

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: 17th 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 16.11.2019.

महोदय/Dear Sir,

आई०ई०जी०सी०-2010 की धारा स.-5.5.1 के प्रावधान के अनुसार, दिनांक 16-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 16th Nov 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 17-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)	41898	47510	39189	18073	2374	149044
Peak Shortage (MW)	486	0	0	0	16	502
Energy Met (MU)	851	1069	886	338	42	3187
Hydro Gen (MU)	138	27	96	51	11	323
Wind Gen (MU)	18	33	24			75
Solar Gen (MU)*	20.51	19.67	73.03	1.82	0.04	115
Energy Shortage (MU)	9.9	0.0	0.0	0.0	0.3	10.2
Maximum Demand Met during the day	42978	48045	41907	18239	2507	153017
(MW) & time (from NLDC SCADA)	18:25	17:48	18:40	18:40	17:22	18:28

B. Frequency Profile (%)
Region
All India FVI <49.7 49.7-49.8 49.8-49.9 <49.9 49.9-50.05 > 50.05 24.24 0.038 0.21 6.23 69.33

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	5172	0	101.3	48.9	-1.2	442	0.0
	Haryana	5755	0	110.5	100.5	-0.5	191	0.0
	Rajasthan	10464	0	200.5	54.9	-1.5	480	0.0
	Delhi	3230	0	60.4	45.6	-1.0	109	0.0
NR	UP	14126	0	272.1	128.6	-2.1	350	0.0
	Uttarakhand	1696	0	33.3	19.0	-0.6	115	0.0
	HP	1519	0	27.6	19.8	-0.7	72	0.0
	J&K	2060	515	41.8	34.9	-0.6	201	9.9
	Chandigarh	184	0	3.3	3.3	0.0	14	0.0
	Chhattisgarh	3382	0	70.8	25.3	-0.6	204	0.0
	Gujarat	14833	0	313.7	89.3	-1.6	521	0.0
	MP	11460	0	224.7	152.2	-2.1	419	0.0
WR	Maharashtra	19207	0	416.2	132.7	-3.0	449	0.0
WK	Goa	541	0	12.9	12.2	0.1	35	0.0
	DD	319	0	7.2	6.8	0.4	36	0.0
	DNH	781	0	18.2	18.1	0.1	47	0.0
	Essar steel	328	0	5.5	5.7	-0.1	295	0.0
	Andhra Pradesh	7671	0	168.3	81.8	0.2	310	0.0
	Telangana	9046	0	192.5	79.0	0.4	466	0.0
SR	Karnataka	9059	0	172.0	39.8	0.3	575	0.0
JI.	Kerala	3614	0	72.1	56.5	1.1	177	0.0
	Tamil Nadu	13277	0	273.6	150.5	0.9	535	0.0
	Pondy	365	0	7.4	7.6	-0.2	41	0.0
	Bihar	4215	0	71.2	67.4	-1.2	50	0.0
	DVC	2968	0	59.8	-36.7	0.0	100	0.0
ER	Jharkhand	1080	0	23.8	17.2	-1.2	31	0.0
LIN	Odisha	3629	0	66.7	2.8	0.6	60	0.0
	West Bengal	6541	0	115.7	37.7	2.4	150	0.0
	Sikkim	100	0	1.4	1.4	-0.1	10	0.0
	Arunachal Pradesh	110	1	2.1	1.5	0.3	36	0.0
	Assam	1447	10	24.1	18.9	-0.1	113	0.3
	Manipur	161	2	2,5	2.4	0.1	28	0.0
NER	Meghalaya	335	0	5.8	2.9	0.2	43	0.0
	Mizoram	97	1	1.9	0.4	0.9	23	0.0
	Nagaland	126	2	2,2	2.0	0.0	21	0.0
	Tripura	228	3	3.8	2.5	-0.5	36	0.0

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

	Bhutan	Nepal	Bangladesh
Actual(MU)	11.3	-0.5	-15.6
Day peak (MW)	584.4	-216.9	-975.0

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

	NR	WR	SR	ER	NER	TOTAL
Schedule(MU)	199.4	-196.1	103.5	-106.2	-0.7	-0.1
Actual(MU)	184.3	-196.1	114.6	-111.6	0.4	-8.4
O/D/U/D(MU)	-15.1	0.0	11.1	-5.4	1.1	-8.3

