

National Load Despatch Centre
Total Transfer Capability for April 2016

Issue Date: 29/04/2016

Issue Time: 1250 hrs

Revision No. 12

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 28th Apr 2016	00-24	7450	500	6950	6155	795		
	29th Apr 2016	00-24	7450	500	6950	6155	795		
	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 ^s	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		
	3rd Apr 2016	00-06	2650	0	2650	2585	65		
		06-08'	2650		2650	2650	0		
		08-18'	2350		2350	2650	0		
		18'-24	2350		2350	2585	0		
	4th Apr 2016 to 24th Apr 2016	00-06	2650	0	2650	2585	65		
		18-24				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		
	27th Apr 2016	00-06	2000	0	2000	2585	0		
		18-24				2650	0		
06-18'		2650				0			
28th Apr 2016 to 29th Apr 2016	00-06	2000	0	2000	2585	0			
	18-24				2650	0			
30th Apr 2016	00-06	2350	0	2350	2585	0	-150	Revised considering high valve hall temperature at HVDC Gazuwaka B/B	
	18-24				2650	0			
	06-18'				2650	0			
SR-ER *	1st Apr 2016 to 30th Apr 2016	00-24	No limit is being Specified.						

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ER-NER	1st Apr 2016 to 25th Apr 2016	00-17	1460	45	1415	210	1205		
		23-24							
		17-23			1400		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							
		17-23			1400		1355	1145	
	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	
W3 zone Injection		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)					

Note: TTC/ATC of S1-S2 corridor, Import of Punjab and Import of DD & DNH is uploaded on NLDC website under Intra-Regional Section in Monthly ATC.

* 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 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.

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 Biharsharif- 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	---

SR	1st Apr 2016 to 2nd Apr 2016	00-06	6650	750	5900	5835	65		
		06-18'	6650		5900	5900	0		
		18-24	6650		5900	5835	65		
	3rd Apr 2016	00-06	6650	750	5900	5835	65		
		06-08'	6650		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'	6650		5900	5900	0		
		18-24	6650		5900	5835	65		
	25th Apr 2016	00-06	6000	750	5250	5835	0		
		06-18'	6000		5250	5900	0		
		18-24	6000		5250	5835	0		
	26th Apr 2016	00-06	6000	750	5250	5835	0		
		06-18'	6000		5250	5900	0		
		18-24	6000		5250	5835	0		
	27th Apr 2016	00-06	6000	750	5250	5835	0		
		06-18'	6000		5250	5900	0		
		18-24	6000		5250	5835	0		
	28th Apr 2016 to 29th Apr 016	00-06	6000	750	5250	5835	0		
		06-18'	6000		5250	5900	0		
		18-24	6000		5250	5835	0		
	30th Apr 2016	00-06	6350	750	5600	5835	0	-150	Revised considering high valve hall temperature at HVDC Gazuwaka B/B
		06-18'	6350		5600	5900	0		
		18-24	6350		5600	5835	0		

* 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**

Revision No	Date of Revision	Period of Revision	Reason for Revision	Corridor Affected
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
9	28/4/2016	28/4/2016 to 29/4/2016	Revised in view of frequent tripping of HVDC Gazuwaka	ER-SR / Import of SR
10	28/4/2016	29/04/2016	Revised due to shutdown of one pole of HVDC Mundra - Mohindergarh	WR-NR / import of NR
11	29/04/2016	29/4/2016	Revised due to restoration of one pole of HVDC Mundra - Mohindergarh	WR-NR / import of NR
		30/4/2016	Revised considering restoration of one pole of HVDC Gazuwaka	ER-SR / Import of SR
12	29/4/2016	30/4/2016	Revised considering high valve hall temperature at HVDC Gazuwaka B/B	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