

# पावर सिस्टम ऑपरेशन कॉरपोरेशन लिमिटेड

(पावरग्रिड की पूर्ण स्वामित्व प्राप्त सहायक कंपनी)

## POWER SYSTEM OPERATION CORPORATION LIMITED

(A wholly owned subsidiary of POWERGRID)



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NLDC/Operational Feedback/

**Dated:** 7<sup>th</sup> February, 2014

To

1. The Member (Power System)  
Central Electricity Authority  
Sewa Bhawan, R.K. Puram,  
New Delhi

2. COO, CTU  
POWERGRID  
'Saudamini', Plot No.2,  
Sector-29, Gurgaon

**Subject:** Prioritisation of Transmission Systems under implementation to relieve congestion

**Ref:** NLDC/Operational Feedback/ dated: 19<sup>th</sup> March, 2013.

Dear Sir,

This is further to NLDC's communication dated 19.3.2013 on prioritisation of transmission system to relieve congestion.

With a large quantum of capacity being added in certain pockets, it is anticipated that congestion may be faced in inter-regional and/or intra-regional transmission corridors. In order to address the issue, a list of the elements (generation and transmission), which are critical in terms of likely congestion, has been prepared and segregated into the following four categories:

- a) Inter-State Transmission Systems already approved and commissioning of which needs to be expedited to relieve congestion and to facilitate smooth evacuation of power (Annex – I). The list of lines has been segregated into sub-groups, namely:
  - A. Evacuation of Power from Generation complexes of Chattisgarh and Odisha
    - i. Within Chattisgarh
    - ii. Within Odisha
    - iii. Interconnection between Chattisgarh and Odisha
    - iv. Strengthening WR-NR Corridor
    - v. Within Western Region
  - B. Eastern - North Eastern and Eastern-Northern Region Corridors
  - C. Western - Southern Region
  - D. Eastern - Southern Region
  - E. Southern Region and S1-S2 corridor
  - F. Evacuation of power from Gujarat

G. North-eastern Region

H. Northern Region

I. Eastern Region

While, all the corridors mentioned above have priority, however, inter-se priority within the sub-groups has been highlighted.

- b) Generating Stations already commissioned and leading to constraints in Inter-state transmission system (ISTS) due to delay in commissioning of associated transmission system (Annex – II)
- c) Congestion experienced in Inter-regional corridors due to delay in Commissioning of Generating Stations (Annex – III)
- d) New generation in Chattisgarh and adjoining areas with inadequate transmission systems for evacuation (Annex – IV) and likely to accentuate congestion

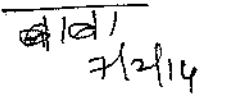
The prioritisation of transmission elements has been attempted keeping in view the requirement of the system and foreseen congestion in near future.

The above may kindly be considered and taken up at the appropriate forum for the needful action.

This may be considered as Operational Feedback by NLDC under the Section – 4j of the NLDC Rules, 2005.

सधन्यवाद,

भवदीय,



(के. वी. एस. बाबा)

महाप्रबन्धक, रा.भा.प्रे.के.

