

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)
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बी-9, कृतुब इन्स्टीट्यूशनल एरिया, कटवारिया सराये, न्यू दिल्ली-110016

Ref: POSOCO/NLDC/SO/Daily PSP Report

दिनांक: 13th Jan 2020

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 12.01.2020.

महोदय/Dear Sir,

आई॰ई॰जी॰सी॰-2010 की धारा स.-5.5.1 के प्रावधान के अनुसार, दिनांक 12-जनवरी-2020 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 12th Jan 2020, is available at the NLDC website.

धन्यवाद,

Report for previous day Date of Reporting 13-Jan-20

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)	45280	46041	37054	17673	2358	148406
Peak Shortage (MW)	576	0	0	0	40	616
Energy Met (MU)	932	1114	937	341	40	3364
Hydro Gen (MU)	109	40	65	34	7	256
Wind Gen (MU)	20	22	41			82
Solar Gen (MU)*	22.98	21.90	90.81	1.47	0.03	137
Energy Shortage (MU)	11.2	0.1	0.0	0.0	1.0	12.3
Maximum Demand Met during the day (MW) & time	47925	54647	42406	18082	2388	161089
(from NLDC SCADA)	09:28	11:03	09:32	18:46	17:30	09:31

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	0.033	0.00	0.21	4.85	5.06	79.24	15.71

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	5449	0	103.6	54.7	-0.7	121	0.0
	Haryana	5763	0	114.1	74.6	0.3	202	0.0
	Rajasthan	13669	0	240.4	76.6	-0.3	585	0.0
	Delhi	4262	0	69.3	54.4	-1.2	258	0.0
NR	UP	16071	0	288.0	108.3	-2.2	682	0.0
	Uttarakhand	1999	0	37.2	21.1	0.0	67	0.0
	HP	1595	0	28.4	22.6	-0.7	192	0.0
	J&K(UT) and Ladakh(UT)	2370	593	47.6	43.5	-1.3	146	11.2
	Chandigarh	243	0	4.0	3.9	0.2	49	0.0
	Chhattisgarh	3439	0	74.7	23.4	-1.1	305	0.0
	Gujarat	15923	0	326.9	110.9	5.6	677	0.0
	MP	13741	0	243.1	128.9	-1.5	585	0.0
WR	Maharashtra	21173	0	425.1	139.9	-1.3	419	0.0
WK	Goa	430	0	12.2	8.9	2.8	93	0.1
	DD	298	0	6.9	6.3	0.6	46	0.0
	DNH	803	0	18.8	18.7	0.1	45	0.0
	Essar steel	307	0	5.8	5.9	-0.1	209	0.0
	Andhra Pradesh	8624	0	170.8	67.0	-0.5	455	0.0
	Telangana	10432	0	210.1	100.3	0.6	362	0.0
SR	Karnataka	11295	0	207.3	54.4	-1.2	518	0.0
JK.	Kerala	3191	0	63.2	51.6	1.5	213	0.0
	Tamil Nadu	13063	0	279.3	141.5	-0.6	600	0.0
	Pondy	324	0	6.7	6.9	-0.2	31	0.0
	Bihar	4505	0	82.1	80.2	0.4	150	0.0
	DVC	3094	0	64.7	-30.1	-0.1	200	0.0
ER	Jharkhand	1297	0	24.0	16.3	-1.3	50	0.0
LIN	Odisha	3560	0	65.0	3.3	0.3	200	0.0
	West Bengal	5762	0	103.3	16.6	0.3	350	0.0
	Sikkim	119	0	1.7	1.6	0.0	30	0.0
	Arunachal Pradesh	126	2	2.3	1.9	0.3	50	0.0
	Assam	1303	27	21.6	19.5	-0.4	103	0.8
	Manipur	208	1	2.6	3.1	-0.5	26	0.0
NER	Meghalaya	390	0	6.4	3.3	0.7	72	0.2
	Mizoram	105	1	1.5	1.5	-0.2	27	0.0
	Nagaland	127	1	2.3	2.2	-0.1	19	0.0
	Tripura	217	0	3.5	2.1	-0.4	33	0.0

