

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: 24rd May 2019

To,

- 1. कार्यकारी निदेशक, पू.क्षे.भा.प्रे.के.,14, गोल्फ क्लब रोड, कोलकाता 700033 Executive Director, ERLDC, 14 Golf Club Road, Tollygunge, 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 793006 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 –५६०००९ Executive Director, SRLDC, 29, Race Course Cross Road, Bangalore-560009

Sub: Daily PSP Report for the date 23.05.2019.

महोदय/Dear Sir,

आई॰ई॰जी॰सी॰-२०१० की धारा स.-5.5.१ के प्रावधान के अनुसार, दिनांक २३-मई-२०१९ 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 23nd May 2019, is available at the NLDC website.

धन्यवाद,

पॉवर सिस्टम ऑपरेशन कारपोरेशन लिमिटेड राष्ट्रीय भार प्रेषण केंद्र, नई दिल्ली

Date of Reporting Report for previous day 24-May-19

A. Power Supply Position at All India and Regional level

	NR	WR	SR	ER	NER	Total
Demand Met during Evening Peak hrs(MW) (at 2000 hrs; from RLDCs)	46683	51395	42143	20551	2424	163196
Peak Shortage (MW)	573	0	-50	0	114	638
Energy Met (MU)	1253	1276	1060	458	44	4091
Hydro Gen (MU)	295	56	61	78	20	509
Wind Gen (MU)	21	88	61			170
Solar Gen (MU)*	27.38	26.14	78.07	2.25	0.03	134
Energy Shortage (MU)	11.5	0.0	0.0	0.0	2.9	14.4
Maximum Demand Met during the day	55360	57409	47298	21853	2468	181003
(MW) & time (from NLDC SCADA)	00:08	15:25	14:22	23:23	18:54	14:32

B. Frequency Profile (%)
Region
All India FVI <49.7 49.7-49.8 49.8-49.9 <49.9 49.9-50.05 > 50.05 0.044

C	Down	Cumple	Docition	in States

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	7073	0	161.7	79.3	-1.9	62	0.0
Harya Rajas Delhi NR UP Uttara HP J&K Chanc	Haryana	7750	0	164.4	116.4	-1.6	200	0.0
	Rajasthan	11143	25	240.3	78.1	-0.4	716	0.0
	Delhi	5642	0	114.5	97.0	0.6	285	0.0
	UP	20076	170	442.0	198.1	0.3	583	0.0
	Uttarakhand	2141	0	47.2	22.0	0.9	107	0.0
	HP	1408	0	29.4	5.7	1.7	206	0.0
	J&K	2293	573	48.7	28.6	0.2	280	11.5
	Chandigarh	240	0	5.2	6.2	-1.0	-15	0.0
	Chhattisgarh	4045	0	92.3	40.6	-2.4	381	0.0
	Gujarat	17718	0	391.1	86.3	4.4	809	0.0
	MP	9967	0	227.8	113.9	0.0	470	0.0
WR	Maharashtra	23613	0	522.1	123.0	-0.5	603	0.0
WK	Goa	541	0	12.4	11.6	0.2	39	0.0
	DD	338	0	7.5	7.1	0.4	36	0.0
	DNH	747	0	18.1	18.2	-0.2	60	0.0
	Essar steel	264	0	4.1	3.3	0.9	296	0.0
	Andhra Pradesh	9550	0	202.5	65.0	0.6	952	0.0
	Telangana	8241	0	175.1	51.5	-0.5	501	0.0
SR	Karnataka	11973	0	218.9	70.8	0.2	641	0.0
3K	Kerala	3948	0	89.4	62.7	1.2	259	0.0
	Tamil Nadu	15767	0	365.3	189.0	-0.4	732	0.0
	Pondy	430	0	9.3	9.4	-0.1	47	0.0
	Bihar	5113	0	96.5	91.6	1.0	150	0.0
	DVC	3131	0	68.3	-50.3	0.0	100	0.0
ER	Jharkhand	1106	0	25.2	17.7	-0.6	300	0.0
EK	Odisha	4343	0	94.3	28.9	0.4	250	0.0
	West Bengal	9076	0	172.7	61.6	-1.2	225	0.0
	Sikkim	85	0	1.1	1.2	-0.2	25	0.0
	Arunachal Pradesh	106	2	2.1	2.8	-0.7	43	0.0
	Assam	1473	66	25.5	21.1	0.8	147	2.5
	Manipur	169	2	2.4	2.0	0.3	61	0.0
NER	Meghalaya	298	0	5.2	2.6	0.1	35	0.3
	Mizoram	89	3	1.8	1.4	0.3	30	0.0
	Nagaland	122	3	2.2	2.2	0.0	27	0.0
	Tripura	278	0	4.7	4.5	0.1	42	0.0

