

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: 23th Dec 2019

To,

- 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 22.12.2019.

महोदय/Dear Sir,

आई॰ई॰जी॰सी॰-2010 की धारा स.-5.5.1 के प्रावधान के अनुसार, दिनांक 22-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 22th Dec 2019, is available at the NLDC website.

धन्यवाद,

Report for previous day Date of Reporting 23-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)	44436	45325	36290	17852	2335	146238
Peak Shortage (MW)	601	0	0	0	23	624
Energy Met (MU)	910	1113	900	334	38	3294
Hydro Gen (MU)	119	43	70	32	9	272
Wind Gen (MU)	22	85	47			154
Solar Gen (MU)*	30.87	19.30	77.42	1.78	0.01	129
Energy Shortage (MU)	11.9	0.0	0.0	0.0	0.7	12.7
Maximum Demand Met during the day (MW) & time	46823	53950	41907	17586	2373	158388
(from NLDC SCADA)	09:40	11:15	09:14	18:47	17:39	09:29

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	0.032	0.00	0.00	4.94	4.94	78.37	16.69

C. Power Supply Position in States

Region	States	Max. Demand Met during the day (MW)	maximum Demand (MW)	Energy Met (MU)	Drawal Schedule (MU)	OD(+)/UD(-) (MU)	Max OD (MW)	Energy Shortag (MU)
	Punjab	5580	0	111.3	56.1	-1.6	79	0.0
	Haryana	5990	0	115.8	81.0	0.4	246	0.0
	Rajasthan	12943	0	227.9	50.8	-3.2	293	0.0
	Delhi	4028	0	70.0	53.4	0.1	260	0.0
NR	UP	14358	150	266.1	113.8	-2.0	447	0.0
	Uttarakhand	1969	0	36.0	20.3	0.7	163	0.0
	HP	1596	0	28.2	21.2	-0.5	154	0.0
	J&K(UT) and Ladakh(UT)	2509	627	50.6	44.3	0.9	337	11.9
	Chandigarh	235	0	3.9	3.9	0.0	39	0.0
	Chhattisgarh	3545	0	79.7	22.1	1.8	176	0.0
	Gujarat	15444	0	316.0	85.9	-0.1	644	0.0
	MP	13312	0	240.9	127.5	-3.2	356	0.0
WR	Maharashtra	21028	0	431.0	142.3	-0.3	529	0.0
WK	Goa	542	0	11.9	11.1	0.2	43	0.0
	DD	302	0	7.0	6.3	0.7	54	0.0
	DNH	782	0	18.5	18.4	0.1	71	0.0
	Essar steel	365	0	7.5	7.4	0.1	253	0.0
	Andhra Pradesh	8052	0	164.8	72.3	-0.3	344	0.0
	Telangana	10420	0	216.4	109.0	0.6	468	0.0
SR	Karnataka	10660	0	192.6	39.2	-1.2	450	0.0
311	Kerala	3248	0	64.7	53.6	0.9	195	0.0
	Tamil Nadu	12011	0	254.8	134.6	-0.5	453	0.0
	Pondy	314	0	6.3	6.7	-0.4	30	0.0
	Bihar	4160	0	73.4	72.8	-0.8	100	0.0
	DVC	3146	0	63.6	-30.8	-0.1	140	0.0
ER	Jharkhand	1314	0	25.3	17.2	-1.1	40	0.0
EN	Odisha	3831	0	66.4	14.5	-0.3	230	0.0
	West Bengal	5641	0	104.1	29.2	1.5	260	0.0
	Sikkim	121	0	1.7	1.6	0.1	30	0.0
	Arunachal Pradesh	124	1	2.1	2.0	-0.1	38	0.0
	Assam	1267	16	20.3	16.9	0.1	84	0.5
	Manipur	198	2	2.5	3.1	-0.6	18	0.0
NER	Meghalaya	342	0	5.9	3.1	0.5	68	0.2
	Mizoram	99	1	1.9	1.2	0.2	18	0.0
	Nagaland	135	2	2.1	2.3	-0.4	6	0.0
	Tripura	216	4	3.5	1.6	0.2	46	0.0

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

	Bhutan	Nepal	Bangladesh
Actual(MU)	5.6	-7.4	-9.7
Day peak (MW)	422.2	-457.6	-758.0