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

	Bhutan	Nepal	Bangladesh
Actual(MU)	5.3	-10.3	-9.8
Day peak (MW)	569.7	-508.0	-763.0

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

	NR	WR	SR	ER	NER	TOTAL
Schedule(MU)	209.8	-214.0	90.8	-91.2	3.9	-0.6
Actual(MU)	202.5	-202,2	84.8	-89.0	3.5	-0.4
O/D/U/D(MU)	-7.3	11.8	-6.0	2.2	-0.5	0.2

F. Generation Outage(MW)

	NR	WR	SR	ER	NER	Total
Central Sector	4794	17375	6452	1960	563	31144
State Sector	10605	17216	7060	5550	11	40442
Total	15399	34590	13512	7510	575	71586

G. Sourcewise generation (MU)

	NR	WR	SR	ER	NER	All India
Coal	496	1162	513	425	11	2607
Lignite	16	13	45	0	0	74
Hydro	109	40	65	34	7	256
Nuclear	29	25	38	0	0	92
Gas, Naptha & Diesel	29	33	18	0	23	103
RES (Wind, Solar, Biomass & Others)	71	50	179	2	0	301
Total	750	1323	858	461	42	3433

Share of RES in total generation (%)	9.44	3.80	20.82	0.33	0.07	8.77
Share of Non-fossil fuel (Hydro, Nuclear and RES) in total generation (%)	27.87	8.72	32.86	7.75	16.90	18.90