**Copy to:**

1. Secretary, CERC
2. Director (OM), MoP

### Inter-State Transmission Systems already approved and commissioning needs to be expedited to relieve congestion

S No.	Name of the Transmission elements	Inter/ Intra Region	Name of the Region(s)	Approval Reference	Executing Agency	Approved Timeline	How it will Relieve the system/particular line	Latest Status of likely commissioning schedule as per information available at CEA/RPC websites / Remarks
<b>A. Evacuation of Power from Generation complexes of Chattisgarh and Odisha</b>								
<b>A.(i) Within Chattisgarh</b>								
1	765 kV Raigarh (Kotra) pooling station - Champa pooling station S/C	Intra Region	Western Region	29th SCM of WR on 10.09.09	POWERGRID	May-14	Will help in evacuation of power from Chattisgarh area and improve connectivity among pooling stations	May-14
2	765 kV Champa pooling station - Raipur pooling station D/C	Intra Region	Western Region	29th SCM of WR on 10.09.09	POWERGRID	May-14		March-14
3	765 kV Champa pooling station - Dharamjaygarh S/C	Intra Region	Western Region	29th SCM of WR on 10.09.09	POWERGRID	May-14		May-14
4	765 kV Raigarh (Kotra) pooling station - Champa Pooling station -Dharamjaygarh PS - 2nd ckt	Intra Region	Western Region	36th SCM held on 29.08.13	POWERGRID	-		<b>Needs to be taken up expeditiously</b>
<b>A.(ii) Within Odisha</b>								
5	765 kV Angul Pooling Station - Jharsuguda Pooling Station line-I & II	Intra Region	Eastern Region	27th SCM of NR on 30.05.09, 29th SCM of WR on 10.09.09 SCM dt 08.11.08 of ER	POWERGRID	Sep'13 / June'13	Would facilitate evacuation of power from generation complexes in Odisha	Revised target is May'14. Forest clearance awaited. Critical
6	400 kV IBTPS-Meramandali D/C and LILO of the same at Lapanga	Intra Region	Eastern Region	SCM of ER on 28.12.10	OPTCL	Jun-13	Relieve Loading of 220kV Budhipadar-Tarkera D/C & 400kV Talcher-Rourkela D/C	Expected commissioning by Jan'14; Restoration work of the line is progress.
7	400 kV Talcher-Rourkela D/C (Ckt no. 3 & 4) with Quad cond.	Intra Region	Eastern Region	SCM of ER on 05.05.07	Talcher Transmission Co. Ltd.	Sep-13	Relieve Loading of 400kV Talcher-Rourkela D/C	No progress so far.
8	400 kV Talcher- Berhampur- Gazuwaka D/C	Inter Region	Southern Region & Eastern Region	SCM of ER on 05.05.07		Sep-13	Strengthens NEW Grid-SR inter-connection	
<b>A.(iii) Interconnection between Chattisgarh and Odisha</b>								
9	765 kV Jharsuguda Pooling Station - Dharamjaygarh D/C	Inter Region	Eastern Region & Western Region	27th SCM of NR on 30.05.09, 29th SCM of WR on 10.09.09 SCM of ER on 14.09.09	POWERGRID	Dec-13	Would facilitate evacuation of power from generation complexes of Odisha to load centres	Revised target is May'14. Realignment of a portion of line required due to coal area of M/s Maha Tamil coal fields. Forest clearance critical Stage-II Awaited.
<b>A.(iv) Strengthening WR-NR Corridor</b>								
10	765 kV Gwalior - Jaipur (1st Ckt) S/C	Inter Region	Western Region & Northern Region	29th SCM of WR on 10.09.09	POWERGRID	Mar-14	Provides alternate path to Bina - Gwalior - Agra, thus Strengthens WR - NR corridor	Revised target is Sep-14; Involves Wildlife Sanctuary, Clearance awaited. Critical
11	765 kV Gwalior - Jaipur (2nd Ckt) S/C	Inter Region	Western Region & Northern Region	29th SCM of WR on 10.09.09	POWERGRID	Mar-14		Revised target is March'15 Involves Wildlife Sanctuary, Clearance awaited. Critical
12	±800 kV Champa Pooling Station - Kurukshehra HVDC Bipole	Inter Region	WR-NR	32nd SCM of WR on 13.05.11	POWERGRID	2016-17	Will help in evacuation of power from Chattisgarh area directly to NR	2016-17
13	765 kV Rihand-Vindhyachal pooling-1 S/C	Inter Region	Western and Northern Region	Special SCM of WR on 18.04.2009	POWERGRID	Mar-14	Evacuation from Rihand-3 thru Western region	
14	765 kV Rihand-Vindhyachal pooling-2 S/C	Inter Region	Western and Northern Region	Special SCM of WR on 18.04.2009	POWERGRID	Mar-14		

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<b>A.(v) Within Western Region</b>								
15	765 kV Raipur Pooling Station - Wardha D/C	Intra Region	Western Region	29th SCM of WR on 10.09.09	POWERGRID	Dec'13/Jan'15	Strengthens Raipur-Wardha corridor for evacuation of power from IPPs in Chattisgarh	Revised target is FEB-15, Forest clearance awaited.
16	765 kV Wardha – Aurangabad (PG)D/C	Intra Region	Western Region	29th SCM of WR on 10.09.09	POWERGRID	Jul-14	1. Evacuates power from Chattisgarh projects 2. Would relieve loading of 400 kV Wardha- Akola-Aurangabad D/C lines	Jul-14
17	765 kV Aurangabad-Solapur D/C	Intra-region	Western Region (Maharashtra)	36th SCM held on 29.08.13	POWERGRID	N/A	Parallel path to Wardha-Parli-Solapur D/C	<b>Needs to be taken up on priority</b>
18	765 kV Dharamjaygarh - Jabalpur Pooling Station D/C	Intra Region	Western Region	29th SCM of WR on 10.09.09	POWERGRID	Dec-13	Would facilitate evacuation of power from generation complexes of Odisha & Chattisgarh to load centres	Revised target is Dec'14. Stage-I Forest clearance issued by MoEF, on July 04, 2013. Final forest clearance awaited Target is March, 2014 .
19	765 kV Dharamjaygarh - Jabalpur (JTCL) D/C	Intra Region	Western Region	29th SCM of WR on 10.09.09	Sterlite Grid Ltd.	Mar-14		Severe RoW problems & delay in statutory clearances . MoEF circular dated 13th Feb-2012 has severely affected progress in forest diversion. Target is March'14.
20	765 kV Jabalpur - Bina (JTCL) S/c	Intra Region	Western Region	29th SCM of WR on 10.09.09	Sterlite Grid Ltd.	Mar-14		Severe RoW problem & delay in statutory clearances MoEF circular dated 13th Feb-2012 has severely affected progress in forest diversion.
21	765 kV Jabalpur - Bhopal (BDTCL) S/C	Intra Region	Western Region	29th SCM of WR on 10.09.09	Sterlite Grid Ltd. (BDTCL)	Mar'14	Would facilitate evacuation of power from generation complex of Orissa & Chattisgarh to load centre	Target is Mar'14. Severe RoW problem & delay in statutory clearances is being faced.
22	765 kV Bhopal - Indore (BDTCL) S/C	Intra Region	Western Region	29th SCM of WR on 10.09.09		Mar'14		Target is Mar'14. MoEF circular dated 13th Feb-2012 has severely affected progress in forest diversion
23	765 kV Indore - Vadodara S/C	Intra Region	Western Region	28th SCM of NR on 23.02.10		N/A		Mar'14
24	765 kV Vadodara - Dhule (BDTCL) S/C	Intra Region	Western Region	28th SCM of NR on 23.02.10		N/A		Mar'14
25	765 kV Dhule - Aurangabad (BDTCL) S/C	Intra Region	Western Region	28th SCM of NR on 23.02.10	N/A	Mar'14		
26	400 kV Aurangabad - Boisar line D/C line	Intra-Region	Western Region (Maharashtra)	30th SCM of WR held on 08.07.10	POWERGRID	-		Dec-14
27	765 kV Aurangabad (PG) - Padghe (PG) D/C	Intra Region	Western Region	29th SCM of WR on 10.09.09	POWERGRID	Aug-14		May-15
28	765 kV Pune-Solapur S/C	Intra Region	Western Region	24th SCM of SR held on 18.06.07	POWERGRID	October, 2014	NEW grid - SR constraint will be relieved	Oct'14
29	765 kV Raipur pooling station -Rajnandgaon-Warora D/C	Intra-region	Western Region	36th SCM held on 29.08.13	POWERGRID	N/A	1. Facilitates power evacuation from IPPs in Chattisgarh 2. strengthens regional network	-
30	765 kV Bina - Gwalior (3rd Ckt) S/C	Intra Region	Western Region	29th SCM of WR on 10.09.09	POWERGRID	Mar-14	Strengthens system for evacuation of power towards Northern region	Mar-14
31	765kV Tiroda - Akola - Aurangabad D/C	Intra-Region	Western Region (Maharashtra)	Tiroda, APL Evacuation	Adani Power Ltd.	Mar'13	Facilitate evacuation from APL, Tiroda and would relieve 400kV Wardha-Akola D/C lines	Dec'13; Jul'14
32	765 kV Vindhychal pooling station - Satna S/C	Intra Region	Western region	29th SCM of WR on 10.09.2009	POWERGRID	Nov-12	Facilitate evacuation of power from Sasan, Vindhychal -IV and Rihand-III generation projects towards Northern region	Sept-14
33	765 kV Vindhychal pooling station - Satna 2nd S/C	Intra Region	Western region	29th SCM of WR on 10.09.2009	POWERGRID	Nov-12		Sept-14
34	765kV Satna-Gwalior Line S/C	Intra Region	Western Region (MP)	29th SCM of WR on 10.09.09	POWERGRID	Nov'12		Final forest clearance received in Nov'13. Anticipated target :Jan-14
35	765kV Satna-Gwalior Line 2nd S/C	Intra Region	Western Region (MP)	29th SCM of WR on 10.09.09	POWERGRID	Nov'12		Final forest clearance received in Nov'13. Anticipated target :March-14

