

**National Load Despatch Centre**  
**Total Transfer Capability for April 2016**

Issue Date: 26/04/2016

Issue Time: 1300 hrs

Revision No. 8

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 Apr 2016 to 12th Apr 2016	00-24	2500	500	2000	55	1945			
	13th Apr 2016 to 30th Apr 2016	00-24	2500	500	2000	149	1851			
WR-NR*	1st Apr 2016 to 30th Apr 2016	00-24	7450	500	6950	6155	795			
NR-ER*	1st Apr 2016 to 30th Apr 2016	00-06	2000	200	1800	293	1507			
		06-18'	2000		1800	358	1442			
		18-24	2000		1800	293	1507			
ER-NR*	1st Apr 2016 to 30th Apr 2016	00-24	3800	300	3500	2431	1069			
W3-ER <sup>s</sup>	1st Apr 2016 to 30th Apr 2016	00-24	No limit is being specified. No Re-routing is allowed via W3-ER-NR.							
ER-W3	1st Apr 2016 to 30th Apr 2016	00-24	No limit is being specified.							
WR-SR	1st Apr 2016 to 30th Apr 2016	00-24	4000	750	3250	3250	0			
SR-WR *	1st Apr 2016 to 30th Apr 2016	00-24	No limit is being Specified.							
ER-SR	1st Apr 2016 to 2nd Apr 2016	00-06	2650	0	2650	2585	65			
		18-24				2650	0			
		06-18'				2650	0			
	3rd Apr 2016	00-06	2650	0	2650	2585	65			
		06-08'				2650	0			
		08-18'				2350	0			
		18'-24				2350	2585	0		
	4th Apr 2016 to 24th Apr 2016	00-06	2650	0	2650	2585	65			
		18-24				2650	0			
		06-18'				2650	0			
	25th Apr 2016	00-06	2000	0	2000	2585	0			
		18-24				2650	0			
		06-18'				2650	0			
	26th Apr 2016	00-06	2000	0	2000	2585	0			
		18-24				2650	0			
06-18'		2650				0				
27th Apr 2016	00-06	2000	0	2000	2585	0	-650	Revised in view of frequent tripping of HVDC Gazuwaka		
	18-24				2650	0				
	06-18'				2650	0				
28th Apr 2016 to 30th Apr 2016	00-06	2650	0	2650	2585	65				
	18-24				2650	0				
	06-18'				2650	0				
SR-ER *	1st Apr 2016 to 30th Apr 2016	00-24	No limit is being Specified.							
ER-NER	1st Apr 2016 to 25th Apr 2016	00-17	1460	45	1415	210	1205			
		23-24					1400	1145		
	26th Apr 2016	00-07	1460	45	1415	210	1205			
		07-17'					1070	815		
		17-23					1400	1355		
		23-24					1460	1415	1205	
	27th Apr 2016 to 30th Apr 2016	00-17	1460	45	1415	210	1205			
		23-24					1400	1145		

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NER-ER	1st Apr 2016 to 25th Apr 2016	00-17	1290	45	1245	0	1245		
		23-24							
		17-23	1370		1325		1325		
	26th Apr 2016	00-07	1290	45	1245	0	1245		
		07-17'	985		940		940		
		17-23	1370		1325		1325		
		23-24	1290		1245		1245		
	27th Apr 2016 to 30th Apr 2016	00-17	1290	45	1245	0	1245		
		23-24							
		17-23	1370		1325		1325		
	<b>W3 zone Injection</b>	1st Apr 2016 to 30th Apr 2016	00-24	No limit is being specified (in case of skewed inter-regional flows or any constraints appearing in the system, W3 zone export would be revised accordingly)					
<b>Note: TTC/ATC of S1-S2 corridor, Import of Punjab and Import of DD &amp; DNH is uploaded on NLDC website under Intra-Regional Section in Monthly ATC.</b>									

\* 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) S1 comprises of Telangana, AP and Karnataka; S2 comprises of Tamil Nadu, Kerala and Puducherry

2) 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) KWPCCL, 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 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	1. (n-1) Contingency of 765kV Gwalior-Agra one ckt leads to 2750 MW loading on second circuit. 2.High Loading of 400kV Singrauli-Anpara S/C.
NR-ER	(n-1) contingency of 400 kV Saranath-Pusauli
ER-NR	n-1 contingency of one circuit of 400 kV Biharshariff- Lakhisarai S/C
WR-SR & ER-SR	(n-1) contingency of one circuit of 765 kV Raichur - Sholapur will lead to 2500 MW loading on the other circuit Low Voltage at Gazuwaka (East) Bus.
ER-NER	(n-1) contingency of 400/220 kV, 2x315 MVA ICTs at Misa results in high loading of other 400/220 kV, 315 MVA ICT at Misa. (n-1) contingency of 400/132 kV, 2 x 200 MVA ICTs at Silchar
NER-ER	(n-1) contingency of 400/220 kV, 2x315 MVA ICTs at Misa results in high loading of other 400/220 kV, 315 MVA ICT at Misa
W3 zone Injection	---

