

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: 03rd Nov 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.,२९ , रेस कोर्स क्रॉस रोड, बंगलुरु –५६०००९ Executive Director, SRLDC, 29, Race Course Cross Road, Bangalore-560009

Sub: Daily PSP Report for the date 02.11.2019.

महोदय/Dear Sir,

आई०ई०जी०सी०-2010 की धारा स.-5.5.1 के प्रावधान के अनुसार, दिनांक 02-नवम्बर-2019 की अखिल भारतीय प्रणाली की दैनिक ग्रिड निष्पादन रिपोर्ट रा०भा०प्रे०के० 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 02^{nd} Nov 2019, is available at the NLDC website.

धन्यवाद,

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

Date of Reporting Report for previous day 3-Nov-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)	42233	42240	35307	19196	2490	141466
Peak Shortage (MW)	601	0	0	0	79	680
Energy Met (MU)	884	940	774	373	44	3014
Hydro Gen (MU)	139	58	172	68	13	450
Wind Gen (MU)	15	21	8			43
Solar Gen (MU)*	15.38	13.6	72.58	1.76	0.06	103
Energy Shortage (MU)	12.8	0.0	0.4	0.0	1.0	14.2
Maximum Demand Met during the day	42882	43127	37245	19286	2512	144647
(MW) & time (from NLDC SCADA)	18:45	18:36	18:34	18:53	17:34	18:35

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 0.034 13.02

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	5128	0	108.5	46.6	-1.6	68	0.0
	Haryana	5623	0	117.4	106.9	-0.3	156	0.0
	Rajasthan	10192	0	205.0	65.7	-6.1	177	0.0
	Delhi	3251	0	64.8	49.5	-1.4	95	0.0
NR	UP	14802	0	281.4	116.4	0.4	1014	2.4
	Uttarakhand	1650	0	33.2	22.6	-0.1	133	0.0
	HP	1439	0	26.7	17.1	-0.2	190	0.0
	J&K	2205	551	43.9	37.8	-1.4	306	10.4
	Chandigarh	183	0	3.5	3.1	0.4	47	0.0
	Chhattisgarh	3454	0	74.1	28.7	0.9	295	0.0
	Gujarat	13064	0	278.5	64.4	3.8	444	0.0
	MP	8826	0	184.0	133.5	-1.4	301	0.0
WR	Maharashtra	17259	0	360.6	125.5	-1.8	725	0.0
WK	Goa	541	0	12.3	11.6	0.1	22	0.0
	DD	303	0	6.9	6.5	0.4	42	0.0
	DNH	738	0	17.2	17.4	-0.2	31	0.0
	Essar steel	342	0	6.2	5.9	0.3	283	0.0
	Andhra Pradesh	7342	0	155.2	57.4	-0.4	423	0.0
	Telangana	7085	0	150.5	36.8	-0.8	338	0.0
SR	Karnataka	7252	0	142.8	30.9	2.8	498	0.0
3N	Kerala	3316	0	65.0	45.4	1.1	195	0.0
	Tamil Nadu	12098	0	253.6	139.4	1.4	496	0.0
	Pondy	347	0	6.8	7.0	-0.2	36	0.0
	Bihar	4528	0	79.5	79.1	0.0	400	0.0
	DVC	2853	0	60.7	-18.1	-0.3	175	0.0
ER	Jharkhand	1275	0	23.9	16.1	-0.7	75	0.0
LIX	Odisha	4142	0	84.1	8.6	-0.7	300	0.0
	West Bengal	6814	0	123.3	48.2	0.7	350	0.0
	Sikkim	100	0	1.2	1.6	-0.4	25	0.0
	Arunachal Pradesh	109	4	2.1	1.7	0.3	58	0.0
	Assam	1523	58	25.2	19.7	-0.6	73	1.0
	Manipur	164	7	2.5	2.3	0.2	37	0.0
NER	Meghalaya	334	8	5.8	3.1	0.0	35	0.0
	Mizoram	97	4	1.9	0.7	0.9	23	0.0
	Nagaland	116	4	2.1	2.0	-0.1	12	0.0
	Tripura	264	11	4.1	3.4	-0.2	59	0.0

