

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, क़ुतुब इन्स्टीट्यूशनल एरिया, कटवारिया सराये, न्यू दिल्ली-110016

Ref: POSOCO/NLDC/SO/Daily PSP Report

दिनांक: 20th 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 19.12.2019.

महोदय/Dear Sir,

आई॰ई॰जी॰सी॰-2010 की धारा स.-5.5.1 के प्रावधान के अनुसार, दिनांक 19-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 19th Dec 2019, is available at the NLDC website.

धन्यवाद,

Report for previous day Date of Reporting 20-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)	47100	47763	39306	17976	2302	154447
Peak Shortage (MW)	629	0	0	0	27	656
Energy Met (MU)	920	1122	938	337	39	3357
Hydro Gen (MU)	118	48	77	38	9	289
Wind Gen (MU)	5	34	63			102
Solar Gen (MU)*	23.59	21.20	75.88	1.79	0.01	122
Energy Shortage (MU)	12.7	0.0	0.0	0.0	0.2	12.9
Maximum Demand Met during the day (MW) & time	47191	53601	43904	18300	2424	158769
(from NLDC SCADA)	18:57	11:03	07:41	18:26	17:54	09:44

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	0.040	0.00	0.03	6.47	6.50	67.60	25.89

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	5518	0	107.5	56.2	-0.9	85	0.0
	Haryana	6533	0	122.4	92.6	1.1	188	0.0
	Rajasthan	12522	0	227.8	62.0	3.5	605	0.0
	Delhi	4181	0	73.2	56.5	-0.5	263	0.0
NR	UP	14541	0	266.5	102.7	0.5	957	0.8
	Uttarakhand	2087	0	39.4	21.5	0.3	210	0.5
	HP	1676	0	31.1	23.5	0.3	200	0.0
	J&K(UT) and Ladakh(UT)	2458	615	48.1	42.5	0.2	337	11.4
	Chandigarh	262	0	4.5	4.0	0.5	48	0.0
	Chhattisgarh	3605	0	76.8	19.5	-1.2	189	0.0
	Gujarat	15582	0	329.4	92.8	4.4	680	0.0
	MP	12666	0	230.9	120.3	-5.2	504	0.0
WR	Maharashtra	21880	0	444.1	136.3	-0.1	436	0.0
WK	Goa	530	0	11.5	10.8	0.1	45	0.0
	DD	292	0	4.9	4.5	0.4	35	0.0
	DNH	815	0	18.8	18.8	0.0	69	0.0
	Essar steel	343	0	6.0	5.9	0.1	221	0.0
	Andhra Pradesh	8075	0	166.5	71.5	-0.2	412	0.0
	Telangana	10406	0	215.6	109.5	-0.1	557	0.0
SR	Karnataka	11340	0	202.9	37.8	-0.2	445	0.0
311	Kerala	3565	0	71.2	55.6	1.5	223	0.0
	Tamil Nadu	13347	0	274.3	136.6	-0.9	709	0.0
	Pondy	362	0	7.1	7.4	-0.3	26	0.0
	Bihar	4043	0	67.3	67.3	-1.2	180	0.0
	DVC	3145	0	64.8	-36.2	0.5	200	0.0
ER	Jharkhand	1309	0	24.0	15.1	-0.7	120	0.0
-11	Odisha	3720	0	66.7	10.5	0.3	300	0.0
	West Bengal	6283	0	112.4	33.1	4.3	450	0.0
	Sikkim	125	0	1.9	1.7	0.2	20	0.0
	Arunachal Pradesh	122	2	2.0	2.0	-0.2	30	0.0
	Assam	1338	16	20.9	18.1	-1.0	113	0.2
	Manipur	184	1	2.5	2.9	-0.4	34	0.0
NER	Meghalaya	324	0	6.0	2.9	0.2	135	0.0
	Mizoram	99	1	1.6	1.2	0.0	27	0.0
	Nagaland	144	3	2.0	2.3	-0.4	34	0.0
	Tripura	222	4	3.6	1.7	-0.3	36	0.0

