

National Load Despatch Centre
Total Transfer Capability for May 2015

Issue Date: 06/05/2015

Issue Time: 1235 hrs

Revision No. 12

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-WR *	1st May 2015 to 31st May 2015	00-24	2500	500	2000	706	1294		
WR-NR*	1st May 2015	00-07	5100	500	4600	5157	0		
		07-24'	4850		4350		0		
	2nd May 2015	00-0730	4850	500	4350	5157	0		
		0730-1030	4400		3900		0		
		1030-24	4850		4350		0		
	3rd May 2015	00-17	4850	500	4350	5157	0		
		17-23	4850		4350		0		
	4th May 2015	00-2115	4850	500	4350	5157	0		
		2115-2230	3750		3250	5157	0		
		2230-24	5100		4600	5157	0		
	5th May 2015 to 6th May 2015	00-17 23-24	5100	500	4600	5157	0		
		17-23	5100		4600		0		
	7th May 2015 to 8th May 2015	00-07	5100	500	4600	5157	0		Revised due to shutdown of 765kV Bus-1 at Agra Substation.
		07-24	4100		3600		0	-1000	
9th May 2015 to 31st May 2015	00-17 23-24	5100	500	4600	5157	0			
	17-23	5100		4600		0			
NR-ER*	1st May 2015 to 31st May 2015	00-06	2000	200	1800	293	1507		
		06-18'	2000		1800	358	1442		
		18-24	2000		1800	293	1507		
ER-NR*	1st May 2015 to 31st May 2015	00-17 23-24	3400	300	3100	2431	669		
		17-23	3400		3100		669		
W3-ER^s	1st May 2015 to 31st May 2015	00-24	No limit is being specified. No Re-routing is allowed via W3-ER-NR.						
ER-W3	1st May 2015 to 31st May 2015	00-24	1000	300	700	874	0		
WR-SR	1st May 2015	05-22	2100	750	1350	1350	0		
		00-05 22-24	2500		1750		400		
	2nd May 2015 to 6th May 2015	05-22	2300	750	1550	1350	200		
		00-05 22-24	2700		1950		600		
		00-05	2700		1950		600		
	7th May 2015 to 9th May 2015	05-07	2300	750	1550	1350	200		Revised due to shutdown of 400kV Chandrapur-Ramagundam Ckt-1 (7th-8th) & Ckt-2 (9th).
		07-22	1900		1150		0	-400	
		22-24	2300		1550		200	-400	
	10th May 2015 to 31st May 2015	05-22	2300	750	1550	1350	200		
		00-05 22-24	2700		1950		600		
SR-WR *	1st May 2015 to 31st May 2015	00-24	No limit is being Specified.						
ER-SR	1st May 2015 to 31st May 2015	00-06 18-24	2650	0	2650	2385	265		
		06-18'				2450	200		
SR-ER *	1st May 2015 to 31st May 2015	00-24	No limit is being Specified.						

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ER-NER	1st May 2015 to 31st May 2015	00-17 23-24	1170	40	1130	210	920		
		17-23	1150		1110		900		
NER-ER	1st May 2015 to 31st May 2015	00-24	No limit is being Specified.						
S1-S2	1st May 2015	00-24	3220	320	2900	2583	317		
	2nd May 2015	00-12	3220	320	2900	2583	317		
		12-24	3220	320	2900	2583	317		
	3rd May 2015	00-24	3220	320	2900	2583	317		
	4th May 2015	00-21:45	2920	320	2600	2474	126		
		21:45-24	3265		2945	2474	471		
	5th May 2015	00-24	3265	320	2945	2474	471		
6th May 2015		00-19	3265	320	2945	2474	471		
	19-24	2920	2600		2474	126			
7th May 2015 to 31st May 2015	00-24	2920	320	2600	2474	126			
Import of Punjab	1st May 2015 to 31st May 2015	00-24	5700	300	5400	3790	1610		
Import TTC for DD & DNH	1st May 2015 to 31st May 2015	00-24	1200	0	1200	LTA and MTOA as per ex-pp schedule			
W3 zone Injection	1st May 2015 to 31st May 2015	00-17 23-24	9400	200	9200	7094	2106		
		17-23	9900		9700		2606		

* 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).

\$ 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.

1) S1 comprises of Telangana, AP and Karnataka; S2 comprises of Tamil Nadu, Kerala and Puducherry

2) 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 Vidut

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.

