

## National Load Despatch Centre राष्ट्रीय भार प्रेषण केंद्र

## POWER SYSTEM OPERATION CORPORATION LIMITED पाँवर 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: 12<sup>th</sup> 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 ७९३००६ Executive Director, NERLDC, Dongteih, Lower Nongrah, Lapalang, Shillong - 793006, Meghalaya
- 5. कार्यकारी निदेशक , द .क्षे .भा .प्रे .के.,२९ , रेस कोर्स क्रॉस रोड, बंगलुरु –५६०००९ Executive Director, SRLDC, 29, Race Course Cross Road, Bangalore-560009

## Sub: Daily PSP Report for the date 11.12.2019.

महोदय/Dear Sir,

आई॰ई॰जी॰सी॰-2010 की धारा स.-5.5.1 के प्रावधान के अनुसार, दिनांक 11-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 11<sup>th</sup> Dec 2019, is available at the NLDC website.

धन्यवाद,

## पॉवर सिस्टम ऑपरेशन कारपोरेशन लिमिटेड राष्ट्रीय भार प्रेषण केंद्र, नई दिल्ली

Report for previous day Date of Reporting 12-Dec-19

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)	45451	49147	38836	18038	2296	153768
Peak Shortage (MW)	881	0	0	0	39	920
Energy Met (MU)	898	1166	910	347	40	3360
Hydro Gen (MU)	126	52	85	42	10	315
Wind Gen (MU)	5	11	24			40
Solar Gen (MU)*	19.64	20.8	76.58	1.87	0.02	119
Energy Shortage (MU)	13.3	0.0	1.0	0.0	0.3	14.6
Maximum Demand Met during the day (MW) & time	45758	54119	41630	18455	2409	156472
(from NLDC SCADA)	18:21	10:45	08:09	18:26	17:17	18:31

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	0.066	0.24	2.77	12.88	15.89	69.56	14.55

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	5711	0	110.8	50.5	-2.0	12	0.0
	Haryana	6050	125	121.0	88.7	0.5	216	0.3
	Rajasthan	12552	231	229.9	71.3	2.3	459	0.0
	Delhi	3722	0	65.4	53.6	-0.5	203	0.0
NR	UP	14011	0	253.4	95.4	-0.3	875	1.2
	Uttarakhand	1975	0	36.4	20.3	0.3	119	0.3
	HP	1661	4	30.3	22.4	0.5	234	0.5
	J&K(UT) and Ladakh(UT)	2510	628	46.9	39.5	2.1	201	11.0
	Chandigarh	226	0	3.7	3.4	0.3	61	0.0
	Chhattisgarh	3500	0	76.2	12.5	1.4	307	0.0
	Gujarat	15264	0	332.2	99.3	1.7	543	0.0
	MP	13878	0	257.5	143.9	-3.4	419	0.0
WR	Maharashtra	21904	0	455.5	139.8	-7.1	467	0.0
WK	Goa	541	0	12.8	11.7	0.5	56	0.0
	DD	335	0	7.5	6.9	0.6	49	0.0
	DNH	821	0	19.0	19.1	-0.1	41	0.0
	Essar steel	336	0	5.6	5.7	-0.1	295	0.0
	Andhra Pradesh	7735	0	163.0	74.3	-1.0	294	0.2
	Telangana	9451	0	192.7	90.2	0.3	356	0.2
SR	Karnataka	10566	0	196.1	48.7	-0.7	538	0.2
JK.	Kerala	3583	0	72.5	57.2	0.8	267	0.1
	Tamil Nadu	13607	0	278.4	170.3	1.7	653	0.3
	Pondy	360	0	7.1	7.5	-0.5	20	0.0
	Bihar	4067	0	67.9	66.6	-1.2	250	0.0
	DVC	3057	0	62.3	-36.9	-0.9	200	0.0
ER	Jharkhand	1133	0	24.8	17.0	-0.8	31	0.0
EN	Odisha	4043	0	76.5	15.8	-1.4	300	0.0
	West Bengal	6374	0	113.5	24.7	-0.7	350	0.0
	Sikkim	107	0	1.8	1.8	0.0	30	0.0
	Arunachal Pradesh	118	2	2.3	1.9	0.2	75	0.0
	Assam	1298	32	21.1	16.3	0.1	89	0.2
	Manipur	181	1	2.6	2.7	-0.2	36	0.0
NER	Meghalaya	362	0	6.3	2.6	0.4	58	0.0
	Mizoram	98	3	1.7	0.8	0.3	25	0.0
	Nagaland	124	2	2.2	2.3	-0.3	18	0.0
	Tripura	212	2	3,4	1.5	-0.4	31	0.0

