

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

Issue Date: 16/07/2015

Issue Time: 2300 hrs

Revision No. 11

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 Jul 2015 to 31st Jul 2015	00-24	2500	500	2000	421	1579		
WR-NR*	1st Jul 2015 to 3rd Jul 2015	00-17	5100	500	4600	5157	0		
		23-24	5100		4600		0		
	4th Jul 2015	17-23	5100	500	4600	5157	0		
		00-06	5100		4600		0		
		0600-1700	4400		3900		0		
	5th Jul 2015 to 31st Jul 2015	17-24	5100	500	4600	5157	0		
00-17		5100	4600		0				
		23-24	5100		4600		0		
		17-23	5100		4600		0		
NR-ER*	1st Jul 2015 to 31st Jul 2015	00-06	2000	200	1800	293	1507		
		06-18	2000		1800	358	1442		
		18-24	2000		1800	293	1507		
ER-NR*	1st Jul 2015 to 31st Jul 2015	00-17	4400	300	4100	2431	1669		
		23-24	4400		4100		1669		
		17-23	4400		4100		1669		
W3-ER^s	1st Jul 2015 to 31st Jul 2015	00-24	No limit is being specified. No Re-routing is allowed via W3-ER-NR.						
ER-W3	1st Jul 2015 to 31st Jul 2015	00-24	1000	300	700	874	0		
WR-SR	1st Jul 2015 to 4th Jul 2015	00-05	2700	750	1950	1550	400		
		05-22	2300		1550		0		
		22-24	2700		1950		400		
	5th Jul 2015	00-05	2700	750	1950	1550	400		
		05-06	2300		1550		0		
		06-22	1300		550		0		
		22-24	1700		950		0		
	6th Jul 2015 to 10th Jul 2015	00-05	2700	750	1950	1550	400		
		05-22	2300		1550		0		
		22-24	2700		1950		400		
	11th Jul 2015	00-05	2700	750	1950	1550	400		
		05-07	2300		1550		0		
		07-22	1000	0	1000		0		
		22-24	1000		1000		0		
	12th Jul 2015 to 13th Jul 2015	00-05	2700	750	1950	1550	400		
		05-22	2300		1550		0		
		22-24	2700		1950		400		
	14th Jul 2015	00-05	2700	750	1950	1550	400		
		05-07	2300		1550		0		
		07-22	2100		1350		0		
		22-24	2500		1750		200		
	15th Jul 2015 to 16th Jul 2015	00-05	2500	750	1750	1550	200		
		05-07	2100		1350		0		
		07-22	2100		1350		0		
22-24		2500	1750		200				
17th Jul 2015	00-05	2500	750	1750	1550	200	-200	Revised due to Outage of 765kV Pune-Sholapur S/C.	
	05-07	2100		1350		0			
	07-22	2100		1350		0			
	22-24	2500		1750		200			
18th Jul 2015 to 31st Jul 2015	00-05	2700	750	1950	1550	400			
	05-22	2300		1550		0			
	22-24	2700		1950		400			
SR-WR *	1st Jul 2015 to 31st Jul 2015	00-24	No limit is being Specified.						

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ER-SR	1st Jul 2015 to 2nd Jul 2015	00-06	2650	0	2650	2100	550		
		18-24							
	3rd Jul 2015	00-06	2650	0	2650	1657	993		
		18-24							
	4th Jul 2015 to 31st Jul 2015	00-06	2650	0	2650	2100	550		
		18-24							
SR-ER *	1st Jul 2015 to 31st Jul 2015	00-18'	No limit is being Specified.						
		06-18'							
ER-NER	1st Jul 2015 to 31st Jul 2015	00-17	1270	45	1225	210	1015		
		23-24							
NER-ER	1st Jul 2015 to 31st Jul 2015	00-17	1320	45	1275	0	1275		
		23-24							
S1-S2 (Rev - 0)	1st Jul 2015 to 9th Jul 2015	00-24	3145	335	2810	2908	0		
	10th Jul 2015 to 11th Jul 2015	00-24	3145	335	2810	2709	101		
	12th Jul 2015 to 19th Jul 2015	00-24	3145	335	2810	2789	21		
	20th Jul 2015	00-24	3145	335	2810	2878	0		
	21st Jul 2015 to 31st Jul 2015	00-24	2845	335	2510	2769	0		
Import of Punjab (Rev - 0)	1st Jul 2015 to 31st Jul 2015	00-24	5700	300	5400	3790	1610		
Import TTC for DD & DNH (Rev - 0)	1st Jul 2015 to 31st Jul 2015	00-24	1200	0	1200	LTA and MTOA as per ex-pp schedule			
W3 zone Injection	1st Jul 2015 to 31st Jul 2015	00-17	9400	200	9200	7094	2106		
		23-24							
		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).

