

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

Issue Date: 03/08/2014

Issue Time: 1500 hrs

Revision No. 6

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		
WR-NR	1st August 2014	00-17	4900	500	4400	4380	20		
		23-24	4900		4400		20		
	2nd August 2014	00-1215	4900	500	4400	4380	20		
		1215-24	3950		3450		0		
	3rd August 2014 to 31st August 2014	00-17	4900	500	4400	4380	20		
		23-24	4900		4400		20		
		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 23-24 17-23	3400	300	3100	2431	669 669		
W3-ER [§]	1st August 2014 to 31st August 2014	00-24	1700	300	1400	697	703		
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	2100	750	1350	1350	0		
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	2069	581		
		18-24				2114	536		
	9th August 2014 to 31st August 2014	00-06	2650	0	2650	2512	138		
		18-24				2557	93		
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 23-24 17-23	645	50	595	205	390 345		
NER-ER	1st August 2014 to 31st August 2014	00-17 23-24 17-23	500	100	400	0	400 390		
S1-S2	1st August 2014	00-24	2415	295	2120	2525	0		
	2nd August 2014	00-13	2415	295	2120	2525	0		
		13-24	2700		2405		0		
	3rd August 2014	00-24	2700	295	2405	2525	0		
	4th August 2014	00-24	2700	295	2405	2614	0	285	
	5th August 2014	00-12	2700	295	2405	2525	0	285	Revised due to extended outage of NCTPS Unit-1
		12'-24	2415		2120	2525	0	0	
	6th August 2014 to 8th August 2014	00-24	2415	295	2120	2525	0		
	9th August 2014 to 14th August 2014	00-24	2415	295	2120	2759	0		
	15th August 2014 to 22nd August 2014	00-24	2675	295	2380	2846	0		
23rd August 2014 to 24th August 2014	00-24	2640	295	2345	2835	0			
25th August 2014 to 31st August 2014	00-24	2640	295	2345	3045	0			

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Import of Punjab	1st August 2014 to 31st August 2014	00-24	5700	300	5400	3790	1610		
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			
W3 zone Injection	1st August 2014 to 31st August 2014	00-17	9000	200	8800	7250	1550		
		23-24			9300		2050		
		17-23	9500						

* 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) KWPC, 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.

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-Pusaali
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 S/C
NER-ER	(n-1) contingency of 400/220 kV, 2x315 MVA ICTs at Misa
SI-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	00-17	8300	800	7500	6811	689		
		23-24	8300		7500		689		
	2nd August 2014	00-17	8300	800	7500	6811	689		
		23-24	7350		6550		0		
	3rd August 2014 to 31st August 2014	00-17	8300	800	7500	6811	689		
		23-24	8300		7500		689		
NER	1st August 2014 to 31st August 2014	00-17	645	50	595	205	390		
		23-24	600		550		345		
WR									
SR	1st August 2014 to 8th August 2014	00-06	4750	750	4000	3419	581		
		18-24	4750		4000		536		
	9th August 2014 to 31st August 2014	00-06	4750	750	4000	3862	138		
		18-24	4750		4000		93		

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		
		17-18'	3600		2900	590	2265		
		18-23			2900		2310		
		23-24			2800		2210		
NER	1st August 2014 to 31st August 2014	00-17	500	100	400	0	400		
		23-24	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-Pusauli
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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Total Transfer Capability for August 2014**

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
4	30-07-2014	Whole Month	Revised based on further simulation. The LTA/MTOA figures are based on allocations, Talcher-II planned outage and the meetings on TTC/ATC taken by CTU on 24th and 30th Jul 2014. Any margins on account of less LTA/MTOA would be offered on day ahead basis.	WR-SR/ ER-SR
			STOA Margin revised due change in LTA/ MTOA/ Allocation.	ER-SR/ S1-S2
5	02-08-2014	02-08-2014	Revised due to Emergency shutdown of Rihand-Dadri Pole-2	WR-NR
		02/08/14 - 03/08/14	Revised due to tripping of NCTPS Unit-1	S1-S2
6	03-08-2014	04/08/14 - 05/08/14	Revised due to extended outage of NCTPS Unit-1	S1-S2

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