

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: 25th 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 24.12.2018.

महोदय/Dear Sir,

आई॰ई॰जी॰सी॰-2010 की धारा स.-5.5.1 के प्रावधान के अनुसार, दिनांक 24-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 24th 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 25-Dec-18

A. Maximum Demand

		****	l am			
	NR	WR	SR	ER	NER	Total
Demand Met during Evening Peak hrs(MW)	45962	48065	41042	17872	2383	155324
(at 1900 hrs; from RLDCs)	45902	48005	41042	1/8/2	2363	155524
Peak Shortage (MW)	687	0	0	0	34	721
Energy Met (MU)	936	1115	900	340	41	3331
Hydro Gen (MU)	116	28	75	34	7	260
Wind Gen (MU)	21	48	37			105
Solar Gen (MU)*	21.51	18.89	59.44	0.88	0.04	101
Energy Shortage (MU)	17.3	0.0	0.0	0.0	0.4	17.7
Maximum Demand Met during the day	46442	54998	42694	18106	2374	157636
(MW) & time (from NLDC SCADA)	18:31	09:55	12:45	19:19	19:13	18:29

B. Frequency Profile (%)
Region
All India <49.7 49.7-49.8 49.8-49.9 49.9-50.05 > 50.05 0.048 0.00 0.63 10.88 11.50 74.92 13.58

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 Shortag (MU)
	Punjab	5685	0	110.0	27.3	-1.1	134	0.0
NR	Haryana	6752	0	125.5	66.2	0.6	198	0.0
	Rajasthan	12051	230	237.9	51.9	3.1	787	0.0
	Delhi	3963	0	67.2	51.0	-0.2	247	0.0
	UP	13637	110	276.6	116.8	1.5	447	6.8
	Uttarakhand	2044	0	37.2	24.9	-0.4	78	0.0
	HP	1560	0	28.6	21.6	0.9	191	0.0
	J&K	2399	600	49.1	42.4	1.6	297	10.5
	Chandigarh	228	0	3.6	3.3	0.3	51	0.0
	Chhattisgarh	3537	0	73.7	22.0	-0.2	305	0.0
	Gujarat	15347	0	324.7	81.6	2.0	636	0.0
	MP	13804	0	257.5	147.3	-0.3	2422	0.0
WR	Maharashtra	20986	0	415.1	115.1	0.6	638	0.0
WK	Goa	452	0	10.2	8.9	0.8	73	0.0
	DD	323	0	7.1	6.3	0.8	82	0.0
	DNH	753	0	17.5	17.1	0.5	96	0.0
	Essar steel	557	0	9.1	8.9	0.2	310	0.0
	Andhra Pradesh	7712	0	162.5	56.1	0.6	452	0.0
	Telangana	8472	0	178.8	77.8	2.1	614	0.0
SR	Karnataka	10664	0	204.6	68.1	-0.5	551	0.0
3N	Kerala	3428	0	70.8	53.7	1.1	190	0.0
	Tamil Nadu	13730	0	276.4	146.9	0.0	409	0.0
	Pondy	357	0	6.9	7.3	-0.4	17	0.0
	Bihar	4001	0	70.3	66.6	0.1	460	0.0
	DVC	3121	0	65.8	-20.4	3.1	396	0.0
ER	Jharkhand	1047	0	23.5	16.6	0.2	169	0.0
LIX	Odisha	3824	0	70.0	22.2	1.6	267	0.0
	West Bengal	6309	0	109.0	17.1	1.2	309	0.0
	Sikkim	100	0	1.4	1.6	-0.3	18	0.0
	Arunachal Pradesh	131	4	2.2	1.8	0.4	90	0.0
	Assam	1387	19	22.1	17.3	0.2	185	0.4
	Manipur	182	3	2.4	2.8	-0.4	24	0.0
NER	Meghalaya	359	0	6.5	5.8	-0.2	19	0.0
NER	Mizoram	103	2	1.9	1.1	0.3	20	0.0
	Nagaland	127	3	2.2	1.9	0.0	25	0.0
	Tripura	224	3	3.4	1.4	-0.1	38	0.0

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

	Bhutan	Nepal	Bangladesh
Actual(MU)	1.5	-6.8	-14.4
Day peak (MW)	151.1	-282.0	-807.0

