

**National Load Despatch Centre  
Total Transfer Capability for December 2014**

Issue Date: 20/12/2014

Issue Time: 2230 hrs

Revision No. 18

Corridor	Date	Time Period (hrs)	Total Transfer Capability (TTC)	Reliability Margin	Available Transfer Capability (ATC)	Long Term Access (LTA)/ Medium Term Open Access (MTOA) #	Margin Available for Short Term Open Access (STOA)	Changes in TTC w.r.t. Last Revision	Comments
<b>NR-WR *</b>	1st December 2014 to 31st December 2014	00-24	2500	500	2000	1055	945		
<b>WR-NR</b>	1st December 2014 to 2nd December 2014	00-07'	4900	500	4400	4380	20		
		07-24'	4100		3600		0		
	3rd December 2014	00-07'	4900	500	4400	4380	20		
		07-14'	4100		3600		0		
		14-24	3600		3600		0		
	4th December 2014	00-07'	4400	500	3900	4380	0		
		07-24'	3600		3100		0		
	5th December 2014 to 11th December 2014	00-07	4900	500	4400	4380	20		
		07-24	4100		3600		0		
	12th December 2014 to 18th December 2014	00-07	4900	500	4400	4380	20		
		07-24	4100		3600		0		
	19th December 2014 to 31st December 2014	00-17	4900	500	4400	4380	20		
		23-24	4900		4400		20		
			17-23	4900		4400		20	
<b>NR-ER*</b>	1st December 2014 to 31st December 2014	00-06	2000	200	1800	293	1507		
		06-18'	2000		1800	358	1442		
		18-24	2000		1800	293	1507		
<b>ER-NR</b>	1st December 2014 to 31st December 2014	00-17	3500	300	3200	2431	769		
		23-24	3500		3300		869		
		17-23	3600		3300		869		
<b>W3-ER<sup>s</sup></b>	1st December 2014 to 31st December 2014	00-24	1900	300	1600	697	903		
<b>ER-W3</b>	1st December 2014 to 31st December 2014	00-24	1000	300	700	973	0		
<b>WR-SR</b>	1st December 2014 to 9th December 2014	00-24	2100	750	1350	1350	0		
	10th December 2014	00-05	2100	750	1350	1350	0		
		10-24'	1750		1000	1350	0		
	11th December 2014	05-22	2100	750	1350	1350	0		
		00-05	2500		1750	1350	400		
	12th December 2014 to 13th December 2014	05-08	2100	750	1350	1350	0		
		08-22'	1600		850	1350	0		
		22-24	2000		1250	1350	0		
		00-05	2500		1750	1350	400		
	14th December 2014 to 31st December 2014	05-22	2100	750	1350	1350	0		
		00-05	2500		1750	1350	400		
<b>SR-WR *</b>	1st December 2014 to 31st December 2014	00-24	No limit is being Specified.						

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ER-SR	1st December 2014 to 4th December 2014	00-06	2300	0	2300	2435	0		
		18-24				2500	0		
		06-18'				2435	0		
	5th December 2014	00-06	2300	0	2300	2435	0		
		06-13'	2300			2500	0		
		13-18'	2500			2500	0		
		18-24	2500			2435	65		
	6th December 2014 to 7th December 2014	00-06	2650	0	2650	2435	215		
		18-24				2500	150		
		06-18'				2435	215		
	8th December 2014 to 15th December 2014	00-06	2650	0	2650	2435	215		
		18-24				2500	150		
16th December 2014 to 31st December 2014	00-06	2650	0	2650	2435	215			
	18-24				2500	150			
06-18'	2435	150							
SR-ER *	1st December 2014 to 31st December 2014	00-24	No limit is being Specified.						
ER-NER	1st December 2014	00-17	650	40	610	210	400		
		23-24					420		
	17-23	670	630	420					
	2nd December 2014 to 8th December 2014	00-17	685	40	645	210	435		
		23-24					460		
		17-23					710		
	9th December 2014	00-08	685	40	645	210	435		
		23-24					210		
		08-17'					460		
	17-23	710	460						
	10th December 2014 to 31st December 2014	00-17	685	40	645	210	435		
		23-24					460		
17-23	710	670	460						
NER-ER	1st December 2014 to 8th December 2014	00-17	480	30	450	0	450		
		23-24		40	470		470		
		17-23		500	470				
	9th December 2014	00-08	480	30	450	0	450		
		23-24		30	245		245		
		08-17'		40	470		470		
	17-23	500	470						
	10th December 2014 to 31st December 2014	00-17	480	30	450	0	450		
		23-24		40	470		470		
17-23	500	470							
1st December 2014 to 2nd December 2014	00-24	3300	295	3005	2879	126			
	3rd December 2014	00-10	3300	295	3005	2879			126
		1000-1730	3210	295	2915	2879			36
		1730-2400	3300	295	3005	2879			126
4th December 2014 to 9th December 2014	00-24	3300	295	3005	2879	126			

