

## National Load Despatch Centre राष्ट्रीय भार प्रेषण केंद्र

## POWER SYSTEM OPERATION CORPORATION LIMITED पॉवर सिस्टम ऑपरेशन कारपोरेशन लिमिटेड

(Government of India Enterprise/ भारत सरकार का उद्यम) B-9, QUTUB INSTITUTIONAL AREA, KATWARIA SARAI, NEW DELHI -110016 बी-9, कृतुब इन्स्टीट्यूशनल एरिया, कटवारिया सराये, न्यू दिल्ली-110016

Ref: POSOCO/NLDC/SO/Daily PSP Report

दिनांक: 15<sup>th</sup> Jan 2020

To,

- 1. कार्यकारी निदेशक, पू .क्षे .भा .प्रे .के.,14 , गोल्फ क्लब रोड , कोलकाता 700033 Executive Director, ERLDC, 14 Golf Club Road, Tollygunge, Kolkata, 700033
- 2. कार्यकारी निदेशक, ऊ. क्षे. भा. प्रे. के., 18/ ए, शहीद जीत सिंह सनसनवाल मार्ग, नई दिल्ली 110016 Executive Director, NRLDC, 18-A, Shaheed Jeet Singh Marg, Katwaria Sarai, New Delhi – 110016
- 3. कार्यकारी निदेशक, प .क्षे .भा .प्रे .के., एफ3-, एम आई डी सी क्षेत्र , अंधेरी, मुंबई -400093 Executive Director, WRLDC, F-3, M.I.D.C. Area, Marol, Andheri (East), Mumbai-400093
- 4. कार्यकारी निदेशक, ऊ. पू. क्षे. भा. प्रे. के., डोंगतिएह, लोअर नोंग्रह , लापलंग, शिलोंग 793006 Executive Director, NERLDC, Dongteih, Lower Nongrah, Lapalang, Shillong - 793006, Meghalaya
- 5. कार्यकारी निदेशक , द .क्षे .भा .प्रे .के.,29 , रेस कोर्स क्रॉस रोड, बंगलुरु -560009 Executive Director, SRLDC, 29, Race Course Cross Road, Bangalore-560009

Sub: Daily PSP Report for the date 14.01.2020.

महोदय/Dear Sir,

आई॰ई॰जी॰सी॰-2010 की धारा स.-5.5.1 के प्रावधान के अनुसार, दिनांक 14-जनवरी-2020 की अखिल भारतीय प्रणाली की दैनिक ग्रिड निष्पादन रिपोर्ट रा॰भा॰प्रे॰के॰ की वेबसाइट पर उप्लब्ध है ।

As per article 5.5.1 of the Indian Electricity Grid Code, the daily report pertaining power supply position of All India Power System for the date 14<sup>th</sup> Jan 2020, is available at the NLDC website.

धन्यवाद,

Report for previous day Date of Reporting

## A. Power Supply Position at All India and Regional level

	NR	WR	SR	ER	NER	Total
Demand Met during Evening Peak hrs(MW) (at 1900 hrs; from RLDCs)	46271	43177	37949	18549	2361	148307
Peak Shortage (MW)	545	0	0	0	39	584
Energy Met (MU)	930	1078	973	355	41	3376
Hydro Gen (MU)	134	58	75	31	7	305
Wind Gen (MU)	5	16	21			42
Solar Gen (MU)*	32.42	20.90	94.28	1.27	0.03	149
Energy Shortage (MU)	9.1	0.0	0.0	0.0	1.8	10.9
Maximum Demand Met during the day (MW) & time	47047	51697	46617	18722	2458	163366
(from NLDC SCADA)	19:37	09:40	09:28	18:23	17:47	09:26

B. Frequency Profile (%)

Region	FVI	<49.7	49.7-49.8	49.8-49.9	<49.9	49.9-50.05	> 50.05
All India	0.033	0.00	0.44	6.04	6.48	77.19	16.33

