

## 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: 22<sup>nd</sup> Jan 2019

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 21.01.2019.

महोदय/Dear Sir,

आई॰ई॰जी॰सी॰-2010 की धारा स.-5.5.1 के प्रावधान के अनुसार, दिनांक 21-जनवरी-2019 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 21<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 22-Jan-19

#### A. Maximum Demand

	NR	WR	SR	ER	NER	Total
Demand Met during Evening Peak hrs(MW) (at 1900 hrs; from RLDCs)	39327	47632	40318	17950	2342	147569
Peak Shortage (MW)	720	0	60	204	32	1016
Energy Met (MU)	881	1120	907	353	42	3304
Hydro Gen (MU)	115	23	75	24	7	243
Wind Gen (MU)	16	52	42			110
Solar Gen (MU)*	12.80	18.67	76.36	0.90	0.04	109
Energy Shortage (MU)	10.6	0.2	0.3	0.6	0.3	11.9
Maximum Demand Met during the day	43459	55783	43310	18643	2503	159826
(MW) & time (from NLDC SCADA)	08:40	09:50	09:41	18:30	17:47	09:21

B. Frequency Profile (%)

Difficulty Frome ()							
Region	FVI	<49.7	49.7-49.8	49.8-49.9	<49.9	49.9-50.05	> 50.05
All India	0.056	0.08	2.19	8.37	10.64	67.27	22.09

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	5552	0	102.8	28.0	-0.7	75	0.0
	Haryana	5884	0	115.2	65.3	-0.6	169	0.4
	Rajasthan	11958	0	225.2	63.8	-2.1	550	0.0
	Delhi	3907	0	67.9	53.0	-0.9	188	0.0
NR	UP	12633	0	259.4	103.3	-0.3	399	0.3
	Uttarakhand	2094	0	35.0	22.7	-1.0	160	0.0
	HP	1616	0	29.0	23.6	0.0	147	0.0
	J&K	2234	599	43.1	41.5	-3.7	141	9.9
	Chandigarh	228	0	3.7	3.9	-0.3	27	0.0
	Chhattisgarh	3732	0	80.8	33.6	-0.8	220	0.2
	Gujarat	16008	0	333.9	80.2	7.3	720	0.0
	MP	13800	0	243.7	133.3	-2.4	401	0.0
WR	Maharashtra	20632	0	412.4	123.8	0.5	515	0.0
WK	Goa	498	0	12.0	10.6	0.8	35	0.0
	DD	297	0	6.8	6.6	0.1	38	0.0
	DNH	774	0	17.9	17.8	0.0	48	0.0
	Essar steel	595	0	13.0	12.6	0.4	274	0.0
	Andhra Pradesh	8121	0	165.2	65.5	0.2	564	0.0
	Telangana	8808	0	181.9	71.0	0.4	526	0.0
SR	Karnataka	11390	0	211.9	76.7	0.0	517	0.0
3N	Kerala	3376	0	62.7	46.1	0.7	155	0.3
	Tamil Nadu	13444	0	278.2	146.4	0.6	564	0.0
	Pondy	355	0	6.9	7.1	-0.3	64	0.0
	Bihar	4202	0	75.3	69.0	0.9	460	0.0
	DVC	3176	0	65.6	-45.4	-0.6	396	0.0
ER	Jharkhand	999	204	22.8	15.6	0.5	169	0.6
LIX	Odisha	3919	0	67.6	21.4	-2.3	267	0.0
	West Bengal	6657	0	120.6	18.9	1.4	309	0.0
	Sikkim	93	0	1.3	1.6	-0.4	18	0.0
	Arunachal Pradesh	114	2	2.2	2.0	0.2	37	0.0
	Assam	1388	21	23.2	17.5	1.5	138	0.2
	Manipur	189	3	2.9	3.0	-0.1	44	0.0
NER	Meghalaya	336	0	6.2	5.3	-0.1	52	0.0
	Mizoram	97	1	1.8	1.7	0.0	3	0.0
	Nagaland	112	3	2.1	2.0	0.0	12	0.0
	Tripura	270	1	3,9	3.9	0.3	57	0.0

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

	Bhutan	Nepal	Bangladesh
Actual(MU)	0.6	-7.1	-14.0
Day peak (MW)	116.0	-327.0	-811.0

