

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

Issue Date: 23/05/2014

Issue Time: 1200 hrs

Revision No. 6

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 June 2014 to 30th June 2014	00-24	2500	500	2000	297	1703			
WR-NR	1st June 2014 to 30th June 2014	00-17	4200	500	3700	3992	0			
		23-24								
		17-23								
NR-ER*	1st June 2014 to 30th June 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			800	293	507			
ER-NR ^s	1st June 2014 to 30th June 2014	00-17	3800	300	3500	2431	1069			
		23-24					1069			
		17-23					1069			
W3-ER ^s	1st June 2014 to 30th June 2014	00-24	1800	300	1500	551	949			
ER-W3	1st June 2014 to 30th June 2014	00-24	1000	300	700	874	0			
WR-SR	1st June 2014 to 30th June 2014	00-24	1000	0	1000	1000	0			
SR-WR *	1st June 2014 to 30th June 2014	00-24	1000	0	1000	0	1000			
ER-SR	1st June 2014 to 30th June 2014	00-06 18-24	2650	0	2650	2158	492		Refer to explanatory notes regarding the change in TTC representation given in the last page.	
		06-18'				2203	447			
SR-ER *	1st June 2014 to 30th June 2014	00-17 23-24	1100	0	1100	197	903			
		17-23					1100			903
ER-NER	1st June 2014 to 30th June 2014	00-06 18-24	550	50	500	205	295			
		06-18'	550		500	210	290			
NER-ER	1st June 2014 to 30th June 2014	00-17 23-24	500	100	400	0	400			
		17-23	450		350		350			
S1-S2	1st June 2014 to 13th June 2014	00-24	2640	295	2345	2139	206		Refer to explanatory notes regarding the change in TTC representation given in the last page.	
	14th June 2014 to 15th June 2014	00-24	2640	295	2345	2340	5			
	16th June 2014 to 30th June 2014	00-24	2920	295	2625	2449	176			

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Import of Punjab	1st June 2014 to 30th June 2014	00-24	5700	300	5400	3790	1610		
Import TTC for DD & DNH	1st June 2014 to 30th June 2014	00-24	980	0	980	LTA and MTOA as per ex-pp schedule			
W3 zone Injection	1st June 2014 to 30th June 2014	00-17 23-24	9000	200	8800	7050	1750		
		17-23	9500		9300		2250		

* 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 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.

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 high loop flows on 400kV Kankroli-Zerda and 400kV Bhinmal-Zerda.
NR-ER	(n-1) contingency of 400 kV Allahabad-Pusauli
ER-NR	(n-1) contingency of one circuit of 400kV Farakka –Malda D/C
W3-ER	(n-1) contingency of 400kV Sterilte-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 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.
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 one circuit of 400 kV Balipara – Bongaigaon D/C
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 line, 400kV Hosur-Salem S/C and 400kV Somanahalli-Salem S/C line.
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

*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 June 2014 to 30th June 2014	00-17 23-24	8000	800	7200	6423	777		
		17-23	8000		7200		777		
NER	1st June 2014 to 30th June 2014	00-06 18-24	550	50	500	205	295		
		06-18'	550		500	210	290		
WR									
SR	16th May 2014 to 31st May 2014	00-06 18-24	3650	0	3650	3158	492		Refer to explanatory notes regarding the change in TTC representation given in the last page.
		06-18'	3650		3650	3203	447		

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 June 2014 to 30th June 2014	00-06	3500	700	2800	590	2210		
		06-17'	3500		2800	720	2080		
		17-18	3600		2900	720	2180		
		18-23	3600		2900	590	2310		
		23-24	3500		2800	590	2210		
NER	1st June 2014 to 30th June 2014	00-17 23-24	500	100	400	0	400		
		17-23	450		350		350		
WR									
SR*	1st June 2014 to 30th June 2014	00-17 23-24	2100	0	2100	197	1903		
		17-23	2100		2100		1903		