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

	Bhutan	Nepal	Bangladesh
Actual(MU)	4.8	-7.0	-9.9
Day peak (MW)	345.4	-376.0	-748.0

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

	NR	WR	SR	ER	NER	TOTAL
Schedule(MU)	212.3	-213.5	115.8	-115.9	1.4	0.0
Actual(MU)	224.9	-233.3	109.2	-106.9	1.5	-4.6
O/D/U/D(MU)	12.6	-19.8	-6.6	9.0	0.2	-4.6

F. Generation Outage(MW)

	NR	WR	SR	ER	NER	Total
Central Sector	6094	17433	7752	660	651	32590
State Sector	13992	16121	9130	6700	11	45954
Total	20086	33553	16882	7360	663	78544

G. Sourcewise generation (MU)

	NR	WR	SR	ER	NER	All India
Coal	449	1167	467	426	13	2522
Lignite	26	15	43	0	0	84
Hydro	118	48	77	38	9	289
Nuclear	30	28	45	0	0	102
Gas, Naptha & Diesel	33	32	17	0	23	104
RES (Wind, Solar, Biomass & Others)	59	60	190	2	0	311
Total	715	1349	838	466	44	3413

Share of RES in total generation (%)	8.21	4.45	22.71	0.39	0.02	9.11
Share of Non-fossil fuel (Hydro, Nuclear and RES) in total generation (%)	28.94	10.05	37.18	8.45	19.95	20.58

H. All India Demand Diversity Factor

11 111 India Demand Diversity Luctor		
Based on Regional Max Demands	1.042	
Based on State Max Demands	1.094	

