

## 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: 02<sup>nd</sup> Jan 2020

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.,29 , रेस कोर्स क्रॉस रोड, बंगलुरु -560009 Executive Director, SRLDC, 29, Race Course Cross Road, Bangalore-560009

Sub: Daily PSP Report for the date 01.01.2020.

महोदय/Dear Sir,

आई॰ई॰जी॰सी॰-2010 की धारा स.-5.5.1 के प्रावधान के अनुसार, दिनांक 1-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 1<sup>st</sup> Jan 2020, is available at the NLDC website.

धन्यवाद,

Report for previous day Date of Reporting 2-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)	49037	43684	36574	18054	2286	149635
Peak Shortage (MW)	698	0	0	0	35	733
Energy Met (MU)	1017	1052	922	349	40	3380
Hydro Gen (MU)	117	35	87	32	8	280
Wind Gen (MU)	31	56	36			123
Solar Gen (MU)*	21.81	15.70	72.66	1.14	0.03	111
Energy Shortage (MU)	12.6	0.0	0.0	0.0	0.5	13.0
Maximum Demand Met during the day (MW) & time	51661	51854	45046	18090	2358	165213
(from NLDC SCADA)	09:58	11:02	09:40	18:32	18:03	10:29

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	0.043	0.00	0.17	6.18	6.35	68.11	25.53

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	6057	0	118.8	63.2	-1.3	164	0.0
	Haryana	6453	0	128.2	73.6	0.1	261	0.0
	Rajasthan	13711	0	239.8	62.1	-1.2	561	0.0
	Delhi	5210	0	83.5	71.9	0.4	369	0.0
NR	UP	16987	0	320.7	149.6	0.1	756	0.0
	Uttarakhand	2114	0	38.1	24.0	-0.2	143	0.0
	HP	1722	0	30.1	23.0	0.3	248	0.0
	J&K(UT) and Ladakh(UT)	2792	698	53.2	46.5	1.4	354	12.6
	Chandigarh	293	0	4.8	4.7	0.1	43	0.0
	Chhattisgarh	3509	0	74.8	26.1	-2.2	181	0.0
	Gujarat	14523	0	301.9	58.0	-5.1	651	0.0
	MP	13575	0	239.3	113.6	-3.0	325	0.0
WR	Maharashtra	19706	0	395.8	123.4	-0.7	556	0.0
WK	Goa	476	0	12.6	9.7	2.3	34	0.0
	DD	263	0	5.8	5.6	0.2	31	0.0
	DNH	728	0	16.7	16.8	-0.1	27	0.0
	Essar steel	277	0	5.5	5.3	0.2	234	0.0
	Andhra Pradesh	8657	0	165.2	61.6	-0.6	366	0.0
	Telangana	10253	0	201.2	100.0	-1.5	646	0.0
SR	Karnataka	11590	0	205.3	55.4	0.3	639	0.0
JK.	Kerala	3560	0	73.4	56.2	1.2	187	0.0
	Tamil Nadu	11770	0	270.3	160.1	-0.4	439	0.0
	Pondy	317	0	6.4	6.9	-0.5	17	0.0
	Bihar	4424	0	82.9	81.6	0.1	470	0.0
	DVC	3060	0	64.6	-30.7	-0.2	270	0.0
ER	Jharkhand	1281	0	26.3	17.4	-0.5	120	0.0
LIX	Odisha	3620	0	66.3	1.7	0.7	320	0.0
	West Bengal	6009	0	106.8	24.2	1.5	240	0.0
	Sikkim	120	0	1.7	1.7	0.1	35	0.0
	Arunachal Pradesh	117	2	2,2	1.8	0.3	29	0.0
	Assam	1264	16	21.7	17.4	0.2	105	0.4
	Manipur	193	3	2.4	3.0	-0.6	23	0.0
NER	Meghalaya	379	0	6.3	3.2	0.4	69	0.0
	Mizoram	98	1	1.7	1.5	-0.3	9	0.0
	Nagaland	121	2	2.2	2.2	-0.2	33	0.0
	Tripura	220	0	3.5	1.5	-0.4	29	0.0

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

	,		
	Bhutan	Nepal	Bangladesh
Actual(MU)	4.6	-7.4	-9.4
Day peak (MW)	523.2	-518.5	-612.0