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\$ 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 Vidyt

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 Saranath-Pusauli
ER-NR	(n-1) contingency of 400 kV Farakka-Malda D/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 & 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 Jul 2015	00-17	7300	800	6500	7588	0			
		23-24			6500		0			
	2nd Jul 2015 to 3rd Jul 2015	00-05	7500	800	6700	7588	0			
		08-24			7200		0			
	4th Jul 2015	00-05	7500	800	6700	7588	0			
		05-06'	8000		7200		0			
		06-08'	6500		5700		0			
		08-17'	6500		5700		0			
		17-18	7500		6700		0			
		18-24	7500		6700		0			
	5th Jul 2015 to 31st Jul 2015	00-05	7500	800	6700	7588	0			
		08-24			7200		0			
	NER	1st Jul 2015 to 31st Jul 2015	00-17	1270	45	1225	210	1015		
			23-24			1205		995		
17-23										
WR										
SR	1st Jul 2015 to 2nd Jul 2015	00-05	5350	750	4600	3650	950			
		05-06'			4950	4200	3650	550		
		06-18'			4950	4200	3715	485		
		18-22			4950	4200	3650	550		
		22-24			5350	4600	3650	950		
	3rd Jul 2015	00-05	5350	750	4600	3207	1393			
		05-06'	4950		4200	3207	993			
		06-18'	4950		4200	3272	928			
		18-22	4950		4200	3207	993			
		22-24	5350		4600	3207	1393			
	4th Jul 2015	00-05	5350	750	4600	3650	950			
		05-06'	4950		4200	3650	550			
		06-18'	4950		4200	3715	485			
		18-22	4950		4200	3650	550			
		22-24	5350		4600	3650	950			
	5th Jul 2015	00-05	5350	750	4600	3650	950			
		05-06'	4950		4200	3650	550			
		06-18'	3950		3200	3715	0			
		18-22	3950		3200	3650	0			
		22-24	4350		3600	3650	0			
	6th Jul 2015 to 10th Jul 2015	00-05	5350	750	4600	3650	950			
		05-06'	4950		4200	3650	550			
		06-18'	4950		4200	3715	485			
		18-22	4950		4200	3650	550			
		22-24	5350		4600	3650	950			
	11th Jul 2015	00-05	5350	750	4600	3650	950			
		05-06'	4950		4200	3650	550			
		06-07'	4950		4200	3715	485			
		07-18'	3650	0	3650	3715	0			
		18-22	3650		3650	3650	0			
22-24		3650	3650		3650	0				

	12th Jul 2015 to 13rd Jul 2015	00-05	5350	750	4600	3650	950		
		05-06'	4950		4200	3650	550		
		06-18'	4950		4200	3715	485		
		18-22	4950		4200	3650	550		
		22-24	5350		4600	3650	950		
	14th Jul 2015	00-05	5350	750	4600	3650	950		
		05-06'	4950		4200	3650	550		
		06-07'	4950		4200	3715	485		
		07-18'	4750		4000	3715	285		
		18-22	4750		4000	3650	350		
		22-24	5150		4400	3650	750		
	15th Jul 2015 to 16th Jul 2015	00-05	5150	750	4400	3650	750		
		05-06'	4750		4000	3650	350		
		06-07'	4750		4000	3715	285		
		07-18'	4750		4000	3715	285		
		18-22	4750		4000	3650	350		
		22-24	5150		4400	3650	750		
	17th Jul 2015	00-05	5150	750	4400	3650	750	-200	Revised due to extension of 765kV Pune-Sholapur S/C shutdown.
		05-06'	4750		4000	3650	350		
		06-07'	4750		4000	3715	285		
07-18'		4750	4000		3715	285			
18-22		4750	4000		3650	350			
22-24		5150	4400		3650	750			
18th Jul 2015 to 31st Jul 2015	00-05	5350	750	4600	3650	950			
	05-06'	4950		4200	3650	550			
	06-18'	4950		4200	3715	485			
	18-22	4950		4200	3650	550			
	22-24	5350		4600	3650	950			

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 Jul 2015 to 31st Jul 2015	00-06	4500	700	3800	714	3086		
		06-18'			3800	779	3021		
		18-24			3800	714	3086		
NER	1st Jul 2015 to 31st Jul 2015	00-17 23-24	1320	45	1275	0	1275		
		17-23	1230	45	1185		1185		
WR									
SR *	1st Jul 2015 to 31st Jul 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 400 kV Farakka-Malda D/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 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) 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