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<b>S1-S2</b>	11th December 2014	00-06	3300	295	3005	3029	0		
		06-24	3575	295	3280	3138	142		
	12th December 2014	00-24	3575	295	3280	3138	142		
		00-09	3575	295	3280	3138	142		
	09-18'	2950	2655		3138	0			
	18-21	3575	3280		3138	142			
	21-24	2950	2655		3138	0			
	14th December 2014	00-17	2950	295	2655	3138	0		
		17-24	3575		3280	3138	142		
	15th December 2014 to 17th December 2014	00-24	3575	295	3280	3087	193		
	18th December 2014	00-10	3575	295	3280	3087	193		
		10-24'	3575		3280	3087	193		
	19th December 2014 to 20th December 2014	00-24	3575	295	3280	3087	193		
	21st December 2014	00-09	3575	295	3280	3087	193	275	Revised due to to Vallur unit 1 outage extension & shutdown of 400kV Pugalur- Kalivindhapattu -2
		09-18'	3330		3035	3087	0	30	
		18-24	3575		3280	3087	193	275	
22nd December 2014 to 27th December 2014	00-24	3575	295	3280	3087	193	275		
28th December 2014	00-24	3300	295	3005	2978	27		Revised due to Vallur unit 1 outage extension	
29th December 2014 to 30th December 2014	00-24	3300	295	3005	2942	63			
31st December 2014	00-24	3300	295	3005	2865	140			
<b>Import of Punjab</b>	1st December 2014 to 31st December 2014	00-24	5700	300	5400	3790	1610		
<b>Import TTC for DD &amp; DNH</b>	1st December 2014 to 31st December 2014	00-24	1200	0	1200	LTA and MTOA as per ex-pp schedule			
<b>W3 zone Injection</b>	1st December 2014 to 31st December 2014	00-17	9400	200	9200	6843	2357		
		23-24			9700		2857		
		17-23			9900				

\* Fifty Percent (50 % ) Counter flow benefit on account of LTA/MTOA transactions in the reverse direction would be considered for advanced transactions (Bilateral & First Come First Serve).

\*\* Maharashtra's off peak demand is considered to be lower than the peak demand by approximately 5000 MW from 2200 hrs to 0500 hrs

\$ As per Simulations, predominant direction of flow is on West to North Corridor. Hence, in case injection point is in Western Region (W1,W2,W3), STOA/PX transactions from West to North on West-East-North corridor shall not be allowed as such transaction increases congestion in the West to North Corridor.

