

National Load Despatch Centre
Total Transfer Capability for August 2015

Issue Date: 09/08/2015

Issue Time: 1330 hrs

Revision No. 15

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 Aug 2015 to 31st Aug 2015	00-24	2500	500	2000	421	1579			
WR-NR*	1st Aug 2015 to 6th Aug 2015	00-17	5100	500	4600	5277	0			
		23-24	5100		4600		0			
	7th Aug 2015	00-18	5100	500	4600	5277	0			
		18-24	4900		4400		0			
	8th Aug 2015	00-17	4900	500	4400	5277	0			
		23-24	4900		4400		0			
	9th Aug 2015 to 17th Aug 2015	00-17	4650	500	4150	5277	0			
		23-24	4650		4150		0			
	18th Aug 2015 to 31st Aug 2015	00-17	4650	500	4150	5277	0			
		23-24	4650		4150		0			
	NR-ER*	1st Aug 2015 to 31st Aug 2015	00-06	2000	200	1800	293	1507		
			06-18'	2000		1800	358	1442		
18-24			2000	1800		293	1507			
ER-NR*	1st Aug 2015 to 31st Aug 2015	00-17	4800	300	4500	2431	2069			
		23-24	4800		4500		2069			
W3-ER ^s	1st Aug 2015 to 31st Aug 2015	00-24	No limit is being specified. No Re-routing is allowed via W3-ER-NR.							
ER-W3	1st Aug 2015 to 31st Aug 2015	00-24	1000	300	700	874	0			
WR-SR	1st Aug 2015	00-05	2700	750	1950	1550	400			
		05-07'	2300		1550	1550	0			
		07-22'	2300		1550	1550	0			
		22-24	2700		1950	1550	400			
	2nd Aug 2015	00-05	2700	750	1950	1550	400			
		05-22'	2300		1550	1550	0			
		22-24	2700		1950	1550	400			
	3rd Aug 2015	00-05	2700	750	1950	1550	400			
		05-08'	2300		1550	1550	0			
		08-22'	1000	0	1000	1550	0			
		22-24	1000		1000	1550	0			
	4th Aug 2015	00-05	2700	750	1950	1550	400			
		05-22'	2300		1550	1550	0			
		22-24	2700		1950	1550	400			
	5th Aug 2015	00-05	2700	750	1950	1550	400			
		05-07'	2300		2300	1550	0			
		07-22	1000	0	1000	1550	0			
		22-24	1000		1000	1550	0			
	6th Aug 2015 to 8th Aug 2015	00-05	2700	750	1950	1550	400			
		05-22'	2300		1550	1550	0			
		22-24	2700		1950	1550	400			
	9th Aug 2015	00-05	2700	750	1950	1550	400			
		05-06'	2300		1550	1550	0			
		06-22'	1000	0	1000	1550	0			
22-24		1000	1000		1550	0				
10th Aug 2015	00-05	2700	750	1950	1550	400				
	05-22'	2100		1350	1550	0				
	22-24	2500		1750	1550	200				
11th Aug 2015 to 31st Aug 2015	00-05	2700	750	1950	1550	400				
	05-22'	2300		1550	1550	0				
	22-24	2700		1950	1550	400				
SR-WR *	1st Aug 2015 to 31st Aug 2015	00-24	No limit is being Specified.							
ER-SR	1st Aug 2015 to 3rd Aug 2015	00-06	2650	0	2650	2300	350			
		18-24				2365	285			
	06-18'									
4th Aug 2015 to 19th Aug 2015	00-06	2650	0	2650	1857	793				
	18-24				1922	728				
06-18'										
20th Aug 2015 to 31st Aug 2015	00-06	2650	0	2650	2300	350				
	18-24				2365	285				
06-18'										
SR-ER *	1st Aug 2015 to 31st Aug 2015	00-24	No limit is being Specified.							

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ER-NER	1st Aug 2015 to 31st Aug 2015	00-17	1000	40	960	210	750		
		23-24	1030		990		780		
NER-ER	1st Aug 2015 to 31st Aug 2015	00-17	1310	30	1280	0	1280		
		23-24	1300		1260		1260		
S1-S2	1st Aug 2015 to 31st Aug 2015	00-24	S1-S2 corridor TTC/ATC is uploaded on NLDC website under Intra-Regional Section in Monthly ATC.						
Import of Punjab	1st Aug 2015 to 31st Aug 2015	00-24	Import of Punjab TTC/ATC is uploaded on NLDC website under Intra-Regional Section in Monthly ATC.						
Import of DD & DNH	1st Aug 2015 to 31st Aug 2015	00-24	Import of DD & DNH TTC/ATC is uploaded on NLDC website under Intra-Regional Section in Monthly ATC.						
W3 zone Injection	1st Aug 2015 to 4th Aug 2015	00-17	9400	200	9200	7236	1964		
		23-24	9900		9700		2464		
	5th Aug 2015 to 9th Aug 2015	00-17	9400	200	9200	7576	1624		
		23-24	9900		9700		2124		
	10th Aug 2015 to 31st Aug 2015	00-17	9400	200	9200	7576	1624		
		23-24	9900		9700		2124		