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

	/		
	Bhutan	Nepal	Bangladesh
Actual(MU)	7.3	-5.7	-9.4
Day peak (MW)	387.0	-350.0	-734.0

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

	NR	WR	SR	ER	NER	TOTAL
Schedule(MU)	199.9	-195.6	108.6	-110.6	-2.2	0.1
Actual(MU)	203.8	-192.3	114.5	-121,2	-1.8	3.0
O/D/U/D(MU)	3.9	3.3	5.9	-10.6	0.4	2.9

F. Generation Outage(MW)

	NR	WR	SR	ER	NER	Total
Central Sector	6611	17620	7362	1470	804	33866
State Sector	12431	14645	10140	5750	11	42977
Total	19042	32264	17502	7220	815	76843

G. Sourcewise generation (MU)

	NR	WR	SR	ER	NER	All India
Coal	468	1207	462	447	14	2597
Lignite	22	15	44	0	0	81
Hydro	126	52	85	42	10	315
Nuclear	24	23	57	0	0	105
Gas, Naptha & Diesel	25	46	16	0	22	108
RES (Wind, Solar, Biomass & Others)	52	37	143	2	0	234
Total	716	1379	807	491	46	3439

Share of RES in total generation (%)	7.23	2.67	17.72	0.39	0.04	6.79
Share of Non-fossil fuel (Hydro, Nuclear and RES) in total generation (%)	28.15	8.11	35.33	8.97	21.75	18.98

H. All India Demand Diversity Factor

11 111 India Demand Diversity Luctor		
Based on Regional Max Demands	1.038	
Based on State Max Demands	1.096	

