

## 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: 30<sup>th</sup> Jan 2020

To,

- 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 29.01.2020.

महोदय/Dear Sir,

आई॰ई॰जी॰सी॰-2010 की धारा स.-5.5.1 के प्रावधान के अनुसार, दिनांक 29-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 29<sup>th</sup> Jan 2020, is available at the NLDC website.

धन्यवाद,

Report for previous day Date of Reporting 30-Jan-20

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)	45376	48321	41823	18525	2473	156518
Peak Shortage (MW)	560	0	0	0	31	591
Energy Met (MU)	932	1175	1032	353	43	3534
Hydro Gen (MU)	131	49	89	34	5	307
Wind Gen (MU)	2	26	19			47
Solar Gen (MU)*	34.53	25.10	77.79	1.34	0.03	139
Energy Shortage (MU)	12.0	0.1	0.0	0.0	0.6	12.7
Maximum Demand Met during the day (MW) & time	46621	56212	47414	18706	2468	167903
(from NLDC SCADA)	08:23	09:40	07:30	18:21	17:54	09:43

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	0.032	0.00	0.00	5.32	5.32	77.09	17.58

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	5565	0	104.2	53.7	-1.5	52	0.0
	Haryana	6224	0	123.1	86.0	-0.5	226	0.0
	Rajasthan	13619	0	240.9	69.3	-0.9	258	0.0
	Delhi	4323	0	71.8	56.8	-1.3	213	0.0
NR	UP	14969	0	271.8	111.0	-1.3	740	0.6
	Uttarakhand	2002	0	38.5	25.8	-0.2	120	0.0
	HP	1578	0	29.2	22.3	-0.2	319	0.0
	J&K(UT) and Ladakh(UT)	2335	584	48.4	43.1	-0.1	278	11.5
	Chandigarh	267	0	4.3	4.2	0.1	54	0.0
	Chhattisgarh	3727	25	80.8	40.1	-0.4	302	0.1
	Gujarat	15406	0	330.5	88.2	5.1	572	0.0
	MP	14541	0	259.6	145.9	-2.8	462	0.0
WR	Maharashtra	22785	0	461.9	151.6	-0.9	518	0.0
WK	Goa	510	0	10.2	10.2	-0.4	33	0.0
	DD	330	0	7.4	7.1	0.3	41	0.0
	DNH	804	0	18.8	18.8	0.0	41	0.0
	Essar steel	711	0	5.7	5.6	0.1	266	0.0
	Andhra Pradesh	9245	0	191.0	67.9	0.6	365	0.0
	Telangana	11359	0	219.7	110.2	0.7	727	0.0
SR	Karnataka	12394	0	235.8	64.4	-0.2	704	0.0
3N	Kerala	3755	0	75.0	55.8	1.7	196	0.0
	Tamil Nadu	14370	0	302.4	163.4	0.4	700	0.0
	Pondy	375	0	7.9	7.6	0.3	50	0.0
	Bihar	4381	0	76.8	76.8	-1.5	200	0.0
	DVC	3265	0	64.1	-38.2	0.0	350	0.0
ER	Jharkhand	1227	0	24.2	16.9	-0.8	50	0.0
EN	Odisha	4022	0	71.5	9.2	0.3	200	0.0
	West Bengal	6270	0	114.1	25.9	-0.7	350	0.0
	Sikkim	142	0	2,2	1.8	0.4	60	0.0
	Arunachal Pradesh	119	2	2.1	2.1	-0.1	47	0.0
	Assam	1370	12	23.2	20.2	0.4	106	0.3
	Manipur	212	1	2.6	3.1	-0.5	31	0.0
NER	Meghalaya	374	0	6.6	6.0	-0.1	35	0.3
	Mizoram	104	2	1.7	1.6	-0.3	30	0.0
	Nagaland	124	1	2.2	2.1	0.0	17	0.0
	Tripura	223	3	4.2	1.8	0.3	33	0.0

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

	Bhutan	Nepal	Bangladesh
Actual(MU)	4.1	-10.3	-10.4
Day peak (MW)	514.9	-548.0	-858.0

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

	NR	WR	SR	ER	NER	TOTAL
Schedule(MU)	217.2	-237.1	120.7	-108.2	6.9	-0.4
Actual(MU)	197.2	-252.7	150.2	-108.3	7.9	-5.8
O/D/U/D(MU)	-20.0	-15.7	29.5	-0.1	1.0	-5.3

