV NER</b>		<b>511</b>		

	<b>Total 220 kV SS</b>		<b>10103</b>		
	<b>Total 220 kV CS &amp; SS</b>		<b>10401</b>		

## LIST OF SUB-STATIONS FOR 2009- 10

Sl. No.	Name of the Sub-Station	Voltage ratio (kV/kV)	Capacity MW/MVA	MW/MVA	Target	
					Original	Revised

### ± 500 kV HVDC Terminal :

#### **CENTRAL SECTOR (CS):**

##### **POWERGRID (PGCIL) :**

1	Ballia		2500	2500	Sep-09
2	Bhiwadi		2500	2500	Sep-09

**Total HVDC**

**5000**

#### **400 kV CENTRAL SECTOR (CS) :**

##### **POWERGRID (PGCIL) :**

1	Roorkee	400/220	2x315	630	May-09
2	Ludhiana (3rd ICT)	400/220	1x315	315	Mar-10
3	Wagoora (4th ) (3x105)	400/220	3x105	315	Mar-10
4	Bhinmal	400/220	2x315	630	Dec-09
5	Hissar (3rd ICT)	400/220	1x315	315	Dec-09
6	Karaikudi	400/220	2x315	630	Jul-09
7	Hassan	400/220	2x315	630	Jul-09
8	Gurgaon (GIS)	400/220	2x315	630	Jul-09
9	Chamera (GIS)	400/220	2x315	630	Mar-10
10	Warrangal S/S	400/220	2x315	630	Aug-09
11	Arasur S/S	400/220	2x315	630	Aug-09
12	Pondicherry S/S	400/220	2x315	630	Aug-09

**Total 400 kV CS**

**6615**

#### **400 kV STATE SECTOR (SS) :**

##### **NORTHERN REGION (NR) :**

###### **DELHI**

1	Mundka	400/220	2x315	630	Dec-09
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**Total**

**630**

###### **RAJASTHAN (RVPN)**

1	Bhilwara S/S (1x315)	400/220	315	315	Mar-10
2	Hindaun S/S (1x315)	400/220	315	315	Mar-10
3	Bikaner S/S (1X315)	400/220	315	315	Mar-10

**Total**

**945**

**UTTAR PRADESH (UPPCL) :**

1	Bagpat	400/220	3x315	945	Mar-08	Dec-09
2	Muradabad	400/220	(315-240)	75	Apr-09	
3	Agra Extn.	400/220	315	315	Apr-09	

**Total 1335**

**WESTERN REGION (WR) :****GUJARAT (GETCO) :**

1	Versana (2x315 MVA)	400/220	2x315	630	Jun-09	
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**Total 630**

**MAHARASHTRA (MSETCL) :**

1	Khaparkheda II	400/220	7x105	630	Mar-10	
2	Chandrapur II	400/220	7x105	630	Mar-10	

**Total 1260**

**SOUTHERN REGION (SR) :****ANDHRA PRADESH (APTRANSCO) :**

1	Narasaraopet	400/220	2x315	630	Dec-08	Dec-09
2	Mahaboobnagar	400/220	2x315	630	Jul-09	
3	Chittoor	400/220	315	315	Jul-09	
4	Yeddumailaram	400/220	2x315	630	Sep-09	
5	Suryapeta	400/220	3x315	945	Sep-09	
6	Malkaram	400/220	2x315	630	Mar-10	

**Total 3780**

**TAMILNADU (TNEB) :**

1	S.V Chatram	400/230	2x315	630	Mar-10	
2	Sholinganallur	400/230	2x315	630	Mar-10	

**Total 1260**

**220 kV CENTRAL SECTOR (CS)****POWERGRID(PGCIL)**

1	Pithoragarh	220/132	6x33.3	200	Dec-09	
2	Kopili Extn.	220/132	160	160	Apr-09	
3	Dimapur Extn.	220/132	160	160	Apr-09	

**Total 320**

**220 kV STATE SECTOR (SS) :****NORTHERN REGION (NR) :****DELHI (DTL) :**

1	Electric Lane (2x160)	220/33	2x160	320	Mar-10	
2	Ridge Valley	220/66	2x160	320	Mar-10	
3	IGI Airport	220/66	2x100	200	Mar-10	
4	Trauma Centre/AIIMS (2x160)	220/33	2x160	320	Mar-10	

