

National Load Despatch Centre
Total Transfer Capability for December 2016

Issue Date: 14/12/2016

Issue Time: 1500 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 Dec 2016 to 31st Dec 2016	00-06	2500	500	2000	55	1945		
		06-18'				65	1935		
		18-24				55	1945		
WR-NR*	1st Dec 2016	00-07'	6000	500	5500	6850	0		
		07-24	5000		4500		0		
	2nd Dec 2016 to 4th Dec 2016	00-24	5000	500	4500	6850	0		
	5th Dec 2016	00-24	6200	500	5700	6850	0		
	6th Dec 2016	00-07	6700	500	6200	6850	0		
		07-24	6200		5700		0		
	7th Dec 2016 to 8th Dec 2016	00-07	6700	500	6200	6850	0		
		07-24	5950		5450		0		
	9th Dec 2016 to 12th Dec 2016	00-07	6700	500	6200	6850	0		
		07-24	6200		5700		0		
	13th Dec 2016	00-08	6400	500	5900	6850	0		
		08-24'	5700		5200		0		
	14th Dec 2016	00-09	6400	500	5900	6850	0		
		09-24	6200		5700		0		
	15th Dec 2016	00-09	6400	500	5900	6850	0	-800	
09-24		6200	5700		0		-950		
16th Dec 2016 to 31st Dec 2016	00-24	7200	500	6700	6850	0			
NR-ER*	1st Dec 2016 to 31st Dec 2016	00-06	2000	200	1800	193	1607		
		06-18'	2000		1800	303	1497		
		18-24	2000		1800	193	1607		
ER-NR*	1st Dec 2016 to 31st Dec 2016	00-24	4200	300	3900	2931	969		
W3-ER	1st Dec 2016 to 31st Dec 2016	00-24	No limit is being specified.						
ER-W3	1st Dec 2016 to 31st Dec 2016	00-24	No limit is being specified.						
WR-SR	1st Dec 2016 to 2nd Dec 2016	00-24	4000	750	3250	3250	0		
	3rd Dec 2016 to 10th Dec 2016	00-24	3500	750	2750	3250	0		
	11th Dec 2016	00-05	3900	750	3150	3384	0		
		05-22	3500		2750		0		
		22-24	3900		3150		0		
	12th Dec 2016 to 31st Dec 2016	00-05	4400	750	3650	3384	266		
05-22		4000	3250		0				
22-24		4400	3650		266				
SR-WR *	1st Dec 2016 to 31st Dec 2016	00-24	No limit is being Specified.						

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ER-SR	1st Dec 2016 to 31st Dec 2016	00-06 18-24	2650	0	2650	2585	65		
		06-18'				2650	0		
SR-ER *	1st Dec 2016 to 31st Dec 2016	00-24	No limit is being Specified.						
ER-NER	1st Dec 2016 to 31st Dec 2016	00-17 23-24	1320	45	1275	225	1050		
		17-23	1150		1105		880		
NER-ER	1st Dec 2016 to 31st Dec 2016	00-17 23-24	1100	45	1055	0	1055		
		17-23	1260		1215		1215		
W3 zone Injection	1st Dec 2016 to 31st Dec 2016	00-24	No limit is being specified (In case of 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).

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) JDB Power, m) KWPCCL, n) Vandana Vidyut o) RKM, p) GMR Raikhedra, q) Ind Barath and any other regional entity generator in Chhattisgarh

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) contingencies of N.Ranchi - Chandawa S/c & (n-1) contingencies of 400kV MPL- Maithon S/c
WR-SR & ER-SR	00-05 hrs & 22-24 hrs: (n-1) contingency of one circuit of 765 kV Raichur - Sholapur will lead to 2750 MW loading on the other circuit. 05-22 hrs: (n-1) contingency of one circuit of 765 kV Aurangabad - Sholapur will lead to 2750 MW loading on the other circuit and 10kV voltage dip at Sholapur (PG)
	Low Voltage at Gazuwaka (East) Bus.
ER-NER	a. (n-1) contingency of 400/220 kV, 2x315 MVA ICTs at Misa b. High loading of 220 kV Balipara-Sonabil line(200 MW)
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	---

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
SR	1st Dec 2016 to 2nd Dec 2016	00-06	6650	750	5900	5835	65		
		06-18'	6650		5900	5900	0		
		18-24	6650		5900	5835	65		
	3rd Dec 2016 to 10th Dec 2016	00-06	6150	750	5400	5835	0		
		06-18'	6150		5400	5900	0		
		18-24	6150		5400	5835	0		
	11th Dec 2016	00-05	6550	750	5800	5969	0		
		05-06	6150		5400	5969	0		
		06-18	6150		5400	6034	0		
		18-22	6150		5400	5969	0		
		22-24	6550		5800	5969	0		
	12th Dec 2016 to 31st Dec 2016	00-05	7050	750	6300	5969	331		
		05-06	6650		5900	5969	0		
		06-18	6650		5900	6034	0		
		18-22	6650		5900	5969	0		
22-24		7050	6300		5969	331			

* 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 = $A * C / (B+C)$

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 Dec 2016 to 31st Dec 2016	00-06	4500	700	3800	148	3652		
		06-18'			3800	213	3587		
		18-24	4500		3800	148	3652		
NER	1st Dec 2016 to 31st Dec 2016	00-17	1100	45	1055	0	1055		
		23-24	1260		1215		1215		
		17-23							
WR									
SR *	1st Dec 2016 to 31st Dec 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 one circuit of 400 kV Kahalgaon-Banka leads to high loading on the other circuit 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. 3.(n-1) contingencies of N.Ranchi - Chandawa S/c & (n-1) contingencies of 400kV MPL- Maithon 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	a. (n-1) contingency of 400/220 kV, 2x315 MVA ICTs at Misa b. High loading of 220 kV Balipara-Sonabil line(200 MW)
	Export	(n-1) contingency of 400/220 kV, 2x315 MVA ICTs at Misa results in high loading of other 400/220 kV, 315 MVA
SR	Import	00-05 hrs & 22-24 hrs: (n-1) contingency of one circuit of 765 kV Raichur - Sholapur will lead to 2750 MW loading on the other circuit.
		05-22 hrs: (n-1) contingency of one circuit of 765 kV Aurangabad - Sholapur will lead to 2750 MW loading on the other circuit and 10kV voltage dip at Sholapur (PG) Low Voltage at Gazuwaka (East) Bus.

