

# 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: 28<sup>th</sup> Dec 2018

To,

- कार्यकारी निदेशक, पू .क्षे .भा .प्रे .के.,14 , गोल्फ क्लब रोड , कोलकाता 700033
   Executive Director, ERLDC, 14 Golf Club Road, Tolleygunge, 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 27.12.2018.

महोदय/Dear Sir,

आई॰ई॰जी॰सी॰-2010 की धारा स.-5.5.1 के प्रावधान के अनुसार, दिनांक 27-दिसम्बर-2018 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 27<sup>th</sup> December 2018, is available at the NLDC website.

धन्यवाद.

#### पॉवर सिस्टम ऑपरेशन कारपोरेशन लिमिटेड राष्ट्रीय भार प्रेषण केंद्र, नई दिल्ली

Report for previous day Date of Reporting 28-Dec-18

#### A. Maximum Demand

	NR	WR	SR	ER	NER	Total
Demand Met during Evening Peak hrs(MW) (at 1900 hrs; from RLDCs)	46675	47925	41312	17792	2410	156114
Peak Shortage (MW)	791	0	0	0	39	830
Energy Met (MU)	971	1109	952	345	42	3420
Hydro Gen (MU)	115	27	83	30	7	262
Wind Gen (MU)	7	34	22			63
Solar Gen (MU)*	21.79	20.80	58.17	0.79	0.04	102
Energy Shortage (MU)	12.8	0.0	0.0	0.0	0.2	13.0
Maximum Demand Met during the day	47104	54766	44373	18239	2431	162024
(MW) & time (from NLDC SCADA)	18:30	09:50	08:36	18:57	17:40	09:53

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	5.03	5.03	80.36	14.61

C. Power Supply Position in State

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	5900	0	117.8	23.7	-0.7	113	0.0
	Haryana	6635	0	131.2	68.2	0.8	298	0.0
	Rajasthan	12682	0	241.2	62.3	2.7	641	0.0
	Delhi	4057	0	69.6	51.4	0.8	296	0.0
NR	UP	14078	210	286.5	100.8	-0.3	327	0.6
	Uttarakhand	2102	0	39.3	25.8	0.4	167	0.0
	HP	1622	30	31.2	24.3	1.1	240	0.2
	J&K	2767	692	50.7	46.4	-0.9	402	11.9
	Chandigarh	229	0	3.7	3.3	0.5	64	0.0
	Chhattisgarh	3371	0	74.9	23.0	-0.1	284	0.0
	Gujarat	15325	0	322.0	86.4	2.1	711	0.0
	MP	14019	0	258.7	146.3	-1.7	533	0.0
WR	Maharashtra	20323	0	407.9	98.7	-1.4	453	0.0
WK	Goa	462	0	10.4	9.4	0.4	52	0.0
	DD	318	0	7.1	6.5	0.6	52	0.0
	DNH	756	0	17.4	16.7	0.7	74	0.0
	Essar steel	551	0	11.2	11.3	-0.1	287	0.0
	Andhra Pradesh	8073	0	167.1	57.1	2.4	450	0.0
	Telangana	8961	0	190.3	84.4	0.7	408	0.0
SR	Karnataka	10961	0	213.2	71.6	-0.1	417	0.0
JN.	Kerala	3647	0	73.1	55.2	1.3	277	0.0
	Tamil Nadu	14280	0	302.0	155.9	0.4	405	0.0
	Pondy	331	0	6.8	7.3	-0.4	33	0.0
	Bihar	4087	0	72.4	69.7	-1.0	460	0.0
	DVC	3103	0	66.4	-16.9	1.7	396	0.0
ER	Jharkhand	1224	0	24.5	17.2	0.2	169	0.0
EN	Odisha	3735	0	69.7	24.1	2.5	267	0.0
	West Bengal	6373	0	110.8	19.6	1.1	309	0.0
	Sikkim	100	0	1.6	1.8	-0.1	18	0.0
	Arunachal Pradesh	109	2	2.0	1.8	0.2	36	0.0
	Assam	1369	32	23.3	17.5	0.8	87	0.1
	Manipur	207	4	2.8	2.9	-0.1	31	0.0
NER	Meghalaya	338	0	6.4	5.7	-0.3	244	0.0
	Mizoram	102	2	1.8	1.2	0.3	20	0.0
	Nagaland	115	3	2.1	2.0	0.0	20	0.0
	Tripura	222	1	3.7	1.4	0.4	45	0.0