**Total 1160**

**HIMACHAL PRADESH (HPSEB) :**

1	Nalagarh	220/66	2x100	200	Mar-10	
2	Bokhtoo S/S 1x25 MVA	220/66	1x25	25	Dec-09	
3	Baddi (Addl.) 1x100 MVA	220/66	1x100	100	Mar-10	

**Total 325**

**HARYANA (HVPN) :**

1	Jind Aug	220/132	100	100	Dec-08	Jun-09
2	Sector-52 Guragaon Aug	220/132	2x100	200	Dec-08	Jun-09
3	Tepla Aug	220/132	2x100	200	Dec-08	Jun-09
4	Cheeka Aug	220/132	1x100	100	Dec-08	Jun-09
5	Hansi	220/66	2x100	200	Jun-09	

**Total** **800**

**PUNJAB (PSEB) :**

1	Doraha (U/G) (1x100 MVA)	220/66	100	100	Jun-09	
2	Kohara (Aug) (1x100 MVA)	220/66	100	100	Jun-09	
3	Sadiq (U/G) (1x100 MVA)	220/66	100	100	Jun-09	
4	Bagha Purana (U/G) (1x100 MVA)	220/66	100	100	Jun-09	
5	Tarn Taran (new) (1x100 MVA)	220/66	100	100	Jun-09	
6	Kapurthala (Kanjli)(New) (1x100 MVA)	220/66	100	100	Jun-09	
7	Ajitwal (U/G) (1x100 MVA)	220/66	100	100	Jun-09	
8	Malout (UG) (1x100 MVA)	220/66	100	100	Jun-09	
9	Mastewal (New) (1x100 MVA)	220/66	100	100	Jun-09	

**Total** **900**

**RAJASTHAN (RVPN) :**

1	Khushkhera(Alwar)(1x100)	220/132	100	100	Jun-09	
2	Renwal (Jaipur)(1x100)	220/132	100	100	Apr-09	
3	Jaipur( Indira Gandhi Nagar) GSS(1x100)	220/132	100	100	Apr-09	

**Total** **100**

**UTTAR PRADESH (UPPCL) :**

1	Jhansi	220/132	2x100	200	Dec-07	Apr-09
2	Etah	220/132	2x100	200	Mar-08	Apr-09
3	Gajokhar	220/132	2x100	200	Mar-08	Apr-09
4	Rewa Road Aug. (160-100)	220/132	60	60	Mar-08	Apr-09
5	Sultanpur Aug. (160-100)	220/132	60	60	Mar-08	Apr-09
6	Rampur	220/132	2x100	200	Mar-08	Apr-09
7	Bhelupur	220/132	3x160	320	Mar-10	
8	Mirzapur	220/132	2x100	200	Mar-10	
9	Balia	220/132	2x100	200	Mar-10	
10	Deoria Extn.	220/132	1x100	100	Apr-09	
11	Gorakhpur Extn.	220/132	100 to160	60	Apr-09	
12	Kanpur South	220/132	3x60	180	Dec-09	
13	Hardoi Rd.(Lucknow	220/132	(160-100)	60	Apr-09	
14	Sarojninagar Extn.	220/132	(160-100)	60	Apr-09	
15	Badaun	220/132	1 (160-100)	60	Apr-09	
16	Sardhana	220/132	2x100	200	Mar-10	

**Total** **2360**

**UTTARAKHAND (PTCUL) :**

Ghansali	220/132	2x50	50	Jun-09	
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**JAMMU & KASHMIR (J&K):**

1	Alusteng	220/132	320	320	Mar-10	
2	Mirbazar	220/132	320	320	Mar-09	Oct-09
3	Budgam	220/132	320	320	Mar-09	Oct-09
4	Amargarh	220/132	160	160	Mar-10	
5	Bishna	220/132	2x160	320	Mar-09	Jun-09
6	Ramban	220/132	3x40	120	Jun-09	

<b>Total</b>			<b>1560</b>			
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<b>Total 220 kV NR</b>			<b>8005</b>			
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**WESTERN REGION (WR) :****CHHATTISGARH (CSEB) :**

1	Main step down sub-station (MSDS)-6	220/132	2x160	320	Apr-09	
2	Main step down GIS sub-station (MSDS)-5	220/132	2x160	320	Apr-09	

<b>Total</b>			<b>640</b>			
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**GOA :**

1	Cuncolim	220/33	3x50	100	Sep-08	Feb-10
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<b>Total</b>			<b>100</b>			
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**GUJARAT (GETCO) :**

