

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

Issue Date: 26/07/2014

Issue Time: 1030 hrs

Revision No. 3

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 August 2014 to 31st August 2014	00-24	2500	500	2000	651	1349		STOA Margin revised on account of change in LTA/Allocation
WR-NR	1st August 2014 to 31st August 2014	00-17	4900	500	4400	4380	20	200	Revised due to commissioning of contingency arrangement of one 500 MW Vindhyachal (Unit-12) with 400kV Vindhyachal-Rihand line.
		17-23	4900		4400		20		
NR-ER*	1st August 2014 to 31st August 2014	00-06	1000	200	800	293	507		
		06-17'			800	338	462		
		17-18'	1100		900	338	562		
		18-23			900	293	607		
		23-24	1000		800	293	507		
ER-NR	1st August 2014 to 31st August 2014	00-17	3400	300	3100	2431	669	-1200	Revised due to change in Load generation Balance and Transit flows on ER-WR-NR.
		17-23					669		
W3-ER ^s	1st August 2014 to 31st August 2014	00-24	1700	300	1400	705	695		STOA Margin revised on account of change in LTA/Allocation.
ER-W3	1st August 2014 to 31st August 2014	00-24	1000	300	700	874	0		
WR-SR	1st August 2014 to 31st August 2014	00-24	1800	600	1200	1200	0	800	Revised due to commissioning of 765kV Sholapur-Raichur Circuit-2 and 765kV Wardha-Aurangabad D/C.
SR-WR *	1st August 2014 to 31st August 2014	00-24	No limit is being Specified.						
ER-SR	1st August 2014 to 8th August 2014	00-06	2650	0	2650	2077	573		STOA Margin revised due to Maintenance Schedule of Talcher stage-2 Unit-5.
		18-24				2122	528		
	9th August 2014 to 31st August 2014	00-06	2650	0	2650	2520	130		STOA Margin revised on account of change in LTA/Allocation.
		18-24				2565	85		
SR-ER *	1st August 2014 to 31st August 2014	00-24	No limit is being Specified.						
ER-NER	1st August 2014 to 31st August 2014	00-17	645	50	595	205	390	115	Revised due to change in Load-Generation balance and major network change due to commissioning of 400/220 kV Azara (Kukurmara) substation.
		17-23	600		550		345	110	
NER-ER	1st August 2014 to 31st August 2014	00-17	500	100	400	0	400		
		17-23	490		390		390		
S1-S2	1st August 2014 to 3rd August 2014	00-24	2415	295	2120	2314	0	-105	Revised considering (a) 800MW generation at Vallur (b) 2nd Unit at NCTPS.
	4th August 2014	00-24	2415	295	2120	2403	0	-105	
	5th August 2014 to 8th August 2014	00-24	2415	295	2120	2314	0	-105	
	9th August 2014 to 14th August 2014	00-24	2415	295	2120	2548	0	-105	
	15th August 2014 to 22nd August 2014	00-24	2675	295	2380	2635	0	155	Revised considering planned outage of Vallur Unit-2.
	23rd August 2014 to 24th August 2014	00-24	2640	295	2345	2624	0	120	Revised considering planned outage of Vallur Unit-1.
	25th August 2014 to 31st August 2014	00-24	2640	295	2345	2834	0	120	Revised considering planned outage of Vallur Unit-1.

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Import of Punjab	1st August 2014 to 31st August 2014	00-24	5700	300	5400	3790	1610	100	Revised due to augmentation/modifications in Punjab control area network.
Import TTC for DD & DNH	1st August 2014 to 31st August 2014	00-24	1200	0	1200	LTA and MTOA as per ex-pp schedule		220	Revised due to commissioning of 400/220KV 2X315MVA ICT at Kala S/S along with 220kV Kala-Sayali and 220KV Kala-Khadoli lines.
W3 zone Injection	1st August 2014 to 31st August 2014	00-17	9000	200	8800	6900	1900		
		23-24	9500		9300		2400		
		17-23							

* 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) 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 Viduyt

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 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-Pusauli
ER-NR	High loading of 765 kV Agra-Gwalior (1250 MW SPS setting on each circuit of 765 kV Gwalior-Agra) due to transit flows on ER-WR-NR corridor.
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 400kV Parli(PG)-Sholapur(PG) D/C
	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	(n-1) contingency of 400 kV Balipara – Bongaigaon D/C leading to thermal loading of 220kV BTPS-Agia
NER-ER	(n-1) contingency of 400/220 kV, 2x315 MVA ICTs at Misa
S1-S2	(n-1) contingency 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	(n-1-1) contingency of 400 kV Raipur-Bhadrawati D/C section and High loading of 400kV Raipur-Wardha (800 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 August 2014 to 31st August 2014	00-17 23-24	8300	800	7500	6811	689	-1000	Revised due to contingency arrangement of one 500 MW Vindhyachal (Unit-12) with 400kV Vindhyachal-Rihand line.
		17-23	8300		7500		689		
NER	1st August 2014 to 31st August 2014	00-17 23-24	645	50	595	205	390	115	Revised due to change in Load-Generation balance and major network change due to commissioning of 400/220 kV Azara (Kukurmara) substation.
		17-23	600		550		345	110	
WR									
SR	1st August 2014 to 8th August 2014	00-06 18-24	4450	600	3850	3277	573	800	Revised due to commissioning of 765kV Sholapur-Raichur Circuit-2 and 765kV Wardha-Aurangabad D/C and STOA Margin revised (01/08-08/08) due to Maintenance Schedule of Talcher stage-2 Unit-5.
		06-18'	4450		3850	3322	528		
	9th August 2014 to 31st August 2014	00-06 18-24	4450	600	3850	3720	130		
		06-18'	4450		3850	3765	85		