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

	Bhutan	Nepal	Bangladesh
Actual(MU)	10.6	-0.3	-20.2
Day peak (MW)	489.4	-75.0	-1099.0

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

	NR	WR	SR	ER	NER	TOTAL
Schedule(MU)	213.0	-229.2	63.8	-48.8	-0.2	-1.5
Actual(MU)	203.3	-225.3	74.1	-55.4	1.1	-2.2
O/D/U/D(MU)	-9.7	3.9	10.4	-6.6	1.3	-0.7

F. Generation Outage(MW)

	NR	WR	SR	ER	NER	Total
Central Sector	5205	19098	10372	1870	563	37108
State Sector	12976	21955	12323	6120	19	53393
Total	18181	41052	22695	7990	583	90501

	NR	WR	SR	ER	NER	All India
Coal	457	1006	299	368	11	2141
Lignite	18	15	48	0	0	81
Hydro	139	58	172	68	13	450
Nuclear	28	22	51	0	0	102
Gas, Naptha & Diesel	25	39	15	0	24	103
RES (Wind, Solar, Biomass & Others)	38	41	111	2	0	191
Total	705	1180	697	438	48	3067

Share of RES in total generation (%)	5.33	3.44	15.93	0.41	0.13	6.23
Share of Non-fossil fuel (Hydro, Nuclear and	29.04	10.19	47.97	15.99	27.39	24.20
RES) in total generation (%)	27.04	10.19	47.57	13.55	21.39	24.20