C. Power Supply Position in States

Region	States	Max. Demand Met during the day (MW)	Shortage during maximum Demand (MW)	Energy Met (MU)	Drawal Schedule (MU)	OD(+)/UD(-) (MU)	Max OD (MW)	Energy Shortage (MU)
	Punjab	5682	0	105.4	55.5	-2.1	67	0.0
	Haryana	6475	0	123.2	87.1	0.2	195	0.0
	Rajasthan	12679	0	226.8	80.9	-0.9	248	0.0
	Delhi	4417	0	74.9	59.1	-0.4	261	0.0
NR	UP	16122	0	289.5	114.6	-2.2	356	0.0
	Uttarakhand	2040	0	38.9	22.2	-1.0	197	0.0
	HP	1598	0	28.7	23.4	-2.1	126	0.0
	J&K(UT) and Ladakh(UT)	2317	579	38.1	32.8	-3.7	177	9.1
	Chandigarh	281	0	4.7	4.7	0.0	33	0.0
	Chhattisgarh	3677	0	78.4	24.8	-1.1	232	0.0
	Gujarat	13046	0	257.6	71.1	3.4	450	0.0
	MP	13952	0	247.7	140.4	-2.5	610	0.0
WR	Maharashtra	22277	0	452.7	164.1	-0.3	373	0.0
WIN	Goa	494	0	10.5	10.2	-0.3	24	0.0
	DD	297	0	6.5	6.2	0.3	55	0.0
	DNH	778	0	18.1	18.1	0.0	63	0.0
	Essar steel	295	0	6.0	6.2	-0.2	208	0.0
	Andhra Pradesh	8700	0	166.7	65.2	-1.3	344	0.0
	Telangana	10830	0	211.4	105.9	-1.3	415	0.0
SR	Karnataka	12576	0	230.7	69.0	-0.6	491	0.0
310	Kerala	3610	0	70.4	55.6	1.4	188	0.0
	Tamil Nadu	13207	0	287.0	162.6	-0.5	395	0.0
	Pondy	341	0	7.1	7.4	-0.3	40	0.0
	Bihar	4613	0	82.5	80.9	0.2	90	0.0
	DVC	3078	0	63.6	-32.5	0.6	630	0.0
ER	Jharkhand	1325	0	24.8	16.0	-0.3	100	0.0
LI	Odisha	3784	0	68.2	7.8	0.4	275	0.0
	West Bengal	6236	0	113.8	26.7	0.2	220	0.0
	Sikkim	125	0	1.9	1.8	0.1	20	0.0
	Arunachal Pradesh	122	1	2.3	1.9	0.3	45	0.0
	Assam	1275	20	22.3	19.6	0.1	113	0.6
	Manipur	218	1	2.6	3.1	-0.4	24	0.0
NER	Meghalaya	376	0	6.0	3.3	0.7	73	1.1
	Mizoram	106	1	1.6	1.6	-0.3	26	0.0
	Nagaland	129	1	2.1	2.2	-0.2	29	0.0
	Tripura	226	1	3.7	2.3	0.1	23	0.0

## D. Transnational Exchanges (MU) - Import(+ve)/Export(-ve)

	Bhutan	Nepal	Bangladesh
Actual(MU)	4.5	-10.2	-12.8
Day peak (MW)	515.5	-570.6	-671.0

E. Import/export By Regions(in MU) - Import(+ve)/Export(-ve); OD(+)/UD(-)

	NR	WR	SR	ER	NER	TOTAL
Schedule(MU)	214.9	-243.8	108.4	-84.5	5.0	-0.1
Actual(MU)	182.8	-240.9	125.3	-75.0	3.6	-4.2
O/D/U/D(MU)	-32.1	2.9	16.9	9.5	-1.4	-4.1

F. Generation Outage(MW)

	NR	WR	SR	ER	NER	Total
Central Sector	4628	15358	5202	2620	588	28396
State Sector	10795	19035	7683	4850	11	42373
Total	15423	34392	12885	7470	600	70769

G. Sourcewise generation (MU)

	NR	WR	SR	ER	NER	All India
Coal	489	1168	511	430	11	2609
Lignite	19	13	48	0	0	80
Hydro	134	58	75	31	7	305
Nuclear	29	24	45	0	0	98
Gas, Naptha & Diesel	32	23	18	0	23	96
RES (Wind, Solar, Biomass & Others)	66	44	160	1	0	272
Total	769	1331	857	463	41	3460

Share of RES in total generation (%)	8.63	3.33	18.69	0.28	0.07	7.87
Share of Non-fossil fuel (Hydro, Nuclear and RES) in total generation (%)	29.83	9.48	32.69	7.06	16.80	19.51

H. All India Demand Diversity Factor

III III III III Deliiii Deliiii Diversity I uctor		
Based on Regional Max Demands	1.019	
Based on State Max Demands	1.085	

Diversity factor = Sum of regional or state-wise maximum demands / All India maximum demand

15-Jan-20

 $<sup>\</sup>textbf{*Source} : RLDCs \ for \ solar \ connected \ to \ ISTS; \ SLDCs \ for \ embedded \ solar. \ Limited \ visibility \ of \ embedded \ solar \ data.$ 