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Total Transfer Capability for July 2015**

Revision No	Date of Revision	Period of Revision	Reason for Revision	Corridor Affected
1	01-05-2015	Whole Month	Counter flow benefit on account of LTA/MTOA transactions in the reverse direction would be considered.	WR-NR/ ER-NR
2	16-06-2015	Whole month	Revised considering skewed sharing of flows on WR-NR and ER-NR corridor in the range 70:30	Import of NR
3	24-06-2015	Whole Month	Revised considering the present Maharashtra Demand pattern & STOA Margin revised due to Talcher Stage-2 Unit-3 Shut down and revised ISGS allocation.	WR-SR/ ER-SR
			Revised considering the present Maharashtra Demand pattern & STOA Margin revised due to revised ISGS allocation.	NR-WR
4	30-06-2015	Whole Month	Revised on account of addition of new elements in NER Grid and change in load-generation balance.	ER-NER/ NER-ER
5	01-07-2015	02/07/15 to 31/07/15	Revised considering present WR-NR and ER-NR Inter-regional flow pattern flow in the range 68:32	Import of NR
6	03-07-2015	04/07/15 to 31/07/15	STOA Margin revised due to Talcher Stage 2 Unit 3 Shut-Down Deferment.	ER-SR
7	03-07-2015	05-07-2015	Revised due to shutdown of 400 kV Ramagundam-Bhadrawati D/C	WR-SR
		04-07-2015	Revised due to shutdown of HVDC Rihand - Dadri pole 2	WR-NR/ Import of NR
8	10-07-2015	11-07-2015	Revised due to the shutdown of 765 kv Raichur-Sholapur-2	WR-SR
9	13-07-2015	14-07-2015	Revised due to shutdown of 765kV Pune-Sholapur S/C	WR-SR
10	15-07-2015	15/07/15 to 16/07/15	Revised due to extension of 765kV Pune-Sholapur S/C shutdown	WR-SR
11	16-07-2015	17-07-2015	Revised due to Outage of 765kV Pune-Sholapur S/C.	WR-SR

ASSUMPTIONS IN BASECASE					
				Month : July '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	10648	10926	4850	4895
2	Haryana	8025	7057	3604	3604
3	Rajasthan	6824	7876	5172	5172
4	Delhi	5444	4642	1337	1337
5	Uttar Pradesh	12767	13454	6515	6511
6	Uttarakhand	1635	1274	931	901
7	Himachal Pradesh	1250	1046	1002	1002
8	Jammu & Kashmir	2314	1814	601	613
9	Chandigarh	304	264	0	0
10	ISGS/IPPs	0	0	20522	19131
	Total NR	49210	48352	44535	43166
II	EASTERN REGION				
1	Bihar	2659	2094	220	160
2	Jharkhand	935	796	580	300
3	Damodar Valley Corporation	2552	2073	3540	3165
4	Orissa	4010	3139	2851	1994
5	West Bengal	7444	5912	4872	3912
6	Sikkim	86	54	0	0
7	Bhutan	105	106	1360	1200
8	ISGS/IPPs	582	609	10481	9814
	Total ER	18373	14784	23903	20545
III	WESTERN REGION				
1	Maharashtra	18440	12323	13220	6391
2	Gujarat	11496	7898	9424	6038
3	Madhya Pradesh	6912	4037	4061	1263
4	Chattisgarh	3419	2255	2252	1036
5	Daman and Diu	284	249	0	0
6	Dadra and Nagar Haveli	667	473	0	0
7	Goa-WR	468	297	0	0
8	ISGS/IPPs	1051	1056	21573	20297
	Total WR	42736	28588	50531	35025

IV	SOUTHERN REGION				
1	Andhra Pradesh	5767	5254	5273	5055
2	Telangana	6344	5779	2341	1682
3	Karnataka	7560	6737	7132	5372
4	Tamil Nadu	12916	10915	8695	7007
5	Kerala	3095	2036	1644	673
6	Pondy	316	247	0	0
7	Goa-SR	68	68	0	0
8	ISGS/IPPs	0	0	8410	8410
	Total SR	36066	31036	33495	28199
V	NORTH-EASTERN REGION				
1	Arunachal Pradesh	106	95	0	0
2	Assam	933	873	284	232
3	Manipur	116	100	0	0
4	Meghalaya	268	185	200	165
5	Mizoram	72	44	4	2
6	Nagaland	98	98	22	16
7	Tripura	274	172	110	110
8	ISGS/IPPs	7	7	1338	1281
	Total NER	1874	1574	1958	1806
	Total All India	148259	124334	154422	128741