H. Diversity Factor All India Demand Diversity Factor

All India Demand Diversity Factor 1.003

Diversity factor = Sum of regional maximum demands / All India maximum demand

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

		IN	ER-REGIO	ONAL EXCH	ANGES	Date of 1	Reporting :	3-Nov-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)
Import/E	export of	ER (With NR)						
2	765kV	GAYA-VARANASI	D/C S/C	148 60	369 229	0.0	1.8	-4.0 -1.8
3	703K V	SASARAM-FATEHPUR GAYA-BALIA	S/C	0	301	0.0	5.6	-5.6
4	HVDC	ALIPURDUAR-AGRA	-	0	400	0.0	9.7	-9.7
5	пове	PUSAULI B/B	S/C	0	198	0.0	4.7	-4.7
6		PUSAULI-VARANASI	S/C	0	197	0.0	3.8	-3.8
7 8		PUSAULI -ALLAHABAD	S/C D/C	0	70 559	0.0	5.5	-0.7 -5.5
9	400 kV	MUZAFFARPUR-GORAKHPUR PATNA-BALIA	O/C	0	889	0.0	17.1	-3.3
10	10011	BIHARSHARIFF-BALIA	D/C	46	149	0.0	1.6	-1.6
11		MOTIHARI-GORAKHPUR	D/C	2	5	0.0	0.0	0.0
12		BIHARSHARIFF-VARANASI	D/C	211	57	2.1	0.0	2.1
13	220 kV	PUSAULI-SAHUPURI	S/C	16	47	0.0	0.6	-0.6
14		SONE NAGAR-RIHAND	S/C	0	0	0.0	0.0	0.0
15	132 kV	GARWAH-RIHAND	S/C	30	0	0.6	0.0	0.6
16		KARMANASA-SAHUPURI	S/C	0	0	0.0	0.0	0.0
17	<u> </u>	KARMANASA-CHANDAULI	S/C	0	0 ER-NR	0.0 2.7	0.0	0.0 -52.4
Import/F	xport of	ER (With WR)			£K-NK	2.1	55.1	-52.4
-		· · · · · · · · · · · · · · · · · · ·	0/0	1016	0	160	0.0	160
18	765 kV	JHARSUGUDA-DHARAMJAIGARH	Q/C	1216	0	16.9	0.0	16.9
19 20		NEW RANCHI-DHARAMJAIGARH JHARSUGUDA-DURG	D/C D/C	777 86	94 126	10.6 0.0	0.0	10.6 -0.1
21		JHARSUGUDA-DURG JHARSUGUDA-RAIGARH	Q/C	675	0	10.4	0.0	10.4
22	400 kV	RANCHI-SIPAT	D/C	251	0	4.4	0.0	4.4
23	220 kV	BUDHIPADAR-RAIGARH	S/C	25	64	0.0	0.6	-0.6
24	220 KV	BUDHIPADAR-KORBA	D/C	92	0	1.4	0.0	1.4
					ER-WR	43.6	0.6	43.0
	· -	ER (With SR)						
25	765 kV	ANGUL-SRIKAKULAM	D/C	0.0	1679.0	0.0	26.2	-26.2
26 27	HVDC LINK	JEYPORE-GAZUWAKA B/B	D/C	0.0	420.0 1386.0	0.0	9.9	-9.9 -25.2
28	400 kV	TALCHER-KOLAR BIPOLE TALCHER-I/C	D/C D/C	127.0	655.0	0.0	6.0	-6.0
29	220 kV	BALIMELA-UPPER-SILERRU	S/C	1.0	0.0	0.0	0.0	0.0
	220 R T	B. ILLINIEL T CT I EX BLEENIC	5,0	1.0	ER-SR	0.0	61.2	-61.2
Import/E	export of	ER (With NER)						•
30	400 kV	BINAGURI-BONGAIGAON	D/C	0	555	0.0	5.6	-6
31		ALIPURDUAR-BONGAIGAON	D/C	78	252	0.0	0.9	-1
32	220 kV	ALIPURDUAR-SALAKATI	D/C	0	133	0.0	1.3	-1
Import/F	'vnort of	NER (With NR)			ER-NER	0.0	7.8	-7.8
33	HVDC	BISWANATH CHARIALI-AGRA	Т. Т	0	300	0.0	7.3	-7.3
33	11,150			-	NER-NR	0.0	7.3	-7.3
Import/E	export of	WR (With NR)						
34		CHAMPA-KURUKSHETRA	D/C	0	1003	0.0	27.6	-27.6
35	HVDC	V'CHAL B/B		452				
36			D/C		0	12.1	0.0	12.1
37		APL -MHG	D/C D/C	0	0 1077	12.1 0.0	0.0 26.7	12.1 -26.7
		GWALIOR-AGRA	D/C D/C	0	1077 2363	0.0	26.7 41.9	-26.7 -41.9
38		GWALIOR-AGRA PHAGI-GWALIOR	D/C D/C D/C	0	1077 2363 1333	0.0 0.0 0.0	26.7 41.9 22.0	-26.7 -41.9 -22.0
38 39	765 kV	GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI	D/C D/C D/C D/C	0 0 0	1077 2363 1333 803	0.0 0.0 0.0 0.0	26.7 41.9 22.0 28.5	-26.7 -41.9 -22.0 -28.5