1	Sikka S/S	220/132	200	200	Mar-10	
2	Lakhani (2x100 MVA)	220/66	2x100	100	Mar-08	Mar-10

<b>Total</b>			<b>300</b>			
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**MAHARASHTRA (MSEB) :**

1	Shendra	220/33	2x50	100	Mar-09	June-09
2	Hingoli	220/132	2x100	200	Mar-09	June-09
3	Wani	220/33	2x25	50	Mar-09	June-09
4	Balapur MIDC	220/33	2x50	100	Mar-09	June-09
5	Wathar	220/132	2x100	300	Mar-09	June-09
		220/33	2x50			
6	Matradevi	220/33	2x25	50	Mar-09	June-09
7	Magarpatta	220/132	2x100	300	Mar-09	June-09
		220/22	2x50			
8	Talegaon	220/22	2x50	100	Mar-09	June-09
9	Sonkhar	220/132	2x100	300	Mar-09	June-09
		220/33	2x50			
10	Vasai	220/100	2x100	200	Mar-09	June-09
11	Bhandup GIS	220/22	4x50	200	Mar-09	June-09
12	Airoli	220/22	2x50	100	Mar-09	June-09
13	Kudus	220/22	2x50	100	Mar-09	June-09
14	Bapgaon	220/100	2x100	300	Mar-09	June-09
		220/33	2x50			

<b>Total</b>			<b>2400</b>			
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<b>Total 220 kV WR</b>			<b>3780</b>			
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**SOUTHERN REGION (SR) :****ANDHRA PRADESH (APTRANSCO) :**

1	Pulivendula	220/132	2x100	200	June-09	
2	Palamaneru	220/132	2x100	200	June-09	
3	Jurala	220/132	2x100	200	Mar-10	
4	Narasaraopet	220/132	2x100	200	Mar-10	
5	Parchur	220/132	2x100	200	June-09	

**Total 1000**

**KARNATAKA (KPTCL) :**

1	Naganathapura	220/66	2x100	200	Aug-08	Mar-10
2	Vrishabharathi Valley	220/66	2x100	200	Feb-07	June-09
3	Dobaspet	220/66	2x150	300	Mar-08	June-09
4	East Station compound	220/66	2x150	300	Mar-08	June-09
5	Ramanagar	220/66	2x100	200	Dec-07	June-09
6	Sarjapura Anekal Taluk	220/66	2x150	300	Apr-08	June-09

**Total 1500**

**KERALA (KSEB) :**

1	Punnapura	220/110	2x100	200	Mar-10	
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**Total 200**

**TAMILNADU (TNEB) :**

1	KITS	230/110	2x100	200	Mar-10	
2	Karambiyan	230/110	2x100	200	Mar-07	Mar-10
3	Karamadai	230/110	2x100	200	Mar-07	Mar-10
4	Chithode	230/110	1x100	100	Mar-07	Mar-10
5	Ulundurpet	230/110	2x100	200	Mar-07	Mar-10

**Total 900**

**Total 220 kV SR 3600**

**EASTERN REGION (ER) :****BIHAR (BSEB) :**

1	Begusarai(2x100)	220/132	200	200	May-08	Jul-09
2	Hazipur (2x100)	220/132	200	200	May-08	Jan-10
3	Sipara(2x150)	220/132/ 33	2x150	300	Jan-10	

**Total 700**

**Total 220 kV ER 700**

**132 kV STATE SECTOR :**

**ARUNACHAL PRADESH (APSEB) :**

1	Namsai	132/33	1x10	10	Dec-05	Apr-09
2	Bhalukong	132/33	1x10	10	Jun-06	Apr-09
3	Passi Ghat	132/33	1x10	10	Jun-06	Apr-09
4	Changlang	132/33	1x10	10	Jun-06	Apr-09
5	Khonsa	132/33	1x10	10	Jun-06	Apr-09
6	Tenga	132/33	1x10	10	Jun-06	Apr-09
	<b>Total</b>			<b>60</b>		

**ASSAM (ASEB) :**

1	Dhemaji	132/33	1x16	16	Oct-05	Apr-09
	<b>Total</b>			<b>16</b>		

## LIST OF TRANSMISSION LINES FOR 10-11

Sl. No.	Name of the transmission line	No. of Circuits	Total length (CKM)	Target	
				Original	Revised

