

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

Issue Date: 08/06/2014

Issue Time: 1400 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 June 2014 to 30th June 2014	00-24	2500	500	2000	297	1703		
WR-NR	1st June 2014 to 07th June 2014	00-17	4700	500	4200	4380	0		Revised due to forced outage of HVDC Mundra-Mohindergarh Pole 2
		23-24	4700		4200		0		
	08th June 2014	00-17	3950	500	3450	4380	0		
		23-24	3950		3450		0		
	09th June 2014	00-17	3950	500	3450	4380	0	-750	
		23-24	3950		3450		0		
	10th June 2014 to 30th June 2014	00-17	4700	500	4200	4380	0		
		23-24	4700		4200		0		
NR-ER*	1st June 2014 to 30th June 2014	00-06	1000	200	800	293	507		
		06-17'			800	423	377		
		17-18'	1100		900	423	477		
		18-23			900	293	607		
		23-24	1000		800	293	507		
		ER-NR [§]	1st June 2014 to 6th June 2014		00-17	4000	300		3700
23-24	1269								
7th June 2014	00-07'		4000	300	3700	2431	1269		
	07-24'		2300		2000		0		
8th June 2014 to 11th June 2014	00-24'		2300	300	2000	2431	0		
12th June 2014	00-07'		4000	300	3700	2431	1269		
	07-24'		2300		2000		0		
13th June 2014 to 30th June 2014	00-17		4000	300	3700	2431	1269		
	23-24						1269		
			17-23				1269		
W3-ER [§]	1st June 2014 to 30th June 2014	00-24	1800	300	1500	551	949		
ER-W3	1st June 2014 to 30th June 2014	00-24	1000	300	700	874	0		
WR-SR	1st June 2014 to 30th June 2014	00-24	1000	0	1000	1000	0		
SR-WR *	1st June 2014 to 30th June 2014	00-24	1000	0	1000	0	1000		
ER-SR	1st June 2014 to 2nd June 2014	00-06	2650	0	2650	2158	492		
		18-24					2203		447
	3rd June 2014	00-07	2650	0	2650	2158	492		
		07-18'	2350		2350		147		
		18-24'	2350		2350		2158		192
	4th June 2014 to 6th June 2014	00-06	2650	0	2650	2158	492		
		18-24					2203		447
	7th June 2014	00-05	2650	0	2650	2158	492		
		05-06'	2350		2350		158		
		06-24'	2350		2350		2203		147
	8th June 2014 to 30th June 2014	00-06	2650	0	2650	2158	492		
		18-24					2203		447
SR-ER *	1st June 2014 to 30th June 2014	00-17	1100	0	1100	197	903		
		23-24					903		
		17-23				903			

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ER-NER	1st June 2014 to 30th June 2014	00-06	645	50	595	205	390		
		06-17	645		595	210	385		
		17-18	580		530	210	320		
		18-23	580		530	205	325		
		23-24	645		595	205	390		
NER-ER	1st June 2014 to 30th June 2014	00-17	500	100	400	0	400		
		23-24	500		350		350		
		17-23	450						
S1-S2	1st June 2014 to 13th June 2014	00-24	2640	295	2345	2139	206		
	14th June 2014 to 15th June 2014	00-24	2640	295	2345	2340	5		
	16th June 2014 to 30th June 2014	00-24	2920	295	2625	2449	176		
Import of Punjab	1st June 2014 to 30th June 2014	00-24	5700	300	5400	3790	1610		
Import TTC for DD & DNH	1st June 2014 to 30th June 2014	00-24	980	0	980	LTA and MTOA as per ex-pp schedule			
W3 zone Injection	1st June 2014 to 30th June 2014	00-17	9400	200	9200	7050	2150		
		23-24	9400		9700		2650		
		17-23	9900						

* 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) KWPCL, 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 :