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

	NR	WR	SR	ER	NER	TOTAL
Schedule(MU)	158.3	-189.2	103.6	-73.1	0.1	-0.4
Actual(MU)	155.6	-190.1	103.0	-73.4	0.8	-4.2
O/D/U/D(MU)	-2.8	-0.9	-0.6	-0.2	0.7	-3.8

F. Generation Outage(MW)

	NR	WR	SR	ER	NER	Total
Central Sector	3370	15387	6602	2905	207	28470
State Sector	10810	16436	9330	4165	50	40791
Total	14180	31823	15932	7070	256	69261

G. Sourcewise generation (MU)

	NR	WR	SR	ER	NER	All India
Coal	515	1143	471	409	9	2548
Lignite	17	19	53	0	0	88
Hydro	115	23	75	24	7	243
Nuclear	24	29	32	0	0	85
Gas, Naptha & Diesel	26	42	18	0	29	115
RES (Wind, Solar, Biomass & Others)	58	71	160	1	0	291
Total	755	1327	809	434	45	3370
Share of RES in total generation (%)	7.60	5 38	10.80	0.22	0.00	8.62

Share of RES in total generation (%)	7.69	5.38	19.80	0.22	0.09	8.62
Share of Non-fossil fuel (Hydro, Nuclear and RES) in total generation (%)	26.07	9.30	32.92	5.76	15.42	18.35

H. Diversity Factor
All India Demand Diversity Factor
1.024
Diversity factor = Sum of regional maximum demands / All India maximum demand