### **± 800 kV HVDC CENTRAL SECTOR:**

#### **POWERGRID (PGCIL) :**

1	Biswanath-Agra HVDC (3000 MW)	Bipole	3600	Mar-11
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<b>TOTAL ± 800 kV HVDC CS</b>		<b>3600</b>
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### **765 kV CENTRAL SECTOR :**

#### **POWERGRID (PGCIL) :**

1	Sasaram-Fatehpur	S/C	400	Mar-11
2	Fatehpur-Agra	S/C	330	Mar-11
3	SipatPP-Seoni Line 3	S/C	340	Mar-11
4	SipatPP-Sipat	S/C	30	Mar-11
5	Bina-Gwalior Line 2	S/C	250	Mar-11
6	Ranchi-Sipat PP	S/C	350	Mar-11

<b>TOTAL 765 kV CS</b>		<b>1700</b>
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### **765 kV STATE SECTOR :**

#### **UTTAR PRADESH (UPPCL) :**

1	Unnao-Anpara	S/C	415	Mar-11
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### **400 kV CENTRAL SECTOR :**

#### **POWERGRID (PGCIL) :**

1	Bahadurgarh-Sonepat line (Triple Cond.)	D/C	104	Nov-10
2	Korba (NTPC) – Birsinghpur (MPGENCO)	D/C	454	Jul-10
3	Birsinghpur (MPGENCO) – Damoh	D/C	508	Jul-10
4	Damoh – Bhopal (MPEB)	D/C	468	Jul-10
5	Vapi (PG) - Navi Mumbai	D/C	370	Sep-10
6	Vapi -Khadoli (UT of DNH)	D/C	56	Sep-10
7	LILO of Lonikhand (MSEB)- Kalwa at Navi Mumbai	D/C	9	Sep-10
8	Pirana-Dehgam	D/C	112	Nov-10
9	Durgapur - Maithon line	D/C	146	Jul-10
10	Koderma-Biharshariff (Quad)	D/C	160	Apr-10
11	Maithon RB - Maithon line	D/C	60	Apr-10

Sl. No.	Name of the transmission line	No. of Circuits	Total length (CKM)	Target	
				Original	Revised
12	LILO of one ckt of Maithon - Jamshedpur line at Meja	D/C	100	Apr-10	
13	Korba (NTPC) – Birsinghpur (MPGENCO)	D/C	454	Jul'10	
14	Birsinghpur (MPGENCO) – Damoh	D/C	508	Jul'10	
15	Damoh – Bhopal (MPEB)	D/C	468	Jul'10	
16	Pirana-Dehgam	D/C	112	Nov"10	
17	Koldam - Ludhiana(JV Portion)	D/C	306	Sep-10	
18	Meerut -Kaithal (Q) (HSIL)	D/C	320	Dec-10	
<b>Total</b>			<b>4715</b>		

**Damoder Valley Corporation**

1	Durgapur STPS - Raghunathpur	D/C	138	May-10
2	Raghunathpur-Ranchi (PG)	D/C	301	May-10
<b>Total</b>			<b>439</b>	

**400 kV STATE SECTOR :**

**UTTARAKHAND (PTCUL)**

1	Lohari Nagpala- Koteswar PP	D/C	180	Mar-11
2	LILO of Lohari Nagpala- Koteswar at Pala Maneri	D/C	16	Mar-11
3	Vishnugad - Pipalkoti	D/C	20	Mar-11
<b>Total</b>			<b>216</b>	

**UTTAR PRADESH (UPPCL) :**

1	LILO of Obra-Panki at Allahabad		40	Dec-10
2	Allahabad (UPPCL)-Allahabad (PGCIL)		5	Dec-10
3	Anpara-Allahabad (UPPCL)		300	Dec-10
4	Unnao-Mainpuri	S/C	250	Dec-10
5	LILO of Agra-Muradnagar at Bagpat	D/C	30	Dec-10
6	LILO of Mainpuri-Ballabgarh at 400KV Noida		30	Dec-10
7	LILO of Muradnagar-Agra at Hapur		20	Dec-10
8	Hapur-Bagpat	D/C	80	Dec-10
9	Noida-Gaziabad		40	Dec-10
10	Gaziabad-Bagpat		50	Dec-10
11	LILO of Muzaffarnagar-Rishikesh at Saharanpur		40	Dec-10
12	LILO of Metore-Kaithal		20	Dec-10
<b>Total</b>			<b>905</b>	