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- 1) ER-SR TTC declared at Talcher Interconnector and Gazuwaka HVDC B/B seam
- 2) S1 comprises of AP and Karnataka: S2 comprises of Tamil Nadu, Kerala and Pondicherry
- 3) W3 comprises of the following regional entities :
  - a) Chattisgarh Sell transaction, b) Jindal Power Limited (JPL) Stage-I & Stage-II, c) Jindal Steel and Power Limited (JSPL), d) ACBL, e) LANCO Amarkantak
  - f) BALCO, g) Sterlite (#1,3,4), h) NSPCL, i) Korba, j) Sipat, k) KSK Mahanadi, L)DB Power, m) KWPCCL, n)Vandana Vidyut

# The figure is based on LTA/MTOA approved by CTU and Allocation figures as per RPCs RTA/REA. In actual Operation, due to Units being on Maintenance/ Fuel shortage/New units being commissioned the LTA/MTOA utilized would vary. RLDC/NLDC would factor this situation on day-ahead basis. In the eventuality that net schedules exceed ATC, real time curtailments might be effected by RLDCs/NLDC.

In case of TTC Revision due to any shutdown :

- 1) The TTC value will be revised to normal values after restoration of shutdown.
- 2) The TTC value will be revised to normal values if the shutdown is not being availed in real time.

**Limiting Constraints**

Corridor	Constraint
NR-WR	(n-1) contingency of 400kV Zerda-Bhinmal and (n-1) contingency of 220kV Badod-Modak.
WR-NR	High Loading of 400kV Singrauli-Anpara & High loading of 765 kV Agra-Gwalior (1250 MW SPS setting on each circuit of 765 kV Gwalior-Agra) and Loop flows on 400kV Kankroli-Zerda and 400kV Bhinmal-Zerda (power flowing from WR to NR on 765kV Gwalior-Agra D/C and from NR to WR on 400kV Kankroli-Zerda and 400kV Bhinmal-Zerda).
NR-ER	(n-1) contingency of 400 kV Allahabad-Pusaali
ER-NR & ER-NER	Outage of one circuit of 400KV Kahalgaon-Banka leads to thermal loading of second circuit.
W3-ER	(n-1) contingency of 400kV Sterlite-Rourkela S/C
ER-W3	(n-1) contingency of 400kV Raigarh-Jharsuguda-Rourkela
WR-SR & ER-SR	1. (n-1) contingency of one circuit of 400kV Parli(PG)-Sholapur(PG) 2. ER-SR TTC has been declared assuming more than 1100 MW generation at Talcher Stage-2. In case Talcher Stage-2 generation goes below 1100 MW, then the ER-SR TTC would be revised downward as constraints within ER would emerge.
ER-NER	Palatana unit tripping leading to the thermal overloading of 220 kV BTPS - Salakati D/C
NER-ER	(n-1) contingency of 400/220 kV, 2x315 MVA ICTs at Misa and High loading of 220kV Misa-Samaguri D/C
S1-S2	(n-1) contingency of one circuit of 400 kV Kolar-Hosur
Import of DD & DNH	(n-1) contingency of 400/220KV 315MVA ICT at VAPI
Import of Punjab	(n-1) contingency of ICT at Dhuri and (n-1) contingency of 220kV Moga(PG)-Moga(PSTCL)
W3 zone Injection	(n-1) contingency of 400 kV Raipur-Bhadrawati D/C section and High loading of 400kV Raipur-Wardha (850 MW SPS setting on each circuit of 400kV Raipur-Wardha)

\*Primary constraints

**Simultaneous Import Capability**

Corridor	Date	Time Period (hrs)	Total Transfer Capability (TTC)	Reliability Margin	Available Transfer Capability (ATC)	Long Term Access (LTA)/ Medium Term Open Access (MTOA)	Margin Available for Short Term Open Access (STOA)	Changes in TTC w.r.t. Last Revision	Comments
ER									
NR	1st December 2014 to 2nd December 2014	00-07	8400	800	7600	6811	789		
		07-'17	7600		6800		0		
		17-23	7700		6900		89		
		23-24	7600		6800		0		
	3rd December 2014	00-07	8400	800	7600	6811	789		
		07-'14	7600		6800		0		
		14-'17	7100		7100		0		
		17-23	7200		6400		0		
	4th December 2014	23-24	7100	800	6300	6811	0		
		00-07	7900		7100		289		
		07-'17	7100		6300		0		
		17-23	7200		6400		0		
	5th December 2014 to 11th December 2014	23-24	7100	800	6300	6811	0		
		00-07	8400		7600		789		
		07-17	7600		6800		0		
		17-23	7700		6900		89		
	12th December 2014 to 18th December 2014	00-07	8400	800	7600	6811	789		
		07-17	7600		6800		0		
		23-24	7600		6900		89		
		17-23	7700		6900		89		
	19th December 2014 to 31st December 2014	00-17	8400	800	7600	6811	789		
		23-24	8400		7700		889		
			17-23	8500					