H. All India Demand Diversity Factor

Based on Regional Max Demands	1.027	
Based on State Max Demands	1.088	

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.}$

ı		<u>IN'</u>	TER-REGI	ONAL EXCH	ANGES	Date of 1	Reporting :	13-Jan-20
								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	299	0.0	7.3	0.0 -7.3
1		GAYA-VARANASI	D/C	0	1166	0.0	15.8	-15.8
2	765kV	SASARAM-FATEHPUR	S/C	3	431	0.0	4.5	-4.5
3		GAYA-BALIA	S/C	0	0	0.0	0.0	0.0
6 7	_	PUSAULI-VARANASI PUSAULI -ALLAHABAD	S/C S/C	0	217 148	0.0	2.7	-4.6 -2.7
8		MUZAFFARPUR-GORAKHPUR	D/C	0	837	0.0	9.7	-9.7
9	400 kV	PATNA-BALIA	Q/C	0	1019	0.0	15.8	-15.8
10		BIHARSHARIFF-BALIA	D/C	0	491	0.0	6.2	-6.2
11		MOTIHARI-GORAKHPUR	D/C	0	3	0.0	0.0	0.0
12	220 kV	BIHARSHARIFF-VARANASI PUSAULI-SAHUPURI	D/C S/C	63	313 146	0.0	2.3	-2.3 -2.6
14	220 11 1	SONE NAGAR-RIHAND	S/C	0	0	0.0	0.0	0.0
15	132 kV	GARWAH-RIHAND	S/C	30	0	0.7	0.0	0.7
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	0.7	64.2	-63.5
_	Aport Ol		0/0	CEO.	4.47	0.7	0.0	0.7
18	765 kV	JHARSUGUDA-DHARAMJAIGARH	Q/C	653	447	0.7	0.0	0.7
19 20	1	NEW RANCHI-DHARAMJAIGARH JHARSUGUDA-DURG	D/C D/C	370 0	332 478	0.3	7.2	0.3 -7.2
21	400 kV	JHARSUGUDA-RAIGARH	Q/C	56	443	0.0	4.1	-4.1
22	-100 KV	RANCHI-SIPAT	D/C	144	137	0.7	0.0	0.7
23	220 kV	BUDHIPADAR-RAIGARH	S/C	0	126	0.0	1.8	-1.8
24		BUDHIPADAR-KORBA	D/C	152	8 ER-WR	1.5 3.2	0.0 13.0	1.5 -9.8
Import/E	Export of	ER (With SR)			ER-WK	3.2	13.0	-9.8
26		JEYPORE-GAZUWAKA B/B	D/C	0.0	694.0	0.0	16.2	-16.2
27	HVDC	TALCHER-KOLAR BIPOLE	D/C	18.0	989.0	0.0	2.1	-2.1
25	765 kV	ANGUL-SRIKAKULAM	D/C	0.0	2025.0	0.0	39.1	-39.1
28	400 kV	TALCHER-I/C	D/C	1609.0	0.0	33.7	0.0	33.7
29	220 kV	BALIMELA-UPPER-SILERRU	S/C	1.0	0.0 ER-SR	0.0	0.0 57.3	0.0 -57.3
Import/E	Export of	ER (With NER)			DA DA	0.0	5715	-57.5
30	400 kV	BINAGURI-BONGAIGAON	D/C	185	92	2.5	0.0	2
31	400 K V	ALIPURDUAR-BONGAIGAON	D/C	224	73	2.9	0.0	3
32	220 kV	ALIPURDUAR-SALAKATI	D/C	44	21	0.4	0.0	0
Import/F	Export of	NER (With NR)			ER-NER	5.7	0.0	5.7
33	HVDC	BISWANATH CHARIALI-AGRA	-	472	0	10.4	0.0	10.4
	1							
Import/F					NER-NR	10.4	0.0	10.4
poru E	Export of	WR (With NR)			NER-NR	10.4	0.0	10.4
34		CHAMPA-KURUKSHETRA	D/C	0	1853	0.0	29.4	-29.4
34 35	Export of HVDC	CHAMPA-KURUKSHETRA V'CHAL B/B	D/C	449	1853	0.0 8.4	29.4 0.0	-29.4 8.4
34 35 36		CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG	D/C D/C	449	1853 0 1921	0.0 8.4 0.0	29.4 0.0 34.7	-29.4 8.4 -34.7
34 35		CHAMPA-KURUKSHETRA V'CHAL B/B	D/C	449	1853	0.0 8.4	29.4 0.0	-29.4 8.4
34 35 36 37	HVDC	CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG GWALIOR-AGRA	D/C D/C D/C	0 0	1853 0 1921 2424	0.0 8.4 0.0 0.0	29.4 0.0 34.7 42.0	-29.4 8.4 -34.7 -42.0
34 35 36 37 38 39 40		CHAMPA-KURUKSHETRA 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	0 0 0 0 0 0 888	1853 0 1921 2424 1857 955 0	0.0 8.4 0.0 0.0 0.0 0.0 0.0	29.4 0.0 34.7 42.0 23.5 33.1 0.0	-29.4 8.4 -34.7 -42.0 -23.5 -33.1 14.0