F. Generation Outage(MW)

	NR	WR	SR	ER	NER	Total
Central Sector	6465	14183	8272	1360	613	30893
State Sector	11735	15737	5890	4550	11	37923
Total	18200	29920	14162	5910	625	68816

G. Sourcewise generation (MU)

	NR	WR	SR	ER	NER	All India
Coal	484	1233	554	461	12	2744
Lignite	25	15	43	0	0	83
Hydro	131	49	89	34	5	307
Nuclear	25	33	40	0	0	97
Gas, Naptha & Diesel	25	32	19	0	23	100
RES (Wind, Solar, Biomass & Others)	65	58	141	1	0	266
Total	755	1420	886	496	40	3597

Share of RES in total generation (%)	8.67	4.09	15.94	0.28	0.08	7.40
Share of Non-fossil fuel (Hydro, Nuclear and RES) in total generation (%)	29.24	9.85	30.49	7.09	11.76	18.64

H. All India Demand Diversity Factor

Based on Regional Max Demands	1.021	
Based on State Max Demands	1.090	

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

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

		IN	<u> FER-REGI</u>	ONAL EXCH	ANGES	Date of I	Reporting :	30-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)
		ER (With NR)						
5	HVDC	ALIPURDUAR-AGRA PUSAULI B/B	S/C	2	0 297	0.0	6.8	0.0 -6.8
1	+	GAYA-VARANASI	D/C	21	760	0.0	8.6	-8.6
2	765kV	SASARAM-FATEHPUR	S/C	68	453	0.0	4.5	-4.5
3		GAYA-BALIA	S/C	0	489	0.0	7.5	-7.5
6	-	PUSAULI-VARANASI	S/C	16	211	0.0	3.9	-3.9
7 8	4	PUSAULI -ALLAHABAD	S/C D/C	0	178	0.0	9.8	-2.7 -9.8
9	400 kV	MUZAFFARPUR-GORAKHPUR PATNA-BALIA	O/C	0	699 875	0.0	14.1	-9.8
10	1	BIHARSHARIFF-BALIA	D/C	0	367	0.0	5.4	-5.4
11	1	MOTIHARI-GORAKHPUR	D/C	3	6	0.0	0.0	0.0
12		BIHARSHARIFF-VARANASI	D/C	86	319	0.0	2.6	-2.6
13	220 kV	PUSAULI-SAHUPURI	S/C	14	110	0.0	1.6	-1.6
14		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 17	4	KARMANASA-SAHUPURI	S/C	0	0	0.0	0.0	0.0
1/	1	KARMANASA-CHANDAULI	S/C	0	0 ER-NR	0.0 <b>0.7</b>	0.0 <b>60.8</b>	0.0 -60.2
Import/F	Export of	ER (With WR)			2A-11K	U.1	00.0	-00.2
18	1	JHARSUGUDA-DHARAMJAIGARH	Q/C	1373	0	20.5	0.0	20.5
	765 kV							
19 20	-	NEW RANCHI-DHARAMJAIGARH JHARSUGUDA-DURG	D/C D/C	493 29	361 162	0.0	0.3	-0.3 -1.1
21		JHARSUGUDA-RAIGARH	Q/C	28	480	0.0	4.4	-4.4
22	400 kV	RANCHI-SIPAT	D/C	167	161	0.0	0.1	-0.1
23	220 kV	BUDHIPADAR-RAIGARH	S/C	11	87	0.0	1.1	-1.1
24		BUDHIPADAR-KORBA	D/C	111	39	1.0	0.0	1.0
× ./~		ED WILL CD			ER-WR	21.5	6.9	14.6
	export of	ER (With SR)	D/C	0.0	522.0	0.0	12.2	-12.3
26 27	HVDC	JEYPORE-GAZUWAKA B/B TALCHER-KOLAR BIPOLE	D/C D/C	0.0	533.0 1984.0	0.0	12.3 42.5	-12.5
25	765 kV	ANGUL-SRIKAKULAM	D/C	0.0	2857.0	0.0	52.3	-52.3
28	400 kV	TALCHER-I/C	D/C	406.0	956.0	0.0	1.0	-1.0
29	220 kV	BALIMELA-UPPER-SILERRU	S/C	1.0	0.0	0.0	0.0	0.0
					ER-SR	0.0	107.1	-107.1
	Export of	ER (With NER)						_
30	400 kV	BINAGURI-BONGAIGAON	D/C	124	89	0.6	0.0	1
31 32	220 kV	ALIPURDUAR-BONGAIGAON	D/C D/C	220 43	93 19	1.4 0.2	0.0	0
32	220 KV	ALIPURDUAR-SALAKATI	D/C	43	ER-NER	2.2	0.0	2.2
Import/E	Export of	NER (With NR)					010	
33	HVDC	BISWANATH CHARIALI-AGRA	-	473	0	10.8	0.0	10.8
					NER-NR	10.8	0.0	10.8
Import/E	Export of							
