

## National Load Despatch Centre राष्ट्रीय भार प्रेषण केंद्र

# POWER SYSTEM OPERATION CORPORATION LIMITED पाँवर सिस्टम ऑपरेशन कारपोरेशन लिमिटेड

(Government of India Enterprise/ भारत सरकार का उद्यम) B-9, QUTUB INSTITUTIONAL AREA, KATWARIA SARAI, NEW DELHI -110016

बी-९, कृतुब इन्स्टीट्यूशनल एरिया, कटवारिया सराये, न्यू दिल्ली-110016

Ref: POSOCO/NLDC/SO/Daily PSP Report

दिनांक: 1<sup>st</sup> Feb 2019

To,

- 1. कार्यकारी निदेशक, पू.क्षे.भा.प्रे.के.,14, गोल्फ क्लब रोड, कोलकाता ७०००३३ 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. मुख्य महाप्रबंधक, ऊ. पू. क्षे. भा. प्रे. के., डोंगतिएह, लोअर नोंग्रह, लापलंग, शिलोंग ७९३००६ Chief General Manager, NERLDC, Dongteih, Lower Nongrah, Lapalang, Shillong - 793006, Meghalaya
- 5. कार्यकारी निदेशक , द .क्षे .भा .प्रे .के.,२९ , रेस कोर्स क्रॉस रोड, बंगलुरु -560009 Executive Director, SRLDC, 29, Race Course Cross Road, Bangalore-560009

### Sub: Daily PSP Report for the date 31.01.2019.

महोदय/Dear Sir,

आई०ई०जी०सी०-2010 की धारा स.-5.5.1 के प्रावधान के अनुसार, दिनांक 31-जनवरी-2019 की अखिल भारतीय प्रणाली की दैनिक ग्रिड निष्पादन रिपोर्ट रा०भा०प्रे०के० 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 31<sup>st</sup> January 2019, 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 1-Feb-19

#### A. Maximum Demand

	NR	WR	SR	ER	NER	Total
Demand Met during Evening Peak hrs(MW) (at 1900 hrs; from RLDCs)	46082	46832	41277	18580	2462	155233
Peak Shortage (MW)	523	0	0	0	27	550
Energy Met (MU)	939	1093	910	369	43	3353
Hydro Gen (MU)	119	26	70	18	7	239
Wind Gen (MU)	17	23	56			96
Solar Gen (MU)*	17.51	17.88	75.52	0.93	0.06	112
Energy Shortage (MU)	13.7	0.0	0.0	0.0	0.2	13.9
Maximum Demand Met during the day	47203	54638	42277	18838	2376	158092
(MW) & time (from NLDC SCADA)	18:31	09:55	07:53	18:42	18:00	18:53

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	0.033	0.00	0.02	3.81	3.83	74.42	21.75