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

	NR	WR	SR	ER	NER	TOTAL
Schedule(MU)	253.7	-288.1	115.9	-79.6	-1.3	0.5
Actual(MU)	258.8	-324.1	140.6	-74.5	0.1	0.9
O/D/U/D(MU)	5.2	-36.0	24.7	5.2	1.4	0.4

F. Generation Outage(MW)

	NR	WR	SR	ER	NER	Total
Central Sector	4473	14493	7752	2310	597	29624
State Sector	13714	15182	9160	5040	11	43107
Total	18187	29674	16912	7350	608	72731

G. Sourcewise generation (MU)

	NR	WR	SR	ER	NER	All India
Coal	503	1193	449	415	12	2571
Lignite	18	13	46	0	0	78
Hydro	117	35	87	32	8	280
Nuclear	29	37	44	0	0	110
Gas, Naptha & Diesel	27	38	17	0	24	106
RES (Wind, Solar, Biomass & Others)	82	86	151	1	0	320
Total	775	1402	794	449	44	3464

Share of RES in total generation (%)	10.54	6.12	19.06	0.26	0.07	9.24
Share of Non-fossil fuel (Hydro, Nuclear and RES) in	29.41	11.26	35.50	7.44	19.12	20.48

H. All India Demand Diversity Factor

Based on Regional Max Demands	1.023	
Based on State Max Demands	1.062	

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

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

		IN	TER-REGI	ONAL EXCH	ANGES	Date of l	Reporting :	2-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	3	151 297	0.0	1.7 6.6	-1.7 -6.6
1		GAYA-VARANASI	D/C	0	886	0.0	8.6	-8.6
2	765kV	SASARAM-FATEHPUR	S/C	126	380	0.0	3.4	-3.4
3		GAYA-BALIA	S/C	0	513	0.0	7.9	-7.9
6 7	_	PUSAULI-VARANASI PUSAULI -ALLAHABAD	S/C S/C	31	250 173	0.0	4.2 2.2	-4.2 -2.2
8		MUZAFFARPUR-GORAKHPUR	D/C	126	895	0.0	7.3	-7.3
9	400 kV	PATNA-BALIA	Q/C	0	858	0.0	13.3	-13.3
10		BIHARSHARIFF-BALIA	D/C	14	531	0.0	5.5	-5.5
11		MOTIHARI-GORAKHPUR	D/C	0	4	0.0	0.0	0.0
12	220 kV	BIHARSHARIFF-VARANASI PUSAULI-SAHUPURI	D/C S/C	189	385 114	0.0	1.9	-1.9 -1.0
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	0.6	0.0	0.6
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	0.6	55.3	-54.8
_	Aport Ol		0/0	1705	70	10.6	0.0	10.6
18	765 kV	JHARSUGUDA-DHARAMJAIGARH	Q/C	1705	72	18.6	0.0	18.6
19 20	1	NEW RANCHI-DHARAMJAIGARH JHARSUGUDA-DURG	D/C D/C	950 252	0 48	10.3 1.5	0.0	10.3
21	400 kV	JHARSUGUDA-RAIGARH	Q/C	345	45	3.2	0.0	3.2
22	400 KV	RANCHI-SIPAT	D/C	374	0	3.1	0.0	3.1
23	220 kV	BUDHIPADAR-RAIGARH	S/C	0	82	0.0	1.1	-1.1
24		BUDHIPADAR-KORBA	D/C	198	0 ER-WR	3.5 <b>40.2</b>	0.0	3.5 39.1
Import/E	Export of	ER (With SR)			ER-WK	40.2	1.1	39.1
26		JEYPORE-GAZUWAKA B/B	D/C	0.0	664.0	0.0	16.1	-16.1
27	HVDC	TALCHER-KOLAR BIPOLE	D/C	0.0	2467.0	0.0	48.7	-48.7
25	765 kV	ANGUL-SRIKAKULAM	D/C	0.0	2016.0	0.0	35.2	-35.2
28	400 kV	TALCHER-I/C	D/C	403.0	992.0	0.0	10.7	-10.7
29	220 kV	BALIMELA-UPPER-SILERRU	S/C	1.0	0.0 ER-SR	0.0	0.0 <b>99.9</b>	0.0 -99.9
Import/E	Export of	ER (With NER)			DA DA	0.0	77.5	-555
30	400 kV	BINAGURI-BONGAIGAON	D/C	275	323	1.0	0.0	1
31	400 K V	ALIPURDUAR-BONGAIGAON	D/C	321	257	2.9	0.0	3
32	220 kV	ALIPURDUAR-SALAKATI	D/C	64	74	0.3	0.0	0