Ì		IN	TER-REGI	ONAL EXCH	ANGES	Date of l	Reporting :	: 15-Jan-20
								Import=(+ve) /Export =(-ve) for NET (MU)
Sl No	Voltage Level	Line Details	Circuit	Max Import (MW)	Max Export (MW)	Import (MU)	Export (MU)	NET (MU)
	Export of	ER (With NR)						
5	HVDC	ALIPURDUAR-AGRA PUSAULI B/B	S/C	0	0 297	0.0	7.2	-7.2
1		GAYA-VARANASI	D/C	59	863	0.0	9.9	-9.9
2	765kV	SASARAM-FATEHPUR	S/C	74	396	0.0	3.8	-3.8
3		GAYA-BALIA	S/C	0	434	0.0	5.6	-5.6
6 7	_	PUSAULI-VARANASI PUSAULI -ALLAHABAD	S/C S/C	0	238 165	0.0	2.4	-4.6 -2.4
8		MUZAFFARPUR-GORAKHPUR	D/C	0	772	0.0	7.9	-7.9
9	400 kV	PATNA-BALIA	Q/C	0	849	0.0	14.8	-14.8
10		BIHARSHARIFF-BALIA	D/C	0	427	0.0	4.7	-4.7
11		MOTIHARI-GORAKHPUR	D/C	0	5	0.0	0.0	0.0
12	220 kV	BIHARSHARIFF-VARANASI PUSAULI-SAHUPURI	D/C S/C	125	319 168	0.0	2.0	-1.4 -2.0
14	220 8.1	SONE NAGAR-RIHAND	S/C	0	0	0.0	0.0	0.0
15	132 kV	GARWAH-RIHAND	S/C	30	0	0.7	0.0	0.7
16	132 KV	KARMANASA-SAHUPURI	S/C	0	0	0.0	0.0	0.0
17		KARMANASA-CHANDAULI	S/C	0	0 ED ND	0.0	0.0	0.0
Impost/E	Export of	ER (With WR)			ER-NR	0.7	57.0	-56.3
	Aport 01	,	0/0	1270	0	22.5	0.0	22.5
18	765 kV	JHARSUGUDA-DHARAMJAIGARH	Q/C	1268	0	22.5	0.0	22.5
19 20	1	NEW RANCHI-DHARAMJAIGARH JHARSUGUDA-DURG	D/C D/C	867 281	286 185	5.3 0.6	0.0	5.3 0.6
21	400 kV	JHARSUGUDA-RAIGARH	Q/C	222	299	0.0	0.8	-0.8
22	400 KV	RANCHI-SIPAT	D/C	303	114	1.8	0.0	1.8
23	220 kV	BUDHIPADAR-RAIGARH	S/C	0	88	0.0	1.1	-1.1
24		BUDHIPADAR-KORBA	D/C	186	0 ER-WR	3.2 33.3	0.0 1.9	3.2 31.5
Import/E	Export of	ER (With SR)			ER-WK	33.3	1.9	31.5
26		JEYPORE-GAZUWAKA B/B	D/C	0.0	694.0	0.0	16.2	-16.2
27	HVDC	TALCHER-KOLAR BIPOLE	D/C	0.0	1979.0	0.0	45.3	-45.3
25	765 kV	ANGUL-SRIKAKULAM	D/C	0.0	2203.0	0.0	37.2	-37.2
28	400 kV	TALCHER-I/C	D/C	378.0	815.0	0.0	3.5	-3.5
29	220 kV	BALIMELA-UPPER-SILERRU	S/C	1.0	0.0 ER-SR	0.0	0.0 98.7	0.0 -98.7
Import/E	Export of	ER (With NER)			EK SK	0.0	70.7	-56.7
30	400 kV	BINAGURI-BONGAIGAON	D/C	210	153	2.2	0.0	2
31	400 KV	ALIPURDUAR-BONGAIGAON	D/C	254	134	3.5	0.0	4
32	220 kV	ALIPURDUAR-SALAKATI	D/C	47	38	0.5	0.0	1
Import/F	Export of	NER (With NR)			ER-NER	6.2	0.0	6.2
33	HVDC	BISWANATH CHARIALI-AGRA	- 1	472	0	11.2	0.0	11.2
			ı		NER-NR		0.0	11.2
Import/E	Export of	WR (With NR)						
34								
		CHAMPA-KURUKSHETRA	D/C	0	856	0.0	23.7	-23.7
35	HVDC	V'CHAL B/B	D/C	449	491	9.3	0.8	8.4
36	HVDC	V'CHAL B/B APL -MHG	D/C D/C	449	491 1366	9.3 0.0	0.8 33.3	8.4 -33.3
	HVDC	V'CHAL B/B APL -MHG GWALIOR-AGRA	D/C	449	491	9.3	0.8 33.3 42.4	8.4
36 37	-	V'CHAL B/B APL -MHG	D/C D/C D/C	0 0	491 1366 2731	9.3 0.0 0.0	0.8 33.3	8.4 -33.3 -42.4
36 37 38 39 40	HVDC 765 kV	V'CHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI	D/C D/C D/C D/C D/C S/C	0 0 0 0 0 0 661	491 1366 2731 1498 959 0	9.3 0.0 0.0 0.0 0.0 11.7	0.8 33.3 42.4 22.5 28.6 0.0	8.4 -33.3 -42.4 -22.5 -28.6 11.7
36 37 38 39 40 41	-	V'CHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI	D/C D/C D/C D/C D/C S/C S/C	449 0 0 0 0 0 0 661 0	491 1366 2731 1498 959 0	9.3 0.0 0.0 0.0 0.0 0.0 11.7 0.0	0.8 33.3 42.4 22.5 28.6 0.0 28.8	8.4 -33.3 -42.4 -22.5 -28.6 11.7 -28.8