* 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 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 :

- The TTC value will be revised to normal values after restoration of shutdown.
- 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 Biharsharif- 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 400/220 kV, 2x315 MVA ICTs at Misa results in high loading of other 400/220 kV, 315 MVA ICT at Misa
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
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 Aug 2015 to 31st Aug 2015	00-05 08-24	7500	800	6700	7708	0		
		05-08'	8000		7200		0		
NER	1st Aug 2015 to 31st Aug 2015	00-17 23-24	1000	40	960	210	750		
		17-23	1030		990		780		
WR									
SR	1st Aug 2015	00-05	5350	750	4600	3850	750		
		05-06'	4950		4200	3850	350		
		06-07'	4950		4200	3915	285		
		07-18'	4950		4200	3915	285		
		18-22'	4950		4200	3850	350		
		22-24	5350	4600	3850	750			
	2nd Aug 2015	00-05	5350	750	4600	3850	750		
		05-06'	4950		4200	3850	350		
		06-18'	4950		4200	3915	285		
		18-22'	4950		4200	3850	350		
		22-24	5350		4600	3850	750		
	3rd Aug 2015	00-05	5350	750	4600	3850	750		
		05-06'	4950		4200	3850	350		
		06-08'	4950		4950	3915	1035		
		08-18'	3650		3650	3915	0		
		18-22'	3650		3650	3850	0		
		22-24	3650	3650	3850	0			
	4th Aug 2015	00-05	5350	750	4600	3407	1193		
		05-06'	4950		4200	3407	793		
		06-18'	4950		4200	3472	728		
		18-22'	4950		4200	3407	793		
		22-24	5350		4600	3407	1193		
	5th Aug 2015	00-05	5350	750	4600	3407	1193		
		05-06'	4950		4200	3407	793		
		06-07'	4950		4950	3472	1478		
		07-18'	3650		2900	3472	-572		
		18-22'	3650		2900	3407	-507		
		22-24	3650	2900	3407	-507			
	6th Aug 2015 to 8th Aug 2015	00-05	5350	750	4600	3407	1193		
		05-06'	4950		4200	3407	793		
		06-18'	4950		4200	3472	728		
		18-22'	4950		4200	3407	793		
		22-24	5350		4600	3407	1193		
	9th Aug 2015	00-05	5350	750	4600	3407	1193		
		05-06'	4950		4200	3407	793		
		06-18'	3650		3650	3472	178		
		18-22'	3650		3650	3407	243		
		22-24	3650		3650	3407	243		
	10th Aug 2015	00-05	5350	750	4600	3407	1193		
		05-06'	4750		4000	3407	593		
		06-18'	4750		4000	3472	528		
		18-22'	4750		4000	3407	593		
		22-24	5150		4400	3407	993		
	11th Aug 2015 to 19th Aug 2015	00-05	5350	750	4600	3407	1193		
		05-06'	4950		4200	3407	793		
		06-18'	4950		4200	3472	728		
		18-22'	4950		4200	3407	793		
		22-24	5350		4600	3407	1193		
20th Aug 2015 to 31st Aug 2015	00-05	5350	750	4600	3850	750			
	05-06'	4950		4200	3850	350			
	06-18'	4950		4200	3915	285			
	18-22'	4950		4200	3850	350			
	22-24	5350		4600	3850	750			

-200 Revised due to shutdown of 765 kV Sholapur-Pune

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 Aug 2015 to 31st Aug 2015	00-06	4500	700	3800	714	3086		
		06-18'			3800	779	3021		
		18-24	4500		3800	714	3086		
NER	1st Aug 2015 to 31st Aug 2015	00-17	1310	30	1280	0	1280		
		23-24	1300	40	1260		1260		
WR									
SR *	1st Aug 2015 to 31st Aug 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 Biharsharif- 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.
NER	Import	(n-1) contingency of 400 kV Saranath-Pusauli
	Export	(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
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