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

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

		<u>IN'</u>	TER-REGIO	ONAL EXCH	ANGES	Date of 1	Reporting :	12-Dec-19
								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	500 196	0.0	12.3	-12.3 -4.9
1		GAYA-VARANASI	D/C	0	899	0.0	13.5	-13.5
2	765kV	SASARAM-FATEHPUR	S/C	0	177	0.0	5.6	-5.6
3		GAYA-BALIA	S/C	0	438	0.0	7.6	-7.6
6 7	-	PUSAULI-VARANASI PUSAULI -ALLAHABAD	S/C S/C	0	132 134	0.0	2.6	-2.6 -2.2
8		MUZAFFARPUR-GORAKHPUR	D/C	0	960	0.0	11.7	-11.7
9	400 kV	PATNA-BALIA	Q/C	0	949	0.0	17.5	-17.5
10		BIHARSHARIFF-BALIA	D/C	0	387	0.0	5.6	-5.6
11	4	MOTIHARI-GORAKHPUR	D/C	3	6	0.0	0.0	0.0
12		BIHARSHARIFF-VARANASI	D/C	0	362	0.0	3.7	-3.7
13 14	220 kV	PUSAULI-SAHUPURI SONE NAGAR-RIHAND	S/C S/C	42 0	46 0	0.0	0.4	-0.4 0.0
15		GARWAH-RIHAND	S/C	30	0	0.4	0.0	0.4
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
					ER-NR	0.4	70.4	-70.1
_	xport of	ER (With WR)						
18	765137	JHARSUGUDA-DHARAMJAIGARH	Q/C	1126	25	10.7	0.0	10.7
19	765 kV	NEW RANCHI-DHARAMJAIGARH	D/C	310	582	0.0	1.8	-1.8
20		JHARSUGUDA-DURG JHARSUGUDA-RAIGARH	D/C Q/C	28 285	225 180	0.0 1.7	3.0 0.0	-3.0 1.7
22	400 kV	RANCHI-SIPAT	D/C	145	197	0.1	0.0	0.1
23	220 kV	BUDHIPADAR-RAIGARH	S/C	0	131	0.0	2.3	-2.3
24	220 KV	BUDHIPADAR-KORBA	D/C	135	0	2.0	0.0	2.0
*		ED (WILL OD)			ER-WR	14.5	7.0	7.5
1mport/E	export of	ER (With SR)  JEYPORE-GAZUWAKA B/B	D/C	0.0	687.0	0.0	13.7	-13.7
27	HVDC	TALCHER-KOLAR BIPOLE	D/C D/C	0.0	2461.0	0.0	44.7	-13.7
25	765 kV	ANGUL-SRIKAKULAM	D/C	0.0	2116.0	0.0	34.5	-34.5
28	400 kV	TALCHER-I/C	D/C	404.0	663.0	0.0	0.4	-0.4
29	220 kV	BALIMELA-UPPER-SILERRU	S/C	1.0	0.0	0.0	0.0	0.0
Y 400		ED (W'A NED)			ER-SR	0.0	92.9	-92.9
30	export of	ER (With NER) BINAGURI-BONGAIGAON	D/C	31	292	0.0	1.7	-2
31	400 kV	ALIPURDUAR-BONGAIGAON	D/C	266	70	3.6	0.0	4
32	220 kV	ALIPURDUAR-SALAKATI	D/C	30	50	0.0	0.0	0
	•				ER-NER	3.7	1.7	2.0
•		NER (With NR)	1					T
33	HVDC	BISWANATH CHARIALI-AGRA	-	0	0 NER-NR	0.0	0.0	0.0
Import/E	Export of	WR (With NR)			NEK-NK	0.0	0.0	0.0
34		CHAMPA-KURUKSHETRA	D/C	0	304	0.0	10.6	-10.6
35	HVDC	V'CHAL B/B	D/C	364	0	9.7	0.0	9.7
36		APL -MHG	D/C				0.0	2.1
37	1		_	0	1364	0.0	33.9	-33.9
38		GWALIOR-AGRA	D/C	0	1364 2059	0.0	33.9 36.0	-33.9 -36.0
30		PHAGI-GWALIOR	D/C D/C	0	1364 2059 1657	0.0	33.9 36.0 25.0	-33.9 -36.0 -25.0
39 40	765 kV	PHAGI-GWALIOR JABALPUR-ORAI	D/C D/C D/C	0 0	1364 2059 1657 770	0.0 0.0 0.0	33.9 36.0 25.0 25.9	-33.9 -36.0 -25.0 -25.9
39 40 41	765 kV	PHAGI-GWALIOR	D/C D/C	0	1364 2059 1657	0.0	33.9 36.0 25.0	-33.9 -36.0 -25.0
40	765 kV	PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI	D/C D/C D/C S/C	0 0 0 659	1364 2059 1657 770 0	0.0 0.0 0.0 10.6	33.9 36.0 25.0 25.9 0.0	-33.9 -36.0 -25.0 -25.9 10.6
