

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

Τo,

- 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 28.12.2018.

महोदय/Dear Sir,

आई॰ई॰जी॰सी॰-2010 की धारा स.-5.5.1 के प्रावधान के अनुसार, दिनांक 28-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 28<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 29-Dec-18

#### A. Maximum Demand

	NR	WR	SR	ER	NER	Total
Demand Met during Evening Peak hrs(MW) (at 1900 hrs; from RLDCs)	47478	47228	42396	18375	2409	157886
Peak Shortage (MW)	608	0	0	454	42	1104
Energy Met (MU)	989	1094	951	346	43	3423
Hydro Gen (MU)	115	30	75	28	7	256
Wind Gen (MU)	4	37	31			72
Solar Gen (MU)*	23.25	21.84	61.52	0.45	0.00	107
Energy Shortage (MU)	12.5	0.0	0.0	1.4	0.3	14.1
Maximum Demand Met during the day	47743	54312	44526	18208	2414	162661
(MW) & time (from NLDC SCADA)	10:28	09:46	08:15	19:09	18:42	09:49

B. Frequency Profile (%)
Region
All India FVI <49.7 49.7-49.8 49.8-49.9 49.9-50.05 > 50.05 0.048 0.00 0.86 12.23 13.09 76.52 10.39

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	5950	0	119.6	24.7	-0.4	89	0.0
	Haryana	6579	0	130.6	66.4	0.5	227	0.0
	Rajasthan	13030	0	242,4	63.5	0.3	395	0.0
	Delhi	4396	0	73.2	53.8	1.0	329	0.0
NR	UP	14706	0	295.8	109.1	-0.5	380	0.0
	Uttarakhand	2126	0	39.3	26.8	0.3	177	0.0
	HP	1700	0	31.6	25.2	0.7	152	0.0
	J&K	2605	651	52.8	45.4	2.3	440	12.4
	Chandigarh	251	0	3.9	3.4	0.6	112	0.0
	Chhattisgarh	3573	0	76.1	19.1	-0.4	318	0.0
WR	Gujarat	15193	0	319.4	85.1	1.6	584	0.0
	MP	13792	0	257.9	144.8	-0.7	538	0.0
	Maharashtra	19811	0	393.3	88.1	-2.0	639	0.0
	Goa	462	0	10.4	9.6	0.2	24	0.0
	DD	316	0	7.1	6.5	0.7	62	0.0
	DNH	732	0	17.2	16.7	0.5	75	0.0
	Essar steel	593	0	12.6	12.7	-0.2	289	0.0
	Andhra Pradesh	7958	0	166.9	61.3	0.5	425	0.0
	Telangana	9019	0	188.5	73.8	0.3	396	0.0
SR	Karnataka	11011	0	211.2	69.8	-1.2	391	0.0
3N	Kerala	3623	0	73.1	54.0	1.5	190	0.0
	Tamil Nadu	14193	0	303.9	157.0	0.5	404	0.0
	Pondy	352	0	7.2	7.4	-0.2	27	0.0
	Bihar	4090	350	73.8	67.0	2.9	460	1.1
ER	DVC	3126	0	66.1	-18.1	1.6	396	0.0
	Jharkhand	1186	104	23.6	16.7	0.4	169	0.3
EN	Odisha	3801	0	67.9	24.9	1.8	267	0.0
	West Bengal	6543	0	113.5	21.8	1.1	309	0.0
	Sikkim	100	0	1.4	1.6	-0.2	18	0.0
	Arunachal Pradesh	106	2	2.1	1.8	0.3	30	0.0
	Assam	1361	34	23.3	17.5	1.1	107	0.2
	Manipur	208	3	2.8	2.9	-0.1	34	0.0
NER	Meghalaya	346	0	6.7	5.8	-0.1	30	0.0
	Mizoram	105	1	1.6	1.2	0.1	24	0.0
	Nagaland	112	2	2.2	2.0	0.1	11	0.0
	Tripura	225	2	3.9	1.4	0.3	43	0.0