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.}$

		IN	TER-REGI	ONAL EXCH	ANGES	Date of 1	Reporting :	20-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)
	Export of	ER (With NR)						
5	HVDC	ALIPURDUAR-AGRA PUSAULI B/B	S/C	0	0 198	0.0	0.0 4.8	0.0 -4.8
1		GAYA-VARANASI	D/C	0	1192	0.0	15.3	-15.3
2	765kV	SASARAM-FATEHPUR	S/C	0	425	0.0	6.1	-6.1
3		GAYA-BALIA	S/C	0	523	0.0	4.3	-4.3
6 7		PUSAULI-VARANASI PUSAULI -ALLAHABAD	S/C S/C	0	136 147	0.0	2.4	-2.4 -2.2
8		MUZAFFARPUR-GORAKHPUR	D/C	0	865	0.0	11.6	-11.6
9	400 kV	PATNA-BALIA	Q/C	0	1156	0.0	19.7	-19.7
10		BIHARSHARIFF-BALIA	D/C	0	493	0.0	7.4	-7.4
11		MOTIHARI-GORAKHPUR	D/C	2	5	0.0	0.0	0.0
12	220 kV	BIHARSHARIFF-VARANASI PUSAULI-SAHUPURI	D/C S/C	0 11	414 83	0.0	4.4 0.7	-4.4 -0.7
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	0.3	0.0	0.3
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	xport of	ER (With WR)			ER-NR	0.3	74.2	-73.9
-	Aport Of	<u> </u>	0/0	907	401	0.0	0.0	0.0
18	765 kV	JHARSUGUDA-DHARAMJAIGARH	Q/C	896	421	9.0	0.0	9.0
19 20	1	NEW RANCHI-DHARAMJAIGARH JHARSUGUDA-DURG	D/C D/C	298 58	477 198	0.0	0.6 1.4	-0.6 -1.4
21	400 kV	JHARSUGUDA-RAIGARH	Q/C	275	121	2.1	0.0	2.1
22	400 KV	RANCHI-SIPAT	D/C	124	138	0.3	0.0	0.3
23	220 kV	BUDHIPADAR-RAIGARH	S/C	0	135	0.0	1.5	-1.5
24		BUDHIPADAR-KORBA	D/C	172	0 ER-WR	2.2 13.7	0.0 3.5	2.2 10.2
Import/E	Export of	ER (With SR)			ER-WK	13.7	3.3	10.2
26		JEYPORE-GAZUWAKA B/B	D/C	0.0	679.0	0.0	15.1	-15.1
27	HVDC	TALCHER-KOLAR BIPOLE	D/C	0.0	1978.0	0.0	41.2	-41.2
25	765 kV	ANGUL-SRIKAKULAM	D/C	0.0	1795.0	0.0	34.8	-34.8
28	400 kV	TALCHER-I/C	D/C	423.0	486.0	0.0	0.6	-0.6
29	220 kV	BALIMELA-UPPER-SILERRU	S/C	1.0	0.0 ER-SR	0.0	0.0 91.1	0.0 -91.1
Import/E	Export of	ER (With NER)			DA DA	0.0	71.1	-51.1
30	400 kV	BINAGURI-BONGAIGAON	D/C	237	35	3.1	0.0	3
31	400 KV	ALIPURDUAR-BONGAIGAON	D/C	269	0	3.7	0.0	4
32	220 kV	ALIPURDUAR-SALAKATI	D/C	45	18	0.5	0.0	0
Import/F					ER-NER	7.2	0.0	7.2
mpor u E	vnort of	NED (With ND)						
33	Export of HVDC	NER (With NR) BISWANATH CHARIALI-AGRA	- 1	390	0	9.3	0.0	9.3
33	HVDC	BISWANATH CHARIALI-AGRA	-	390	0 NER-NR		0.0	9.3 9.3
33 Import/E	HVDC	BISWANATH CHARIALI-AGRA WR (With NR)	-		NER-NR	9.3	0.0	9.3
33 Import/E	HVDC Export of	BISWANATH CHARIALI-AGRA WR (With NR) CHAMPA-KURUKSHETRA	D/C	0	NER-NR 1842	9.3	0.0 32.0	9.3
33 Import/E 34 35	HVDC	BISWANATH CHARIALI-AGRA WR (With NR) CHAMPA-KURUKSHETRA VCHAL B/B	D/C	0 230	1842 345	9.3 0.0 1.6	32.0 0.0	9.3 -32.0 1.6
33 Import/E	HVDC Export of	BISWANATH CHARIALI-AGRA WR (With NR) CHAMPA-KURUKSHETRA VCHAL B/B APL -MHG	D/C D/C	0	NER-NR 1842 345 1923	9.3	32.0 0.0 33.0	9.3 -32.0 1.6 -33.0