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

	NR	WR	SR	ER	NER	TOTAL
Schedule(MU)	147.3	-162.0	88.5	-78.4	3.9	-0.7
Actual(MU)	143.5	-176.4	91.7	-68.5	2.5	-7.2
O/D/U/D(MU)	-3.8	-14.4	3.2	9.9	-1.4	-6.5

F. Generation Outage(MW)

	NR	WR	SR	ER	NER	Total
Central Sector	4933	16755	6832	1870	306	30696
State Sector	10945	13525	7920	6315	50	38755
Total	15878	30280	14752	8185	356	69450

G. Sourcewise generation (MU)

	NR	WR	SR	ER	NER	All India
Coal	549	1121	505	410	5	2588
Lignite	19	14	52	0	0	85
Hydro	116	28	75	34	7	260
Nuclear	24	19	36	0	0	80
Gas, Naptha & Diesel	28	40	18	0	30	115
RES (Wind, Solar, Biomass & Others)	72	69	132	1	0	274
Total	807	1291	818	445	41	3403
Share of RES in total generation (%)	8 01	5 31	16.15	0.21	0.10	8.04

Share of RES in total generation (%)	8.91	5.31	16.15	0.21	0.10	8.04	
Share of Non-fossil fuel (Hydro, Nuclear and	26.30	8,98	29.78	7.82	16.83	18.04	
RES) in total generation (%)	20.50	0.20	29.76	7.02	10.03	10.04	

H. Diversity Factor
All India Demand Diversity Factor
1.044
Diversity factor = Sum of regional maximum demands / 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}.$