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

	NR	WR	SR	ER	NER	TOTAL
Schedule(MU)	207.8	-232.2	113.3	-88.8	0.0	0.1
Actual(MU)	207.4	-248.6	127.5	-86.9	-1.0	-1.5
O/D/U/D(MU)	-0.3	-16.4	14.2	1.9	-1.1	-1.7

F. Generation Outage(MW)

	NR	WR	SR	ER	NER	Total
Central Sector	5690	15373	8002	1320	597	30981
State Sector	11600	16907	8670	6550	11	43738
Total	17290	32279	16672	7870	608	74719

G. Sourcewise generation (MU)

	NR	WR	SR	ER	NER	All India
Coal	449	1123	438	406	11	2427
Lignite	20	15	44	0	0	80
Hydro	119	43	70	32	9	272
Nuclear	29	28	44	0	0	101
Gas, Naptha & Diesel	29	27	16	0	23	96
RES (Wind, Solar, Biomass & Others)	83	124	169	2	0	378
Total	729	1360	782	440	43	3353

Share of RES in total generation (%)	11.35	9.12	21.63	0.41	0.02	11.26
Share of Non-fossil fuel (Hydro, Nuclear and RES) in total generation (%)	31.61	14.31	36.25	7.75	20.15	22.40

H. All India Demand Diversity Factor

Based on Regional Max Demands	1.027	
Based on State Max Demands	1.072	

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

 $[\]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 EXCHA	ANGES	Date of l	23-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)
Import/I		ER (With NR)					(2.20)	. ()
5	HVDC	ALIPURDUAR-AGRA PUSAULI B/B	S/C	0	0 299	0.0	7.4	-7.4
1		GAYA-VARANASI	D/C	0	1008	0.0	13.0	-13.0
2	765kV	SASARAM-FATEHPUR	S/C	0	376	0.0	4.8	-4.8
3		GAYA-BALIA	S/C	0	445	0.0	3.6	-3.6
6		PUSAULI-VARANASI	S/C	0	204	0.0	4.2	-4.2
7	-	PUSAULI -ALLAHABAD	S/C	0	180	0.0	3.0	-3.0
9	400 kV	MUZAFFARPUR-GORAKHPUR PATNA-BALIA	D/C O/C	0	873 973	0.0	11.5 15.7	-11.5 -15.7
10	400 K V	BIHARSHARIFF-BALIA	D/C	0	540	0.0	6.9	-6.9
11	1	MOTIHARI-GORAKHPUR	D/C	0	4	0.0	0.0	0.0
12		BIHARSHARIFF-VARANASI	D/C	0	343	0.0	3.4	-3.4
13	220 kV	PUSAULI-SAHUPURI	S/C	20	79	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	0.4	0.0	0.4
16		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
Impost/T	Evnort of	FR (With WP)			ER-NR	0.4	66.7	-66.4
	Export of	ER (With WR)	1		1			I
18	765 kV	JHARSUGUDA-DHARAMJAIGARH	Q/C	1348	0	19.2	0.0	19.2
19	/05 KV	NEW RANCHI-DHARAMJAIGARH	D/C	550	273	4.1	0.0	4.1
20	+-	JHARSUGUDA-DURG JHARSUGUDA-RAIGARH	D/C Q/C	999999 317	140 141	0.1 1.7	0.0	0.1 1.7
22	400 kV	JHARSUGUDA-RAIGARH RANCHI-SIPAT	Q/C D/C	238	74	2.1	0.0	2.1
23		BUDHIPADAR-RAIGARH	S/C	0	104	0.0	1.2	-1.2
24	220 kV	BUDHIPADAR-KORBA	D/C	171	0	2.5	0.0	2.5
	•				ER-WR	29.7	1.2	28.5
Import/I	Export of	ER (With SR)			_			
26	HVDC	JEYPORE-GAZUWAKA B/B	D/C	0.0	505.0	0.0	9.8	-9.8
27		TALCHER-KOLAR BIPOLE	D/C	0.0	2469.0	0.0	47.6	-47.6
25	765 kV	ANGUL-SRIKAKULAM	D/C	0.0	2356.0	0.0	41.5	-41.5
28	400 kV 220 kV	TALCHER-I/C BALIMELA-UPPER-SILERRU	D/C S/C	314.0 1.0	1179.0 0.0	0.0	9.0	-9.0 0.0
29	220 K V	BALIMELA-OH EK-SILEKKO	5/C	1.0	ER-SR	0.0	98.8	-98.8
Import/I	Export of	ER (With NER)			-			
30	Ī	BINAGURI-BONGAIGAON	D/C	313	0	4.5	0.0	4
31	400 kV	ALIPURDUAR-BONGAIGAON	D/C	354	0	5.2	0.0	5
32	220 kV	ALIPURDUAR-SALAKATI	D/C	69	10	0.8	0.0	1
					ER-NER	10.5	0.0	10.5
1mport/1 33	HVDC	NER (With NR) BISWANATH CHARIALI-AGRA	_	488	0	11.8	0.0	11.8