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<b>B. Eastern - North Eastern and Eastern-Northern Region Corridors</b>								
36	400 kV Rajarhat-Purnea D/C (LILO of one ckt. each at FSTPP and at Gokarna)	Intra Region	Eastern Region	SCM on 28 Dec 2010	POWERGRID	-	Relieve loading of 400 kV Farakka-Malda D/C and will improve ER-NR and ER-NER Transfer Capability	April'16
37	400 kV Binaguri - Bongaigaon D/C	Inter Region	Eastern and North Eastern Region	20th SCM of NR on 22.04.2006	ENICL		Provide alternate path to NER	Anticipated target : JAN-14 Due to MoEF circular dtd 13-02-12 (Post bid) the Forest Clearance is delayed; Severe RoW problem in Alipurduar section of West Bengal.
<b>C. Western - Southern Region</b>								
38	765 kV Raichur - Sholapur 2nd S/C	Inter Region	Western Region & Southern Region	24th SCM of SR held on 18.06.07	Raichur Solapur Transmission Co. Ltd.(RSTCL)	Feb-14	NEW grid- SR constraint will be relieved	Target is Feb'14; ROW problem due to Farming Season
39	765 kV Wardha – Nizamabad-Hyderabad D/C	Inter Region	Western Region & Southern Region	36th SCM of WR held on 29.8.13	POWERGRID	N/A	Strengthen NEW-SR connectivity	<b>Needs to be taken up expeditiously</b>
40	765 kV Narendra-Kolhapur D/C	Inter-region	Western Region and Southern Region	27th SCM held on 30.07.07	POWERGRID	N/A	It will relieve 765KV Sholapur-Raichur ccts. More AC transmission lines connecting NEW grid and SR grid will bring stability in Grid	Mar'15
41	HVDC Raigarh (Kotra)-Pugalur Bi-pole	Inter-regional	Western Region and Southern Region	Discussed during 36th SCM of SR held on 4.09.13. Capacity of the link to be decided.	POWERGRID	N/A	For power transfer from IPPs in Chattisgarh to SR region	-
<b>D. Eastern - Southern Region</b>								
42	765 kV Angul - Srikakulam D/C	Inter Region	Eastern Region & Southern Region	30th SCM of WR held on 13.04.10	POWERGRID	June'15	Provide alternate path to SR from the eastern side	June'15
43	765 kV Srikakulam - Vemagiri D/C	Intra Region	Southern Region	33rd SCM of SR held on 30.09.11	POWERGRID under TBCB	Mar-17		<b>Needs to be taken up expeditiously</b>
44	765 kV Vemagiri - Khammam-Hyderabad D/C	Intra Region	Eastern Region & Southern Region	31st SCM of SR held on 16.11.10. Final order by CERC awaited.	POWERGRID under TBCB			
<b>E. Southern Region and S1-S2 corridor</b>								
45	765 kV Raichur-Kurnool S/C	Intra Region	Southern Region	24th SCM on 18.06.07 5th SRPC meeting held on 25.08.2007	POWERGRID	Aug-14	1. Strengthens NEW grid - SR corridor 2. Facilitates power transfer from NEW Grid	AUG-14
46	765 kV Kurnool-Thiruvalem D/C	Intra Region	Southern Region	32nd SCM of SR on 08.06.2011 & 17th SRPC meeting held on 12 August 2011	POWERGRID	Dec-14	Constraints between S1 & S2 zones will be relieved	Nov-14
47	400 kV Gooty-Madhugiri D/C	Intra Region	Southern Region	28th SCM of SR on 15.06.09	POWERGRID	June, 2014	Facilitates power transfer from NEW Grid	June'14
48	400 kV Madhugiri-Yelhanka D/C with Quad cond.	Intra Region	Southern Region	29th SCM of SR on 27.08.2009	POWERGRID	June, 2014	Facilitates power supply to load centers of Karnataka	June'14
49	765 kV Nellore Pooling Station - Kurnool D/C	Intra Region	Southern Region		POWERGRID			Aug-14
50	400kV Vijayawada - Nellore 2nd D/c	Intra Region	Southern Region	32nd SCM of SR on 08th June 2011 17th SRPC meeting on 12 August 2011	POWERGRID	Nov-14	NEW Grid-SR Constraint on SR side will be relieved	Anticipated date is Nov-14; As per the MOM of the 90th meeting of OCC at SRPC, severe ROW issues faced by Powergrid on Kurnool-Raichur, Kurnool-Kurnool and Vijayawada- Nellore lines .