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	5541	0	110.7	33.5	-0.7	63	0.0
	Haryana	6569	0	126.4	75.2	0.6	135	0.0
	Rajasthan	12061	0	235.2	60.5	-1.7	170	0.0
	Delhi	4141	0	71.6	58.4	-1.9	134	0.0
NR	UP	14466	0	272.5	111.9	0.4	337	2.2
	Uttarakhand	2158	0	40.5	26.9	-0.2	111	0.2
	HP	1647	0	30.9	25.4	0.2	139	0.0
	J&K	2286	571	47.3	47.4	-5.6	3	11.3
	Chandigarh	233	0	3.9	4.1	-0.2	29	0.0
	Chhattisgarh	3603	0	78.4	29.8	-0.1	553	0.0
	Gujarat	15139	0	326.9	93.9	0.7	515	0.0
	MP	12913	0	237.0	134.9	0.4	742	0.0
WR	Maharashtra	20046	0	403.4	115.0	2.6	670	0.0
WK	Goa	452	0	11.5	11.6	-0.7	102	0.0
	DD	308	0	7.0	6.8	0.2	32	0.0
	DNH	787	0	18.1	17.9	0.2	49	0.0
	Essar steel	510	0	10.8	10.8	0.1	273	0.0
	Andhra Pradesh	7415	0	150.5	51.3	0.5	688	0.0
	Telangana	8213	0	166.8	62.6	-0.2	629	0.0
SR	Karnataka	11199	0	213.0	72.5	-0.6	677	0.0
3N	Kerala	3638	0	70.8	53.6	1.0	195	0.0
	Tamil Nadu	14179	0	301.5	148.6	0.0	518	0.0
	Pondy	363	0	7.2	7.5	-0.3	36	0.0
	Bihar	4164	0	73.6	68.0	0.3	460	0.0
	DVC	3046	0	64.8	-45.4	0.6	396	0.0
ER	Jharkhand	998	0	25.0	17.8	-0.2	169	0.0
EN	Odisha	3816	0	75.6	27.7	-0.6	267	0.0
	West Bengal	6925	0	128.6	28.2	1.0	309	0.0
	Sikkim	100	0	1.5	1.6	-0.1	18	0.0
	Arunachal Pradesh	117	2	2.2	2.0	0.2	52	0.0
	Assam	1400	15	23.5	18.3	0.8	129	0.2
	Manipur	205	2	2.9	2.9	0.0	21	0.0
NER	Meghalaya	338	0	6.2	5.0	0.0	9	0.0
	Mizoram	97	2	1.9	1.6	0.1	13	0.0
	Nagaland	145	3	2,2	2.0	0.0	42	0.0
	Tripura	220	1	3.7	2.7	-0.2	38	0.0

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

	Bhutan	Nepal	Bangladesh
Actual(MU)	-0.3	-7.0	-15.3
Day peak (MW)	86.5	-315.0	-820.0

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

	NR	WR	SR	ER	NER	TOTAL
Schedule(MU)	180.0	-199.5	91.3	-74.4	3.3	0.8
Actual(MU)	173.6	-204.0	90.5	-67.1	3.0	-4.0
O/D/U/D(MU)	-6.4	-4.5	-0.8	7.3	-0.3	-4.8

F. Generation Outage(MW)

	NR	WR	SR	ER	NER	Total
Central Sector	3160	14436	5432	1915	232	25174
State Sector	10810	16249	8810	3145	50	39064
Total	13970	30685	14242	5060	281	64238

G. Sourcewise generation (MU)

	NR	WR	SR	ER	NER	All India
Coal	534	1163	488	441	8	2634
Lignite	18	15	44	0	0	77
Hydro	119	26	70	18	7	239
Nuclear	24	30	33	0	0	87
Gas, Naptha & Diesel	26	36	16	0	28	106
RES (Wind, Solar, Biomass & Others)	65	44	173	1	0	282
Total	785	1314	823	460	43	3425
Share of RES in total generation (%)	8 24	3 32	20.08	0.21	0.14	8 23

Share of RES in total generation (%)	8.24	3.32	20.98	0.21	0.14	8.23
Share of Non-fossil fuel (Hydro, Nuclear and RES) in total generation (%)	26.44	7.60	33.39	4.09	16.61	17.76