		INTE	R-REGI	ONAL EX	CHANGES	Date of I	Reporting :	25-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)
Import/E	Export of	ER (With NR)						
1	7651-X	GAYA-VARANASI	D/C	0	548	0.0	6.7	-6.7
3	765kV	SASARAM-FATEHPUR GAYA-BALIA	S/C S/C	0	260 261	0.0	2.8 4.2	-2.8 -4.2
4	HVDC	ALIPURDUAR-AGRA	-	0	0	0.0	0.0	0.0
5	HVDC	PUSAULI B/B	S/C	0	149	0.0	3.6	-3.6
6		PUSAULI-VARANASI	S/C	0	140	0.0	2.6	-2.6
7 8		PUSAULI -ALLAHABAD MUZAFFARPUR-GORAKHPUR	S/C D/C	0	59 496	0.0	7.9	-0.8 -7.9
9	400 kV	PATNA-BALIA	Q/C	0	863	0.0	17.7	-7.9
10	400 K	BIHARSHARIFF-BALIA	D/C	0	234	0.0	3.6	-3.6
11		MOTIHARI-GORAKHPUR	D/C	0	385	0.0	7.3	-7.3
12		BIHARSHARIFF-VARANASI	D/C	74	122	0.0	1.0	-1.0
13	220 kV	PUSAULI-SAHUPURI	S/C	0	137	0.0	2.4	-2.4
14		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	~- .	KARMANASA-SAHUPURI	S/C	0	0	0.0	0.0	0.0
17	<u> </u>	KARMANASA-CHANDAULI	S/C	0	0 ED ND	0.0	0.0	0.0
Import/E	Export of	ER (With WR)			ER-NR	0.6	60.6	-60.0
18	765 kV	JHARSUGUDA-DHARAMJAIGARH S/C	D/C	923	0	9.5	0.0	9.5
19	/05 KV	NEW RANCHI-DHARAMJAIGARH	D/C	112	437	0.0	1.7	-1.7
20	400 kV	JHARSUGUDA-RAIGARH	Q/C	510	24	5.3	0.0	5.3
21	700 K V	RANCHI-SIPAT	D/C	124	90	0.7	0.0	0.7
22	220 kV	BUDHIPADAR-RAIGARH	S/C	35	51	0.0	0.4	-0.4
23		BUDHIPADAR-KORBA	D/C	131	0	1.7	0.0	1.7
Import/E	Export of	ER (With SR)			ER-WR	17.2	2.1	15.1
24	765 kV	ANGUL-SRIKAKULAM	D/C	0.0	1397.0	0.0	19.3	-19.3
25	HVDC	JEYPORE-GAZUWAKA B/B	D/C	0.0	685.0	0.0	16.0	-16.0
26	LINK	TALCHER-KOLAR BIPOLE	D/C	0.0	1973.0	0.0	42.8	-42.8
27	400 kV	TALCHER-I/C	D/C	0.0	622.0	1.0	0.0	1.0
28	220 kV	BALIMELA-UPPER-SILERRU	S/C	1.0	0.0 ER-SR	0.0	78.0	0.0 -78.0
Import/F	Export of	ER (With NER)			ER-5K	0.0	70.0	-78.0
29		BINAGURI-BONGAIGAON	D/C	158	76	2.3	0.0	2
30	400 kV	ALIPURDUAR-BONGAIGAON	D/C	247	1	4.3	0.0	4
31	220 kV	ALIPURDUAR-SALAKATI	D/C	32	27	0.3	0.0	0
Import/E	Export of	NER (With NR)			ER-NER	6.8	0.0	6.8
32 32		BISWANATH CHARIALI-AGRA	_	472	0	11.7	0.0	11.7
32	птьс	BIS WAR WITTIT CHARACTER ATOLET		772	0			11.7
					NER-NR	11.7	0.0	
Import/E	Export of	WR (With NR)			NER-NR	11.7	0.0	11./
Import/E	Export of	WR (With NR) CHAMPA-KURUKSHETRA	D/C	0	NER-NR 702	0.0	16.6	-16.6
_	Export of HVDC		D/C D/C	0 244				1
33 34 35		CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG	D/C D/C	244	702 0 985	0.0 5.6 0.0	16.6 0.0 24.2	-16.6 5.6 -24.2
33 34 35 36		CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG GWALIOR-AGRA	D/C D/C D/C	244 0 0	702 0 985 1092	0.0 5.6 0.0 0.0	16.6 0.0 24.2 38.4	-16.6 5.6 -24.2 -38.4
33 34 35 36 37	HVDC	CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR	D/C D/C D/C D/C	244 0 0 0	702 0 985 1092 1383	0.0 5.6 0.0 0.0 0.0	16.6 0.0 24.2 38.4 18.0	-16.6 5.6 -24.2 -38.4 -18.0
33 34 35 36 37 38	HVDC	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	244 0 0 0 0 100	702 0 985 1092 1383 423	0.0 5.6 0.0 0.0 0.0 0.0	16.6 0.0 24.2 38.4 18.0 8.3	-16.6 5.6 -24.2 -38.4 -18.0 -8.3
33 34 35 36 37 38 39	HVDC	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	244 0 0 0 0 100 650	702 0 985 1092 1383 423	0.0 5.6 0.0 0.0 0.0 0.0 0.0	16.6 0.0 24.2 38.4 18.0 8.3 0.0	-16.6 5.6 -24.2 -38.4 -18.0 -8.3 10.3
33 34 35 36 37 38	HVDC	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	244 0 0 0 0 100	702 0 985 1092 1383 423	0.0 5.6 0.0 0.0 0.0 0.0	16.6 0.0 24.2 38.4 18.0 8.3	-16.6 5.6 -24.2 -38.4 -18.0 -8.3