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

		INTER-REGIONAL EXCHANGES  Date of Reporting: 22-Jan							
								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)	D/C		727	0.0	0.5	0.5	
2	765kV	GAYA-VARANASI SASARAM-FATEHPUR	D/C S/C	37	737 287	0.0	9.5	-9.5 -2.7	
3	70011	GAYA-BALIA	S/C	0	395	0.0	6.1	-6.1	
4	HVDC	ALIPURDUAR-AGRA	-	0	0	0.0	0.0	0.0	
5	HVDC	PUSAULI B/B	S/C	0	150	0.0	3.6	-3.6	
6		PUSAULI-VARANASI	S/C	0	114	0.0	2.1	-2.1	
7	4	PUSAULI -ALLAHABAD	S/C	0	106	0.0	1.4	-1.4	
8	400 1 77	MUZAFFARPUR-GORAKHPUR	D/C	0	647	0.0	8.2	-8.2	
9	400 kV	PATNA-BALIA	Q/C D/C	0	731 372	0.0	13.5	-13.5 -5.3	
11	_	BIHARSHARIFF-BALIA MOTIHARI-GORAKHPUR	D/C	0	280	0.0	4.7	-4.7	
12	-	BIHARSHARIFF-VARANASI	D/C	56	259	0.0	2.3	-2.3	
13	220 kV	PUSAULI-SAHUPURI	S/C	0	151	0.0	2.8	-2.8	
14		SONE NAGAR-RIHAND	S/C	0	0	0.0	0.0	0.0	
15	122 : 5:	GARWAH-RIHAND	S/C	25	0	0.6	0.0	0.6	
16	132 kV	KARMANASA-SAHUPURI	S/C	42	0	0.0	0.0	0.0	
17	<u></u>	KARMANASA-CHANDAULI	S/C	0	0	0.0	0.0	0.0	
	-				ER-NR	0.6	62.1	-61.5	
port/l	Export of	ER (With WR)							
18	765 kV	JHARSUGUDA-DHARAMJAIGARH S/C	D/C	1645	0	23.6	0.0	23.6	
19	/05 KV	NEW RANCHI-DHARAMJAIGARH	D/C	338	463	0.0	3.2	-3.2	
20	400 1 77	JHARSUGUDA-RAIGARH	Q/C	110	143	0.0	0.9	-0.9	
21	400 kV	RANCHI-SIPAT	D/C	179	102	0.9	0.0	0.9	
22	220 kV	BUDHIPADAR-RAIGARH	S/C	6	85	0.0	1.0	-1.0	
23	R,	BUDHIPADAR-KORBA	D/C	103	2	1.2	0.0	1.2	
					ER-WR	25.7	5.1	20.6	
		ER (With SR)			1			1	
24	765 kV	ANGUL-SRIKAKULAM	D/C	0.0	1634.0	0.0	25.5	-25.5	
25	HVDC	JEYPORE-GAZUWAKA B/B	D/C	0.0	646.0	0.0	16.0	-16.0	
26	LINK	TALCHER-KOLAR BIPOLE	D/C	0.0	1984.0	0.0	43.0	-43.0	
27	400 kV 220 kV	TALCHER-I/C BALIMELA-UPPER-SILERRU	D/C S/C	251.0 1.0	343.0 0.0	0.0	0.0	-6.6 0.0	
20	220 K V	BALIMELA-OTTEK-SILEKKO	3/C	1.0	ER-SR	0.0	84.5	-84.5	
iport/l	Export of	ER (With NER)							
29	40017	BINAGURI-BONGAIGAON	D/C	326	0	4.8	0.0	5	
30	400 kV	ALIPURDUAR-BONGAIGAON	D/C	462	0	6.9	0.0	7	
31	220 kV	ALIPURDUAR-SALAKATI	D/C	79	8	0.8	0.0	1	
					ER-NER	12.5	0.0	12.5	
iport/l		NER (With NR)							
32	HVDC	BISWANATH CHARIALI-AGRA	-	661	0	14.0	0.0	14.0	
	E	WD (WAL ND)			NER-NR	14.0	0.0	14.0	
		WR (With NR)			1			24.0	
33	Export or	CHAMPA KUDUKKUETEDA	D/C			0.0	21.0	-21.0	
3.4		CHAMPA-KURUKSHETRA	D/C	241	1303	0.0	21.0	1	
34	HVDC	V'CHAL B/B	D/C	241	253	3.7	2.3	1.4	
35		V'CHAL B/B APL -MHG	D/C D/C	241 0	253 1736	3.7 0.0	2.3 38.6	1.4 -38.6	
35 36		V'CHAL B/B APL -MHG GWALIOR-AGRA	D/C D/C D/C	241 0 0	253 1736 1108	3.7 0.0 0.0	2.3 38.6 33.7	1.4 -38.6 -33.7	
35 36 37	HVDC	VCHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR	D/C D/C D/C D/C	241 0 0 0	253 1736	3.7 0.0 0.0 0.0	2.3 38.6 33.7 11.1	1.4 -38.6 -33.7 -11.1	
35 36	HVDC	V'CHAL B/B APL -MHG GWALIOR-AGRA	D/C D/C D/C	241 0 0	253 1736 1108 842	3.7 0.0 0.0	2.3 38.6 33.7	1.4 -38.6 -33.7	
35 36 37 38	HVDC	VCHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI	D/C D/C D/C D/C D/C D/C	241 0 0 0 0	253 1736 1108 842 721	3.7 0.0 0.0 0.0 0.0	2.3 38.6 33.7 11.1 18.3	1.4 -38.6 -33.7 -11.1 -18.3	
