

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: 21th Dec 2019

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 20.12.2019.

महोदय/Dear Sir,

आई॰ई॰जी॰सी॰-2010 की धारा स.-5.5.1 के प्रावधान के अनुसार, दिनांक 20-दिसम्बर-2019 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 20th Dec 2019, is available at the NLDC website.

धन्यवाद,

Report for previous day

A. Power Supply Position at All India and Regional level

Date of Reporting 21-Dec-19

	NR	WR	SR	ER	NER	Total
Demand Met during Evening Peak hrs(MW) (at 1900 hrs; from RLDCs)	46847	47777	39188	17799	2397	154008
Peak Shortage (MW)	805	0	0	0	23	828
Energy Met (MU)	945	1133	947	339	41	3404
Hydro Gen (MU)	119	49	90	42	8	309
Wind Gen (MU)	4	18	32			53
Solar Gen (MU)*	26.14	20.60	69.57	1.88	0.03	118
Energy Shortage (MU)	15.4	0.0	0.0	0.0	0.5	15.9
Maximum Demand Met during the day (MW) & time	47720	54180	45670	18151	2458	162824
(from NLDC SCADA)	09:38	10:26	07:58	18:43	17:35	09:38

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	0.053	0.00	0.84	13.92	14.77	69.58	15.65

-	D	C1-	Position	: 64	-4

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	5954	0	114.0	52.8	-1.3	18	0.0
	Haryana	6591	0	125.4	89.3	0.6	218	0.8
	Rajasthan	13082	0	234.8	66.8	0.8	314	0.0
	Delhi	4486	0	74.8	57.6	-0.4	226	0.0
NR	UP	14518	310	271.7	106.2	-0.7	935	2.6
	Uttarakhand	2078	0	38.8	21.6	-0.4	168	0.0
	HP	1684	0	30.4	23.1	0.1	185	0.0
	J&K(UT) and Ladakh(UT)	2589	647	50.9	42.5	3.0	402	12.0
	Chandigarh	268	0	4.4	4.1	0.3	30	0.0
	Chhattisgarh	3648	0	77.9	17.3	0.1	304	0.0
	Gujarat	15869	0	332.8	94.8	2.0	634	0.0
	MP	12902	0	236.3	124.6	-2.3	489	0.0
WR	Maharashtra	21404	0	443.7	139.8	-0.2	538	0.0
WK	Goa	530	0	11.5	11.4	-0.5	52	0.0
	DD	325	0	6.4	5.7	0.7	58	0.0
	DNH	796	0	18.6	18.6	0.0	41	0.0
	Essar steel	297	0	5.4	5.5	-0.1	275	0.0
	Andhra Pradesh	8151	0	167.6	67.8	0.5	583	0.0
	Telangana	10591	0	214.2	108.2	-0.2	420	0.0
SR	Karnataka	11215	0	204.9	51.4	0.4	755	0.0
310	Kerala	3498	0	71.7	56.1	1.2	228	0.0
	Tamil Nadu	13689	0	281.8	148.2	1.2	516	0.0
	Pondy	355	0	7.1	7.4	-0.3	40	0.0
	Bihar	4127	0	71.7	71.3	-1.0	200	0.0
	DVC	3160	0	64.1	-35.2	-0.4	90	0.0
ER	Jharkhand	1298	0	24.6	15.2	0.0	130	0.0
-11	Odisha	3701	0	67.0	10.5	-0.8	250	0.0
	West Bengal	6081	0	109.4	33.1	-0.6	300	0.0
	Sikkim	131	0	1.9	1.7	0.2	25	0.0
	Arunachal Pradesh	117	2	2.1	1.8	0.2	41	0.0
	Assam	1380	12	22.1	18.1	-0.2	97	0.3
	Manipur	184	1	2.8	3.0	-0.2	29	0.0
NER	Meghalaya	361	0	6.1	3.0	0.5	71	0.1
	Mizoram	110	1	1.9	1.1	0.5	33	0.0
	Nagaland	134	2	2.2	2.3	-0.3	45	0.0
	Tripura	229	5	3.4	1.6	-0.7	15	0.0

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

The state of the s	Bhutan	Nepal	Bangladesh
Actual(MU)	6.0	-7.4	-7.0
Day peak (MW)	429.6	-372.0	-540.0