- 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 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	(n-1) contingency of 400kV Farakka –Malda D/C
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. Commissioning of 765kV Raichur-Sholapur S/C 2. Based on the operational experience after the synchronization of SR grid with NEW grid and due to inadvertent variation of 765kV Raichur-Sholapur line flow, observation of Low Frequency Oscillations(LFO) 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.
SR-WR	Bhadrawati HVDC B/B link capacity
SR-ER	(n-1) and (n-1-1) contingencies of 400kV Talcher-Rourkela D/C
ER-NEER	(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
S1-S2	(n-1) contingency of 400 kV Kolar-Hosur D/C
Import of Punjab	(n-1) contingency of ICT at Dhuri and (n-1) contingency of 220kV Moga(PG)-Moga(PTCL)
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 June 2014 to 6th June 2014	00-17 23-24	8700	800	7900	6811	1089			
		17-23	8700		7900		1089			
	7th June 2014	00-07	8700	800	7900	6811	1089			
		07-24'	7000		6200		0			
	8th June 2014	00-24'	6250	800	5450	6811	0			
	9th June 2014	00-24'	6250	800	5450	6811	0	-750	Revised due to forced outage of HVDC Mundra-Mohindergarh Pole 2	
	10th June 2014 to 11th June 2014	00-24'	7000	800	6200	6811	0			
	12th June 2014	00-07'	8700	800	7900	6811	1089			
		07-24'	7000		6200		0			
	13th June 2014 to 30th June 2014	00-17 23-24	8700	800	7900	6811	1089			
		17-23	8700		7900		1089			
	NER	1st June 2014 to 30th June 2014	00-06	645	50	595	205	390		
			06-17'	645		595	210	385		
			17-18	580		530	210	320		
18-23			580	530		205	325			
23-24			645	595		205	390			
WR										
SR	1st June 2014 to 2nd June 2014	00-06 18-24	3650	0	3650	3158	492			
		06-18'	3650		3650	3203	447			
	3rd June 2014	00-07	3650	0	3650	3158	492			
		07-18'	3350		3350	3203	147			
		18-24'	3350		3350	3158	192			
	4th June 2014 to 6th June 2014	00-06 18-24	3650	0	3650	3158	492			
		06-18'				3203	447			
	7th June 2014	00-05	3650	0	3650	3158	492			
		05-06'	3350		3350	3158	192			
		06-24'	3350		3350	3203	147			
	8th June 2014 to 30th June 2014	00-06 18-24	3650	0	3650	3158	492			
		06-18'				3203	447			

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 June 2014 to 30th June 2014	00-06	3500	700	2800	590	2210		
		06-17'	3500		2800	720	2080		
		17-18	3600		2900	720	2180		
		18-23	3600		2900	590	2310		
		23-24	3500		2800	590	2210		
NER	1st June 2014 to 30th June 2014	00-17	500	100	400	0	400		
		23-24					350		
		17-23	450		350				
WR									
SR*	1st June 2014 to 30th June 2014	00-17	2100	0	2100	197	1903		
		23-24			2100		1903		
		17-23	2100				1903		

* 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 one circuit of 400kV 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 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. Commissioning of 765kV Raichur-Sholapur S/C 2. Based on the operational experience after the synchronization of SR grid with NEW grid and due to inadvertent variation of 765kV Raichur-Sholapur line flow, observation of Low Frequency Oscillations(LFO). 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.
	Export	(n-1) and (n-1-1) contingencies of 400kV Talcher-Rourkela D/C

*Primary constraints

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Revision No	Date of Revision	Period of Revision	Reason for Revision	Corridor Affected
1	25.03.2014	Whole Month	Margin revised due to withdrawal/cancellation of 150 MW MTOA from Corporate Power Limited	ER-SR
			Re-Routing of transactions on West-East-North Corridor discontinued on account of Inter-Regional Loop flows leading to physical congestion on WR-NR.	WR-NR/ ER-NR
			Margin Revised due to correction in LTA/MTOA figure.	NR-WR
2	04-01-2014	Whole Month	Margin revised due to grant of 150 MW LTA towards SR from NEW grid and grant of 208 MW LTA to TANGEDCO	ER-SR / S1-S2
3	04-04-2014	Whole Month	Margin revised due to grant of 69 MW LTA to Jindal Power Limited Tamnar	W3/ ER-SR
4	04-11-2014	Whole Month	Margin revised due to correction of LTA. 69 MW LTA Quantum inadvertently added in the last revision. Quantum inadvertently added in the last revision	ER-SR
5	05-01-2014	Whole Month	Margin revised due to incorporation of existing Power Allocation.	NR-WR
			Margin revised due to Commissioning of Sasan Unit-4.	WR-NR
			Margin revised due to incorporation of existing Solar Power Allocation to SR, ER, NER constituents between 6 hrs -18 hrs in LTA figures and allocation data available on RPCs RTA/REA.	NR-ER
			Margin revised considering the LTA/MTOA allocation available in RPCs RTA/REA.	ER-NR/ ER- W3
			Margin revised due to incorporation of existing LTA/MTOA allocation available in RPCs RTA/REA and Re-routing of existing MTOA granted by CTU.	W3-ER
			Margin revised due to incorporation of existing Solar Power Allocation to Karnataka between 6 hrs-18 hrs in LTA figures.	ER-SR
			Margin revised considering the LTA/MTOA allocation available in RPCs RTA/REA and due to incorporation of existing Solar Power Allocation to Assam.	ER-NER
			Revised due to Allocation of 150 MW TANGEDCO.	S1-S2
			Margin revised due to incorporation of existing LTA/MTOA allocation available in RPCs RTA/REA and existing MTOA granted by CTU.	W3 zone Injection
			Revised due to augmentation/ modifications in Punjab control area network.	Import of Punjab