35 36 37 38 39	HVDC	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	241 0 0 0 0 0 536	253 1736 1108 842 721	3.7 0.0 0.0 0.0 0.0 0.0 9.3	2.3 38.6 33.7 11.1 18.3 0.0	1.4 -38.6 -33.7 -11.1 -18.3 9.3	
35 36 37 38 39 40	HVDC 765 kV	VCHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI	D/C D/C D/C D/C D/C S/C S/C	241 0 0 0 0 0 536 0	253 1736 1108 842 721 0	3.7 0.0 0.0 0.0 0.0 0.0 9.3 0.0	2.3 38.6 33.7 11.1 18.3 0.0 23.4	1.4 -38.6 -33.7 -11.1 -18.3 9.3 -23.4	
35 36 37 38 39 40 41	HVDC	VCHAL 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	241 0 0 0 0 0 536 0 210	253 1736 1108 842 721 0 1230	3.7 0.0 0.0 0.0 0.0 0.0 9.3 0.0 1.8	2.3 38.6 33.7 11.1 18.3 0.0 23.4 0.0	1.4 -38.6 -33.7 -11.1 -18.3 9.3 -23.4 1.8	
35 36 37 38 39 40 41 42	HVDC 765 kV	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	241 0 0 0 0 0 536 0 210 198	253 1736 1108 842 721 0 1230 120 307	3.7 0.0 0.0 0.0 0.0 0.0 9.3 0.0 1.8	2.3 38.6 33.7 11.1 18.3 0.0 23.4 0.0	1.4 -38.6 -33.7 -11.1 -18.3 9.3 -23.4 1.8 -1.2	
35 36 37 38 39 40 41 42 43	HVDC 765 kV	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	241 0 0 0 0 536 0 210 198 964	253 1736 1108 842 721 0 1230 120 307 0	3.7 0.0 0.0 0.0 0.0 0.0 9.3 0.0 1.8 0.0 19.7	2.3 38.6 33.7 11.1 18.3 0.0 23.4 0.0 1.2	1.4 -38.6 -33.7 -11.1 -18.3 9.3 -23.4 1.8 -1.2	
35 36 37 38 39 40 41 42 43 44 45 46	HVDC 765 kV 400 kV	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 S/C S/C S/C S/C S/C D/C	241 0 0 0 0 536 0 210 198 964 318	253 1736 1108 842 721 0 1230 120 307 0 206	3.7 0.0 0.0 0.0 0.0 9.3 0.0 1.8 0.0 19.7	2.3 38.6 33.7 11.1 18.3 0.0 23.4 0.0 1.2 0.0	1.4 -38.6 -33.7 -11.1 -18.3 9.3 -23.4 1.8 -1.2 19.7	
35 36 37 38 39 40 41 42 43 44 45	HVDC 765 kV	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	241 0 0 0 0 536 0 210 198 964 318 49 16	253 1736 1108 842 721 0 1230 120 307 0 206 32 122 0	3.7 0.0 0.0 0.0 0.0 9.3 0.0 1.8 0.0 19.7 1 0.7 0.0 1.4	2.3 38.6 33.7 11.1 18.3 0.0 23.4 0.0 1.2 0.0 0 0.1 1.1	1.4 -38.6 -33.7 -11.1 -18.3 9.3 -23.4 1.8 -1.2 19.7 1 0.6 -1.1 1.4	
35 36 37 38 39 40 41 42 43 44 45 46 47 48	HVDC 765 kV 400 kV 220 kV	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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	241 0 0 0 0 0 536 0 210 198 964 318 49 16 115 64	253 1736 1108 842 721 0 1230 120 307 0 206 32 122 0 16	3.7 0.0 0.0 0.0 0.0 9.3 0.0 1.8 0.0 19.7 1 0.7 0.0 1.4 0.5	2.3 38.6 33.7 11.1 18.3 0.0 23.4 0.0 1.2 0.0 0 0.1 1.1 0.0 0.0	1.4 -38.6 -33.7 -11.1 -18.3 9.3 -23.4 1.8 -1.2 19.7 1 0.6 -1.1 1.4	
35 36 37 38 39 40 41 42 43 44 45 46 47	HVDC 765 kV 400 kV	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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	241 0 0 0 0 536 0 210 198 964 318 49 16	253 1736 1108 842 721 0 1230 120 307 0 206 32 122 0 16	3.7 0.0 0.0 0.0 0.0 9.3 0.0 1.8 0.0 19.7 1 0.7 0.0 1.4 0.5 0.0	2.3 38.6 33.7 11.1 18.3 0.0 23.4 0.0 1.2 0.0 0 0.1 1.1 0.0 0.0	1.4 -38.6 -33.7 -11.1 -18.3 9.3 -23.4 1.8 -1.2 19.7 1 0.6 -1.1 1.4 0.5	