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

	NR	WR	SR	ER	NER	TOTAL
Schedule(MU)	225.3	-222.6	118.8	-121.0	-0.3	0.2
Actual(MU)	232.1	-247.3	129.8	-115.6	-0.9	-1.9
O/D/U/D(MU)	6.8	-24.7	11.0	5.4	-0.6	-2.1

F. Generation Outage(MW)

	NR	WR	SR	ER	NER	Total
Central Sector	6394	16833	8852	660	597	33335
State Sector	12282	15299	9520	6550	11	43662
Total	18676	32131	18372	7210	608	76997

G. Sourcewise generation (MU)

	NR	WR	SR	ER	NER	All India
Coal	468	1211	478	441	15	2613
Lignite	24	16	47	0	0	87
Hydro	119	49	90	42	8	309
Nuclear	30	28	44	0	0	102
Gas, Naptha & Diesel	32	30	17	0	24	103
RES (Wind, Solar, Biomass & Others)	59	44	148	2	0	253
Total Total	733	1377	825	485	47	3466

Share of RES in total generation (%)	8.09	3.19	17.95	0.40	0.06	7.31
Share of Non-fossil fuel (Hydro, Nuclear and RES) in total generation (%)	28.44	8.76	34.27	9.03	17.95	19.15

H. All India Demand Diversity Factor

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Based on Regional Max Demands	1.033
Based on State Max Demands	1.078

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

 $[\]textbf{*}\underline{\textbf{Source}}\textbf{:} \ \textbf{RLDCs} \ \text{for solar connected to ISTS; SLDCs} \ \text{for embedded solar.} \ \textbf{Limited visibility of embedded solar data}.$