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

	Bhutan	Nepal	Bangladesh
Actual(MU)	1.9	-6.9	-11.8
Day peak (MW)	116.9	-321.0	-809.0

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

	NR	WR	SR	ER	NER	TOTAL
Schedule(MU)	157.2	-194.1	100.1	-67.4	4.4	0.2
Actual(MU)	154.7	-198.9	99.3	-58.8	4.2	0.5
O/D/U/D(MU)	-2.6	-4.8	-0.8	8.6	-0.1	0.3

F. Generation Outage(MW)

	NR	WR	SR	ER	NER	Total
Central Sector	4142	17376	6832	2824	306	31480
State Sector	9340	11954	6720	6395	50	34459
Total	13482	29330	13552	9219	356	65938

G. Sourcewise generation (MII)

	NR	WR	SR	ER	NER	All India
Coal	608	1147	548	407	5	2715
Lignite	24	17	53	0	0	95
Hydro	115	30	75	28	7	256
Nuclear	26	18	36	0	0	81
Gas, Naptha & Diesel	29	41	19	0	30	118
RES (Wind, Solar, Biomass & Others)	56	60	131	0	0	247
Total	858	1314	862	436	42	3512

Share of RES in total generation (%)	6.47	4.60	15.17	0.11	0.00	7.04
Share of Non-fossil fuel (Hydro, Nuclear and	23.01	8 24	28.09	6.56	17.89	16.63
RES) in total generation (%)	25.01	0.24	20.09	6.56	17.05	10.03

H. Diversity Factor
All India Demand Diversity Factor
1.028
Diversity factor = Sum of regional maximum demands / All India maximum demand