34 35 36 37 38 39 40 41	HVDC	CHAMPA-KURUKSHETRA 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	449 0 0 0 0 0 0 888	1853 0 1921 2424 1857 955 0 1428	0.0 8.4 0.0 0.0 0.0 0.0 0.0 14.0	29.4 0.0 34.7 42.0 23.5 33.1 0.0 28.2	-29.4 8.4 -34.7 -42.0 -23.5 -33.1 14.0 -28.2
34 35 36 37 38 39 40 41 42	HVDC	CHAMPA-KURUKSHETRA VCHAL 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	449 0 0 0 0 0 888 0 264	1853 0 1921 2424 1857 955 0 1428 641	0.0 8.4 0.0 0.0 0.0 0.0 14.0 0.0	29.4 0.0 34.7 42.0 23.5 33.1 0.0 28.2 4.4	-29.4 8.4 -34.7 -42.0 -23.5 -33.1 14.0 -28.2 -3.8
34 35 36 37 38 39 40 41 42 43	HVDC - 765 kV	CHAMPA-KURUKSHETRA V'CHAL B/B 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	449 0 0 0 0 0 888 0 264 207	1853 0 1921 2424 1857 955 0 1428 641 52	0.0 8.4 0.0 0.0 0.0 0.0 14.0 0.0 0.6 1.3	29.4 0.0 34.7 42.0 23.5 33.1 0.0 28.2 4.4 0.0	-29.4 8.4 -34.7 -42.0 -23.5 -33.1 14.0 -28.2 -3.8 1.3
34 35 36 37 38 39 40 41 42	HVDC	CHAMPA-KURUKSHETRA VCHAL 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	449 0 0 0 0 0 888 0 264	1853 0 1921 2424 1857 955 0 1428 641	0.0 8.4 0.0 0.0 0.0 0.0 14.0 0.0	29.4 0.0 34.7 42.0 23.5 33.1 0.0 28.2 4.4	-29.4 8.4 -34.7 -42.0 -23.5 -33.1 14.0 -28.2 -3.8
34 35 36 37 38 39 40 41 42 43	HVDC - 765 kV	CHAMPA-KURUKSHETRA V'CHAL B/B 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	449 0 0 0 0 888 0 264 207 305	1853 0 1921 2424 1857 955 0 1428 641 52 172	0.0 8.4 0.0 0.0 0.0 0.0 14.0 0.0 0.6 1.3	29.4 0.0 34.7 42.0 23.5 33.1 0.0 28.2 4.4 0.0 0.7	-29.4 8.4 -34.7 -42.0 -23.5 -33.1 14.0 -28.2 -3.8 1.3 -0.7
34 35 36 37 38 39 40 41 42 43 44 45	HVDC - 765 kV	CHAMPA-KURUKSHETRA VCHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI 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	449 0 0 0 0 0 888 0 264 207 305 973 203 30	1853 0 1921 2424 1857 955 0 1428 641 52 172 0 349 77	0.0 8.4 0.0 0.0 0.0 14.0 0.0 0.6 1.3 0.0 22.6 0	29.4 0.0 34.7 42.0 23.5 33.1 0.0 28.2 4.4 0.0 0.7 0.0 1	-29.4 8.4 -34.7 -42.0 -23.5 -33.1 14.0 -28.2 -3.8 1.3 -0.7 22.6 -1 0.4
34 35 36 37 38 39 40 41 42 43 44 45 46 47	HVDC - 765 kV	CHAMPA-KURUKSHETRA 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	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	449 0 0 0 0 0 888 0 264 207 305 973 203 30 36	1853 0 1921 2424 1857 955 0 1428 641 52 172 0 349 77 108	0.0 8.4 0.0 0.0 0.0 0.0 14.0 0.6 1.3 0.0 22.6 0	29.4 0.0 34.7 42.0 23.5 33.1 0.0 28.2 4.4 0.0 0.7 0.0 1 0.2 0.9	-29.4 8.4 -34.7 -42.0 -23.5 -33.1 14.0 -28.2 -3.8 1.3 -0.7 22.6 -1 0.4 -0.8
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48	HVDC - 765 kV - 400 kV	CHAMPA-KURUKSHETRA 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	449 0 0 0 0 0 888 0 264 207 305 973 203 30 36	1853 0 1921 2424 1857 955 0 1428 641 52 172 0 349 77 108	0.0 8.4 0.0 0.0 0.0 0.0 14.0 0.6 1.3 0.0 22.6 0 0.6 0.1	29.4 0.0 34.7 42.0 23.5 33.1 0.0 28.2 4.4 0.0 0.7 0.0 1 0.2 0.9 0.0	-29.4 8.4 -34.7 -42.0 -23.5 -33.1 14.0 -28.2 -3.8 1.3 -0.7 22.6 -1 0.4 -0.8 1.5