**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
<b>ER</b>									
<b>NR*</b>	1st Apr 2016 to 30th Apr 2016	00-05	9300	800	8500	8586	0		
		05-08'	9300		8500		0		
		08-19'	9300		8500		0		
		19-24	9300		8500		0		
<b>NER</b>	1st Apr 2016 to 25th Apr 2016	00-17	1460	45	1415	210	1205		
		23-24			1355		1145		
	26th Apr 2016	00-07	1460	45	1415	210	1205		
		07-17'	1070		1025		815		
		17-23	1400		1355		1355		
		23-24	1460		1415		1205		
	27th Apr 2016 to 30th Apr 2016	00-17	1460	45	1415	210	1205		
		23-24			1355		1145		
	<b>WR</b>								
	<b>SR</b>	1st Apr 2016 to 2nd Apr 2016	00-06	6650	750	5900	5835	65	
06-18'			5900			5900	0		
18-24			5900			5835	65		
3rd Apr 2016		00-06	6650	750	5900	5835	65		
		06-08'			5900	5900	0		
		08-18'			6350	5600	5900	0	
		18-24			6350	5600	5835	0	
4th Apr 2016 to 24th Apr 2016		00-06	6650	750	5900	5835	65		
		06-18'			5900	5900	0		
		18-24			5900	5835	65		
25th Apr 2016		00-06	6000	750	5250	5835	0		
		06-18'			5250	5900	0		
		18-24			5250	5835	0		
26th Apr 2016		00-06	6000	750	5250	5835	0		
		06-18'			5250	5900	0		
		18-24			5250	5835	0		
27th Apr 2016		00-06	6000	750	5250	5835	0	-650	Revised in view of frequent tripping of HVDC Gazuwaka
		06-18'			5250	5900	0		
		18-24			5250	5835	0		
28th Apr 2016 to 30th Apr 2016		00-06	6650	750	5900	5835	65		
	06-18'	5900			5900	0			
	18-24	5900			5835	65			

\* 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).

\* For approving STOA Bilateral transactions, margin available in Simultaneous Import of NR would be apportioned on WR-NR Corridor & ER-NR Corridor in the following ratio:

Margin in Simultaneous import of NR = A

WR-NR ATC =B

ER-NR ATC = C

Margin for WR-NR applicants = A \* B/(B+C)

Margin for ER-NR Applicants = A \* C/(B+C)

Example: Margin for WR-NR applicants from 00-05 hours =  $1666 * 7200 / (7200 + 3500) = 1121$

Margin for ER-NR applicants from 00-05 hours =  $1666 * 3500 / (7200 + 3500) = 544$

### 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 Apr 2016 to 12th Apr 2016	00-06	4500	700	3800	348	3452		
		06-18'			3800	413	3387		
		18-24	4500		3800	348	3452		
	13th Apr 2016 to 30th Apr 2016	00-06	4500	700	3800	442	3358		
		06-18'			3800	507	3293		
		18-24	4500		3800	442	3358		
NER	1st Apr 2016 to 25th Apr 2016	00-17	1290	45	1245	0	1245		
		23-24			1325		1325		
		17-23	1370		1325				
	26th Apr 2016	00-07	1290	45	1245	0	1245		
		07-17'	985		940		940		
		17-23	1370		1325		1325		
		23-24	1290		1245		1245		
	27th Apr 2016 to 30th Apr 2016	00-17	1290	45	1245	0	1245		
		23-24			1325		1325		
17-23	1370	1325	1325						
WR									
SR *	1st Apr 2016 to 30th Apr 2016	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	(n-1) contingency of 400 kV Biharshariff- Lakhisarai S/C 1. (n-1) Contingency of 765kV Gwalior-Agra one ckt leads to 2750 MW loading on second circuit. 2.High Loading of 400kV Singrauli-Anpara S/C.
	Export	(n-1) contingency of 400kV Zerda-Bhinmal and (n-1) contingency of 220kV Badod-Modak. (n-1) contingency of 400 kV Saranath-Pusauli
NER	Import	(n-1) contingency of 400/220 kV, 2x315 MVA ICTs at Misa results in high loading of other 400/220 kV, 315 MVA ICT at Misa. (n-1) contingency of 400/132 kV, 2 x 200 MVA ICTs at Silchar
	Export	(n-1) contingency of 400/220 kV, 2x315 MVA ICTs at Misa results in high loading of other 400/220 kV, 315 MVA ICT at Misa.
SR	Import	(n-1) contingency of one circuit of 765 kV Raichur - Sholapur will lead to 2500 MW loading on the other circuit Low Voltage at Gazuwaka (East) Bus.