33 34 35 36 37 38 39 40	HVDC 765 kV	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	244 0 0 0 0 100 650 0	702 0 985 1092 1383 423 0	0.0 5.6 0.0 0.0 0.0 0.0 0.0 10.3	16.6 0.0 24.2 38.4 18.0 8.3 0.0 36.9	-16.6 5.6 -24.2 -38.4 -18.0 -8.3 10.3 -36.9
33 34 35 36 37 38 39 40 41	HVDC	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	244 0 0 0 100 650 0 272	702 0 985 1092 1383 423 0 1747 169	0.0 5.6 0.0 0.0 0.0 0.0 10.3 0.0	16.6 0.0 24.2 38.4 18.0 8.3 0.0 36.9 0.0	-16.6 5.6 -24.2 -38.4 -18.0 -8.3 10.3 -36.9 0.6
33 34 35 36 37 38 39 40 41 42	HVDC 765 kV	CHAMPA-KURUKSHETRA V'CHAL 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	244 0 0 0 100 650 0 272 201	702 0 985 1092 1383 423 0 1747 169 325	0.0 5.6 0.0 0.0 0.0 0.0 10.3 0.0 0.6	16.6 0.0 24.2 38.4 18.0 8.3 0.0 36.9 0.0 2.0	-16.6 5.6 -24.2 -38.4 -18.0 -8.3 10.3 -36.9 0.6 -2.0
33 34 35 36 37 38 39 40 41 42 43	HVDC 765 kV	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	D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C S/C	244 0 0 0 100 650 0 272 201 987	702 0 985 1092 1383 423 0 1747 169 325 0	0.0 5.6 0.0 0.0 0.0 0.0 10.3 0.0 0.6 0.0	16.6 0.0 24.2 38.4 18.0 8.3 0.0 36.9 0.0 2.0	-16.6 5.6 -24.2 -38.4 -18.0 -8.3 10.3 -36.9 0.6 -2.0 21.6
33 34 35 36 37 38 39 40 41 42 43 44 45	HVDC 765 kV 400 kV	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	244 0 0 0 100 650 0 272 201 987 384 48 44	702 0 985 1092 1383 423 0 1747 169 325 0 74 30 75	0.0 5.6 0.0 0.0 0.0 10.3 0.0 0.6 0.0 21.6 2	16.6 0.0 24.2 38.4 18.0 8.3 0.0 36.9 0.0 2.0 0.0 0.0	-16.6 5.6 -24.2 -38.4 -18.0 -8.3 10.3 -36.9 0.6 -2.0 21.6 2 0.8 -0.4
33 34 35 36 37 38 39 40 41 42 43 44 45 46	HVDC 765 kV	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	244 0 0 0 100 650 0 272 201 987 384 48 44 82	702 0 985 1092 1383 423 0 1747 169 325 0 74 30 75	0.0 5.6 0.0 0.0 0.0 10.3 0.0 0.6 0.0 21.6 2 0.8 0.2	16.6 0.0 24.2 38.4 18.0 8.3 0.0 36.9 0.0 0.0 0.0 0.0	-16.6 5.6 -24.2 -38.4 -18.0 -8.3 10.3 -36.9 0.6 -2.0 21.6 2 0.8 -0.4 1.3
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48	HVDC 765 kV 400 kV	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 D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	244 0 0 0 100 650 0 272 201 987 384 48 44 82 39	702 0 985 1092 1383 423 0 1747 169 325 0 74 30 75 0	0.0 5.6 0.0 0.0 0.0 10.3 0.0 0.0 21.6 2 0.8 0.2 1.3 0.5	16.6 0.0 24.2 38.4 18.0 8.3 0.0 36.9 0.0 2.0 0 0 0 0 0 0.0 0 0.0 0 0 0 0 0 0 0 0 0 0 0 0 0	-16.6 5.6 -24.2 -38.4 -18.0 -8.3 10.3 -36.9 0.6 -2.0 21.6 2 0.8 -0.4 1.3 0.4
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47	HVDC 765 kV 400 kV	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	244 0 0 0 100 650 0 272 201 987 384 48 44 82	702 0 985 1092 1383 423 0 1747 169 325 0 74 30 75	0.0 5.6 0.0 0.0 0.0 10.3 0.0 0.6 0.0 21.6 2 0.8 0.2	16.6 0.0 24.2 38.4 18.0 8.3 0.0 36.9 0.0 0.0 0.0 0.0	-16.6 5.6 -24.2 -38.4 -18.0 -8.3 10.3 -36.9 0.6 -2.0 21.6 2 0.8 -0.4 1.3
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49	HVDC 765 kV 400 kV - 220 kV	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)	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	244 0 0 0 100 650 0 272 201 987 384 48 44 82 39 0	702 0 985 1092 1383 423 0 1747 169 325 0 74 30 75 0 22 0 WR-NR	0.0 5.6 0.0 0.0 0.0 0.0 10.3 0.0 0.6 0.0 21.6 2 0.8 0.2 1.3 0.5 0.0 42.9	16.6 0.0 24.2 38.4 18.0 8.3 0.0 36.9 0.0 2.0 0.0 0.0 0.0 0.0 0.0 0.0	-16.6 5.6 -24.2 -38.4 -18.0 -8.3 10.3 -36.9 0.6 -2.0 21.6 2 0.8 -0.4 1.3 0.4 0.0 -102.1