Import/F	Export of	NER (With NR)			ER-NER	4.2	0.0	4.2
•	2xport or			489		4.7		1 47
33	HVDC	BISWANATH CHARIALI-AGRA	-		304	4.7	0.0	4./
33	HVDC	BISWANATH CHARIALI-AGRA	-		304 NER-NR		0.0	4.7 4.7
	ı	BISWANATH CHARIALI-AGRA WR (With NR)	-		1			
Import/E	Export of	WR (With NR) CHAMPA-KURUKSHETRA	D/C	0	NER-NR 2305	0.0	<b>0.0</b> 45.0	<b>4.7</b> -45.0
34 35	ı	WR (With NR) CHAMPA-KURUKSHETRA V'CHAL B/B	D/C	449	2305 489	0.0 3.7	<b>0.0</b> 45.0 5.7	-45.0 -2.1
Import/E	Export of	WR (With NR) CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG	D/C D/C		NER-NR  2305 489 1922	0.0	45.0 5.7 43.8	-45.0 -2.1 -43.8
34 35 36	Export of	WR (With NR) CHAMPA-KURUKSHETRA V'CHAL B/B	D/C	449	2305 489	0.0 3.7 0.0	<b>0.0</b> 45.0 5.7	-45.0 -2.1
34 35 36 37	Export of HVDC	WR (With NR) CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG GWALIOR-AGRA	D/C D/C D/C	0 0	2305 489 1922 2864	0.0 3.7 0.0 0.0	45.0 5.7 43.8 53.1	-45.0 -2.1 -43.8 -53.1
34 35 36 37 38 39 40	Export of	WR (With NR) CHAMPA-KURUKSHETRA VCHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI	D/C D/C D/C D/C D/C S/C	449 0 0 0 0 0 719	2305 489 1922 2864 1708 1078	0.0 3.7 0.0 0.0 0.0 0.0 0.0 10.6	45.0 5.7 43.8 53.1 21.6 35.8 0.0	4.7  -45.0  -2.1  -43.8  -53.1  -21.6  -35.8  10.6
34 35 36 37 38 39 40	Export of HVDC	WR (With NR) CHAMPA-KURUKSHETRA VCHAL 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 0 719	2305 489 1922 2864 1708 1078 0	0.0 3.7 0.0 0.0 0.0 0.0 0.0 10.6	0.0 45.0 5.7 43.8 53.1 21.6 35.8 0.0 31.2	4.7  -45.0  -2.1  -43.8  -53.1  -21.6  -35.8  10.6  -31.2
Import/E 34 35 36 37 38 39 40 41 42	Export of HVDC	WR (With NR) CHAMPA-KURUKSHETRA V'CHAL 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 0 719 0	2305 489 1922 2864 1708 1078 0 1575 1073	4.7 0.0 3.7 0.0 0.0 0.0 0.0 10.6 0.0	45.0 5.7 43.8 53.1 21.6 35.8 0.0 31.2 5.3	4.7  -45.0  -2.1  -43.8  -53.1  -21.6  -35.8  10.6  -31.2  -5.3
34 35 36 37 38 39 40 41 42 43	HVDC - 765 kV	WR (With NR) CHAMPA-KURUKSHETRA VCHAL 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 S/C S/C S/C S/C	449 0 0 0 0 0 719 0 0 104	2305 489 1922 2864 1708 1078 0 1575 1073 200	4.7 0.0 3.7 0.0 0.0 0.0 0.0 10.6 0.0 0.0 0.0	45.0 5.7 43.8 53.1 21.6 35.8 0.0 31.2 5.3 0.0	4.7  -45.0  -2.1  -43.8  -53.1  -21.6  -35.8  10.6  -31.2  -5.3  0.2
Import/E 34 35 36 37 38 39 40 41 42	Export of HVDC	WR (With NR) CHAMPA-KURUKSHETRA V'CHAL 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 0 719 0	2305 489 1922 2864 1708 1078 0 1575 1073	4.7 0.0 3.7 0.0 0.0 0.0 0.0 10.6 0.0	45.0 5.7 43.8 53.1 21.6 35.8 0.0 31.2 5.3	4.7  -45.0  -2.1  -43.8  -53.1  -21.6  -35.8  10.6  -31.2  -5.3
34 35 36 37 38 39 40 41 42 43	HVDC - 765 kV	WR (With NR) CHAMPA-KURUKSHETRA VCHAL 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 0 719 0 0 104 220	2305 489 1922 2864 1708 1078 0 1575 1073 200 381	4.7 0.0 3.7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	45.0 5.7 43.8 53.1 21.6 35.8 0.0 31.2 5.3 0.0	4.7  -45.0  -2.1  -43.8  -53.1  -21.6  -35.8  10.6  -31.2  -5.3  0.2  0.4
