

National Load Despatch Centre
Total Transfer Capability for March 2014

Issue Date: 15/03/2014

Issue Time: 1200 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 March 2014 to 31st March 2014	00-24	2500	500	2000	361	1639		
WR-NR ¹	1st March 2014 to 4th March 2014	00-17	4200	500	3700	3656	44		
		23-24			3700		44		
	5th March 2014	17-23	4200						
		00-08	4200	500	3700	3656	44		
		17-23							
	23-24								
	6th March 2014 to 12th March 2014	08-17'	3100		2600		0		
	13th March 2014	00-17	4200	500	3700	3656	44		
		23-24	4200		3700		44		
	14th March 2014 to 31st March 2014	17-23	4200		3700		44		
NR-ER*	1st March 2014 to 31st March 2014	00-17	1000	200	800	200	600		
		23-24							
		17-23	1100	900	700				
ER-NR ⁵	1st March 2014 to 5th March 2014	00-17	3600	300	3300	2789	511		
		23-24							
	6th March 2014	17-23	3100		2800		11		
		00-08	3600	300	3300	2789	511		
		23-24							
	17-23	3100		2800		11			
	7th March 2014	08-17'	3200		2900		111		
	8th March 2014 to 9th March 2014	00-08	3800	300	3500	2789	711		
		18-24							
	10th March 2014	08-18'	3200		2900		111		
	11th March 2014 and 12th March 2014	00-17	3800	300	3500	2789	711		
		23-24							
	13th March 2014	17-23					711		
	14th March 2014	00-10	3800	300	3500	2789	711		
		13-24							
15th March 2014	10-13'	2600		2300		0			
16th March 2014 to 31st March 2014	00-17	3800	300	3500	2789	711			
	23-24								
	17-23					711			
W3-ER	1st March 2014	00-09	1800	300	1500	0	1500		
		17-24							
	2nd March 2014 to 8th March 2014	09-17'	1500	300	1200	0	1200		
	9th March 2014 to 11th March 2014	00-24	1800	300	1500	0	1500		
12th March 2014	00-09	1800	300	1500	0	1500			
	18-24								
	09-18'	1500		1200		1200			
		00-07	1800	300	1500	0	1500		
		19-24							
		07'-19	1300	300	1000		1000		

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W3-ER	13th March 2014	00-24	1800	300	1500	0	1500		
	14th March 2014	00-14	1800	300	1500	0	1500		
		14-18	1300		1000				
	15th March 2014 to 31st March 2014	00-24	1800	300	1500	0	1500		
ER-W3	1st March 2014 to 31st March 2014	00-24	1000	300	700	700	0		
WR-SR	1st March 2014 to 31st March 2014	00-24	1000	0	1000	1000	0		
SR-WR *	1st March 2014 to 31st March 2014	00-24	1000	0	1000	0	1000		
ER-SR	1st March 2014 to 12th March 2014	00-05	750	0	750	657	93		
		05-10	750		750		93		
	13th March 2014 to 31st March 2014	00-05	750	0	750	507	243		
		05-10	750		750		243		
SR-ER *	1st March 2014 to 31st March 2014	00-17	1100	0	1100	197	903		
		17-23	1100		1100		903		
ER-NER ²	1st March 2014 to 05th March 2014	00-17	650	50	600	230	370		
		17-23	590		540		310		
	06th March 2014	00-17	650	50	600	230	370		
		17-23	590		540		310		
		23-24	650		600		370		
	7th March 2014	00-17	650	50	600	230	370		
		17-23	590		540		310		
	8th March 2014	00-09	650	50	600	230	370		
		16-17	650		600		370		
		23-24	590		540		310		
		09-16'	350		300		70		
		17-23	590		540		310		
	9th March 2014 to 11th March 2014	00-09	650	50	600	230	370		
		16-17	650		600		370		
		23-24	590		540		310		
		09-16'	350		300		70		
		17-23	590		540		310		
	12th March 2014	00-17	650	50	600	230	370		
		17-23	590		540		310		
	13th March 2014	00-07	650	50	600	230	370		
		07-17'	650		600		370		
		23-24	590		540		310		
		17-23	590		540		310		
14th March 2014	00-17	650	50	600	230	370			
	23-24	590		600		370			
	17-23	590		540		310			
15th March 2014	00-07	650	50	600	230	370			
	07-17'	650		600		370			
	17-23	720		670		440			
	23-24	720		670		440			
16th March 2014 to 17th March 2014	00-05	720	50	670	230	440		1. Revised due to Shutdown of 400 kV Binaguri-Bongoigaon D/C. 2. TTC will be restored to Actual values in Real-Time if the shutdown is returned on-time.	
	05-24'	0	0	0		0			-720
18th March 2014 to 31st March 2014	00-17	720	50	670	230	440			
	17-23	720		670		440			