H. Diversity Factor All India Demand Diversity Factor

Diversity factor = Sum of regional maximum demand	ls / All India maximum	demand

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

ı		INTE	R-REGI	ONAL EX	CHANGES	Date of 1	Reporting :	1-Feb-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)	1					
2	765kV	GAYA-VARANASI SASARAM-FATEHPUR	D/C S/C	0	837 312	0.0	12.0 3.7	-12.0 -3.7
3	703KV	GAYA-BALIA	S/C	0	409	0.0	6.9	-6.9
4	HVDC	ALIPURDUAR-AGRA	-	0	0	0.0	0.0	0.0
5	11.20	PUSAULI B/B	S/C	0	148	0.0	3.7	-3.7
7		PUSAULI-VARANASI PUSAULI -ALLAHABAD	S/C S/C	0	103 109	0.0	1.9	-1.9 -1.6
8		MUZAFFARPUR-GORAKHPUR	D/C	0	606	0.0	7.7	-7.7
9	400 kV	PATNA-BALIA	Q/C	0	1006	0.0	17.2	-17.2
10		BIHARSHARIFF-BALIA	D/C	0	335	0.0	5.1	-5.1
11		MOTIHARI-GORAKHPUR	D/C	0	406	0.0	7.5	-7.5
12	220 1-37	BIHARSHARIFF-VARANASI	D/C S/C	0	283 147	0.0	2.6	-3.1 -2.6
13 14	220 KV	PUSAULI-SAHUPURI SONE NAGAR-RIHAND	S/C	0	0	0.0	0.0	0.0
15	400.55	GARWAH-RIHAND	S/C	25	0	0.6	0.0	0.6
16	132 kV	KARMANASA-SAHUPURI	S/C	41	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	73.0	-72.4
18	765 kV	JHARSUGUDA-DHARAMJAIGARH S/C	D/C	1482	0	22.4	0.0	22.4
19	/05 KV	NEW RANCHI-DHARAMJAIGARH	D/C	367	417	0.1	0.0	0.1
20	400 kV	JHARSUGUDA-RAIGARH	Q/C	206	208	0.3	0.0	0.3
21		RANCHI-SIPAT	D/C	188	79	1.6	0.0	1.6
22	220 kV	BUDHIPADAR-RAIGARH BUDHIPADAR-KORBA	S/C D/C	20 117	74	0.0	0.9	-0.9 1.2
23		BUDINI ADAK-KOKBA	D/C	117	ER-WR	25.6	0.9	24.7
Import/E	Export of	ER (With SR)						1
24	765 kV	ANGUL-SRIKAKULAM	D/C	0.0	1687.0	0.0	28.8	-28.8
25	HVDC LINK	JEYPORE-GAZUWAKA B/B	D/C	0.0	675.0	0.0	16.0	-16.0
26 27	400 kV	TALCHER-KOLAR BIPOLE TALCHER-I/C	D/C D/C	0.0 352.0	1982.0 514.0	0.0 6.1	33.1 0.0	-33.1 6.1
28	220 kV	BALIMELA-UPPER-SILERRU	S/C	1.0	0.0	0.0	0.0	0.0
					ER-SR	0.0	77.9	-77.9
Import/E	Export of	ER (With NER)	1	1				
29	400 kV	BINAGURI-BONGAIGAON	D/C	287	0	4.2	0.0	4
30	220 kV	ALIPURDUAR-BONGAIGAON ALIPURDUAR-SALAKATI	D/C D/C	397 100	0	6.6 1.2	0.0	7
31	220 K V	ALII UKDUAK-SALAKATI	D/C	100	ER-NER	12.0	0.0	12.0
	· -	NER (With NR)						
32	HVDC			663		16.2		16.2
	HVDC	BISWANATH CHARIALI-AGRA	-		0 NED ND		0.0	
Import/E	•		-		0 NER-NR	16.2	0.0	16.2
Import/E	•	WR (With NR)	D/C	0	NER-NR	16.2	0.0	16.2
	•		D/C D/C	0 242				
33	Export of	WR (With NR) CHAMPA-KURUKSHETRA	-		NER-NR	0.0	31.8	-31.8
33 34 35 36	Export of	WR (With NR) CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG GWALIOR-AGRA	D/C D/C D/C	242 0 0	NER-NR  1357 0 1079 1048	0.0 6.0 0.0 0.0	31.8 0.0 26.7 38.1	-31.8 6.0 -26.7 -38.1
33 34 35 36 37	Export of HVDC	WR (With NR) CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR	D/C D/C D/C D/C	242 0 0 0	NER-NR  1357 0 1079 1048 1055	0.0 6.0 0.0 0.0 0.0	31.8 0.0 26.7 38.1 15.1	-31.8 6.0 -26.7 -38.1 -15.1