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49	HVDC  765 kV  400 kV  220 kV	VCHAL 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	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	241 0 0 0 0 0 536 0 210 198 964 318 49 16 115 64	253 1736 1108 842 721 0 1230 120 307 0 206 32 122 0 16	3.7 0.0 0.0 0.0 0.0 9.3 0.0 1.8 0.0 19.7 1 0.7 0.0 1.4 0.5	2.3 38.6 33.7 11.1 18.3 0.0 23.4 0.0 1.2 0.0 0 0.1 1.1 0.0 0.0	1.4 -38.6 -33.7 -11.1 -18.3 9.3 -23.4 1.8 -1.2 19.7 1 0.6 -1.1 1.4 0.5	
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49	HVDC  765 kV  400 kV  220 kV  132kV	VCHAL 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)	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	241 0 0 0 0 536 0 210 198 964 318 49 16 115 64 0	253 1736 1108 842 721 0 1230 120 307 0 206 32 122 0 16 0 WR-NR	3.7 0.0 0.0 0.0 0.0 9.3 0.0 1.8 0.0 19.7 1 0.7 0.0 1.4 0.5 0.0 38.2	2.3 38.6 33.7 11.1 18.3 0.0 23.4 0.0 1.2 0.0 0 0.1 1.1 0.0 0.0 150.8	1.4 -38.6 -33.7 -11.1 -18.3 9.3 -23.4 1.8 -1.2 19.7 1 0.6 -1.1 1.4 0.5 0.0 -112.5	
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	VCHAL 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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	241 0 0 0 0 536 0 210 198 964 318 49 16 115 64 0	253 1736 1108 842 721 0 1230 120 307 0 206 32 122 0 16 0 WR-NR	3.7 0.0 0.0 0.0 0.0 9.3 0.0 1.8 0.0 19.7 1 0.7 0.0 1.4 0.5 0.0 38.2	2.3 38.6 33.7 11.1 18.3 0.0 23.4 0.0 1.2 0.0 0 0.1 1.1 0.0 0.0 150.8	1.4 -38.6 -33.7 -11.1 -18.3 9.3 -23.4 1.8 -1.2 19.7 1 0.6 -1.1 1.4 0.5 0.0 -112.5	
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49	HVDC  765 kV  400 kV  220 kV  132kV	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	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	241 0 0 0 0 536 0 210 198 964 318 49 16 115 64 0	253 1736 1108 842 721 0 1230 120 307 0 206 32 122 0 16 0 WR-NR	3.7 0.0 0.0 0.0 0.0 0.0 9.3 0.0 1.8 0.0 19.7 1 0.7 0.0 1.4 0.5 0.0 38.2	2.3 38.6 33.7 11.1 18.3 0.0 23.4 0.0 0.1 1.2 0.0 0.1 1.1 0.0 0.0 1.2 1.1 0.0 1.2 1.1 0.0 0.0 1.2 0.0 0.1 1.1 0.0 0.0 0.0 0.0 0.0	1.4 -38.6 -33.7 -11.1 -18.3 9.3 -23.4 -1.2 19.7 1 0.6 -1.1 1.4 0.5 0.0 -112.5	
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 <b>port/J</b>	HVDC  765 kV  400 kV  220 kV  132kV  Export of HVDC	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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	241 0 0 0 0 536 0 210 198 964 318 49 16 115 64 0	253 1736 1108 842 721 0 1230 120 307 0 206 32 122 0 16 0 WR-NR	3.7 0.0 0.0 0.0 0.0 9.3 0.0 1.8 0.0 19.7 1 0.7 0.0 1.4 0.5 0.0 38.2	2.3 38.6 33.7 11.1 18.3 0.0 23.4 0.0 0.1 1.2 0.0 0 0.1 1.1 0.0 0.0 150.8	1.4 -38.6 -33.7 -11.1 -18.3 9.3 -23.4 -1.2 19.7 1 0.6 -1.1 1.4 0.5 0.0 -112.5	
