

National Load Despatch Centre Total Transfer Capability for May 2014										
Issue Date: 03/05/2014			Issue Time: 1300 hrs			Revision No. 10				
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 May 2014 to 31st May 2014	00-24	2500	500	2000	297	1703			
WR-NR	1st May 2014 to 3rd May 2014	00-17	4200	500	3700	3992	0		Revised due to the shutdown of 765 kV Bus-1 of 765/400 kV Agra Substation	
		23-24	4200		3700		0			
	4th May 2014	00-09	4200	500	3700	3992	0	-400		
		09'-24	3800		3300		0			
	5th May 2014 to 31st May 2014	00-17	4200	500	3700	3992	0			
23-24		4200	3700		0					
NR-ER*	1st August 2014 to 31st August 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 <sup>s</sup>	1st May 2014	00-17	3800	300	3500	2431	1069			
		23-24					1069			
	2nd May 2014	00-07	3800	300	3500	2431	1069			
		07'-24	3500		3200		769			
	3rd May 2014 to 31st May 2014	00-17	3800	300	3500	2431	1069			
		23-24					1069			
W3-ER	1st May 2014	00-07	1800	300	1500	551	949			
		07'-24	1500	300	1200	551	649			
	2nd May 2014	00-07	1800	300	1500	551	949			
		07'-24	1800	300	1500	551	949			
	3rd May to 4th May 2014	00-07	1800	300	1500	551	949			
		07'-24	1500	300	1200	551	649			
5th May to 31st May 2014	00-24	1800	300	1500	551	949				
ER-W3	1st May 2014 to 31st May 2014	00-24	1000	300	700	874	0			
WR-SR	1st May 2014 to 31st May 2014	00-24	1000	0	1000	1000	0			
SR-WR *	1st May 2014 to 31st May 2014	00-24	1000	0	1000	0	1000			
ER-SR	1st May 2014 to 2nd May 2014	00-06	750	0	750	593	157			
		18-24				638	112			
	3rd May 2014	00-06	750		750	593	157			
		18-24	450		450	638	0			
		06-17'	750		750	638	112			
	4th May 2014 to 31st May 2014	00-06	750		0	750	593	157		
18-24		638		112						
SR-ER *	1st May 2014 to 31st May 2014	00-17	1100	0	1100	197	903			
		23-24					903			
		17-23					1100			
ER-NER <sup>2</sup>	1st May 2014 to 31st May 2014	00-06	720	50	670	205	465			
		23-24					720		210	460
		06-17'	640				590		210	380
		17-18	640				590		205	385
NER-ER	1st May 2014 to 31st May 2014	00-17	530	100	430	0	430			
		23-24					430			
		17-23	550		450		450			
S1-S2	1st May 2014 to 31st May 2014	00-24	5650	400	5250	5150	100			
Import of Punjab	1st May 2014 to 31st May 2014	00-24	5600	300	5300	3800	1500			
Import TTC for DD & DNH	1st May 2014 to 31st May 2014	00-24	980	0	980	LTA and MTOA as per ex-pp schedule				

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W3 zone Injection	1st May 2014	00-07	9000	200	8800	6901	1899		
		07-17	8500		8300		1399		
		23-24	9000		8800		1899		
	2nd May 2014	00-17	9000	200	8800	6901	1899		
		23-24	9500		9300		2399		
		17-23	9000		8800		1899		
	3rd May 2014	00-08	9000	200	8800	6901	1899		
		08-17	8600		8400		1499		
		23-24	9100		8900		1999		
	4th May 2014	00-07	9000	200	8800	6901	1899		
		17-23	9000		8800		1899		
		07-17	8500		8300		1399		
	5th May 2014 to 31st May 2014	00-17	9000	200	8800	6901	1899		
		23-24	9500		9300		2399		

\* 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 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 be 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.