NER	1st December 2014	00-17	650	40	610	210	400		
		23-24			630		420		
	2nd December 2014 to 8th December 2014	00-17	685	40	645	210	435		
		23-24			670		460		
	9th December 2014	00-08	685	40	645	210	435		
		23-24			420		210		
		08-17'	460		670		460		
	10th December 2014 to 31st December 2014	00-17	685	40	645	210	435		
23-24			670		460				
WR									
SR	1st December 2014 to 4th December 2014	00-06	4400	750	3650	3785	0		
		18-24					3850	0	
	5th December 2014	06-18'		750	3650	3785	0		
		00-06	4400			3850	0		
		06-13'	4400			3850	0		
		13-18'	4600			3850	0		
	6th December 2014 to 7th December 2014	18-24	4600	750	4000	3785	65		
		06-18'	4750			3850	215	150	
	8th December 2014 to 9th December 2014	00-06	4750	750	4000	3785	215		
		18-24					3850	150	
	10th December 2014	06-18'		750	4000	3785	215		
		00-05	4750			3785	215		
		18-24	4400			3650	3785	0	
		05-06'	4400			3650	3850	0	
	11th December 2014	06-10	4400	750	4000	3850	150		
		10-18'	4750			4000	3785	615	
		00-05	5150			4000	3850	150	
		06-18'	4750			4000	3785	215	
	12th December 2014 to 13th December 2014	18-22	4750	750	4400	3785	615		
		22-24	5150			3785	615		
		00-05	5150			4400	3785	615	
		05-06'	4750			4000	3785	215	
		06-08'	4750			4000	3850	150	
		08-18'	4250			3500	3850	0	
	14th December 2014 to 31st December 2014	18-22	4250	750	4400	3500	3785	0	
		22-24	4650			3900	3785	115	
		00-05	5150			4400	3785	615	
		05-06'	4750			4000	3785	215	
06-18'		4750	4000			3850	150		
	18-22	4750	750	4400	4000	3785	215		
	22-24	5150			4000	3785	215		
					4000	3850	150		
					4000	3785	215		

## Simultaneous Export Capability

Corridor	Date	Time Period (hrs)	Total Transfer Capability (TTC)	Reliability Margin	Available Transfer Capability (ATC)	Long Term Access (LTA)/ Medium Term Open Access (MTOA)	Margin Available for Short Term Open Access (STOA)	Changes in TTC w.r.t. Last Revision	Comments
NR*	1st December 2014 to 31st December 2014	00-06	4500	700	3800	999	2801		
		06-17'			3800	1064	2736		
		17-18'	4500		3800	1064	2736		
		18-24	4500		3800	999	2801		
NER	1st December 2014 to 8th December 2014	00-17	480	30	450	0	450		
		23-24	500	40	470		470		
	9th December 2014	00-08	480	30	450	0	450		
		23-24	275	30	245		245		
		08-17'	500	40	470		470		
	10th December 2014 to 31st December 2014	00-17	480	30	450	0	450		
		23-24	500	40	470		470		
	WR								
SR *	1st December 2014 to 31st December 2014	00-24	No limit is being Specified.						

\* Fifty Percent (50 % ) Counter flow benefit on account of LTA/MTOA transactions in the reverse direction would be considered for advanced transactions (Bilateral & First Come First Serve).

