

**National Load Despatch Centre
Total Transfer Capability for December 2015**

Issue Date: 30/11/2015

Issue Time: 1300 hrs

Revision No. 5

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 2015 to 31st Dec 2015	00-24	2500	500	2000	706	1294		
WR-NR*	1st Dec 2015	00-06	7700	500	7200	5818	1382		Revised due to shutdown of one pole of HVDC Mundra - Mohindergarh
		06-24'	6700	500	6200	5818	382	-1000	
	2nd Dec 2015 to 31st Dec 2015	00-24	7700	500	7200	5818	1382		STOA margin revised after an inadvertent error in LTA/MTOA summation figure is fixed
NR-ER*	1st Dec 2015 to 31st Dec 2015	00-06	2000	200	1800	293	1507		
		06-18'	2000		1800	358	1442		
		18-24	2000		1800	293	1507		
ER-NR*	1st Dec 2015 to 31st Dec 2015	00-24	3800	300	3500	2431	1069		
W3-ER ^s	1st Dec 2015 to 31st Dec 2015	00-24	No limit is being specified. No Re-routing is allowed via W3-ER-NR.						
ER-W3	1st Dec 2015 to 31st Dec 2015	00-24	No limit is being specified.						
WR-SR	1st Dec 2015 to 31st Dec 2015	00-24	3200	750	2450	2450	0	200	Revised due commissioning of 400kV Kolhapur(PG)-Kudgi(PG) one ckt
SR-WR *	1st Dec 2015 to 31st Dec 2015	00-24	No limit is being Specified.						
ER-SR	1st Dec 2015 to 31st Dec 2015	00-06	2650	0	2650	2585	65		
		18-24				2650	0		
		06-18'							
SR-ER *	1st Dec 2015 to 31st Dec 2015	00-24	No limit is being Specified.						

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ER-NER	1st Dec 2015	00-07	1290	45	1245	210	1035	-130	Revised due to shutdown of 220 kV Balipara- Samaguri	
		0700-1630	1160		1115		905			
		1630-1700	1290		1245		1035			
		17-23	1100		1055		845			
		23-24	1290		1245		1035			
	2nd Dec 2015	00-17	1290	45	1245	210	1035			
		23-24	1100		1055		845			
	3rd Dec 2015	00-07	0700-1630	1160	45	1115	210	905	-130	Revised due to shutdown of 220 kV Balipara- Samaguri
			1630-1700	1290		1245		1035		
			17-23	1100		1055		845		
			23-24	1290		1245		1035		
	4th Dec 2015 to 31st Dec 2015	00-17	23-24	1290	45	1245	210	1035		
			17-23	1100		1055		845		
	NER-ER	1st Dec 2015	00-07	1480	45	1435	210	1225	-370	Revised due to shutdown of 220 kV Balipara- Samaguri
			0700-1630	1110		1065		855		
			1630-1700	1480		1435		1225		
17-23			1340	1295		1085				
23-24			1480	1435		1225				
2nd Dec 2015		00-17	1480	45	1435	210	1225			
		23-24	1340		1295		1085			
3rd Dec 2015		00-07	0700-1630	1110	45	1065	210	855	-370	Revised due to shutdown of 220 kV Balipara- Samaguri
			1630-1700	1480		1435		1225		
			17-23	1340		1295		1085		
			23-24	1480		1435		1225		
4th Dec 2015 to 31st Dec 2015		00-17	23-24	1480	45	1435	210	1225		
			17-23	1340		1295		1085		
W3 zone Injection		1st Dec 2015 to 31st Dec 2015	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.A7										

* 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).

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\$ 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	1. n-1 contingency of one circuit of 400 kV Biharshariff- Lakhisarai leads to high loading on the other circuit 2. n-1 contingency of one circuit of 400 kV Farakka-Malda leads to high loading of the other circuit
WR-SR & ER-SR	(n-1) contingency of one circuit of 765 kV Raichur - Sholapur will lead to 2000 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
ER									
NR*	1st Dec 2015	00-05	11000	800	10200	8249	1951		Revised due to shutdown of one pole of HVDC Mundra - Mohindergarh
		05-06'	11100		11100		2851		
		06-08'	9658		8858		609	-1442	
		08-19'	9571		8771		522	-1429	
		19-24	8919		8119		0	-1331	
	2nd Dec 2015 to 31st Dec 2015	00-05	11000	800	10200	8249	1951		STOA margin revised after an inadvertent error in LTA/MTOA summation figure is fixed
		05-08'	11100		10300		2051		
		08-19'	11000		10200		1951		
19-24		10250	9450		1201				
NER	1st Dec 2015	00-07	1290	45	1245	210	1035		Revised due to shutdown of 220 kV Balipara-Samaguri
		0700-1630	1160		1115		905	-130	
		1630-1700	1290		1245		1035		
		17-23	1100		1055		845		
		23-24	1290		1245		1035		
	2nd Dec 2015	00-17	1290	45	1245	210	1035		
		23-24	1100		1055		845		
		00-07	1290		1245		1035		
	3rd Dec 2015	0700-1630	1160	45	1115	210	905	-130	Revised due to shutdown of 220 kV Balipara-Samaguri
		1630-1700	1290		1245		1035		
		17-23	1100		1055		845		
		23-24	1290		1245		1035		
		00-17	1290		45		1245	210	
	23-24	1100	1055	845					
	17-23	1100	1055	845					
	4th Dec 2015 to 31st Dec 2015	00-17	1290	45	1245	210	1035		
23-24		1100	1055		845				
WR									
SR	1st Dec 2015 to 31st Dec 2015	00-06	5850	750	5100	5035	65	200	Revised due commissioning of 400kV Kolhapur(PG)-Kudgi(PG) one ckt
		06-18'	5850		5100	5100	0		
		18-24	5850		5100	5035	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 = $1831 * 7200 / (7200 + 3100) = 1280$