33 34 35 36 37 38	Export of	WR (With NR) CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI	D/C D/C D/C D/C D/C D/C	242 0 0 0 0	NER-NR  1357 0 1079 1048 1055 692	0.0 6.0 0.0 0.0 0.0 0.0	31.8 0.0 26.7 38.1 15.1 23.6	-31.8 6.0 -26.7 -38.1 -15.1 -23.6
33 34 35 36 37	Export of HVDC	WR (With NR) CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR	D/C D/C D/C D/C	242 0 0 0	NER-NR  1357 0 1079 1048 1055	0.0 6.0 0.0 0.0 0.0	31.8 0.0 26.7 38.1 15.1	-31.8 6.0 -26.7 -38.1 -15.1
33 34 35 36 37 38 39	Export of HVDC	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	242 0 0 0 0 0 621	NER-NR  1357 0 1079 1048 1055 692 0	0.0 6.0 0.0 0.0 0.0 0.0 0.0 10.3	31.8 0.0 26.7 38.1 15.1 23.6 0.0	-31.8 6.0 -26.7 -38.1 -15.1 -23.6 10.3
33 34 35 36 37 38 39 40	Export of HVDC 765 kV	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	242 0 0 0 0 0 621 0	NER-NR  1357 0 1079 1048 1055 692 0 1189	0.0 6.0 0.0 0.0 0.0 0.0 0.0 10.3	31.8 0.0 26.7 38.1 15.1 23.6 0.0 25.1	-31.8 6.0 -26.7 -38.1 -15.1 -23.6 10.3 -25.1
33 34 35 36 37 38 39 40 41 42 43	Export of HVDC	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	242 0 0 0 0 621 0 189 110 975	NER-NR  1357 0 1079 1048 1055 692 0 1189 116 293 0	0.0 6.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	31.8 0.0 26.7 38.1 15.1 23.6 0.0 25.1 0.0 2.4	-31.8 6.0 -26.7 -38.1 -15.1 -23.6 10.3 -25.1 0.8 -2.4 20.6
33 34 35 36 37 38 39 40 41 42 43 44	Export of HVDC 765 kV	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 D/C	242 0 0 0 0 621 0 189 110 975 194	NER-NR  1357 0 1079 1048 1055 692 0 1189 116 293 0 175	16.2  0.0  6.0  0.0  0.0  0.0  0.0  10.3  0.0  0.8  0.0  20.6	31.8 0.0 26.7 38.1 15.1 23.6 0.0 25.1 0.0 2.4 0.0	-31.8 6.0 -26.7 -38.1 -15.1 -23.6 10.3 -25.1 0.8 -2.4 20.6
33 34 35 36 37 38 39 40 41 42 43 44 45	HVDC 765 kV	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	242 0 0 0 0 621 0 189 110 975 194 84	NER-NR  1357 0 1079 1048 1055 692 0 1189 116 293 0 175	16.2  0.0  6.0  0.0  0.0  0.0  0.0  10.3  0.0  0.8  0.0  20.6  0  0.7	31.8 0.0 26.7 38.1 15.1 23.6 0.0 25.1 0.0 2.4 0.0 0	16.2  -31.8  6.0  -26.7  -38.1  -15.1  -23.6  10.3  -25.1  0.8  -2.4  20.6  0  0.7
33 34 35 36 37 38 39 40 41 42 43 44	Export of HVDC 765 kV	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 D/C	242 0 0 0 0 621 0 189 110 975 194	NER-NR  1357 0 1079 1048 1055 692 0 1189 116 293 0 175	16.2  0.0  6.0  0.0  0.0  0.0  0.0  10.3  0.0  0.8  0.0  20.6	31.8 0.0 26.7 38.1 15.1 23.6 0.0 25.1 0.0 2.4 0.0	-31.8 6.0 -26.7 -38.1 -15.1 -23.6 10.3 -25.1 0.8 -2.4 20.6
33 34 35 36 37 38 39 40 41 42 43 44 45 46	HVDC 765 kV	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 D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	242 0 0 0 0 621 0 189 110 975 194 84 5	NER-NR  1357 0 1079 1048 1055 692 0 1189 116 293 0 175 15	16.2  0.0  6.0  0.0  0.0  0.0  10.3  0.0  20.6  0  0.7  0.0	31.8 0.0 26.7 38.1 15.1 23.6 0.0 25.1 0.0 2.4 0.0 0 0.0 0.0 0.5	16.2  -31.8  6.0  -26.7  -38.1  -15.1  -23.6  10.3  -25.1  0.8  -2.4  20.6  0  0.7  -0.5