38 39 40	765 kV	GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI	D/C D/C D/C D/C S/C	0 0 0 442	1077 2363 1333 803 0	0.0 0.0 0.0 0.0 8.4	26.7 41.9 22.0 28.5 0.0	-26.7 -41.9 -22.0 -28.5 8.4
38 39 40 41	765 kV	GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI	D/C D/C D/C D/C S/C S/C	0 0 0 442 0	1077 2363 1333 803 0 1418	0.0 0.0 0.0 0.0 8.4 0.0	26.7 41.9 22.0 28.5 0.0 30.2	-26.7 -41.9 -22.0 -28.5 8.4 -30.2
38 39 40	765 kV	GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI	D/C D/C D/C D/C S/C	0 0 0 442	1077 2363 1333 803 0	0.0 0.0 0.0 0.0 8.4	26.7 41.9 22.0 28.5 0.0	-26.7 -41.9 -22.0 -28.5 8.4
38 39 40 41 42		GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHITTORGARH-BANASKANTHA	D/C D/C D/C D/C S/C S/C D/C	0 0 0 442 0	1077 2363 1333 803 0 1418 872	0.0 0.0 0.0 0.0 8.4 0.0	26.7 41.9 22.0 28.5 0.0 30.2 9.1	-26.7 -41.9 -22.0 -28.5 8.4 -30.2 -9.1
38 39 40 41 42 43	765 kV	GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI	D/C D/C D/C D/C S/C S/C S/C S/C S/C	0 0 0 442 0 0	1077 2363 1333 803 0 1418 872 106	0.0 0.0 0.0 0.0 8.4 0.0 0.0	26.7 41.9 22.0 28.5 0.0 30.2 9.1 1.0	-26.7 -41.9 -22.0 -28.5 8.4 -30.2 -9.1 -0.9
38 39 40 41 42 43 44		GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL	D/C D/C D/C D/C S/C S/C S/C S/C S/C S/C	0 0 0 442 0 0 0 66	1077 2363 1333 803 0 1418 872 106 256	0.0 0.0 0.0 0.0 0.0 8.4 0.0 0.0 0.1	26.7 41.9 22.0 28.5 0.0 30.2 9.1 1.0 2.4	-26.7 -41.9 -22.0 -28.5 8.4 -30.2 -9.1 -0.9 -2.0
38 39 40 41 42 43 44 45		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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 0 0 442 0 0 66 197 985	1077 2363 1333 803 0 1418 872 106 256	0.0 0.0 0.0 0.0 0.0 8.4 0.0 0.0 0.1 0.4 22.8	26.7 41.9 22.0 28.5 0.0 30.2 9.1 1.0 2.4 0.0	-26.7 -41.9 -22.0 -28.5 8.4 -30.2 -9.1 -0.9 -2.0 22.8
38 39 40 41 42 43 44 45 46 47	400 kV	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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 0 0 442 0 0 66 197 985 156 14	1077 2363 1333 803 0 1418 872 106 256 0 290 30 71	0.0 0.0 0.0 0.0 8.4 0.0 0.1 0.4 22.8 1 0.0 0.1	26.7 41.9 22.0 28.5 0.0 30.2 9.1 1.0 2.4 0.0 2 0.2	-26.7 -41.9 -22.0 -28.5 -8.4 -30.2 -9.1 -0.9 -2.0 -22.8 -1 -0.2 -0.3
38 39 40 41 42 43 44 45 46 47 48 49		GWALIOR-AGRA 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 D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 0 0 442 0 0 66 197 985 156 14 26 80	1077 2363 1333 803 0 1418 872 106 256 0 290 30 71	0.0 0.0 0.0 0.0 8.4 0.0 0.1 0.4 22.8 1 0.0 0.1	26.7 41.9 22.0 28.5 0.0 30.2 9.1 1.0 2.4 0.0 2 0.2 0.4 0.0	-26.7 -41.9 -22.0 -28.5 -8.4 -30.2 -9.1 -0.9 -2.0 -22.8 -1 -0.2 -0.3 -0.7
