

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: 01st Feb 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 31.01.2020.

महोदय/Dear Sir,

आई॰ई॰जी॰सी॰-2010 की धारा स.-5.5.1 के प्रावधान के अनुसार, दिनांक 31-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 31st Jan 2020, is available at the NLDC website.

धन्यवाद,

Report for previous day Date of Reporting 1-Feb-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)	47320	47529	42519	17873	2423	157664
Peak Shortage (MW)	614	0	0	0	28	642
Energy Met (MU)	963	1164	1052	361	41	3580
Hydro Gen (MU)	129	45	93	33	5	305
Wind Gen (MU)	10	33	19			62
Solar Gen (MU)*	38.36	27.00	95.62	1.55	0.20	163
Energy Shortage (MU)	12.9	0.0	0.0	0.0	1.2	14.1
Maximum Demand Met during the day (MW) & time	48503	56653	48497	18443	2469	170721
(from NLDC SCADA)	09:44	11:02	11:31	18:41	18:45	09:45

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	5790	0	111.2	53.2	-1.0	102	0.0
	Harvana	6402	0	125.6	89.1	0.6	773	0.3
	Rajasthan	13835	0	243.6	65.4	1.1	801	0.0
	Delhi	4401	0	73.0	57.5	-1.1	218	0.0
NR	UP	15359	0	282.1	112.8	0.4	740	1.0
	Uttarakhand	2169	0	39.6	27.3	-0.2	184	0.0
	HP	1786	0	31.8	24.9	-0.2	132	0.0
	J&K(UT) and Ladakh(UT)	2456	614	51.3	46.7	-0.7	415	11.5
	Chandigarh	270	0	4.4	4.0	0.3	60	0.0
	Chhattisgarh	3802	0	81.9	37.8	-1.6	244	0.0
	Gujarat	15798	0	330.4	79.5	3.8	620	0.0
	MP	14424	0	262.8	139.3	-3.4	539	0.0
	Maharashtra	22324	0	448.3	139.9	-2.3	563	0.0
WR	Goa	470	0	9.2	9.9	-0.9	21	0.0
	DD	325	0	7.3	7.1	0.2	36	0.0
	DNH	783	0	18.4	18.2	0.2	73	0.0
	Essar steel	683	0	5.4	5.6	-0.2	226	0.0
	Andhra Pradesh	9480	0	190.0	70.7	1.0	619	0.0
	Telangana	11226	0	224.4	116.3	-0.2	516	0.0
SR	Karnataka	12685	0	240.7	64.2	0.7	646	0.0
Ji	Kerala	3669	0	75.0	54.4	1.1	233	0.0
	Tamil Nadu	14558	0	314.3	165.1	0.9	484	0.0
	Pondy	365	0	7.4	7.6	-0.2	25	0.0
	Bihar	4280	0	78.9	75.6	1.7	250	0.0
	DVC	3137	0	65.5	-36.4	-1.0	200	0.0
ER	Jharkhand	1249	0	25.6	18.2	0.0	100	0.0
	Odisha	3694	0	70.1	2.9	-0.5	150	0.0
	West Bengal	6370	0	118.9	30.1	-1.8	200	0.0
	Sikkim	129	0	2.0	1.9	0.1	40	0.0
	Arunachal Pradesh	126	2	2.5	2.1	0.3	36	0.0
	Assam	1347	20	22.0	18.3	1.1	103	0.8
	Manipur	217	1	2.6	3.1	-0.5	30	0.0
NER	Meghalaya	369	0	6.4	6.0	-0.2	31	0.3
	Mizoram	106	1	1.8	1.7	-0.2	23	0.0
	Nagaland	125	2	2.1	2.0	-0.1	14	0.1
	Tripura	222	1	3.9	1.6	0.1	24	0.0

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

	Bhutan	Nepal	Bangladesh
Actual(MU)	2.7	-10.6	-7.5
Day peak (MW)	520.5	-544.0	-546.0

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

	NR	WR	SR	ER	NER	TOTAL
Schedule(MU)	221.9	-255.1	123.4	-96.8	6.3	-0.3
Actual(MU)	211.7	-270.0	145.1	-95.6	6.9	-1.8
O/D/U/D(MU)	-10.2	-14.9	21.8	1.1	0.6	-1.6