34 35 36 37 38 39 40 41 42 43 44	HVDC - 765 kV	WR (With NR) 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	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 0 719 0 0 104 220 972 88 20	NER-NR  2305 489 1922 2864 1708 1078 0 1575 1073 200 381 0 393 84	4.7 0.0 3.7 0.0 0.0 0.0 10.6 0.0 0.0 0.0 0.0 0.0 0.0 0.0	45.0 5.7 43.8 53.1 21.6 35.8 0.0 31.2 5.3 0.0 0.0 0.0	4.7  -45.0  -2.1  -43.8  -53.1  -21.6  -35.8  10.6  -31.2  -5.3  0.2  0.4  22.0  -1  -0.1
Import/E 34 35 36 37 38 39 40 41 42 43 44 45 46 47	HVDC - 765 kV	WR (With NR) 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 0 719 0 0 104 220 972 88 20 2	NER-NR  2305 489 1922 2864 1708 1078 0 1575 1073 200 381 0 393 84 110	4.7 0.0 3.7 0.0 0.0 0.0 10.6 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 45.0 5.7 43.8 53.1 21.6 35.8 0.0 31.2 5.3 0.0 0.0 0.0 1	4.7  -45.0  -2.1  -43.8  -53.1  -21.6  -35.8  10.6  -31.2  -5.3  0.2  0.4  22.0  -1  -0.1  -1.1
Import/E 34 35 36 37 38 39 40 41 42 43 44 45 46 47	HVDC  765 kV	WR (With NR) 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 0 719 0 0 104 220 972 88 20 2	NER-NR  2305 489 1922 2864 1708 1078 0 1575 1073 200 381 0 393 84 110 4	4.7  0.0  3.7  0.0  0.0  0.0  10.6  0.0  0.0  0.2  0.4  22.0  0  0.3  0.0  1.1	0.0 45.0 5.7 43.8 53.1 21.6 35.8 0.0 31.2 5.3 0.0 0.0 0.0 1 0.3 1.1 0.0	4.7  -45.0  -2.1  -43.8  -53.1  -21.6  -35.8  10.6  -31.2  -5.3  0.2  0.4  22.0  -1  -0.1  -1.1
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50	220 kV	WR (With NR) 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	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 0 719 0 0 104 220 972 88 20 2 96 38	NER-NR  2305 489 1922 2864 1708 1078 0 1575 1073 200 381 0 393 84 110 4 42	4.7  0.0  3.7  0.0  0.0  0.0  0.0  10.6  0.0  0.2  0.4  22.0  0  0.3  0.0  1.1  0.1	45.0 5.7 43.8 53.1 21.6 35.8 0.0 31.2 5.3 0.0 0.0 1 0.3 1.1 0.0 0.2	4.7  -45.0  -2.1  -43.8  -53.1  -21.6  -35.8  10.6  -31.2  -5.3  0.2  0.4  22.0  -1  -0.1  -1.1  -0.1
Import/E 34 35 36 37 38 39 40 41 42 43 44 45 46 47	HVDC  765 kV	WR (With NR) 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 0 719 0 0 104 220 972 88 20 2	NER-NR  2305 489 1922 2864 1708 1078 0 1575 1073 200 381 0 393 84 110 4	4.7  0.0  3.7  0.0  0.0  0.0  10.6  0.0  0.0  0.2  0.4  22.0  0  0.3  0.0  1.1	0.0 45.0 5.7 43.8 53.1 21.6 35.8 0.0 31.2 5.3 0.0 0.0 0.0 1 0.3 1.1 0.0	4.7  -45.0  -2.1  -43.8  -53.1  -21.6  -35.8  10.6  -31.2  -5.3  0.2  0.4  22.0  -1  -0.1  -1.1