38 39 40 41 42 43 44 45 46 47 48 49	400 kV	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	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	0 0 0 442 0 0 66 197 985 156 14 26 80	1077 2363 1333 803 0 1418 872 106 256 0 290 30 71 2	0.0 0.0 0.0 0.0 8.4 0.0 0.1 0.4 22.8 1 0.0 0.1 0.7	26.7 41.9 22.0 28.5 0.0 30.2 9.1 1.0 2.4 0.0 2 0.2 0.4 0.0	-26.7 -41.9 -22.0 -28.5 -8.4 -30.2 -9.1 -0.9 -2.0 -22.8 -1 -0.2 -0.3 -0.7 -0.1
38 39 40 41 42 43 44 45 46 47 48 49	400 kV	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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 0 0 442 0 0 66 197 985 156 14 26 80	1077 2363 1333 803 0 1418 872 106 256 0 290 30 71 2 28	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.1 0.4 22.8 1 0.0 0.1 0.7	26.7 41.9 22.0 28.5 0.0 30.2 9.1 1.0 2.4 0.0 2 0.2 0.4 0.0	-26.7 -41.9 -22.0 -28.5 -8.4 -30.2 -9.1 -0.9 -2.0 -22.8 -1 -0.2 -0.3 -0.7 -0.1 -0.0
38 39 40 41 42 43 44 45 46 47 48 49 50 51	- 400 kV - 220 kV	GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI ZERDA-KANKROLI ZERDA -BHINMAL V'CHAL -RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR BHANPURA-MORAK MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR	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	0 0 0 442 0 0 66 197 985 156 14 26 80	1077 2363 1333 803 0 1418 872 106 256 0 290 30 71 2	0.0 0.0 0.0 0.0 8.4 0.0 0.1 0.4 22.8 1 0.0 0.1 0.7	26.7 41.9 22.0 28.5 0.0 30.2 9.1 1.0 2.4 0.0 2 0.2 0.4 0.0	-26.7 -41.9 -22.0 -28.5 -8.4 -30.2 -9.1 -0.9 -2.0 -22.8 -1 -0.2 -0.3 -0.7 -0.1
38 39 40 41 42 43 44 45 46 47 48 49 50 51	400 kV 220 kV 132kV	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-WALIOR BHANPURA-WALIOR 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	0 0 0 442 0 0 66 197 985 156 14 26 80 78	1077 2363 1333 803 0 1418 872 106 256 0 290 30 71 2 28 0 WR-NR	0.0 0.0 0.0 0.0 8.4 0.0 0.1 0.4 22.8 1 0.0 0.1 0.7 0.1 0.7	26.7 41.9 22.0 28.5 0.0 30.2 9.1 1.0 2.4 0.0 2 0.2 0.4 0.0 0.2	-26.7 -41.9 -22.0 -28.5 -8.4 -30.2 -9.1 -0.9 -2.0 -22.8 -1 -0.2 -0.3 -0.7 -0.1 -0.0 -146.7
38 39 40 41 42 43 44 45 46 47 48 49 50 51	- 400 kV - 220 kV	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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 0 0 442 0 0 66 197 985 156 14 26 80	1077 2363 1333 803 0 1418 872 106 256 0 290 30 71 2 28	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.1 0.4 22.8 1 0.0 0.1 0.7	26.7 41.9 22.0 28.5 0.0 30.2 9.1 1.0 2.4 0.0 2 0.2 0.4 0.0	-26.7 -41.9 -22.0 -28.5 -8.4 -30.2 -9.1 -0.9 -2.0 -22.8 -1 -0.2 -0.3 -0.7 -0.1 -0.0
38 39 40 41 42 43 44 45 46 47 48 49 50 51	220 kV 132kV Export of HVDC LINK	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-WALIOR BHANPURA-WALIOR GWALIOR-SAWAI MADHOPUR WR (WITH SR)	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	0 0 0 442 0 0 66 197 985 156 14 26 80 78 0	1077 2363 1333 803 0 1418 872 106 256 0 290 30 71 2 28 0 WR-NR	0.0 0.0 0.0 0.0 8.4 0.0 0.0 0.1 0.4 22.8 1 0.0 0.1 0.7 0.1 0.7 0.1 0.0 45.3	26.7 41.9 22.0 28.5 0.0 30.2 9.1 1.0 2.4 0.0 2 0.2 0.4 0.0 0.2 19.1 19.1 19.1 19.1 19.1 19.1 19.1 19	-26.7 -41.9 -22.0 -28.5 -8.4 -30.2 -9.1 -0.9 -2.0 -22.8 -1 -0.2 -0.3 -0.7 -0.1 -0.0 -146.7