33	HVDC	BISWANATH CHARIALI-AGRA	-	400	NER-NR	11.8	0.0	11.8
Import/I	Export of	WR (With NR)			1124 114	11.0	0.0	11.0
34	T	CHAMPA-KURUKSHETRA	D/C	0	2205	0.0	37.3	-37.3
	HVDC							
35		V'CHAL B/B	D/C	449	0	8.1	0.0	8.1
35 36		V'CHAL B/B APL -MHG	\rightarrow	0	0 1553	8.1 0.0		8.1 -32.3
			D/C	0	1553 2630	0.0 0.0	0.0 32.3 45.8	-32.3 -45.8
36 37 38		APL -MHG GWALIOR-AGRA PHAGI-GWALIOR	D/C D/C D/C D/C	0 0	1553 2630 1227	0.0 0.0 0.0	0.0 32.3 45.8 15.5	-32.3 -45.8 -15.5
36 37 38 39	765 kV	APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI	D/C D/C D/C D/C D/C D/C	0 0 0	1553 2630 1227 837	0.0 0.0 0.0 0.0	0.0 32.3 45.8 15.5 28.4	-32.3 -45.8 -15.5 -28.4
36 37 38 39 40	765 kV	APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI	D/C D/C D/C D/C D/C S/C	0 0 0 0 0 609	1553 2630 1227 837 0	0.0 0.0 0.0 0.0 9.6	0.0 32.3 45.8 15.5 28.4 0.0	-32.3 -45.8 -15.5 -28.4 9.6
36 37 38 39 40 41	765 kV	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	0 0 0 0 0 609	1553 2630 1227 837 0 1448	0.0 0.0 0.0 0.0 9.6 0.0	0.0 32.3 45.8 15.5 28.4 0.0 30.6	-32.3 -45.8 -15.5 -28.4 9.6 -30.6
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 D/C S/C S/C D/C	0 0 0 0 609 0	1553 2630 1227 837 0 1448 814	0.0 0.0 0.0 0.0 9.6 0.0	0.0 32.3 45.8 15.5 28.4 0.0 30.6 4.6	-32.3 -45.8 -15.5 -28.4 9.6 -30.6 -4.6
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 D/C D/C S/C S/C S/C S/C S/C	0 0 0 0 609 0 208	1553 2630 1227 837 0 1448 814 114	0.0 0.0 0.0 0.0 9.6 0.0 0.0	0.0 32.3 45.8 15.5 28.4 0.0 30.6 4.6 0.0	-32.3 -45.8 -15.5 -28.4 9.6 -30.6 -4.6 1.1
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 D/C S/C S/C D/C	0 0 0 0 609 0	1553 2630 1227 837 0 1448 814	0.0 0.0 0.0 0.0 9.6 0.0	0.0 32.3 45.8 15.5 28.4 0.0 30.6 4.6	-32.3 -45.8 -15.5 -28.4 9.6 -30.6 -4.6
36 37 38 39 40 41 42 43 44		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	0 0 0 0 609 0 208 175 230	1553 2630 1227 837 0 1448 814 114 276	0.0 0.0 0.0 0.0 9.6 0.0 0.0 1.1	0.0 32.3 45.8 15.5 28.4 0.0 30.6 4.6 0.0	-32.3 -45.8 -15.5 -28.4 9.6 -30.6 -4.6 1.1 -0.1
36 37 38 39 40 41 42 43 44 45		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 D/C D/C S/C S/C S/C S/C S/C S/C S/C S/C	0 0 0 0 609 0 208 175 230	1553 2630 1227 837 0 1448 814 114 276 0	0.0 0.0 0.0 0.0 9.6 0.0 0.0 1.1 0.0 21.4	0.0 32.3 45.8 15.5 28.4 0.0 30.6 4.6 0.0 0.1	-32.3 -45.8 -15.5 -28.4 9.6 -30.6 -4.6 1.1 -0.1 21.4
36 37 38 39 40 41 42 43 44 45	400 kV	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	0 0 0 0 609 0 208 175 230 972 304	1553 2630 1227 837 0 1448 814 114 276 0	0.0 0.0 0.0 0.0 9.6 0.0 0.0 1.1 0.0 21.4	0.0 32.3 45.8 15.5 28.4 0.0 30.6 4.6 0.0 0.1	-32.3 -45.8 -15.5 -28.4 9.6 -30.6 -4.6 1.1 -0.1 21.4
36 37 38 39 40 41 42 43 44 45 46 47		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 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 0 609 0 208 175 230 972 304	1553 2630 1227 837 0 1448 814 114 276 0 187 62	0.0 0.0 0.0 0.0 9.6 0.0 0.0 1.1 0.0 21.4 1	0.0 32.3 45.8 15.5 28.4 0.0 30.6 4.6 0.0 0.1 0.0	-32.3 -45.8 -15.5 -28.4 9.6 -30.6 -4.6 1.1 -0.1 21.4 1 0.8