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Total Transfer Capability for April 2016**

<b>Revision No</b>	<b>Date of Revision</b>	<b>Period of Revision</b>	<b>Reason for Revision</b>	<b>Corridor Affected</b>
1	1/3/2016	Whole Month	STOA Margin revised considering the completion of ISGS Allocation towards SR.	NR-WR/ Export of NR
2	31/3/2016	Whole Month	Revised considering outage of HVDC Vindhyachal Pole 1 and grant of MTOA	WR-NR
			Revised considering the outage of HVDC Vindhyachal Pole 1 and the present ER-NR and WR-NR flow pattern and grant of MTOA	Simultaneous import of NR
3	2/4/2016	3/4/2016	Revised due to shutdown of 400 kV Rengali - Indravati	ER-SR / Import of SR
4	12/4/2016	13/4/2016 to 31/4/2016	STOA Margin revised due to allocation of power from NR ISGS to SR Constituents.	NR-WR/ Export of NR
5	24/4/2016	25/4/2016	Revised in view of frequent tripping of HVDC Gazuwaka	ER-SR / Import of SR
6	25/4/2016	26/4/2016	Revised due to shutdown of 400/220 kV 315 MVA ICT-I at Misa.	ER-NER/ NER-ER
7	25/4/2016	26/4/2016	Revised in view of frequent tripping of HVDC Gazuwaka	ER-SR / Import of SR
8	26/4/2016	27/4/2016	Revised in view of frequent tripping of HVDC Gazuwaka	ER-SR / Import of SR

ASSUMPTIONS IN BASECASE					
				Month : April '16	
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	6017	4110	2325	2205
2	Haryana	5959	3730	1533	1533
3	Rajasthan	7793	7529	5769	5715
4	Delhi	4227	2843	865	865
5	Uttar Pradesh	12854	13291	6189	5894
6	Uttarakhand	1473	1314	448	382
7	Himachal Pradesh	1124	1050	606	455
8	Jammu & Kashmir	1642	1191	690	692
9	Chandigarh	204	116	0	0
10	ISGS/IPPs	0	0	17783	12283
	Total NR	41292	35175	36208	30025
II	EASTERN REGION				
1	Bihar	2864	1843	210	100
2	Jharkhand	1115	811	380	215
3	Damodar Valley Corporation	2401	2045	3200	2750
4	Orissa	3968	2855	3026	2016
5	West Bengal	6915	4975	4850	3500
6	Sikkim	95	62	0	0
7	Bhutan	245	245	622	372
8	ISGS/IPPs	624	624	10258	9372
	Total ER	18226	13460	22547	18325
III	WESTERN REGION				
1	Maharashtra	20119	13839	14572	8722
2	Gujarat	12531	11565	10392	9501
3	Madhya Pradesh	7748	4820	5272	2443
4	Chattisgarh	3601	2949	1750	1378
5	Daman and Diu	292	243	0	0
6	Dadra and Nagar Haveli	759	637	0	0
7	Goa-WR	473	273	0	0
8	ISGS/IPPs	1064	1059	26153	22592
	Total WR	46586	35386	58139	44636

IV	SOUTHERN REGION				
1	Andhra Pradesh	6654	5529	5899	5426
2	Telangana	7503	6395	2703	2163
3	Karnataka	8439	7411	6458	5105
4	Tamil Nadu	13886	12855	6738	5788
5	Kerala	3763	2965	1732	656
6	Pondy	391	328	0	0
7	Goa-SR	89	89	0	0
8	ISGS/IPPs	20	20	13130	12002
	Total SR	40745	35592	36660	31140
V	NORTH-EASTERN REGION				
1	Arunachal Pradesh	89	39	0	0
2	Assam	903	648	308	170
3	Manipur	88	52	0	0
4	Meghalaya	227	125	112	39
5	Mizoram	60	40	4	4
6	Nagaland	69	61	8	6
7	Tripura	240	149	85	84
8	ISGS/IPPs	0	0	1100	800
	Total NER	1676	1114	1617	1103
	Total All India	148525	120726	155171	125228