33 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 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	242 0 0 0 0 621 0 189 110 975 194 84 5 104	NER-NR  1357 0 1079 1048 1055 692 0 1189 116 293 0 175 15 30 0 22	16.2  0.0 6.0 0.0 0.0 0.0 0.0 10.3 0.0 0.8 0.0 0.7 0.0 1.3 0.3 0.0	31.8 0.0 26.7 38.1 15.1 23.6 0.0 25.1 0.0 2.4 0.0 0 0 0.0 0.0 0.0 0.0 0.0	16.2  -31.8  6.0  -26.7  -38.1  -15.1  -23.6  10.3  -25.1  0.8  -2.4  20.6  0  0.7  -0.5  1.3  0.3  0.0
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49	Export of HVDC 765 kV 400 kV	WR (With NR) CHAMPA-KURUKSHETRA VCHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI ZERDA-KANKROLI ZERDA-KANKROLI ZERDA-HINMAL 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	242 0 0 0 0 621 0 189 110 975 194 84 5 104 48	NER-NR  1357 0 1079 1048 1055 692 0 1189 116 293 0 175 15 30 0 22	16.2  0.0 6.0 0.0 0.0 0.0 0.0 10.3 0.0 0.8 0.0 20.6 0 0.7 0.0 1.3 0.3	31.8 0.0 26.7 38.1 15.1 23.6 0.0 25.1 0.0 2.4 0.0 0 0 0.0 0.0 0.0 0.0 0.0	16.2  -31.8  6.0  -26.7  -38.1  -15.1  -23.6  10.3  -25.1  0.8  -2.4  20.6  0  0.7  -0.5  1.3  0.3
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49	Temporal of HVDC  765 kV  400 kV  220 kV  132kV  Export of HVDC	WR (With NR) CHAMPA-KURUKSHETRA VCHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-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	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	242 0 0 0 0 621 0 189 110 975 194 84 5 104 48 0	NER-NR  1357 0 1079 1048 1055 692 0 1189 116 293 0 175 15 30 0 22 0 WR-NR	16.2  0.0 6.0 0.0 0.0 0.0 0.0 10.3 0.0 20.6 0 0.0 20.6 0 40.0 0.0	31.8 0.0 26.7 38.1 15.1 23.6 0.0 25.1 0.0 2.4 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	16.2  -31.8  6.0  -26.7  -38.1  -15.1  -23.6  10.3  -25.1  0.8  -2.4  20.6  0  0.7  -0.5  1.3  0.3  0.0  -123.6
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49  Import/E 50 51	Export of HVDC  765 kV  400 kV  220 kV  132kV	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	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	242 0 0 0 0 621 0 189 110 975 194 84 5 104 48 0	NER-NR  1357 0 1079 1048 1055 692 0 1189 116 293 0 175 15 30 0 22 0 WR-NR	16.2  0.0  6.0  0.0  0.0  0.0  0.0  10.3  0.0  20.6  0  0.7  0.0  1.3  0.3  0.0  40.0	31.8 0.0 26.7 38.1 15.1 23.6 0.0 25.1 0.0 0.0 0.5 0.0 0.5 0.0 0.0 163.7	16.2  -31.8  6.0  -26.7  -38.1  -15.1  -23.6  10.3  -25.1  0.8  -2.4  20.6  0  0.7  -0.5  1.3  0.3  0.0  -123.6