### Limiting Constraints

NR	<b>Import</b>	Outage of one circuit of 400KV Kahalgaon-Banka leads to thermal loading of second circuit. High loading of 765 kV Agra-Gwalior (1250 MW SPS setting on each circuit of 765 kV Gwalior-Agra) and high loop
	<b>Export</b>	(n-1) contingency of 400kV Zerda-Bhinmal and (n-1) contingency of 220kV Badod-Modak. (n-1) contingency of 400 kV Allahabad-Pusauli
NER	<b>Import</b>	Outage of one circuit of 400KV Kahalgaon-Banka leads to thermal loading of second circuit.
	<b>Export</b>	Outage of one 315 MVA, 400/220kV ICT at Misa leads to overloading of second ICT at MISA.
SR	<b>Import</b>	1. (n-1) contingency of one circuit of 400kV Parli(PG)-Sholapur(PG)
		2. ER-SR TTC has been declared assuming more than 1100 MW generation at Talcher Stage-2. In case Talcher Stage-

\*Primary constraints

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Revision No	Date of Revision	Period of Revision	Reason for Revision	Corridor Affected
1	11-21-14	Whole Month	Revised due to 400kV Jeypore-Gazuwaka D/C line Tower collapse	ER-SR
			Revised due to 400kV KalivendapattuPugalur-2 and 400/230kV Tiruvalam Downstream commissioning & Revised LGBR by constituents.	S1-S2
2	11-27-14	Whole month	LTA revised due to allocation of power from North to West	NR-WR
			LTA revised due to allocation of LTA from ER to MP	ER-W3
		1-12-2014 to 4-12-2014	Revised due to shutdown of Mundra-Mohindergarh HVDC Pole-2	WR-NR
		Whole Month	Revised due to NCTPS Stage -2 Unit-1 outage extension & Synchronisation of 765kV Karnool-Tiruvalam DC line ( at 400kV level).	S1-S2
Revised considering network restructuring in NER region	ER-NER			
3	12-01-14	1-12-2014 to 7-12-2014	Revised considering the revival of 400 kV Jeypore Gazuwaka ckt 2 after cyclone Hudhud	ER-SR
		Whole month	Revised considering the real time load generation balance conditions in ER region	ER-NER
			Revised considering network restructuring and real time load generation balance in NER region	NER-ER
4	12-02-14	12-03-14	Revised due to shutdown of 400kV Nellore - Alamatty	S1-S2
5	12-03-14	03-12-2014 to 04-12-2014	Revised due to restriction of Power order of HVDC Vindhyaachal B/B to 250 MW for maintenance reasons.	WR-NR
6	12-04-14	05-12-2014 to 11-12-2014	Revised due to shutdown of HVDC Rihand - Dadri pole 1	WR-NR
		12-12-2014 to 18-12-2014	Revised due to shutdown of HVDC Rihand - Dadri pole 2	
7	12-05-14	05-12-2014 to 15-12-2014	Revised considering the revival of 400 kV Jeypore Gazuwaka ckt 2 after cyclone Hudhud	ER-SR
8	12-06-14	whole month	Revised considering the revival of 400 kV Jeypore Gazuwaka ckt 1 after cyclone Hudhud	ER-SR
9	12-08-14	12-09-14	Revised due to shutdown of 220 kV Azara	ER-NER / NER-ER
10	12-09-14	12-10-14	Revised due to shutdown of 400 kV Parli - Sholapur ckt 2	WR-SR



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11	12-10-14	11-12-2014 to 31-12-2014	Revised considering the present demand pattern of Maharashtra** during off -peak conditions	WR-SR
12	12-10-14	11-12-2014 to 14-12-2014	Revised due to outage of Vallur unit 1	S1-S2
13	12-11-14	12-12-2014 to 13-12-2014	Revised due to shutdown of HVDC Bhadrawati Pole 2	WR-SR
14	12-12-14	13/12/2014	Revised due to shutdown of 400kV Kolar - Hoody D/C	S1-S2
15	13/12/2014	14/12/2014	Revised due to extension of 400kV Kolar - Hoody D/C shutdown	S1-S2
16	14-Dec-14	15-12-2014 to 18-12-2014	Revised due to Vallur Unit-1 outage extension	S1-S2
17	17-Dec-14	18-12-2014 to 20-12-2014	Revised due to Vallur Unit-1 outage extension	S1-S2
18	20-12-2014	21-12-2014 to 31-12-2014	Revised due to Vallur unit 1 outage extension	S1-S2