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Revision No	Date of Revision	Period of Revision	Reason for Revision	Corridor Affected
1	29/11/2016	01/12/2016 to 04/12/2016	Revised due to shutdown of HVDC Mundra - Mohindergarh Pole-1, Commissioning of 400kV RAPC-Shujalpur D/C & Operationalization of LTA/MTOA.	WR-NR/ Import of NR
		05/12/2016 to 31/12/2016	Revised due to Commissioning of 400kV RAPC-Shujalpur D/C & Operationalization of LTA/MTOA.	
2	30/11/2016	01/12/2016 to 04/12/2016	Revised due to dense fog condition and trippings occurred in the past few days due to fog.	WR-NR/ Import of NR
3	2/12/2016	03/12/2016 to 10/12/2016	Revised due to outage of HVDC Bhadrawati Block-I.	WR-SR/ Import of SR
4	4/12/2016	5/12/2016	Revised due to dense fog conditions prevailing in NR and line trippings occurred in the past few days due to fog.	WR-NR/ Import of NR
5	5/12/2016	6/12/2016 to 12/12/2016	Revised considering fog during 0000-0007 hrs and shutdown of 765 kV Agra - Gwalior ckt 1 from 0700 hrs	WR-NR/ Import of NR
6	6/12/2016	7/12/2016 to 8/12/2016	Revised due to shutdown of 400 kV Anpara - Mau	WR-NR/ Import of NR
7	10/12/2016	11/12/2016	Revised due to (1) Outage of HVDC Bhadrawati Block-I. (2) Present Maharashtra Demand/Generation and Voltage profile at Sholapur (PG), Parli(PG) etc. during night hours.	WR-SR/ Import of SR
		12/12/2016 to 31/12/2016	Revised due to present Maharashtra Demand/Generation and Voltage profile at Sholapur (PG), Parli(PG) etc. during night hours.	
8	12/12/2016	13/12/2016	Revised due to outage of HVDC Rihand-Dadri and 765 kV Phagi - Bhiwani ckt 1	WR-NR/ Import of NR
9	13/12/2016	14/12/2016	Revised due to outage of HVDC Rihand-Dadri Poe-1 and shutdown of 765/400 kV ICT-1 at Phagi	WR-NR/ Import of NR
		15/12/2016	Revised due to shutodwn of 765/400 kV ICT-1 at Phagi	
10	14/12/2016	15/12/2016	Revised due to outage of HVDC Rihand-Dadri Poe-1 and shutdown of 765/400 kV ICT-1 at Phagi	WR-NR/ Import of NR

ASSUMPTIONS IN BASECASE					
				Month: December '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	5866	3850	2079	2141
2	Haryana	6497	3357	2061	2061
3	Rajasthan	9758	10060	5720	5774
4	Delhi	3735	1797	493	493
5	Uttar Pradesh	12555	12314	6338	6302
6	Uttarakhand	1783	1835	546	328
7	Himachal Pradesh	1380	1361	246	111
8	Jammu & Kashmir	2254	2352	463	431
9	Chandigarh	212	98	0	0
10	ISGS/IPPs	28	29	19403	11986
	Total NR	44068	37053	37348	29626
II	EASTERN REGION				
1	Bihar	3392	2543	200	131
2	Jharkhand	1098	814	400	400
3	Damodar Valley Corporation	2400	2136	3121	2971
4	Orissa	3753	2677	2759	1699
5	West Bengal	6741	5697	5110	3876
6	Sikkim	100	51	0	0
7	Bhutan	245	245	477	115
8	ISGS/IPPs	567	572	11276	10138
	Total ER	18266	14706	23298	19316
III	WESTERN REGION				
1	Maharashtra	20119	12604	14942	9531
2	Gujarat	12390	9961	9312	7051
3	Madhya Pradesh	11481	7945	6974	5088
4	Chattisgarh	3842	2563	2830	1919
5	Daman and Diu	308	252	0	0
6	Dadra and Nagar Haveli	706	656	0	0
7	Goa-WR	500	240	0	0
8	ISGS/IPPs	3099	3142	30985	26469
	Total WR	52445	37363	65042	50058

IV	SOUTHERN REGION				
1	Andhra Pradesh	7562	5829	6378	5692
2	Telangana	7946	6579	2953	2749
3	Karnataka	9122	9050	7140	5214
4	Tamil Nadu	12600	10108	5209	3920
5	Kerala	3891	2888	1609	629
6	Pondy	391	337	0	0
7	Goa-SR	89	89	0	0
8	ISGS/IPPs	0	0	14187	12153
	Total SR	41601	34880	37476	30357
V	NORTH-EASTERN REGION				
1	Arunachal Pradesh	113	54	0	0
2	Assam	1048	789	250	160
3	Manipur	129	84	0	0
4	Meghalaya	326	226	162	112
5	Mizoram	84	59	8	8
6	Nagaland	93	77	8	6
7	Tripura	178	127	81	80
8	ISGS/IPPs	80	50	1507	1083
	Total NER	2051	1467	2016	1449
	Total All India	158676	125714	165657	130921