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51	400 kV New Somanhalli- Salem D/C	Intra Region	Southern Region	30th SCM of SR on 13.04.2010	POWERGRID	Nov-14	Constraints between S1 & S2 zones will be relieved	Aug-14
52	400 kV Thiruvalem-Chittoor D/C	Intra Region	Southern Region	28th SCM of SR on 15.06.09	POWERGRID	-		March-14; Completion matching with Tiruvelam S/stn.
53	400 kV Thiruvalem-Sholingallur D/C	Intra Region	Southern Region	32nd SCM of SR on 06.07.2011	POWERGRID	Nov-14		Nov-14
54	400 kV Mysore-Kozhikode D/C	Intra Region	Southern Region	16th SCM of SR held on 20.01.03	POWERGRID	Nov-12		Revised target is Mar'15 . Completion uncertain as work completely held-up in stretch of 50 Kms since more than 02 year due to severe ROW problem in Karnataka portion of line forest clearance in Karnataka. Matter taken up with Karnataka Govt. at the highest level and further being followed up through intervention from MOP.
55	400 kV Trichur-Kozhikode DC	Intra Region	Southern Region	30th SCM of SR held on 13.04.10	POWERGRID	-	North Kerala drawl capacity would be augmented	NA
56	400 kV Tirunelveli-Kanarpatty (TN Wind) DC line	Intra Region	Southern Region	29th SCM of SR on 27.08.2009	TANTRANSCO	2016-17	Facilitate Evacuation of Wind Generation Located in Tirunelveli & Madurai area	2016-17
57	400 kV Kanarpatty-Kayathar	Intra Region	Southern Region			-		-
58	400kV Kayathar-Karakudi DC	Intra Region	Southern Region			Dec-13		Work is under Progress. Target Date of Completion is March-2014
59	400kV Karakudi-Pugalur DC	Intra Region	Southern Region			Mar-14		Work is under Progress. Target Date of Completion is March-2014
60	400kV Pugalur-Singarpet-Sholingallur DC	Intra Region	Southern Region			Oct-13		Work is under Progress. Target Date of Completion is Feb-2014
61	400kV Sholingallur-Melekkattaiyur DC	Intra Region	Southern Region			TANTRANSCO		2013-14
62	765kV Madhugiri-Salem DC	Intra Region	Southern Region	POWERGRID	Sep-14	Constraints between S1 & S2 zones will be relieved	Sep-14	
63	400 kV Tirunelveli-Muvattupuzha(Cochin) DC	Intra Region	Southern Region	18th SCM of SR on 05.03.2004	POWERGRID	2007	Kerala Drawl capacity increases	ROW problems
64	400 kV UPCL-Mylatti-Kozhikode	Intra Region	Southern Region	35th SCM of SR on 04.01.2013 for implementation through tariff based competitive bidding (TBCB)	-	-	North Kerala Drawl capacity increases and will be having reliable supply	-
<b>F. Evacuation of Power from Gujarat</b>								
65	400 kV Mundra-Zerda line-1 D/C	Intra-Region	Western Region	Adani Power, Mundra(Bid-II)	GETCO	May'12	Facilitate Mundra, APL generation evacuation and would relieve 400kV	Revised target is Mar'14. WIP/Severe RoW Issue
66	400 kV Mundra-Zerda line-2 D/C	Intra-Region	Western Region	Adani Power, Mundra(Bid-II)	GETCO	May'12		Revised target is Mar'14. WIP/Severe RoW Issue
67	400 kV Vapi-Boisar D/C line	Intra-Region	Western Region (Gujarat - Maharashtra)	WRSSS for Mundra UMP, Part-B	POWERGRID	-	Facilitate evacuation of generation from Gujarat to meet demand in Mumbai and adjoining areas	Severe ROW problem being faced in Maharashtra & DNH on almost all locations.
68	400 kV Vapi (PG) - Navi Mumbai	Intra-Region	Western Region (Gujarat - Maharashtra)	25th SCM of WR held on 30.09.06	POWERGRID	Sep'10		Revised target is Mar'14. Severe ROW problem being faced in Maharashtra & DNH on almost all locations. Line now decided to be terminated at Kudus S/stn. of MSETCL. Contingency arrangement to connect Vapi-Navi Mumbai with Navsari-Boisar line by passing ROW area to form Vapi-Navsari line (24 Ckm) commissioned in Mar'13.