F. Generation Outage(MW)

	NR	WR	SR	ER	NER	Total
Central Sector	4371	17336	8342	2080	584	32713
State Sector	12911	18665	10030	5370	11	46987
Total	17282	36001	18372	7450	596	79700

G. Sourcewise generation (MU)

	NR	WR	SR	ER	NER	All India
Coal	418	1091	431	428	11	2380
Lignite	19	13	52	0	0	84
Hydro	138	27	96	51	11	323
Nuclear	28	28	55	0	0	111
Gas, Naptha & Diesel	28	57	16	0	24	124
RES (Wind, Solar, Biomass & Others)	59	64	127	2	0	252
Total	691	1279	777	480	46	3274
Share of RES in total generation (%)	8.55	5.01	16.37	0.39	0.09	7.70
Share of Non-fossil fuel (Hydro, Nuclear	32.66	9.28	35.77	10.93	23.57	20.95

H. All India Demand Diversity Factor

and RES) in total generation (%)

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Based on Regional Max Demands	1.004					
Based on State Max Demands	1.040					

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

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

		<u>IN'</u>	TER-REGI	ONAL EXCHA	ANGES	Date of l	Reporting :	: 17-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)	
[mport/E		ER (With NR)					()		
1		GAYA-VARANASI	D/C	0	979	0.0	13.5	-13.5	
2	765kV	SASARAM-FATEHPUR	S/C	0	496	0.0	6.9	-6.9	
3		GAYA-BALIA ALIPURDUAR-AGRA	S/C	0	431	0.0	7.9	-7.9 0.0	
5	HVDC	PUSAULI B/B	S/C	0	198	0.0	4.8	-4.8	
6		PUSAULI-VARANASI	S/C	0	148	0.0	2.8	-2.8	
7		PUSAULI -ALLAHABAD	S/C	0	122	0.0	1.8	-1.8	
8		MUZAFFARPUR-GORAKHPUR	D/C	0	1122	0.0	17.2	-17.2	
9	400 kV	PATNA-BALIA	Q/C	0	1149	0.0	23.1	-23.1	
10		BIHARSHARIFF-BALIA	D/C	0	395	0.0	6.9	-6.9	
11		MOTIHARI-GORAKHPUR	D/C	0	6	0.0	0.0	0.0	
12		BIHARSHARIFF-VARANASI	D/C	0	396	0.0	4.4	-4.4	
13	220 kV	PUSAULI-SAHUPURI	S/C	0	84	0.0	1.2	-1.2	
14		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		KARMANASA-SAHUPURI	S/C	0	0	0.0	0.0	0.0	
17	<u> </u>	KARMANASA-CHANDAULI	S/C	0	() ED ND	0.0	0.0	0.0	
Import/F	vnost -	FD (With WD)			ER-NR	0.3	90.5	-90.2	
-	xport of	ER (With WR)			1				
18		JHARSUGUDA-DHARAMJAIGARH	Q/C	1107	0	20.9	0.0	20.9	
19	765 kV	NEW RANCHI-DHARAMJAIGARH	D/C	354	485	0.4	0.0	0.4	
20		JHARSUGUDA-DURG	D/C	50	203	0.0	1.7	-1.7	
21	400 kV	JHARSUGUDA-RAIGARH	Q/C	117	288	0.0	1.2	-1.2	
22		RANCHI-SIPAT	D/C	140	150	0.5	0.0	0.5	
23	220 kV	BUDHIPADAR-RAIGARH	S/C	0	79	0.0	1.0	-1.0	
24		BUDHIPADAR-KORBA	D/C	96	ER-WR	1.3 23.1	0.0 3.8	1.3 19.3	
[mnort/F	vnort of	ER (With SR)			EK-WK	23.1	3.8	19.5	
25	· -	ANGUL-SRIKAKULAM	D/C	0.0	2079.0	0.0	38.7	-38.7	
26	HVDC	JEYPORE-GAZUWAKA B/B	D/C	0.0	692.0	0.0	13.4	-13.4	
27	LINK	TALCHER-KOLAR BIPOLE	D/C	0.0	2460.0	0.0	44.0	-44.0	
28	400 kV	TALCHER-I/C	D/C	401.0	673.0	0.0	2.1	-2.1	
29	220 kV	BALIMELA-UPPER-SILERRU	S/C	1.0	0.0	0.0	0.0	0.0	
					ER-SR	0.0	96.1	-96.1	
mport/E	export of	ER (With NER)						•	
30	400 kV	BINAGURI-BONGAIGAON	D/C	247	4	4.3	0.0	4	
31	400 KV	ALIPURDUAR-BONGAIGAON	D/C	257	0	4.2	0.0	4	
32	220 kV	ALIPURDUAR-SALAKATI	D/C	48	19	0.6	0.0	1	
					ER-NER	9.0	0.0	9.0	
		NER (With NR)						ı	
33	HVDC	BISWANATH CHARIALI-AGRA	-	371	0	9.1	0.0	9.1	
100		WD (WALNE)			NER-NR	9.1	0.0	9.1	
	xport of	WR (With NR)	D/C	0	401	0.0	11.8	-11.8	
		CHAMPA-KURUKSHETRA	D/C	0	481	0.0			
34			D/C		0	10.1			
