# National Load Despatch Centre Total Transfer Capability for May 2013

Issue Date: 13/05/2013 Issue Time: 1230 hrs Revision No. 9

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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			
	1st May 2013 to 8th May 2013	00-24	1500	200	1300	286	1014					
NR-WR	9th May 2013 to 31st May 2013	00-24	2500	500	2000	286	1714		Revised due to upgradation of 400 kV Bina-Gwalior-Agra D/C to 765 kV.     Revised due to commissioning of 765 kV Agra-Jhatikara.			
	1st May 2013 to 8th May 2013	00-24	2000*	200	1800	1287	513		LTA revised due to commissioning of CGPL Unit-50.			
WR-NR <sup>1</sup>	9th May 2013 to 12th May 2013	00-24	5700 <sup>∆</sup>	500	$5200^{\Delta}$	2787 <sup>Δ</sup>	2413		Revised due to upgradation of     400 kV Bina-Gwalior-Agra D/C to     765 kV.     Revised due to commissioning of     765 kV Agra-Jhatikara.			
	13th May 2013 to	00-07 20-24	5700 <sup>∆</sup>	500	$5200^{\Delta}$	$2787^{\Delta}$	2413		Revised due to shutdown of 400 kV			
	16th May 2013	07-20'	5450 <sup>∆</sup>	300	4950 <sup>Δ</sup>	2767	2163		Zerda-Bhinmal.			
	17th May 2013 to 31st May 2013	00-24	5700 <sup>∆</sup>	500	$5200^{\Delta}$	$2787^{\Delta}$	2413					
		00-17	1	1								
NR-ER	1st May 2013 to 31st May 2013	23-24	1000	200	800	0	800					
	313t Way 2013	17-23	1100		900		900					
	1st May 2013 to 8th May 2013	00-17 23-24	2600	300	2300	1913	387					
ER-NR	May 2015	17-23				1913	387					
2207,20	9th May 2013 to	00-17 23-24 17-23	3000	300	2700	1913	787		Revised due to increase in hydro			
	31st May 2013					1913	787		generation pattern in Eastern Region			
			ı						Revised due to network			
	1st May 2013	00-24	1650	300	1350	0	1350		configuration changes in Eastern Region and other new generating units addition leading to change in power flow pattern.			
	2nd May 2013	00-08	1650	300	1350	0	1350					
	3rd May 2013 to	08-24'	1450	300	1150		1150		Revised due to shutdown of 400 kV			
	7th May 2013	00-24	1450	300	1150	0	1150		Sterlite-Raigarh (LILO 1) and 400 kV Raigarh-Rourkela 1			
	8th May 2013	00-18 18-24	1450 1650	300 300	1150 1350	0	1150 1350		g			
W3-ER#	9th May 2013 to	00-24	1900	300	1600	0	1600		Revised due to load generation			
	12th May 2013	00-07							balance review.			
	13th May 2013	19-24 07-19'	1900 1650	300	1600 1350	0	1600 1350					
	14th May 2013 to 16th May 2013	00-24'	1650	300	1350	0	1350	250	Revised due to shutdown of 400 kV Rourkela-Jharsuguda-Raigarh.			
	17th May 2013	00-07 19-24	1900	300	1600	0	1600					
	2013	07-19'	1650	2.50	1350		1350	250				
	18th May 2013 to 31st May 2013	00-24	1900	300	1600	0	1600					