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<b>G. North Eastern Region</b>								
69	400 kV Silchar - Bongaigaon D/C (LILO of one ckt. each at Kukurmara & Killing)	Intra Region	North Eastern Region	SCM of NER on 25.06.2008	NETC & LILO portion by AEGCL & MePTCL respectively	Nov-11 (LILO at Kukurmara Oct-13)	Facilitate full evacuation of both the Modules of Palatana Power	Section from Silchar to Killing of 400 kV Silchar-Bongaigaon II with Loop In at Killing (Silchar portion) commissioned on 26.02.13. Killing - Bongaigaon: March 2014 Ckt- II: Silchar - Kukurmara - Bongaigaon : March 2014
70	400 kV Silchar (PG) - Imphal (PG) D/C [Charged at 132 kV]	Intra Region	North Eastern Region	SCM of NER on 25.06.2008	POWERGRID	Dec-12	Decongestion of 132 kV Loktak-Imphal II & 132 kV Loktak - Ningthoukhong lines & evacuation of power from Palatana. Enhanced drawal capability of Manipur	Revised target is Jun'14 . Final forest clearance for Manipur received. Severe ROW problem in Manipur.
71	132 kV Ranganadi - Nirjuli D/C	Intra Region	North Eastern Region	Comprehensive Scheme for Strengthening of Transmission System in NER & Sikkim, 30.10.12	POWERGRID	yet to be accorded	Enhanced drawal capability of Arunachal Pradesh (Capital Area) & Assam (Gohpur Area)	Ranganadi - Nirjuli Ckt-II : started. Survey completed. foundation completed. clearance not received Work 2 nos Forest
72	220 kV BTPS- Agia (IInd Circuit)	Intra Region	North Eastern Region	N/A	AEGCL	Jan-14	Enhancement of Transfer Capability of NER-ER corridor	
73	220 kV BTPS (NTPC) - BTPS (AEGCL)	Intra Region	North Eastern Region	SCM of NER on 25.06.2008	NTPC		-Do-	
74	LILO of 132 kV Ranganadi - Itanagar at Pare HEP	Intra Region	North Eastern Region	N/A	DoP, Arunachal Pradesh		Enhancement of drawl capability of Arunachal Pradesh & Evacuation of Pare HEP Power	
75	220 kV Bongaigaon TPS (NTPC) - Rangia (AEGCL)	Intra Region	North Eastern Region	N/A	AEGCL	Dec-13	Enhancement of Drawal capability of Assam	Yet to be completed
76	400/220 kV, 2x315 MVA ICTs at Kukurmara	Intra Region	North Eastern Region	N/A	AEGCL	Dec-13	-do-	Yet to be completed
77	220/132 kV, 2x50 MVA ICTs at Kukurmara	Intra Region	North Eastern Region	N/A	AEGCL	Dec-13	-do-	Yet to be completed
78	132 kV Killing (Byrnihat) - EPIP I (MePTCL)	Intra Region	North Eastern Region	N/A	MePTCL	Dec-13	Enhancement of Drawal capability of Meghalaya	Yet to be completed
79	400 kV Silchar (PG) - Melriat (PG) [Charged at 132 kV]	Intra Region	North Eastern Region	SCM of NER on 25.06.2008	POWERGRID	Jun-14	Enhancement of drawal capability of Mizoram	Stage-II forest clearance issued
80	132 kV Melriat (New) (PG) - Sihmui (Mizoram)	Intra Region	North Eastern Region	N/A	POWERGRID	Mar-14	-do-	Stage-I forest clearance awaited
81	132 kV Aizawl (PG) - Zemabawk LILO at Melriat	Intra Region	North Eastern Region	N/A	P&E Dept, Mizoram	Dec-13	-do-	Yet to be completed
82	220 kV Mariani (New) (PG) - Mokokchung (Nagaland)	Intra Region	North Eastern Region	SCM of NER on 25.06.2008	POWERGRID	Mar-14	Enhancement of drawal capability of Nagaland	
83	132 kV Mokokchung (PG) - Mokokchung (Nagaland)	Intra Region	North Eastern Region	N/A	DoP, Nagaland	Dec-14	-do-	All efforts shall be made to complete line matching with commissioning of unit#2 of Palatana GBPP.
84	LILO of 400 kV Ranganadi HEP (NEEPCO) - Balipara (PG) at Biswanath Chariyal (PG) (Pooling Point)	Intra Region	North Eastern Region	N/A	POWERGRID	Jun-15	Enhancement of Drawal capability of Assam	Site works deferred due to disturbance in Assam