Margin for ER-NR applicants from 00-05 hours = $1831 * 3500 / (7200 + 3500) = 599$

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 2015 to 31st Dec 2015	00-06	4500	700	3800	999	2801		
		06-18'			3800	1064	2736		
		18-24			3800	999	2801		
NER	1st Dec 2015	00-07	1480	45	1435	210	1225	-370	Revised due to shutdown of 220 kV Balipara-Samaguri
		0700-1630	1110		1065		855		
		1630-1700	1480		1435		1225		
		17-23	1340		1295		1085		
		23-24	1480		1435		1225		
	2nd Dec 2015	00-17	1480	45	1435	210	1225		
		23-24	1340		1295		1085		
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		0700-1630	1110		1065		855		
		1630-1700	1480		1435		1225		
		17-23	1340		1295		1085		
		23-24	1480		1435		1225		
	4th Dec 2015 to 31st Dec 2015	00-17	1480	45	1435	210	1225		
		23-24	1340		1295		1085		
	WR								
SR *	1st Dec 2015 to 31st Dec 2015	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 2000 MW loading on the other circuit Low Voltage at Gazuwaka (East) Bus.

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Revision No	Date of Revision	Period of Revision	Reason for Revision	Corridor Affected
1	24/9/2015	Whole Month	Revised due to revision in 765kV Gwalior-Agra Ckt-1&2 SPS setting.	WR-NR/ Import of NR
			Revised due to commissioning of 765kV Dharamjaigarh-Jabalpur D/C.	W3 Zone Injection
2	16/10/2015	Whole Month	STOA margin revised due to operationalization of MTOA.	WR-NR/ Import of NR
			Revised due to commissioning of 765kV Dharamjaigarh-Jabalpur D/C.	ER-W3
			Revised due to commissioning of 765 kV Aurangabad - Sholapur D/C	WR- SR/Import of SR
			Revised due commissioning of 765 kV Aurangabad-Sholapur D/C, 765 kV Dharamjaigarh - Jabalpur D/C and considering the present inter regional power flow pattern	W3 Zone Injection
3	23-11-2015	Whole month	Margin available in Simultaneous Import of NR would be apportioned on WR-NR Corridor & ER-NR Corridor in the ratio of ATCs - Example	WR-NR/ Import of NR
4	24-11-2015	Whole Month	Revised due comissioning of new transmission elements	ER-NR
5	30-11-2015	01-12-2015	Revised due to shutdown of one pole of HVDC Mundra - Mohindergarh	WR-NR/ Import of NR
		Whole Month	STOA margin revised after an inadvertent error in LTA/MTOA summation figure is fixed	WR-NR/ Import of NR
		Whole Month	Revised due commissioning of 400kV Kolhapur(PG)-Kudgi(PG) one ckt	WR- SR/Import of SR
		01-12-2015	Revised due to shutdown of 220 kV Balipara- Samaguri	ER-NER/ NER- ER
		03-12-2015		

ASSUMPTIONS IN BASECASE					
				Month : December '15	
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	5559	3491	2152	2085
2	Haryana	6228	2948	2217	2217
3	Rajasthan	9325	8655	5570	5514
4	Delhi	3175	1549	790	790
5	Uttar Pradesh	12198	11682	5569	5587
6	Uttarakhand	1679	1218	525	228
7	Himachal Pradesh	1376	925	336	263
8	Jammu & Kashmir	2339	2352	401	255
9	Chandigarh	172	75	0	0
10	ISGS/IPPs	0	0	19083	11552
	Total NR	42053	32894	36643	28491
II	EASTERN REGION				
1	Bihar	2831	2132	180	120
2	Jharkhand	1049	914	540	360
3	Damodar Valley Corporation	2517	2132	3660	2748
4	Orissa	3672	2946	3365	1842
5	West Bengal	6333	5916	4695	3051
6	Sikkim	125	102	0	0
7	Bhutan	0	0	0	0
8	ISGS/IPPs	609	559	10625	9607
	Total ER	17137	14700	23065	17728
III	WESTERN REGION				
1	Maharashtra	20822	13093	14523	7312
2	Gujarat	13593	9878	10498	7289
3	Madhya Pradesh	9763	6885	4479	3426
4	Chattisgarh	3676	2005	2743	1102
5	Daman and Diu	306	229	0	0
6	Dadra and Nagar Haveli	783	562	0	0
7	Goa-WR	511	288	0	0
8	ISGS/IPPs	982	973	27229	23303
	Total WR	50436	33913	59472	42431

IV	SOUTHERN REGION				
1	Andhra Pradesh	5629	5313	4759	4284
2	Telangana	6366	6065	2427	1899
3	Karnataka	7697	5550	6984	5307
4	Tamil Nadu	11912	11319	6646	5746
5	Kerala	3445	2132	1796	826
6	Pondy	336	220	0	0
7	Goa-SR	85	85	0	0
8	ISGS/PPs	0	0	10043	9773
	Total SR	35470	30684	32655	27835
V	NORTH-EASTERN REGION				
1	Arunachal Pradesh	94	40	0	0
2	Assam	954	698	267	198
3	Manipur	103	56	0	0
4	Meghalaya	301	179	155	87
5	Mizoram	69	41	4	4
6	Nagaland	82	63	8	6
7	Tripura	224	131	106	106
8	ISGS/PPs	7	7	1303	847
	Total NER	1834	1215	1843	1248
	Total All India	146930	113407	153679	117734