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Park   Fig.	Corridor	Date	Period (hrs)	Transfer Capability		Transfer Capability	Medium Term Open Access	Available for Short Term Open Access	in TTC w.r.t. Last	Comments	
May 2013 to   10		1st May 2013									
May 2013		2nd May 2013									
Fig. 2   F		•	08-24'	800	300	500	500	0		Revised due to shutdown of 400 kV	
Sign May 2013   18.43   10.00   30.00   30.00   70.00   10.0		· ·	00-24	800	300	500	500	0			
No.			00-18	800	300	500	500	0		kV Raigarh-Rourkela 1	
No.   18th May 2013   19-24   1000   300   500   500   500   0   200		8th May 2013									
Table May 2013   10   10   10   10   10   10   10	FR-W3#		00-24	1000	300	700	700	0			
Fish May 2013 to   19-24   1000   300   700   700   700   200   700	ER Won		00 21	1000	300	700	700				
17th May 2013   17th May 201			00-24	800	300	500	500	0	200	Pavisad due to shutdown of 400 kV	
Time Nate   10 may 2013 to   10 may 20				1000		700		_			
Sib May 2013 to 3		17th May 2013			300		700	0	200	_	
NR-SR   1st May 2013 to   100   100   1000   1000   1000   0		18th May 2013 to		800		300			200		
SR-WR   SIS May 2013 to   1000   10			00-24	1000	300	700	700	0			
SR-WR   SIS May 2013 to   1000   10		1st May 2013 to	00.5	1000		1005	1000			Revised due to change in MTOA	
Sk-NK   3 st May 2013 to 2nd May 2013 to 2nd May 2013 to 3nd	WR-SR		00-24	1000	0	1000	1000	0		_	
Revised due to change in Load Generation scenario and also change in Load Generation and also change in Load Gen	SR-WR		00-24	1000	0	1000	0	1000			
Ist May 2013 to 2nd May 2013 to 3nd May 2013		313t Way 2013									
Part				1000		1000		888		Review of TTC due to change in Load	
Ref					0		112				
ER-SR 8th May 2013 to 31st May 20		2lid May 2013		1000		1000		888		LTA Quantum.	
FR-Separation   112   1000				1000	- 0	1000	112	000			
Second   1000	FD_SD			1000		1000		888			
Pith May 2013 to 31st	EK-5K	8th May 2013		1000^		1000^		888^			
SR-ER   SR   May 2013 to   10   10   10   10   10   10   10   1		0.1.17	00-05	1200**		1200**		1088**			
19-24   1200   1088   19-24   1200   1088   19-24   1200   1088   19-24   17-23   700   197   503   197   503   197   503   197   503   197   503   197		-			0		112				
SR-ER		518t Way 2015		1200**		1200**		1088**		Generation seenario	
SR-ER   31st May 2013   23-24   475   35   440   230   210   230   210   Revised due to change in load generation in ER/Bhutan.		1-4 M 2012 4-		700		700		502			
St May 2013 to 4th May 2013 to 8th May 2013 to 31st May	SR-ER				0		197			<u> </u>	
Revised due to increase in hydrogeneration in ER/Bhutan.   Start May 2013 to 8th May 2013 to 31st May 2013		215t 1/14y 2012	17-23	700		700		503			
Revised due to increase in hydrogeneration in ER/Bhutan.   Start May 2013 to 8th May 2013 to 31st May 2013		1-+ M 2012 : 41	00-17	45.5		4.46	220	210		Desired due ( )	
Sth May 2013 to 8h   May 2013 to 8h   May 2013 to 31st May 2013 to 33st			23-24		35	440				_	
SI-NER   SI May 2013 to 8th   May 2013 to 8th   May 2013 to 8th   May 2013 to 31st May 20		1viay 2013		475		440	230	210		generation Datance.	
Name	ED MED			525	35	490	230	260			
Pith May 2013 to 31st	EA-NEK	May 2013	17-23	525	33	490	230	260		generation in ER/Bhutan.	
NER-ER   1st May 2013 to 31st May 2013 to 4th May 2013 to 31st May 2013		0th May 2012 to								Payisad due to increase in Landan	
NER-ER   1st May 2013 to 31st May 2013 to 4th May 2013 to 31st May 2013		,			35					_	
NER-ER		21001114, 2013		575		540	230	310		D	
S1-S2   1st May 2013 to 31st May 2013 to 31st May 2013 to 4th May 2013 to 31st May 2013 t	NED-ED	•		520	100	420	0	420			
S1-S2	TUDICER	31st May 2013		320	100	220	J	220			
S1-S2   31st May 2013   00-24   5400   200   5200   4000   1200   Kudamkulam unit-1.											
Import of Punjab   May 2013   00-24   5400   300   5100   3243   1857	S1-S2		00-24	5400	200	5200	4000	1200		_	
May 2013   Sth May 2013 to 31st May 2013 to 31st May 2013 to 4 for DD & 31st May 2013 to		1st May 2013 to 4th	00.24	5400	200	5100	2242	1057			
31st May 2013 00-24 5600 300 5300 3350 1950  Import TTC for DD & 31st May 2013 00-24 980 0 980 LTA and MTOA as per ex-pp schedule			00-24	3400	300	3100	3243	185/			
Import TTC   1st May 2013 to   for DD & 31st May 2013   00-24   980   0   980   LTA and MTOA as per ex-pp   schedule	Punjab		00-24	5600	300	5300	3350	1950			
	for DD &	1st May 2013 to	00-24	980	0	980					