S No.	Name of the Transmission elements	Inter/ Intra Region	Name of the Region(s)	Approval Reference	Executing Agency	Approved Timeline	How it will Relieve the system/particular line	Latest Status of likely commissioning schedule as per information available at CEA/RPC websites / Remarks
<b>H. Northern Region</b>								
85	765 kV Jaipur (RVPNL) - Bhiwani (2nd Ckt) line	Intra Region	Northern Region	28th SCM held of NR on 09.03.10	POWERGRID		Alternate path between Gwalior & Bhiwani	Award placed in Nov'13
86	765 kV Lucknow - Bareilly S/C	Intra Region	Northern Region	29th SCM held of NR on 20.01.11	POWERGRID	Mar-15	For strengthening east-west corridor in NR (UP)	Matching with readiness of Bareilly S/S. Critical.
87	765 kV Bareilly-Meerut S/C	Intra Region	Northern Region	29th SCM held of NR on 20.01.11	POWERGRID	Sep-13		
88	400 kV Kashipur-Roorkee D/C	Intra Region	Northern Region	27th SCM held of NR on 30.05.09	POWERGRID	Dec-14		Dec-14
89	400 kV Bareilly-Kashipur D/C	Intra Region	Northern Region	27th SCM held of NR on 30.05.09	POWERGRID	Dec-14	Strengthening of inter-connection of Uttarakhand system with Northern GRID	Completion matching with Bareilly sub station. Contingency being planned by-passing Bareilly S/S which is delayed.
90	400 kV Roorkee-Saharanpur D/C (Quad)	Intra Region	Northern Region	27th SCM held of NR on 11.06.2009	POWERGRID	Dec-14		Completion expected by FY2014-15. Severe ROW problem. Works stopped since Feb'11 due to agitation demanding compensation.
91	400 kV Shujalpur-RAPP D/C	Inter Region	Western and Northern Region	29th SCM held of NR on 29.12.10; 31st SCM held of NR on 04-02-13	POWERGRID		Strengthen WR-NR Corridor	
92	400 kV Malerkotla-Amritsar D/C	Intra Region	Northern Region	32nd SCM held on 27.09.13				
93	400kV Jalandhar-Amritsar D/C (LILO of 400 kV ParbatiPool-Amritsar D/C Line at Jalandhar S/s)	Intra Region	Northern Region	32nd SCM held on 27.09.13	POWERGRID	NA	Strengthen Connectivity of Amritsar with Grid	
94	400 kV Dadri-Loni S/C	Intra Region	Northern Region	26th SCM held of NR on 13.10.2008	JV of NTPC & PGCIL	Mar-14	To enhance reliability of power supply to Delhi and augment evacuation from Dadri	
95	400 kV Rosa- Shahjahanpur D/C	Intra Region	Northern Region	29th SCM held on 20.01.11	UPPTCL	NA	Evacuation from Rosa	
<b>I. Eastern Region</b>								
96	400kV Sagardighi – Behrampur D/C	Intra Region	Eastern Region	25th ERPC meeting held on 21-09-13	POWERGRID		Relieve congestion in existing 400kV Farakka-Baharampur S/C section	
97	400kV Maithon-Gaya D/C	Intra Region	Eastern Region	SCM for ER held on 05-05-07	POWERGRID	Mar'14	Facilitates evacuation from Maithon & Koderma and improves Transfer capability between ER & NR	Contingency arrangement planned to connect Maithon-Gaya with Koderma-Gaya by-passing multi-ckt portion in forest, to form Maithon-Koderma line
98	400kV Gaya-Koderma D/C	Intra Region	Eastern Region	SCM for ER held on 05-05-07	POWERGRID			



**Generating Stations already commissioned and leading to constraints in Inter-state transmission system (ISTS)****due to delay in commissioning of associated intra-state transmission system**