F. Generation Outage(MW)

	NR	WR	SR	ER	NER	Total
Central Sector	5797	14033	7022	2220	647	29718
State Sector	12300	16015	5970	3910	11	38206
Total	18097	30048	12992	6130	658	67924

G. Sourcewise generation (MU)

	NR	WR	SR	ER	NER	All India
Coal	489	1235	560	448	11	2744
Lignite	27	15	49	0	0	91
Hydro	129	45	93	33	5	305
Nuclear	24	33	40	0	0	97
Gas, Naptha & Diesel	26	35	18	0	23	102
RES (Wind, Solar, Biomass & Others)	77	69	150	2	0	299
Total	773	1433	910	483	39	3638

Share of RES in total generation (%)	10.01	4.84	16.50	0.33	0.51	8.21
Share of Non-fossil fuel (Hydro, Nuclear and RES) in total generation (%)	29.85	10.31	31.03	7.25	12.63	19.26

H. All India Demand Diversity Factor

Based on Regional Max Demands	1.023	
Based on State Max Demands	1.080	

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

 $^{{\}bf *\underline{Source}} : RLDCs \ for \ solar \ connected \ to \ ISTS; SLDCs \ for \ embedded \ solar. \ Limited \ visibility \ of \ embedded \ solar \ data.$