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

	Bhutan	Nepal	Bangladesh
Actual(MU)	10.1	-7.9	-21.8
Day peak (MW)	696.5	-543.0	-1115.0

E. Import/export By Regions(in MU) - Import(+ve)/Export(-ve); OD(+)/UD(-)

	NR	WR	SR	ER	NER	TOTAL
Schedule(MU)	216.9	-261.9	89.6	-42.3	-2.3	0.0
Actual(MU)	215.7	-261.1	98.8	-55.7	-3.7	-6.1
O/D/U/D(MU)	-1.2	0.8	9.2	-13.4	-1.4	-6.1

F. Generation Outage(MW)

,,	NR	WR	SR	ER	NER	Total
Central Sector	4115	12949	6422	2120	535	26141
State Sector	7510	12953	4190	3405	50	28108
Total	11625	25902	10612	5525	585	54249

G. Sourcewise generation (MU)

	NR	WR	SR	ER	NER	All India
Coal	609	1277	619	462	4	2971
Lignite	22	15	53	0	0	90
Hydro	295	56	61	78	20	509
Nuclear	27	31	57	0	0	115
Gas, Naptha & Diesel	40	60	13	0	29	141
RES (Wind, Solar, Biomass & Others)	68	121	170	2	0	362
Total	1060	1559	973	542	53	4188

Share of RES in total generation (%)	6.46	7.73	17.49	0.42	0.06	8.63
Share of Non-fossil fuel (Hydro, Nuclear and	36.80	13.27	29.65	14.75	37.94	23,54
RES) in total generation (%)		1		1		1