Import/E  34  35  36  37  38  39  40  41  42  43  44  45  46  47  48  49  50  51	Export of HVDC - 765 kV - 400 kV - 220 kV	WR (With NR) 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	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 0 719 0 0 104 220 972 88 20 2 96 38	NER-NR  2305 489 1922 2864 1708 00 1575 1073 200 381 0 393 84 1110 4 42 0	4.7  0.0  3.7  0.0  0.0  0.0  0.0  10.6  0.0  0.2  0.4  22.0  0  0.3  0.0  1.1  0.1	0.0 45.0 5.7 43.8 53.1 21.6 35.8 0.0 31.2 5.3 0.0 0.0 0.0 1 0.3 1.1 0.0 0.2	4.7  -45.0  -2.1  -43.8  -53.1  -21.6  -35.8  10.6  -31.2  -5.3  0.2  0.4  22.0  -1  -0.1  -1.1  -0.1  0.0
Import/E  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	WR (With NR) 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	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 0 719 0 0 104 220 972 88 20 2 96 38 0	NER-NR  2305 489 1922 2864 1708 00 1575 1073 200 381 0 393 84 1110 4 42 0	4.7  0.0  3.7  0.0  0.0  0.0  10.6  0.0  0.0  0.2  0.4  22.0  0  1.1  0.1  0.0  38.4	0.0 45.0 5.7 43.8 53.1 21.6 35.8 0.0 31.2 5.3 0.0 0.0 0.0 1 0.3 1.1 0.0 0.2	4.7  -45.0  -2.1  -43.8  -53.1  -21.6  -35.8  10.6  -31.2  -5.3  0.2  0.4  22.0  -1  -0.1  -1.1  -0.1  0.0
Import/E  34  35  36  37  38  39  40  41  42  43  44  45  46  47  48  49  50  51  Import/E  52  53	Export of HVDC - 765 kV - 400 kV - 220 kV	WR (With NR) 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 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	449 0 0 0 0 0 719 0 0 104 220 972 88 20 2 96 38 0	NER-NR  2305 489 1922 2864 1708 1078 0 1575 1073 200 381 0 393 84 110 4 42 0 WR-NR	4.7  0.0  3.7  0.0  0.0  0.0  10.6  0.0  0.0  0.2  0.4  22.0  0  1.1  0.1  0.0  38.4	0.0 45.0 5.7 43.8 53.1 21.6 35.8 0.0 31.2 5.3 0.0 0.0 1 0.3 1.1 0.0 0.2 0.0 244.2	4.7  -45.0  -2.1  -43.8  -53.1  -21.6  -35.8  10.6  -31.2  -5.3  0.2  0.4  22.0  -1  -0.1  -1.1  1.1  -0.1  -0.1  -0.1  -1.1  0.0  -205.8
Import/E  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	WR (With NR) 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 GWALIOR-SAWAI MADHOPUR WR (With SR) BHADRAWATI B/B BARSUR-LSILERU 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 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 0 719 0 0 104 220 972 88 20 2 96 38 0	NER-NR  2305 489 1922 2864 1708 1078 0 1575 1073 200 381 0 393 84 110 4 42 0 WR-NR	4.7  0.0  3.7  0.0  0.0  0.0  0.0  10.6  0.0  0.0  22  0.4  22.0  0  0.3  0.0  1.1  0.1  0.0  38.4	0.0 45.0 5.7 43.8 53.1 21.6 35.8 0.0 31.2 5.3 0.0 0.0 0.0 1 0.3 1.1 0.0 0.2 0.0 244.2	4.7  -45.0  -2.1  -43.8  -53.1  -21.6  -35.8  10.6  -31.2  -5.3  0.2  0.4  22.0  -1  -0.1  -1.1  1.1  -0.1  0.0  -205.8
Import/E  34  35  36  37  38  39  40  41  42  43  44  45  46  47  48  49  50  51  Import/E  52  53  54  55	220 kV  132kV  Export of HVDC  765 kV	WR (With NR) 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-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 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 0 719 0 0 104 220 972 88 20 2 2 96 38 0	NER-NR  2305 489 1922 2864 1708 1078 0 1575 1073 200 381 0 393 84 110 4 42 0 WR-NR	4.7  0.0  3.7  0.0  0.0  0.0  0.0  10.6  0.0  0.0  0.	0.0 45.0 5.7 43.8 53.1 21.6 35.8 0.0 31.2 5.3 0.0 0.0 0.0 1 0.3 1.1 0.0 0.2 0.0 244.2 10.6 0.0 32.4 43.3	4.7  -45.0  -2.1  -43.8  -53.1  -21.6  -35.8  10.6  -31.2  -5.3  0.2  0.4  -1  -0.1  -1.1  1.1  -0.1  0.0  -205.8