		WR (With NR)						
34	l	CHAMPA-KURUKSHETRA	D/C	0	2003	0.0	38.4	-38.4
35	HVDC	CHAMPA-KURUKSHETRA V'CHAL B/B	D/C	447	101	11.4	0.1	11.3
35 36	HVDC	CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG	D/C D/C	447	101 1924	11.4 0.0	0.1 43.7	11.3 -43.7
35 36 37	HVDC	CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG GWALIOR-AGRA	D/C	447	101 1924 2868	11.4	0.1	11.3 -43.7 -41.6
35 36		CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG	D/C D/C D/C	0 0	101 1924	11.4 0.0 0.0	0.1 43.7 41.6	11.3 -43.7
35 36 37 38	HVDC - 765 kV	CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR	D/C D/C D/C D/C	0 0 0	101 1924 2868 1467	11.4 0.0 0.0 0.0	0.1 43.7 41.6 20.1	11.3 -43.7 -41.6 -20.1
35 36 37 38 39		CHAMPA-KURUKSHETRA VCHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI	D/C D/C D/C D/C D/C D/C	0 0 0 0 0	101 1924 2868 1467 893	11.4 0.0 0.0 0.0 0.0	0.1 43.7 41.6 20.1 23.9	11.3 -43.7 -41.6 -20.1 -23.9
35 36 37 38 39 40 41 42		CHAMPA-KURUKSHETRA VCHAL 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	447 0 0 0 0 0 0 931 0 444	101 1924 2868 1467 893 0 1412	11.4 0.0 0.0 0.0 0.0 0.0 14.5 0.0 1.7	0.1 43.7 41.6 20.1 23.9 0.0 26.3 4.2	11.3 -43.7 -41.6 -20.1 -23.9 14.5 -26.3 -2.5
35 36 37 38 39 40 41 42 43		CHAMPA-KURUKSHETRA 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 D/C S/C S/C	447 0 0 0 0 0 931 0 444 180	101 1924 2868 1467 893 0 1412 672	11.4 0.0 0.0 0.0 0.0 14.5 0.0 1.7 1.0	0.1 43.7 41.6 20.1 23.9 0.0 26.3 4.2	11.3 -43.7 -41.6 -20.1 -23.9 14.5 -26.3 -2.5 1.0
35 36 37 38 39 40 41 42 43		CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATTA-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL	D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C S/C	447 0 0 0 0 931 0 444 180 136	101 1924 2868 1467 893 0 1412 672 92 336	11.4 0.0 0.0 0.0 0.0 14.5 0.0 1.7 1.0	0.1 43.7 41.6 20.1 23.9 0.0 26.3 4.2 0.0 2.1	11.3 -43.7 -41.6 -20.1 -23.9 14.5 -26.3 -2.5 1.0 -2.1
35 36 37 38 39 40 41 42 43 44	765 kV	CHAMPA-KURUKSHETRA 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	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	447 0 0 0 0 0 931 0 444 180 136 974	101 1924 2868 1467 893 0 1412 672 92 336 0	11.4 0.0 0.0 0.0 0.0 14.5 0.0 1.7 1.0 0.0 22.8	0.1 43.7 41.6 20.1 23.9 0.0 26.3 4.2 0.0 2.1 0.0	11.3 -43.7 -41.6 -20.1 -23.9 14.5 -26.3 -2.5 1.0 -2.1 22.8
35 36 37 38 39 40 41 42 43 44 45 46	765 kV	CHAMPA-KURUKSHETRA 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	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	447 0 0 0 0 0 931 0 444 180 136 974 177	101 1924 2868 1467 893 0 1412 672 92 336 0	11.4 0.0 0.0 0.0 0.0 14.5 0.0 1.7 1.0 0.0 22.8	0.1 43.7 41.6 20.1 23.9 0.0 26.3 4.2 0.0 2.1 0.0	11.3 -43.7 -41.6 -20.1 -23.9 14.5 -26.3 -2.5 1.0 -2.1 22.8 -2