33 Import/E 34 35 36	HVDC Export of	BISWANATH CHARIALI-AGRA WR (With NR) CHAMPA-KURUKSHETRA VCHAL B/B	D/C	0 230 0	1842 345	9.3 0.0 1.6 0.0	32.0 0.0	9.3 -32.0 1.6
33 Import/E 34 35 36 37	HVDC Export of HVDC	BISWANATH CHARIALI-AGRA WR (With NR) CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG GWALIOR-AGRA	D/C D/C D/C	0 230 0 0	NER-NR 1842 345 1923 2569	9.3 0.0 1.6 0.0 0.0	32.0 0.0 33.0 45.5	9.3 -32.0 1.6 -33.0 -45.5
33 Import/E 34 35 36 37 38 39 40	HVDC Export of	BISWANATH CHARIALI-AGRA WR (With NR) 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	0 230 0 0 0 0 0	1842 345 1923 2569 1758 910	9.3 0.0 1.6 0.0 0.0 0.0 0.0 10.3	32.0 0.0 33.0 45.5 22.0 28.5 0.0	9.3 -32.0 1.6 -33.0 -45.5 -22.0 -28.5 10.3
33 Import/E 34 35 36 37 38 39 40 41	HVDC Export of HVDC	BISWANATH CHARIALI-AGRA WR (With NR) 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	0 230 0 0 0 0 0	NER-NR 1842 345 1923 2569 1758 910 0 1463	9.3 0.0 1.6 0.0 0.0 0.0 0.0 10.3 0.0	32.0 0.0 33.0 45.5 22.0 28.5 0.0 29.6	9.3 -32.0 1.6 -33.0 -45.5 -22.0 -28.5 10.3 -29.6
33 Import/E 34 35 36 37 38 39 40 41 42	HVDC Export of HVDC	BISWANATH CHARIALI-AGRA 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	0 230 0 0 0 0 0 654 0	NER-NR 1842 345 1923 2569 1758 910 0 1463 713	9.3 0.0 1.6 0.0 0.0 0.0 0.0 10.3 0.0 0.0	32.0 0.0 33.0 45.5 22.0 28.5 0.0 29.6 2.1	9.3 -32.0 1.6 -33.0 -45.5 -22.0 -28.5 10.3 -29.6 -2.1
33 Import/E 34 35 36 37 38 39 40 41	HVDC Export of HVDC - 765 kV	BISWANATH CHARIALI-AGRA WR (With NR) 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	0 230 0 0 0 0 0	NER-NR 1842 345 1923 2569 1758 910 0 1463	9.3 0.0 1.6 0.0 0.0 0.0 0.0 10.3 0.0	32.0 0.0 33.0 45.5 22.0 28.5 0.0 29.6	9.3 -32.0 1.6 -33.0 -45.5 -22.0 -28.5 10.3 -29.6
33 Import/E 34 35 36 37 38 39 40 41 42 43	HVDC Export of HVDC	BISWANATH CHARIALI-AGRA 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	D/C D/C D/C D/C D/C D/C S/C S/C S/C S/C	0 230 0 0 0 0 0 654 0 250	NER-NR 1842 345 1923 2569 1758 910 0 1463 713 123	9.3 0.0 1.6 0.0 0.0 0.0 0.0 10.3 0.0 1.2	32.0 0.0 33.0 45.5 22.0 28.5 0.0 29.6 2.1	9.3 -32.0 1.6 -33.0 -45.5 -22.0 -28.5 10.3 -29.6 -2.1 1.2
33 Import/E 34 35 36 37 38 39 40 41 42 43 44 45	HVDC Export of HVDC - 765 kV	BISWANATH CHARIALI-AGRA 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	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	0 230 0 0 0 0 654 0 250 154 119 976	NER-NR 1842 345 1923 2569 1758 910 0 1463 713 123 347 0 343	9.3 0.0 1.6 0.0 0.0 0.0 0.0 10.3 0.0 1.2 0.0 22.8 0	32.0 0.0 33.0 45.5 22.0 28.5 0.0 29.6 2.1 0.0 1.2	9.3 -32.0 1.6 -33.0 -45.5 -22.0 -28.5 10.3 -29.6 -2.1 1.2 -1.2 22.8 -1