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49	HVDC 765 kV 400 kV 220 kV 132kV Export of HVDC	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	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	244 0 0 0 100 650 0 272 201 987 384 48 22 39 0	702 0 985 1092 1383 423 0 1747 169 325 0 74 30 75 0 22 0 WR-NR	0.0 5.6 0.0 0.0 0.0 0.0 10.3 0.0 0.6 0.0 21.6 2 0.8 0.2 1.3 0.5 0.0 42.9	16.6 0.0 24.2 38.4 18.0 8.3 0.0 0.0 2.0 0.0 0.0 0.0 0.0 0.0	-16.6 5.6 -24.2 -38.4 -18.0 -8.3 10.3 -36.9 0.6 -2.0 21.6 2 0.8 -0.4 1.3 0.4 0.0 -102.1
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 Import/E 50 51	HVDC 765 kV 400 kV 220 kV 132kV Export of HVDC LINK	CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-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 D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	244 0 0 0 100 650 0 272 201 987 384 48 44 82 39 0	702 0 985 1092 1383 423 0 1747 169 325 0 74 30 75 0 22 0 WR-NR	0.0 5.6 0.0 0.0 0.0 0.0 10.3 0.0 21.6 2 0.8 0.2 1.3 0.5 0.0 42.9	16.6 0.0 24.2 38.4 18.0 8.3 0.0 0.0 2.0 0.0 0.0 0.5 0.0 0.0 145.0	-16.6 5.6 -24.2 -38.4 -18.0 -8.3 10.3 -36.9 0.6 -2.0 21.6 2 0.8 -0.4 1.3 0.4 0.0 -102.1
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 Import/E 50 51 52	HVDC 765 kV 400 kV 220 kV 132kV Export of HVDC	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	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	244 0 0 0 100 650 0 272 201 987 384 48 22 39 0	702 0 985 1092 1383 423 0 1747 169 325 0 74 30 75 0 22 0 WR-NR	0.0 5.6 0.0 0.0 0.0 0.0 10.3 0.0 0.6 0.0 21.6 2 0.8 0.2 1.3 0.5 0.0 42.9	16.6 0.0 24.2 38.4 18.0 8.3 0.0 0.0 2.0 0.0 0.0 0.0 0.5 0.0 0.0 145.0	-16.6 5.6 -24.2 -38.4 -18.0 -8.3 10.3 -36.9 0.6 -2.0 21.6 2 0.8 -0.4 1.3 0.4 0.0 -102.1
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 Import/E 50 51	HVDC 765 kV 400 kV 220 kV 132kV Export of HVDC LINK	CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-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 D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	244 0 0 0 100 650 0 272 201 987 384 48 44 82 39 0	702 0 985 1092 1383 423 0 1747 169 325 0 74 30 75 0 22 0 WR-NR	0.0 5.6 0.0 0.0 0.0 0.0 10.3 0.0 21.6 2 0.8 0.2 1.3 0.5 0.0 42.9	16.6 0.0 24.2 38.4 18.0 8.3 0.0 0.0 2.0 0.0 0.0 0.5 0.0 0.0 145.0	-16.6 5.6 -24.2 -38.4 -18.0 -8.3 10.3 -36.9 0.6 -2.0 21.6 2 0.8 -0.4 1.3 0.4 0.0 -102.1
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 Import/E 50 51 52 53	HVDC 765 kV 400 kV 220 kV 132kV Export of HVDC LINK 765 kV	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-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	244 0 0 0 100 650 0 272 201 987 384 48 44 82 39 0	702 0 985 1092 1383 423 0 1747 169 325 0 74 30 75 0 22 0 WR-NR	0.0 5.6 0.0 0.0 0.0 0.0 10.3 0.0 0.6 0.0 21.6 2 0.8 0.2 1.3 0.5 0.0 42.9	16.6 0.0 24.2 38.4 18.0 8.3 0.0 0.0 2.0 0.0 0.0 0.0 0.0 0.0	-16.6 5.6 -24.2 -38.4 -18.0 -8.3 10.3 -36.9 0.6 -2.0 21.6 2 0.8 -0.4 1.3 0.4 0.0 -102.1