		IN	TER-REGI	ONAL EXCH	ANGES	Date of I	Reporting :	21-Dec-19
								Import=(+ve) /Export =(-ve) for NET (MU)
SI 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	3	0 297	0.0	0.0 4.7	0.0 -4.7
1		GAYA-VARANASI	D/C	0	1074	0.0	13.9	-13.9
2	765kV	SASARAM-FATEHPUR	S/C	0	515	0.0	6.5	-6.5
3		GAYA-BALIA	S/C	0	547	0.0	8.3	-8.3
6 7	_	PUSAULI-VARANASI PUSAULI -ALLAHABAD	S/C S/C	36 0	167 311	0.0	3.0	-1.5 -3.0
8		MUZAFFARPUR-GORAKHPUR	D/C	0	908	0.0	12.2	-12.2
9	400 kV	PATNA-BALIA	Q/C	0	1220	0.0	19.1	-19.1
10		BIHARSHARIFF-BALIA	D/C	0	568	0.0	7.6	-7.6
11		MOTIHARI-GORAKHPUR	D/C	1	5	0.0	0.0	0.0
12	220 kV	BIHARSHARIFF-VARANASI PUSAULI-SAHUPURI	D/C S/C	5	435 101	0.0	1.0	-4.8 -1.0
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	0.3	0.0	0.3
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	0.3	78.0	-77.8
-	Aport OI	<u> </u>	0/0	920	427	7.0	0.0	7.0
18	765 kV	JHARSUGUDA-DHARAMJAIGARH	Q/C	829	437	7.6	0.0	7.6
19 20	1	NEW RANCHI-DHARAMJAIGARH JHARSUGUDA-DURG	D/C D/C	324 34	439 247	0.0	2.4	-1.0 -2.4
21	400 kV	JHARSUGUDA-RAIGARH	Q/C	285	189	2.2	0.0	2.2
22	400 KV	RANCHI-SIPAT	D/C	139	162	0.2	0.0	0.2
23	220 kV	BUDHIPADAR-RAIGARH	S/C	5	89	0.0	1.2	-1.2
24		BUDHIPADAR-KORBA	D/C	181	0 ER-WR	2.9	0.0 4.5	2.9 8.4
Import/E	Export of	ER (With SR)			ER-WK	12.9	4.3	0.4
26		JEYPORE-GAZUWAKA B/B	D/C	0.0	679.0	0.0	16.0	-16.0
27	HVDC	TALCHER-KOLAR BIPOLE	D/C	0.0	2453.0	0.0	45.5	-45.5
25	765 kV	ANGUL-SRIKAKULAM	D/C	0.0	2028.0	0.0	36.4	-36.4
28	400 kV	TALCHER-I/C	D/C	414.0	646.0	0.0	2.8	-2.8
29	220 kV	BALIMELA-UPPER-SILERRU	S/C	1.0	0.0 ER-SR	0.0 0.0	0.0 97.9	0.0 -97.9
Import/E	Export of	ER (With NER)			EK SK	0.0	71.5	-51.5
30	400 kV	BINAGURI-BONGAIGAON	D/C	245	0	3.6	0.0	4
31	400 KV	ALIPURDUAR-BONGAIGAON	D/C	268	0	4.2	0.0	4
32	220 kV	ALIPURDUAR-SALAKATI	D/C	54	17	0.6	0.0	1
Import/F	Export of	NER (With NR)			ER-NER	8.4	0.0	8.4
33	HVDC	BISWANATH CHARIALI-AGRA	-	385	0	8.3	0.0	8.3
	L				NER-NR	8.3	0.0	8.3
_	Export of	WR (With NR)					0.0	
34								
	IIVDC	CHAMPA-KURUKSHETRA	D/C	0	2204	0.0	42.4	-42.4
35	HVDC	V'CHAL B/B	D/C	229	0	0.0 6.1	42.4 0.0	6.1
36	HVDC	V'CHAL B/B APL -MHG	D/C D/C		0 1458	0.0	42.4	6.1 -31.6
	HVDC	V'CHAL B/B	D/C	229 0	0	0.0 6.1 0.0	42.4 0.0 31.6	6.1
36 37		V'CHAL B/B APL -MHG GWALIOR-AGRA	D/C D/C D/C	229 0 0 0 0	0 1458 2742 1627 975	0.0 6.1 0.0 0.0 0.0 0.0	42.4 0.0 31.6 46.4	6.1 -31.6 -46.4
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	229 0 0 0 0 0 0 678	0 1458 2742 1627 975	0.0 6.1 0.0 0.0 0.0 0.0 0.0	42.4 0.0 31.6 46.4 19.5 29.1 0.0	6.1 -31.6 -46.4 -19.5 -29.1 10.2
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	229 0 0 0 0 0 0 678	0 1458 2742 1627 975 0	0.0 6.1 0.0 0.0 0.0 0.0 0.0 10.2	42.4 0.0 31.6 46.4 19.5 29.1 0.0 30.7	6.1 -31.6 -46.4 -19.5 -29.1 10.2 -30.7
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	229 0 0 0 0 0 678 0 293	0 1458 2742 1627 975 0 1564 716	0.0 6.1 0.0 0.0 0.0 0.0 10.2 0.0	42.4 0.0 31.6 46.4 19.5 29.1 0.0 30.7 3.1	6.1 -31.6 -46.4 -19.5 -29.1 10.2 -30.7 -1.6
36 37 38 39 40 41	765 kV	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	229 0 0 0 0 0 0 678	0 1458 2742 1627 975 0	0.0 6.1 0.0 0.0 0.0 0.0 0.0 10.2	42.4 0.0 31.6 46.4 19.5 29.1 0.0 30.7	6.1 -31.6 -46.4 -19.5 -29.1 10.2 -30.7