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49  Import/E 50 51 52	Temporal of HVDC  765 kV  400 kV  220 kV  132kV  Export of HVDC	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	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	242 0 0 0 0 621 0 189 110 975 194 84 5 104 48 0	NER-NR  1357 0 1079 1048 1055 692 0 1189 116 293 0 175 15 30 0 22 0 WR-NR	16.2  0.0  6.0  0.0  0.0  0.0  0.0  10.3  0.0  20.6  0  0.7  0.0  1.3  0.3  0.0  40.0	31.8 0.0 26.7 38.1 15.1 23.6 0.0 25.1 0.0 0.0 0.0 0.5 0.0 0.0 0.0 163.7	16.2  -31.8  6.0  -26.7  -38.1  -15.1  -23.6  10.3  -25.1  0.8  -2.4  20.6  0  0.7  -0.5  1.3  0.3  0.0  -123.6
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49  Import/E 50 51 52 53	220 kV  132kV  Export of  HVDC  400 kV  132kV  Export of  HVDC  LINK  765 kV	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-MIZAMABAD	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	242 0 0 0 0 621 0 189 110 975 194 84 5 104 48 0	NER-NR  1357 0 1079 1048 1055 692 0 1189 116 293 0 175 15 30 0 22 0 WR-NR	16.2  0.0  6.0  0.0  0.0  0.0  0.0  10.3  0.0  20.6  0  7  0.0  1.3  0.3  0.0  40.0	31.8 0.0 26.7 38.1 15.1 23.6 0.0 25.1 0.0 0.0 0.5 0.0 0.0 0.0 163.7 24.0 0.0 21.3 25.7	16.2  -31.8  6.0  -26.7  -38.1  -15.1  -23.6  10.3  -25.1  0.8  -2.4  20.6  0  0.7  -0.5  1.3  0.3  0.0  -123.6  -24.0  0.0  -21.3  -25.7
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49  Import/E 50 51 52	Export of HVDC  765 kV  400 kV  220 kV  132kV  Export of HVDC LINK	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	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	242 0 0 0 0 621 0 189 110 975 194 84 5 104 48 0	NER-NR  1357 0 1079 1048 1055 692 0 1189 116 293 0 175 15 30 0 22 0 WR-NR	16.2  0.0  6.0  0.0  0.0  0.0  0.0  10.3  0.0  20.6  0  0.7  0.0  1.3  0.3  0.0  40.0	31.8 0.0 26.7 38.1 15.1 23.6 0.0 25.1 0.0 0.0 0.0 0.5 0.0 0.0 0.0 163.7	16.2  -31.8  6.0  -26.7  -38.1  -15.1  -23.6  10.3  -25.1  0.8  -2.4  20.6  0  0.7  -0.5  1.3  0.3  0.0  -123.6
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49  Import/E 50 51 52 53 54	220 kV  132kV  Export of  HVDC  400 kV  132kV  Export of  HVDC  LINK  765 kV	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 D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	242 0 0 0 0 0 621 0 189 110 975 194 84 5 104 48 0 0 0 0 196 0 0 0 197 194 107 108 109 109 109 109 109 109 109 109	NER-NR  1357 0 1079 1048 1055 692 0 1189 116 293 0 175 15 30 0 22 0 WR-NR	16.2  0.0  6.0  0.0  0.0  0.0  0.0  10.3  0.0  20.6  0  0.7  0.0  1.3  0.3  0.0  40.0  0.0  0.0  0.0  1.5.5	0.0  31.8  0.0  26.7  38.1  15.1  23.6  0.0  25.1  0.0  0.0  0.5  0.0  0.0  163.7  24.0  0.0  21.3  25.7  0.0	16.2  -31.8  6.0  -26.7  -38.1  -15.1  -23.6  10.3  -25.1  0.8  -2.4  20.6  0  0.7  -0.5  1.3  0.0  -123.6  -24.0  0.0  -21.3  -25.7  15.5