35 36 37 38 39 40 41 42 43 44 45 46 47	765 kV	CHAMPA-KURUKSHETRA V'CHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI ZERDA-KANKROLI ZERDA -BHINMAL V'CHAL -RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR	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	447 0 0 0 0 931 0 444 180 136 974 177 24	101 1924 2868 1467 893 0 1412 672 92 336 0 279	11.4 0.0 0.0 0.0 0.0 14.5 0.0 1.7 1.0 0.0 22.8 1	0.1 43.7 41.6 20.1 23.9 0.0 26.3 4.2 0.0 2.1 0.0 2	11.3 -43.7 -41.6 -20.1 -23.9 14.5 -26.3 -2.5 1.0 -2.1 22.8 -2 0.1
35 36 37 38 39 40 41 42 43 44 45 46 47	765 kV	CHAMPA-KURUKSHETRA 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	447 0 0 0 0 931 0 444 180 136 974 177 24 40	101 1924 2868 1467 893 0 1412 672 92 336 0 279 85 115	11.4 0.0 0.0 0.0 0.0 14.5 0.0 1.7 1.0 0.0 22.8 1 0.5 0.1	0.1 43.7 41.6 20.1 23.9 0.0 26.3 4.2 0.0 2.1 0.0 2 0.4 1.0	11.3 -43.7 -41.6 -20.1 -23.9 14.5 -26.3 -2.5 1.0 -2.1 22.8 -2 0.1 -0.9
35 36 37 38 39 40 41 42 43 44 45 46 47	765 kV	CHAMPA-KURUKSHETRA V'CHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI ZERDA-KANKROLI ZERDA -BHINMAL V'CHAL -RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR	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	447 0 0 0 0 931 0 444 180 136 974 177 24	101 1924 2868 1467 893 0 1412 672 92 336 0 279	11.4 0.0 0.0 0.0 0.0 14.5 0.0 1.7 1.0 0.0 22.8 1	0.1 43.7 41.6 20.1 23.9 0.0 26.3 4.2 0.0 2.1 0.0 2	11.3 -43.7 -41.6 -20.1 -23.9 14.5 -26.3 -2.5 1.0 -2.1 22.8 -2 0.1
35 36 37 38 39 40 41 42 43 44 45 46 47 48	765 kV	CHAMPA-KURUKSHETRA 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	447 0 0 0 0 0 931 0 444 180 136 974 177 24 40 111	101 1924 2868 1467 893 0 1412 672 92 336 0 279 85 115 0	11.4 0.0 0.0 0.0 0.0 14.5 0.0 1.7 1.0 0.0 22.8 1 0.5 0.1	0.1 43.7 41.6 20.1 23.9 0.0 26.3 4.2 0.0 2.1 0.0 2 0.4 1.0 0.0	11.3 -43.7 -41.6 -20.1 -23.9 14.5 -26.3 -2.5 1.0 -2.1 22.8 -2 0.1 -0.9 1.4
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50	- 765 kV - 400 kV - 220 kV	CHAMPA-KURUKSHETRA VCHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHITTORGARH-BANASKANTHA ZERDA-BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR BHANPURA-MORAK MEHGAON-AURAIYA MALANPUR-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	447 0 0 0 0 0 931 0 444 180 136 974 177 24 40 111 64	101 1924 2868 1467 893 0 1412 672 92 336 0 279 85 115 0	11.4 0.0 0.0 0.0 0.0 14.5 0.0 1.7 1.0 0.0 22.8 1 0.5 0.1 1.4	0.1 43.7 41.6 20.1 23.9 0.0 26.3 4.2 0.0 2.1 0.0 2 0.4 1.0 0.0	11.3 -43.7 -41.6 -20.1 -23.9 14.5 -26.3 -2.5 1.0 -2.1 22.8 -2 0.1 -0.9 1.4 0.4
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51	765 kV 400 kV 220 kV	CHAMPA-KURUKSHETRA 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)	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	447 0 0 0 0 931 0 444 180 136 974 177 24 40 111 64 0	101 1924 2868 1467 893 0 1412 672 92 336 0 279 85 115 0	11.4 0.0 0.0 0.0 0.0 14.5 0.0 1.7 1.0 0.0 22.8 1 0.5 0.1 1.4 0.5	0.1 43.7 41.6 20.1 23.9 0.0 26.3 4.2 0.0 2.1 0.0 2 0.4 1.0 0.0 0.1 0.0	11.3 -43.7 -41.6 -20.1 -23.9 14.5 -26.3 -2.5 1.0 -2.1 22.8 -2 0.1 -0.9 1.4 0.4 0.0 -149.5