il .		<u>INTER-REGIONAL EXCHANGES</u> Date of Reporting:				29-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		1			1
2	765kV	GAYA-VARANASI SASARAM-FATEHPUR	D/C S/C	0 25	567 238	0.0	7.1	-7.1 -2.6
3	703KV	GAYA-BALIA	S/C	0	264	0.0	4.1	-2.0 -4.1
4	HVDC	ALIPURDUAR-AGRA	-	0	0	0.0	0.0	0.0
5	11.20	PUSAULI B/B	S/C	0	148	0.0	3.6	-3.6
6 7		PUSAULI-VARANASI PUSAULI -ALLAHABAD	S/C S/C	0	126 82	0.0	2.3	-2.3 -1.1
- 8	1	MUZAFFARPUR-GORAKHPUR	D/C	0	602	0.0	7.0	-7.0
9	400 kV	PATNA-BALIA	Q/C	0	901	0.0	18.1	-18.1
10		BIHARSHARIFF-BALIA	D/C	0	258	0.0	3.6	-3.6
11		MOTIHARI-GORAKHPUR	D/C	0	384	0.0	6.8	-6.8
12		BIHARSHARIFF-VARANASI	D/C	61	196	0.0	1.4	-1.4
13	220 kV	PUSAULI-SAHUPURI SONE NAGAR-RIHAND	S/C S/C	0	0	0.0	2.5 0.0	-2.5 0.0
15		GARWAH-RIHAND	S/C	25	0	0.6	0.0	0.6
16	132 kV	KARMANASA-SAHUPURI	S/C	0	0	0.0	0.0	0.0
17	L	KARMANASA-CHANDAULI	S/C	0	0	0.0	0.0	0.0
Import/F	Export of	ER (With WR)			ER-NR	0.6	60.0	-59.4
18	765 kV	JHARSUGUDA-DHARAMJAIGARH S/C	D/C	1494	0	24.2	0.0	24.2
19	. 05 R Y	NEW RANCHI-DHARAMJAIGARH	D/C	398	218	2.2	0.0	2.2
20	400 kV	JHARSUGUDA-RAIGARH	Q/C	92	219	0.0	1.6	-1.6
21		RANCHI-SIPAT	D/C	207	7	2.0	0.0	2.0
22	220 kV	BUDHIPADAR-RAIGARH BUDHIPADAR-KORBA	S/C D/C	0 141	84	0.0 2.2	0.0	-1.1 2.2
23	1	BUDHIFADAR-KUKBA	D/C	141	ER-WR	30.6	2.7	27.9
	<u> </u>	ER (With SR)			T			T
24	765 kV	ANGUL-SRIKAKULAM JEYPORE-GAZUWAKA B/B	D/C D/C	0.0	1252.0	0.0	18.8	-18.8
26	HVDC LINK	TALCHER-KOLAR BIPOLE	D/C	0.0	685.0 1974.0	0.0	16.0 45.7	-16.0 -45.7
27	400 kV	TALCHER-I/C	D/C	0.0	599.0	0.0	0.9	-0.9
28	220 kV	BALIMELA-UPPER-SILERRU	S/C	1.0	0.0	0.0	0.0	0.0
	•				ER-SR	0.0	80.6	-80.6
	Export of	ER (With NER)	1		•			1
29	400 kV	BINAGURI-BONGAIGAON	D/C	149	22	1.1	0.0	1
30	220 kV	ALIPURDUAR-BONGAIGAON ALIPURDUAR-SALAKATI	D/C D/C	252 30	0 24	3.0 0.1	0.0	0
31	220 K V	ALII UKDUAK-SALAKATI	D/C	30	ER-NER	4.2	0.0	4.2
		NER (With NR)	I		T _			T
Import/E		NER (With NR) BISWANATH CHARIALI-AGRA	-	474	0 NER-NR	11.7 11.7	0.0	11.7
32	HVDC	· · · · · · · · · · · · · · · · · · ·	-	474	0 NER-NR	11.7 11.7	0.0	11.7 11.7
32	HVDC	BISWANATH CHARIALI-AGRA	- D/C	474				
32	HVDC	BISWANATH CHARIALI-AGRA WR (With NR)	D/C D/C		NER-NR	0.0 6.0	0.0	11.7
32 Import/E 33 34 35	HVDC Export of	BISWANATH CHARIALI-AGRA  WR (With NR)  CHAMPA-KURUKSHETRA  V'CHAL B/B  APL -MHG	D/C D/C	0 241 0	NER-NR  601  0 1925	0.0 6.0 0.0	0.0 0.7 0.0 48.0	-0.7 6.0 -48.0
32 Import/E 33 34 35 36	HVDC Export of	BISWANATH CHARIALI-AGRA  WR (With NR)  CHAMPA-KURUKSHETRA  V'CHAL B/B  APL -MHG  GWALIOR-AGRA	D/C D/C D/C	0 241 0	001 0 1925 1032	0.0 6.0 0.0 0.0	0.0 0.7 0.0 48.0 36.0	-0.7 6.0 -48.0 -36.0
32 Import/E 33 34 35 36 37	HVDC Export of	BISWANATH CHARIALI-AGRA  WR (With NR)  CHAMPA-KURUKSHETRA  VCHAL B/B  APL -MHG  GWALIOR-AGRA PHAGI-GWALIOR	D/C D/C D/C D/C	0 241 0 0	0 1925 1032 1151	0.0 6.0 0.0 0.0 0.0	0.0 0.7 0.0 48.0 36.0 17.3	-0.7 6.0 -48.0 -36.0 -17.3
32 Import/E 33 34 35 36	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	0 241 0	001 0 1925 1032	0.0 6.0 0.0 0.0	0.0 0.7 0.0 48.0 36.0	-0.7 6.0 -48.0 -36.0