### $\textbf{D. Transnational Exchanges} \ \ (\textbf{MU}) \textbf{-} \textbf{Import} (+\textbf{ve}) / \textbf{Export} (-\textbf{ve})$

	Bhutan	Nepal	Bangladesh
Actual(MU)	0.8	-6.8	-14.9
Day peak (MW)	197.4	-303.0	-816.0

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

	NR	WR	SR	ER	NER	TOTAL
Schedule(MU)	157.5	-188.4	101.3	-74.4	4.2	0.2
Actual(MU)	152.3	-195.1	101.1	-66.0	4.2	-3.5
O/D/U/D(MU)	-5.2	-6.6	-0.3	8.4	0.0	-3.7

F. Generation Outage(MW)

	NR	WR	SR	ER	NER	Total
Central Sector	4143	17076	6832	1370	306	29726
State Sector	9340	11105	7320	5855	50	33670
Total	13483	28181	14152	7225	356	63396

G. Sourcewise generation (MII)

	NR	WR	SR	ER	NER	All India
Coal	593	1154	548	416	4	2715
Lignite	21	17	55	0	0	93
Hydro	115	27	83	30	7	262
Nuclear	25	18	36	0	0	78
Gas, Naptha & Diesel	31	42	18	0	30	120
RES (Wind, Solar, Biomass & Others)	57	57	117	1	0	232
Total	841	1314	857	447	41	3500

Share of RES in total generation (%)	6.76	4.37	13.68	0.18	0.10	6.64
Share of Non-fossil fuel (Hydro, Nuclear and		7.78	27.52	6.88	17.45	16.36
RES) in total generation (%)	23.37	7.78	27.52	0.00	17.45	10.30

H. Diversity Factor
All India Demand Diversity Factor
1.030
Diversity factor = Sum of regional maximum demands / All India maximum demand