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

Revision No	Date of Revision	Period of Revision	Reason for Revision	Corridor Affected
1	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
2	29-06-2015	1-8-15 - 21-8-15	LTA/MTOA revised due to Talcher Stage 2 Unit 3 Shut-Down and Jhajjar Re-Allocation	ER-SR / NR-WR
		22-8-15 - 31-8-15	LTA/MTOA revised due to Jhajjar Re-Allocation	
3	16-07-2015	1-8-15 - 21-8-15	STOA Margin revised due to deferment of Talcher Stage 2 Unit 3 Shut-Down.	ER-SR
4	20-07-2015	Whole month	STOA Margin revised considering CERC order dated 03-07-2015 in petition No- 92/MP/2015 which is under implementation by CTU. Pending this any margins would be released for short term transactions on day ahead basis.	ER-SR
5	27-07-2015	Whole month	Revised considering the present Maharashtra demand pattern.	WR-SR
6	31-07-2015	01-08-2015	Revised due to shutdown of 400kV Ramagundam-Bhadrawati Ckt-1.	WR-SR
		Whole month	Revised considering present WR-NR and ER-NR Inter-regional flow pattern flow in the range 68:32	Import of NR
7	31-07-2015	01-08-2015	Revised due to cancellation of 400kV Ramagundam-Bhadrawati Ckt-1 shutdown by indenting agency.	WR-SR
8	02-08-2015	03-08-2015	Revised due to shutdown of 765 kV Sholapur-Raichur-2	WR-SR
9	03-08-2015	4-8-15 - 19-8-15	STOA Margin revised due to shutdown of Talcher Stage-2 Unit-3.	ER-SR
10	04-08-2015	5-8-15 - 31-8-15	STOA Margin revised due to Operationalization of LTA.	W3
11	04-08-2015	05-08-2015	Due to the shutdown of 765 kV Raichur-Shoalpur-2	WR-SR
12	07-08-2015	7-8-15 - 17-8-15	Revised due to Overloading of 400kV SSP-Asoj S/C (Note: At present, due to Outage of Vindhyaachal HVDC Block TTC was further reduced by 250MW).	WR-NR
13	08-08-2015	08-09-2015	Revised due to the shutdown of 400 kV Parli(PG)-Sholapur(PG) D/C	WR-SR
14	07-08-2015	9-8-15 - 31-8-15	Revised due to Outage of Vindhyaachal HVDC Block-1	WR-NR
15	09-08-2015	10-08-2015	Revised due to shutdown of 765 kV Sholapur-Pune	WR-SR

ASSUMPTIONS IN BASECASE					
				Month : August '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	8713	8161	4857	4826
2	Haryana	8363	7722	3103	3103
3	Rajasthan	9308	8711	5400	5399
4	Delhi	5197	4629	1251	1251
5	Uttar Pradesh	13078	14381	6632	6641
6	Uttarakhand	1707	1599	775	698
7	Himachal Pradesh	1212	1081	1132	1137
8	Jammu & Kashmir	2252	1650	634	589
9	Chandigarh	304	250	0	0
10	ISGS/IPPs	0	0	20759	19350
	Total NR	50134	48182	44543	42994
II	EASTERN REGION				
1	Bihar	2295	1977	210	110
2	Jharkhand	898	692	499	404
3	Damodar Valley Corporation	2555	2323	3100	3043
4	Orissa	3491	2769	2847	2160
5	West Bengal	6943	6534	4946	3576
6	Sikkim	80	40	0	0
7	Bhutan	107	107	1170	1000
8	ISGS/IPPs	607	607	10535	9591
	Total ER	16976	15049	23307	19884
III	WESTERN REGION				
1	Maharashtra	18462	13082	12556	7174
2	Gujarat	13136	8742	10115	6180
3	Madhya Pradesh	7004	4347	3935	2521
4	Chattisgarh	3488	2084	2491	1036
5	Daman and Diu	287	250	0	0
6	Dadra and Nagar Haveli	675	640	0	0
7	Goa-WR	474	286	0	0
8	ISGS/IPPs	1059	1059	23713	21391
	Total WR	44585	30489	52810	38302

IV	SOUTHERN REGION				
1	Andhra Pradesh	6293	6002	5623	5039
2	Telangana	6866	6242	2944	2103
3	Karnataka	7897	6360	7633	5727
4	Tamil Nadu	13380	11277	8916	7189
5	Kerala	3271	1992	1694	693
6	Pondy	336	273	0	0
7	Goa-SR	69	69	0	0
8	ISGS/IPPs	0	0	8665	8530
	Total SR	38112	32215	35475	29281
V	NORTH-EASTERN REGION				
1	Arunachal Pradesh	134	100	0	0
2	Assam	1070	1003	284	242
3	Manipur	133	124	0	0
4	Meghalaya	305	205	198	148
5	Mizoram	71	44	4	3
6	Nagaland	111	115	21	16
7	Tripura	270	170	110	110
8	ISGS/IPPs	7	7	1554	1464
	Total NER	2101	1768	2171	1983
	Total All India	151909	127703	158306	132444