36 37 38 39 40 41 42	-	V'CHAL B/B  APL -MHG  GWALIOR-AGRA  PHAGI-GWALIOR  JABALPUR-ORAI  GWALIOR-ORAI  SATNA-ORAI  CHITTORGARH-BANASKANTHA	D/C D/C D/C D/C D/C S/C S/C D/C	449 0 0 0 0 0 661 0 490	491 1366 2731 1498 959 0 1455 946	9.3 0.0 0.0 0.0 0.0 11.7 0.0 1.7	0.8 33.3 42.4 22.5 28.6 0.0 28.8 8.0	8.4 -33.3 -42.4 -22.5 -28.6 11.7 -28.8 -6.3
36 37 38 39 40 41 42 43	765 kV	VCHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI	D/C D/C D/C D/C D/C S/C S/C S/C S/C	449 0 0 0 0 0 661 0 490 197	491 1366 2731 1498 959 0 1455 946	9.3 0.0 0.0 0.0 0.0 11.7 0.0 1.7 0.2	0.8 33.3 42.4 22.5 28.6 0.0 28.8 8.0 0.0	8.4 -33.3 -42.4 -22.5 -28.6 11.7 -28.8 -6.3 0.2
36 37 38 39 40 41 42	-	V'CHAL B/B  APL -MHG  GWALIOR-AGRA  PHAGI-GWALIOR  JABALPUR-ORAI  GWALIOR-ORAI  SATNA-ORAI  CHITTORGARH-BANASKANTHA	D/C D/C D/C D/C D/C S/C S/C D/C	449 0 0 0 0 0 661 0 490	491 1366 2731 1498 959 0 1455 946	9.3 0.0 0.0 0.0 0.0 11.7 0.0 1.7	0.8 33.3 42.4 22.5 28.6 0.0 28.8 8.0	8.4 -33.3 -42.4 -22.5 -28.6 11.7 -28.8 -6.3
36 37 38 39 40 41 42 43 44	765 kV	VCHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL	D/C D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C	449 0 0 0 0 661 0 490 197 170	491 1366 2731 1498 959 0 1455 946 126 322	9.3 0.0 0.0 0.0 0.0 11.7 0.0 1.7 0.2 0.0	0.8 33.3 42.4 22.5 28.6 0.0 28.8 8.0 0.0 2.4	8.4 -33.3 -42.4 -22.5 -28.6 11.7 -28.8 -6.3 0.2 -2.4
36 37 38 39 40 41 42 43 44 45 46 47	765 kV	V'CHAL B/B  APL -MHG  GWALIOR-AGRA  PHAGI-GWALIOR  JABALPUR-ORAI  GWALIOR-ORAI  SATNA-ORAI  CHITTORGARH-BANASKANTHA  ZERDA-KANKROLI  ZERDA -BHINMAL  V'CHAL -RIHAND  RAPP-SHUJALPUR  BHANPURA-RANPUR	D/C D/C D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	449 0 0 0 0 661 0 490 197 170 986 261 25	491 1366 2731 1498 959 0 1455 946 126 322 0 302 80	9.3 0.0 0.0 0.0 0.0 11.7 0.0 1.7 0.2 0.0 23.1 0	0.8 33.3 42.4 22.5 28.6 0.0 28.8 8.0 0.0 2.4 0.0 0	8.4 -33.3 -42.4 -22.5 -28.6 11.7 -28.8 -6.3 0.2 -2.4 23.1 0 0.4
36 37 38 39 40 41 42 43 44 45 46 47	765 kV	V'CHAL B/B  APL -MHG  GWALIOR-AGRA  PHAGI-GWALIOR  JABALPUR-ORAI  GWALIOR-ORAI  SATNA-ORAI  CHITTORGARH-BANASKANTHA  ZERDA-KANKROLI  ZERDA -BHINMAL  V'CHAL -RIHAND  RAPP-SHUJALPUR  BHANPURA-RANPUR  BHANPURA-MORAK	D/C D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	449 0 0 0 0 661 0 490 197 170 986 261 25 45	491 1366 2731 1498 959 0 1455 946 126 322 0 302 80 90	9.3 0.0 0.0 0.0 11.7 0.0 1.7 0.2 0.0 23.1 0 0.7 0.2	0.8 33.3 42.4 22.5 28.6 0.0 28.8 8.0 0.0 2.4 0.0 0 0.2 0.8	8.4 -33.3 -42.4 -22.5 -28.6 11.7 -28.8 -6.3 0.2 -2.4 23.1 0 0.4 -0.6
36 37 38 39 40 41 42 43 44 45 46 47 48	- 765 kV - 400 kV	V'CHAL B/B  APL -MHG  GWALIOR-AGRA  PHAGI-GWALIOR  JABALPUR-ORAI  GWALIOR-ORAI  SATNA-ORAI  CHITTORGARH-BANASKANTHA  ZERDA-KANKROLI  ZERDA -BHINMAL  V'CHAL -RIHAND  RAPP-SHUJALPUR  BHANPURA-RANPUR  BHANPURA-MORAK  MEHGAON-AURAIYA	D/C D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	449 0 0 0 0 661 0 490 197 170 986 261 25 45 135	491 1366 2731 1498 959 0 1455 946 126 322 0 302 80 90	9.3 0.0 0.0 0.0 0.0 11.7 0.0 1.7 0.2 0.0 23.1 0 0.7 0.2 1.9	0.8 33.3 42.4 22.5 28.6 0.0 28.8 8.0 0.0 2.4 0.0 0 0.2 0.8 0.0	8.4 -33.3 -42.4 -22.5 -28.6 11.7 -28.8 -6.3 0.2 -2.4 23.1 0 0.4 -0.6 1.9
