

## 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-9, कृतुब इन्स्टीट्यूशनल एरिया, कटवारिया सराये, न्यू दिल्ली-110016

Ref: POSOCO/NLDC/SO/Daily PSP Report

दिनांक: 20<sup>th</sup> Dec 2018

Τо

- 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. कार्यकारी निदेशक, ऊ. पू. क्षे. भा. प्रे. के., डोंगतिएह, लोअर नोंग्रह, लापलंग, शिलोंग ७९३००६ Executive Director, NERLDC, Dongteih, Lower Nongrah, Lapalang, Shillong - 793006, Meghalaya
- 5. कार्यकारी निदेशक , द .क्षे .भा .प्रे .के., २९ , रेस कोर्स क्रॉस रोड, बंगलुरु –५६०००९ Executive Director, SRLDC, 29, Race Course Cross Road, Bangalore-560009

Sub: Daily PSP Report for the date 19.12.2018.

महोदय/Dear Sir.

आई॰ई॰जी॰सी॰-2010 की धारा स.-5.5.1 के प्रावधान के अनुसार, दिनांक 19-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 19<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 20-Dec-18

#### A. Maximum Demand

	NR	WR	SR	ER	NER	Total
Demand Met during Evening Peak hrs(MW) (at 1900 hrs; from RLDCs)	45913	47605	40768	17713	2389	154388
Peak Shortage (MW)	594	0	0	355	56	1005
Energy Met (MU)	945	1078	888	340	41	3292
Hydro Gen (MU)	121	31	87	35	10	285
Wind Gen (MU)	6	49	28			83
Solar Gen (MU)*	24.58	21.06	52.93	0.58	0.04	99
Energy Shortage (MU)	16.0	0.0	0.6	1.1	1.9	19.6
Maximum Demand Met during the day	45845	52993	42350	18023	2391	155279
(MW) & time (from NLDC SCADA)	18:02	10:31	07:58	18:34	17:35	09:30

B. Frequency Profile (%)
Region
All India <49.7 49.7-49.8 49.8-49.9 49.9-50.05 > 50.05 0.072 0.00 17.57 20.49 71.75

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	5764	0	119.3	28.0	-0.9	124	0.0
	Haryana	6597	0	129.2	66.1	1.1	181	0.0
	Rajasthan	12369	0	235.3	67.2	1.3	281	0.0
	Delhi	3696	0	67.3	50.5	-0.1	309	0.0
NR	UP	14460	0	276.2	114.4	2.2	862	4.2
	Uttarakhand	2025	0	37.0	24.3	0.3	211	0.0
	HP	1604	0	28.5	21.5	0.6	208	0.3
	J&K	2407	602	48.7	43.3	0.1	230	11.5
	Chandigarh	222	0	3.5	3.4	0.2	40	0.0
	Chhattisgarh	3313	0	69.0	8.2	-1.1	318	0.0
	Gujarat	14592	0	317.6	93.5	1.3	461	0.0
	MP	13263	0	252.4	134.8	-1.1	420	0.0
WR	Maharashtra	19915	0	407.6	107.3	-0.7	450	0.0
WK	Goa	452	0	9.1	7.5	1.1	38	0.0
	DD	287	0	4.9	3.9	1.0	72	0.0
	DNH	754	0	17.5	16.3	1.1	89	0.0
	Essar steel	10034	0	10.0	10.1	-0.1	209	0.0
	Andhra Pradesh	7106	0	152.2	57.8	1.2	550	0.0
	Telangana	8003	0	162.0	90.3	1.6	486	0.0
SR	Karnataka	10635	0	200.8	63.5	-1.4	407	0.0
3N	Kerala	3486	300	68.8	52.3	1.2	210	0.6
	Tamil Nadu	13822	0	298.0	158.3	-0.3	359	0.0
	Pondy	338	0	6.6	7.0	-0.5	23	0.0
	Bihar	4067	0	65.6	62.7	-2.2	460	0.0
	DVC	2951	100	62.2	-28.4	2.4	396	0.3
ER	Jharkhand	1069	135	23.1	14.7	1.0	169	0.4
EN	Odisha	3841	120	74.6	18.9	2.8	267	0.4
	West Bengal	6687	0	113.0	16.0	0.2	309	0.0
	Sikkim	100	0	1.5	1.6	-0.1	18	0.0
	Arunachal Pradesh	106	2	2.2	2.4	-0.2	20	0.0
	Assam	1367	41	21.8	15.9	1.1	109	1.7
	Manipur	178	3	2.7	2.9	-0.2	23	0.0
NER	Meghalaya	336	0	6.2	5.0	-0.1	23	0.2
	Mizoram	87	2	1.7	1.3	-0.1	1	0.0
	Nagaland	128	1	2.3	2.2	-0.2	14	0.0
	Tripura	214	1	3.8	1.7	0.2	21	0.0