**2. ER-NER Total Transfer capability will be reduced to 450 MW in case of outage of any one of the 400kV Purnea-Biharshariff circuit.**

#### 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 high loop flows on 400kV Kankroli-Zerda and 400kV Bhinmal-Zerda.
NR-ER	(n-1) contingency of 400 kV Allahabad-Pusauli
ER-NR	(n-1) contingency of 400 kV Kahalgaon-Biharshariff
W3-ER	(n-1) contingency of 400kV Sterlite-Rourkela S/C
ER-W3	High loading of 400 kV Raipur-Bhadrawati T/C, Bhilai-Bhadrawati S/C, Bhilai-Koradi and Bhilai-Seoni* (n-1) contingency of 400kV Raigarh-Sterlite
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. Considering transfer capability assessment by CTU on NEW-SR corridor.
SR-WR	Bhadrawati HVDC B/B link capacity
SR-ER	
ER-NER	(n-1) contingency of 400 kV Kahalgaon-Biharshariff (during Off-Peak Hours) (n-1) contingency of one circuit of 400 kV Balipara – Bongaigaon D/C (during Peak Hours)
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 line, 400kV Hosur-Salem S/C and 400kV Somanahalli-Salem S/C line.
Import of Punjab	(n-1) contingency of ICT at Patiala/Moga
W3 zone Injection	(n-1) contingency of 400 kV Raipur-Wardha-Parli Section

\*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 May 2014	00-17	8000	800	7200	6423	777		
		23-24	8000		7200		777		
	2nd May 2014	00-07'	8000	800	7200	6423	777		
		07-24	7700		6900		477		
	3rd May 2014	00-17	8000	800	7200	6423	777		
		23-24	8000		7200		777		
	4th May 2014	00-09	8000	800	7200	6423	777		Revised due to shutdown of 765 kV Bus-1 of 765/400 kV Agra Substation
		09-24	7600		6800		377		
	5th May 2014 to 31st May 2014	00-17	8000	800	7200	6423	777		
		23-24	8000		7200		777		
NER <sup>2</sup>	1st May 2014 to 31st May 2014	00-06	720	50	670	205	465		
		23-24	720		670	210	460		
		06-17'	720		670	210	380		
		17-18	640		590	210	380		
		18-23	640	590	205	385			
WR									
SR	1st May 2014 to 2nd May 2014	00-06	1750	0	1750	1593	157		
		18-24	1750		1750	1638	112		
	3rd May 2014	00-06	1750	0	1750	1593	157		
		18-24	1450		1450	1638	0		
		06-17'	1450		1750	1638	112		
	4th May 2014 to 31st May 2014	00-06	1750	0	1750	1593	157		
		18-24	1750		1750	1638	112		
			06-18'	1750		1750	1638	112	

2. ER-NER Total Transfer capability will be reduced to 450 MW in case of outage of any one of the 400kV Purnea-Biharshariff circuit.

Simultaneous Export Capability

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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 May 2014 to 31st May 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 May 2014 to 31st May 2014	00-17	530	100	430	0	430		
		23-24	550		450	450			
WR									
SR*	1st May 2014 to 31st May 2014	00-17	2100	0	2100	197	1903		
		23-24	2100		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 400 kV Kahalgaon-Biharshariff 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.
	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 Kahalgaon-Biharshariff (during Off-Peak hours) and (n-1) contingency of one circuit of 400 kV Balipara – Bongaigaon D/C (during Peak Hours)
	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. Considering transfer capability assessment by CTU on NEW-SR corridor.
	Export	

\*Primary constraints

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

Revision No	Date of Revision	Period of Revision	Reason for Revision	Corridor Affected
1	19-02-2014	Whole Month	Revised due to change in Inter-regional flow pattern & COD of Sasan UMPP Unit-2	ER-NR/ WR-NR
			Revised considering operational experience and margins on HVDC	ER-SR/ WR- SR
			Review of flow pattern due to network topology change and Load Generation Balance.	W3 Zone Injection
2	05-03-2014	Whole Month	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
3	13-03-2014	Whole Month	Margin revised due to withdrawal/cancellation of 150MW MTOA from Corporate Power Limited	ER-SR
4	25-03-2014	Whole Month	Margin revised due to correction in LTA/MTOA figure.	NR-WR
5	29-03-2014	Whole Month	Margin revised due to grant of 150 MW LTA towards SR from NEW grid	ER-SR
6	29-04-2014	Whole Month	Margin revised due to Non-Commissioning of Kudankulam U-1,Vallur U-3 unit and NLC-2 EXP units and Allocation of 150 MW to TANGEDCO.	S1-S2
			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/ ER- SR
			Margin revised due to Commissioning of Sasan Unit-4.	WR-NR
			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
			Margin revised considering the LTA/MTOA allocation available in RPCs RTA/REA.	NR-WR/ ER-NR
			Margin revised considering the LTA/MTOA allocation available on RPCs RTA/REA and Re-routing of existing MTOA granted by CTU.	W3-ER
7	30-04-2014	01-05-2014	Revised due to shutdown of 400kV Raipur-Wardha Circuit-2.	W3 Zone Injection
		01/05/2014- 02/05/2014	Revised due to shutdown of 400 kV Rourkela-Sundergarh-Raigarh Ckt-II	W3-ER
8	01-05-2014	02-05-2014	Revised due to shutdown of 400 kV Biharsharif-Banka Ckt-II	ER-NR
			Revised due to 400 kV Rourkela-Sundergarh-Raigarh Ckt-II shutdown not being availed	W3-ER