Sl. No.	Station	Final Capacity (MW)	Capacity Commissioned (MW)	Control area	Associated transmission system	Associated transmission system yet to be commissioned	Interim arrangement	Remarks	Latest Status as per information available at CEA/RPC websites
<b>A. Western Region</b>									
1	IEPL	2x270	2x270	Maharashtra	LILO of 400 kV Koradi-II-Wardha at IEPL	LILO of 400 kV Koradi-II-Wardha at IEPL	LILO of 400 kV Mauda-Wardha (PG) at IEPL		The progress of Koradi-Wardha line is slow. Forest clearance awaited. LILO of 400 kV Mauda-Wardha (PG) Commissioned in NOV'12
2	Tiroda APL	3x660 (ph-1) 2x660 (ph-2)	3x660	Maharashtra	765 kV Tiroda-Koradi-Akola-Aurangabad ckt.1 & 2 400 kV Tiroda-Warora S/C 400 kV Tiroda-Warora D/C 400 kV Warora-Chandrapur D/C	765 kV Tiroda-Koradi-Akola-Aurangabad ckt.1 & 2 400 kV Warora-Chandrapur D/C	400 kV Tiroda-Warora-Wardha (PG) D/C line	Over loading of 400 kV Wardha-Parli D/C and 400 kV Wardha-Akola-Aurangabad D/C	Revised target was DEC'13 for 765 kV Tiroda-Koradi-Akola-Aurangabad ckt.1 and JULY'14 for ckt.2 against original target of March'12 and August'12 respectively 400 kV Warora-Chandrapur D/C Commissioned in 06/13.
3	APL, Mundra	4x330 (St-1), 2x660 (St-2), 3x660 (St-3)	4x330 (St-1), 2x660 (St-2), 3x660 (St-3)	Gujarat	400 kV APL-Sami-Dehgam D/C 400 kV APL-Hadala S/C 400 kV APL-Versana D/C 400 kV APL-Zerda 2xD/C 220 kV lines to Gujarat system	400 kV APL-Zerda 2xD/C	-	Full generation of Adani power can not be evacuated due to overloading of GETCO Transmission system and thereby restriction on the flow of WR-NR corridor	Revised target is MARCH'14. WIP/Severe RoW Issue.
<b>B. Southern Region</b>									
4	Vemagiri(GMR)	370	370	AP	400 kV Vemagiri-Vijaywada D/C (PG)	1.400 kV SS at Narasaraopet, 2. Termination of 2 ckt of Vemagiri-Vijaywada 400 kV at Narasaraopet and 3.Narasaraopet-VTS-Suryapet-Malkaram 400 kV D/C line (which is now terminated at VTS without LILO at Suryapet) and LILO of VTS-Srisaillam at Narasaraopet.	400 kV VTS-Malkaram line planned for evacuating part of the generation was commissioned in Feb 2013 Bypassing of Narasaraopet S/S	Restriction in import of ER-SR corridor due to Generation in Vemagiri complex. causing overloading of 400 kV Vijaywada-Nellore D/C	
5	Jegurupadu Ext.	220	220		400 kV Vemagira-Vijaywada D/C (AP)				
6	Konaseema	445	445		400 kV Vijaywada-Nellore				
7	Gauthami	464	464		400 kV SS at Narasaraopet, termination of 2 ckt of Vemagiri-Nunna				
8	GMR (BRG)	237	237		400 kV at Narasaraopet and Narasaraopet-VTS-Suryapet-Malkaram				
9	Bhoopalapalli	500	500	AP	400 kV Bhoopalpalli-Gajwel D/C 400 kV Bhoopalapalli-Warangal D/C	400 kV Bhoopalpalli-Gajwel D/C			Commissioned in 09/13.

Sl. No.	Station	Final Capacity (MW)	Capacity Commissioned (MW)	Control area	Associated transmission system	Associated transmission system yet to be commissioned	Interim arrangement	Remarks	Latest Status as per information available at CEA/RPC websites
10	North Chennai Exp.	2x600	1x600	TN	400 kV NCTPS-SV Chatram and 400 kV Almathy-Thiruvvelam 400 kV North Chennai-Vallur	400 kV NCTPS-SV Chatram and 400 kV Almathy-Thiruvvelam	-	Restriction in S1-S2 corridor causing overloading of 400 kV Vijayawada-Nellore D/C	
11	Mettur Stage-III	1x600	1x600	TN	400kV Mettur-Arasur DC line & 400kV Mettur-Singarpur DC line	400kV Mettur-Singarpur DC line	-	Overloading of 400 kV Udumalpet-Salem DC line and Creating congestion on S1-S2 Corridor	400kV Singarpur SS land acquisition under process
<b>C. Northern Region</b>									
12	Kawai	2x660	2x600	Rajasthan	400 kV Kawai-Anta D/C 765 kV Anta-Phagi 2x5/C lines 400 kV Kawai-Chabra	Anta and Phagi sub-stations are yet to be ready	Kawai has been connected directly to Bassi bypassing Anta and Phagi	System is n-1 insecure, oscillation observed	Anta and Phagi sub-stations are expected to be ready by Apr'14
<b>D. Eastern Region</b>									
13	Chuzachen HEP	2x55	2x55	Sikkim	132kV Chuzachen-Rangpo D/C	LULO of Teesta-V – Binaguri 400kV D/C at Rangpo for evacuation of generation beyond Rangpo			