* 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 400kV Farakka –Malda D/C 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.
	Export	(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 one circuit of 400 kV Balipara – Bongaiyaon D/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	25.03.2014	Whole Month	Margin revised due to withdrawal/cancellation of 150 MW MTOA from Corporate Power Limited	ER-SR
			Re-Routing of transactions on West-East-North Corridor discontinued on account of Inter-Regional Loop flows leading to physical congestion on WR-NR.	WR-NR/ ER-NR
			Margin Revised due to correction in LTA/MTOA figure.	NR-WR
2	01-04-2014	Whole Month	Margin revised due to grant of 150 MW LTA towards SR from NEW grid and grant of 208 MW LTA to TANGEDCO	ER-SR / S1-S2
3	04-04-2014	Whole Month	Margin revised due to grant of 69 MW LTA to Jindal Power Limited Tamnar	W3/ ER-SR
4	11-04-2014	Whole Month	Margin revised due to correction of LTA. 69 MW LTA Quantum inadvertently added in the last revision. Quantum inadvertently added in the last revision	ER-SR
5	01-05-2014	Whole Month	Margin revised due to incorporation of existing Power Allocation.	NR-WR
			Margin revised due to Commissioning of Sasan Unit-4.	WR-NR
			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
			Margin revised considering the LTA/MTOA allocation available in RPCs RTA/REA.	ER-NR/ ER- W3
			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 Solar Power Allocation to Karnataka between 6 hrs-18 hrs in LTA figures.	ER-SR
			Margin revised considering the LTA/MTOA allocation available in RPCs RTA/REA and due to incorporation of existing Solar Power Allocation to Assam.	ER-NER
			Revised due to Allocation of 150 MW 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
6	23-05-2014	Whole Month	Refer to explanatory notes regarding the change in TTC representation given in the last page.	ER-SR/ S1-S2

ASSUMPTIONS IN BASECASE

Month : June '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	8807	8517	3164	3203
2	Haryana	6743	6353	3958	3958
3	Rajasthan	7803	7383	5144	5134
4	Delhi	5199	5053	1382	1382
5	Uttar Pradesh	12165	12581	6115	6128
6	Jammu & Kashmir	1954	1798	546	564
7	Uttarakhand	1656	1509	496	491
8	Himachal Pradesh	1503	1361	852	821
9	Chandigarh	294	225	0	0
10	ISGS/IPPs			19790	17328
	Total NR	46124	44780	41447	39009
II	EASTERN REGION				
1	West Bengal	7059	4711	5170	4021
2	Jharkhand	1108	808	590	590
3	Orissa	3640	2570	3181	2432
4	Bihar	2030	1500	70.5	70.5
5	Damodar Valley Corporation	2460	2030	3179	2989
6	Sikkim	86	40		
7	Bhutan	109	109	1235	1235
8	ISGS/IPPs	245	245	8845	8315
	Total ER	16737	12013	22270.5	19652.5
III	WESTERN REGION				
1	Chattisgarh	2787	2487	1833	1584
2	Madhya Pradesh	6200	4995	3890	2566
3	Maharashtra	17114	13154	11768	7999
4	Gujarat	11946	10080	9539	8469
5	Goa	262	380		
6	Daman and Diu	250	250		
7	Dadra and Nagar Haveli	604	590		
8	ISGS/IPPs	1240	1240	17104	16275
	Total WR	40403	33176	44134	36893

IV	SOUTHERN REGION				
1	Andhra Pradesh	10848	9446	6571	5881
2	Tamil Nadu	12152	10588	8026	7002
3	Karnataka	8397	7303	6100	4619
4	Kerala	3390	2595	1781	863
5	Pondy	329	278		
6	Goa	83	83		
7	ISGS/IPPs			11027	10260
	Total SR	35199	30293	33505	28625
V	NORTH-EASTERN REGION				
1	Arunachal Pradesh	120	84	0	0
2	Assam	1380	990	250	225
3	Manipur	125	88	0	0
4	Meghalaya	300	210	60	55
5	Mizoram	75	53	4	4
6	Nagaland	110	77	12	12
7	Tripura	230	130	110	110
8	ISGS/IPPs			1592	1262
	Total NER	2340	1632	2028	1668
	Total All India	140803	121894	143384	125848

1. Explanatory Notes to the change in representation of ER-SR TTC/ATC

- Hitherto, ER-SR TTC was being declared at (A) Talcher Interconnector and (B) Gazuwaka BTB HVDC i.e., as shown in the Figure-1. This was being done considering the metering point for scheduling and accounting as well as the jurisdiction of Talcher stage-II (under SRLDC presently)