35	HVDC	V'CHAL B/B API _MHG	D/C	452	0	12.1	0.0	12.1	
35 36	HVDC	APL -MHG	D/C	0	1549	0.0	0.0 30.6	12.1 -30.6	
35 36 37	HVDC	APL -MHG GWALIOR-AGRA	D/C D/C	0	1549 1869	0.0	0.0 30.6 35.4	12.1 -30.6 -35.4	
35 36 37 38		APL -MHG GWALIOR-AGRA PHAGI-GWALIOR	D/C D/C D/C	0 0	1549 1869 1265	0.0 0.0 0.0	0.0 30.6 35.4 21.1	12.1 -30.6 -35.4 -21.1	
35 36 37	765 kV	APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI	D/C D/C D/C D/C	0 0 0 629	1549 1869	0.0 0.0 0.0 0.0	0.0 30.6 35.4 21.1 26.0	12.1 -30.6 -35.4 -21.1 -26.0	
35 36 37 38 39		APL -MHG GWALIOR-AGRA PHAGI-GWALIOR	D/C D/C D/C	0 0	1549 1869 1265 731	0.0 0.0 0.0	0.0 30.6 35.4 21.1	12.1 -30.6 -35.4 -21.1	
35 36 37 38 39 40		APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI	D/C D/C D/C D/C S/C	0 0 0 629 561	1549 1869 1265 731 0	0.0 0.0 0.0 0.0 9.7	0.0 30.6 35.4 21.1 26.0 0.0	12.1 -30.6 -35.4 -21.1 -26.0 9.7	
35 36 37 38 39 40 41		APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI	D/C D/C D/C D/C S/C S/C	0 0 0 629 561	1549 1869 1265 731 0 1264	0.0 0.0 0.0 0.0 9.7 0.0	0.0 30.6 35.4 21.1 26.0 0.0 27.3	12.1 -30.6 -35.4 -21.1 -26.0 9.7 -27.3	
35 36 37 38 39 40 41 42	765 kV	APL-MHG 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 0 629 561 0	1549 1869 1265 731 0 1264 815	0.0 0.0 0.0 0.0 9.7 0.0 0.0	0.0 30.6 35.4 21.1 26.0 0.0 27.3 7.5	12.1 -30.6 -35.4 -21.1 -26.0 9.7 -27.3 -7.5	
35 36 37 38 39 40 41 42 43		APL-MHG 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 S/C	0 0 0 629 561 0 44	1549 1869 1265 731 0 1264 815	0.0 0.0 0.0 0.0 9.7 0.0 0.0 1.0	0.0 30.6 35.4 21.1 26.0 0.0 27.3 7.5 0.3	12.1 -30.6 -35.4 -21.1 -26.0 9.7 -27.3 -7.5 0.7	
35 36 37 38 39 40 41 42 43	765 kV	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 S/C S/C S/C S/C S/C S/C S/C	0 0 0 629 561 0 44 126 208	1549 1869 1265 731 0 1264 815 108	0.0 0.0 0.0 0.0 9.7 0.0 0.0 1.0	0.0 30.6 35.4 21.1 26.0 0.0 27.3 7.5 0.3	12.1 -30.6 -35.4 -21.1 -26.0 9.7 -27.3 -7.5 0.7 1.3	
35 36 37 38 39 40 41 42 43 44 45	765 kV	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 S/C S/C S/C S/C S/C S/C S/C S/C S/C	0 0 0 629 561 0 44 126 208 986	1549 1869 1265 731 0 1264 815 108 92	0.0 0.0 0.0 0.0 9.7 0.0 0.0 1.0 1.5	0.0 30.6 35.4 21.1 26.0 0.0 27.3 7.5 0.3 0.2	12.1 -30.6 -35.4 -21.1 -26.0 9.7 -27.3 -7.5 0.7 1.3 22.2	
35 36 37 38 39 40 41 42 43 44 45	- 765 kV - 400 kV	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 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	0 0 0 629 561 0 44 126 208 986	1549 1869 1265 731 0 1264 815 108 92 0 72	0.0 0.0 0.0 0.0 9.7 0.0 0.0 1.0 1.5 22.2	0.0 30.6 35.4 21.1 26.0 0.0 27.3 7.5 0.3 0.2	12.1 -30.6 -35.4 -21.1 -26.0 9.7 -27.3 -7.5 0.7 1.3 22.2	
35 36 37 38 39 40 41 42 43 44 45 46	765 kV	APL-MHG 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 D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 0 0 629 561 0 44 126 208 986 182 26	1549 1869 1265 731 0 1264 815 108 92 0 72 37 63 0	0.0 0.0 0.0 0.0 9.7 0.0 0.0 1.0 1.5 22.2 1	0.0 30.6 35.4 21.1 26.0 0.0 27.3 7.5 0.3 0.2 0.0 0	12.1 -30.6 -35.4 -21.1 -26.0 9.7 -27.3 -7.5 0.7 1.3 22.2 1 -0.1	