Sl. No.	Name of the transmission line	No. of Circuits	Total length (CKM)	Target	
				Original	Revised

**WESTERN REGION (WR) :**

**CHHATTISGARH (CSEB) :**

1	Korba (W)-Bhilai (Khedamara)	D/C	440	Mar-10	Dec-10
2	LILO Korba (West)-Bhilai at Raipur (CSEB)	D/C	100	Mar-10	Dec-10
<b>Total</b>			<b>540</b>		

**MADHYA PRADESH (MPPTCL):**

1	Malwa TPS – Khandwa (PGCIL)	D/C	100	Jul-10	
2	Malwa TPS – Pithampura	D/C	240	Jul-10	
<b>Total</b>			<b>340</b>		

**MAHARASHTRA (MSEB) :**

1	Koradi – Wardha(PG)	D/C	100	Mar-11	
2	Koradi – Akola	D/C	240	Mar-11	
<b>Total</b>			<b>340</b>		

**SOUTHERN REGION (SR) :**

**TAMILNADU (TNEB) :**

1	LILO of Alamathy- S V Chatram at NCTPS	D/C	8	Mar-11	
2	MTPS Stage III- Singarapet	D/C	150	Mar-11	
3	MTPS Stage III- Arasur	SC onDC	140	Mar-11	
<b>Total</b>			<b>298</b>		

**220 kV CENTRAL SECTOR :**

**DAMODER VALLEY CORPORATION (DVC) :**

1	Gola (2x50 MVA)	220/33	100	100	Sep-10
2	Giridih (2x150+2x80)	220/132/33	460	460	Oct-10
<b>Total</b>				<b>560</b>	

**220 kV STATE SECTOR :**

**NORTHERN REGION (NR) :**

**HIMACHAL PRADESH (HPSEB) :**

1	Sainj-Kangoo(220/132 kV S/S)	D/C	130	Mar-11	
2	LILO of one Ckt of Sainj-Kangoo at Bajoura 220kV S/S	D/C	50	Mar-11	
3	Kuther Pooling point-Chamba(Karian) 220kV S/S	D/C	75	Mar-11	
4	Nalagarh(Reeru Majra)(PGCIL)-Nalagarh(Baddi)	D/C	32	Mar-11	
5	Sawra- Kuddu- Moginand	D/C	291	Mar-11	
<b>Total</b>			<b>578</b>		

**PUNJAB (PSEB) :**

1	Shahpurkandi PH-I - Shahpurkandi PH-II	D/C	6	Mar-11	
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Sl. No.	Name of the transmission line	No. of Circuits	Total length (CKM)	Target	
				Original	Revised

2	Shahpurkandi PH-I – Sarna	D/C	30	Mar-11	
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**Total 36**

**UTTAR PRADESH (UPPCL) :**

1	LILO of Muradnagar-Baraut at Bagpat	D/C	10	Sep-10	
2	LILO of Shamli-Baraut at Bagpat	D/C	50	Sep-10	
3	LILO of Shatabdinagar-Modipuram line	D/C	70	Sep-10	

**Total 130**

**WESTERN REGION (WR) :**

**MAHARASHTRA (MSETCL) :**

1	LILO of Koradi – Ambazari D/C at Koradi	D/C	25	Mar-11	
2	LILO of Koradi – Buttibori S/C at Koradi	D/C	25	Mar-11	
3	Bhusawal –II –Bhusawal	D/C	10	Mar-11	
4	Nanded- Parli	D/C	110	Mar-11	
5	Parli -Beed	D/C	68	Mar-11	

**Total 60**

**SOUTHERN REGION (SR) :**

**TAMILNADU (TNEB) :**

1	Kayathar - Valliyur	D/C	60	Mar-11	
2	Kayathar - Kollamkinaru	D/C	60	Mar-11	
3	LILO of Kayathar - Anupankulam at Kayathar	D/C	60	Mar-11	
4	LILO of Kayathar - Pasumalai at Kayathar	D/C	60	Mar-11	
5	Kanarpatty- Kumarapuram	D/C	35	Mar-11	
6	Vaagaikulam- Sayamalai	D/C	28	Mar-11	
7	Sankaralingapuram- Kumarapuram	D/C	30	Mar-11	
8	Thudiyalur- Karamadai	D/C	30	Mar-11	