40 41 42 43	765 kV	PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI	D/C D/C D/C S/C S/C S/C S/C S/C D/C	0 0 0 659 0 119	1364 2059 1657 770 0 1358 579	0.0 0.0 0.0 10.6 0.0 0.0 0.0	33.9 36.0 25.0 25.9 0.0 28.6 3.1 0.0	-33.9 -36.0 -25.0 -25.9 10.6 -28.6 -3.1 0.6
40 41 42 43 44	765 kV	PHAGI-GWALIOR  JABALPUR-ORAI  GWALIOR-ORAI  SATNA-ORAI  CHITTORGARH-BANASKANTHA  ZERDA-KANKROLI  ZERDA -BHINMAL	D/C D/C D/C S/C S/C S/C S/C S/C S/C S/C	0 0 0 659 0 119 132	1364 2059 1657 770 0 1358 579 92 339	0.0 0.0 0.0 10.6 0.0 0.0 0.6 0.0	33.9 36.0 25.0 25.9 0.0 28.6 3.1 0.0 2.9	-33.9 -36.0 -25.0 -25.9 10.6 -28.6 -3.1 0.6 -2.9
40 41 42 43 44 45	-	PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL V'CHAL -RIHAND	D/C D/C D/C S/C S/C S/C S/C S/C S/C S/C	0 0 0 659 0 119 132 173	1364 2059 1657 770 0 1358 579 92 339 0	0.0 0.0 0.0 10.6 0.0 0.0 0.6 0.0 22.6	33.9 36.0 25.0 25.9 0.0 28.6 3.1 0.0 2.9	-33.9 -36.0 -25.0 -25.9 10.6 -3.1 0.6 -2.9 22.6
40 41 42 43 44 45 46	-	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 S/C S/C S/C S/C D/C S/C S/C D/C S/C S/C	0 0 0 659 0 119 132 173 980	1364 2059 1657 770 0 1358 579 92 339 0	0.0 0.0 0.0 10.6 0.0 0.0 0.6 0.0 22.6	33.9 36.0 25.0 25.9 0.0 28.6 3.1 0.0 2.9 0.0	-33.9 -36.0 -25.0 -25.9 -10.6 -28.6 -3.1 -0.6 -2.9 -22.6 -0
40 41 42 43 44 45	400 kV	PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA - BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR	D/C D/C D/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	0 0 0 659 0 119 132 173	1364 2059 1657 770 0 1358 579 92 339 0	0.0 0.0 0.0 10.6 0.0 0.0 0.6 0.0 22.6	33.9 36.0 25.0 25.9 0.0 28.6 3.1 0.0 2.9 0.0	-33.9 -36.0 -25.0 -25.9 10.6 -3.1 0.6 -2.9 22.6
40 41 42 43 44 45 46 47	-	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 S/C S/C S/C S/C D/C S/C S/C D/C S/C S/C	0 0 0 659 0 119 132 173 980 139	1364 2059 1657 770 0 1358 579 92 339 0 220	0.0 0.0 0.0 10.6 0.0 0.0 0.6 0.0 22.6 0	33.9 36.0 25.0 25.9 0.0 28.6 3.1 0.0 2.9 0.0	-33.9 -36.0 -25.0 -25.9 10.6 -28.6 -3.1 0.6 -2.9 22.6 0 0.9
40 41 42 43 44 45 46 47 48	400 kV	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 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	0 0 0 659 0 119 132 173 980 139 18	1364 2059 1657 770 0 1358 579 92 339 0 220 69	0.0 0.0 0.0 10.6 0.0 0.0 0.6 0.0 22.6 0 0.9	33.9 36.0 25.0 25.9 0.0 28.6 3.1 0.0 2.9 0.0 0	-33.9 -36.0 -25.0 -25.9 10.6 -28.6 -3.1 -0.6 -2.9 22.6 0 0.9 -1.3
40 41 42 43 44 45 46 47 48 49	400 kV	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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 0 0 659 0 119 132 173 980 139 18	1364 2059 1657 770 0 1358 579 92 339 0 220 69 142 0	0.0 0.0 0.0 10.6 0.0 0.0 0.6 0.0 22.6 0 0.9 0.0	33.9 36.0 25.0 25.9 0.0 28.6 3.1 0.0 2.9 0.0 0 0 1.4	-33.9 -36.0 -25.0 -25.9 10.6 -28.6 -3.1 0.6 -2.9 22.6 0 0.9 -1.3 1.3