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NER-ER	1st March 2014 to 05th March 2014	00-17	520	100	420	0	420		
		23-24			350		350		
	06th March 2014	00-17	520	100	420	0	420		
		17-23	450		350		350		
		23-24	520		420		420		
	7th March 2014 to 14th March 2014	00-17	520	100	420	0	420		
		23-24	450		350		350		
	15th March 2014	00-17	520	100	420	0	420		
		17-23	590		490		490		
		23-24	630		530		530		
	16th March 2014 to 17th March 2014	00-05'	630	100	530	0	530		
		05-17	200		100		100	-430	
18th March 2014 to 31st March 2014	17-23	200		100		100	-390	1. Revised due to Shutdown of 400 kV Binaguri-Bongoigaon D/C. 2. TTC will be restored to Actual values in Real-Time if the shutdown is returned on-time.	
	00-17	630	100	530	0	530			
23-24	590	490		490					
S1-S2	1st March 2014	00-24	5650	400	5250	4900	350		
	2nd March 2014	00-06	5650	400	5250	4900	350		
		06-24'	5350	400	4950	4900	50		
3rd March 2014 to 31st March 2014	00-24	5650	400	5250	4900	350			
Import of Punjab	1st March 2014 to 31st March 2014	00-24	5600	300	5300	3800	1500		
Import TTC for DD & DNH	1st March 2014 to 31st March 2014	00-24	980	0	980	LTA and MTOA as per ex-pp schedule			
W3 zone Injection	1st March 2014 to 13th March 2014	00-17	9000	200	8800	7167	1633		
		23-24	9500		9300		2133		
	14th March 2014	00-08	9000	200	8800	7167	1633		
		14-17			8400		1233		
		23-24	8600		9300		2133		
	15th March 2014 to 31st March 2014	00-17	9000	200	8800	7167	1633		
23-24		9500	9300		2133				
17-23	9500		9300		2133				

* 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).

- 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, b) Jindal Power Limited (JPL), 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

The figure is based on LTA/MTOA approved by CTU. In actual Operation, due to Units being on Maintenance/ Fuel shortage the LTA/MTOA utilized would be less. RLDC/ NLDC would factor this situation while issuing STOA approvals

\$ 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. WR-NR Total Transfer capability will be reduced to 3100 MW in case of outage of any one of the following sections:
• 765 kV Gwalior-Agra one circuit

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.

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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 (1000 MW SPS setting on each circuit of 765 kV Gwalior-Agra)
NR-ER	(n-1) contingency of 400 kV Allahabad-Pusaali
ER-NR	(n-1) contingency of 400 kV Kahalgaon-Biharshariff
W3-ER	(n-1) contingency of 400kV Sterilte-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 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
NER-ER	(n-1) contingency of 315 MVA ICT 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 ¹	1st March 2014 to 4th March 2014	00-17	7800	800	7000	6445	555		
		23-24			6500		55		
	5th March 2014	00-08	7800	800	7000	6445	555		
		23-24	5800		5000		0		
		17-23	7300		6500		55		
	6th March 2014	00-18	7800	800	7000	6445	555		
		23-24	7400		6600		155		
		17-23	7300		6500		55		
	7th March 2014	00-08	8000	800	7200	6445	755		
		18-24	7400		6600		155		
	8th March 2014 to 9th March 2014	00-17	8000	800	7200	6445	755		
		23-24	8000		7200		755		
	10th March 2014	00-10	8000	800	7200	6445	755		
		13-24	6800		6000		0		
	11th March 2014 to 12th March 2014	00-17	8000	800	7200	6445	755		
		23-24	8000		7200		755		
	13th March 2014	00-07	8000	800	7200	6445	755		
		07-24'	7750	800	6950	6445	0		
	14th March 2014	00-24	8000	800	7200	6445	755		
	15th March 2014	00-07	8000	800	7200	6445	755		
07-24'		8000	800	7200	6445	0			
16th March 2014 to 31st March 2014	00-17	8000	800	7200	6445	755			
	23-24	8000		7200		755			
NER ²	1st March 2014 to 05th March 2014	00-17	650	50	600	230	370		
		23-24	590		540		310		
	06th March 2014	00-17	650	50	600	230	370		
		17-23	590		540		310		
		23-24	650		600		370		
	7th March 2014	00-17	650	50	600	230	370		
		23-24	590		540		310		
	8th March 2014	00-09	650	50	600	230	370		
		16-17	350		300		70		
		23-24	590		540		310		
	9th March 2014 to 11th March 2014	00-09	650	50	600	230	370		
		16-17	350		300		70		
		23-24	590		540		310		