32 Import/E 33 34 35 36 37 38	Export of HVDC	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	0 241 0 0 0	0 1925 1032 1151 364	0.0 6.0 0.0 0.0 0.0 0.0 0.0	0.0 0.7 0.0 48.0 36.0 17.3 9.2	-0.7 6.0 -48.0 -36.0 -17.3 -9.2
32 Import/F 33 34 35 36 37 38 39 40 41	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  ZERDA-KANKROLI	D/C D/C D/C D/C D/C S/C S/C S/C S/C	0 241 0 0 0 100 590 0	0 1925 1032 1151 364	0.0 6.0 0.0 0.0 0.0 0.0 0.0 9.9	0.0 0.7 0.0 48.0 36.0 17.3 9.2 0.0	-0.7 6.0 -48.0 -36.0 -17.3 -9.2 9.9
32  Import/F 33 34 35 36 37 38 39 40 41 42	Export of HVDC	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	D/C D/C D/C D/C D/C S/C S/C S/C S/C	0 241 0 0 0 100 590 0 286	NER-NR  601 0 1925 1032 1151 364 0 1595 102 309	0.0 6.0 0.0 0.0 0.0 0.0 0.0 0.0 2.3 0.0	0.0 0.7 0.0 48.0 36.0 17.3 9.2 0.0 35.0 0.0 1.6	-0.7 6.0 -48.0 -36.0 -17.3 -9.2 9.9 -35.0 2.3 -1.6
32  Import/E 33 34 35 36 37 38 39 40 41 42 43	HVDC Export of HVDC 765 kV	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 S/C S/C S/C S/C S/C S/C	0 241 0 0 0 100 590 0 286 144 480	NER-NR  601 0 1925 1032 1151 364 0 1595 102 309 0	0.0 6.0 0.0 0.0 0.0 0.0 0.0 0.0 2.3 0.0 2.3	0.0 0.7 0.0 48.0 36.0 17.3 9.2 0.0 35.0 0.0 1.6 0.0	-0.7 6.0 -48.0 -36.0 -17.3 -9.2 -9.9 -35.0 2.3 -1.6 21.8
32  Import/E 33 34 35 36 37 38 39 40 41 42 43 44	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  ZERDA-KANKROLI  ZERDA -BHINMAL  V'CHAL -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 D/C	0 241 0 0 0 100 590 0 286 144 480 321	NER-NR  601 0 1925 1032 1151 364 0 1595 102 309 0 3	0.0 6.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 2.3 0.0 21.8	0.0 0.7 0.0 48.0 36.0 17.3 9.2 0.0 35.0 0.0 1.6 0.0 0	-0.7 6.0 -48.0 -36.0 -17.3 -9.2 9.9 -35.0 2.3 -1.6 21.8
32  Import/E 33 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 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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 241 0 0 0 100 590 0 286 144 480 321	NER-NR  601 0 1925 1032 1151 364 0 1595 102 309 0 3 50	0.0 6.0 0.0 0.0 0.0 0.0 0.0 0.0 2.3 0.0 21.8 2	0.0 0.7 0.0 48.0 36.0 17.3 9.2 0.0 35.0 0.0 1.6 0.0 0	-0.7 -0.0 -48.0 -36.0 -17.3 -9.2 9.9 -35.0 2.3 -1.6 21.8 2
32  Import/E 33 34 35 36 37 38 39 40 41 42 43 44	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  ZERDA-KANKROLI  ZERDA -BHINMAL  V'CHAL -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 D/C	0 241 0 0 0 100 590 0 286 144 480 321	NER-NR  601 0 1925 1032 1151 364 0 1595 102 309 0 3	0.0 6.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 2.3 0.0 21.8	0.0 0.7 0.0 48.0 36.0 17.3 9.2 0.0 35.0 0.0 1.6 0.0 0	-0.7 6.0 -48.0 -36.0 -17.3 -9.2 9.9 -35.0 2.3 -1.6 21.8
32  Import/E 33 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  VCHAL B/B  APL-MHG  GWALIOR-AGRA  PHAGI-GWALIOR  JABALPUR-ORAI  GWALIOR-ORAI  ZERDA-KANKROLI  ZERDA-KANKROLI  ZERDA-BHINMAL  VCHAL -RIHAND  RAPP-SHUJALPUR  BADOD-KOTA  BADOD-MORAK	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	0 241 0 0 0 0 100 590 0 286 144 480 321 45	NER-NR  601 0 1925 1032 1151 364 0 1595 102 309 0 3 50 147	0.0 6.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 2.3 0.0 21.8 2 0.8	0.0 0.7 0.0 48.0 36.0 17.3 9.2 0.0 35.0 0.0 1.6 0.0 0.0 1.7	-0.7 -0.7 -6.0 -48.0 -36.0 -17.3 -9.2 9.9 -35.0 -2.3 -1.6 21.8 2 0.8 -1.7