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

i		INTE	R-REGIO	ONAL EX	CHANGES	Date of I	28-Dec-18	
								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)				1		
2	765kV	GAYA-VARANASI SASARAM-FATEHPUR	D/C S/C	0 52	538 240	0.0	2.5	-6.8 -2.5
3	703KV	GAYA-BALIA	S/C	0	271	0.0	4.2	-4.2
4	HVDC	ALIPURDUAR-AGRA	-	0	0	0.0	0.0	0.0
5		PUSAULI B/B	S/C	0	148	0.0	3.6	-3.6 -2.7
6 7		PUSAULI-VARANASI PUSAULI -ALLAHABAD	S/C S/C	40	134 64	0.0	0.7	-2.7
8	1	MUZAFFARPUR-GORAKHPUR	D/C	6	485	0.0	6.2	-6.2
9	400 kV	PATNA-BALIA	Q/C	0	833	0.0	16.8	-16.8
10		BIHARSHARIFF-BALIA	D/C	0	244	0.0	2.6	-2.6
11		MOTIHARI-GORAKHPUR BIHARSHARIFF-VARANASI	D/C D/C	96	350 124	0.0	0.8	-6.7 -0.8
13	220 kV	PUSAULI-SAHUPURI	S/C	0	139	0.0	2.5	-2.5
14	220 111	SONE NAGAR-RIHAND	S/C	0	0	0.0	0.0	0.0
15	132 kV	GARWAH-RIHAND	S/C	25	0	0.6	0.0	0.6
16	132 K	KARMANASA-SAHUPURI	S/C	0	0	0.0	0.0	0.0
17	L	KARMANASA-CHANDAULI	S/C	0	0 ER-NR	0.0	0.0	0.0
Import/F	Export of	ER (With WR)			EK-NK	0.6	56.0	-55.4
18	765 kV	JHARSUGUDA-DHARAMJAIGARH S/C	D/C	1255	0	13.3	0.0	13.3
19	. 05 R Y	NEW RANCHI-DHARAMJAIGARH	D/C	385	307	0.2	0.0	0.2
20	400 kV	JHARSUGUDA-RAIGARH	Q/C	338	289	3.7	0.0	3.7
21	<del>                                     </del>	RANCHI-SIPAT BUDHIPADAR-RAIGARH	D/C S/C	128 5	12 83	0.0	0.0	1.2 -0.7
23	220 kV	BUDHIPADAR-KAIGARH BUDHIPADAR-KORBA	D/C	118	0	1.9	0.0	1.9
					ER-WR	20.1	0.7	19.4
Import/E	Export of	ER (With SR)						
24	<b>†</b>	ANGUL-SRIKAKULAM	D/C	0.0	1493.0	0.0	22.6	-22.6
25 26	HVDC LINK	JEYPORE-GAZUWAKA B/B TALCHER-KOLAR BIPOLE	D/C D/C	0.0	685.0 1978.0	0.0	14.9 45.3	-14.9 -45.3
27	400 kV	TALCHER-I/C	D/C	0.0	614.0	0.0	0.8	-0.8
28	220 kV	BALIMELA-UPPER-SILERRU	S/C	1.0	0.0	0.0	0.0	0.0
					ER-SR	0.0	82.7	-82.7
Import/E	Export of	ER (With NER)	D/C	150	115		0.0	
30	400 kV	BINAGURI-BONGAIGAON ALIPURDUAR-BONGAIGAON	D/C D/C	159 252	115 44	3.0	0.0	3
31	220 kV		D/C	35	36	0.1	0.0	0
	n	ALIPURDUAR-SALAKATI			30	0.1	0.0	
	1				ER-NER	4.2	0.0	4.2
	Export of	NER (With NR) BISWANATH CHARIALI-AGRA	-	474				
Import/E	Export of HVDC	NER (With NR) BISWANATH CHARIALI-AGRA	-	474	ER-NER	4.2	0.0	4.2
Import/E 32 Import/E	Export of HVDC	NER (With NR) BISWANATH CHARIALI-AGRA WR (With NR)	-		ER-NER  0  NER-NR	8.9 8.9	0.0 0.0 0.0	8.9 8.9
Import/E 32 Import/E 33	Export of HVDC	NER (With NR) BISWANATH CHARIALI-AGRA WR (With NR) CHAMPA-KURUKSHETRA	- D/C	1	0 NER-NR	8.9 8.9 0.0	0.0 0.0 0.0	8.9 8.9 -6.8
Import/E 32 Import/E	Export of HVDC	NER (With NR) BISWANATH CHARIALI-AGRA WR (With NR)	-		ER-NER  0  NER-NR	8.9 8.9	0.0 0.0 0.0	8.9 8.9
32 Import/E 33 34	Export of HVDC	NER (With NR) BISWANATH CHARIALI-AGRA WR (With NR) CHAMPA-KURUKSHETRA VCHAL B/B	D/C D/C	1 243	0 NER-NR 700 0	8.9 8.9 0.0 6.1	0.0 0.0 0.0 6.8 0.0	8.9 8.9 -6.8 6.1