		IN	FER-REGI	ONAL EXCH	ANGES	Date of l	Date of Reporting : 1-Feb-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)	1		1						
5	HVDC	ALIPURDUAR-AGRA PUSAULI B/B	S/C	0	299	0.0	7.1	0.0 -7.1			
1		GAYA-VARANASI	D/C	0	707	0.0	8.5	-8.5			
2	765kV	SASARAM-FATEHPUR	S/C	34	344	0.0	4.4	-4.4			
3		GAYA-BALIA	S/C	0	516	0.0	8.2	-8.2			
6 7	_	PUSAULI-VARANASI PUSAULI -ALLAHABAD	S/C S/C	0	229 152	0.0	4.4 2.5	-4.4 -2.5			
8		MUZAFFARPUR-GORAKHPUR	D/C	0	620	0.0	9.0	-9.0			
9	400 kV	PATNA-BALIA	Q/C	0	740	0.0	11.3	-11.3			
10		BIHARSHARIFF-BALIA	D/C	0	387	0.0	5.9	-5.9			
11		MOTIHARI-GORAKHPUR	D/C	0	4	0.0	2.5	-2.5			
12	220 kV	BIHARSHARIFF-VARANASI PUSAULI-SAHUPURI	D/C S/C	93	294 46	0.0	0.0	-2.2 0.0			
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	0.0	0.0	0.0			
Import/E	Export of	ER (With WR)			ER-NR	0.7	65.9	-65.2			
-	Aport 01		0/0	1/01		20.2	0.0	20.2			
18	765 kV	JHARSUGUDA-DHARAMJAIGARH	Q/C	1681	0	20.2	0.0	20.2			
19 20	1	NEW RANCHI-DHARAMJAIGARH JHARSUGUDA-DURG	D/C D/C	485 74	300 224	3.3 0.0	0.0 1.4	3.3			
21	400 kV	JHARSUGUDA-RAIGARH	Q/C	130	408	0.0	3.6	-3.6			
22	400 KV	RANCHI-SIPAT	D/C	185	97	1.4	0.0	1.4			
23	220 kV	BUDHIPADAR-RAIGARH	S/C	0	101	0.0	1.3	-1.3			
24		BUDHIPADAR-KORBA	D/C	178	0 ER-WR	2.4	0.0 6.3	2.4			
Import/E	Export of	ER (With SR)			ER-WK	21.2	0.3	20.9			
26		JEYPORE-GAZUWAKA B/B	D/C	0.0	585.0	0.0	11.4	-11.4			
27	HVDC	TALCHER-KOLAR BIPOLE	D/C	0.0	2471.0	0.0	47.9	-47.9			
25	765 kV	ANGUL-SRIKAKULAM	D/C	0.0	2502.0	0.0	46.7	-46.7			
28	400 kV	TALCHER-I/C	D/C	433.0	972.0	0.0	5.5	-5.5			
29	220 kV	BALIMELA-UPPER-SILERRU	S/C	1.0	0.0 ER-SR	0.0	0.0 106.0	0.0 -106.0			
Import/E	Export of	ER (With NER)			EK-5K	0.0	100.0	-100.0			
30	400 kV	BINAGURI-BONGAIGAON	D/C	229	98	1.5	0.0	2			
31	400 KV	ALIPURDUAR-BONGAIGAON	D/C	345	94	2.6	0.0	3			
32	220 kV	ALIPURDUAR-SALAKATI	D/C	76	18	0.6	0.0	1			
Immout/E	Evnout of	NED (W;45 ND)			ER-NER	4.7	0.0	4.7			
33	HVDC	NER (With NR) BISWANATH CHARIALI-AGRA	1 . 1	473	0	12.2	0.0	12.2			
	II.De	DISTRICTION OF THE PROPERTY OF		175	NER-NR	12.2	0.0	12.2			
Import/E	Export of	WR (With NR)						•			
34											
35		CHAMPA-KURUKSHETRA	D/C	0	2504	0.0	29.4	-29.4			
	HVDC	V'CHAL B/B	D/C	448	0	11.3	0.0	11.3			
36	HVDC	V'CHAL B/B APL -MHG	D/C D/C	448	0 2286	11.3 0.0	0.0 39.9	11.3 -39.9			
	HVDC	V'CHAL B/B APL -MHG GWALIOR-AGRA	D/C	448	0	11.3	0.0	11.3			
36 37		V'CHAL B/B APL -MHG	D/C D/C D/C	0 0	0 2286 2650	11.3 0.0 0.0	0.0 39.9 47.9	11.3 -39.9 -47.9			
36 37 38	HVDC 765 kV	V'CHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR	D/C D/C D/C D/C	448 0 0 0	0 2286 2650 1539	11.3 0.0 0.0 0.0	0.0 39.9 47.9 22.2	11.3 -39.9 -47.9 -22.2 -32.4 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	448 0 0 0 0 0 0 736 0	0 2286 2650 1539 949 0	11.3 0.0 0.0 0.0 0.0 11.7 0.0	0.0 39.9 47.9 22.2 32.4 0.0 30.2	11.3 -39.9 -47.9 -22.2 -32.4 11.7 -30.2			
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	448 0 0 0 0 0 736 0 293	0 2286 2650 1539 949 0 1466 827	11.3 0.0 0.0 0.0 0.0 11.7 0.0 0.0	0.0 39.9 47.9 22.2 32.4 0.0 30.2 6.5	11.3 -39.9 -47.9 -22.2 -32.4 11.7 -30.2 -6.5			