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50	- 765 kV - 400 kV - 220 kV	VCHAL B/B  APL -MHG  GWALIOR-AGRA PHAGI-GWALIOR  JABALPUR-ORAI  GWALIOR-ORAI  SATNA-ORAI  CHITTORGARH-BANASKANTHA  ZERDA-KANKROLI  ZERDA -BHINMAL  VCHAL -RIHAND  RAPP-SHUJALPUR  BHANPURA-RANPUR  BHANPURA-MORAK  MEHGAON-AURAIYA	D/C D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	449 0 0 0 0 661 0 490 197 170 986 261 25 45 135 81	491 1366 2731 1498 959 0 1455 946 126 322 0 302 80 90 0	9.3 0.0 0.0 0.0 0.0 11.7 0.2 0.0 23.1 0 0.7 0.2 1.9 0.8	0.8 33.3 42.4 22.5 28.6 0.0 28.8 8.0 0.0 2.4 0.0 0 0 0.2 0.8 0.0	8.4 -33.3 -42.4 -22.5 -28.6 11.7 -28.8 -6.3 0.2 -2.4 23.1 0 0.4 -0.6 1.9 0.8
36 37 38 39 40 41 42 43 44 45 46 47 48	- 765 kV - 400 kV	V'CHAL B/B  APL -MHG  GWALIOR-AGRA  PHAGI-GWALIOR  JABALPUR-ORAI  GWALIOR-ORAI  SATNA-ORAI  CHITTORGARH-BANASKANTHA  ZERDA-KANKROLI  ZERDA -BHINMAL  V'CHAL -RIHAND  RAPP-SHUJALPUR  BHANPURA-RANPUR  BHANPURA-MORAK  MEHGAON-AURAIYA	D/C D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	449 0 0 0 0 661 0 490 197 170 986 261 25 45 135	491 1366 2731 1498 959 0 1455 946 126 322 0 302 80 90	9.3 0.0 0.0 0.0 0.0 11.7 0.0 1.7 0.2 0.0 23.1 0 0.7 0.2 1.9	0.8 33.3 42.4 22.5 28.6 0.0 28.8 8.0 0.0 2.4 0.0 0 0.2 0.8 0.0	8.4 -33.3 -42.4 -22.5 -28.6 11.7 -28.8 -6.3 0.2 -2.4 23.1 0 0.4 -0.6 1.9
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50	765 kV 400 kV 220 kV	VCHAL B/B  APL -MHG  GWALIOR-AGRA PHAGI-GWALIOR  JABALPUR-ORAI  GWALIOR-ORAI  SATNA-ORAI  CHITTORGARH-BANASKANTHA  ZERDA-KANKROLI  ZERDA -BHINMAL  VCHAL -RIHAND  RAPP-SHUJALPUR  BHANPURA-RANPUR  BHANPURA-MORAK  MEHGAON-AURAIYA	D/C D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	449 0 0 0 0 661 0 490 197 170 986 261 25 45 135 81	491 1366 2731 1498 959 0 1455 946 126 322 0 302 80 90 0 17	9.3 0.0 0.0 0.0 0.0 11.7 0.0 1.7 0.2 0.0 23.1 0 0.7 0.2 1.9 0.8	0.8 33.3 42.4 22.5 28.6 0.0 28.8 8.0 0.0 2.4 0.0 0 0.2 0.8 0.0	8.4 -33.3 -42.4 -22.5 -28.6 11.7 -28.8 -6.3 0.2 -2.4 23.1 0 0.4 -0.6 1.9 0.8 0.0
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51	765 kV 400 kV 220 kV 132kV	V'CHAL B/B  APL -MHG  GWALIOR-AGRA  PHAGI-GWALIOR  JABALPUR-ORAI  GWALIOR-ORAI  SATNA-ORAI  CHITTORGARH-BANASKANTHA  ZERDA-KANKROLI  ZERDA -BHINMAL  V'CHAL -RIHAND  RAPP-SHUJALPUR  BHANPURA-RANPUR  BHANPURA-MORAK  MEHGAON-AURAIYA  MALANPUR-AURAIYA  GWALIOR-SAWAI MADHOPUR  WR (With SR)  BHADRAWATI B/B	D/C D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	449 0 0 0 0 661 0 490 197 170 986 261 25 45 135 81 0	491 1366 2731 1498 959 0 1455 946 126 322 0 302 80 90 0 17	9.3 0.0 0.0 0.0 0.0 11.7 0.0 1.7 0.2 0.0 23.1 0 0.7 0.2 1.9 0.8 0.0 49.6	0.8 33.3 42.4 22.5 28.6 0.0 28.8 8.0 0.0 2.4 0.0 0 0.2 0.8 0.0	8.4 -33.3 -42.4 -22.5 -28.6 11.7 -28.8 -6.3 0.2 -2.4 23.1 0 0.4 -0.6 1.9 0.8 0.0