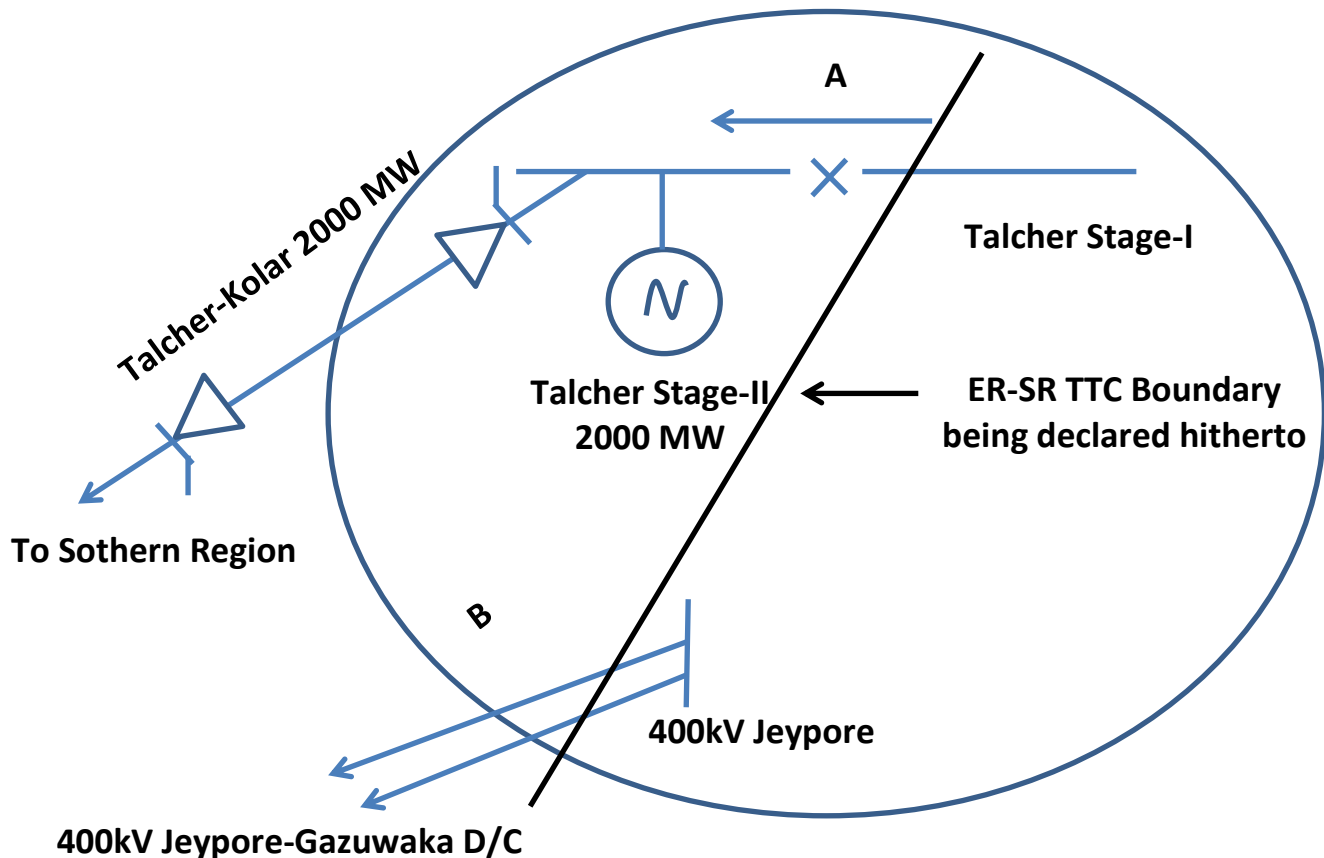


Figure-1

- However, the CEA, Government of India and CTU documents/reports consider Talcher-Kolar HVDC bipole as an inter-regional exchange point between ER & SR. Therefore, TTC declaration on ER-SR corridor has been changed to Talcher-Kolar Inter-regional Link and Gazuwaka BTB HVDC i.e., as shown in the Figure-2 w.e.f. 16th May 2014
- Scheduling & Metering interface between ER & SR will continue to be the same as per existing methodology.