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	1st May 2013 to 31st May 2013	00-17, 23-24	9000	200	8800	- 6870	1930		Revised due to change in power flow pattern consequent to upgradation of Bina-Gwalior-Agra
W3 zone		17-23	9500	200	9300		2430		D/C section from 400 kV to 765 kV and other new generating units addition.
Injection		00-10	9000		8800		1930		Revised due to emergency shutdown
<b>3</b>	4th May 2013	10-16'	8550	200	8350	6870	1480		of 400 kV Raipur-Wardha ck2 on
	ini iing 2013	16-17	9000	200	8800		1930		4th May 2013
		17-23	9500		9300		2430		
	5th May 2013 to	00-17, 23-24	9000	200	8800	6870	1930		
	31st May 2013	17-23	9500		9300		2430		

- 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
- ^ additional 200 MW can be transferred to SR if injection point is South odisha.
- \* Would be reviewed after completion of augmentation works at 765 kV Agra

Δ. includes 1500 MW on the dedicated Mundra-Mohindergarh HVDC bipole of M/s Adani Power Limited which is scheduled separately from the generation at stage-III of APL Mundra (3\*660 MW).

#### 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 Agra-Jhatikara
- One of the 765/400 kV 1500 MVA ICT at Agra
- 765 kV Gwalior-Agra one circuit
- 765 kV Bina-Gwalior one circuit

#### **Limiting Constraints**

Corridor	Constraint
NR-WR	(n-1) contingency of 400kV Zerda-Bhinmal and (n-1) contingency of 220kV Badod-Modak.
WR-NR	(n-1) contingency of 765/400 kV ICT at Agra
NR-ER	(n-1) contingency of 400 kV Allahabad-Pusauli
ER-NR	(n-1) contingency of 400 kV Farakka-Malda
W3-ER	(n-1)contingency of 400 kV Sterlite-Rourkela
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 Rourkela-Raigarh
WR-SR	Bhadrawati HVDC B/B link capacity
SR-WR	Bhadrawati HVDC B/B link capacity
ER-SR	(n-1) contingency of 400 kV Rourkela-Talcher*
SR-ER	
ER-NER	(n-1) contingency of 400 kV Farakka-Malda* High Loading of 220 kV BTPS-Agia (n-1) contingency of 400 kV Balipara – Bongaigaon -I
NER-ER	(n-1) contingency of 400 kV Balipara-Bongaigaon-I (n-1) contingency of 220 kV Samaguri – Saruajai I*
S1-S2	(n-1) contingency of 400 kV Hosur-Salem D/C line, 400kV Hosur-Salem & 400kV Somanahalli-Salem SC line.
Import of Punjab	(n-1) contingency of ICT at Patiala/Moga
W3 zone Injection	(n-1-1) contingency of 400 kV Raipur-Bhadrawati D/C section

\*Primary constraints

<sup>\*\*</sup> additional 300 MW can be transferred to SR if injection point is South odisha.