33 Import/E 34 35 36 37 38 39 40 41 42 43 44 45 46 47	HVDC Export of HVDC - 765 kV	BISWANATH CHARIALI-AGRA 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	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	0 230 0 0 0 0 654 0 250 154 119 976 126 31	NER-NR 1842 345 1923 2569 1758 910 0 1463 713 123 347 0 343 79	9.3 0.0 1.6 0.0 0.0 0.0 10.3 0.0 0.0 22.8 0 0.8	32.0 0.0 33.0 45.5 22.0 28.5 0.0 29.6 2.1 0.0 1.2 0.0 1	9.3 -32.0 1.6 -33.0 -45.5 -22.0 -28.5 10.3 -29.6 -2.1 1.2 -1.2 22.8 -1 0.7
33 Import/E 34 35 36 37 38 39 40 41 42 43 44 45 46 47	HVDC Export of HVDC - 765 kV	BISWANATH CHARIALI-AGRA 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	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	0 230 0 0 0 0 654 0 250 154 119 976 126 31	NER-NR 1842 345 1923 2569 1758 910 0 1463 713 123 347 0 343 79 135	9.3 0.0 1.6 0.0 0.0 0.0 10.3 0.0 1.2 0.0 22.8 0 0.8 0.0	32.0 0.0 33.0 45.5 22.0 28.5 0.0 29.6 2.1 0.0 1.2 0.0 0.1	9.3 -32.0 1.6 -33.0 -45.5 -22.0 -28.5 10.3 -29.6 -2.1 1.2 -1.2 22.8 -1 0.7 -0.9
33 Import/E 34 35 36 37 38 39 40 41 42 43 44 45 46 47	HVDC Export of HVDC - 765 kV - 400 kV	BISWANATH CHARIALI-AGRA 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	0 230 0 0 0 0 654 0 250 154 119 976 126 31 19 89	NER-NR 1842 345 1923 2569 1758 910 0 1463 713 123 347 0 343 79 135	9.3 0.0 1.6 0.0 0.0 0.0 10.3 0.0 0.0 1.2 0.0 22.8 0 0.8 0.9	32.0 0.0 33.0 45.5 22.0 28.5 0.0 29.6 2.1 0.0 1.2 0.0 1 0.1 0.9	9.3 -32.0 1.6 -33.0 -45.5 -22.0 -28.5 10.3 -29.6 -2.1 1.2 -1.2 -1.2 -0.7 -0.9 0.9
33 Import/E 34 35 36 37 38 39 40 41 42 43 44 45 46 47	HVDC Export of HVDC - 765 kV - 400 kV	BISWANATH CHARIALI-AGRA 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	0 230 0 0 0 0 654 0 250 154 119 976 126 31	NER-NR 1842 345 1923 2569 1758 910 0 1463 713 123 347 0 343 79 135	9.3 0.0 1.6 0.0 0.0 0.0 10.3 0.0 1.2 0.0 22.8 0 0.8 0.0	32.0 0.0 33.0 45.5 22.0 28.5 0.0 29.6 2.1 0.0 1.2 0.0 0.1	9.3 -32.0 1.6 -33.0 -45.5 -22.0 -28.5 10.3 -29.6 -2.1 1.2 -1.2 22.8 -1 0.7 -0.9
33 Import/E 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50	HVDC Export of HVDC - 765 kV - 400 kV	BISWANATH CHARIALI-AGRA 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	0 230 0 0 0 0 654 0 250 154 119 976 126 31 19 89	NER-NR 1842 345 1923 2569 1758 910 0 1463 713 123 347 0 343 79 135 0 29	9.3 0.0 1.6 0.0 0.0 0.0 10.3 0.0 1.2 0.0 22.8 0.8 0.0 0.9 0.2	32.0 0.0 33.0 45.5 22.0 28.5 0.0 29.6 2.1 0.0 1.2 0.0 1 0.1 0.9 0.0	9.3 -32.0 1.6 -33.0 -45.5 -22.0 -28.5 10.3 -29.6 -2.1 1.2 -1.2 22.8 -1 0.7 -0.9 0.9 0.1