H. Diversity Factor All India Demand Diversity Factor

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

1		<u>IN</u>	TER-REGI	ONAL EXCH	ANGES			
						Date of 1	Reporting	24-May-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)	D/G	267	225	0.0	1.4	1 14
2	765kV	GAYA-VARANASI SASARAM-FATEHPUR	D/C S/C	267 191	235 118	0.0	0.4	-1.4 -0.4
3	70011	GAYA-BALIA	S/C	0	261	0.0	4.5	-4.5
4	HVDC	ALIPURDUAR-AGRA	-	0	502	0.0	12.0	-12.0
5	пуве	PUSAULI B/B	S/C	0	49	0.0	1.3	-1.3
6	4	PUSAULI-VARANASI	S/C	0	103	0.0	1.4	-1.4
7	1	PUSAULI -ALLAHABAD MUZAFFARPUR-GORAKHPUR	S/C D/C	0	23 965	0.3	0.3	0.0 -12.4
9	400 kV	PATNA-BALIA	Q/C	0	491	0.0	9.5	-9.5
10	10011	BIHARSHARIFF-BALIA	D/C	0	470	0.0	6.9	-6.9
11	1	MOTIHARI-GORAKHPUR	D/C	0	308	0.0	4.4	-4.4
12	1	BIHARSHARIFF-VARANASI	D/C	189	219	0.0	2.2	-2.2
13	220 kV	PUSAULI-SAHUPURI	S/C	0	215	0.0	4.4	-4.4
14		SONE NAGAR-RIHAND	S/C	0	0	0.0	0.0	0.0
15	132 kV	GARWAH-RIHAND	S/C	30	0	0.4	0.0	0.4
16		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	0.7	61.2	-60.5
	2xbort of	<u> </u>						T
18	745 1.37	JHARSUGUDA-DHARAMJAIGARH	Q/C	1986	0	29.0	0.0	29.0
19	765 kV	NEW RANCHI-DHARAMJAIGARH	D/C	1081	0	13.8	0.0	13.8
20		JHARSUGUDA DAIGABH	D/C	247	44	2.3	0.0	2.3
21	400 kV	JHARSUGUDA-RAIGARH RANCHI-SIPAT	Q/C D/C	291 352	0	4.6 4.1	0.0	4.6 4.1
23		BUDHIPADAR-RAIGARH	S/C	12	72	0.0	0.0	-0.7
24	220 kV	BUDHIPADAR-KORBA	D/C	151	0	1.4	0.0	1.4
		l			ER-WR	55.3	0.7	54.6
Import/E	Export of	ER (With SR)						
25	765 kV	ANGUL-SRIKAKULAM	D/C	0.0	1815.0	0.0	27.8	-27.8
26	HVDC	JEYPORE-GAZUWAKA B/B	D/C	0.0	519.0	0.0	11.6	-11.6
27	LINK	TALCHER-KOLAR BIPOLE	D/C	0.0	1978.0	0.0	47.0	-47.0
28	400 kV	TALCHER-I/C	D/C	0.0	444.0	0.0	5.2	-5.2
29	220 kV	BALIMELA-UPPER-SILERRU	S/C	1.0	0.0	0.0	0.0	0.0
Immout/E	Zumout of	ED (With NED)			ER-SR	0.0	86.4	-86.4
30 30	export of	ER (With NER) BINAGURI-BONGAIGAON	D/C	0	457	0.0	5.1	-5
31	400 kV	ALIPURDUAR-BONGAIGAON	D/C	239	194	0.0	0.0	1
32	220 kV	ALIPURDUAR-SALAKATI	D/C	12	76	0.0	1.0	-1
					ER-NER	0.9	6.2	-5.3
Import/E	Export of	NER (With NR)			<u> </u>			
33	HVDC	BISWANATH CHARIALI-AGRA	-	0	403	0.0	9.7	-9.7
					NER-NR	0.0	9.7	-9.7
	Export of	WR (With NR)						
34								
	TITUDO	CHAMPA-KURUKSHETRA	D/C	0	1508	0.0	25.7	-25.7
35	HVDC	V'CHAL B/B	D/C	452	0	10.2	0.0	10.2
36	HVDC	V'CHAL B/B APL -MHG	D/C D/C	452 0	0 1638	10.2 0.0	0.0 38.6	10.2 -38.6
36 37	HVDC	V'CHAL B/B APL -MHG GWALIOR-AGRA	D/C D/C D/C	452 0 0	0 1638 1985	10.2 0.0 0.0	0.0 38.6 39.5	10.2 -38.6 -39.5
36		V'CHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR	D/C D/C D/C D/C	452 0	0 1638 1985 1374	10.2 0.0 0.0 0.0	0.0 38.6 39.5 23.1	10.2 -38.6 -39.5 -23.1
36 37 38 39	HVDC - 765 kV	VCHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI	D/C D/C D/C D/C D/C D/C	452 0 0 0 0	0 1638 1985 1374 777	10.2 0.0 0.0 0.0 0.0	0.0 38.6 39.5 23.1 29.4	10.2 -38.6 -39.5 -23.1 -29.4
36 37 38		V'CHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR	D/C D/C D/C D/C	452 0 0 0	0 1638 1985 1374	10.2 0.0 0.0 0.0	0.0 38.6 39.5 23.1	10.2 -38.6 -39.5 -23.1
36 37 38 39 40		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	452 0 0 0 0 0 440	0 1638 1985 1374 777 0	10.2 0.0 0.0 0.0 0.0 7.9	0.0 38.6 39.5 23.1 29.4 0.0	10.2 -38.6 -39.5 -23.1 -29.4 7.9
36 37 38 39 40 41		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	452 0 0 0 0 0 0 440	0 1638 1985 1374 777 0	10.2 0.0 0.0 0.0 0.0 0.0 7.9 0.0	0.0 38.6 39.5 23.1 29.4 0.0 29.7	10.2 -38.6 -39.5 -23.1 -29.4 7.9 -29.7