40 41 42 43 44 45 46 47 48 49 50 51	- 400 kV - 220 kV - 132kV	PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL V'CHAL -RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR BHANPURA-RANPUR BHANPURA-MORAK MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR	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	0 0 0 659 0 119 132 173 980 139 18 19 128	1364 2059 1657 770 0 1358 579 92 339 0 220 69 142 0 22	0.0 0.0 0.0 10.6 0.0 0.0 0.6 0.0 22.6 0 0.9 0.0 1.3	33.9 36.0 25.0 25.9 0.0 28.6 3.1 0.0 2.9 0.0 0 0 0.0 1.4 0.0 0.0	-33.9 -36.0 -25.0 -25.9 10.6 -28.6 -3.1 0.6 -2.9 22.6 0 0.9 -1.3 1.3 0.5
40 41 42 43 44 45 46 47 48 49 50 51	- 400 kV - 220 kV - 132kV	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-JURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR)	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	0 0 0 659 0 119 132 173 980 139 18 19 128 79	1364 2059 1657 770 0 1358 579 92 339 0 220 69 142 0 22 0	0.0 0.0 0.0 10.6 0.0 0.0 0.6 0.0 22.6 0 0.9 0.0 1.3 0.5 0.0	33.9 36.0 25.0 25.9 0.0 28.6 3.1 0.0 2.9 0.0 0 0.0 1.4 0.0 0.0	-33.9 -36.0 -25.0 -25.9 10.6 -28.6 -3.1 0.6 -2.9 22.6 0 0.9 -1.3 1.3 0.5 0.0 -121.6
40 41 42 43 44 45 46 47 48 49 50 51 <b>Import/E</b>	- 400 kV - 220 kV - 132kV	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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 0 0 659 0 119 132 173 980 139 18 19 128 79 0	1364 2059 1657 770 0 1358 579 92 339 0 220 69 142 0 WR-NR	0.0 0.0 0.0 10.6 0.0 0.0 0.6 0.0 22.6 0 0.9 0.9 0.0 46.3	33.9 36.0 25.0 25.9 0.0 28.6 3.1 0.0 2.9 0.0 0 0.0 1.4 0.0 0.0 167.8	-33.9 -36.0 -25.0 -25.9 10.6 -28.6 -3.1 0.6 -2.9 22.6 0 0.9 -1.3 1.3 0.5 0.0 -121.6
40 41 42 43 44 45 46 47 48 49 50 51	- 400 kV - 220 kV - 132kV - Export of - HVDC	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-JURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR)	D/C D/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	0 0 0 659 0 119 132 173 980 139 18 19 128 79	1364 2059 1657 770 0 1358 579 92 339 0 220 69 142 0 22 0	0.0 0.0 0.0 10.6 0.0 0.0 0.6 0.0 22.6 0 0.9 0.0 1.3 0.5 0.0	33.9 36.0 25.0 25.9 0.0 28.6 3.1 0.0 2.9 0.0 0 0.0 1.4 0.0 0.0	-33.9 -36.0 -25.0 -25.9 10.6 -28.6 -3.1 0.6 -2.9 22.6 0 0.9 -1.3 1.3 0.5 0.0 -121.6
40 41 42 43 44 45 46 47 48 49 50 51 <b>Import/E</b> 52 53	- 400 kV - 220 kV - 132kV	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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 0 0 659 0 119 132 173 980 139 18 19 128 79 0	1364 2059 1657 770 0 1358 579 92 339 0 220 69 142 0 22 0 WR-NR	0.0 0.0 0.0 10.6 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 1.3 0.5 0.0 46.3	33.9 36.0 25.0 25.9 0.0 28.6 3.1 0.0 2.9 0.0 0.0 1.4 0.0 0.0 1.7 17.6 0.0	-33.9 -36.0 -25.0 -25.9 -10.6 -28.6 -3.1 -0.6 -2.9 -22.6 -0 -0.9 -1.3 -1.3 -0.5 -0.0 -121.6 -17.6 -0.0