36 37 38 39 40 41 42 43	765 kV	V'CHAL 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	448 0 0 0 0 0 736 0 293 168	0 2286 2650 1539 949 0 1466 827	11.3 0.0 0.0 0.0 0.0 11.7 0.0 0.0 0.2	0.0 39.9 47.9 22.2 32.4 0.0 30.2 6.5 0.0	11.3 -39.9 -47.9 -22.2 -32.4 11.7 -30.2 -6.5 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	448 0 0 0 0 0 736 0 293	0 2286 2650 1539 949 0 1466 827	11.3 0.0 0.0 0.0 0.0 11.7 0.0 0.0	0.0 39.9 47.9 22.2 32.4 0.0 30.2 6.5	11.3 -39.9 -47.9 -22.2 -32.4 11.7 -30.2 -6.5			
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 S/C S/C S/C S/C S/C S/C	448 0 0 0 0 736 0 293 168 200	0 2286 2650 1539 949 0 1466 827 130 336	11.3 0.0 0.0 0.0 0.0 11.7 0.0 0.0 0.2 0.0	0.0 39.9 47.9 22.2 32.4 0.0 30.2 6.5 0.0	11.3 -39.9 -47.9 -22.2 -32.4 11.7 -30.2 -6.5 0.2 -1.8			
36 37 38 39 40 41 42 43 44 45	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	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	448 0 0 0 0 0 736 0 293 168 200 968	0 2286 2650 1539 949 0 1466 827 130 336 0	11.3 0.0 0.0 0.0 0.0 11.7 0.0 0.0 0.2 0.0 22.6	0.0 39.9 47.9 22.2 32.4 0.0 30.2 6.5 0.0 1.8	11.3 -39.9 -47.9 -22.2 -32.4 11.7 -30.2 -6.5 0.2 -1.8 22.6			
36 37 38 39 40 41 42 43 44 45 46 47	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	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	448 0 0 0 0 736 0 293 168 200 968 164 16 35	0 2286 2650 1539 949 0 1466 827 130 336 0	11.3 0.0 0.0 0.0 0.0 11.7 0.0 0.0 0.2 0.0 22.6 0 0.4 0.1	0.0 39.9 47.9 22.2 32.4 0.0 30.2 6.5 0.0 1.8 0.0 2	11.3 -39.9 -47.9 -22.2 -32.4 11.7 -30.2 -6.5 0.2 -1.8 22.6 -2 -0.1 -1.1			
36 37 38 39 40 41 42 43 44 45 46 47 48	- 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	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	448 0 0 0 0 0 736 0 293 168 200 968 164 16 35 98	0 2286 2650 1539 949 0 1466 827 130 336 0 350 86	11.3 0.0 0.0 0.0 0.0 11.7 0.0 0.0 0.2 0.0 22.6 0 0.4 0.1	0.0 39.9 47.9 22.2 32.4 0.0 30.2 6.5 0.0 1.8 0.0 2 0.5 1.2	11.3 -39.9 -47.9 -22.2 -32.4 11.7 -30.2 -6.5 0.2 -1.8 22.6 -2 -0.1 -1.1			
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-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	448 0 0 0 0 736 0 293 168 200 968 164 16 35 98 48	0 2286 2650 1539 949 0 1466 827 130 336 0 350 86 128 0	11.3 0.0 0.0 0.0 0.0 11.7 0.0 0.0 0.2 0.0 22.6 0 0.4 0.1 1.1 0.3	0.0 39.9 47.9 22.2 32.4 0.0 30.2 6.5 0.0 1.8 0.0 2 0.5 1.2 0.0	11.3 -39.9 -47.9 -22.2 -32.4 11.7 -30.2 -6.5 0.2 -1.8 22.6 -2 -0.1 -1.1 1.1 0.2			
36 37 38 39 40 41 42 43 44 45 46 47 48	- 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	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	448 0 0 0 0 0 736 0 293 168 200 968 164 16 35 98	0 2286 2650 1539 949 0 1466 827 130 336 0 350 86	11.3 0.0 0.0 0.0 0.0 11.7 0.0 0.0 0.2 0.0 22.6 0 0.4 0.1 1.1 0.3 0.0	0.0 39.9 47.9 22.2 32.4 0.0 30.2 6.5 0.0 1.8 0.0 2 0.5 1.2 0.0	11.3 -39.9 -47.9 -22.2 -32.4 -11.7 -30.2 -6.5 -0.2 -1.8 -22.6 -2 -0.1 -1.1 -1.1 -0.2 -0.0			
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-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	448 0 0 0 0 736 0 293 168 200 968 164 16 35 98 48	0 2286 2650 1539 949 0 1466 827 130 336 0 350 86 128 0	11.3 0.0 0.0 0.0 0.0 11.7 0.0 0.0 0.2 0.0 22.6 0 0.4 0.1 1.1 0.3	0.0 39.9 47.9 22.2 32.4 0.0 30.2 6.5 0.0 1.8 0.0 2 0.5 1.2 0.0	11.3 -39.9 -47.9 -22.2 -32.4 11.7 -30.2 -6.5 0.2 -1.8 22.6 -2 -0.1 -1.1 1.1 0.2			