36 37 38 39 40 41 42 43		V'CHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATINA-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI	D/C D/C D/C D/C D/C S/C S/C S/C S/C	229 0 0 0 0 0 678 0 293 153	0 1458 2742 1627 975 0 1564 716	0.0 6.1 0.0 0.0 0.0 0.0 10.2 0.0 1.5	42.4 0.0 31.6 46.4 19.5 29.1 0.0 30.7 3.1 0.0	6.1 -31.6 -46.4 -19.5 -29.1 10.2 -30.7 -1.6 1.1
36 37 38 39 40 41 42 43 44 45 46	765 kV	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	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	229 0 0 0 0 678 0 293 153 92 972 169	0 1458 2742 1627 975 0 1564 716 145 386 0	0.0 6.1 0.0 0.0 0.0 0.0 10.2 0.0 1.5 1.1 0.0 22.3	42.4 0.0 31.6 46.4 19.5 29.1 0.0 30.7 3.1 0.0 1.7 0.0	6.1 -31.6 -46.4 -19.5 -29.1 10.2 -30.7 -1.6 1.1 -1.7 22.3
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 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	229 0 0 0 0 678 0 293 153 92 972 169 17	0 1458 2742 1627 975 0 1564 716 145 386 0 351	0.0 6.1 0.0 0.0 0.0 10.2 0.0 1.5 1.1 0.0 22.3 0	42.4 0.0 31.6 46.4 19.5 29.1 0.0 30.7 3.1 0.0 1.7 0.0 1 0.0	6.1 -31.6 -46.4 -19.5 -29.1 10.2 -30.7 -1.6 1.1 -1.7 22.3 -1 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	229 0 0 0 0 678 0 293 153 92 972 169 17 24	0 1458 2742 1627 975 0 1564 716 145 386 0 351 72	0.0 6.1 0.0 0.0 0.0 10.2 0.0 1.5 1.1 0.0 22.3 0	42.4 0.0 31.6 46.4 19.5 29.1 0.0 30.7 3.1 0.0 1.7 0.0 1 0.1 0.8	6.1 -31.6 -46.4 -19.5 -29.1 10.2 -30.7 -1.6 1.1 -1.7 22.3 -1 0.4 -0.7
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	229 0 0 0 0 678 0 293 153 92 972 169 17 24 89	0 1458 2742 1627 975 0 1564 716 145 386 0 351 72 92	0.0 6.1 0.0 0.0 0.0 10.2 0.0 1.5 1.1 0.0 22.3 0 0.6	42.4 0.0 31.6 46.4 19.5 29.1 0.0 30.7 3.1 0.0 1.7 0.0 1 0.1 0.8	6.1 -31.6 -46.4 -19.5 -29.1 10.2 -30.7 -1.6 1.1 -1.7 22.3 -1 0.4 -0.7 1.0
36 37 38 39 40 41 42 43 44 45 46 47	- 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	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	229 0 0 0 0 678 0 293 153 92 972 169 17 24	0 1458 2742 1627 975 0 1564 716 145 386 0 351 72	0.0 6.1 0.0 0.0 0.0 10.2 0.0 1.5 1.1 0.0 22.3 0	42.4 0.0 31.6 46.4 19.5 29.1 0.0 30.7 3.1 0.0 1.7 0.0 1 0.1 0.8	6.1 -31.6 -46.4 -19.5 -29.1 10.2 -30.7 -1.6 1.1 -1.7 22.3 -1 0.4 -0.7
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	229 0 0 0 0 678 0 293 153 92 972 169 17 24 89 40	0 1458 2742 1627 975 0 1564 716 145 386 0 351 72 92 0	0.0 6.1 0.0 0.0 0.0 10.2 0.0 1.5 1.1 0.0 22.3 0.6 0.1	42.4 0.0 31.6 46.4 19.5 29.1 0.0 30.7 3.1 0.0 1.7 0.0 1 0.1 0.8 0.0	6.1 -31.6 -46.4 -19.5 -29.1 10.2 -30.7 -1.6 1.1 -1.7 22.3 -1 0.4 -0.7 1.0 0.1
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51	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)	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	229 0 0 0 0 678 0 293 153 92 972 169 17 24 89 40 0	0 1458 2742 1627 975 0 1564 716 145 386 0 351 72 92 0 27 0 WR-NR	0.0 6.1 0.0 0.0 0.0 0.0 10.2 0.0 1.5 1.1 0.0 22.3 0 0.6 0.1 1.0 0.2 0.0 43.1	42.4 0.0 31.6 46.4 19.5 29.1 0.0 30.7 3.1 0.0 1.7 0.0 1 0.1 0.8 0.0 0.1 0.0 0.1 0.0 0.1 0.0 0.1 0.0 0.0	6.1 -31.6 -46.4 -19.5 -29.1 10.2 -30.7 -1.6 1.1 -1.7 22.3 -1 0.4 -0.7 1.0 0.1 0.0 -163.0