### $\begin{tabular}{ll} \textbf{D. Transnational Exchanges} & \textbf{(MU) - Import(+ve)/Export(-ve)} \end{tabular}$

	Bhutan	Nepal	Bangladesh
Actual(MU)	3.2	-6.7	-13.9
Day peak (MW)	236.4	-274.0	-784.0

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

	NR	WR	SR	ER	NER	TOTAL
Schedule(MU)	149.2	-190.9	129.7	-86.4	-1.3	0.2
Actual(MU)	148.0	-193.3	127.6	-80.7	-3.8	-2.2
O/D/U/D(MU)	-1.2	-2.4	-2.1	5.8	-2.5	-2.4

F. Generation Outage(MW)

	NR	WR	SR	ER	NER	Total
Central Sector	4311	18035	7682	2370	56	32454
State Sector	11335	15132	10220	5905	50	42642
Total	15646	33167	17902	8275	106	75095

G. Sourcewise generation (MU)

	NR	WR	SR	ER	NER	All India
Coal	561	1113	445	399	9	2527
Lignite	21	15	60	0	0	96
Hydro	121	31	87	35	10	285
Nuclear	24	19	36	0	0	80
Gas, Naptha & Diesel	27	41	23	0	29	121
RES (Wind, Solar, Biomass & Others)	59	72	115	1	0	247
Total	813	1293	767	435	48	3356
Share of RES in total generation (%)	7.25	5 57	15.03	0.14	0.08	7 36

Share of RES in total generation (%)	7.25	5.57	15.03	0.14	0.08	7.36
Share of Non-fossil fuel (Hydro, Nuclear and	25.14	9.46	21.15	8.26	20.46	18.22
RES) in total generation (%)	25.14	9.40	31.15	8.20	20.40	16.22

H. Diversity Factor
All India Demand Diversity Factor
1.041
Diversity factor = Sum of regional maximum demands / All India maximum demand