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51	765 kV 400 kV 220 kV 132kV	VCHAL 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	448 0 0 0 0 736 0 293 168 200 968 164 16 35 98 48 0	0 2286 2650 1539 949 0 1466 827 130 336 0 350 86 128 0	11.3 0.0 0.0 0.0 0.0 11.7 0.0 0.0 0.2 0.0 22.6 0 0.4 0.1 1.1 0.3 0.0 47.6	0.0 39.9 47.9 22.2 32.4 0.0 30.2 6.5 0.0 1.8 0.0 2 0.5 1.2 0.0	11.3 -39.9 -47.9 -22.2 -32.4 -11.7 -30.2 -6.5 -0.2 -1.8 -22.6 -2 -0.1 -1.1 -1.1 -0.2 -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 CHITTORGARI-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	448 0 0 0 0 0 736 0 293 168 200 968 164 16 35 98 48 0	0 2286 2650 1539 949 0 1466 827 130 336 0 350 86 128 0 24 0 WR-NR	11.3 0.0 0.0 0.0 0.0 11.7 0.0 0.0 0.2 0.0 22.6 0 0.4 0.1 1.1 0.3 0.0 47.6	0.0 39.9 47.9 22.2 32.4 0.0 30.2 6.5 0.0 1.8 0.0 2 0.5 1.2 0.0 0.1 213.5	11.3 -39.9 -47.9 -22.2 -32.4 11.7 -30.2 -6.5 -0.2 -1.8 -22.6 -2 -0.1 -1.1 -1.1 -0.2 -0.0 -165.9			
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 SATNA-ORAI CHITTORGARH-BANASKANTHA ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR BHANPURA-WORAK MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHARSWATI 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	448 0 0 0 0 0 736 0 293 168 200 968 164 16 35 98 48 0	0 2286 2650 1539 949 0 1466 827 130 336 0 350 86 128 0 24 0 WR-NR	11.3 0.0 0.0 0.0 0.0 11.7 0.0 0.0 0.2 0.0 22.6 0 0.4 0.1 1.1 0.3 0.0 47.6	0.0 39.9 47.9 22.2 32.4 0.0 30.2 6.5 0.0 1.8 0.0 2 0.5 1.2 0.0 0.1 0.0 213.5	11.3 -39.9 -47.9 -22.2 -32.4 -11.7 -30.2 -6.5 -0.2 -1.8 -22.6 -2 -0.1 -1.1 1.1 -0.2 -0.0 -165.9			
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/E 52 53 54 55	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-WORAK MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHADRAWATI 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 D/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 D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	448 0 0 0 0 736 0 293 168 200 968 164 16 35 98 48 0	0 2286 2650 1539 949 0 1466 827 130 336 0 350 86 128 0 WR-NR	11.3 0.0 0.0 0.0 0.0 11.7 0.0 0.2 0.0 22.6 0 0.4 0.1 1.1 0.3 0.0 47.6	0.0 39.9 47.9 22.2 32.4 0.0 30.2 6.5 0.0 1.8 0.0 2 0.5 1.2 0.0 0.1 0.0 213.5	11.3 -39.9 -47.9 -22.2 -32.4 -11.7 -30.2 -6.5 -0.2 -1.8 -22.6 -2 -0.1 -1.1 1.1 0.2 0.0 -165.9			
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-MORAK MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHASURU-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 S	448 0 0 0 0 0 736 0 293 168 200 968 164 16 35 98 48 0	0 2286 2650 1539 949 0 1466 827 130 336 0 350 86 128 0 24 0 WR-NR	11.3 0.0 0.0 0.0 0.0 11.7 0.0 0.0 0.2 0.0 22.6 0 0.4 0.1 1.1 0.3 0.0 47.6	0.0 39.9 47.9 22.2 32.4 0.0 30.2 6.5 0.0 1.8 0.0 2 0.5 1.2 0.0 0.1 0.0 213.5	11.3 -39.9 -47.9 -22.2 -32.4 -11.7 -30.2 -6.5 -0.2 -1.8 -22.6 -2 -0.1 -1.1 1.1 -0.2 -0.0 -165.9			