Import/E 32 Import/E 33 34 35	Export of HVDC Export of HVDC	NER (With NR) BISWANATH CHARIALI-AGRA WR (With NR) CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR	D/C D/C D/C	1 243 0 0	0 NER-NR 700 0 1923	8.9 8.9 0.0 6.1 0.0 0.0 0.0	0.0 0.0 0.0 6.8 0.0 37.6	4.2 8.9 8.9 -6.8 6.1 -37.6 -37.5 -19.9
Import/E 32 Import/E 33 34 35 36 37 38	Export of HVDC Export of HVDC	NER (With NR) BISWANATH CHARIALI-AGRA  WR (With NR) CHAMPA-KURUKSHETRA VCHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI	D/C D/C D/C D/C D/C D/C D/C D/C	1 243 0 0 0 204	0 NER-NR 700 0 1923 1111 1283 277	8.9 8.9 0.0 6.1 0.0 0.0 0.0 0.0	0.0 0.0 0.0 6.8 0.0 37.6 37.5 19.9 5.0	4.2 8.9 8.9 -6.8 6.1 -37.6 -37.5 -19.9 -5.0
Import/E 32  Import/E 33 34 35 36 37 38 39	Export of HVDC Export of HVDC	NER (With NR) BISWANATH CHARIALI-AGRA  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 D/C D/C S/C	1 243 0 0 0 0 204 826	700 0 1923 1111 1283 277 0	8.9 8.9 0.0 6.1 0.0 0.0 0.0 0.0 13.8	0.0 0.0 0.0 6.8 0.0 37.6 37.5 19.9 5.0	8.9 8.9 -6.8 6.1 -37.6 -37.5 -19.9 -5.0 13.8
Import/E 32 Import/E 33 34 35 36 37 38	Export of HVDC Export of HVDC	NER (With NR) BISWANATH CHARIALI-AGRA  WR (With NR) CHAMPA-KURUKSHETRA VCHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI	D/C D/C D/C D/C D/C D/C D/C D/C	1 243 0 0 0 204	0 NER-NR 700 0 1923 1111 1283 277	8.9 8.9 0.0 6.1 0.0 0.0 0.0 0.0	0.0 0.0 0.0 6.8 0.0 37.6 37.5 19.9 5.0	4.2 8.9 8.9 -6.8 6.1 -37.6 -37.5 -19.9 -5.0
Import/E 32 Import/E 33 34 35 36 37 38 39 40	Export of HVDC Export of HVDC  765 kV	NER (With NR) BISWANATH CHARIALI-AGRA  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 D/C D/C S/C S/C	1 243 0 0 0 0 204 826	700 0 1923 1111 1283 277 0 1517	8.9 8.9 0.0 6.1 0.0 0.0 0.0 0.0 13.8 0.0	0.0 0.0 0.0 6.8 0.0 37.6 37.5 19.9 5.0 0.0 34.7	4.2 8.9 8.9 -6.8 6.1 -37.6 -37.5 -19.9 -5.0 13.8 -34.7
Import/E 32 Import/E 33 34 35 36 37 38 39 40 41 42 43	Export of HVDC Export of HVDC	NER (With NR) BISWANATH CHARIALI-AGRA  WR (With NR) CHAMPA-KURUKSHETRA VCHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND	D/C D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C	1 243 0 0 0 0 204 826 0 205	700 0 1923 1111 1283 277 0 1517	8.9 8.9 0.0 6.1 0.0 0.0 0.0 0.0 13.8 0.0 1.3 0.0 10.8	0.0 0.0 0.0 6.8 0.0 37.6 37.5 19.9 5.0 0.0 34.7 0.0 2.2 0.0	4.2 8.9 8.9 -6.8 6.1 -37.6 -37.5 -19.9 -5.0 13.8 -34.7 1.3 -2.2 10.8
Import/E 32  Import/E 33  34  35  36  37  38  39  40  41  42  43  44	Export of HVDC Export of HVDC 765 kV	NER (With NR) BISWANATH CHARIALI-AGRA  WR (With NR) 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	D/C D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C S/C D/C	1 243 0 0 0 20 204 826 0 205 80 478 267	0 NER-NR 700 0 1923 1111 1283 277 0 1517 173 361 0 38	8.9 8.9 0.0 6.1 0.0 0.0 0.0 0.0 13.8 0.0 1.3 0.0 10.8	0.0 0.0 0.0 6.8 0.0 37.6 37.5 19.9 5.0 0.0 34.7 0.0 2.2 0.0 0	4.2 8.9 8.9 -6.8 6.1 -37.6 -37.5 -19.9 -5.0 13.8 -34.7 1.3 -2.2 10.8