**Total 363**

## LIST OF SUB STATIONS FOR 10-11

Sl. No.	Name of the Sub-Station	Voltage ratio (kV/kV)	Capacity	MW/MVA	Target	
					Original	Revised

### ± 800 kV HVDC Terminal :

#### **CENTRAL SECTOR (CS):**

##### **POWERGRID (PGCIL) :**

1	Bishwanath		3000	3000	Mar-11
2	Agra		3000	3000	Mar-11
<b>Total (CS)±800 kV HVDC</b>				<b>6000</b>	

#### **765 kV CENTRAL SECTOR (CS):**

##### **POWERGRID (PGCIL) :**

1	Unnao	765/400		2000	Mar-11
2	Agra	765/400		3000	Mar-11
3	Fatehpur	765/400		2000	Mar-11
4	Gwalior	765/400		2000	Mar-11
5	Bina	765/400		2000	Mar-11
6	Wardha	765/400		3000	Mar-11
7	SipatPP	765/400		2000	Mar-11
8	Sasaram	765/400		2000	Mar-11
9	Ranchi	765/400		3000	Mar-11
<b>TOTAL 765 kV CS</b>				<b>21000</b>	

#### **400 kV CENTRAL SECTOR (CS):**

1	Navi Mumbai S/Stn.	400/220	2x315	630	Sep-10
2	Pirana S/Stn.	400/220	2x315	630	Nov-10
3	Wardha S/Stn.Extn.	400/220	1x315	315	Nov-10
4	Pune S/Stn.Extn.	400/220	1x315	315	Nov-10
5	Gwalior S/Stn.Extn.	400/220	1x315	315	Nov-10
6	Raipur S/Stn.Extn.	400/220	1x315	315	Nov-10
7	Bina S/Stn.Extn.	400/220	1x315	315	Nov-10
8	Sonepat	400/220	2x315	630	Nov-10
<b>Total</b>				<b>3465</b>	

#### **400 kV STATE SECTOR (SS) :**

##### **NORTHERN REGION (NR) :**

##### **UTTAR PRADESH (UPPCL) :**

1	Noida	400/220	2x315	630	Dec-10
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2	Hapur	400/220	2x315	630	Dec-10	
3	Ghaziabad	400/220	2x315	630	Dec-10	
4	Saharanpur	400/220	2x315	630	Dec-10	
5	Mainpuri	400/220	2x315	630	Dec-10	
	<b>Total</b>			<b>3150</b>		
<b>WESTERN REGION (WR) :</b>						
<b>MAHARASHTRA (MSEB) :</b>						
1	Koradi (2x315 MVA)	400/220	630	630	Mar-11	
2	Bhusawal (2x315 MVA)	400/220	630	630	Mar-11	
	<b>Total</b>			<b>1260</b>		
<b>220 kV CENTRAL SECTOR (CS):</b>						
1	Baripada Extn.	220/132	1x160	160	Jun-10	
	<b>Total</b>			<b>160</b>		
<b><u>220 kV STATE SECTOR (SS) :</u></b>						
<b>HIMACHAL PRADESH (HPSEB) :</b>						
1	Hatkoti	220/66		31.5	Mar-11	
2	Moginand	220/66		31.5	Mar-11	
	<b>Total</b>			<b>63</b>		
<b>CHHATTISGARH (CSEB) :</b>						
1	Vishrampur	220/132	1x160	160	Apr-07	Jun-10
	<b>Total</b>			<b>160</b>		
<b>TAMILNADU (TNEB) :</b>						
1	Kumarapuram	230/33	4x50	200	Mar-11	
2	Vaagaikulam	230/33	4x50	200	Mar-11	
3	Sankaralingapuram	230/33	4x50	200	Mar-11	
	<b>Total</b>			<b>600</b>		



## LIST OF SUB STATIONS FOR 11-12

Sl. No.	Name of the Sub-Station	Voltage ratio (kV/kV)	Capacity	MW/MVA	Target	
					Original	Revised

### 765 kV CENTRAL SECTOR (CS):

#### POWERGRID (PGCIL) :

1	Meerut	765/400		4500	Mar-12
2	Gaya	765/400		3000	Mar-12
3	Ballia	765/400		3000	Mar-12
4	Lucknow	765/400		3000	Mar-12
5	Bareilly	765/400		3000	Mar-12
6	Tehri	765/400		3000	Mar-12
7	Mundka	765/400		3000	Mar-12
8	Moga	765/400		3000	Mar-12