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51	765 kV 400 kV 220 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 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	229 0 0 0 0 678 0 293 153 92 972 169 17 24 89 40 0	0 1458 2742 1627 975 0 1564 716 145 386 0 351 72 92 0 WR-NR	0.0 6.1 0.0 0.0 0.0 0.0 10.2 0.0 1.5 1.1 0.0 22.3 0 0.6 0.1 1.0 0.2 0.0 43.1	42.4 0.0 31.6 46.4 19.5 29.1 0.0 30.7 3.1 0.0 1.7 0.0 1 0.1 0.8 0.0 0.1 0.0 0.1 0.0 0.1 0.0 0.1 0.0 0.1 0.0 0.1 0.0 0.1 0.0 0.1 0.0 0.1 0.0 0.1 0.0 0.1 0.0 0.0	6.1 -31.6 -46.4 -19.5 -29.1 10.2 -30.7 -1.6 1.1 -1.7 22.3 -1 0.4 -0.7 1.0 0.1 0.0 -163.0
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 132kV	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-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	229 0 0 0 0 678 0 293 153 92 972 169 17 24 89 40 0	0 1458 2742 1627 975 0 1564 716 145 386 0 351 72 92 0 WR-NR	0.0 6.1 0.0 0.0 0.0 0.0 10.2 0.0 1.5 1.1 0.0 22.3 0 0.6 0.1 1.0 0.2 0.0 43.1	42.4 0.0 31.6 46.4 19.5 29.1 0.0 30.7 3.1 0.0 1.7 0.0 1 0.1 0.8 0.0 0.1 0.0 206.0	6.1 -31.6 -46.4 -19.5 -29.1 10.2 -30.7 -1.6 1.1 -1.7 22.3 -1 0.4 -0.7 1.0 0.1 -163.0
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-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 D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	229 0 0 0 0 678 0 293 153 92 972 169 17 24 89 40 0	0 1458 2742 1627 975 0 1564 716 145 386 0 351 72 92 0 WR-NR	0.0 6.1 0.0 0.0 0.0 0.0 10.2 0.0 1.5 1.1 0.0 22.3 0 0.6 0.1 1.0 0.2 0.0 43.1	42.4 0.0 31.6 46.4 19.5 29.1 0.0 30.7 3.1 0.0 1 0.1 0.8 0.0 0.1 0.0 206.0	6.1 -31.6 -46.4 -19.5 -29.1 10.2 -30.7 -1.6 1.1 -1.7 22.3 -1 0.4 -0.7 1.0 0.1 0.0 -163.0
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/E	765 kV 400 kV 220 kV 132kV Export of HVDC	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-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	229 0 0 0 0 678 0 293 153 92 972 169 17 24 89 40 0	0 1458 2742 1627 975 0 1564 716 145 386 0 351 72 92 0 WR-NR	0.0 6.1 0.0 0.0 0.0 0.0 10.2 0.0 1.5 1.1 0.0 22.3 0 0.6 0.1 1.0 0.2 0.0 43.1	42.4 0.0 31.6 46.4 19.5 29.1 0.0 30.7 3.1 0.0 1.7 0.0 1 0.1 0.8 0.0 0.1 0.0 206.0	6.1 -31.6 -46.4 -19.5 -29.1 10.2 -30.7 -1.6 1.1 -1.7 22.3 -1 0.4 -0.7 1.0 0.1 -163.0
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-MORAK 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 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	229 0 0 0 0 678 0 293 153 92 972 169 17 24 89 40 0	0 1458 2742 1627 975 0 1564 716 145 386 0 351 72 92 0 27 0 WR-NR	0.0 6.1 0.0 0.0 0.0 10.2 0.0 1.5 1.1 0.0 22.3 0 0.6 0.1 1.0 0.2 0.0 43.1	42.4 0.0 31.6 46.4 19.5 29.1 0.0 30.7 3.1 0.0 1.7 0.0 1 0.1 0.8 0.0 0.1 0.0 206.0 12.1 0.0 29.5 44.2	6.1 -31.6 -46.4 -19.5 -29.1 10.2 -30.7 -1.6 1.1 -1.7 22.3 -1 0.4 -0.7 1.0 0.1 0.0 -163.0