32  Import/E 33 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  VCHAL B/B  APL -MHG  GWALIOR-AGRA  PHAGI-GWALIOR  JABALPUR-ORAI  GWALIOR-ORAI  ZERDA-KANKROLI  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 D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 241 0 0 0 100 590 0 286 144 480 321 45 0	NER-NR  601 0 1925 1032 1151 364 0 1595 102 309 0 3 50 147 0 13	0.0 6.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.7 0.0 48.0 36.0 17.3 9.2 0.0 35.0 0.0 1.6 0.0 0.0 1.7 0.0	-0.7 -0.7 -6.0 -48.0 -36.0 -17.3 -9.2 9.9 -35.0 -1.6 21.8 2 0.8 -1.7 1.5
32  Import/E 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48	HVDC  Export of  HVDC  765 kV  400 kV  132kV	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	0 241 0 0 0 100 590 0 286 144 480 321 45 0 104 51	NER-NR  601 0 1925 1032 1151 364 0 1595 102 309 0 3 50 147 0 13	0.0 6.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.7 0.0 48.0 36.0 17.3 9.2 0.0 35.0 0.0 1.6 0.0 0.0 1.7 0.0 0.0	-0.7 -6.0 -48.0 -36.0 -17.3 -9.2 9.9 -35.0 -1.6 -21.8 -2 -0.8 -1.7 -1.5 -0.5
32  Import/E 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48	HVDC Export of HVDC  765 kV  400 kV  132kV  Export of HVDC	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	0 241 0 0 0 100 590 0 286 144 480 321 45 0 104 51	NER-NR  601 0 1925 1032 1151 364 0 1595 102 309 0 3 50 147 0 13	0.0 6.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.7 0.0 48.0 36.0 17.3 9.2 0.0 35.0 0.0 1.6 0.0 0.0 1.7 0.0 0.0 0.0	-0.7 -6.0 -48.0 -36.0 -17.3 -9.2 9.9 -35.0 -1.6 -21.8 -2 -0.8 -1.7 -1.5 -0.5 -0.0
32  Import/E 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49  Import/E 50 51	HVDC Export of HVDC  765 kV  400 kV  220 kV  132kV	BISWANATH CHARIALI-AGRA  WR (With NR)  CHAMPA-KURUKSHETRA  V'CHAL B/B  APL-MHG  GWALIOR-AGRA  PHAGI-GWALIOR  JABALPUR-ORAI  GWALIOR-ORAI  SATNA-ORAI  ZERDA-KANKROLI  ZERDA-BHINMAL  V'CHAL -RIHAND  RAPP-SHUJALPUR  BADOD-KOTA  BADOD-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	0 241 0 0 0 100 590 0 286 144 480 321 45 0 104 51 0	NER-NR  601 0 1925 1032 1151 364 0 1595 102 309 0 3 50 147 0 13 0 WR-NR	0.0 6.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.7 0.0 48.0 36.0 17.3 9.2 0.0 35.0 0.0 1.6 0.0 0 0 0.0 1.7 0.0 0.0 1.7 0.0 0.0 1.7 0.0 0.0 1.7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	11.7  -0.7  6.0  -48.0  -36.0  -17.3  -9.2  9.9  -35.0  2.3  -1.6  21.8  2  0.8  -1.7  1.5  0.5  0.0  -104.7
32  Import/F 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49  Import/F 50 51	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  ZERDA-KANKROLI  ZERDA-BHINMAL  V'CHAL -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	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	0 241 0 0 0 100 590 0 286 144 480 321 45 0 104 51 0	NER-NR  601 0 1925 1032 1151 364 0 1595 102 309 0 3 50 147 0 13 0 WR-NR	0.0 6.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.7 0.0 48.0 36.0 17.3 9.2 0.0 35.0 0.0 1.6 0.0 0 0.0 1.7 0.0 0.0 1.7 0.0 0.0 1.7 0.0 0.0 1.7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	11.7  -0.7  -0.8  -48.0  -36.0  -17.3  -9.2  9.9  -35.0  2.3  -1.6  21.8  2  0.8  -1.7  1.5  0.0  -104.7