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50	HVDC 765 kV 400 kV 220 kV	CHAMPA-KURUKSHETRA V'CHAL B/B 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	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	449 0 0 0 0 0 888 0 264 207 305 973 203 30 36 100 49	1853 0 1921 2424 1857 955 0 1428 641 52 172 0 349 77 108 0 18	0.0 8.4 0.0 0.0 0.0 0.0 14.0 0.0 0.6 1.3 0.0 22.6 0 0.6 0.1 1.5	29.4 0.0 34.7 42.0 23.5 33.1 0.0 28.2 4.4 0.0 0.7 0.0 1 0.2 0.9 0.0	-29.4 8.4 -34.7 -42.0 -23.5 -33.1 14.0 -28.2 -3.8 1.3 -0.7 -22.6 -1 0.4 -0.8 1.5 0.4
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48	HVDC - 765 kV - 400 kV	CHAMPA-KURUKSHETRA 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	449 0 0 0 0 0 888 0 264 207 305 973 203 30 36	1853 0 1921 2424 1857 955 0 1428 641 52 172 0 349 77 108	0.0 8.4 0.0 0.0 0.0 0.0 14.0 0.6 1.3 0.0 22.6 0 0.6 0.1	29.4 0.0 34.7 42.0 23.5 33.1 0.0 28.2 4.4 0.0 0.7 0.0 1 0.2 0.9 0.0 0.0 0.0	-29.4 8.4 -34.7 -42.0 -23.5 -33.1 14.0 -28.2 -3.8 1.3 -0.7 22.6 -1 0.4 -0.8 1.5
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51	HVDC 765 kV 400 kV 220 kV	CHAMPA-KURUKSHETRA V'CHAL B/B 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	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	449 0 0 0 0 0 888 0 264 207 305 973 203 30 36 100 49	1853 0 1921 2424 1857 955 0 1428 641 52 172 0 349 77 108 0	0.0 8.4 0.0 0.0 0.0 0.0 14.0 0.6 1.3 0.0 22.6 0 0.6 0.1 1.5 0.5	29.4 0.0 34.7 42.0 23.5 33.1 0.0 28.2 4.4 0.0 0.7 0.0 1 0.2 0.9 0.0	-29.4 8.4 -34.7 -42.0 -23.5 -33.1 14.0 -28.2 -3.8 1.3 -0.7 22.6 -1 0.4 -0.8 1.5 0.4 0.0
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/E 52	HVDC - 765 kV - 400 kV - 220 kV - 132kV	CHAMPA-KURUKSHETRA 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-JURAIYA 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	449 0 0 0 0 0 888 0 264 207 305 973 203 30 36 100 49 0	1853 0 1921 2424 1857 955 0 1428 641 52 172 0 349 77 108 0	0.0 8.4 0.0 0.0 0.0 0.0 14.0 0.6 1.3 0.0 22.6 0 0.6 0.1 1.5 0.5	29.4 0.0 34.7 42.0 23.5 33.1 0.0 28.2 4.4 0.0 0.7 0.0 1 0.2 0.9 0.0 0.0 0.0	-29.4 8.4 -34.7 -42.0 -23.5 -33.1 14.0 -28.2 -3.8 1.3 -0.7 22.6 -1 0.4 -0.8 1.5 0.4 0.0
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/E 52 53	HVDC 765 kV 400 kV 220 kV	CHAMPA-KURUKSHETRA 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-RANPUR BHANPURA-WAIYA MALANPUR-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	449 0 0 0 0 0 888 0 264 207 305 973 203 30 49 0	1853 0 1921 2424 1857 955 0 1428 641 52 172 0 349 77 108 0 18 0 WR-NR	0.0 8.4 0.0 0.0 0.0 0.0 14.0 0.0 0.6 1.3 0.0 22.6 0 0.6 0.1 1.5 0.5 0.0 49.5	29.4 0.0 34.7 42.0 23.5 33.1 0.0 28.2 4.4 0.0 0.7 0.0 1 0.2 0.9 0.0 0.0 1 0.0 0.0 0.0 0.0 0.0	-29.4 8.4 -34.7 -42.0 -23.5 -33.1 14.0 -28.2 -3.8 1.3 -0.7 22.6 -1 0.4 -0.8 1.5 0.4 0.0 -148.3
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/E 52 53 54	HVDC - 765 kV - 400 kV - 220 kV - 132kV	CHAMPA-KURUKSHETRA 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 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 D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	449 0 0 0 0 0 888 0 264 207 305 973 203 30 49 0	1853 0 1921 2424 1857 955 0 1428 641 52 172 0 349 77 108 0 18 0 WR-NR	0.0 8.4 0.0 0.0 0.0 0.0 14.0 0.0 0.6 1.3 0.0 22.6 0 0.6 0.1 1.5 0.5 0.0 49.5	29.4 0.0 34.7 42.0 23.5 33.1 0.0 28.2 4.4 0.0 0.7 0.0 1 0.2 0.9 0.0 0.0 0.0 1 0.0 23.5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	-29.4 8.4 -34.7 -42.0 -23.5 -33.1 14.0 -28.2 -3.8 1.3 -0.7 22.6 -1 0.4 -0.8 1.5 0.4 0.0 -148.3