36 37 38 39 40 41 42	765 kV	V'CHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHITTORGARH-BANASKANTHA	D/C D/C D/C D/C D/C S/C S/C D/C	452 0 0 0 0 0 440 0	0 1638 1985 1374 777 0 1328	10.2 0.0 0.0 0.0 0.0 0.0 7.9 0.0 0.0	0.0 38.6 39.5 23.1 29.4 0.0 29.7 3.9	10.2 -38.6 -39.5 -23.1 -29.4 7.9 -29.7 3.9
36 37 38 39 40 41 42 43		V'CHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI	D/C D/C D/C D/C D/C S/C S/C S/C S/C	452 0 0 0 0 0 440 0 0 107	0 1638 1985 1374 777 0 1328 447 35	10.2 0.0 0.0 0.0 0.0 0.0 7.9 0.0 0.0 1.0	0.0 38.6 39.5 23.1 29.4 0.0 29.7 3.9 0.0	10.2 -38.6 -39.5 -23.1 -29.4 7.9 -29.7 3.9 1.0
36 37 38 39 40 41 42 43	765 kV	V'CHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL	D/C D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C S/C	452 0 0 0 0 440 0 0 107 261	0 1638 1985 1374 777 0 1328 447 35	10.2 0.0 0.0 0.0 0.0 7.9 0.0 0.0 1.0 2.5	0.0 38.6 39.5 23.1 29.4 0.0 29.7 3.9 0.0	10.2 -38.6 -39.5 -23.1 -29.4 7.9 -29.7 3.9 1.0 2.5
36 37 38 39 40 41 42 43 44 45	765 kV	V'CHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI CHITTORGARH-BANASKANTHA 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 S/C S/C	452 0 0 0 0 0 440 0 0 107 261 966	0 1638 1985 1374 777 0 1328 447 35 102 0	10.2 0.0 0.0 0.0 0.0 7.9 0.0 0.0 1.0 2.5 18.3	0.0 38.6 39.5 23.1 29.4 0.0 29.7 3.9 0.0 0.0	10.2 -38.6 -39.5 -23.1 -29.4 7.9 -29.7 3.9 1.0 2.5 18.3
36 37 38 39 40 41 42 43 44 45 46	- 765 kV - 400 kV	V'CHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI ZERDA-KANKROLI ZERDA -BHINMAL V'CHAL -RIHAND RAPP-SHUJALPUR	D/C D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	452 0 0 0 0 440 0 0 107 261 966 143 25 0	0 1638 1985 1374 777 0 1328 447 35 102 0	10.2 0.0 0.0 0.0 0.0 7.9 0.0 1.0 2.5 18.3 0 0.0	0.0 38.6 39.5 23.1 29.4 0.0 29.7 3.9 0.0 0.0	10.2 -38.6 -39.5 -23.1 -29.4 -7.9 -29.7 -3.9 1.0 -2.5 18.3 -1 -0.8 -1.6
36 37 38 39 40 41 42 43 44 45 46 47 48	765 kV	VCHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BHANPURA-KOTA BHANPURA-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	452 0 0 0 0 440 0 0 107 261 966 143 25 0 49	0 1638 1985 1374 777 0 1328 447 35 102 0 256 41 119	10.2 0.0 0.0 0.0 0.0 7.9 0.0 0.0 1.0 2.5 18.3 0 0.0 0.0	0.0 38.6 39.5 23.1 29.4 0.0 29.7 3.9 0.0 0.0 0.0 1 0.8 1.6 0.0	10.2 -38.6 -39.5 -23.1 -29.4 -7.9 -29.7 -3.9 1.0 2.5 18.3 -1 -0.8 -1.6 0.4
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50	765 kV 400 kV	V'CHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL V'CHAL -RIHAND RAPP-SHUJALPUR BHANPURA-KOTA BHANPURA-MORAK MEHGAON-AURAIYA MALANPUR-AURAIYA	D/C 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	452 0 0 0 0 440 0 0 107 261 966 143 25 0 49	0 1638 1985 1374 777 0 1328 447 35 102 0 256 41 119 22	10.2 0.0 0.0 0.0 0.0 7.9 0.0 1.0 2.5 18.3 0 0.0 0.0	0.0 38.6 39.5 23.1 29.4 0.0 29.7 3.9 0.0 0.0 1 0.8 1.6 0.0 0.4	10.2 -38.6 -39.5 -23.1 -29.4 -7.9 -29.7 -3.9 1.0 -2.5 18.3 -1 -0.8 -1.6 0.4 -0.3
36 37 38 39 40 41 42 43 44 45 46 47 48	- 765 kV - 400 kV	VCHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BHANPURA-KOTA BHANPURA-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	452 0 0 0 0 440 0 0 107 261 966 143 25 0 49	0 1638 1985 1374 777 0 1328 447 35 102 0 256 41 119 22 46	10.2 0.0 0.0 0.0 0.0 0.0 7.9 0.0 0.0 1.0 2.5 18.3 0 0.0 0.0 0.0	0.0 38.6 39.5 23.1 29.4 0.0 29.7 3.9 0.0 0.0 0.0 1 0.8 1.6 0.0 0.4	10.2 -38.6 -39.5 -23.1 -29.4 -7.9 -29.7 -3.9 1.0 -2.5 18.3 -1 -0.8 -1.6 -0.4 -0.3 -0.0