Import/E 32 Import/E 33 34 35 36 37 38 39 40 41 42 43 44 45	Export of HVDC Export of HVDC 765 kV	NER (With NR) BISWANATH CHARIALI-AGRA  WR (With NR) 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 BADOD-KOTA	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	1 243 0 0 0 204 826 0 205 80 478 267 28	0 NER-NR 700 0 1923 1111 1283 277 0 1517 173 361 0 38	8.9 8.9 0.0 6.1 0.0 0.0 0.0 0.0 13.8 0.0 1.3 0.0 10.8 2	0.0 0.0 0.0 6.8 0.0 37.6 37.5 19.9 5.0 0.0 34.7 0.0 2.2 0.0 0	4.2 8.9 8.9 -6.8 6.1 -37.6 -37.5 -19.9 -5.0 13.8 -34.7 1.3 -2.2 10.8 2
Import/E 32  Import/E 33  34  35  36  37  38  39  40  41  42  43  44	Export of HVDC Export of HVDC 765 kV	NER (With NR) BISWANATH CHARIALI-AGRA  WR (With NR) 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 BADOD-KOTA BADOD-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 D/C	1 243 0 0 0 204 826 0 205 80 478 267 28	0 NER-NR 700 0 1923 1111 1283 277 0 1517 173 361 0 38 46	8.9 8.9 0.0 6.1 0.0 0.0 0.0 0.0 13.8 0.0 1.3 0.0 10.8 2 0.8 0.0	0.0 0.0 0.0 6.8 0.0 37.6 37.5 19.9 5.0 0.0 34.7 0.0 2.2 0.0 0 0.0 1.6	4.2 8.9 8.9 -6.8 6.1 -37.6 -37.5 -19.9 -5.0 13.8 -34.7 1.3 -2.2 10.8 2 0.8 -1.6
Import/E 32  Import/E 33  34  35  36  37  38  39  40  41  42  43  44  45  46	Export of HVDC Export of HVDC 765 kV	NER (With NR) BISWANATH CHARIALI-AGRA  WR (With NR) 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 BADOD-KOTA	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	1 243 0 0 0 204 826 0 205 80 478 267 28	0 NER-NR 700 0 1923 1111 1283 277 0 1517 173 361 0 38	8.9 8.9 0.0 6.1 0.0 0.0 0.0 0.0 13.8 0.0 1.3 0.0 10.8 2	0.0 0.0 0.0 6.8 0.0 37.6 37.5 19.9 5.0 0.0 34.7 0.0 2.2 0.0 0	4.2 8.9 8.9 -6.8 6.1 -37.6 -37.5 -19.9 -5.0 13.8 -34.7 1.3 -2.2 10.8 2
Import/E 32  Import/E 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47	Export of HVDC Export of HVDC 765 kV	NER (With NR) BISWANATH CHARIALI-AGRA  WR (With NR) 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 BADOD-KOTA BADOD-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	1 243 0 0 0 204 826 0 205 80 478 267 28 0	0 NER-NR  700 0 1923 1111 1283 277 0 1517 173 361 0 38 46 127 0 17	8.9 8.9 0.0 6.1 0.0 0.0 0.0 0.0 13.8 0.0 1.3 0.0 10.8 2 0.8 0.0 1.6	0.0 0.0 0.0 0.0 6.8 0.0 37.6 37.5 19.9 5.0 0.0 34.7 0.0 2.2 0.0 0 0 0.0 1.6 0.0	8.9 8.9 8.9 -6.8 6.1 -37.6 -37.5 -19.9 -5.0 13.8 -34.7 1.3 -2.2 10.8 2 0.8 -1.6
Import/E 32  Import/E 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49	Export of HVDC Export of HVDC 765 kV 400 kV	NER (With NR) BISWANATH CHARIALI-AGRA  WR (With NR) 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 BADOD-KOTA BADOD-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	1 243 0 0 0 204 826 0 205 80 478 267 28 0 143 95	0 NER-NR  700 0 1923 1111 1283 277 0 1517 173 361 0 38 46 127 0 17	8.9 8.9 0.0 6.1 0.0 0.0 0.0 13.8 0.0 1.3 0.0 10.8 2 0.8 0.0 1.6 0.7	0.0 0.0 0.0 0.0 6.8 0.0 37.6 37.5 19.9 5.0 0.0 34.7 0.0 2.2 0.0 0 0.0 1.6 0.0 0.0	8.9 8.9 8.9 -6.8 6.1 -37.6 -37.5 -19.9 -5.0 13.8 -34.7 1.3 -2.2 10.8 2 0.8 -1.6 1.6 0.7