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
NER ²	12th March 2014	00-17 23-24	650	50	600	230	370		
		17-23	590		540		310		
	13th March 2014	00-07	650	50	600	230	370		
		07-17' 23-24	650		600		370		
	14th March 2014	17-23	590	50	540	230	310		
		00-17 23-24	650		600		370		
	15th March 2014	17-23	590	50	540	230	310		
		00-07	650		600		370		
		07-17'	650		600		370		
		17-23	720		670		440		
	16th March 2014 to 17th March 2014	23-24	720	50	670	230	440		1. Revised due to Shutdown of 400 kV Binaguri-Bongoigaon D/C. 2. TTC will be restored to Actual values in real-time if the shutdown is returned on-time.
		05-24'	0		0		0	0	
	18th March 2014 to 31st March 2014	00-17 23-24	720	50	670	230	440		
		17-23	720		670		440		
WR									
SR	1st March 2014 to 12th March 2014	00-05 10-19	1750	0	1750	1657	93		
		05-10 19-24			1750		93		
	13th March 2014 to 31st March 2014	00-05 10-19	1750	0	1750	1507	243		
		05-10 19-24			1750		243		

1. WR-NR Total Transfer capability will be reduced to 3100 MW in case of outage of any one of the following sections:

- 765 kV Gwalior-Agra one circuit
- 765 kV Bina-Gwalior one circuit

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

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 March 2014 to 31st March 2014	00-17	3500	700	2800	561	2239			
		23-24			2900			2339		
		17-23	3600							
NER	1st March 2014 to 05th March 2014	00-17	520	100	420	0	420			
		23-24			350			350		
		17-23	450							
	06th March 2014	00-17	520	100	420	0	420			
		23-24	450				350			
		17-23	520				420			
	7th March 2014 to 14th March 2014	00-17	520	100	420	0	420			
		23-24	450				350			
		17-23	520				420			
	15th March 2014	00-17	520	100	420	0	420			
		23-24	590				490			
		17-23	630				530			
	16th March 2014 to 17th March 2014	00-05'	630	100	530	0	530			1. Revised due to Shutdown of 400 kV Binaguri-Bongoigaon D/C. 2. TTC will be restored to Actual values if the shutdown in real-time is returned on-time.
		05-17	200				100	-430		
		23-24	200				100	-390		
18th March 2014 to 31st March 2014	00-17	630	100	530	0	530				
	23-24	590				490				
	17-23	590				490				
WR										
SR*	1st March 2014 to 31st March 2014	00-17	2100	0	2100	197	1903			
		23-24			2100			1903		
		17-23	2100							

* 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 (1000 MW SPS setting on each circuit of 765 kV Gwalior-Agra)
	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
	Export	(n-1) contingency of 315 MVA ICT 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 March 2014**