36 37 38 39 40 41 42 43 44 45 46 47	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-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	0 0 0 0 609 0 208 175 230 972 304 46 42	1553 2630 1227 837 0 1448 814 114 276 0 187 62	0.0 0.0 0.0 0.0 9.6 0.0 0.0 1.1 0.0 21.4 1 0.9	0.0 32.3 45.8 15.5 28.4 0.0 30.6 4.6 0.0 0.1 0.0 0	-32.3 -45.8 -15.5 -28.4 9.6 -30.6 -4.6 1.1 -0.1 21.4 1 0.8 -0.4
36 37 38 39 40 41 42 43 44 45 46 47 48 49	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 D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 0 0 0 609 0 208 175 230 972 304 46 42	1553 2630 1227 837 0 1448 814 114 276 0 187 62 85 0 31	0.0 0.0 0.0 0.0 0.0 0.0 0.0 1.1 0.0 21.4 1 0.9 0.2 1.1 0.3 0.0	0.0 32.3 45.8 15.5 28.4 0.0 0.1 0.0 0.1 0.0 0.1 0.6 0.0 0.1	-32.3 -45.8 -15.5 -28.4 9.6 -30.6 -4.6 1.1 -0.1 21.4 1 0.8 -0.4 1.1 0.0
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51	- 400 kV - 220 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-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 0 609 0 208 175 230 972 304 46 42 106 63	1553 2630 1227 837 0 1448 814 114 276 0 187 62 85 0 31	0.0 0.0 0.0 0.0 9.6 0.0 0.0 1.1 0.0 21.4 1 0.9 0.2 1.1 0.3	0.0 32.3 45.8 15.5 28.4 0.0 30.6 4.6 0.0 0.1 0.0 0.1 0.6 0.0	-32.3 -45.8 -15.5 -28.4 9.6 -30.6 -4.6 1.1 -0.1 21.4 1 0.8 -0.4 1.1 0.2
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51	- 400 kV - 220 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-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	0 0 0 0 609 0 208 175 230 972 304 46 42 106 63 0	1553 2630 1227 837 0 1448 814 1114 276 0 187 62 85 0 31 0	0.0 0.0 0.0 0.0 9.6 0.0 0.0 1.1 0.0 21.4 1 0.9 0.2 1.1 0.3 0.0 44.0	0.0 32.3 45.8 15.5 28.4 0.0 30.6 4.6 0.0 0.1 0.0 0 0.1 0.6 0.0 0.1 0.0 195.5	-32.3 -45.8 -15.5 -28.4 9.6 -30.6 -4.6 1.1 -0.1 21.4 1 0.8 -0.4 1.1 0.2 0.0 -151.5
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51	- 400 kV - 220 kV	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	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 0 609 0 208 175 230 972 304 46 42 106 63 0	1553 2630 1227 837 0 1448 814 1114 276 0 187 62 85 0 WR-NR	0.0 0.0 0.0 0.0 9.6 0.0 0.0 1.1 0.0 21.4 1 0.9 0.2 1.1 0.3 0.0 44.0	0.0 32.3 45.8 15.5 28.4 0.0 30.6 4.6 0.0 0.1 0.0 0 0.1 0.6 0.0 0.1 0.0 195.5	-32.3 -45.8 -15.5 -28.4 -9.6 -30.6 -4.6 -1.1 -0.1 -21.4 -1 0.8 -0.4 -1.1 0.2 -0.0 -151.5
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51	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) 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	0 0 0 0 609 0 208 175 230 972 304 46 42 106 63 0	1553 2630 1227 837 0 1448 814 114 276 0 187 62 85 0 31 0 WR-NR	0.0 0.0 0.0 0.0 9.6 0.0 0.0 1.1 0.0 21.4 1 0.9 0.2 1.1 0.3 0.0 44.0	0.0 32.3 45.8 15.5 28.4 0.0 30.6 4.6 0.0 0.1 0.0 0 0.1 0.6 0.0 0.1 195.5	-32.3 -45.8 -15.5 -28.4 -9.6 -30.6 -4.6 -1.1 -0.1 21.4 1 0.8 -0.4 1.1 0.2 0.0 -151.5