Import/E 32  Import/E 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49	Export of HVDC Export of HVDC 765 kV 400 kV 132kV Export of HVDC	NER (With NR) BISWANATH CHARIALI-AGRA  WR (With NR) 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 BADOD-KOTA BADOD-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	1 243 0 0 0 204 826 0 205 80 478 267 28 0 143 95	0 NER-NR  700 0 1923 1111 1283 277 0 1517 173 361 0 38 46 127 0 17	8.9 8.9 0.0 6.1 0.0 0.0 0.0 13.8 0.0 1.3 0.0 10.8 2 0.8 0.0 1.6 0.7 0.0	0.0 0.0 0.0 0.0 6.8 0.0 37.6 37.5 19.9 5.0 0.0 34.7 0.0 2.2 0.0 0 0 0.0 1.6 0.0 0.0	8.9 8.9 8.9 -6.8 6.1 -37.6 -37.5 -19.9 -5.0 13.8 -34.7 1.3 -2.2 10.8 2 0.8 -1.6 0.7 0.0
Import/E 32  Import/E 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49  Import/E 50 51	Export of HVDC Export of HVDC 765 kV 400 kV 132kV	NER (With NR) BISWANATH CHARIALI-AGRA  WR (With NR) 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 BADOD-KOTA BADOD-MORAK MEHGAON-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 D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	1 243 0 0 0 204 826 0 205 80 478 267 28 0 143 95 0	O   NER-NR     O   NER-NR     700   O   1923   1111   1283   277   O   1517   173   361   O   38   46   127   O   17   O   WR-NR     999   O   O   O   O   O   O   O   O	8.9 8.9 8.9 0.0 6.1 0.0 0.0 0.0 0.0 13.8 0.0 1.3 0.0 10.8 2 0.8 0.0 1.6 0.7 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 37.6 37.5 19.9 5.0 0.0 34.7 0.0 2.2 0.0 0 0 0.0 1.6 0.0 0.0 1.6 0.0 0.0 1.6 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	4.2  8.9  8.9  8.9  -6.8  6.1  -37.6  -37.5  -19.9  -5.0  13.8  -34.7  1.3  -2.2  10.8  2  0.8  -1.6  0.7  0.0  -108.5
Import/E 32  Import/E 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49  Import/E 50 51	Export of HVDC Export of HVDC 765 kV 400 kV 132kV Export of HVDC	NER (With NR) BISWANATH CHARIALI-AGRA  WR (With NR) 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 BADOD-KOTA BADOD-MORAK MEHGAON-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 D/C D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	1 243 0 0 0 204 826 0 205 80 478 267 28 0 143 95 0	O   NER-NR	8.9 8.9 8.9 0.0 6.1 0.0 0.0 0.0 0.0 13.8 0.0 1.3 0.0 10.8 2 0.8 0.0 1.6 0.7 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 37.6 37.5 19.9 5.0 0.0 34.7 0.0 2.2 0.0 0.0 1.6 0.0 0.0 1.8 1.8 1.8 1.8 1.8 1.8 1.8 1.8	4.2  8.9  8.9  8.9  -6.8  6.1  -37.6  -37.5  -19.9  -5.0  13.8  -34.7  1.3  -2.2  10.8  2  0.8  -1.6  0.7  0.0  -108.5