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6	23/5/2014	Whole Month	Refer to explanatory notes regarding the change in TTC representation given in the last page.	ER-SR/ S1-S2
7	31/5/2014	Whole Month	Revised due to change in Load Generation Balance and Commissioning of Sasan Unit-1.	WR-NR
			Revised due to change in Load Generation Balance	ER-NR/ ER-NER
			Revised due to change in Load Generation Balance.	W3 zone Injection
8	02-06-2014	03-06-2014	Revised due to shutdown of 400 kV Meramundali-Angul.	ER-SR
9	06-06-2014	07-06-2014	Revised due to shutdown of 400 kV GMR-Meramundali and 400 kV Talcher-Meramundali	ER-SR
		07-06-2014 to 11-06-2014	Revised due to shutdown of 400 kV Kahalgaon - Barh ckt 2	ER-NR
		12-06-2014	Revised due to shutdown of 400 kV Kahalgaon - Barh ckt 1	
10	07-06-2014	08-06-2014	Revised due to forced outage of HVDC Mundra-Mohindergarh Pole 2	WR-NR
11	08-06-2014	09-06-2014	Revised due to forced outage of HVDC Mundra-Mohindergarh Pole 2	WR-NR

ASSUMPTIONS IN BASECASE

Month : June '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	4471	4200	1608	1515
2	Haryana	5334	4220	1056	1117
3	Rajasthan	7448	7777	5583	5384
4	Delhi	3961	3666	681	728
5	Uttar Pradesh	10552	10484	5594	5815
6	Jammu & Kashmir	1602	1380	566	564
7	Uttarakhand	1925	1690	843	534
8	Himachal Pradesh	1102	1151	574	623
9	Chandigarh	180	200	0	0
10	ISGS/IPPs			17025	15536
	Total NR	36575	34768	33530	31816
II	EASTERN REGION				
1	West Bengal	7127	6661	5396	4376
2	Jharkhand	696	851	275	350
3	Orissa	3177	2990	2315	2770
4	Bihar	2276	1775	110	110
5	Damodar Valley Corporation	2328	2162	2703	2889
6	Sikkim	59	41	0	0
7	Bhutan	108	108	300	295
8	ISGS/IPPs	410	410	7400	7352
	Total ER	16181	14998	18499	18142
III	WESTERN REGION				
1	Chattisgarh	3118	2566	2217	1790
2	Madhya Pradesh	6272	5975	3092	2909
3	Maharashtra	15542	16342	10886	11197
4	Gujarat	11193	11948	9820	10359
5	Goa	258	360	0	0
6	Daman and Diu	124	94	0	0
7	Dadra and Nagar Haveli	619	600	0	0
8	ISGS/IPPs	1239	1239	18000	18000
	Total WR	38365	39124	44015	44255

IV	SOUTHERN REGION				
1	Andhra Pradesh	10867	9465	6571	5881
2	Tamil Nadu	11286	10266	7776	7002
3	Karnataka	8112	7123	6100	4619
4	Kerala	3214	2389	1781	863
5	Pondy	285	249	0	0
6	Goa	83	83	0	0
7	ISGS/IPPs			9937	9560
	Total SR	33847	29575	32165	27925
V	NORTH-EASTERN REGION				
1	Arunachal Pradesh	78	58	0	0
2	Assam	893	723	270	180
3	Manipur	84	48	0	0
4	Meghalaya	230	168	115	41
5	Mizoram	60	38	4	4
6	Nagaland	84	57	12	8
7	Tripura	158	115	95	99
8	ISGS/IPPs			561	274
	Total NER	1587	1207	1057	606
	Total All India	126555	119672	129266	122744