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51  Import/E 52 53	765 kV 400 kV 220 kV	VCHAL B/B  APL -MHG  GWALIOR-AGRA  PHAGI-GWALIOR  JABALPUR-ORAI  GWALIOR-ORAI  SATNA-ORAI  CHITTORGARH-BANASKANTHA  ZERDA-KANKROLI  ZERDA -BHINMAL  VCHAL -RIHAND  RAPP-SHUJALPUR  BHANPURA-RANPUR  BHANPURA-MORAK  MEHGAON-AURAIYA  MALANPUR-AURAIYA  GWALIOR-SAWAI MADHOPUR  WR (With SR)  BHADRAWATI B/B  BARSUR-L.SILERU	D/C D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	449 0 0 0 0 661 0 490 197 170 986 261 25 45 135 81 0	491 1366 2731 1498 959 0 1455 946 126 322 0 302 80 90 0 17 0 WR-NR	9.3 0.0 0.0 0.0 0.0 11.7 0.0 1.7 0.2 0.0 23.1 0 0.7 0.2 1.9 0.8 0.0 49.6	0.8 33.3 42.4 22.5 28.6 0.0 28.8 8.0 0.0 2.4 0.0 0.2 0.8 0.0 0.1 191.8	8.4 -33.3 -42.4 -22.5 -28.6 11.7 -28.8 -6.3 0.2 -2.4 23.1 0 0.4 -0.6 1.9 0.8 0.0 -142.2
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51  Import/E 52 53 54	765 kV 400 kV 220 kV 132kV	VCHAL B/B  APL -MHG  GWALIOR-AGRA PHAGI-GWALIOR  JABALPUR-ORAI  GWALIOR-ORAI  GWALIOR-ORAI  SATNA-ORAI  CHITTORGARH-BANASKANTHA  ZERDA -BHINMAL  VCHAL -RIHAND  RAPP-SHUJALPUR  BHANPURA-RANPUR  BHANPURA-WORAK  MEHGAON-AURAIYA  MALANPUR-AURAIYA  GWALIOR-SAWAI MADHOPUR  WR (With SR)  BHARBWATI B/B  BARSUR-L.SILERU  SOLAPUR-RAICHUR	D/C D/C D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	449 0 0 0 0 661 0 490 197 170 986 261 25 45 135 81 0	491 1366 2731 1498 959 0 1455 946 126 322 0 302 80 90 0 17 0 WR-NR	9.3 0.0 0.0 0.0 0.0 11.7 0.2 0.0 23.1 0 0.7 0.2 1.9 0.8 0.0 49.6	0.8 33.3 42.4 22.5 28.6 0.0 28.8 8.0 0.0 2.4 0.0 0 0.2 0.8 0.0 0.0 191.8	8.4 -33.3 -42.4 -22.5 -28.6 -11.7 -28.8 -6.3 -0.2 -2.4 -23.1 -0 -0.4 -0.6 -1.9 -0.8 -0.0 -142.2 -19.9 -0.0 -23.5
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 <b>Import/E</b> 52 53	765 kV 400 kV 220 kV 132kV Export of HVDC 765 kV	VCHAL B/B  APL -MHG  GWALIOR-AGRA PHAGI-GWALIOR  JABALPUR-ORAI  GWALIOR-ORAI  SATNA-ORAI  CHITTORGARH-BANASKANTHA  ZERDA-KANKROLI  ZERDA -BHINMAL  VCHAL -RIHAND  RAPP-SHUJALPUR  BHANPURA-RANPUR  BHANPURA-MORAK  MEHGAON-AURAIYA  MALANPUR-AURAIYA  GWALIOR-SAWAI MADHOPUR  WR (With SR)  BHADBAWATI B/B  BARSUR-L.SILERU  SOLAPUR-RAICHUR  WARDHA-NIZAMABAD	D/C D/C D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C S/C S/C D/C S/C S/C D/C S/C S/C D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	449 0 0 0 0 0 0 661 0 490 197 170 986 261 25 45 135 81 0 0 0 0 0 0 0 0 0 0 0 0 0	491 1366 2731 1498 959 0 1455 946 126 322 0 302 80 90 0 17 0 WR-NR	9.3 0.0 0.0 0.0 0.0 11.7 0.2 0.0 23.1 0 0.7 0.2 1.9 0.8 0.0 49.6	0.8 33.3 42.4 22.5 28.6 0.0 0.0 28.8 8.0 0.0 2.4 0.0 0 0.2 0.8 0.0 0.0 191.8	8.4 -33.3 -42.4 -22.5 -28.6 -11.7 -28.8 -6.3 -6.2 -2.4 -23.1 -0 -0.4 -0.6 -1.9 -0.8 -0.0 -142.2 -19.9 -0.0 -23.5 -36.4