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

		INTE	R-REGIO	ONAL EX	CHANGES	Date of I	Reporting :	20-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	694 315	0.0	9.4 2.8	-9.4 -2.8
3	703KV	GAYA-BALIA	S/C	0	291	0.0	4.8	-2.8
4	HVDC	ALIPURDUAR-AGRA	-	0	0	0.0	0.0	0.0
5	11.20	PUSAULI B/B	S/C	4	0	0.0	0.0	0.0
7	_	PUSAULI-VARANASI PUSAULI -ALLAHABAD	S/C S/C	6 25	142 131	0.0	1.4	-1.4 -1.1
8	_	MUZAFFARPUR-GORAKHPUR	D/C	0	751	0.0	11.7	-11.7
9	400 kV	PATNA-BALIA	Q/C	0	892	0.0	18.7	-18.7
10		BIHARSHARIFF-BALIA	D/C	0	315	0.0	5.4	-5.4
11		MOTIHARI-GORAKHPUR	D/C	0	367	0.0	7.2	-7.2
12	220 1-37	BIHARSHARIFF-VARANASI	D/C S/C	0	259 143	0.0	3.5 2.4	-3.5 -2.4
14	220 KV	PUSAULI-SAHUPURI SONE NAGAR-RIHAND	S/C	0	0	0.0	0.0	0.0
15		GARWAH-RIHAND	S/C	25	0	0.5	0.0	0.5
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/F	Export of	ER (With WR)			ER-NR	0.5	68.2	-67.7
18	765 kV	JHARSUGUDA-DHARAMJAIGARH S/C	D/C	1136	0	20.3	0.0	20.3
19	/05 KV	NEW RANCHI-DHARAMJAIGARH	D/C	132	456	0.0	3.1	-3.1
20	400 kV	JHARSUGUDA-RAIGARH	Q/C	364	226	0.0	1.4	-1.4
21	.00 K 1	RANCHI-SIPAT	D/C	156	54	1.3	0.0	1.3
22	220 kV	BUDHIPADAR-RAIGARH	S/C D/C	159	80	0.0 2.6	0.0	0.0 2.6
23		BUDHIPADAR-KORBA	D/C	139	ER-WR	24.2	4.5	19.7
Import/F	Export of	ER (With SR)						
24	765 kV	ANGUL-SRIKAKULAM	D/C	0.0	1306.0	0.0	25.0	-25.0
25	HVDC	JEYPORE-GAZUWAKA B/B	D/C	0.0	422.0	0.0	9.9	-9.9
26	LINK	TALCHER-KOLAR BIPOLE	D/C	0.0	1979.0	0.0	41.6	-41.6
27 28	400 kV 220 kV	TALCHER-I/C BALIMELA-UPPER-SILERRU	D/C S/C	0.0 1.0	951.0 0.0	0.0	12.3 0.0	-12.3 0.0
20	220 R V	D. LEWINGER CO. LEWIS GLEENING	5,0	1.0	ER-SR	0.0	76.5	-76.5
Import/F	Export of	ER (With NER)						
29	400 kV	BINAGURI-BONGAIGAON	D/C	314	0	5.8	0.0	6
30	220 1-37	ALIPURDUAR-BONGAIGAON	D/C	424	0	7.8	0.0	8
31	220 kV	ALIPURDUAR-SALAKATI	D/C	67	ER-NER	1.1 14.7	0.0	14.7
	Export of	NER (With NR)				· · · · · · · · · · · · · · · · · · ·		1
32	TIVEC				0	116	0.0	11.6
	HVDC	BISWANATH CHARIALI-AGRA	-	472	0 NER-NR	11.6 11.6	0.0	11.6 <b>11.6</b>
Import/E			=	472		11.6 11.6	0.0	11.6 11.6
Import/E		BISWANATH CHARIALI-AGRA	D/C	0				
33 34		BISWANATH CHARIALI-AGRA  WR (With NR)  CHAMPA-KURUKSHETRA  VCHAL B/B	D/C	0 241	703 0	0.0 6.0	16.7 0.0	-16.7 6.0
33 34 35	Export of	BISWANATH CHARIALI-AGRA  WR (With NR)  CHAMPA-KURUKSHETRA  VCHAL B/B  APL -MHG	D/C D/C	0 241 0	703 0 695	0.0 6.0 0.0	16.7 0.0 16.9	-16.7 6.0 -16.9
33 34 35 36	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	703 0 695 1016	0.0 6.0 0.0 0.0	16.7 0.0 16.9 38.8	-16.7 6.0 -16.9 -38.8
33 34 35 36 37	Export of	BISWANATH CHARIALI-AGRA  WR (With NR)  CHAMPA-KURUKSHETRA  V'CHAL B/B  APL -MHG  GWALIOR-AGRA  PHAGI-GWALIOR	D/C D/C D/C D/C	0 241 0 0	703 0 695 1016 1095	0.0 6.0 0.0 0.0 0.0	0.0 16.7 0.0 16.9 38.8 18.8	-16.7 6.0 -16.9 -38.8 -18.8
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	703 0 695 1016	0.0 6.0 0.0 0.0	16.7 0.0 16.9 38.8	-16.7 6.0 -16.9 -38.8
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	703 0 695 1016 1095 341	0.0 6.0 0.0 0.0 0.0 0.0	0.0 16.7 0.0 16.9 38.8 18.8 8.3	-16.7 6.0 -16.9 -38.8 -18.8 -8.3
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	0 241 0 0 0 83 567 0	703 0 695 1016 1095 341 0 1691	0.0 6.0 0.0 0.0 0.0 0.0 0.0 10.2 0.0 0.3	16.7 0.0 16.9 38.8 18.8 8.3 0.0 36.4	-16.7 -6.0 -16.9 -38.8 -18.8 -8.3 -10.2 -36.4 -0.3