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51	765 kV 400 kV 220 kV	CHAMPA-KURUKSHETRA 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	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	447 0 0 0 0 931 0 444 180 136 974 177 24 40 111 64 0	101 1924 2868 1467 893 0 1412 672 92 336 0 279 85 115 0 WR-NR	11.4 0.0 0.0 0.0 0.0 14.5 0.0 1.7 1.0 0.0 22.8 1 0.5 0.1 1.4 0.5 0.0	0.1 43.7 41.6 20.1 23.9 0.0 26.3 4.2 0.0 2.1 0.0 2 0.4 1.0 0.0 0.1 0.0 0.0 0.0 2 0.0 2 0.0 0.0 0.	11.3 -43.7 -41.6 -20.1 -23.9 14.5 -26.3 -2.5 1.0 -2.1 22.8 -2 0.1 -0.9 1.4 0.4 0.0 -149.5
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/F 52 53	765 kV 400 kV 220 kV 132kV	CHAMPA-KURUKSHETRA 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	447 0 0 0 0 0 931 0 444 180 136 974 177 24 40 111 64 0	101 1924 2868 1467 893 0 1412 672 92 336 0 279 85 115 0 WR-NR	11.4 0.0 0.0 0.0 0.0 14.5 0.0 1.7 1.0 0.0 22.8 1 0.5 0.1 1.4 0.5 0.0 54.6	0.1 43.7 41.6 20.1 23.9 0.0 26.3 4.2 0.0 2.1 0.0 2 0.4 1.0 0.0 0.1 0.0 2 0.4 1.0 0.0 0.0 0.0 1.0 0.0 0.0 0.0	11.3 -43.7 -41.6 -20.1 -23.9 14.5 -26.3 -2.5 1.0 -2.1 22.8 -2 0.1 -0.9 1.4 0.4 0.0 -149.5
35 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	CHAMPA-KURUKSHETRA 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 BARSUR-L.SILERU SOLAPUR-RAICHUR	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	447 0 0 0 0 0 0 931 0 444 180 136 974 177 24 40 111 64 0	101 1924 2868 1467 893 0 1412 672 92 336 0 279 85 115 0 WR-NR	11.4 0.0 0.0 0.0 0.0 14.5 0.0 1.7 1.0 0.0 22.8 1 0.5 0.1 1.4 0.5 0.0 54.6	0.1 43.7 41.6 20.1 23.9 0.0 26.3 4.2 0.0 2.1 0.0 2.1 0.0 0.0 2.1 0.0 2.1 0.0 2.1 0.0 2.1 0.0 2.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	11.3 -43.7 -41.6 -20.1 -23.9 14.5 -26.3 -2.5 1.0 -2.1 22.8 -2 0.1 -0.9 1.4 0.4 0.0 -149.5
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/F 52 53 54 55	765 kV  400 kV  220 kV  132kV  Export of HVDC  765 kV	CHAMPA-KURUKSHETRA VCHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHITTORGARH-BANASKANTHA 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 SOLAPUR-RAICHUR WARDHA-NIZAMABAD	D/C	447 0 0 0 0 0 0 931 0 444 180 136 974 177 24 40 111 64 0 0 0 0 0 0 0 0 0	101 1924 2868 1467 893 0 1412 672 92 336 0 279 85 115 0 WR-NR	11.4 0.0 0.0 0.0 0.0 14.5 0.0 1.7 1.0 0.0 22.8 1 1.4 0.5 0.0 54.6	0.1 43.7 41.6 20.1 23.9 0.0 26.3 4.2 0.0 2.1 0.0 2.1 0.0 0.0 0.1 0.0 0.1 0.0 20.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0	11.3 -43.7 -41.6 -20.1 -23.9 14.5 -26.3 -2.5 1.0 -2.1 22.8 -2 0.1 -0.9 1.4 0.4 0.0 -149.5