Import/E 32  Import/E 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49  Import/E 50 51 52 53	Export of HVDC Export of HVDC 765 kV 400 kV 132kV Export of HVDC LINK 765 kV	NER (With NR) BISWANATH CHARIALI-AGRA  WR (With NR) 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 BADOD-KOTA BADOD-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 S/C S	1 243 0 0 0 204 826 0 205 80 478 267 28 0 143 95 0	O   NER-NR	8.9 8.9 0.0 6.1 0.0 0.0 0.0 0.0 13.8 0.0 1.3 0.0 10.8 2 0.8 0.0 1.6 0.7 0.0 36.7	0.0 0.0 0.0 0.0 37.6 37.5 19.9 5.0 0.0 34.7 0.0 2.2 0.0 0 0.0 1.6 0.0 0.0 1.8 0.0 1.8 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	4.2  8.9  8.9  8.9  -6.8  6.1  -37.6  -37.5  -19.9  -5.0  13.8  -34.7  1.3  -2.2  10.8  2  0.8  -1.6  0.7  0.0  -108.5  -18.9  0.0  -26.1  -36.6
Import/E  32  Import/E  33  34  35  36  37  38  39  40  41  42  43  44  45  46  47  48  49  Import/E  50  51  52  53  54	Export of HVDC Export of HVDC 765 kV 400 kV 220 kV 132kV Export of HVDC LINK	NER (With NR) BISWANATH CHARIALI-AGRA  WR (With NR) 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 BADOD-KOTA BADOD-MORAK MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR  WR (With SR) BHADRAWATI B/B BARSUR-L.SILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD KOLHAPUR-KUDGI	D/C   D/C   D/C   D/C   D/C   S/C   D/C   D/C	1 243 0 0 0 204 826 0 205 80 478 267 28 0 143 95 0	O   NER-NR     700     0     1923     1111   1283   277   0   1517   173   361   0   38   46   127   0   17   0   WR-NR     999   0   2029   2448   26   26	8.9 8.9 0.0 6.1 0.0 0.0 0.0 0.0 13.8 0.0 1.3 0.0 10.8 2 0.8 0.0 1.6 0.7 0.0 36.7	0.0 0.0 0.0 0.0 0.0 0.0 37.6 37.5 19.9 5.0 0.0 34.7 0.0 0.0 0.0 1.6 0.0 0.0 1.6 0.0 0.0 1.6 0.0 0.0 1.6 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	8.9 8.9 8.9 -6.8 6.1 -37.6 -37.5 -19.9 -5.0 13.8 -34.7 1.3 -2.2 10.8 2 0.8 -1.6 1.6 0.7 0.0 -108.5
Import/E 32  Import/E 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49  Import/E 50 51 52 53	Export of HVDC Export of HVDC 765 kV - 400 kV - 220 kV - 132kV Export of HVDC LINK - 765 kV	NER (With NR) BISWANATH CHARIALI-AGRA  WR (With NR) 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 BADOD-KOTA BADOD-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 S/C S	1 243 0 0 0 204 826 0 205 80 478 267 28 0 143 95 0	O   NER-NR	8.9 8.9 0.0 6.1 0.0 0.0 0.0 0.0 13.8 0.0 1.3 0.0 10.8 2 0.8 0.0 1.6 0.7 0.0 36.7	0.0 0.0 0.0 0.0 37.6 37.5 19.9 5.0 0.0 34.7 0.0 2.2 0.0 0 0.0 1.6 0.0 0.0 1.8 0.0 1.8 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	4.2  8.9  8.9  8.9  -6.8  6.1  -37.6  -37.5  -19.9  -5.0  13.8  -34.7  1.3  -2.2  10.8  2  0.8  -1.6  0.7  0.0  -108.5  -18.9  0.0  -26.1  -36.6
Import/E  32  Import/E  33  34  35  36  37  38  39  40  41  42  43  44  45  46  47  48  49  Import/E  50  51  52  53  54  55	Export of HVDC Export of HVDC 765 kV - 400 kV - 220 kV - 132kV Export of HVDC LINK - 765 kV	NER (With NR) BISWANATH CHARIALI-AGRA  WR (With NR) 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 BADOD-KOTA BADOD-MORAK MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR  WR (With SR) BHADRAWATI B/B BARSUR-L.SILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD KOLHAPUR-CHIKODI	D/C   D/C   D/C   D/C   S/C   S/C	1 243 0 0 0 204 826 0 205 80 478 267 28 0 143 95 0	O   NER-NR	8.9 8.9 0.0 6.1 0.0 0.0 0.0 0.0 13.8 0.0 1.3 0.0 10.8 2 0.8 0.0 1.6 0.7 0.0 36.7	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	8.9 8.9 8.9 -6.8 6.1 -37.6 -37.5 -19.9 -5.0 13.8 -34.7 1.3 -2.2 10.8 2 0.8 -1.6 1.6 0.7 0.0 -108.5
