

**National Load Despatch Centre
Total Transfer Capability for July 2014**

Issue Date: 03/07/2014

Issue Time: 1215 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 July 2014 to 31st July 2014	00-24	2500	500	2000	651	1349			
WR-NR	1st July 2014 to 31st July 2014	00-17	4700	500	4200	4380	0			
		23-24					0			
		17-23	4700	4200	0					
NR-ER*	1st July 2014 to 31st July 2014	00-06	1000	200	800	293	507			
		06-17'			800	423	377			
		17-18'	1100		900	423	477			
		18-23			900	293	607			
		23-24	1000		800	293	507			
ER-NR ^s	1st July 2014 to 31st July 2014	00-17	3700	300	3400	2431	969			
		23-24					969			
		17-23								
W3-ER ^s	1st July 2014 to 3rd July 2014	00-24	1500	300	1200	697	503			
	4th July 2014	00-08'	1500	300	1200	697	503		Revised due to shutdown of 400kV Rourkela-Jharsuguda-Raigarh D/C	
		08-24'	1250		950		253			-250
	5th July 2014 to 31st July 2014	00-24	1500	300	1200	697	503			
ER-W3	1st July 2014 to 31st July 2014	00-24	1000	300	700	874	0			
WR-SR	1st July 2014 to 31st July 2014	00-24	1000	0	1000	1000	0			
SR-WR *	1st July 2014 to 31st July 2014	00-24	1000	0	1000	0	1000			
ER-SR	1st July 2014	00-06	2500	0	2500	1923	577			
		18-24					1968			532
		06-18'								
	2nd July 2014 to 3rd July 2014	00-06	2500	0	2500	2069	431			
		18-24					2114			386
		06-18'								
	4th July 2014	00-06	2500	0	2500	2069	431	-150	Revised due to non availability of HVDC Gazuwaka Block-1.	
		18-24					2114			386
		06-18'								
	5th July 2014 to 7th July 2014	00-06	2650	0	2650	2069	581			
		18-24					2114			536
		06-18'								
8th July 2014 to 9th July 2014	00-06	2650	0	2650	2512	138				
	18-24					2557			93	
	06-18'									
10th July 2014 to 31st July 2014	00-06	2650	0	2650	2069	581				
	18-24					2114			536	
	06-18'									
SR-ER*	1st July 2014 to 7th July 2014	00-24	1200	0	1200	148	1052			
	8th July 2014 to 9th July 2014					197	1003			
	10th July 2014 to 31st July 2014					148	1052			
ER-NER	1st July 2014 to 31st July 2014	00-17	645	50	595	205	390			
		23-24								
		17-23'	600		550	210	340			

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NER-ER	1st July 2014 to 31st July 2014	00-17 23-24	550	100	450	0	450		
		17-23	530		430		430		
S1-S2	1st July 2014	00-24	2580	290	2290	2400	0		
	2nd July 2014	00-24	2580		2290	2286	4		
	3rd July 2014 to 5th July 2014	00-24	2300		2010	2286	0		
	6th July 2014 to 7th July 2014	00-24	2300		2010	2286	0		
	8th July 2014 to 9th July 2014	00-24	2300		2010	2520	0		
	10th July 2014 to 15th July 2014	00-24	2300		2010	2286	0		
	16th July 2014 to 22nd July 2014	00-24	2300		2010	2286	0		
	23rd July 2014 to 30th July 2014	00-24	2300		2010	2366	0		
	31st July 2014	00-24	2300		2010	2156	0		
Import of Punjab	1st July 2014 to 31st July 2014	00-24	5700	300	5400	3790	1610		
Import TTC for DD & DNH	1st July 2014 to 31st July 2014	00-24	980	0	980	LTA and MTOA as per ex-pp schedule			
W3 zone Injection	1st July 2014 to 31st July 2014	00-17 23-24	9000	200	8800	6842	1958		
		17-23	9500		9300		2458		

* 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) 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 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 Vidut

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.