33 Import/E 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51	HVDC Export of HVDC 765 kV 400 kV	BISWANATH CHARIALI-AGRA 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-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	0 230 0 0 0 0 654 0 250 154 119 976 126 31 19 89 45	NER-NR 1842 345 1923 2569 1758 910 0 1463 713 123 347 0 343 79 135 0 29 0 WR-NR	9.3 0.0 1.6 0.0 0.0 0.0 10.3 0.0 0.0 1.2 0.0 22.8 0 0.8 0.0 0.9 0.2 0.0 37.7	0.0 32.0 0.0 33.0 45.5 22.0 28.5 0.0 29.6 2.1 0.0 1.2 0.0 1 0.1 0.9 0.0 0.1 0.0 195.9	9.3 -32.0 1.6 -33.0 -45.5 -22.0 -28.5 10.3 -29.6 -2.1 1.2 -1.2 22.8 -1 0.7 -0.9 0.9 0.1 0.0 -158.2
33 Import/E 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/E 52	HVDC Export of HVDC 765 kV 400 kV	BISWANATH CHARIALI-AGRA 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 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	0 230 0 0 0 0 654 0 250 154 119 976 126 31 19 89 45 0	NER-NR 1842 345 1923 2569 1758 910 0 1463 713 123 347 0 343 79 135 0 29 0 WR-NR	9.3 0.0 1.6 0.0 0.0 0.0 10.3 0.0 1.2 0.0 22.8 0 0.8 0.0 0.9 0.2 0.0 37.7	0.0 32.0 0.0 33.0 45.5 22.0 28.5 0.0 29.6 2.1 0.0 1.2 0.0 1 0.1 0.9 0.0 0.1 1.1 1.1	9.3 -32.0 1.6 -33.0 -45.5 -22.0 -28.5 10.3 -29.6 -2.1 1.2 -1.2 22.8 -1 0.7 -0.9 0.9 0.1 0.0 -158.2
33 Import/E 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/E 52 53	HVDC Export of HVDC 765 kV 400 kV 132kV Export of	BISWANATH CHARIALI-AGRA 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-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	0 230 0 0 0 0 654 0 250 154 119 976 126 31 19 89 45 0	NER-NR 1842 345 1923 2569 1758 910 0 1463 713 123 347 0 343 79 135 0 U WR-NR	9.3 0.0 1.6 0.0 0.0 0.0 10.3 0.0 1.2 0.0 22.8 0 0.8 0.0 0.9 0.2 0.0 37.7	0.0 32.0 0.0 33.0 45.5 22.0 28.5 0.0 29.6 2.1 0.0 1.2 0.0 1.0 0.1 0.9 0.0 0.1 0.1 0.0 195.9	9.3 -32.0 1.6 -33.0 -45.5 -22.0 -28.5 10.3 -29.6 -2.1 1.2 -1.2 -1.2 22.8 -1 0.7 -0.9 0.9 0.1 0.0 -158.2
33 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 Export of HVDC 765 kV 400 kV 132kV Export of	BISWANATH CHARIALI-AGRA 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 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	0 230 0 0 0 0 0 654 0 250 154 119 976 126 31 19 89 45 0	NER-NR 1842 345 1923 2569 1758 910 0 1463 713 123 347 0 343 79 135 0 29 WR-NR	9.3 0.0 1.6 0.0 0.0 0.0 10.3 0.0 1.2 0.0 22.8 0 0.8 0.0 0.9 0.2 0.0 37.7	0.0 32.0 0.0 33.0 45.5 22.0 28.5 0.0 29.6 2.1 0.0 1.2 0.0 1.0 0.1 0.9 0.0 1.1 0.0 195.9	9.3 -32.0 1.6 -33.0 -45.5 -22.0 -28.5 10.3 -29.6 -2.1 1.2 -1.2 -1.2 22.8 -1 0.7 -0.9 0.9 0.1 0.0 -158.2