Import/E  34  35  36  37  38  39  40  41  42  43  44  45  46  47  48  49  50  51  Import/E  52  53  54	Export of HVDC  765 kV  400 kV  220 kV  132kV  Export of HVDC	WR (With NR) 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-RANPUR BHANPURA-WORAK 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 S/C S	449 0 0 0 0 719 0 0 104 220 972 88 20 2 2 96 38 0	NER-NR  2305 489 1922 2864 1708 1078 0 1575 1073 200 381 0 393 84 110 4 42 0 WR-NR  518 0 2161 2370 32	0.0 3.7 0.0 0.0 0.0 0.0 0.0 10.6 0.0 0.0 0.2 0.4 22.0 0 0.3 0.0 1.1 0.1 0.0 38.4  0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 45.0 5.7 43.8 53.1 21.6 35.8 0.0 31.2 5.3 0.0 0.0 0.0 1 0.3 1.1 0.0 0.2 0.0 244.2 10.6 10	4.7  -45.0  -2.1  -43.8  -53.1  -21.6  -35.8  10.6  -31.2  -5.3  0.2  0.4  22.0  -1  -0.1  -1.1  1.1  -0.1  0.0  -205.8
Import/E  34  35  36  37  38  39  40  41  42  43  44  45  46  47  48  49  50  51  Import/E  52  53  54  55	220 kV  132kV  Export of HVDC  765 kV	WR (With NR) 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-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 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 0 719 0 0 104 220 972 88 20 2 2 96 38 0	NER-NR  2305 489 1922 2864 1708 1078 0 1575 1073 200 381 0 393 84 110 4 42 0 WR-NR	4.7  0.0  3.7  0.0  0.0  0.0  0.0  10.6  0.0  0.0  0.	0.0 45.0 5.7 43.8 53.1 21.6 35.8 0.0 31.2 5.3 0.0 0.0 0.0 1 0.3 1.1 0.0 0.2 0.0 244.2 10.6 0.0 32.4 43.3	4.7  -45.0  -2.1  -43.8  -53.1  -21.6  -35.8  10.6  -31.2  -5.3  0.2  0.4  -1  -0.1  -1.1  1.1  -0.1  0.0  -205.8
Import/E  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	220 kV 220 kV 2400 kV 400 kV 400 kV	WR (With NR) 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-RANPUR BHANPURA-WORAK MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHADRAWATI B/B BHASWATI B/B BHASWATI B/B BHASWATI B/B BHASWATI B/B BHASWATI B/B BARSUR-LSILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD KOLHAPUR-KUDGI	D/C 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 0 719 0 0 104 220 972 88 20 2 2 96 38 0 0 185 0 775	NER-NR  2305 489 1922 2864 1708 1078 0 1575 1073 200 381 0 393 84 110 4 42 0 WR-NR  518 0 2161 2370 32 0	0.0 3.7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	0.0 45.0 5.7 43.8 53.1 21.6 35.8 0.0 31.2 5.3 0.0 0.0 0.0 1 0.3 1.1 0.0 0.2 244.2 10.6 0.0 32.4 43.3 0.0	4.7  -45.0  -2.1  -43.8  -53.1  -21.6  -35.8  10.6  -31.2  -5.3  0.2  0.4  22.0  -1  -0.1  -1.1  -0.1  0.0  -205.8  -10.6  0.0  -32.3  -43.3  6.4  0.0