## Annexure-III

Congestion experienced in Inter-regional corridors due to delay in Commissioning of Generating Stations							
S.No	Name of the Project	State	Ownership	Capacity (in MW)	Original Schedule of commissioning as per information available at CEA/RPC websites	How it will Relieve the system	Latest Status as per information available at CEA/RPC websites
<b>A. Eastern and North Eastern Region</b>							
1	Barh Stg I & II	Bihar	NTPC	3X660 + 2X660 MW	Barh-I : March 2007 onwards Barh-II: 2012-13	Relieve loading of 400 kV Farakka-Malda D/C and will improve ER-NER TTC	<b>U#4 of 660 MW:</b> Sync. on 12/10/2013, Commissioned on 30/11/2013, COD expected in 01/14; <b>U#5 of 660 MW:</b> expected Sync. in 08/14, Expected Commissioning in 09/14, COD on 11/14
2	Tripura CCPP (Palatana)	Tripura	OTPC (JV of ONGC, Tripura State and IL&FS)	2* 363.3 MW	Commissioning of 1st module by Dec'11	Generation Availability at Tripura CCPP will help reduce the congestion in import of North-Eastern region corridor as well as North-South corridor within North-Eastern region	<b>U#1 of 363.3 MW:</b> Sync. on 22.10.12,COD on 04.01.14; <b>U# 2 of 363.3 MW:</b> Synchronising on 02/14,Commissioning on 03/14, COD in 05/14
3	Bongaigaon TPP expansion project	Assam	NTPC	3x250MW	Completion Schedule: 2011-12	Reduce the congestion in import of North-Eastern region corridor	Commissioning Schedule: <b>U#1: 6/14, U#2: 4/15, U#3: 9/15</b>
<b>B. Southern Region</b>							
4	Kudankulam(NPC IL)	Tamil Nadu	NPCIL	2*1000 MW	Unit-I : Dec'09; Unit-II : Jun'10.	Help to relieve the congestion in S1-S2 Corridor i.e between Andhra Pradesh and Karnataka considered in S1 and Tamil Nadu, Kerala and Pondicherry in S2.	<b>U#1:</b> COD in Feb-2014; <b>U#2:</b> COD in Oct-2014
5	Neyveli Thermal station-II (Expansion) (NLC)	Tamil Nadu	NEYVELI LIGNITE CORPORATION	2*250 MW	11th Plan		<b>U#1:</b> Achieved FL on 04.02.2012, COD expected in Jan'14; <b>U#2 :</b> March'14
6	Vallur TPP(JV with NTPC) stage II	Tamil Nadu	(JV of NTPC-TNEB) NTECL	Phase 1: 2*500 MW; Phase-2: 1* 500 MW	2012-13		<b>Stage-1, Ph-II , U#3 of 500 MW:</b> Synchronising expected in 02/14, COD in 08/14
7	North Chennai TPS-II	Tamil Nadu	TANGEDCO	2*600 MW	Unit 1: Aug'11		<b>U#1 of 600 MW:</b> Sync. on 30/6/13, Commissioned on 13/9/13, COD in 11/13; <b>U#2</b> Commissioned on 09.03.2013
8	NLC Tamilnadu Power limited (NTPL)	Tuticorin, Tamil Nadu	Joint venture between NLC and TNEB	2*500 MW	Unit 1: Mar'12; Unit 2: Aug'12;		<b>U#1 of 500 MW:</b> Synchronisation expected in 01/14, Commissioning in 02/14, COD in 03/14 ; <b>U#2 of 500 MW:</b> Synchronisation expected in 03/14,Commissioning in 05/14 ,COD in 06/14

## Annexure-IV

New generation in Chattisgarh and adjacent areas with inadequate transmission system for evacuation							
S.No	Name of the Project	State	Ownership	Capacity (in MW)	Associated Transmission Lines	Remarks	Latest Status as per information available at CEA/RPC websites
1	Vandana Vidyut Ltd	Korba Distt., Chattisgarh	M/s Vandana Vidyut Ltd	540 MW	Interim arrangement through LILO of Korba-Birsingpur ckt 2 and Permanent connectivity at Daramjayagarh PS through dedicated lines by developer (Not yet completed)	Problem in evacuation of Power from Chattisgarh and adjoining areas	unit-1 135 MW commissioned in 12/13
2	K S K Mahanadi Power Company Limited	Nariyara, dist. Janjgir-Champa, Chhattisgarh	K S K Mahanadi Power Company Limited	3600 MW(6x600 MW)	Interim arrangement through LILO of Raipur-Raigarh ckt 3&4 and Permanent connectivity at Champa PS through dedicated lines by developer (Not yet completed)		1st unit 600 MW commissioned in 08/13
3	Korba West Power Co.Ltd.	Raigarh (Chhattisgarh)	Avantha Power & Infrastructure Limited	2 X 600 MW	Interim arrangement through LILO of Raipur-Raigarh ckt 1&2 and Permanent connectivity at Kotra PS through dedicated lines by developer (Not yet completed)		
4	Balco	Chhattisgarh	Vedanta	4*300MW+2*62.5MW	Interim arrangement through LILO of Korba-Birsingpur ckt 1 and Permanent connectivity at Daramjayagarh PS through dedicated lines by developer		
5	DB Power Ltd	Chhattisgarh	DB Power Ltd	2*600MW	Interim connectivity granted through LILO of 400kV KSK - Raigarh ckt 1 and permanent connectivity at 400kV Kotra PS through dedicated lines by developer (Not yet completed).		unit-1 600 MW Synchronized on 09.10.13.
6	Binjkote TPP (SKS Power Ltd)	Chhattisgarh	SKS Power Ltd	3*300MW	Permanent connectivity at 400kV Kotra PS (near Raigarh) through 400kV dedicated lines by developer.		
7	Jindal Power Limited Phase-II (Tamnar)	Chhattisgarh	Jindal	4*600MW	Interim connectivity given by PGCIL at existing 400kV JPL, Tamnar bus. Permanent connectivity at Tamnar PS through dedicated transmission lines by developer.		Unit-1 synchronized on 30.09.13. Unit-2 sync expected in 01/14 and FL expected in 4/14. Unit-3 Sync in 8/14 Unit-4 Sync in 03/15
8	ESSAR Mahan MP Power Ltd	MP	ESSAR Power Ltd	2*660MW	Interim arrangement through LILO of Vindhayachal-Korba ckt 1 and Permanent connectivity at Bilaspur Pooling station through dedicated lines by developer (Not yet completed)		Connectivity at Bilaspur pooling station, will lead to Problem in evacuation of Power from Chattisgarh area