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 83 567 0 103	NER-NR  703 0 695 1016 1095 341 0 1691 164 333	0.0 6.0 0.0 0.0 0.0 0.0 10.2 0.0 0.3 0.0	16.7 0.0 16.9 38.8 18.8 8.3 0.0 36.4 0.0 3.0	-16.7 -6.0 -16.9 -38.8 -18.8 -8.3 -10.2 -36.4 -0.3 -3.0
33 34 35 36 37 38 39 40 41 42 43	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 83 567 0 103 0	NER-NR  703 0 695 1016 1095 341 0 1691 164 333 0	0.0 6.0 0.0 0.0 0.0 0.0 10.2 0.0 0.3 0.0 22.9	16.7 0.0 16.9 38.8 18.8 8.3 0.0 36.4 0.0 3.0	-16.7 -6.0 -16.9 -38.8 -18.8 -18.8 -10.2 -36.4 0.3 -3.0 -22.9
33 34 35 36 37 38 39 40 41 42 43 44	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 S/C S/C S/C S/C S/C D/C	0 241 0 0 0 83 567 0 103 0 992 271	NER-NR  703 0 695 1016 1095 341 0 1691 164 333 0 0	0.0 6.0 0.0 0.0 0.0 0.0 0.0 10.2 0.0 0.3 0.0 22.9	16.7 0.0 16.9 38.8 18.8 8.3 0.0 36.4 0.0 3.0 0.0	-16.7 -6.0 -16.9 -38.8 -18.8 -8.3 -10.2 -36.4 -0.3 -3.0 -22.9 -2
33 34 35 36 37 38 39 40 41 42 43	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 83 567 0 103 0	NER-NR  703 0 695 1016 1095 341 0 1691 164 333 0	0.0 6.0 0.0 0.0 0.0 0.0 10.2 0.0 0.3 0.0 22.9	16.7 0.0 16.9 38.8 18.8 8.3 0.0 36.4 0.0 3.0	-16.7 -6.0 -16.9 -38.8 -18.8 -18.8 -10.2 -36.4 0.3 -3.0 -22.9
33 34 35 36 37 38 39 40 41 42 43 44 45	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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 241 0 0 0 83 567 0 103 0 992 271	NER-NR  703 0 695 1016 1095 341 0 1691 164 333 0 0 39	0.0 6.0 0.0 0.0 0.0 0.0 10.2 0.0 0.3 0.0 22.9 2	16.7 0.0 16.9 38.8 18.8 8.3 0.0 36.4 0.0 3.0 0.0 0.0	11.6  -16.7  6.0  -16.9  -38.8  -18.8  -8.3  10.2  -36.4  0.3  -3.0  22.9  2  0.5
33 34 35 36 37 38 39 40 41 42 43 44 45 46	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-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 83 567 0 103 0 992 271 15	NER-NR  703 0 695 1016 1095 341 0 1691 164 333 0 0 0 39 97	0.0 6.0 0.0 0.0 0.0 0.0 10.2 0.0 0.3 0.0 22.9 2 0.6 0.0	16.7 0.0 16.9 38.8 18.8 8.3 0.0 3.0 0.0 0.0 0.1 0.9	11.6  -16.7  6.0  -16.9  -38.8  -18.8  -8.3  10.2  -36.4  0.3  -3.0  22.9  2  0.5  -0.9
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47	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-HINMAL  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	0 241 0 0 0 83 567 0 103 0 992 271 15 0 86	NER-NR  703 0 695 1016 1095 341 0 1691 164 333 0 0 0 39 97	0.0 6.0 0.0 0.0 0.0 0.0 10.2 0.0 0.3 0.0 22.9 2 0.6 0.0	16.7 0.0 16.9 38.8 18.8 8.3 0.0 36.4 0.0 3.0 0.0 0.0 0.1 0.9 0.0	-16.7 -6.0 -16.9 -38.8 -18.8 -8.3 -10.2 -36.4 -0.3 -3.0 -22.9 -2 -0.5 -0.9 -1.0
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49	Export of HVDC  765 kV  400 kV	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 83 567 0 103 0 992 271 15 0 86 44	NER-NR  703 0 695 1016 1095 341 0 1691 164 333 0 0 0 39 97 0 16 0	11.6  0.0  6.0  0.0  0.0  0.0  10.2  0.0  0.3  0.0  22.9  2  0.6  0.0  1.0  0.3  0.0  0.0	16.7 0.0 16.9 38.8 18.8 8.3 0.0 36.4 0.0 0.0 0.0 0.1 0.9 0.0 0.0 0.0	11.6  -16.7  6.0  -16.9  -38.8  -18.8  -8.3  10.2  -36.4  0.3  -3.0  22.9  2  0.5  -0.9  1.0  0.2  0.0