**TOTAL 765 kV CS**

**25500**

### 765 kV STATE SECTOR (SS):

#### UTTAR PRADESH (UPPCL) :

1	Hapur	765/400	3x1000	3000	Mar-12
2	G.Noida(Pali)	765/400	3x1000	3000	Mar-12

**Total**

**6000**

### 400 kV STATE SECTOR (SS) :

#### WESTERN REGION (WR) :

#### MAHARASHTRA (MSETCL)

1	Dhopave	400/220	7x105	630	Mar-12
2	Warora	400/220	7x167	500	Mar-12

**Total**

**1130**

#### CHHATTISGARH (CSEB) :

	Chhuri	220/132	1x160	160	Apr-07	Dec-11
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## LIST OF TRANSMISSION LINES FOR 11-12

Sl. No.	Name of the transmission line	No. of Circuits	Total length (CKM)	Target	
				Original	Revised

### **765 kV CENTRAL SECTOR :**

#### **POWERGRID (PGCIL) :**

1	Gaya-Sasaram	S/C	180	Mar-12
2	Gaya-Ballia	S/C	250	Mar-12
3	Ballia-Lucknow	S/C	250	Mar-12
4	Lucknow-Bareilly	S/C	250	Mar-12
5	Bareilly-Meerut	S/C	200	Mar-12
6	Agra-Mundka	S/C	250	Mar-12
7	Agra-Meerut	S/C	250	Mar-12
8	Mundka-Meerut	S/C	100	Mar-12
9	Mundka-Moga	S/C	350	Mar-12

**TOTAL 765 kV CS                    2080**

### **765 kV STATE SECTOR (SS):**

#### **UTTAR PRADESH (UPPCL) :**

1	Unnao-Hapur	S/C	400	Mar-12
2	Hapur-G.Noida	S/C	70	Mar-12

**Total                    470**

#### **400 kV CENTRAL SECTOR (CS)**

#### **POWERGRID (PGCIL) :**

1	Uri-I - Uri-II	S/C	14	Apr-11
2	Uri-II - Wagoora	S/C	108	Apr-11
3	Chamera-III - Pooling Station Near Chamera-II HEP	D/C	34	Jul-11
4	Pooling Station near Chamera-III HEP - Jullandur line	D/C	308	Jul-11

**Total 400 kV CS                    464**

### **400 kV STATE SECTOR :**

#### **NORTHERN REGION (NR) :**

#### **UTTARAKHAND (PTCUL)**

1	Srinager- Kashipur	D/C	140	Mar-12
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Sl. No.	Name of the transmission line	No. of Circuits	Total length (CKM)	Target	
				Original	Revised
2	LILO of Vishnugad- Pipalkoti at Pipalkoti	D/C	6	Mar-12	
3	LILO of Vishnuprayag- Muzzafarnager at Pipalk	D/C	10	Mar-12	
	<b>Total</b>		<b>156</b>		
<b>WESTERN REGION (WR) :</b>					
<b>MAHARASHTRA (MSETCL) :</b>					
1	Dhopave -Kharghar	D/C	150	Mar-12	
2	Dhopave -Kolhapur	D/C	190	Mar-12	
	<b>Total</b>		<b>340</b>		
<b>SOUTHERN REGION (SR) :</b>					
<b>ANDHRA PRADESH (APTRANSCO) :</b>					
1	VTPS(Stage IV)-Malkaram	D/C	536	Nov-11	
	<b>Total</b>		<b>536</b>		
	<b>Total 400 kV SS</b>		<b>1032</b>		
<b><u>220 kV STATE SECTOR :</u></b>					
<b>MAHARASHTRA (MSETCL) :</b>					
1	Dhopave -Dasturi	D/C	40	Mar-12	
	<b>Total</b>		<b>40</b>		
<b>UTTARAKHAND (PTCUL)</b>					
1	Roorkee(PG)- Roorkee	D/C	30	Mar-12	
	<b>Total</b>		<b>30</b>		
<b>HIMACHAL PRADESH (HPSEB) :</b>					
1	Moginand- Abdullapur	D/C	124	Mar-12	
2	Sainj- Kangoo	D/C	130	Mar-12	
3	Kuther P P- Chamba	D/C	12	Mar-12	
	<b>Total</b>		<b>266</b>		
	<b>Total 220 kV SS</b>		<b>336</b>		