32  Import/F 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49  Import/F 50 51 52 53	HVDC	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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 241 0 0 0 0 1090 0 0 286 144 480 321 45 0 104 51 0	NER-NR  601 0 1925 1032 1151 364 0 1595 102 309 0 3 50 147 0 13 0 WR-NR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.7 0.0 48.0 36.0 17.3 9.2 0.0 35.0 0.0 1.6 0.0 0 0.0 1.7 0.0 0.0 1.7 0.0 0.0 1.7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	11.7  -0.7  6.0  -48.0  -36.0  -17.3  -9.2  9.9  -35.0  2.3  -1.6  21.8  2  0.8  -1.7  1.5  0.0  -104.7  -23.6  0.0  -25.0  -28.6
32  Import/F 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49  Import/F 50 51 52 53 54	HVDC Export of HVDC  765 kV  400 kV  220 kV  132kV  Export of HVDC LINK	BISWANATH CHARIALI-AGRA  WR (With NR)  CHAMPA-KURUKSHETRA  V'CHAL B/B  APL-MHG  GWALIOR-AGRA  PHAGI-GWALIOR  JABALPUR-ORAI  GWALIOR-ORAI  SATNA-ORAI  ZERDA-KANKROLI  ZERDA -BHINMAL  V'CHAL -RIHAND  RAPP-SHUJALPUR  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 D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 241 0 0 0 100 590 0 286 144 480 321 45 0 104 51 0	NER-NR  601 0 1925 1032 1151 364 0 1595 102 309 0 3 50 147 0 13 0 WR-NR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.7 0.0 48.0 36.0 17.3 9.2 0.0 0.0 1.6 0.0 0 0.0 1.7 0.0 0.0 1.7 0.0 0.0 1.7 0.0 0.0 0.0 1.7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	11.7  -0.7  6.0  -48.0  -36.0  -17.3  -9.2  9.9  -35.0  2.3  -1.6  21.8  2  0.8  -1.7  1.5  0.0  -104.7  -23.6  0.0  -25.0  -28.6  12.5
32  Import/F 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49  Import/F 50 51 52 53	HVDC	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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 241 0 0 0 0 1090 0 0 286 144 480 321 45 0 104 51 0	NER-NR  601 0 1925 1032 1151 364 0 1595 102 309 0 3 50 147 0 13 0 WR-NR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.7 0.0 48.0 36.0 17.3 9.2 0.0 35.0 0.0 1.6 0.0 0 0.0 1.7 0.0 0.0 1.7 0.0 0.0 1.7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	11.7  -0.7  6.0  -48.0  -36.0  -17.3  -9.2  9.9  -35.0  2.3  -1.6  21.8  2  0.8  -1.7  1.5  0.0  -104.7
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	HVDC  Export of  HVDC  765 kV  400 kV  132kV  Export of  HVDC  LINK  765 kV	BISWANATH CHARIALI-AGRA  WR (With NR)  CHAMPA-KURUKSHETRA  VCHAL B/B  APL-MHG  GWALIOR-AGRA  PHAGI-GWALIOR  JABALPUR-ORAI  GWALIOR-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  KOLHAPUR-CHIKODI	D/C   D/C   D/C   D/C   D/C   D/C   D/C   D/C   S/C   D/C   D/C	0 241 0 0 0 0 1090 590 286 144 480 321 45 0 104 51 0	NER-NR  601 0 1925 1032 1151 364 0 1595 102 309 0 3 50 147 0 13 0 WR-NR  999 0 1876 2047 0 0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0  0.7  0.0  48.0  36.0  17.3  9.2  0.0  0.0  1.6  0.0  0.0  1.7  0.0  0.0  1.7  0.0  0.0	11.7  -0.7  6.0  -48.0  -36.0  -17.3  -9.2  9.9  -35.0  2.3  -1.6  21.8  2  0.8  -1.7  1.5  0.0  -104.7  -23.6  0.0  -25.0  -28.6  12.5  0.0