Import/E  32  Import/E  33  34  35  36  37  38  39  40  41  42  43  44  45  46  47  48  49  Import/E  50  51  52  53  54  55  56	Export of HVDC Export of HVDC 765 kV - 400 kV - 220 kV - 132kV Export of HVDC LINK - 765 kV	NER (With NR) BISWANATH CHARIALI-AGRA  WR (With NR) 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 BADOD-KOTA BADOD-KOTA BADOD-MORAK MEHGAON-AURAIYA GWALIOR-SAWAI MADHOPUR  WR (With SR) BHADRAWATI B/B BARSUR-LSILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD KOLHAPUR-CHIKODI PONDA-AMBEWADI	D/C   D/C   D/C   D/C   D/C   D/C   D/C   D/C   S/C   S/C	1 243 0 0 0 204 826 0 205 80 478 267 28 0 143 95 0 0	O   NER-NR	8.9 8.9 0.0 6.1 0.0 0.0 0.0 0.0 13.8 0.0 1.3 0.0 10.8 2 0.8 0.0 1.6 0.7 0.0 36.7	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	8.9 8.9 8.9 8.9 6.8 6.1 -37.6 -37.5 -19.9 -5.0 13.8 -34.7 1.3 -2.2 10.8 2 0.8 -1.6 0.7 0.0 -108.5
Import/E  32  Import/E  33  34  35  36  37  38  39  40  41  42  43  44  45  46  47  48  49  Import/E  50  51  52  53  54  55  56	Export of HVDC Export of HVDC 765 kV - 400 kV - 220 kV - 132kV Export of HVDC LINK - 765 kV	NER (With NR) BISWANATH CHARIALI-AGRA  WR (With NR) 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 BADOD-KOTA BADOD-KOTA BADOD-MORAK MEHGAON-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   D/C   S/C   S/C	1 243 0 0 0 204 826 0 205 80 478 267 28 0 143 95 0 0	O   NER-NR	8.9 8.9 0.0 6.1 0.0 0.0 0.0 0.0 13.8 0.0 1.3 0.0 10.8 2 0.8 0.0 1.6 0.7 0.0 36.7	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	8.9 8.9 8.9 8.9  -6.8 6.1 -37.6 -37.5 -19.9 -5.0 13.8 -34.7 1.3 -2.2 10.8 2 0.8 -1.6 0.7 0.0 -108.5
Import/E  32  Import/E  33  34  35  36  37  38  39  40  41  42  43  44  45  46  47  48  49  Import/E  50  51  52  53  54  55  56	Export of HVDC Export of HVDC 765 kV - 400 kV - 220 kV - 132kV Export of HVDC LINK - 765 kV	NER (With NR) BISWANATH CHARIALI-AGRA  WR (With NR) 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 BADOD-KOTA BADOD-KOTA BADOD-MORAK MEHGAON-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   D/C   S/C   S/C	1 243 0 0 0 204 826 0 205 80 478 267 28 0 143 95 0 0 0 0 205 80 478 267 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	O   NER-NR	8.9 8.9 0.0 6.1 0.0 0.0 0.0 0.0 13.8 0.0 1.3 0.0 10.8 2 0.8 0.0 1.6 0.7 0.0 36.7	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	8.9 8.9 8.9 8.9  -6.8 6.1 -37.6 -37.5 -19.9 -5.0 13.8 -34.7 1.3 -2.2 10.8 2 0.8 -1.6 0.7 0.0 -108.5