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50	- 765 kV - 400 kV	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	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 0 629 561 0 44 126 208 986 182 26 41 112 56	1549 1869 1265 731 0 1264 815 108 92 0 72 37 63	0.0 0.0 0.0 0.0 9.7 0.0 0.0 1.5 22.2 1 0.1 0.2	0.0 30.6 35.4 21.1 26.0 0.0 27.3 7.5 0.3 0.2 0.0 0	12.1 -30.6 -35.4 -21.1 -26.0 9.7 -27.3 -7.5 0.7 1.3 22.2 1 -0.1 -0.2	
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49	- 765 kV - 400 kV	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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 0 0 629 561 0 44 126 208 986 182 26 41	1549 1869 1265 731 0 1264 815 108 92 0 72 37 63 0 14	0.0 0.0 0.0 0.0 9.7 0.0 1.0 1.5 22.2 1 0.1 0.2 1.5 0.4	0.0 30.6 35.4 21.1 26.0 0.0 27.3 7.5 0.3 0.2 0.0 0 0 0 0 0 0.0 0 0.0	12.1 -30.6 -35.4 -21.1 -26.0 9.7 -27.3 -7.5 0.7 1.3 22.2 1 -0.1 -0.2 1.5 0.4 0.0	
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51	- 765 kV - 400 kV - 220 kV	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-MORAK MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR	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 0 629 561 0 44 126 208 986 182 26 41 112 56	1549 1869 1265 731 0 1264 815 108 92 0 72 37 63 0 14	0.0 0.0 0.0 0.0 9.7 0.0 0.0 1.0 1.5 22.2 1 0.1 0.2 1.5 0.4	0.0 30.6 35.4 21.1 26.0 0.0 27.3 7.5 0.3 0.2 0.0 0 0 0 0.0	12.1 -30.6 -35.4 -21.1 -26.0 9.7 -27.3 -7.5 0.7 1.3 22.2 1 -0.1 -0.2 1.5 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 - 132kV	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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 0 0 629 561 0 44 126 208 986 182 26 41 112 56	1549 1869 1265 731 0 1264 815 108 92 0 72 37 63 0 14 0 WR-NR	0.0 0.0 0.0 0.0 9.7 0.0 0.0 1.5 22.2 1 0.1 0.2 1.5 0.4 0.0 49.2	0.0 30.6 35.4 21.1 26.0 0.0 27.3 7.5 0.3 0.2 0.0 0 0 0.2 0.3 0.0 0 0.0 160.8	12.1 -30.6 -35.4 -21.1 -26.0 9.7 -27.3 -7.5 0.7 1.3 22.2 1 -0.1 -0.2 1.5 0.4 0.0 -111.6	
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51	- 765 kV - 400 kV - 220 kV - 132kV - 2xport of - HVDC	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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 0 0 629 561 0 44 126 208 986 182 26 41 112 56 0	1549 1869 1265 731 0 1264 815 108 92 0 72 37 63 0 14 0 WR-NR	0.0 0.0 0.0 0.0 9.7 0.0 0.0 1.5 22.2 1 0.1 0.2 1.5 0.4 0.0 49.2	0.0 30.6 35.4 21.1 26.0 0.0 27.3 7.5 0.3 0.2 0.0 0 0.0 160.8	12.1 -30.6 -35.4 -21.1 -26.0 9.7 -27.3 -7.5 0.7 1.3 22.2 1 -0.1 -0.2 1.5 0.4 0.0 -111.6	
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51	- 765 kV - 400 kV - 220 kV - 132kV	APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHITTORGARH-BANASKANTHA 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	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 0 629 561 0 44 126 208 986 182 26 41 112 56 0	1549 1869 1265 731 0 1264 815 108 92 0 72 37 63 0 14 0 WR-NR	0.0 0.0 0.0 0.0 9.7 0.0 0.0 1.0 1.5 22.2 1 0.1 0.2 1.5 0.4 0.0 49.2	0.0 30.6 35.4 21.1 26.0 0.0 27.3 7.5 0.3 0.2 0.0 0 0.2 0.3 0.0 160.8	12.1 -30.6 -35.4 -21.1 -26.0 9.7 -27.3 -7.5 0.7 1.3 22.2 1 -0.1 -0.2 1.5 0.4 0.0 -111.6	