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	220 kV 220 kV 132kV Export of HVDC  400 kV 400 kV 400 kV	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 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	242 0 0 0 0 621 0 189 110 975 194 84 5 104 48 0 0 0 196 0 0	NER-NR  1357 0 1079 1048 1055 692 0 1189 116 293 0 175 15 30 0 22 0 WR-NR  999 0 1629 1728 0 0	16.2  0.0  6.0  0.0  0.0  0.0  0.0  10.3  0.0  20.6  0  0.7  0.0  1.3  0.3  0.0  40.0  0.0  0.0  0.0  0.0	0.0  31.8  0.0  26.7  38.1  15.1  23.6  0.0  25.1  0.0  0.0  0.5  0.0  0.0  163.7  24.0  0.0  21.3  25.7  0.0  0.0	16.2  -31.8  6.0  -26.7  -38.1  -15.1  -23.6  10.3  -25.1  0.8  -2.4  20.6  0  0.7  -0.5  1.3  0.3  0.0  -123.6  -24.0  0.0  -21.3  -25.7  15.5  0.0
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	220 kV 220 kV 132kV Export of HVDC  400 kV 400 kV 400 kV	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	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 D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	242 0 0 0 0 621 0 189 110 975 194 84 5 104 48 0 0 0 196 0 0	NER-NR  1357 0 1079 1048 1055 692 0 1189 116 293 0 175 15 30 0 22 0 WR-NR  999 0 1629 1728 0 0 69	16.2  0.0  6.0  0.0  0.0  0.0  10.3  0.0  20.6  0  0.7  0.0  1.3  0.3  0.0  40.0  0.0  1.5  0.0  0.0  0.0  0.0  0.0	0.0  31.8 0.0 26.7 38.1 15.1 23.6 0.0 25.1 0.0 2.4 0.0 0.0 0.5 0.0 0.0 163.7  24.0 0.0 0.1 25.7 0.0 0.0 0.0 1.2	16.2  -31.8  6.0  -26.7  -38.1  -15.1  -23.6  10.3  -25.1  0.8  -2.4  20.6  0  0.7  -0.5  1.3  0.3  0.0  -123.6  -24.0  0.0  -21.3  -25.7  15.5  0.0  -1.2
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	220 kV 220 kV 132kV Export of HVDC  400 kV 400 kV 400 kV	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 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	242 0 0 0 0 621 0 189 110 975 194 84 5 104 48 0 0 0 196 0 0	NER-NR  1357 0 1079 1048 1055 692 0 1189 116 293 0 175 15 30 0 22 0 WR-NR  999 0 1629 1728 0 0 69 50 WR-SR	16.2  0.0  6.0  0.0  0.0  0.0  0.0  10.3  0.0  20.6  0  0.7  1.3  0.3  0.0  40.0  0.0  1.5  0.0  0.0  0.0  0.0  0.0	0.0  31.8 0.0 26.7 38.1 15.1 15.1 23.6 0.0 25.1 0.0 0.0 0.5 0.0 0.0 163.7  24.0 0.0 1.2 0.0 0.0 1.2 0.0	16.2  -31.8  6.0  -26.7  -38.1  -15.1  -23.6  10.3  -25.1  0.8  -2.4  20.6  0  0.7  -0.5  1.3  0.3  0.0  -123.6  -24.0  0.0  -21.3  -25.7  15.5  0.0  -1.2  0.9
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	220 kV 220 kV 132kV Export of HVDC  400 kV 400 kV 400 kV	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 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	242 0 0 0 0 0 621 0 189 110 975 194 84 5 104 48 0 0 0 196 0 0 196 0 0 0 0 0 0 0 0 0 0 0 0 0	NER-NR  1357 0 1079 1048 1055 692 0 1189 116 293 0 175 15 30 0 22 0 WR-NR  999 0 1629 1728 0 0 69 50 WR-SR	16.2  0.0  6.0  0.0  0.0  0.0  0.0  10.3  0.0  20.6  0  0.7  1.3  0.3  0.0  40.0  0.0  1.5  0.0  0.0  0.0  0.0  0.0	0.0  31.8 0.0 26.7 38.1 15.1 15.1 23.6 0.0 25.1 0.0 0.0 0.5 0.0 0.0 163.7  24.0 0.0 1.2 0.0 0.0 1.2 0.0	16.2  -31.8  6.0  -26.7  -38.1  -15.1  -23.6  10.3  -25.1  0.8  -2.4  20.6  0  0.7  -0.5  1.3  0.3  0.0  -123.6  -24.0  0.0  -21.3  -25.7  15.5  0.0  -1.2  0.9