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/E 52 53 54	765 kV  400 kV  220 kV  132kV  Export of  HVDC	VCHAL B/B  APL -MHG  GWALIOR-AGRA  PHAGI-GWALIOR  JABALPUR-ORAI  GWALIOR-ORAI  SATNA-ORAI  CHITTORGARH-BANASKANTHA  ZERDA-KANKROLI  ZERDA -BHINMAL  VCHAL -RIHAND  RAPP-SHUJALPUR  BHANPURA-RANPUR  BHANPURA-MORAK  MEHGAON-AURAIYA  MALANPUR-AURAIYA  GWALIOR-SAWAI MADHOPUR  WR (With SR)  BHASBUR-L-SILEEU  SOLAPUR-RAICHUR  WARDHA-NIZAMABAD  KOLHAPUR-KUDGI	D/C D/C D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	449 0 0 0 0 661 0 490 197 170 986 261 25 45 135 81 0	491 1366 2731 1498 959 0 1455 946 126 322 0 302 80 90 0 17 0 WR-NR	9.3 0.0 0.0 0.0 0.0 11.7 0.2 0.0 23.1 0 0.7 0.2 1.9 0.8 0.0 49.6	0.8 33.3 42.4 22.5 28.6 0.0 28.8 8.0 0.0 2.4 0.0 0 0.2 0.8 0.0 0.0 191.8	8.4 -33.3 -42.4 -22.5 -28.6 -11.7 -28.8 -6.3 -0.2 -2.4 -23.1 -0 -0.4 -0.6 -1.9 -0.8 -0.0 -142.2 -19.9 -0.0 -23.5
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 <b>Import/E</b> 52 53 54 55	765 kV 400 kV 220 kV 132kV Export of HVDC 765 kV 400 kV	VCHAL B/B  APL -MHG  GWALIOR-AGRA PHAGI-GWALIOR  JABALPUR-ORAI  GWALIOR-ORAI  SATNA-ORAI  CHITTORGARH-BANASKANTHA  ZERDA-KANKROLI  ZERDA -BHINMAL  VCHAL -RIHAND  RAPP-SHUJALPUR  BHANPURA-RANPUR  BHANPURA-MORAK  MEHGAON-AURAIYA  MALANPUR-AURAIYA  GWALIOR-SAWAI MADHOPUR  WR (With SR)  BHADBAWATI B/B  BARSUR-L.SILERU  SOLAPUR-RAICHUR  WARDHA-NIZAMABAD	D/C D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C S/C S/C S/C D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	449 0 0 0 0 0 0 661 0 490 197 170 986 261 25 45 135 81 0 0 0 0 766	491 1366 2731 1498 959 0 1455 946 126 322 0 302 80 90 0 17 0 WR-NR	9.3 0.0 0.0 0.0 0.0 11.7 0.0 1.7 0.2 0.0 23.1 0 0.7 0.2 1.9 0.8 0.0 49.6	0.8 33.3 42.4 22.5 28.6 0.0 0.0 28.8 8.0 0.0 2.4 0.0 0 0.2 0.8 0.0 0.0 191.8	8.4 -33.3 -42.4 -22.5 -28.6 -11.7 -28.8 -6.3 -0.2 -2.4 -23.1 -0 -0.4 -0.6 -1.9 -0.8 -0.0 -142.2 -19.9 -0.0 -23.5 -36.4 -8.8
36 37 38 39 40 41 41 42 43 44 45 46 47 48 49 50 51  Import/E 52 53 54 55 56 57	765 kV 400 kV 220 kV 132kV Export of HVDC 765 kV 400 kV	VCHAL B/B  APL -MHG  GWALIOR-AGRA  PHAGI-GWALIOR  JABALPUR-ORAI  GWALIOR-ORAI  GWALIOR-ORAI  CHITTORGARH-BANASKANTHA  ZERDA-KANKROLI  ZERDA -BHINMAL  VCHAL -RIHAND  RAPP-SHUJALPUR  BHANPURA-RANPUR  BHANPURA-MORAK  MEHGAON-AURAIYA  MALANPUR-AURAIYA  GWALIOR-SAWAI MADHOPUR  WR (With SR)  BHADRAWATI B/B  BARSUR-LSILERU  SOLAPUR-RAICHUR  WARDHA-NIZAMABAD  KOLHAPUR-KUDGI  KOLHAPUR-CHIKODI	D/C D/C D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C S/C S/C S/C D/C S/C S/C S/C D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	449 0 0 0 0 0 0 661 0 490 197 170 986 261 25 45 135 81 0 0 0 0 766 0	491 1366 2731 1498 959 0 1455 946 126 322 0 302 80 90 0 17 0 WR-NR	9.3 0.0 0.0 0.0 0.0 11.7 0.0 1.7 0.2 0.0 23.1 0 0.7 0.2 1.9 0.8 0.0 49.6 0.0 0.0 0.3 0.0 8.8 0.0	0.8 33.3 42.4 22.5 28.6 0.0 0.0 28.8 8.0 0.0 2.4 0.0 0.0 0.0 0.0 191.8 19.9 0.0 23.8 36.4 0.0 0.0	8.4 -33.3 -42.4 -22.5 -28.6 -11.7 -28.8 -6.3 -0.2 -2.4 -23.1 -0 -0.6 -1.9 -0.8 -0.0 -142.2 -19.9 -0.0 -23.5 -36.4 -8.8 -0.0