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/E 52 53	400 kV 220 kV 132kV	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 D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 0 0 0 609 0 208 175 230 972 304 46 42 106 63 0	1553 2630 1227 837 0 1448 814 114 276 0 187 62 85 0 31 0 WR-NR	0.0 0.0 0.0 0.0 9.6 0.0 0.0 1.1 0.0 21.4 1 0.9 0.2 1.1 0.3 0.0 44.0	0.0 32.3 45.8 15.5 28.4 0.0 30.6 4.6 0.0 0.1 0.0 0.1 0.6 0.0 0.1 0.6 195.5	-32.3 -45.8 -15.5 -28.4 -9.6 -30.6 -4.6 -1.1 -0.1 -21.4 -1 -0.2 -0.0 -151.5
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/F 52 53 54	400 kV 220 kV 132kV Export of HVDC 765 kV	APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI GWALIOR-ORAI SATNA-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA - BHINMAL V'CHAL - RIHAND RAPP-SHUJALPUR BHANPURA-MORAK MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHADRUK-LSILERU 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 S/C S/C S/C S/C S/C S/C S/C S	0 0 0 0 0 609 0 208 175 230 972 304 46 42 106 63 0	1553 2630 1227 837 0 1448 814 114 276 0 187 62 85 0 31 0 WR-NR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 1.1 0.0 21.4 1 0.9 0.2 1.1 0.3 0.0 44.0	0.0 32.3 45.8 15.5 28.4 0.0 30.6 4.6 0.0 0.1 0.0 0.1 0.6 0.0 195.5	-32.3 -45.8 -15.5 -28.4 -9.6 -30.6 -4.6 -1.1 -0.1 -21.4 -1 -0.8 -0.4 -1.1 -0.2 -0.0 -151.5 -12.1 -0.0 -24.4 -45.0
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/E 52 53	- 400 kV - 220 kV - 132kV - 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 D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 0 0 0 609 0 208 175 230 972 304 46 42 106 63 0	1553 2630 1227 837 0 1448 814 114 276 0 187 62 85 0 31 0 WR-NR	0.0 0.0 0.0 0.0 9.6 0.0 0.0 1.1 0.0 21.4 1 0.9 0.2 1.1 0.3 0.0 44.0	0.0 32.3 45.8 15.5 28.4 0.0 30.6 4.6 0.0 0.1 0.0 0.1 0.6 0.0 0.1 0.6 195.5	-32.3 -45.8 -15.5 -28.4 -9.6 -30.6 -4.6 -1.1 -0.1 -21.4 -1 -0.2 -0.0 -151.5 -12.1 -0.0 -24.4
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/K 52 53 54	400 kV 220 kV 132kV Export of HVDC 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 BHANPURA-RANPUR BHANPURA-WANDUR 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 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 0 0 609 0 208 175 230 972 304 46 42 106 63 0	1553 2630 1227 837 0 1448 814 114 276 0 187 62 85 0 31 0 WR-NR 515 0 1967 2660 0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 1.1 0.0 21.4 1 0.9 0.2 1.1 0.3 0.0 44.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	0.0 32.3 45.8 15.5 28.4 0.0 30.6 4.6 0.0 0.1 0.0 0 0.1 0.6 0.0 195.5	-32.3 -45.8 -15.5 -28.4 -9.6 -30.6 -4.6 -1.1 -0.1 -21.4 -1 -0.2 -0.0 -151.5 -12.1 -0.0 -24.4 -45.0 -11.8
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/H 52 53 54 55	220 kV 132kV Export of HVDC 765 kV 400 kV	APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI GWALIOR-ORAI SATNA-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA - BHINMAL V'CHAL - RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR BHANPURA-RANPUR BHANPURA-WARAY MALANPUR-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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 0 0 0 0 0 0 208 175 230 972 304 46 42 106 63 0	1553 2630 1227 837 0 1448 814 114 276 0 187 62 85 0 31 0 WR-NR 515 0 1967 2660 0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 32.3 45.8 15.5 28.4 0.0 30.6 4.6 0.0 0.1 0.0 0 0.1 0.6 0.0 195.5	-32.3 -45.8 -15.5 -28.4 -9.6 -30.6 -4.6 -1.1 -0.1 -21.4 -1 0.8 -0.4 -1.1 0.2 -0.0 -151.5 -12.1 -0.0 -24.4 -45.0 -11.8 -0.0