**National Load Despatch Centre  
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<b>Revision No</b>	<b>Date of Revision</b>	<b>Period of Revision</b>	<b>Reason for Revision</b>	<b>Corridor Affected</b>
9	02-05-2014	03-05-2014	Revised due to shutdown of 400 kV Raipur-Bhadrawati-II	W3 injection
			Revised due to shutdown of 400 kV JITPL-Anugul-Meramundli	ER-SR
		03/05/2014 to 04/05/2014	Revised due to shutdown of 400 kV Rourkela-Sundergarh-Raigarh Ckt-II	W3-ER
10	03-05-2014	04-05-2014	Revised due to shutdown of 400 kV Raipur-Wardha-I	W3 injection
			Revised due to shutdown of 765 kV Bus-I of 765/400 kV Agra Substation	WR-NR

## ASSUMPTIONS IN BASECASE

Month : May '14

S.No.	Name of State/Area	Load		Generation	
		Peak Load (MW)	Off Peak Load (MW)	Peak (MW)	Off Peak (MW)
<b>I</b>	<b>NORTHERN REGION</b>				
1	Punjab	5971	5191	2258	2229
2	Haryana	5885	5116	3178	3178
3	Rajasthan	7955	6916	5132	5116
4	Delhi	4102	3566	1296	1296
5	Uttar Pradesh	11500	10090	6358	6354
6	Jammu & Kashmir	2133	1854	387	420
7	Uttarakhand	1628	1415	461	416
8	Himachal Pradesh	1413	1228	469	385
9	Chandigarh	238	192	0	0
10	ISGS/IPPs			18314	13943
	<b>Total NR</b>	<b>40825</b>	<b>35568</b>	<b>37853</b>	<b>33337</b>
<b>II</b>	<b>EASTERN REGION</b>				
1	West Bengal	4920	4680	4920	3644
2	Jharkhand	1070	850	580	420
3	Orissa	3745	2780	3180	2160
4	Bihar	1770	1500	0	0
5	Damodar Valley Corporation	2670	2350	3752	3336
6	Sikkim	96	32	0	0
7	Bhutan	108	110	494	484
8	ISGS/IPPs	245	250	7253	7344
	<b>Total ER</b>	<b>14624</b>	<b>12552</b>	<b>20179</b>	<b>17388</b>
<b>III</b>	<b>WESTERN REGION</b>				
1	Chattisgarh	3400	2700	1629	1629
2	Madhya Pradesh	7728	5521	3632	3013
3	Maharashtra	16790	15516	13037	11828
4	Gujarat	12301	11245	11178	9102
5	Goa	367	257		
6	Daman and Diu	264	245		
7	Dadra and Nagar Haveli	590	585		
8	ISGS/IPPs	1258	1240	17391	16068
	<b>Total WR</b>	<b>42698</b>	<b>37309</b>	<b>46867</b>	<b>41640</b>

<b>IV</b>	<b>SOUTHERN REGION</b>				
1	Andhra Pradesh	11603	10209	7716	6690
2	Tamil Nadu	11969	10938	7142	6612
3	Karnataka	8415	6979	6440	4970
4	Kerala	3314	2552	1724	893
5	Pondy	329	276		
6	Goa	84	83		
7	ISGS/IPPs			10873	10054
	<b>Total SR</b>	<b>35714</b>	<b>31037</b>	<b>33895</b>	<b>29219</b>
<b>V</b>	<b>NORTH-EASTERN REGION</b>				
1	Arunachal Pradesh	120	84	0	0
2	Assam	1350	980	240	200
3	Manipur	120	84	0	0
4	Meghalaya	310	217	60	55
5	Mizoram	75	52.5	4	4
6	Nagaland	120	84	12	12
7	Tripura	250	130	110	110
8	ISGS/IPPs			1188	938
	<b>Total NER</b>	<b>2345</b>	<b>1631.5</b>	<b>1614</b>	<b>1319</b>
	<b>Total All India</b>	<b>136206</b>	<b>118098</b>	<b>140408</b>	<b>122903</b>