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 <b>Import/F</b> 52 53 54 55 55	765 kV 400 kV 220 kV 132kV Export of HVDC 765 kV 400 kV	VCHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI GWALIOR-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR BHANPURA-RANPUR BHANPURA-WARMAM MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHADRAWATI B/B BARSUR-L.SILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD KOLHAPUR-KUDGI KOLHAPUR-CHIKODI PONDA-AMBEWADI	D/C D/C D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C S/C S/C S/C D/C S/C S/C D/C S/C S/C S/C D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	449 0 0 0 0 0 0 661 0 490 197 170 986 261 25 45 135 81 0 0 0 0 766 0 1	491 1366 2731 1498 959 0 1455 946 126 322 0 302 80 90 0 17 0 WR-NR	9.3 0.0 0.0 0.0 0.0 11.7 0.0 1.7 0.2 0.0 23.1 0 0.7 0.2 1.9 0.8 0.0 49.6 0.0 0.0 0.3 0.0 8.8	0.8 33.3 42.4 22.5 28.6 0.0 0.0 28.8 8.0 0.0 0.2 0.8 0.0 0.0 0.0 0.0 191.8 19.9 0.0 23.8 36.4 0.0 0.0 0.0	8.4 -33.3 -42.4 -22.5 -28.6 11.7 -28.8 -6.3 0.2 -2.4 23.1 0 0.4 -0.6 1.9 0.8 0.0 -142.2 -19.9 0.0 -23.5 -36.4 8.8 0.0 0.0
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 <b>Import/F</b> 52 53 54 55 55	765 kV 400 kV 220 kV 132kV Export of HVDC 765 kV 400 kV	VCHAL B/B  APL -MHG  GWALIOR-AGRA  PHAGI-GWALIOR  JABALPUR-ORAI  GWALIOR-ORAI  CHITTORGARH-BANASKANTHA  ZERDA-KANKROLI  ZERDA -BHINMAL  VCHAL -RIHAND  RAPP-SHUJALPUR  BHANPURA-RANPUR  BHANPURA-RANPUR  BHANPURA-RANPUR  GWALIOR-SAWAI MADHOPUR  WR (With SR)  BHADRAWATI B/B  BARSUR-L.SILERU  SOLAPUR-RAICHUR  WARDHA-NIZAMABAD  KOLHAPUR-CHIKODI  PONDA-AMBEWADI  XELDEM-AMBEWADI	D/C D/C D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C S/C S/C S/C D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	449 0 0 0 0 0 0 661 0 490 197 170 986 261 25 45 135 81 0 0 0 0 766 0 1	491 1366 2731 1498 959 0 1455 946 126 322 0 302 80 90 0 17 0 WR-NR	9.3 0.0 0.0 0.0 0.0 11.7 0.0 1.7 0.2 0.0 23.1 0 0.7 0.2 1.9 0.8 0.0 49.6 0.0 0.0 0.3 0.0 8.8 0.0 0.0 1.6	0.8 33.3 42.4 22.5 28.6 0.0 28.8 8.0 0.0 2.4 0.0 0.0 0.0 0.0 191.8 19.9 0.0 23.8 36.4 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	8.4 -33.3 -42.4 -22.5 -28.6 11.7 -28.8 -6.3 0.2 -2.4 23.1 0 0.4 -0.6 1.9 0.8 0.0 -142.2 -19.9 0.0 -23.5 -36.4 8.8 0.0 0.0 1.6
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 <b>Import/F</b> 52 53 54 55 55	765 kV 400 kV 220 kV 132kV Export of HVDC 765 kV 400 kV	VCHAL B/B  APL -MHG  GWALIOR-AGRA  PHAGI-GWALIOR  JABALPUR-ORAI  GWALIOR-ORAI  CHITTORGARH-BANASKANTHA  ZERDA-KANKROLI  ZERDA -BHINMAL  VCHAL -RIHAND  RAPP-SHUJALPUR  BHANPURA-RANPUR  BHANPURA-RANPUR  BHANPURA-RANPUR  GWALIOR-SAWAI MADHOPUR  WR (With SR)  BHADRAWATI B/B  BARSUR-L.SILERU  SOLAPUR-RAICHUR  WARDHA-NIZAMABAD  KOLHAPUR-CHIKODI  PONDA-AMBEWADI  XELDEM-AMBEWADI	D/C D/C D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C S/C S/C S/C D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	449 0 0 0 0 0 0 661 0 197 170 986 261 25 45 135 81 0 0 0 0 0 1766 0 1	491 1366 2731 1498 959 0 1455 946 126 322 0 302 80 90 0 17 0 WR-NR	9.3 0.0 0.0 0.0 0.0 11.7 0.0 1.7 0.2 0.0 23.1 0 0.7 0.2 1.9 0.8 0.0 49.6 0.0 0.0 0.3 0.0 8.8 0.0 0.0 1.6	0.8 33.3 42.4 22.5 28.6 0.0 28.8 8.0 0.0 2.4 0.0 0.0 0.0 0.0 191.8 19.9 0.0 23.8 36.4 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	8.4 -33.3 -42.4 -22.5 -28.6 11.7 -28.8 -6.3 0.2 -2.4 23.1 0 0.4 -0.6 1.9 0.8 0.0 -142.2 -19.9 0.0 -23.5 -36.4 8.8 0.0 0.0 1.6