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51	- 765 kV - 400 kV - 220 kV - 132kV - 2xport of - HVDC	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	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 0 629 561 0 44 126 208 986 182 26 41 112 56 0	1549 1869 1265 731 0 1264 815 108 92 0 72 37 63 0 14 0 WR-NR	0.0 0.0 0.0 0.0 0.0 9.7 0.0 0.0 1.0 1.5 22.2 1 0.1 0.2 1.5 0.4 0.0 49.2	0.0 30.6 35.4 21.1 26.0 0.0 27.3 7.5 0.3 0.2 0.0 0.0 0.2 0.3 0.0 0.0 160.8	12.1 -30.6 -35.4 -21.1 -26.0 9.7 -27.3 -7.5 0.7 1.3 22.2 1 -0.1 -0.2 1.5 0.4 0.0 -111.6	
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51	765 kV 400 kV 220 kV 132kV Export of HVDC LINK	APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI GWALIOR-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL V'CHAL -RIHAND RAPP-SHUJALPUR 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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 0 0 629 561 0 44 126 208 986 182 26 41 112 56 0	1549 1869 1265 731 0 1264 815 108 92 0 72 37 63 0 14 0 WR-NR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 1.0 1.5 22.2 1 0.1 0.2 1.5 0.4 0.0 49.2	0.0 30.6 35.4 21.1 26.0 0.0 0.0 27.3 7.5 0.3 0.2 0.0 0 0.0 0.0 160.8	12.1 -30.6 -35.4 -21.1 -26.0 9.7 -27.3 -7.5 0.7 1.3 22.2 1 -0.1 -0.2 1.5 0.4 0.0 -111.6	
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 LINK	APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI GWALIOR-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL V'CHAL -RIHAND RAPP-SHUJAL-PUR BHANPURA-MORAK MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHADRAWATI B/B BARSUR-L-SILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD 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 S/C S	0 0 0 629 561 0 44 126 208 986 182 26 41 112 56 0	1549 1869 1265 731 0 1264 815 108 92 0 72 37 63 0 14 0 WR-NR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 1.0 1.5 22.2 1 0.1 0.2 1.5 0.4 0.0 49.2 0.0 0.0 1.1 0.0 9.7	0.0 30.6 35.4 21.1 26.0 0.0 27.3 7.5 0.3 0.2 0.0 0 0.0 0.0 160.8	12.1 -30.6 -35.4 -21.1 -26.0 9.7 -27.3 -7.5 0.7 1.3 22.2 1 -0.1 -0.2 1.5 0.4 0.0 -111.6	
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 (mport/E) 52 53 54 55 56 57	765 kV 400 kV 220 kV 132kV Export of HVDC LINK 765 kV 400 kV	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) BHADRAWATI B/B BHASWATI B/B BHADRAWATI B/B BHADRAWAT	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	0 0 0 629 561 0 44 126 208 986 182 26 41 112 56 0	1549 1869 1265 731 0 1264 815 108 92 0 72 37 63 0 14 0 WR-NR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 1.0 1	0.0 30.6 35.4 21.1 26.0 0.0 27.3 7.5 0.3 0.2 0.0 0 0 0.0 160.8	12.1 -30.6 -35.4 -21.1 -26.0 9.7 -27.3 -7.5 0.7 1.3 22.2 1 -0.1 -0.2 1.5 0.4 0.0 -111.6 -14.0 0.0 -19.4 -36.5 9.7 0.0	