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-MORAK MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHASUR-L-SILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD KOLHAPUR-KUDGI	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	229 0 0 0 0 678 0 293 153 92 972 169 17 24 89 40 0	0 1458 2742 1627 975 0 1564 716 145 386 0 351 72 92 0 WR-NR	0.0 6.1 0.0 0.0 0.0 0.0 10.2 0.0 1.5 1.1 0.0 22.3 0 0.6 0.1 1.0 0.2 0.0 43.1	42.4 0.0 31.6 46.4 19.5 29.1 0.0 30.7 3.1 0.0 1.7 0.0 1 0.1 0.8 0.0 0.1 0.0 206.0 12.1 0.0 29.5 44.2 0.0	6.1 -31.6 -46.4 -19.5 -29.1 10.2 -30.7 -1.6 1.1 -1.7 22.3 -1 0.4 -0.7 1.0 0.1 0.0 -163.0
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-MORAK MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHADRAWATI B/B BHASUR-L.SILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD KOLHAPUR-KUDGI 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 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	229 0 0 0 0 678 0 293 153 92 972 169 17 24 89 40 0	0 1458 2742 1627 975 0 1564 716 145 386 0 351 72 92 0 27 0 WR-NR	0.0 6.1 0.0 0.0 0.0 0.0 10.2 0.0 1.5 1.1 0.0 22.3 0 0.6 0.1 1.0 0.2 0.0 43.1	42.4 0.0 31.6 46.4 19.5 29.1 0.0 30.7 3.1 0.0 1.7 0.0 1 0.1 0.8 0.0 0.1 0.0 206.0 12.1 0.0 29.5 44.2 0.0 0.0	6.1 -31.6 -46.4 -19.5 -29.1 10.2 -30.7 -1.6 1.1 -1.7 22.3 -1 0.4 -0.7 1.0 0.1 0.0 -163.0 -12.1 0.0 -29.5 -44.2 10.2 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 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	229 0 0 0 0 678 0 293 153 92 972 169 17 24 89 40 0	0 1458 2742 1627 975 0 1564 716 145 386 0 351 72 92 0 27 0 WR-NR	0.0 6.1 0.0 0.0 0.0 10.2 0.0 1.5 1.1 0.0 22.3 0 0.6 0.1 1.0 0.2 0.0 43.1	42.4 0.0 31.6 46.4 19.5 29.1 0.0 30.7 3.1 0.0 1.7 0.0 0.1 0.8 0.0 0.1 0.0 206.0 12.1 0.0 29.5 44.2 0.0 0.0 1.7	6.1 -31.6 -46.4 -19.5 -29.1 10.2 -30.7 -1.6 1.1 -1.7 22.3 -1 0.4 -0.7 1.0 0.1 0.0 -163.0 -12.1 0.0 -29.5 -44.2 10.2 0.0 -1.4
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/E 52 53 54 55 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 CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR BHANPURA-RANPUR BHANPURA-WALIANIA GWALIOR-SAWAI MADHOPUR WR (With SR) BHADRAWATI B/B BARSUR-L.SILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD KOLHAPUR-CHIKODI PONDA-AMBEWADI T	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	229 0 0 0 0 0 0 678 0 293 153 92 972 169 17 24 89 40 0 0 0 1 0 1	0 1458 2742 1627 975 0 1564 716 145 386 0 351 72 92 0 27 0 WR-NR	0.0 6.1 0.0 0.0 0.0 10.2 0.0 1.5 1.1 0.0 22.3 0 0.6 0.1 1.0 0.2 0.0 43.1	42.4 0.0 31.6 46.4 19.5 29.1 0.0 30.7 3.1 0.0 1.7 0.0 1.7 0.0 206.0 12.1 0.0 29.5 44.2 0.0 0.0 1.4 0.0	6.1 -31.6 -46.4 -19.5 -29.1 10.2 -30.7 -1.6 1.1 -1.7 22.3 -1 0.4 -0.7 1.0 0.1 0.0 -163.0 -12.1 0.0 -29.5 -44.2 10.2 0.0 -1.4 1.6 -75.3
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 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	229 0 0 0 0 678 0 293 153 92 972 169 17 24 89 40 0	0 1458 2742 1627 975 0 1564 716 145 386 0 351 72 92 0 27 0 WR-NR	0.0 6.1 0.0 0.0 0.0 10.2 0.0 1.5 1.1 0.0 22.3 0 0.6 0.1 1.0 0.2 0.0 43.1	42.4 0.0 31.6 46.4 19.5 29.1 0.0 30.7 3.1 0.0 1.7 0.0 1.7 0.0 206.0 12.1 0.0 29.5 44.2 0.0 0.0 1.4 0.0	6.1 -31.6 -46.4 -19.5 -29.1 10.2 -30.7 -1.6 1.1 -1.7 22.3 -1 0.4 -0.7 1.0 0.1 0.0 -163.0 -12.1 0.0 -29.5 -44.2 10.2 0.0 -1.4 1.6