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 Import/F 50 51 52 53 54	HVDC 765 kV 400 kV 220 kV 132kV Export of HVDC LINK 765 kV 400 kV	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	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	244 0 0 0 100 650 0 272 201 987 384 48 44 82 39 0 0 0 577 0 1217	702 0 985 1092 1383 423 0 1747 169 325 0 74 30 75 0 22 0 WR-NR	0.0 5.6 0.0 0.0 0.0 0.0 10.3 0.0 0.6 0.0 21.6 2 0.8 0.2 1.3 0.5 0.0 42.9	16.6 0.0 24.2 38.4 18.0 8.3 0.0 36.9 0.0 0.0 0.0 0.0 0.0 0.0 0.0 145.0 21.2 0.0 22.6 30.6 0.0	-16.6 5.6 -24.2 -38.4 -18.0 -8.3 10.3 -36.9 0.6 -2.0 21.6 2 0.8 -0.4 1.3 0.4 0.0 -102.1
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 765 kV 400 kV 220 kV 132kV Export of HVDC LINK 765 kV 400 kV	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 D/C D/C D/C S/C S/C S/C S/C S/C S/C S/C S/C D/C S/C S/C D/C S/C S/C D/C S/C S/C D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	244 0 0 0 100 650 0 272 201 987 384 48 44 82 39 0 0 0 577 0 1217	702 0 985 1092 1383 423 0 1747 169 325 0 74 30 75 0 22 0 WR-NR	0.0 5.6 0.0 0.0 0.0 0.0 10.3 0.0 0.6 0.0 21.6 2 0.8 0.2 1.3 0.5 0.0 42.9	16.6 0.0 24.2 38.4 18.0 8.3 0.0 36.9 0.0 0.0 0.0 0.0 0.0 145.0 21.2 0.0 22.6 30.6 0.0 0.0	-16.6 5.6 -24.2 -38.4 -18.0 -8.3 10.3 -36.9 0.6 -2.0 21.6 2 0.8 -0.4 1.3 0.4 0.0 -102.1 -21.2 0.0 -22.6 -30.6 14.5 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	HVDC 765 kV 400 kV 220 kV 132kV Export of HVDC LINK 765 kV 400 kV	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	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	244 0 0 0 100 650 0 272 201 987 384 48 44 82 39 0 0 0 577 0 1217 0	702 0 985 1092 1383 423 0 1747 169 325 0 74 30 75 0 22 0 WR-NR	0.0 5.6 0.0 0.0 0.0 0.0 10.3 0.0 0.6 0.0 21.6 2 0.8 0.2 1.3 0.5 0.0 42.9 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	16.6 0.0 24.2 38.4 18.0 8.3 0.0 36.9 0.0 0.0 0.0 0.0 0.0 145.0 21.2 0.0 22.6 30.6 0.0 0.0 0.0	-16.6 5.6 -24.2 -38.4 -18.0 -8.3 10.3 -36.9 0.6 -2.0 21.6 2 0.8 -0.4 1.3 0.4 0.0 -102.1 -21.2 0.0 -22.6 -30.6 14.5 0.0 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	HVDC 765 kV 400 kV 220 kV 132kV Export of HVDC LINK 765 kV 400 kV	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 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	244 0 0 0 100 650 0 272 201 987 384 48 44 82 39 0 0 0 577 0 1217 0	702 0 985 1092 1383 423 0 1747 169 325 0 74 30 75 0 22 0 WR-NR	0.0 5.6 0.0 0.0 0.0 0.0 10.3 0.0 0.6 0.0 21.6 2 0.8 0.2 1.3 0.5 0.0 42.9 0.0 0.0 0.0 10.1 11.5 0.0 0.0 0.0 11.2	16.6 0.0 24.2 38.4 18.0 8.3 0.0 36.9 0.0 0.0 0.0 0.0 0.0 145.0 21.2 0.0 22.6 30.6 0.0 0.0 0.0 0.0 0.0 0.0	-16.6 5.6 -24.2 -38.4 -18.0 -8.3 10.3 -36.9 0.6 -2.0 21.6 2 0.8 -0.4 1.3 0.4 0.0 -102.1 -21.2 0.0 -22.6 -30.6 14.5 0.0 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	HVDC 765 kV 400 kV 220 kV 132kV Export of HVDC LINK 765 kV 400 kV	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 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	244 0 0 0 100 650 0 272 201 987 384 48 44 82 39 0 0 577 0 1217 0	702 0 985 1092 1383 423 0 1747 169 325 0 74 30 75 0 22 0 WR-NR	0.0 5.6 0.0 0.0 0.0 0.0 10.3 0.0 0.6 0.0 21.6 2 0.8 0.2 1.3 0.5 0.0 42.9 0.0 0.0 0.0 10.1 11.5 0.0 0.0 0.0 11.2	16.6 0.0 24.2 38.4 18.0 8.3 0.0 36.9 0.0 0.0 0.0 0.0 0.0 145.0 21.2 0.0 22.6 30.6 0.0 0.0 0.0 0.0 0.0 0.0	-16.6 5.6 -24.2 -38.4 -18.0 -8.3 10.3 -36.9 0.6 -2.0 21.6 2 0.8 -0.4 1.3 0.4 0.0 -102.1 -21.2 0.0 -22.6 -30.6 14.5 0.0 0.0 1.2