## ASSUMPTIONS IN BASECASE

Month : Dec '14

S.No.	Name of State/Area	Load		Generation	
		Peak Load (MW)	Off Peak Load (MW)	Peak (MW)	Off Peak (MW)
<b>I</b>	<b>NORTHERN REGION</b>				
1	Punjab	5406	3976	3065	2990
2	Haryana	5606	4285	2988	2988
3	Rajasthan	9930	8381	5466	5326
4	Delhi	3503	1532	1002	862
5	Uttar Pradesh	13013	12923	5457	5358
6	Jammu & Kashmir	2202	1568	220	220
7	Uttarakhand	1802	1235	450	225
8	Himachal Pradesh	1230	1221	212	148
9	Chandigarh	200	99		0
10	ISGS/IPPs			18951	11830
	<b>Total NR</b>	<b>42892</b>	<b>35220</b>	<b>37811</b>	<b>29947</b>
<b>II</b>	<b>EASTERN REGION</b>				
1	West Bengal	6303	4473	4421	3611
2	Jharkhand	1101	905	426	426
3	Orissa	3603	2882	2993	2479
4	Bihar	2202	1988	100	100
5	Damodar Valley Corporation	2402	2186	3455	2829
6	Sikkim	79	78		0
7	Bhutan	108	108	415	295
8	ISGS/IPPs	360	465	8752	7669
	<b>Total ER</b>	<b>16158</b>	<b>13085</b>	<b>20562</b>	<b>17409</b>
<b>III</b>	<b>WESTERN REGION</b>				
1	Chattisgarh	3043	2108	1325	1087
2	Madhya Pradesh	10239	7247	6005	3126
3	Maharashtra	20364	13255	14565	8280
4	Gujarat	11410	9634	12472	8971
5	Goa	432	255	0	0
6	Daman and Diu	274	214	0	0
7	Dadra and Nagar Haveli	636	580	0	0
8	ISGS/IPPs	1345	1142	21219	19246
	<b>Total WR</b>	<b>47743</b>	<b>34435</b>	<b>55586</b>	<b>40710</b>

## ASSUMPTIONS IN BASECASE

Month : Dec '14

S.No.	Name of State/Area	Load		Generation	
		Peak Load (MW)	Off Peak Load (MW)	Peak (MW)	Off Peak (MW)
<b>IV</b>	<b>SOUTHERN REGION</b>				
1	Andhra Pradesh	10424	9550	7172	5835
2	Tamil Nadu	10739	8741	6854	5533
3	Karnataka	7799	6119	6884	4875
4	Kerala	3266	1912	1974	690
5	Pondy	326	285	0	0
6	Goa	89	88	0	0
7	ISGS/IPPs	74	73	9120	8971
	<b>Total SR</b>	<b>32717</b>	<b>26768</b>	<b>32004</b>	<b>25904</b>
<b>V</b>	<b>NORTH-EASTERN REGION</b>				
1	Arunachal Pradesh	92	35	0	0
2	Assam	845	640	225	200
3	Manipur	99	61	0	0
4	Meghalaya	241	133	113	58
5	Mizoram	6	41	8	8
6	Nagaland	77	58	11	6
7	Tripura	248	162	104	103
8	ISGS/IPPs		0	1090	680
	<b>Total NER</b>	<b>1608</b>	<b>1130</b>	<b>1551</b>	<b>1055</b>
	<b>Total All India</b>	<b>141118</b>	<b>110638</b>	<b>147514</b>	<b>115025</b>