Revision No	Date of Revision	Period of Revision	Reason for Revision	Corridor Affected
1	22-01-14	Whole Month	Revised due to commissioning of 765kV Raichur-Sholapur S/C	ER-SR/ WR-SR
2	19-02-14	Whole Month	1. Revised due to shutdown of TEESTA Power Station. 2. 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
3	26-02-14	Whole Month	Revised due to Non-Commissioning of Kudankulam U-1, Vallur U-3 & NLC Exp U-1	S1-S2
		01.03.14 - 06.03.14	Revised due to shutdown of 220kV Balipara - Samaguri S/C	ER-NER / NER-ER
4	28-02-14	01.03.14	Revised due to shutdown of 400 kV SEL-Rourkela Ckt 1	W3-ER
5	01-03-14	02.03.14	Revised due to shutdown of 400 kV Raichur-Gooty D/C	S1-S2
6	04-03-14	06.03.14 - 15.03.14	Revised due to extension of 220 kV Balipara-Samaguri shutdown	ER-NER / NER-ER
		05.03.14	Revised due to emergency shutdown of 765 kV Gwalior Bus 1	WR-NR / NR Import
7	05-03-14	06.03.14- 07.03.14	Revised due to shutdown of 400KV Biharshariff - Muzaffarpur D/C	ER-NR
8	07-03-14	08.03.14	Revised due to shutdown of 400kV Purnea-Binaguri Ckt-3 &4	ER-NER
9	08-03-14	09.03.14 - 11.03.14	Revised due to shutdown of 400kV Purnea-Binaguri Ckt-3 &4	ER-NER
			Revised due to shutdown of 400 kV Rourkela - Sundergarh - 1	W3-ER
10	09-03-14	10.03.14	Revised due to Emergency shutdown of 400 kV Maithon-Koderma D/C	ER-NR
11	10-03-14	13.03.14	Crossing work of upcoming 765KV S/C Ranchi-Sipat line. Also for the construction work & stringing of 400 kV Ranchi-Ranchi-II	W3-ER
12	12-03-14	13.03.14- 31.03.14	Margin revised due to withdrawal/cancellation of 150MW MTOA from Corporate Power Limited	ER-SR
		13.03.14	Revised due to shutdown of HVDC Rihand -Dadri Earth electrode along with HVDC Rihand-Dadri pole2	WR-NR
		13.03.14 - 14.03.14	Revised due to shutdown of 400kV Kahalgaon-Biharshariff -1	ER-NR/ ER-NER
		15.03.14	Revised due to shutdown of 400kV Kahalgaon-Biharshariff D/C	ER-NR/ ER-NER
13	13-03-14	13.03.14 - 14.03.14	Revised due to cancellation of 400kV Kahalgaon-Biharshariff -1 shutdown	ER-NR/ ER-NER
		15.03.14	Revised due to cancellation of 400kV Kahalgaon-Biharshariff D/C shutdown	ER-NR/ ER-NER
		14.03.14	Revised due to shutdown of 400kV Ranchi-Sipat D/C	W3-ER
14	14-03-14	15.03.14 - 31.03.14	Revised due to shutdown of 400kV Raipur-Bhadrawati Ckt-1	W3 Zone Injection
			STOA/PX transactions on West-East-North Corridor discontinued on account of Inter-Regional Loop flows leading to physical congestion on WR-NR.	ER-NR / WR-NR
15	15-03-14	16.03.14 - 17.03.14	Revised due to Shutdown of 400 kV Binaguri-Bongoigaon D/C	ER-NER

ASSUMPTIONS IN BASECASE

Month : March '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	5571	4510	2524	2495
2	Haryana	5755	4779	3482	3482
3	Rajasthan	8215	8320	4940	4892
4	Delhi	4102	2950	1101	1101
5	Uttar Pradesh	11500	10154	5957	5867
6	Jammu & Kashmir	2249	1725	343	567
7	Uttarakhand	1582	1397	649	580
8	Himachal Pradesh	1353	1194	367	253
9	Chandigarh	238	138	0	0
10	ISGS/IPPs			17573	11543
	Total NR	40564	35167	36936	30780
II	EASTERN REGION				
1	West Bengal	6600	5100	4797	4000
2	Jharkhand	1000	800	450	450
3	Orissa	3400	2600	2405	1600
4	Bihar	2000	1600	0	0
5	Damodar Valley Corporation	2600	2350	3600	3397
6	Sikkim	90	50		0
7	Bhutan	110	110	200	200
8	ISGS/IPPs	270	270	6849	6490
	Total ER	16070	12880	18301	16137
III	WESTERN REGION				
1	Chattisgarh	3236	2968	1629	1629
2	Madhya Pradesh	6961	5643	3847	3003
3	Maharashtra	16185	14018	11275	10527
4	Gujarat	11063	10565	10649	9002
5	Goa	422	283	0	0
6	Daman and Diu	239	240	0	0
7	Dadra and Nagar Haveli	588	552	0	0
8	ISGS/IPPs	1291	1111	18555	16029
	Total WR	39985	35380	45955	40190

IV	SOUTHERN REGION				
1	Andhra Pradesh	12233	9818	8014	6538
2	Tamil Nadu	11677	9714	7485	5425
3	Karnataka	8822	6821	6694	5453
4	Kerala	3378	2583	1844	916
5	Pondy	312	247		
6	Goa	80	80		
7	ISGS/IPPs			10790	9643
	Total SR	36502	29263	34827	27975
V	NORTH-EASTERN REGION				
1	Manipur	120	84	0	0
2	Meghalaya	300	210	90	70
3	Mizoram	70	49	4	0
4	Nagaland	110	77	12	6
5	Assam	1280	940	190	190
6	Tripura	220	130	105	100
7	Arunachal Pradesh	120	84	0	0
8	ISGS/IPPs			921	603
	Total NER	2220	1574	1322	969
	Total All India	135341	114264	137341	116051