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 <b>Import/E</b> 52 53 54 55 56	765 kV 400 kV 220 kV 132kV Export of HVDC	CHAMPA-KURUKSHETRA 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) BHADRUK-LSILERU 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 D/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	447 0 0 0 0 0 0 931 0 444 180 136 974 177 24 40 111 64 0 0 0 0 0 500	101 1924 2868 1467 893 0 1412 672 92 336 0 279 85 115 0 WR-NR	11.4 0.0 0.0 0.0 0.0 14.5 0.0 1.7 1.0 0.0 22.8 1 0.5 0.1 1.4 0.5 0.0 54.6	0.1 43.7 41.6 20.1 23.9 0.0 26.3 4.2 0.0 2.1 0.0 2 0.4 1.0 0.0 0.1 0.0 204.1 24.1 0.0 26.9 39.4 0.7	11.3 -43.7 -41.6 -20.1 -23.9 14.5 -26.3 -2.5 1.0 -2.1 22.8 -2 0.1 -0.9 1.4 0.4 0.0 -149.5
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 <b>Import/E</b> 52 53 54 55 56 57	765 kV  400 kV  220 kV  132kV  Export of HVDC  765 kV	CHAMPA-KURUKSHETRA 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 BHASWATI B/B BKSUR-LSILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD KOLHAPUR-KUDGI	D/C	447 0 0 0 0 0 931 0 444 180 136 974 177 24 40 111 64 0 0 0 0 0 0 0 0 0 0 0 0 0	101 1924 2868 1467 893 0 1412 672 92 336 0 279 85 115 0 WR-NR	11.4 0.0 0.0 0.0 0.0 14.5 0.0 1.7 1.0 0.0 22.8 1 0.5 0.1 1.4 0.5 0.0 54.6	0.1 43.7 41.6 20.1 23.9 0.0 26.3 4.2 0.0 2.1 0.0 2.1 0.0 0.0 0.0 0.0 24.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	11.3 -43.7 -41.6 -20.1 -23.9 14.5 -26.3 -2.5 1.0 -2.1 22.8 -2 0.1 -0.9 1.4 0.4 0.0 -149.5  -24.1 0.0 -26.9 -39.4 2.7 0.0
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/E 52 53 54 55 56	765 kV  400 kV  220 kV  132kV  Export of HVDC  765 kV	CHAMPA-KURUKSHETRA 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-RANPUR BHANPURA-WARAI MALANPUR-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR  WR (With SR) BHADRAWATI B/B BARSUR-LSILERU SOLAPUR-RICHMER WARDHA-NIZAMABAD KOLHAPUR-KUDGI 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 S/C D/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	447 0 0 0 0 0 0 931 0 444 180 136 974 177 24 40 111 64 0 0 0 0 0 500	101 1924 2868 1467 893 0 1412 672 92 336 0 279 85 115 0 31 0 WR-NR	11.4 0.0 0.0 0.0 0.0 14.5 0.0 1.7 1.0 0.0 22.8 1 0.5 0.1 1.4 0.5 0.0 54.6	0.1 43.7 41.6 20.1 23.9 0.0 26.3 4.2 0.0 2.1 0.0 2 0.4 1.0 0.0 0.1 0.0 204.1 24.1 0.0 26.9 39.4 0.7	11.3 -43.7 -41.6 -20.1 -23.9 14.5 -26.3 -2.5 1.0 -2.1 22.8 -2 0.1 -0.9 1.4 0.4 0.0 -149.5  -24.1 0.0 -26.9 -39.4 2.7 0.0 0.0
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 <b>Import/F</b> 52 53 54 55 56 57 58	765 kV  400 kV  220 kV  132kV  Export of HVDC  765 kV	CHAMPA-KURUKSHETRA 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 BHASWATI B/B BKSUR-LSILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD KOLHAPUR-KUDGI	D/C	447 0 0 0 0 0 931 0 444 180 136 974 177 24 40 111 64 0 0 0 0 0 1	101 1924 2868 1467 893 0 1412 672 92 336 0 279 85 115 0 WR-NR	11.4 0.0 0.0 0.0 0.0 14.5 0.0 1.7 1.0 0.0 22.8 1 0.5 0.1 1.4 0.5 0.0 54.6	0.1 43.7 41.6 20.1 23.9 0.0 26.3 4.2 0.0 2.1 0.0 2.1 0.0 0.0 0.0 0.0 24.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	11.3 -43.7 -41.6 -20.1 -23.9 14.5 -26.3 -2.5 1.0 -2.1 22.8 -2 0.1 -0.9 1.4 0.4 0.0 -149.5  -24.1 0.0 -26.9 -39.4 2.7 0.0