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49	Test of HVDC  765 kV  400 kV  220 kV  132kV  Export of HVDC	BISWANATH CHARIALI-AGRA  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  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	0 241 0 0 0 83 567 0 103 0 992 271 15 0 86 44 0	NER-NR  703 0 695 1016 1095 341 0 1691 164 333 0 0 0 39 97 0 116 0 WR-NR	11.6  0.0 6.0 0.0 0.0 0.0 0.0 10.2 0.0 0.3 0.0 22.9 2 0.6 0.0 1.0 0.3 0.0 43.0	16.7 0.0 16.9 38.8 18.8 8.3 0.0 36.4 0.0 3.0 0.0 0.0 0.0 0.1 0.9 0.0 139.8	11.6  -16.7  -0.0  -16.9  -38.8  -18.8  -8.3  10.2  -36.4  0.3  -3.0  22.9  2  0.5  -0.9  1.0  0.2  0.0  -96.8
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49  Import/F 50 51	Temport 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 83 567 0 103 0 992 271 15 0 86 44 0	NER-NR  703 0 695 1016 1095 341 0 1691 164 333 0 0 0 39 97 0 16 0 WR-NR	11.6  0.0  6.0  0.0  0.0  0.0  10.2  0.0  0.3  0.0  22.9  2  0.6  0.0  1.0  0.3  0.0  43.0	0.0  16.7  0.0  16.9  38.8  18.8  8.3  0.0  36.4  0.0  0.0  0.0  0.1  0.9  0.0  0.0  139.8	11.6  -16.7  6.0  -16.9  -38.8  -18.8  -8.3  10.2  -36.4  0.3  -3.0  22.9  2  0.5  -0.9  1.0  0.2  0.0  -96.8
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49  Import/F 50 51 52	Test of HVDC  765 kV  400 kV  220 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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 241 0 0 0 83 567 0 103 0 992 271 15 0 86 44 0	NER-NR  703 0 695 1016 1095 341 0 1691 164 333 0 0 0 39 97 0 116 0 WR-NR	11.6  0.0  6.0  0.0  0.0  0.0  0.0  10.2  0.0  0.3  0.0  22.9  2  0.6  0.0  1.0  0.3  43.0	16.7 0.0 16.9 38.8 18.8 8.3 0.0 36.4 0.0 0.0 0.0 0.0 0.1 0.9 0.0 0.0 139.8	11.6  -16.7  6.0  -16.9  -38.8  -18.8  -8.3  10.2  -36.4  0.3  -3.0  22.9  2  0.5  -0.9  1.0  0.2  0.0  -96.8
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49  Import/F 50 51 52 53	220 kV  132kV  Export of HVDC  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	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 83 567 0 103 0 992 271 15 0 86 44 0	NER-NR  703 0 695 1016 1095 341 0 1691 164 333 0 0 0 39 97 0 16 0 WR-NR	11.6  0.0  6.0  0.0  0.0  0.0  0.0  0.0	16.7 0.0 16.9 38.8 18.8 8.3 0.0 0.0 0.0 0.1 0.9 0.0 0.0 0.0 139.8 19.6 0.0 32.0 41.2	11.6  -16.7  -6.0  -16.9  -38.8  -18.8  -8.3  10.2  -36.4  0.3  -3.0  22.9  2  0.5  -0.9  1.0  0.0  -96.8  -19.6  0.0  -32.0  -41.2
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49  Import/F 50 51 52	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-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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 241 0 0 0 83 567 0 103 0 992 271 15 0 86 44 0	NER-NR  703 0 695 1016 1095 341 0 1691 164 333 0 0 0 39 97 0 116 0 WR-NR	11.6  0.0  6.0  0.0  0.0  0.0  0.0  10.2  0.0  0.3  0.0  22.9  2  0.6  0.0  1.0  0.3  43.0	16.7 0.0 16.9 38.8 18.8 8.3 0.0 36.4 0.0 0.0 0.0 0.0 0.1 0.9 0.0 0.0 139.8	11.6  -16.7  -6.0  -16.9  -38.8  -18.8  -8.3  10.2  -36.4  0.3  -3.0  22.9  2  0.5  -0.9  1.0  0.2  0.0  -96.8
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49  Import/F 50 51 52 53 54	220 kV  132kV  Export of HVDC  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-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 83 567 0 103 0 992 271 15 0 86 44 0	NER-NR  703 0 695 1016 1095 341 0 1691 164 333 0 0 0 39 97 0 16 0 WR-NR	11.6  0.0  6.0  0.0  0.0  0.0  0.0  10.2  0.0  0.3  0.0  22.9  2  0.6  0.0  1.0  0.3  0.0  43.0	0.0  16.7  0.0  16.9  38.8  18.8  8.3  0.0  0.0  0.0  0.1  0.9  0.0  0.0  139.8	11.6  -16.7  6.0  -16.9  -38.8  -18.8  -8.3  10.2  -36.4  0.3  -3.0  22.9  2  0.5  -0.9  1.0  0.2  0.0  -96.8  -19.6  0.0  -32.0  -41.2  10.1