#### **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										
	1st May 2013 to 8th May 2013	00-17 23-24 17-23	4600*	500	4100 4100	3200	900 900		LTA revised due to commisioning of CGPL Unit- 50	
	9th May 2013 to	00-17 23-24	0 <b>7</b> 00A	900	7900 <sup>∆</sup>	, Too Q	3200		Revised due to upgradation of 400 kV Bina-Gwalior-Agra D/C to 765 kV.     Revised due to	
NR <sup>1</sup>	12th May 2013	17-23	8700 <sup>∆</sup>	800	7900 <sup>∆</sup>	$4700^{\Delta}$	3200		commissioning of 765 kV Agra-Jhatikara. 3.Increase in hydro generation pattern in ER.	
	13th May 2013 to 16th May 2013	00-07 20-24	8700 <sup>∆</sup>	800	7900∆	$4700^{\Delta}$	3200		Revised due to shutdown of 400 kV Zerda-Bhinmal.	
	10011110 2013	07-20'	8450 <sup>∆</sup>		7650 <sup>∆</sup>		2950		Too a v Zerus Zimman	
	17th May 2013 to 31st May 2013	00-17 23-24	$8700^{\Delta}$	800	7900 <sup>∆</sup>	$4700^{\Delta}$	3200			
		17-23 00-17			7900 <sup>∆</sup>		3200			
	1st May 2013 to 4th May 2013	23-24	475	35	440	230	210		Revised due to change in load generation Balance.	
	4th May 2013	17-23 00-17	475		440	230	210		generation Barance.	
NER	5th May 2013 to	23-24	525	35	490	230	260		Revised due to increase in	
	8th May 2013	17-23	525		490	230	260		hydro generation.	
	9th May 2013 to	00-17 23-24	575	35	540	230	310		Revised due to increase in	
	31st May 2013	17-23	575	33	540	230	310		hydro generation pattern.	
WR										
		00-05								
	1st May 2013 to	10-19	2000	0	2000	1112	888		Review of TTC due to change in Load Generation scenario and	
	2nd May 2013	05-10 19-24	2000		2000	1112	888		also change in LTA quantum.	
SR	3rd May 2013 to	00-05 10-19	2000	0	2000	1112	888			
	8th May 2013	05-10 19-24	2000^	Ů,	2000^	1112	888^			
	9th May 2013 to	00-05 10-19	2200**	0	2200**	1112	1088**		Revised due to change in Load	
	31st May 2013	05-10 19-24	2200**	0	2200**		1088**		Generation scenario	

<sup>\*</sup>Would be reviewed after completion of augmentation works at 765 kV Agra
^ additional 200 MW can be transferred to SR if injection point is South odisha.

A. includes 1500 MW on the dedicated Mundra-Mohindergarh HVDC bipole of M/s Adani Power Limited which is scheduled separately from the generation at stage-III of APL Mundra (3\*660 MW).

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 Agra-Jhatikara
- One of the 765/400 kV 1500 MVA ICT at Agra
- 765 kV Gwalior-Agra one circuit
- 765 kV Bina-Gwalior one circuit

<sup>\*\*</sup> additional 300 MW can be transferred to SR if injection point is South odisha.