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 49 49 50 51 52 53	HVDC  765 kV  400 kV  220 kV  132kV  Export of HVDC LINK  765 kV	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	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	241 0 0 0 0 0 536 0 210 198 964 318 49 16 115 64 0	253 1736 1108 842 721 0 1230 120 307 0 206 32 122 0 16 0 WR-NR	3.7 0.0 0.0 0.0 0.0 9.3 0.0 1.8 0.0 19.7 1 0.7 0.0 1.4 0.5 0.0 38.2	2.3 38.6 33.7 11.1 18.3 0.0 23.4 0.0 0.1 1.2 0.0 0 0.1 1.1 0.0 0.0 150.8	1.4 -38.6 -33.7 -11.1 -18.3 9.3 -23.4 -1.2 19.7 1 0.6 -1.1 1.4 0.5 0.0 -112.5 -19.6 0.0 -23.2 -28.6	
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 <b>50</b> 51 52 53 54	HVDC  765 kV  400 kV  220 kV  132kV  Export of HVDC LINK	VCHAL B/B  APL -MHG  GWALIOR-AGRA  PHAGI-GWALIOR  JABALPUR-ORAI  GWALIOR-ORAI  SATNA-ORAI  ZERDA-KANKROLI  ZERDA-BHINMAL  VCHAL-RIHAND  RAPP-SHUJALPUR  BADOD-KOTA  BADOD-MORAK  MEHGAON-AURAIYA  MALANPUR-AURAIYA  GWALIOR-SAWAI MADHOPUR  WR (With SR)  BHADRAWATI B/B  BARSUR-L.SILERU  SOLAPUR-RAICHUR  WARDHA-NIZAMABAD  KOLHAPUR-KUDGI	D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	241 0 0 0 0 0 536 0 210 198 964 318 49 16 115 64 0 0 0 0 0 0 198 964 318 49 10 10 10 10 10 10 10 10 10 10	253 1736 1108 842 721 0 1230 120 307 0 206 32 122 0 16 0 WR-NR	3.7 0.0 0.0 0.0 0.0 0.0 9.3 0.0 1.8 0.0 19.7 1 0.7 0.0 1.4 0.5 0.0 38.2	2.3 38.6 33.7 11.1 18.3 0.0 23.4 0.0 0 0.1 1.1 0.0 0.0 1.2 23.8 19.6 0.0 23.2 28.6 0.0	1.4 -38.6 -33.7 -11.1 -18.3 9.3 -23.4 1.8 -1.2 19.7 1 0.6 -1.1 1.4 0.5 0.0 -112.5  -19.6 0.0 -23.2 -28.6 13.8	
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 49 50 51 52 53 54 55	HVDC  765 kV  400 kV  220 kV  132kV  Export of HVDC LINK  765 kV  400 kV	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 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	241 0 0 0 0 0 536 0 210 198 964 318 49 16 115 64 0 0 0 488 0 1033 0	253 1736 1108 842 721 0 1230 1220 307 0 206 32 122 0 16 0 WR-NR	3.7 0.0 0.0 0.0 0.0 9.3 0.0 1.8 0.0 19.7 1 0.7 0.0 1.4 0.5 0.0 38.2 0.0 0.0 0.0 0.0 0.0	2.3 38.6 33.7 11.1 18.3 0.0 23.4 0.0 0 1.2 0.0 0 0.1 1.1 0.0 0.0 150.8	1.4 -38.6 -33.7 -11.1 -18.3 9.3 -23.4 1.8 -1.2 19.7 1 0.6 -1.1 1.4 0.5 0.0 -112.5  -19.6 0.0 -23.2 -28.6 13.8 0.0	
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 49 50 51 52 53 54 55 56	HVDC  765 kV  400 kV  220 kV  132kV  Export of HVDC LINK  765 kV  400 kV	VCHAL B/B  APL -MHG  GWALIOR-AGRA  PHAGI-GWALIOR  JABALPUR-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	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 S/C D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	241 0 0 0 0 0 536 0 210 198 964 318 49 16 115 64 0 0 0 488 0 1033 0	253 1736 1108 842 721 0 1230 120 307 0 206 32 122 0 16 0 WR-NR	3.7 0.0 0.0 0.0 0.0 9.3 0.0 1.8 0.0 19.7 1 0.7 0.0 1.4 0.5 0.0 38.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	2.3 38.6 33.7 11.1 18.3 0.0 23.4 0.0 1.2 0.0 0 1.1 1.1 0.0 0.0 150.8 19.6 0.0 23.2 28.6 0.0 0.7	1.4 -38.6 -33.7 -11.1 -18.3 9.3 -23.4 1.8 -1.2 19.7 1 0.6 -1.1 1.4 0.5 0.0 -112.5 -19.6 0.0 -23.2 -28.6 13.8 0.0 -0.7	