40 41 42 43 44 45 46 47 48 49 50 51 Import/E 52 53	- 400 kV - 220 kV - 132kV - Export of - HVDC	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	D/C D/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	0 0 0 659 0 119 132 173 980 139 18 19 128 79 0	1364 2059 1657 770 0 1358 579 92 3339 0 220 69 142 0 22 0 WR-NR	0.0 0.0 0.0 10.6 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 1.3 0.5 0.0 46.3	33.9 36.0 25.0 25.9 0.0 28.6 3.1 0.0 0.0 0.0 1.4 0.0 0.0 167.8	-33.9 -36.0 -25.0 -25.9 -10.6 -28.6 -3.1 -0.6 -2.9 -22.6 -0 -0.9 -1.3 -1.3 -1.5 -0.0 -121.6 -17.6 -0.0 -18.4
40 41 42 43 44 45 46 47 48 49 50 51 <b>Import/E</b> 52 53 54 55 56	- 400 kV - 220 kV - 132kV - HVDC - 765 kV - 400 kV	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 WARDHA-NIZAMABAD KOLHAPUR-KUDGI KOLHAPUR-CHIKODI	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 D/C S/C D/C S/C D/C S/C D/C D/C D/C D/C D/C D/C D/C D/C D/C D	0 0 0 659 0 119 132 173 980 139 18 19 128 79 0	1364 2059 1657 770 0 1358 579 92 339 0 220 69 142 0 WR-NR	0.0 0.0 0.0 10.6 0.0 0.0 0.0 0.6 0.0 22.6 0 0.9 0.0 1.3 0.5 0.0 46.3	33.9 36.0 25.0 25.9 0.0 28.6 3.1 0.0 2.9 0.0 0.0 1.4 0.0 0.0 1.7 17.6 0.0 18.4 35.2 0.0 0.0	-33.9 -36.0 -25.0 -25.9 -10.6 -28.6 -28.6 -3.1 -0.6 -2.9 -22.6 -0 -0.9 -1.3 -1.3 -1.5 -17.6 -0.0 -18.4 -35.2 -8.8 -3.0 -3.1 -3.0 -3.1 -3.0 -3.1 -3.0 -3.1 -3.0 -3.1 -3.0 -3.1 -3.0 -3.1 -3.0 -3.1 -3.0 -3.1 -3.0 -3.1 -3.0 -3.1 -3.0 -3.1 -3.0 -3.1 -3.0 -3.0 -3.0 -3.0 -3.0 -3.0 -3.0 -3.0
40 41 42 43 44 45 46 47 48 49 50 51 Import/E 52 53 54 55 56 57 58	400 kV  220 kV  132kV  Export of HVDC - 765 kV	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 WARDHA-NIZAMBAD KOLHAPUR-KUDGI KOLHAPUR-CHIKODI PONDA-AMBEWADI	D/C D/C D/C S/C S/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	0 0 0 659 0 119 132 173 980 139 18 19 128 79 0	1364 2059 1657 770 0 1358 579 92 339 0 220 69 142 0 WR-NR	0.0 0.0 0.0 10.6 0.0 0.0 0.6 0.0 22.6 0 0.9 0.0 1.3 0.5 0.0 46.3	33.9 36.0 25.0 25.9 0.0 28.6 3.1 0.0 2.9 0.0 0 0 0.0 1.4 0.0 0.0 0.0 167.8 17.6 0.0 18.4 35.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	-33.9 -36.0 -25.0 -25.9 10.6 -28.6 -3.1 0.6 -2.9 22.6 0 0.9 -1.3 1.3 0.5 0.0 -121.6 -17.6 0.0 -18.4 -35.2 8.8 0.0 -0.9
40 41 42 43 44 45 46 47 48 49 50 51 <b>Import/E</b> 52 53 54 55 56	- 400 kV - 220 kV - 132kV - HVDC - 765 kV - 400 kV	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 WARDHA-NIZAMABAD KOLHAPUR-KUDGI KOLHAPUR-CHIKODI	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 D/C S/C D/C S/C D/C S/C D/C D/C D/C D/C D/C D/C D/C D/C D/C D	0 0 0 659 0 119 132 173 980 139 18 19 128 79 0	1364 2059 1657 770 0 1358 579 92 339 0 220 69 142 0 WR-NR	0.0 0.0 0.0 10.6 0.0 0.0 0.6 0.0 22.6 0 0.9 0.0 1.3 0.5 0.0 46.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 1.1	33.9 36.0 25.0 25.9 0.0 28.6 3.1 0.0 2.9 0.0 0 0.0 1.4 0.0 0.0 0.0 167.8 17.6 0.0 18.4 35.2 0.0 0.0 18.4 19.6 19.	-33.9 -36.0 -25.0 -25.9 10.6 -28.6 -3.1 0.6 -2.9 22.6 0 0.9 -1.3 1.3 0.5 0.0 -121.6 -17.6 0.0 -18.4 -35.2 8.8 0.0 -0.9 1.1