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Limiting Constraints

Corridor	Constraint
NR-WR	(n-1) contingency of 400kV Zerda-Bhinmal and (n-1) contingency of 220kV Badod-Modak.
WR-NR	High loading of 765 kV Agra-Gwalior (1250 MW SPS setting on each circuit of 765 kV Gwalior-Agra) and Loop flows on 400kV Kankroli-Zerda and 400kV Bhinmal-Zerda (power flowing from WR to NR on 765kV Gwalior-Agra D/C and from NR to WR on 400kV Kankroli-Zerda and 400kV Bhinmal-Zerda).
NR-ER	(n-1) contingency of 400 kV Allahabad-Pusaui
ER-NR	High loading of 765 kV Agra-Gwalior (1250MW SPS setting of 765kV Gwalior-Agra) due to transit flows on ER-WR-NR corridor
W3-ER	(n-1) contingency of 400kV Sterlite-Rourkela S/C
ER-W3	(n-1) contingency of 400kV Raigarh-Jharsuguda-Rourkela
WR-SR & ER-SR	1. Commissioning of 765kV Raichur-Sholapur S/C 2. Based on the operational experience after the synchronization of SR grid with NEW grid and due to inadvertent 3. ER-SR TTC has been declared assuming more than 1100 MW generation at Talcher Stage-2. In case
SR-WR	Bhadrawati HVDC B/B link capacity
SR-ER	(n-1) and (n-1-1) contingencies of 400kV Talcher-Rourkela D/C
ER-NER	(n-1) contingency of 400 kV Balipara – Bongaigaon D/C leading to thermal loading of 220kV BTPS-
NER-ER	(n-1) contingency of 400/220 kV, 2x315 MVA ICTs at Misa
S1-S2	(n-1) contingency of 400 kV Kolar-Hosur D/C
Import of Punjab	(n-1) contingency of ICT at Dhuri and (n-1) contingency of 220kV Moga(PG)-Moga(PSTCL)
W3 zone Injection	(n-1-1) contingency of 400 kV Raipur-Bhadrawati D/C section and High loading of 400kV Raipur-Wardha (800 MW SPS setting on each circuit of 400kV Raipur-Wardha)

*Primary constraints

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 July 2014 to 31st July 2014	00-17 23-24	8400	800	7600	6811	789		
		17-23	8400		7600		789		
NER	1st July 2014 to 31st July 2014	00-17 23-24	645	50	595	205	390		
		17-23'	600		550		210		
WR									
SR	1st July 2014	00-06 18-24	3500	0	3500	2923	577		
		06-18'				2968	532		
	2nd July 2014 to 3rd July 2014	00-06 18-24	3500	0	3500	3069	431		
		06-18'				3114	386		
	4th July 2014	00-06 18-24	3500	0	3500	3069	431	-150	Revised due to non availability of HVDC Gazuwaka Block-1 and Margin revised on account of change in LTA/Allocation.
		06-18'				3114	386		
	5th July 2014 to 7th July 2014	00-06 18-24	3650	0	3650	3069	581		
		06-18'				3114	536		
	8th July 2014 to 9th July 2014	00-06 18-24	3650	0	3650	3512	138		
		06-18'				3557	93		
	10th July 2014 to 31st July 2014	00-06 18-24	3650	0	3650	3069	581		
		06-18'				3114	536		

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 July 2014 to 31st July 2014	00-06	3500	700	2800	944	1856		
		06-17'	3500		2800	1074	1726		
		17-18	3600		2900	1074	1826		
		18-23	3600		2900	944	1956		
		23-24	3500		2800	944	1856		
NER	1st July 2014 to 31st July 2014	00-17	450	100	350	0	350		
		23-24			450		450		
		17-23	550						
WR									
SR*	1st July 2014 to 7th July 2014	00-24	2200	0	2200	148	2052		
	8th July 2014 to 9th July 2014					197	2003		
	10th July 2014 to 31st July 2014					148	2052		