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 49 50 51 52 53 54 55	HVDC  765 kV  400 kV  220 kV  132kV  Export of HVDC LINK  765 kV  400 kV	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 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	241 0 0 0 0 0 536 0 210 198 964 318 49 16 115 64 0 0 0 488 0 1033 0	253 1736 1108 842 721 0 1230 120 307 0 206 32 122 0 16 0 WR-NR	3.7 0.0 0.0 0.0 0.0 9.3 0.0 1.8 0.0 19.7 1 0.7 0.0 1.4 0.5 0.0 38.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	2.3 38.6 33.7 11.1 18.3 0.0 23.4 0.0 0 1.2 0.0 0 0.1 1.1 0.0 0.0 150.8 19.6 0.0 0.0 0.7 0.0	1.4 -38.6 -33.7 -11.1 -18.3 9.3 -23.4 1.8 -1.2 19.7 1 0.6 -1.1 1.4 0.5 0.0 -112.5  -19.6 0.0 -23.2 -28.6 13.8 0.0 -0.7 0.8	
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 49 50 51 52 53 54 55 56	HVDC  765 kV  400 kV  220 kV  132kV  Export of HVDC LINK  765 kV  400 kV	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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	241 0 0 0 0 0 536 0 210 198 964 318 49 16 115 64 0 0 0 488 0 1033 0 1193 0 1194 0 1195 0 0 0 0 0 0 0 0 0 0 0 0 0	253 1736 1108 842 721 0 1230 1220 307 0 206 32 122 0 16 0 WR-NR	3.7 0.0 0.0 0.0 0.0 9.3 0.0 1.8 0.0 19.7 1 0.7 0.0 1.4 0.5 0.0 38.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	2.3 38.6 33.7 11.1 18.3 0.0 23.4 0.0 1.2 0.0 0 1.1 1.1 0.0 0.0 150.8 19.6 0.0 23.2 28.6 0.0 0.7	1.4 -38.6 -33.7 -11.1 -18.3 9.3 -23.4 1.8 -1.2 19.7 1 0.6 -1.1 1.4 0.5 0.0 -112.5 -19.6 0.0 -23.2 -28.6 13.8 0.0 -0.7	
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 <b>port/J</b> 55 51 55 55 56 57	HVDC  765 kV  400 kV  220 kV  132kV  Export of HVDC LINK  765 kV  400 kV	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  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	241 0 0 0 0 0 536 0 210 198 964 318 49 16 115 64 0 0 0 488 0 1033 0	253 1736 1108 842 721 0 1230 1220 307 0 206 32 122 0 16 0 WR-NR	3.7 0.0 0.0 0.0 0.0 9.3 0.0 1.8 0.0 19.7 1 0.7 0.0 1.4 0.5 0.0 38.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	2.3 38.6 33.7 11.1 18.3 0.0 23.4 0.0 1.2 0.0 0 1.1 1.1 0.0 0.0 150.8 19.6 0.0 0.0 0.7 0.0	1.4 -38.6 -33.7 -11.1 -18.3 9.3 -23.4 1.8 -1.2 19.7 1 0.6 -1.1 1.4 0.5 0.0 -112.5  -19.6 0.0 -23.2 -28.6 13.8 0.0 -0.7 0.8	
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 49 49 50 51 52 53 54 55 56	HVDC  765 kV  400 kV  220 kV  132kV  Export of HVDC LINK  765 kV  400 kV	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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	241 0 0 0 0 0 536 0 210 198 964 318 49 16 115 64 0 0 0 488 0 1033 0 1193 0 1194 0 1195 0 0 0 0 0 0 0 0 0 0 0 0 0	253 1736 1108 842 721 0 1230 1220 307 0 206 32 122 0 16 0 WR-NR	3.7 0.0 0.0 0.0 0.0 9.3 0.0 1.8 0.0 19.7 1 0.7 0.0 1.4 0.5 0.0 38.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	2.3 38.6 33.7 11.1 18.3 0.0 23.4 0.0 1.2 0.0 0 1.1 1.1 0.0 0.0 150.8 19.6 0.0 0.0 0.7 0.0	1.4 -38.6 -33.7 -11.1 -18.3 9.3 -23.4 1.8 -1.2 19.7 1 0.6 -1.1 1.4 0.5 0.0 -112.5  -19.6 0.0 -23.2 -28.6 13.8 0.0 -0.7	