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/E 52 53 54 55	HVDC - 765 kV - 400 kV - 220 kV - 132kV - Export of HVDC - 765 kV	CHAMPA-KURUKSHETRA VCHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-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	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	449 0 0 0 0 0 888 0 264 207 305 973 203 30 49 0	1853 0 1921 2424 1857 955 0 1428 641 52 172 0 349 77 108 0 18 0 WR-NR	0.0 8.4 0.0 0.0 0.0 0.0 14.0 0.0 0.6 1.3 0.0 22.6 0 0.6 0.1 1.5 0.5 0.0 49.5	29.4 0.0 34.7 42.0 23.5 33.1 0.0 28.2 4.4 0.0 0.7 0.0 1 0.2 0.9 0.0 0.0 0.0 1 0.0 23.5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	-29.4 8.4 -34.7 -42.0 -23.5 -33.1 14.0 -28.2 -3.8 1.3 -0.7 22.6 -1 0.4 -0.8 1.5 0.4 0.0 -148.3
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/E 52 53 54	HVDC - 765 kV - 400 kV - 220 kV - 132kV Export of - HVDC	CHAMPA-KURUKSHETRA V'CHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-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) BHASURL-LSILERU 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	449 0 0 0 0 0 888 0 264 207 305 973 203 30 49 0	1853 0 1921 2424 1857 955 0 1428 641 52 172 0 349 77 108 0 18 0 WR-NR	0.0 8.4 0.0 0.0 0.0 0.0 14.0 0.0 0.6 1.3 0.0 22.6 0 0.6 0.1 1.5 0.5 0.0 49.5	29.4 0.0 34.7 42.0 23.5 33.1 0.0 28.2 4.4 0.0 0.7 0.0 1 0.2 0.9 0.0 0.0 0.0 1 0.0 23.5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	-29.4 8.4 -34.7 -42.0 -23.5 -33.1 14.0 -28.2 -3.8 1.3 -0.7 22.6 -1 0.4 -0.8 1.5 0.4 0.0 -148.3
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/E 52 53 54 55 56	HVDC - 765 kV - 400 kV - 220 kV - 132kV - Export of HVDC - 765 kV	CHAMPA-KURUKSHETRA VCHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-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	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 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	449 0 0 0 0 888 0 264 207 305 973 203 30 36 100 49 0	1853 0 1921 2424 1857 955 0 1428 641 52 172 0 349 77 108 0 WR-NR 1002 0 1785 1859 0	0.0 8.4 0.0 0.0 0.0 0.0 14.0 0.0 0.6 1.3 0.0 22.6 0 0.6 0.1 1.5 0.5 0.0 49.5	29.4 0.0 34.7 42.0 23.5 33.1 0.0 28.2 4.4 0.0 0.7 0.0 1 0.2 0.9 0.0 0.0 197.8 23.5 0.0 23.5 0.0	-29.4 8.4 -34.7 -42.0 -23.5 -33.1 14.0 -28.2 -3.8 1.3 -0.7 22.6 -1 0.4 -0.8 1.5 0.4 0.0 -148.3 -23.5 0.0 -22.5 -28.9 10.4