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 August 2014 to 31st August 2014	00-06	3500	700	2800	590	2210		
		06-17'			2800	635	2165		
		17-18'	3600		2900	635	2265		
		18-23			2900	590	2310		
		23-24			2800	590	2210		
NER	1st August 2014 to 31st August 2014	00-17 23-24	500	100	400	0	400		
		17-23	490		390		390		
WR									
SR *	1st August 2014 to 31st August 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	Import	High loading of 765 kV Agra-Gwalior (1250 MW SPS setting on each circuit of 765 kV Gwalior-Agra) due to transit flows on ER-WR-NR corridor. 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 Allahabad-Pusaali
NER	Import	(n-1) contingency of 400 kV Balipara – Bongaigaon D/C leading to thermal loading of 220kV BTPS-Agia S/C
	Export	(n-1) contingency of 400/220 kV, 2x315 MVA ICTs at Misa
SR	Import	1. (n-1) contingency of 400kV Parli(PG)-Sholapur(PG) D/C 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.

*Primary constraints

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Revision No	Date of Revision	Period of Revision	Reason for Revision	Corridor Affected
1	26-05-2014	Whole Month	Refer to explanatory notes regarding the change in TTC representation given in the last page.	ER-SR/ S1-S2
			Re-Routing of transactions on West-East-North Corridor discontinued on account of Inter-Regional Loop flows leading to physical congestion on WR-NR	W3-ER
2	13-06-2014	Whole Month	Revised due to change in Load Generation Balance and Commissioning of Sasan Unit-1.	WR-NR
3	26-07-2014	Whole Month	Revised due to commissioning of contingency arrangement of one 500 MW Vindhyachal (Unit-12) with 400kV Vindhyachal-Rihand line.	WR-NR
			Revised due to change in Load generation Balance and Transit flows on ER-WR-NR.	ER-NR
			Revised due to commissioning of 765kV Sholapur-Raichur Circuit-2 and 765kV Wardha-Aurangabad D/C.	WR-SR
			Revised considering (a) 800MW generation at Vallur (b) 2nd Unit at NCTPS.	S1-S2
			Revised due to commissioning of 400/220KV 2X315MVA ICT at Kala S/S along with 220kV Kala-Sayali and 220KV Kala-Khadoli lines	Import of DD & DNH
			Revised due to change in Load-Generation balance and major network change due to commissioning of 400/220 kV Azara (Kukurmara) substation.	ER-NER
			Revised due to augmentation/ modifications in Punjab control area network.	Import of Punjab

ASSUMPTIONS IN BASECASE

Month : Aug '14

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	8684	8580	2899	2882
2	Haryana	7640	7545	3372	3372
3	Rajasthan	7336	7246	5231	5267
4	Delhi	4819	4516	1296	1296
5	Uttar Pradesh	11500	11688	6015	5961
6	Jammu & Kashmir	2082	1961	576	568
7	Uttarakhand	1696	1577	887	834
8	Himachal Pradesh	1449	1431	849	830
9	Chandigarh	283	201	0	0
10	ISGS/PPs			19407	18615
	Total NR	45489	44745	40532	39625
II	EASTERN REGION				
1	West Bengal	6713	5052	4765	3347
2	Jharkhand	1059	753	365	365
3	Orissa	3700	3261	3049	2512
4	Bihar	2167	1706	80	80
5	Damodar Valley Corporation	2325	2308	3524	3029
6	Sikkim	85	50	0	0
7	Bhutan	108	108	1425	1425
8	ISGS/PPs	300	300	9298	9070
	Total ER	16457	13538	22506	19828
III	WESTERN REGION				
1	Chattisgarh	2767	2215	1732	1326
2	Madhya Pradesh	6327	4793	4795	3686
3	Maharashtra	16000	12658	10208	6620
4	Gujarat	12030	9845	9648	7181
5	Goa	432	310		
6	Daman and Diu	284	191		
7	Dadra and Nagar Haveli	681	632		
8	ISGS/PPs	1255	1255	18016	17237
	Total WR	39776	31899	44399	36050

ASSUMPTIONS IN BASECASE

Month : Aug '14

S.No.	Name of State/Area	Load		Generation	
		Peak Load (MW)	Off Peak Load (MW)	Peak (MW)	Off Peak (MW)
IV	SOUTHERN REGION				
1	Andhra Pradesh	10892	9690	8223	6905
2	Tamil Nadu	11102	9769	7303	5712
3	Karnataka	7629	6617	7055	5681
4	Kerala	2963	2328	1651	1094
5	Pondy	310	274	0	0
6	Goa	80	80	0	0
7	ISGS/IPPs			8979	8978
	Total SR	32976	28758	33211	28370
V	NORTH-EASTERN REGION				
1	Arunachal Pradesh	95	63		
2	Assam	1083	829	250	220
3	Manipur	110	77		
4	Meghalaya	260	182	210	120
5	Mizoram	75	52	12	4
6	Nagaland	100	77	24	18
7	Tripura	250	125	110	110
8	ISGS/IPPs			1310	966
	Total NER	1973	1405	1916	1438
	Total All India	136671	120345	142564	125311