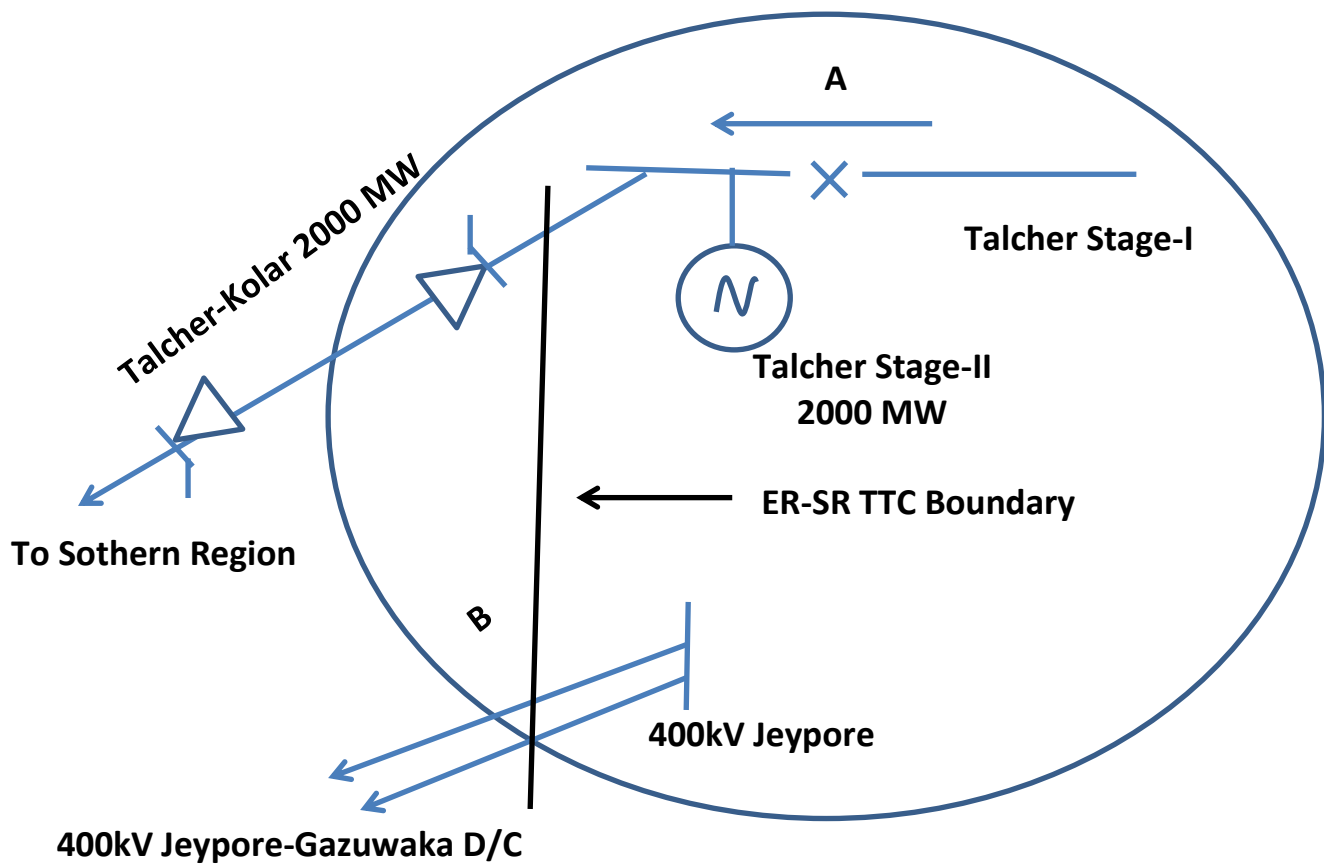


Figure-2

2. Explanatory Notes to the change in representation of S1-S2 TTC/ATC

- Hitherto, S1-S2 TTC was being declared as a scheduling limit which included maximum physical flow possible from S1 to S2 area plus total injection from central sector generating stations located in S2 Area, such as NLC TPS-II Stage-I & II, NLC TPS-II Expn, NLC TPS-I Expn, Vallur STPS, MAPS.
- In order to make S1-S2 TTC more comprehensible, the TTC has been changed to Physical flow gate limit consisting of following lines.
 - 400kV Nellore – Alamathi S/C
 - 400kV Nellore – Sriperumbudur S/C
 - 400kV Nellore – Thiruvallam D/C
 - 400kV Chittor – Thiruvallam D/C
 - 400kv Kolar – Thiruvallam S/C
 - 400kV Kolar – Hosur D/C

- 400kV Somanahally – Hosur S/C
- 400kV Chittoor – Sriperumbudur S/C
- 230kV Chittoor – Thiruvallam S/C
- 230kV Sulurpet-Gumudipoondi S/C
- 230kV Yerandhahalli – Hosur S/C
- 220kV Kadakola – Kaniyampetah S/C