33 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	HVDC Export of HVDC - 765 kV - 400 kV - 220 kV - 132kV Export of HVDC - 765 kV	BISWANATH CHARIALI-AGRA 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 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	0 230 0 0 0 0 654 0 250 154 119 976 126 31 19 89 45 0	NER-NR 1842 345 1923 2569 1758 910 0 1463 713 123 347 0 343 79 135 0 29 0 WR-NR	9.3 0.0 1.6 0.0 0.0 0.0 0.0 10.3 0.0 0.0 1.2 0.0 22.8 0 0.8 0.0 0.9 0.2 0.0 37.7	0.0 32.0 0.0 33.0 45.5 22.0 28.5 0.0 29.6 2.1 0.0 1.2 0.0 1.0 0.1 0.9 0.0 0.1 0.0 195.9 11.9 0.0 23.2 41.1	9.3 -32.0 1.6 -33.0 -45.5 -22.0 -28.5 10.3 -29.6 -2.1 1.2 -1.2 -22.8 -1 0.7 -0.9 0.9 0.1 0.0 -158.2
33 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 Export of HVDC 765 kV 400 kV 132kV Export of HVDC	BISWANATH CHARIALI-AGRA 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 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	0 230 0 0 0 0 0 654 0 250 154 119 976 126 31 19 89 45 0	NER-NR 1842 345 1923 2569 1758 910 0 1463 713 123 347 0 343 79 135 0 29 WR-NR	9.3 0.0 1.6 0.0 0.0 0.0 10.3 0.0 1.2 0.0 22.8 0 0.8 0.0 0.9 0.2 0.0 37.7	0.0 32.0 0.0 33.0 45.5 22.0 28.5 0.0 29.6 2.1 0.0 1.2 0.0 1.0 0.1 0.9 0.0 1.1 0.0 195.9	9.3 -32.0 1.6 -33.0 -45.5 -22.0 -28.5 10.3 -29.6 -2.1 1.2 -1.2 -1.2 22.8 -1 0.7 -0.9 0.9 0.1 0.0 -158.2
33 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 Export of HVDC - 765 kV - 400 kV - 220 kV - 132kV Export of HVDC - 765 kV	BISWANATH CHARIALI-AGRA 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 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 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	0 230 0 0 0 0 654 0 250 154 119 976 126 31 19 89 45 0	NER-NR 1842 345 1923 2569 1758 910 0 1463 713 123 347 0 343 79 135 0 29 0 WR-NR	9.3 0.0 1.6 0.0 0.0 0.0 0.0 10.3 0.0 1.2 0.0 22.8 0.8 0.0 0.9 0.2 0.0 37.7	0.0 32.0 0.0 33.0 45.5 22.0 28.5 0.0 29.6 2.1 0.0 1.2 0.0 1.1 0.9 0.0 0.1 0.0 195.9 11.9 0.0 23.2 41.1 0.0	9.3 -32.0 1.6 -33.0 -45.5 -22.0 -28.5 10.3 -29.6 -2.1 1.2 -1.2 22.8 -1 0.7 -0.9 0.9 0.1 0.0 -158.2 -11.9 0.0 -22.4 -41.1 13.1
33 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	HVDC Export of HVDC 765 kV 400 kV 132kV Export of HVDC 765 kV 400 kV	BISWANATH CHARIALI-AGRA 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-RANPUR BHANPURA-WANDUR GWALIOR-SAWAI MADHOPUR WR (WITH SR) BHANDURA-URAIYA GWALIOR-SAWAI MADHOPUR WR (WITH SR) BHANDAWATI 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 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	0 230 0 0 0 0 0 654 0 250 154 119 976 126 31 19 89 45 0	NER-NR 1842 345 1923 2569 1758 910 0 1463 713 123 347 0 343 79 135 0 29 0 WR-NR	9.3 0.0 1.6 0.0 0.0 0.0 0.0 10.3 0.0 1.2 0.0 22.8 0 0.8 0.0 0.9 0.2 0.0 37.7	0.0 32.0 0.0 33.0 45.5 22.0 28.5 0.0 29.6 2.1 0.0 1.2 0.0 1.0 0.1 0.9 0.0 0.1 0.0 195.9 11.9 0.0 23.2 41.1 0.0 0.0	9.3 -32.0 1.6 -33.0 -45.5 -22.0 -28.5 10.3 -29.6 -2.1 1.2 -1.2 22.8 -1 0.7 -0.9 0.9 0.1 0.0 -158.2 -11.9 0.0 -22.4 -41.1 13.1 0.0