Import/E  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	220 kV 220 kV 2400 kV 400 kV 400 kV	WR (With NR) 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) BHASBUR-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 0 719 0 0 104 220 972 88 20 2 96 38 0 0 185 0 775	NER-NR  2305 489 1922 2864 1708 1078 0 1575 1073 200 381 0 393 84 110 4 42 0 WR-NR  518 0 2161 2370 32 0 0	4.7  0.0  3.7  0.0  0.0  0.0  10.6  0.0  0.2  0.4  22.0  0  3.3  0.0  1.1  0.0  38.4  0.0  0.0  0.0  0.0  0.0  0.0  0.0	0.0 45.0 5.7 43.8 53.1 21.6 35.8 0.0 31.2 5.3 0.0 0.0 0.0 1 0.3 1.1 0.0 0.2 244.2 10.6 0.0 32.4 43.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0	4.7  -45.0  -2.1  -43.8  -53.1  -21.6  -35.8  10.6  -31.2  -5.3  0.2  0.4  22.0  -1  -0.1  -1.1  1.1  -0.1  0.0  -205.8  -10.6  0.0  -32.3  -43.3  6.4  0.0  0.0
Import/E  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	220 kV 220 kV 2400 kV 400 kV 400 kV	WR (With NR) 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 WARDHA-NIZAMABAD KOLHAPUR-CHIKODI PONDA-AMBEWADI XELDEM-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 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 0 719 0 0 104 220 972 88 20 2 96 38 0 0 185 0 775	NER-NR  2305 489 1922 2864 1708 1078 0 1575 1073 200 381 0 393 84 110 4 42 0 WR-NR  518 0 2161 2370 32 0 0 75 WR-SR	4.7  0.0  3.7  0.0  0.0  0.0  10.6  0.0  0.0  0.2  0.4  22.0  0  0.3  0.0  1.1  0.1  0.0  38.4  0.0  0.0  0.1  0.0  6.4  0.0  0.0  1.5	0.0  45.0  5.7  43.8  53.1  21.6  35.8  0.0  31.2  5.3  0.0  0.0  0.0  1  0.3  1.1  0.0  0.2  244.2  10.6  0.0  32.4  43.3  0.0  0.0  0.0  0.0  0.0  0.0	4.7  -45.0  -2.1  -43.8  -53.1  -21.6  -35.8  10.6  -31.2  -5.3  0.2  0.4  22.0  -1  -0.1  -1.1  1.1  -0.1  0.0  -205.8  -10.6  0.0  -32.3  -43.3  6.4  0.0  0.0  1.5
Import/E  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	220 kV 220 kV 2400 kV 400 kV 400 kV	WR (With NR) 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 WARDHA-NIZAMABAD KOLHAPUR-CHIKODI PONDA-AMBEWADI XELDEM-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 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 0 719 0 0 104 220 972 88 20 2 96 38 0 0 185 0 0 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NER-NR  2305 489 1922 2864 1708 1078 0 1575 1073 200 381 0 393 84 110 4 42 0 WR-NR  518 0 2161 2370 32 0 0 75 WR-SR	4.7  0.0  3.7  0.0  0.0  0.0  10.6  0.0  0.0  0.2  0.4  22.0  0  0.3  0.0  1.1  0.1  0.0  38.4  0.0  0.0  0.1  0.0  6.4  0.0  0.0  1.5	0.0  45.0  5.7  43.8  53.1  21.6  35.8  0.0  31.2  5.3  0.0  0.0  0.0  1  0.3  1.1  0.0  0.2  244.2  10.6  0.0  32.4  43.3  0.0  0.0  0.0  0.0  0.0  0.0	4.7  -45.0  -2.1  -43.8  -53.1  -21.6  -35.8  10.6  -31.2  -5.3  0.2  0.4  22.0  -1  -0.1  -1.1  1.1  -0.1  0.0  -205.8  -10.6  0.0  -32.3  -43.3  6.4  0.0  0.0  1.5