* 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	High loading of 765 kV Agra-Gwalior (1250MW SPS setting of 765kV Gwalior-Agra) due to transit flows on ER-WR-NR corridor.
	Export	High loading of 765 kV Agra-Gwalior (1250 MW SPS setting on each circuit of 765 kV Gwalior-Agra) and high loop flows on 400kV Kankroli-Zerda and 400kV Bhinmal-Zerda (power flowing from WR to NR on 765kV Gwalior-Agra (n-1) contingency of 400kV Zerda-Bhinmal and (n-1) contingency of 220kV Badod-Modak. (n-1) contingency of 400 kV Allahabad-Pusauli
NER	Import	(n-1) contingency of 400 kV Balipara – Bongaigaon D/C leading to thermal loading of 220kV BTPS-Agia S/C
	Export	(n-1) contingency of 400/220 kV, 2x315 MVA ICTs at Misa
SR	Import	1. Commissioning of 765kV Raichur-Sholapur S/C 2. Based on the operational experience after the synchronization of SR grid with NEW grid and due to inadvertent variation of 765kV Raichur-Sholapur line flow, observation of Low Frequency Oscillations(LFO). 3. ER-SR TTC has been declared assuming more than 1100 MW generation at Talcher Stage-2. In case Talcher Stage-2 generation goes below 1100 MW, then the ER-SR TTC would be revised downward as constraints within ER would emerge.
	Export	(n-1) and (n-1-1) contingencies of 400kV Talcher-Rourkela D/C

*Primary constraints

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Revision No	Date of Revision	Period of Revision	Reason for Revision	Corridor Affected
1	04-04-2014	Whole Month	Margin revised due to grant of 69 MW LTA to Jindal Power Limited Tamnar	W3/ ER-SR
2	11-04-2014	Whole Month	Margin revised due to addition of 139 MW LTA to TANGEDCO	ER-SR
			Margin Revised due to correction in LTA Figure and addition of 208 MW LTA to TANGEDCO	S1-S2
3	30-04-2014	Whole Month	Re-Routing of transactions on West-East-North Corridor discontinued on account of Inter-Regional Loop flows leading to physical congestion on WR-NR.	W3-ER
			Margin revised due to commissioning of Sasan Unit-4	WR-NR
4	01-05-2014	Whole Month	Margin revised due to incorporation of existing Power Allocation.	
			Margin revised due to incorporation of existing Solar Power Allocation to SR, ER, NER constituents between 6 hrs -18 hrs in LTA figures and allocation data available on RPCs RTA/REA.	NR-ER/ ER- NER
			Margin revised due to incorporation of existing LTA/MTOA allocation available in RPCs RTA/REA and Re-routing of existing MTOA granted by CTU.	W3-ER
			Margin revised due to incorporation of existing LTA/MTOA allocation available in RPCs RTA/REA.	ER-W3
			Margin revised due to incorporation of existing Solar Power Allocation to Karnataka between 6 hrs-18 hrs in LTA figures.	ER-SR
			Margin revised due to Allocation of 150 MW to TANGEDCO.	S1-S2
			Margin revised due to incorporation of existing LTA/MTOA allocation available in RPCs RTA/REA and existing MTOA granted by CTU.	W3 Zone Injection
			Revised due to augmentation/ modifications in Punjab control area network.	Import of Punjab
5	19-05-2014	Whole Month	Refer to explanatory notes regarding the change in TTC representation given in the last page.	ER-SR/ S1-S2
6	13-06-2014	Whole Month	Revised due to change in Load Generation Balance and Commissioning of Sasan Unit-1.	WR-NR
7	25-06-2014	Whole Month	Revised due to change in Load Generation Balance and Margin revised considering SRPC Generating Units Maintenance schedule.	S1-S2
			Revised due to change in Load Generation Balance	ER-NR
8	27-06-2014	Whole Month	LTA/MTOA revised due to deferment of Simhadri unit - 4 overhauling	S1-S2
9	30-06-2014	Whole Month	Revised due to change in Load-Generation balance and major network change due to commissioning of 400/220 kV Azara (Kukurmara) substation	ER-NER / NER-ER
			Revised due to forced outage of 400 kV Raigarh-SEL-Rourkela Ckt 1	W3-ER
10	30-06-2014	01-07-2014	Due to non availability of HVDC Gazuwaka Block 1	ER-SR
		01-07-2014 to 02-07-2014	Revised due to outage of NCTPS Unit-2	S1-S2