38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/E 52 53	400 kV 220 kV 132kV Export of HVDC	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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 0 0 442 0 0 66 197 985 156 14 26 80 78 0	1077 2363 1333 803 0 1418 872 106 256 0 290 30 71 2 28 0 WR-NR	0.0 0.0 0.0 0.0 0.0 8.4 0.0 0.0 0.1 0.4 22.8 1 0.0 0.1 0.7 0.1 0.4 45.3	26.7 41.9 22.0 28.5 0.0 30.2 9.1 1.0 2.4 0.0 2 0.2 0.4 0.0 192.0	-26.7 -41.9 -22.0 -28.5 -30.2 -9.1 -0.9 -2.0 -22.8 -1 -0.2 -0.3 -0.7 -0.1 -0.0 -146.7
38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/E 52 53 54	220 kV 132kV Export of HVDC LINK	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	D/C D/C 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 0 442 0 0 66 197 985 156 14 26 80 78 0	1077 2363 1333 803 0 1418 872 106 256 0 290 30 71 2 28 0 WR-NR	0.0 0.0 0.0 0.0 0.0 8.4 0.0 0.0 0.1 0.4 22.8 1 0.0 0.1 0.7 0.1 0.0 45.3	26.7 41.9 22.0 28.5 0.0 30.2 9.1 1.0 2.4 0.0 2 0.2 0.4 0.0 0.2 13.8 0.0 13.1	-26.7 -41.9 -22.0 -28.5 -30.2 -9.1 -0.9 -2.0 -22.8 -1 -0.2 -0.3 -0.7 -0.1 -0.0 -146.7
38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/E 52 53 54 55	400 kV 220 kV 132kV Export of HVDC LINK 765 kV	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	0 0 0 442 0 0 66 197 985 156 14 26 80 78 0	1077 2363 1333 803 0 1418 872 106 256 0 290 30 71 2 28 0 WR-NR	0.0 0.0 0.0 0.0 0.0 0.0 8.4 0.0 0.1 0.4 22.8 1 0.0 0.1 0.7 0.1 0.0 45.3	26.7 41.9 22.0 28.5 0.0 30.2 9.1 1.0 2.4 0.0 2 0.2 0.4 0.0 0.2 0.0 192.0 13.8 0.0 13.1 20.6 0.0 0.0	-26.7 -41.9 -22.0 -28.5 -8.4 -30.2 -9.1 -0.9 -2.0 -22.8 -1 -0.2 -0.3 -0.7 -0.1 -0.0 -146.7 -13.8 -9.2 -20.6 -9.6 -9.0
38 39 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 LINK 765 kV	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 KOLHAPUR-CHIKODI PONDA-AMBEWADI	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	0 0 0 442 0 0 66 197 985 156 14 26 80 78 0	1077 2363 1333 803 0 1418 872 106 256 0 290 30 71 2 28 0 WR-NR	0.0 0.0 0.0 0.0 0.0 8.4 0.0 0.0 0.1 0.4 22.8 1 0.0 0.1 0.7 0.1 0.0 45.3	26.7 41.9 22.0 28.5 0.0 30.2 9.1 1.0 2.4 0.0 2 0.2 0.4 0.0 192.0 13.8 0.0 13.1 20.6 0.0	-26.7 -41.9 -22.0 -28.5 -8.4 -30.2 -9.1 -0.9 -2.0 -22.8 -1 -0.2 -0.3 -0.7 -0.1 -0.0 -146.7 -13.8 -13.8 -13.8 -14.9 -14.