32  Import/F 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49  Import/F 50 51 52 53 54 55 56	HVDC  Export of  HVDC  765 kV  400 kV  132kV  Export of  HVDC  LINK  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  ZERDA-KANKROLI  ZERDA-BHINMAL  V'CHAL-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  PONDA-AMBEWADI	D/C	0 241 0 0 0 100 590 0 286 144 480 321 45 0 104 51 0	NER-NR  601 0 1925 1032 1151 364 0 1595 102 309 0 3 50 147 0 13 0 WR-NR  999 0 1876 2047 0 0 0	11.7  0.0  6.0  0.0  0.0  0.0  0.0  0.0  2.3  0.0  21.8  2  0.8  0.0  1.5  0.5  0.0  44.8	0.0  0.7  0.0  48.0  36.0  17.3  9.2  0.0  35.0  0.0  1.6  0.0  0.0  1.7  0.0  0.0  149.5  23.6  0.0  25.0  0.0  0.0  0.0  0.0  0.0  0.	11.7  -0.7  -0.8  -48.0  -36.0  -17.3  -9.2  9.9  -35.0  2.3  -1.6  21.8  2  0.8  -1.7  1.5  0.5  0.0  -104.7  -23.6  0.0  -25.0  -28.6  12.5  0.0  0.0
32  Import/F 33 34 35 36 37 38 39 40 41 42 43 44 45 56 50 51 52 53 54 55 56	HVDC  Export of  HVDC  765 kV  400 kV  132kV  Export of  HVDC  LINK  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  ZERDA-KANKROLI  ZERDA-BHINMAL  V'CHAL-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  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 S/C S/C S	0 241 0 0 0 100 590 0 286 144 480 321 45 0 104 51 0	NER-NR  601 0 1925 1032 1151 364 0 1595 102 309 0 3 50 147 0 13 0 WR-NR  999 0 1876 2047 0 0 0 53 WR-SR	0.0 6.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 2.3 0.0 21.8 2 0.8 2 0.0 1.5 0.5 0.0 44.8	0.0  0.7  0.0  48.0  48.0  36.0  17.3  9.2  0.0  1.6  0.0  0.0  1.7  0.0  0.0  149.5  23.6  0.0  0.0  0.0  0.0  0.0  0.0  0.0	11.7  -0.7  -48.0  -36.0  -17.3  -9.2  9.9  -35.0  2.3  -1.6  21.8  2  0.8  -1.7  1.5  0.5  0.0  -104.7  -23.6  0.0  -25.0  -28.6  12.5  0.0  0.0  1.1
32  Import/F 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49  Import/F 50 51 52 53 54 55 56	HVDC  Export of  HVDC  765 kV  400 kV  132kV  Export of  HVDC  LINK  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  ZERDA-KANKROLI  ZERDA-BHINMAL  V'CHAL-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  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 S/C S/C S	0 241 0 0 0 100 590 0 286 144 480 321 45 0 104 51 0 0 0 0 903 0 1 0	NER-NR  601 0 1925 1032 1151 364 0 1595 102 309 0 3 50 147 0 13 0 WR-NR  999 0 1876 2047 0 0 0 53 WR-SR	0.0 6.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 2.3 0.0 21.8 2 0.8 2 0.0 1.5 0.5 0.0 44.8	0.0  0.7  0.0  48.0  48.0  36.0  17.3  9.2  0.0  1.6  0.0  0.0  1.7  0.0  0.0  149.5  23.6  0.0  0.0  0.0  0.0  0.0  0.0  0.0	11.7  -0.7  -48.0  -36.0  -17.3  -9.2  9.9  -35.0  2.3  -1.6  21.8  2  0.8  -1.7  1.5  0.5  0.0  -104.7  -23.6  0.0  -25.0  -28.6  12.5  0.0  0.0  1.1