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 51 52 53 54 55 56 57 58	765 kV 400 kV 220 kV 132kV Export of HVDC LINK	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-WARIYA 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 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 S/C S/C S/C S/C S/C S/C S	0 0 0 629 561 0 44 126 208 986 182 26 41 112 56 0	1549 1869 1265 731 0 1264 815 108 92 0 72 37 63 0 14 0 WR-NR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 1.0 1	0.0 30.6 30.6 35.4 21.1 26.0 0.0 27.3 7.5 0.3 0.2 0.0 0 0 0.2 0.3 0.0 0.0 160.8	12.1 -30.6 -35.4 -21.1 -26.0 9.7 -27.3 -7.5 0.7 1.3 22.2 1 -0.1 -0.2 1.5 0.4 0.0 -111.6 -14.0 0.0 -19.4 -36.5 9.7 0.0 -1.3	
35 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 LINK 765 kV 400 kV	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) BHADRAWATI B/B BHASWATI B/B BHADRAWATI B/B BHADRAWAT	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	0 0 0 629 561 0 44 126 208 986 182 26 41 112 56 0	1549 1869 1265 731 0 1264 815 108 92 0 72 37 63 0 14 0 WR-NR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 1.0 1	0.0 30.6 35.4 21.1 26.0 0.0 27.3 7.5 0.3 0.2 0.0 0 0.0 0.0 160.8	12.1 -30.6 -35.4 -21.1 -26.0 9.7 -27.3 -7.5 0.7 1.3 22.2 1 -0.1 -0.2 1.5 0.4 0.0 -111.6 -14.0 0.0 -19.4 -36.5 9.7 0.0 -1.3 1.5	
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 mport/E 52 53 54 55 56 57 58	765 kV 400 kV 220 kV 132kV Export of HVDC LINK 765 kV 400 kV	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-RANPUR BHANPURA-WALIYA 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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 0 0 0 629 561 0 44 126 208 986 182 26 41 112 56 0	1549 1869 1265 731 0 1264 815 108 92 0 72 37 63 0 14 0 WR-NR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 1.0 1	0.0 30.6 30.6 35.4 21.1 26.0 0.0 27.3 7.5 0.3 0.2 0.0 0 0 0.2 0.3 0.0 0.0 160.8	12.1 -30.6 -35.4 -21.1 -26.0 9.7 -27.3 -7.5 0.7 1.3 22.2 1 -0.1 -0.2 1.5 0.4 0.0 -111.6 -14.0 0.0 -19.4 -36.5 9.7 0.0 -1.3	
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 mport/E 52 53 54 55 56 57 58	765 kV 400 kV 220 kV 132kV Export of HVDC LINK 765 kV 400 kV	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-RANPUR BHANPURA-WALIYA 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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 0 0 629 561 0 44 126 208 986 182 26 41 112 56 0	1549 1869 1265 731 0 1264 815 108 92 0 72 37 63 0 14 0 WR-NR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 1.0 1	0.0 30.6 35.4 21.1 26.0 0.0 27.3 7.5 0.3 0.2 0.0 0 0.0 0.0 160.8	12.1 -30.6 -35.4 -21.1 -26.0 9.7 -27.3 -7.5 0.7 1.3 22.2 1 -0.1 -0.2 1.5 0.4 0.0 -111.6 -14.0 0.0 -19.4 -36.5 9.7 0.0 -1.3 1.5	
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 mport/E 52 53 54 55 56 57 58	765 kV 400 kV 220 kV 132kV Export of HVDC LINK 765 kV 400 kV	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-RANPUR BHANPURA-WALIYA 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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 0 0 0 629 561 0 44 126 208 986 182 26 41 112 56 0	1549 1869 1265 731 0 1264 815 108 92 0 72 37 63 0 14 0 WR-NR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 1.0 1	0.0 30.6 35.4 21.1 26.0 0.0 27.3 7.5 0.3 0.2 0.0 0 0.0 0.0 160.8	12.1 -30.6 -35.4 -21.1 -26.0 9.7 -27.3 -7.5 0.7 1.3 22.2 1 -0.1 -0.2 1.5 0.4 0.0 -111.6 -14.0 0.0 -19.4 -36.5 9.7 0.0 -1.3 1.5	