34 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	HVDC - 765 kV - 400 kV - 220 kV - 132kV - Export of - HVDC - 765 kV - 400 kV	CHAMPA-KURUKSHETRA 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 BHASWATI B/B BH	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 D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	449 0 0 0 0 0 8888 0 264 207 305 973 203 36 100 49 0 0 0 846 0	1853 0 1921 2424 1857 955 0 1428 641 52 172 0 349 77 108 0 18 0 WR-NR	0.0 8.4 0.0 0.0 0.0 0.0 0.0 14.0 0.0 0.6 1.3 0.0 22.6 0 0.6 0.1 1.5 0.5 0.0 49.5	29.4 0.0 34.7 42.0 23.5 33.1 0.0 28.2 4.4 0.0 0.7 0.0 1 0.2 0.9 0.0 0.0 0.0 197.8 23.5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	-29.4 8.4 -34.7 -42.0 -23.5 -33.1 14.0 -28.2 -3.8 1.3 -0.7 22.6 -1 0.4 -0.8 1.5 0.4 -0.0 -148.3 -23.5 -23.5 -28.9 10.4 -0.0
34 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 58	HVDC - 765 kV - 400 kV - 220 kV - 132kV - Export of - HVDC - 765 kV - 400 kV	CHAMPA-KURUKSHETRA 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 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 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 D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	449 0 0 0 0 0 888 0 264 207 305 973 203 30 49 0 0 0 846 0 1	1853 0 1921 2424 1857 955 0 1428 641 52 172 0 349 77 108 0 18 0 WR-NR	0.0 8.4 0.0 0.0 0.0 14.0 0.0 14.0 0.0 0.6 1.3 0.0 22.6 0 0.6 0.1 1.5 0.5 0.0 49.5	29.4 0.0 34.7 42.0 23.5 33.1 0.0 28.2 4.4 0.0 0.7 0.0 1 0.2 0.9 0.0 0.0 1 97.8 23.5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	-29.4 8.4 -34.7 -42.0 -23.5 -33.1 14.0 -28.2 -3.8 1.3 -0.7 22.6 -1 0.4 -0.8 1.5 0.4 0.0 -148.3 -23.5 0.0 -22.5 -28.9 10.4 0.0 0.0
34 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 58	HVDC - 765 kV - 400 kV - 220 kV - 132kV - Export of - HVDC - 765 kV - 400 kV	CHAMPA-KURUKSHETRA 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-RANPUR BHANPURA-WARIAYA 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 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	449 0 0 0 0 0 888 0 264 207 305 973 203 30 49 0 0 0 846 0 1	1853 0 1921 2424 1887 955 0 1428 641 52 172 0 349 77 108 0 18 0 WR-NR	0.0 8.4 0.0 0.0 0.0 0.0 14.0 0.0 0.6 1.3 0.0 22.6 0 0.6 0.1 1.5 0.5 0.0 49.5	29.4 0.0 34.7 42.0 23.5 33.1 0.0 28.2 4.4 0.0 0.7 0.0 1 0.2 0.9 0.0 0.0 0.0 1 23.5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	-29.4 8.4 -34.7 -42.0 -23.5 -33.1 14.0 -28.2 -3.8 1.3 -0.7 22.6 -1 0.4 -0.8 1.5 0.4 0.0 -148.3 -23.5 0.0 -22.5 -28.9 10.4 0.0 0.0 1.6
34 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 58	HVDC - 765 kV - 400 kV - 220 kV - 132kV - Export of - HVDC - 765 kV - 400 kV	CHAMPA-KURUKSHETRA 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-RANPUR BHANPURA-WARIAYA 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 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	449 0 0 0 0 0 0 888 0 0 264 207 305 973 203 30 36 100 49 0 0 506 0 846 0 1	1853 0 1921 2424 1887 955 0 1428 641 52 172 0 349 77 108 0 18 0 WR-NR	0.0 8.4 0.0 0.0 0.0 0.0 14.0 0.0 0.6 1.3 0.0 22.6 0 0.6 0.1 1.5 0.5 0.0 49.5	29.4 0.0 34.7 42.0 23.5 33.1 0.0 28.2 4.4 0.0 0.7 0.0 1 0.2 0.9 0.0 0.0 0.0 1 23.5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	-29.4 8.4 -34.7 -42.0 -23.5 -33.1 14.0 -28.2 -3.8 1.3 -0.7 22.6 -1 0.4 -0.8 1.5 0.4 0.0 -148.3 -23.5 0.0 -22.5 -28.9 10.4 0.0 0.0 1.6