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	220 kV 220 kV 132kV Export of LINK 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  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-LSILERU  SOLAPUR-RAICHUR  WARDHA-NIZAMABAD  KOLHAPUR-CHIKODI	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 83 567 0 103 0 992 271 15 0 86 44 0	NER-NR  703 0 695 1016 1095 341 0 1691 164 333 0 0 0 39 97 0 16 0 WR-NR  989 0 1981 2343 0 0 0 0 58	11.6  0.0  6.0  0.0  0.0  0.0  0.0  10.2  0.0  0.3  0.0  22.9  2  0.6  0.0  1.0  0.3  0.0  1.0  0.3  0.0  1.0  0.3  0.0  1.0  0.3  0.0  1.0  0.3  0.0  1.0  0.0  1.0  0.0  0	0.0  16.7  0.0  16.9  38.8  18.8  8.3  0.0  0.0  0.1  0.9  0.0  0.0  139.8  19.6  0.0  32.0  41.2  0.0  0.0	11.6  -16.7  6.0  -16.9  -38.8  -18.8  -8.3  10.2  -36.4  0.3  -3.0  22.9  2  0.5  -0.9  1.0  0.2  0.0  -96.8
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	220 kV 220 kV 132kV Export of LINK 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  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  X'ELDEM-AMBEWADI	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 83 567 0 103 0 992 271 15 0 86 44 0	NER-NR  703 0 695 1016 1095 341 0 1691 164 333 0 0 0 39 97 0 16 0 WR-NR  989 0 1981 2343 0 0 0 0 58 WR-SR	11.6  0.0  6.0  0.0  0.0  0.0  10.2  0.0  0.3  0.0  22.9  2  0.6  0.0  1.0  0.3  0.0  43.0	0.0  16.7  0.0  16.9  38.8  18.8  8.3  0.0  36.4  0.0  0.0  0.0  0.0  139.8  19.6  0.0  41.2  0.0  0.0  0.0  0.0  0.0  0.0  0.0	11.6  -16.7  -0.0  -16.9  -38.8  -18.8  -8.3  10.2  -36.4  0.3  -3.0  22.9  2  0.5  -0.9  1.0  0.2  0.0  -96.8  -19.6  0.0  -32.0  -41.2  10.1  0.0  0.0
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 57	220 kV 220 kV 132kV Export of LINK 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  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  TRA	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 83 567 0 103 0 992 271 15 0 86 44 0	NER-NR  703 0 695 1016 1095 341 0 1691 164 333 0 0 0 39 97 0 16 0 WR-NR  989 0 1981 2343 0 0 0 0 58 WR-SR	11.6  0.0  6.0  0.0  0.0  0.0  10.2  0.0  0.3  0.0  22.9  2  0.6  0.0  1.0  0.3  0.0  43.0	0.0  16.7  0.0  16.9  38.8  18.8  8.3  0.0  36.4  0.0  0.0  0.0  0.1  19.6  0.0  32.0  41.2  0.0  0.0  0.0  0.0  0.0  0.0  0.0	11.6  -16.7  -0.0  -16.9  -38.8  -18.8  -8.3  10.2  -36.4  0.3  -3.0  22.9  2  0.5  -0.9  1.0  0.2  0.0  -96.8  -19.6  0.0  -32.0  -41.2  10.1  0.0  0.0  1.1  -81.6
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	220 kV 220 kV 132kV Export of LINK 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  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  X'ELDEM-AMBEWADI	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 83 567 0 103 0 992 271 15 0 86 44 0	NER-NR  703 0 695 1016 1095 341 0 1691 164 333 0 0 0 39 97 0 16 0 WR-NR  989 0 1981 2343 0 0 0 0 58 WR-SR	11.6  0.0  6.0  0.0  0.0  0.0  10.2  0.0  0.3  0.0  22.9  2  0.6  0.0  1.0  0.3  0.0  43.0	0.0  16.7  0.0  16.9  38.8  18.8  8.3  0.0  36.4  0.0  0.0  0.0  0.1  19.6  0.0  32.0  41.2  0.0  0.0  0.0  0.0  0.0  0.0  0.0	11.6  -16.7  -0.0  -16.9  -38.8  -18.8  -8.3  10.2  -36.4  0.3  -3.0  22.9  2  0.5  -0.9  1.0  0.2  0.0  -96.8  -19.6  0.0  -32.0  -41.2  10.1  0.0  0.0  1.1