40 41 42 43 44 45 46 47 48 49 50 51  Import/E 52 53 54 55 56 57 58	- 400 kV - 220 kV - 132kV - HVDC - 765 kV - 400 kV	PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA-BHINMAL V'CHAL-RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR BHANPURA-RANPUR BHANPURA-WARIYA 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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 0 0 659 0 119 132 173 980 139 18 19 128 79 0	1364 2059 1657 770 0 1358 579 92 339 0 220 69 142 0 WR-NR	0.0 0.0 0.0 10.6 0.0 0.0 0.6 0.0 22.6 0 0.9 0.0 1.3 0.5 0.0 46.3	33.9 36.0 25.0 25.9 0.0 28.6 3.1 0.0 2.9 0.0 0 0 0.0 1.4 0.0 0.0 0.0 167.8 17.6 0.0 18.4 35.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	-33.9 -36.0 -25.0 -25.9 10.6 -28.6 -3.1 0.6 -2.9 22.6 0 0.9 -1.3 1.3 0.5 0.0 -121.6 -17.6 0.0 -18.4 -35.2 8.8 0.0 -0.9
40 41 42 43 44 45 46 47 48 49 50 51 <b>Import/E</b> 52 53 54 55 56 57	- 400 kV - 220 kV - 132kV - HVDC - 765 kV - 400 kV	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-CHIKODI PONDA-AMBEWADI XELDEM-AMBEWADI	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	0 0 0 659 0 119 132 173 980 139 18 19 128 79 0	1364 2059 1657 770 0 1358 579 92 339 0 220 69 142 0 WR-NR	0.0 0.0 0.0 10.6 0.0 0.0 0.6 0.0 22.6 0 0.9 0.0 1.3 0.5 0.0 46.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 1.1	33.9 36.0 25.0 25.9 0.0 28.6 3.1 0.0 2.9 0.0 0 0.0 1.4 0.0 0.0 0.0 167.8 17.6 0.0 18.4 35.2 0.0 0.0 18.4 19.6 19.	-33.9 -36.0 -25.0 -25.0 -25.9 10.6 -28.6 -3.1 0.6 -2.9 22.6 0 0.9 -1.3 1.3 0.5 0.0 -121.6 -17.6 0.0 -18.4 -35.2 8.8 0.0 -0.9 1.1 -62.2
40 41 42 43 44 45 46 47 48 49 50 51 Import/E 52 53 54 55 56 57 58	- 400 kV - 220 kV - 132kV - HVDC - 765 kV - 400 kV	PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA-BHINMAL V'CHAL-RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR BHANPURA-RANPUR BHANPURA-WARIYA 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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 0 0 659 0 119 132 173 980 139 18 19 128 79 0	1364 2059 1657 770 0 1358 579 92 339 0 220 69 142 0 WR-NR	0.0 0.0 0.0 10.6 0.0 0.0 0.6 0.0 22.6 0 0.9 0.0 1.3 0.5 0.0 46.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 1.1	33.9 36.0 25.0 25.9 0.0 28.6 3.1 0.0 2.9 0.0 0 0.0 1.4 0.0 0.0 0.0 167.8 17.6 0.0 18.4 35.2 0.0 0.0 18.4 19.6 19.	-33.9 -36.0 -25.0 -25.0 -25.9 10.6 -28.6 -3.1 0.6 -2.9 -22.6 0 0.9 -1.3 1.3 0.5 0.0 -121.6 -17.6 0.0 -18.4 -35.2 8.8 0.0 -0.9 1.1