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/E 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-WORAK MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHADRAWATI 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 S/C S	448 0 0 0 0 0 736 0 293 168 200 968 164 16 35 98 48 0	0 2286 2650 1539 949 0 1466 827 130 336 0 350 86 128 0 WR-NR	11.3 0.0 0.0 0.0 0.0 11.7 0.0 0.0 0.2 0.0 22.6 0 0.4 0.1 1.1 0.3 0.0 47.6	0.0 39.9 47.9 22.2 32.4 0.0 30.2 6.5 0.0 1.8 0.0 2 0.5 1.2 0.0 0.1 0.0 213.5	11.3 -39.9 -47.9 -22.2 -32.4 -11.7 -30.2 -6.5 -0.2 -1.8 -22.6 -2 -0.1 -1.1 -1.1 -1.1 -2.0 -0.0 -165.9 -24.0 -0.0 -24.0 -40.3 -3.2			
36 37 38 39 40 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 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 SOLAPUR-RAICHUR WARDHA-NIZAMABAD KOLHAPUR-KUDGI KOLHAPUR-CHIKODI	D/C 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 D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	448 0 0 0 0 736 0 293 168 200 968 164 16 35 98 48 0	0 2286 2650 1539 949 0 1466 827 130 336 0 350 86 128 0 WR-NR	11.3 0.0 0.0 0.0 0.0 11.7 0.0 0.0 0.2 0.0 22.6 0 0.4 0.1 1.1 0.3 0.0 47.6	0.0 39.9 47.9 22.2 32.4 0.0 30.2 6.5 0.0 1.8 0.0 2 0.5 1.2 0.0 0.1 0.0 213.5	11.3 -39.9 -47.9 -22.2 -32.4 -11.7 -30.2 -6.5 -0.2 -1.8 -22.6 -2 -0.1 -1.1 -1.1 -1.2 -0.0 -165.9 -24.0 -24.0 -40.3 -3.2 -0.0			
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/F 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-WANDAK 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	448 0 0 0 0 0 736 0 293 168 200 968 164 16 35 98 48 0 0 0 0 547 0 1	0 2286 2650 1539 949 0 1466 827 130 336 0 350 86 128 0 24 0 WR-NR	11.3 0.0 0.0 0.0 0.0 11.7 0.0 0.0 0.2 0.0 22.6 0 0.1 1.1 0.3 0.0 47.6	0.0 39.9 47.9 22.2 32.4 0.0 0.0 30.2 6.5 0.0 1.8 0.0 2 0.5 1.2 0.0 0.1 0.0 213.5	11.3 -39.9 -47.9 -22.2 -32.4 11.7 -30.2 -6.5 0.2 -1.8 22.6 -2 -0.1 -1.1 1.1 0.2 0.0 -165.9 -24.0 0.0 -24.0 -40.3 3.2 0.0 0.0			
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/F 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-WALIORAM MALANPUR-AURAIYA 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	448 0 0 0 0 0 736 0 293 168 200 968 164 16 35 98 48 0 0 0 0 547 0 1	0 2286 2650 1539 949 0 1466 827 130 336 0 350 86 128 0 24 0 WR-NR	11.3 0.0 0.0 0.0 0.0 0.0 11.7 0.0 0.0 0.2 0.0 22.6 0 0.1 1.1 0.3 0.0 47.6 0.0 0.0 0.0 0.0 0.0 0.0 0.0 1.7	0.0 39.9 47.9 22.2 32.4 0.0 30.2 6.5 0.0 1.8 0.0 2 0.5 1.2 0.0 0.1 0.0 213.5	11.3 -39.9 -47.9 -22.2 -32.4 11.7 -30.2 -6.5 0.2 -1.8 22.6 -2 -0.1 -1.1 1.1 0.2 0.0 -165.9 -24.0 0.0 -24.0 -40.3 3.2 0.0 0.0 1.7			
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/F 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-WALIORAM MALANPUR-AURAIYA 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 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	448 0 0 0 0 0 736 0 293 168 200 968 164 16 35 98 48 0 0 0 0 0 168 169 169 169 169 169 169 169 169	0 2286 2650 1539 949 0 1466 827 130 336 0 350 86 128 0 24 0 WR-NR	11.3 0.0 0.0 0.0 0.0 0.0 11.7 0.0 0.0 0.2 0.0 22.6 0 0.1 1.1 0.3 0.0 47.6 0.0 0.0 0.0 0.0 0.0 0.0 0.0 1.7	0.0 39.9 47.9 22.2 32.4 0.0 30.2 6.5 0.0 1.8 0.0 2 0.5 1.2 0.0 0.1 0.0 213.5	11.3 -39.9 -47.9 -22.2 -32.4 11.7 -30.2 -6.5 0.2 -1.8 22.6 -2 -0.1 -1.1 1.1 0.2 0.0 -165.9 -24.0 0.0 -24.0 -40.3 3.2 0.0 0.0 1.7			