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/F 52 53 54 55 56 57 58	220 kV 132kV Export of HVDC 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-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	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 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 0 609 0 208 175 230 972 304 46 42 106 63 0	1553 2630 1227 837 0 1448 814 114 276 0 187 62 85 0 31 0 WR-NR 515 0 1967 2660 0 0 74	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 32.3 45.8 15.5 28.4 0.0 30.6 4.6 0.0 0.1 0.0 0 0.1 0.0 195.5 12.1 0.0 24.4 45.0 0.0 0.1 32.3	-32.3 -45.8 -15.5 -28.4 -9.6 -30.6 -4.6 -1.1 -0.1 -21.4 -1 -0.8 -0.4 -1.1 -0.2 -0.0 -151.5 -12.1 -0.0 -24.4 -45.0 -11.8 -0.0 -1.3
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 (mport/F 52 53 54 55 56 57 58	220 kV 132kV Export of HVDC 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-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 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 S/C S/C S/C S/C S/C S/C S	0 0 0 0 609 0 208 175 230 972 304 46 42 106 63 0	1553 2630 1227 837 0 1448 814 114 276 0 187 62 85 0 31 0 WR-NR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 32.3 45.8 15.5 28.4 0.0 30.6 4.6 0.0 0.1 0.0 0 0.1 0.0 195.5 12.1 0.0 24.4 45.0 0.0 0.0 1.3 0.0	-32.3 -45.8 -15.5 -28.4 -9.6 -30.6 -4.6 -1.1 -0.1 -21.4 -1 -0.8 -0.4 -1.1 -0.2 -0.0 -151.5 -12.1 -0.0 -24.4 -45.0 -11.8 -0.0 -1.3 -1.5
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 51 52 53 54 55 55 56 57 58	220 kV 132kV Export of HVDC 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-WARIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHADRAWATI B/B BHANBAWATI B/B BHANBUR-AICHUR 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 S/C S/C S/C S/C S/C S/C S	0 0 0 0 609 0 208 175 230 972 304 46 42 106 63 0	1553 2630 1227 837 0 1448 814 114 276 0 187 62 85 0 31 0 WR-NR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 32.3 45.8 15.5 28.4 0.0 30.6 4.6 0.0 0.1 0.0 0 0.1 0.0 195.5 12.1 0.0 24.4 45.0 0.0 0.0 1.3 0.0	-32.3 -45.8 -15.5 -28.4 -9.6 -30.6 -4.6 -1.1 -0.1 -21.4 -1 0.8 -0.4 -1.1 0.2 -0.0 -151.5 -12.1 -0.0 -24.4 -45.0 -11.8 -0.0 -1.3 -1.5 -69.5
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 import/F 52 53 54 55 55	220 kV 132kV Export of HVDC 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-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 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 S/C S/C S/C S/C S/C S/C S	0 0 0 0 609 0 208 175 230 972 304 46 42 106 63 0	1553 2630 1227 837 0 1448 814 114 276 0 187 62 85 0 31 0 WR-NR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 32.3 45.8 15.5 28.4 0.0 30.6 4.6 0.0 0.1 0.0 0 0.1 0.0 195.5 12.1 0.0 24.4 45.0 0.0 0.0 1.3 0.0	-32.3 -45.8 -15.5 -28.4 -9.6 -30.6 -4.6 -1.1 -0.1 -21.4 -1 -0.8 -0.4 -1.1 -0.2 -0.0 -151.5 -12.1 -0.0 -24.4 -45.0 -11.8 -0.0 -1.3 -1.5