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 <b>Import/F</b> 52 53 54 55 56 57 58	765 kV  400 kV  220 kV  132kV  Export of HVDC  765 kV	CHAMPA-KURUKSHETRA VCHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATTA-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR BHANPURA-RANPUR BHANPURA-WARIANA MALANPUR-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 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 D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	447 0 0 0 0 0 931 0 444 180 136 974 177 24 40 111 64 0 0 0 0 0 1 0 0 0 0 0 0 0 0	101 1924 2868 1467 893 0 1412 672 92 336 0 279 85 115 0 WR-NR	11.4 0.0 0.0 0.0 0.0 14.5 0.0 1.7 1.0 0.0 22.8 1 0.5 0.1 1.4 0.5 0.0 54.6	0.1 43.7 41.6 20.1 23.9 0.0 26.3 4.2 0.0 2.1 0.0 2 0.4 1.0 0.0 204.1 24.1 0.0 26.9 39.4 0.7 0.0 0.0 0.0 0.0	11.3 -43.7 -41.6 -20.1 -23.9 14.5 -26.3 -2.5 1.0 -2.1 22.8 -2 0.1 -0.9 1.4 0.4 0.0 -149.5  -24.1 0.0 -26.9 -39.4 2.7 0.0 0.0 1.7
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 S1 S2 S3 S4 S5 S5 S6 S7 S8	765 kV  400 kV  220 kV  132kV  Export of HVDC  765 kV	CHAMPA-KURUKSHETRA VCHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI SATNA-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR BHANPURA-RANPUR BHANPURA-WAIYA MALANPUR-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHADRAWATI B/B BARSUR-L.SILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD KOLHAPUR-KUDGI 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 D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	447 0 0 0 0 0 931 0 444 180 136 974 177 24 40 111 64 0 0 0 0 0 1	101 1924 2868 1467 893 0 1412 672 92 336 0 279 85 115 0 WR-NR	11.4 0.0 0.0 0.0 0.0 14.5 0.0 1.7 1.0 0.0 22.8 1 0.5 0.1 1.4 0.5 0.0 54.6	0.1 43.7 41.6 20.1 23.9 0.0 26.3 4.2 0.0 2.1 0.0 2 0.4 1.0 0.0 204.1 24.1 0.0 26.9 39.4 0.7 0.0 0.0 0.0 0.0	11.3 -43.7 -41.6 -20.1 -23.9 14.5 -26.3 -2.5 1.0 -2.1 22.8 -2 0.1 -0.9 1.4 0.4 0.0 -149.5  -24.1 0.0 -26.9 -39.4 2.7 0.0 0.0 1.7
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 S1 S2 S3 S4 S5 S5 S6 S7 S8 S9	765 kV  400 kV  220 kV  132kV  Export of HVDC  765 kV	CHAMPA-KURUKSHETRA VCHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATTA-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR BHANPURA-RANPUR BHANPURA-WARIANA MALANPUR-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 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 D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	447 0 0 0 0 0 931 0 444 180 136 974 177 24 40 111 64 0 0 0 0 0 1 0 0 0 0 0 0 0 0	101 1924 2868 1467 893 0 1412 672 92 336 0 279 85 115 0 WR-NR	11.4 0.0 0.0 0.0 0.0 14.5 0.0 1.7 1.0 0.0 22.8 1 0.5 0.1 1.4 0.5 0.0 54.6	0.1 43.7 41.6 20.1 23.9 0.0 26.3 4.2 0.0 2.1 0.0 2 0.4 1.0 0.0 204.1 24.1 0.0 26.9 39.4 0.7 0.0 0.0 0.0 0.0	11.3 -43.7 -41.6 -20.1 -23.9 -14.5 -26.3 -2.5 -1.0 -2.1 -22.8 -2 -0.1 -0.9 -1.4 -0.9 -1.4 -0.0 -149.5 -24.1 -0.0 -26.9 -39.4 -2.7 -0.0 -0.0 -1.7 -85.8