## 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
	1st May 2013 to	00-17 23-24	2500	200	2300	286	2014		
	8th May 2013	17-23	2600		2400		2114		
NR	9th May 2013 to 31st May 2013	00-17 23-24	3500	200	3300	286	3014		1. Revised due to upgradation of 400 kV Bina-Gwalior-Agra D/C to 765 kV. 2. Revised due to commissioning
		17-23	3600		3400		3114		of 765 kV Agra-Jhatikara.
NER	1st May 2013 to 31st May 2013	00-17 23-24	520	100	420	0	420		
	318t Way 2013	17-23	320		220		220		
WR									
77.20									
SR	1st May 2013 to 31st May 2013	00-17 23-24	1700	0	1700	197	1503		
	515t Widy 2015	17-23	1700		1700		1503		

## **Limiting Constraints**

	Import	(n-1) contingency of 400 kV Farakka-Malda*
NR		(n-1) contingency of 765/400 kV ICT at Agra*
111	Export	(n-1) contingency of 400kV Zerda-Bhinmal and (n-1) contingency of 220kV Badod-Modak.
		(n-1) contingency of 400 kV Allahabad-Pusauli
	Import	High Loading of 220 kV BTPS-Agia
		(n-1) contingency of 400 kV Balipara – Bongaigaon-I
NER		(n-1) contingency of 400 kV Farakka-Malda*
	Export	(n-1) contingency of 220 kV Samaguri – Saruajai I*
		(n-1) contingency of 400 kV Balipara-Bongaigaon-I
	Import	Bhadrawati HVDC back to back capacity
SR		(n-1) contingency of 400 kV Rourkela-Talcher*
	Export	

# **ASSUMPTIONS IN BASECASE**

		Loa	ad	Generation			
S.No.	Name of State/Area	Peak Load (MW)	Off Peak Load (MW)	Peak (MW)	Off Peak (MW)		
ı	NORTHERN REGION						
1	Punjab	5637	5311	2111	2126		
2	Haryana	5363	5014	3289	3289		
3	Rajasthan	6574	5912	3466	3472		
4	Delhi	4605	3932	1416	1416		
5	Uttar Pradesh	10824	10831	6163	5976		
6	Jammu & Kashmir	1825	1671	604	592		
7	Uttarakhand	1476	1081	757	673		
8	Himachal Pradesh	1043	943	590	493		
9	Chandigarh	227	192	0	(		
10	ISGS			16916	14627		
	Total NR	37574	34888	35312	32663		
II	EASTERN REGION						
1	West Bengal	6658	5280	4836	3678		
2	Jharkhand	1035	715	483	541		
3	Orissa	3597	2530	2451	1611		
4	Bihar	1743	1430	101	101		
5	Damodar Valley Corporation	2461	2310	2954	2954		
6	Sikkim	45	45	0	C		
7	Bhutan	112	112	275	260		
8	ISGS			7384	5854		
	Total ER	15651	12422	18484	14999		
III	WESTERN REGION						
1	Chattisgarh	2977	2132	2518	1985		
2	Madhya Pradesh	7112	4894	3601	2802		
3	Maharashtra	15798	12916	13113	9454		
4	Gujarat	10470	8369	10918	7764		
5	Goa	327	198				
6	Daman and Diu	260	181				
7	Dadra and Nagar Haveli	612	479				
8	ISGS			13063	11996		
	Total WR	37556	29169	43213	34001		
IV	SOUTHERN REGION						
1	Andhra Pradesh	10283	9413	7290	6560		
2	Tamil Nadu	10813	9100	6050	5408		
3	Karnataka	8503	7453	4779	4233		
4	Kerala	3254	2414	2007	794		
5	Pondy	313	241				
6	Goa	84	84	100.10	1001		
7	ISGS			10846	10049		
	Total SR	33250	28705	30972	27044		
V	NORTH-EASTERN REGION						
1		110	203	0	(		
2	Manipur Meghalaya	290	53	95	80		
3	•						
4	Mizoram	75 120	84 168	8	(		
	Nagaland	-			190		
5	Assam	1320	880	190	180		
6	Tripura	240	1537	85	8		
7 8	Arunachal Pradesh ISGS	110	924	1013	57		
0	Total NER	2265	0 <b>3848</b>	1013 <b>1395</b>	577 <b>928</b>		
	TOTAL INEIN	2205	3040	1385	920		
	Total All India	126297	109032	129376	10963		