33 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	HVDC Export of HVDC - 765 kV - 400 kV - 132kV Export of HVDC - 765 kV 400 kV	BISWANATH CHARIALI-AGRA 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 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 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	0 230 0 0 0 0 654 0 250 154 119 976 126 31 19 89 45 0	NER-NR 1842 345 1923 2569 1758 910 0 1463 713 123 347 0 343 79 135 0 29 0 WR-NR	9.3 0.0 1.6 0.0 0.0 0.0 10.3 0.0 0.0 1.2 0.0 22.8 0 0.8 0.0 0.9 0.2 0.0 37.7	0.0 32.0 0.0 33.0 33.0 45.5 22.0 28.5 0.0 29.6 2.1 0.0 1.2 0.0 1.0 0.1 0.9 0.0 1.1 0.0 195.9 11.9 0.0 23.2 41.1 0.0 0.0 1.3	9.3 -32.0 1.6 -33.0 -45.5 -22.0 -28.5 10.3 -29.6 -2.1 1.2 -1.2 22.8 -1 0.7 -0.9 0.9 0.1 0.0 -158.2 -11.9 0.0 -22.4 -41.1 13.1 0.0 -1.3
33 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 59	HVDC Export of HVDC - 765 kV - 400 kV - 132kV Export of HVDC - 765 kV 400 kV	BISWANATH CHARIALI-AGRA 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 GWALIOR-SAWAI MADHOPUR WR (With SR) BHASUR-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	0 230 0 0 0 0 654 0 250 154 119 976 126 31 19 89 45 0	NER-NR 1842 345 1923 2569 1758 910 0 1463 713 123 347 0 343 79 135 0 29 0 WR-NR 505 0 2074 2389 0 0 66 74 WR-SR	9.3 0.0 1.6 0.0 0.0 0.0 10.3 0.0 0.0 12.8 0 0.8 0.0 0.9 0.2 0.0 37.7	0.0 32.0 0.0 33.0 33.0 45.5 22.0 28.5 0.0 29.6 2.1 0.0 1.2 0.0 1.0 1.0 1.0 1.0	9.3 -32.0 1.6 -33.0 -45.5 -22.0 -28.5 10.3 -29.6 -2.1 1.2 -1.2 22.8 -1 0.7 -0.9 0.9 0.1 0.0 -158.2 -11.9 0.0 -22.4 -41.1 13.1 0.0 -1.3 1.4 -62.1
33 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	HVDC Export of HVDC - 765 kV - 400 kV - 132kV Export of HVDC - 765 kV 400 kV	BISWANATH CHARIALI-AGRA 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 GWALIOR-SAWAI MADHOPUR WR (With SR) BHADRAWATI B/B BARSUR-L.SILERU SOLAPUR-RICHUR 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 S/C S/C S/C S/C S/C S/C S	0 230 0 0 0 0 654 0 250 154 119 976 126 31 19 89 45 0	NER-NR 1842 345 1923 2569 1758 910 0 1463 713 123 347 0 343 79 135 0 29 0 WR-NR 505 0 2074 2389 0 0 66 74 WR-SR	9.3 0.0 1.6 0.0 0.0 0.0 10.3 0.0 0.0 12.8 0 0.8 0.0 0.9 0.2 0.0 37.7	0.0 32.0 0.0 33.0 33.0 45.5 22.0 28.5 0.0 29.6 2.1 0.0 1.2 0.0 1.0 1.0 1.0 1.0	9.3 -32.0 1.6 -33.0 -45.5 -22.0 -28.5 10.3 -29.6 -2.1 1.2 -1.2 22.8 -1 0.7 -0.9 0.9 0.1 0.0 -158.2 -11.9 0.0 -22.4 -41.1 13.1 0.0 -1.3 1.4