38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/E 52 53 54 55 56 57	220 kV 132kV 2xport of HVDC LINK 765 kV	GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA - BHINMAL V'CHAL - RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR BHANPURA-RANPUR BHANPURA-WALIOR GWALIOR-SAWAI MADHOPUR WR (With SR) BHADRAWATI B/B BARSUR-L.SILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD KOLHAPUR-KUDGI KOLHAPUR-KUDGI	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 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	0 0 0 442 0 0 66 197 985 156 14 26 80 78 0	1077 2363 1333 803 0 1418 872 106 256 0 290 30 71 2 28 0 WR-NR	0.0 0.0 0.0 0.0 0.0 0.0 8.4 0.0 0.1 0.4 22.8 1 0.0 0.1 0.7 0.1 0.0 45.3	26.7 41.9 22.0 28.5 0.0 30.2 9.1 1.0 2.4 0.0 2 0.2 0.4 0.0 0.2 0.0 192.0 13.8 0.0 13.1 20.6 0.0 0.0	-26.7 -41.9 -22.0 -28.5 -8.4 -30.2 -9.1 -0.9 -2.0 -22.8 -1 -0.2 -0.3 -0.7 -0.1 -0.0 -146.7 -13.8 -9.0 -9.2 -20.6 -9.6 -9.0
38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/E 52 53 54 55 56 57 58	220 kV 132kV 2xport of HVDC LINK 765 kV	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 KOLHAPUR-CHIKODI PONDA-AMBEWADI	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	0 0 0 442 0 0 66 197 985 156 14 26 80 78 0 0	1077 2363 1333 803 0 1418 872 106 256 0 290 30 71 2 28 0 WR-NR	0.0 0.0 0.0 0.0 0.0 8.4 0.0 0.0 0.1 0.4 22.8 1 0.0 0.1 0.7 0.1 0.0 45.3	26.7 41.9 22.0 28.5 0.0 30.2 9.1 1.0 2.4 0.0 2 0.2 0.4 0.0 0.2 0.0 192.0 13.8 0.0 13.1 20.6 0.0 0.0 1.2	-26.7 -41.9 -22.0 -28.5 -8.4 -30.2 -9.1 -0.9 -2.0 -22.8 -1 -0.2 -0.3 -0.7 -0.1 -0.0 -146.7 -13.8 -9.2 -20.6 -9.6 -9.0 -1.2
38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/E 52 53 54 55 56 57 58	220 kV 132kV 2xport of HVDC LINK 765 kV	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 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 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 S/C S/C S/C S/C S/C S/C S	0 0 0 442 0 0 66 197 985 156 14 26 80 78 0 0	1077 2363 1333 803 0 1418 872 106 256 0 290 30 71 2 28 0 WR-NR 1006 0 1910 1760 84 0 65 38 WR-SR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.1 0.4 22.8 1 0.0 0.1 0.7 0.1 0.0 45.3	26.7 41.9 22.0 28.5 0.0 30.2 9.1 1.0 2.4 0.0 2 0.2 0.4 0.0 0.2 0.0 13.8 0.0 13.1 20.6 0.0 0.0 0.0 0.0 1.0 0.0 1.0 0.0 0	-26.7 -41.9 -22.0 -28.5 -8.4 -30.2 -9.1 -0.9 -2.0 -22.8 -1 -0.2 -0.3 -0.7 -0.1 -0.0 -146.7 -13.8 -9.2 -20.6 -9.6 -9.0 -1.2 -0.7
38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/E 52 53 54 55 56 57 58	220 kV 132kV 2xport of HVDC LINK 765 kV	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 KOLHAPUR-CHIKODI PONDA-AMBEWADI XELDEM-AMBEWADI	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 S/C S/C S/C S/C S/C S/C S/C S	0 0 0 442 0 0 66 197 985 156 14 26 80 78 0 0	1077 2363 1333 803 0 1418 872 106 256 0 290 30 71 2 28 0 WR-NR 1006 0 1910 1760 84 0 65 38 WR-SR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.1 0.4 22.8 1 0.0 0.1 0.7 0.1 0.0 45.3	26.7 41.9 22.0 28.5 0.0 30.2 9.1 1.0 2.4 0.0 2 0.2 0.4 0.0 0.2 0.0 13.8 0.0 13.1 20.6 0.0 0.0 0.0 0.0 1.0 0.0 1.0 0.0 0	-26.7 -41.9 -22.0 -28.5 -8.4 -30.2 -9.1 -0.9 -2.0 -22.8 -1 -0.2 -0.3 -0.7 -0.1 -0.0 -146.7 -13.8 -9.2 -20.6 -9.6 -9.0 -1.2 -0.7