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Revision No	Date of Revision	Period of Revision	Reason for Revision	Corridor Affected
11	01-07-2014	02/07/2014 - 03/07/2014	Due to non availability of HVDC Gazuwaka Block 1.	ER-SR
		02/07/2014 - 31/07/2014	STOA Margin revised on account of change in LTA/Allocation	ER-SR/ S1-S2/ W3-ER/ NR-WR/ W3 Zone
12	03-07-2014	04-07-2014	Due to non availability of HVDC Gazuwaka Block 1.	ER-SR
			Revised due to shutdown of 400kV Rourkela-Jharsuguda-Raigarh D/C	W3-ER

ASSUMPTIONS IN BASECASE

Month : July '14

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	8805	8759	3237	3034
2	Haryana	7318	7018	3790	3790
3	Rajasthan	6840	6640	4731	4721
4	Delhi	5241	5044	1172	1172
5	Uttar Pradesh	12034	12134	6260	6283
6	Jammu & Kashmir	1935	1834	556	571
7	Uttarakhand	1559	1459	508	469
8	Himachal Pradesh	1489	1390	867	867
9	Chandigarh	291	277	0	0
10	ISGS/IPPs			19676	17746
	Total NR	45512	44555	40797	38653
II	EASTERN REGION				
1	West Bengal	6881	4919	4764	3604
2	Jharkhand	1070	850	365	370
3	Orissa	3740	3000	3049	2375
4	Bihar	2190	1820	80	80
5	Damodar Valley Corporation	2350	2139	3523	3008
6	Sikkim	86	40		
7	Bhutan	108	108	1425	1065
8	ISGS/IPPs	300	480	9351	8716
	Total ER	16725	13356	22557	19218
III	WESTERN REGION				
1	Chattisgarh	2709	2381	1653	1326
2	Madhya Pradesh	5556	3873	4367	2740
3	Maharashtra	15757	13648	9707	7696
4	Gujarat	11177	8813	8279	6437
5	Goa	330	356		
6	Daman and Diu	244	263		
7	Dadra and Nagar Haveli	629	613		
8	ISGS/IPPs	1255	1255	18036	17054
	Total WR	37657	31202	42042	35253

ASSUMPTIONS IN BASECASE

Month : July '14

S.No.	Name of State/Area	Load		Generation	
		Peak Load (MW)	Off Peak Load (MW)	Peak (MW)	Off Peak (MW)
IV	SOUTHERN REGION				
1	Andhra Pradesh	11750	10246	7877	6292
2	Tamil Nadu	12324	10506	7812	6808
3	Karnataka	8094	6969	6094	5005
4	Kerala	3394	2653	1512	907
5	Pondy	339	291		
6	Goa	84	83		
7	ISGS/IPPs			10422	9492
	Total SR	35985	30748	33717	28504
V	NORTH-EASTERN REGION				
1	Arunachal Pradesh	120	60	0	0
2	Assam	1350	970	220	200
3	Manipur	120	84	0	0
4	Meghalaya	310	217	80	70
5	Mizoram	75	53	8	4
6	Nagaland	120	84	12	12
7	Tripura	250	120	90	90
8	ISGS/IPPs			1309	1096
	Total NER	2345	1588	1719	1472
	Total All India	138224	121449	140832	123100