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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 Saranath-Pusauli
ER-NR	(n-1) contingency of Kahalgaon-Lakhisarai S/C
ER-W3	1. n-1 of 400 kV Wardha – Parli will lead to 30 degrees angular separation between Wardha and Parli. 2. (n-1) contingency of one circuit of 400kV Parli(PG)-Sholapur(PG)
WR-SR & ER-SR	1. n-1 of 400 kV Wardha – Parli will lead to 30 degrees angular separation between Wardha and Parli. 2. (n-1) contingency of one circuit of 400kV Parli(PG)-Sholapur(PG) 3. 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	(n-1) contingency of Kahalgaon-Lakhisarai S/C
NER-ER	(n-1) contingency of 400/220 kV, 2x315 MVA ICTs at Misa results in high loading of other 400/220 kV, 315 MVA ICT at Misa
S1-S2	(n-1) contingency of one circuit of 400 kV Kolar-Hosur D/C
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	1. n-1 of 400 kV Wardha – Parli will lead to 30 degrees angular separation between Wardha and Parli. 2. (n-1) contingency of one circuit of 400kV Parli(PG)-Sholapur(PG)

*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 May 2015	00-07	8500	800	7700	7588	112		
		07-24'	8250		7450		0		
	2nd May 2015	00-0730	8250	800	7450	7588	0		
		0730-1030	7800		7000		0		
		1030-24	8250		7450		0		
	3rd May 2015	00-17	8250	800	7450	7588	0		
		17-23	8250		7450		0		
	4th May 2015	00-21:15	8250	800	7450	7588	0		
		21:15-22:30	7150		6350		0		
		22:30-24	8500		7700		0		
	5th May 2015 to 6th May 2015	00-17	8500	800	7700	7588	112		
		17-23	8500		7700		112		
	7th May 2015 to 8th May 2015	00-07	8500	800	7700	7588	112		
		07--24	7500		6700		0	-1000	Revised due to shutdown of 765kV Bus-1 at Agra Substation.
	9th May 2015 to 31st May 2015	00-17	8500	800	7700	7588	112		
		17-23	8500		7700		112		
NER	1st May 2015 to 31st May 2015	00-17	1170	40	1130	210	920		
		17-23	1150		1110		900		
WR									
SR	1st May 2015	00-05	5150	750	4400	3935	465		
		05-06'	4750		4000	3935	65		
		06-18'	4750		4000	4000	0		
		18-22	4750		4000	3935	65		
		22-24	5150		4400	3935	465		
	2nd May 2015 to 6th May 2015	00-05	5350	750	4600	3935	665		
		05-06'	4950		4200	3935	265		
		06-18'	4950		4200	4000	200		
		18-22	4950		4200	3935	265		
		22-24	5350		4600	3935	665		
	7th May 2015 to 9th May 2015	00-05	5350	750	4600	3935	665		
		05-06'	4950		4200	3935	265		
		06-07'	4950		4200	4000	200		
		07-18'	4550		3800	4000	0	-400	Revised due to shutdown of 400kV Chandrapur-Ramagundam Ckt-1 (7th-8th) & Ckt-2 (9th).
		18-22	4550		3800	3935	0	-400	
	22-24	4950	4200	3935	265	-400			
	10th May 2015 to 31st May 2015	00-05	5350	750	4600	3935	665		
		05-06'	4950		4200	3935	265		
06-18'		4950	4200		4000	200			
18-22		4950	4200		3935	265			
	22-24	5350		4600	3935	665			

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 May 2015 to 31st May 2015	00-06	4500	700	3800	999	2801		
		06-18'			3800	1064	2736		
		18-24	4500		3800	999	2801		
NER	1st May 2015 to 31st May 2015	00-17	No limit is being Specified.						
		23-24							
		17-23							
WR									
SR *	1st May 2015 to 31st May 2015	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	Import	(n-1) contingency of Kahalgaon-Lakhisarai S/C High loading of 765 kV Agra-Gwalior (1250 MW SPS setting on each circuit of 765 kV Gwalior-Agra) and high 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).
	Export	(n-1) contingency of 400kV Zerda-Bhinmal and (n-1) contingency of 220kV Badod-Modak. (n-1) contingency of 400 kV Saranath-Pusauli
NER	Import	(n-1) contingency of Kahalgaon-Lakhisarai S/C
	Export	(n-1) contingency of 400/220 kV, 2x315 MVA ICTs at Misa results in high loading of other ICT at Misa
SR	Import	1. n-1 of 400 kV Wardha – Parli will lead to 30 degrees angular separation between Wardha and Parli. 2. (n-1) contingency of one circuit of 400kV Parli(PG)-Sholapur(PG) D/C. 3. 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.

*Primary constraints

**National Load Despatch Centre
Total Transfer Capability for May 2015**

Revision No	Date of Revision	Period of Revision	Reason for Revision	Corridor Affected
1	2/12/2015	Whole Month	Margin revised due to cancellation of LTA/MTOA	NR-WR/ ER-W3
2	3/2/2015	Whole Month	STOA Margins revised due to grant of MTOA from Chattisgarh to KSEB by CTU.	W3-ER/ W3 Zone
			Revised due to commissioning of Vallur Unit-3	S1-S2
3	3/31/2015	Whole Month	Revised considering the commissioning of Sasan Unit-6 and reviewed HVDC set points.	WR-NR
			Revised considering the commissioning of 765kV Pune-Sholapur S/C.	WR-SR
4	4/21/2015	Whole Month	Revised considering revised thermal ratings of the lines in ER and expected flows on ER-NR corridor	ER-NR
5	4/27/2015	Whole Month	Revised due to LGBR changes given in 106th OCC meeting.	S1-S2
6	4/30/2015	Whole Month	Revised due to shutdown of 765kV Pune-Sholapur S/C and considering the present Maharashtra Demand pattern (1st May) & Revised considering the present Maharashtra Demand pattern (2nd-31st) .	WR-SR
		01-05-2015 to 03-05-2015	Revised due to shutdown of HVDC Vindhyachal BTB Block-2.	WR-NR
		Whole Month	on account of addition of new elements in NER Grid and change in load-generation balance.	ER-NER/ NER-ER
		01-05-15 to 02-05-15	Due to Extension of Vallur Unit -3 Outage	S1-S2
7	5/2/2015	5/2/2015	Revised due to Emergency shutdown of Rihand-Dadri HVDC Pole-1.	WR-NR
8	5/2/2015	02-05-15 to 03-05-15	Revised due to Extension of Vallur Unit -3 Outage	S1-S2
9	5/3/2015	5/4/2015	Revised due to extension of HVDC Vindhyachal BTB Block-2 shutdown.	WR-NR
10	5/4/2015	5/4/2015	Revised due to tripping of Mundra-Mahendragarh HVDC pole-2	WR-NR
		5/4/2015 to 5/6/2015	Revised due to NCTPS stage 2 Unit-1 Outage	S1-S2
11	5/4/2015	5/4/2015	Due to revival of Mundra-mahendragarh pole 2 and Vindhyachal Block 2	WR-NR
12	6/5/2015	7/5/2015 to 9/5/2015	Revised due to shutdown of 400kV Chandrapur-Ramagundam Ckt-1 (7th-8th) & Ckt-2 (9th).	WR-SR
		7/5/2015 to 8/5/2015	Revised due to shutdown of 765kV Bus-1 at Agra Substation.	WR-NR

ASSUMPTIONS IN BASECASE

Month : May '15

S.No.	Name of State/Area	Load		Generation	
		Peak Load (MW)	Off Peak Load (MW)	Peak (MW)	Off Peak (MW)
I	NORTHERN REGION				
1	Punjab	7577	6617	3463	3477
2	Haryana	5856	5210	2202	2203
3	Rajasthan	7738	7467	4717	4717
4	Delhi	5200	4674	1323	1323
5	Uttar Pradesh	12604	12834	6533	6524
6	Jammu & Kashmir	2166	1404	443	441
7	Uttarakhand	1638	1285	830	496
8	Himachal Pradesh	1383	1127	704	624
9	Chandigarh	292	194	0	0
10	ISGS/IPPs			18480	15160
	Total NR	44454	40812	38695	34965
II	EASTERN REGION				
1	West Bengal	7550	6800	5200	3700
2	Jharkhand	1070	900	470	380
3	Orissa	3950	3200	3400	2500
4	Bihar	2600	2140	180	0
5	Damodar Valley Corporation	2675	2400	3800	3400
6	Sikkim	85	50	-	-
7	Bhutan			250	140
8	ISGS/IPPs			10005	8325
	Total ER	17930	15490	23305	18445
III	WESTERN REGION				
1	Chattisgarh	3336	2801	1606	1313
2	Madhya Pradesh	7271	6314	3649	3011
3	Maharashtra	19250	17030	15092	12163
4	Gujarat	13471	1238	10322	8765
5	Goa	438	347		
6	Daman and Diu	288	264		
7	Dadra and Nagar Haveli	687	665		
8	ISGS/IPPs	1058	1058	22774	22774
	Total WR	45799	29717	53443	48026

ASSUMPTIONS IN BASECASE

Month : May '15

S.No.	Name of State/Area	Load		Generation	
		Peak Load (MW)	Off Peak Load (MW)	Peak (MW)	Off Peak (MW)
IV	SOUTHERN REGION				
1	Telangana	5580	5568	2354	2173
2	Andhra Pradesh	5593	5592	5077	4550
3	Tamil Nadu	12051	10398	7068	6424
4	Karnataka	8046	7046	7080	5576
5	Kerala	3328	2336	1939	770
6	Pondy	374	294		
7	Goa	89	89		
8	ISGS/IPPs			9180	9180
	Total SR	35061	31323	32698	28673
V	NORTH-EASTERN REGION				
1	Arunachal Pradesh	86	53	0	0
2	Assam	753	640	215	200
3	Manipur	83	53	0	0
4	Meghalaya	296	211	140	92
5	Mizoram	58	40	4	3
6	Nagaland	76	63	16	8
7	Tripura	244	164	110	110
8	ISGS/IPPs			990	738
	Total NER	1596	1224	1475	1151
	Total All India	144840	118566	149616	131260