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51	765 kV 400 kV 220 kV	V'CHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL V'CHAL -RIHAND RAPP-SHUJALPUR BHANPURA-KOTA BHANPURA-MORAK MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR	D/C 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	452 0 0 0 0 440 0 0 107 261 966 143 25 0 49	0 1638 1985 1374 777 0 1328 447 35 102 0 256 41 119 22	10.2 0.0 0.0 0.0 0.0 7.9 0.0 1.0 2.5 18.3 0 0.0 0.0	0.0 38.6 39.5 23.1 29.4 0.0 29.7 3.9 0.0 0.0 1 0.8 1.6 0.0 0.4	10.2 -38.6 -39.5 -23.1 -29.4 -7.9 -29.7 -3.9 1.0 -2.5 18.3 -1 -0.8 -1.6 0.4 -0.3
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51	765 kV 400 kV 220 kV 132kV	VCHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BHANPURA-KOTA BHANPURA-MORAK MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR)	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	452 0 0 0 0 440 0 0 107 261 966 143 25 0 49 16	0 1638 1985 1374 777 0 1328 447 35 102 0 256 41 119 22 46 0	10.2 0.0 0.0 0.0 0.0 7.9 0.0 1.0 2.5 18.3 0 0.0 0.0 0.0 40.2	0.0 38.6 39.5 23.1 29.4 0.0 29.7 3.9 0.0 0.0 1 0.8 1.6 0.0 0.4 0.0 193.7	10.2 -38.6 -39.5 -23.1 -29.4 -7.9 -29.7 -3.9 -1.0 -2.5 -18.3 -1 -0.8 -1.6 -0.4 -0.3 -0.0 -145.8
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/E	765 kV 400 kV 220 kV 132kV Export of HVDC	V'CHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL V'CHAL -RIHAND RAPP-SHUJALPUR BHANPURA-KOTA BHANPURA-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	452 0 0 0 0 440 0 0 107 261 966 143 25 0 49 16 0	0 1638 1985 1374 777 0 1328 447 35 102 0 256 41 119 22 46 0 WR-NR	10.2 0.0 0.0 0.0 0.0 7.9 0.0 1.0 2.5 18.3 0 0.0 0.0 0.0 40.2	0.0 38.6 39.5 23.1 29.4 0.0 29.7 3.9 0.0 0.0 1 0.8 1.6 0.0 0.4 0.0 193.7	10.2 -38.6 -39.5 -23.1 -29.4 -7.9 -29.7 -3.9 -1.0 -2.5 -18.3 -1 -0.8 -1.6 -0.4 -0.3 -0.0 -145.8
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/E 52 53	765 kV 400 kV 220 kV 132kV	VCHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BHANPURA-KOTA BHANPURA-KOTA BHANPURA-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	452 0 0 0 0 440 0 0 107 261 966 143 25 0 49 16 0	0 1638 1985 1374 777 0 1328 447 35 102 0 256 41 119 22 46 0 WR-NR	10.2 0.0 0.0 0.0 0.0 7.9 0.0 0.0 1.0 2.5 18.3 0 0.0 0.0 40.2	0.0 38.6 39.5 23.1 29.4 0.0 29.7 3.9 0.0 0.0 1 0.8 1.6 0.0 0.4 4 0.0 193.7	10.2 -38.6 -39.5 -23.1 -29.4 7.9 -29.7 3.9 1.0 2.5 18.3 -1 -0.8 -1.6 0.4 -0.3 0.0 -145.8
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/E 52 53 54	765 kV 400 kV 220 kV 132kV Export of HVDC	V'CHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI GWALIOR-ORAI SATNA-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL V'CHAL -RIHAND RAPP-SHUJALPUR BHANPURA-KOTA BHANPURA-MORAK MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHADRAWATI B/B BARSUR-L.SILERU SOLAPUR-RAICHUR	D/C	452 0 0 0 0 440 0 0 107 261 966 143 25 0 49 16 0	0 1638 1985 1374 777 0 1328 447 35 102 0 256 41 119 22 46 0 WR-NR	10.2 0.0 0.0 0.0 0.0 0.0 0.0 1.0 2.5 18.3 0 0.0 0.0 0.4 0.0 0.0 40.2	0.0 38.6 39.5 23.1 29.4 0.0 0.0 0.0 0.0 0.0 1 0.8 1.6 0.0 0.4 0.0 1 23.6 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	10.2 -38.6 -39.5 -23.1 -29.4 -7.9 -29.7 -3.9 -1.0 -2.5 -18.3 -1 -0.8 -1.6 -0.4 -0.3 -0.0 -145.8
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/E 52 53 54 55	- 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 CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BHANPURA-KOTA BHANPURA-MORAK MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHADRAWATI B/B BARSUR-L.SILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD	D/C	452 0 0 0 0 0 440 0 0 107 261 966 143 25 0 49 16 0	0 1638 1985 1374 777 0 1328 447 35 102 0 256 41 119 22 46 0 WR-NR	10.2 0.0 0.0 0.0 0.0 0.0 0.0 1.0 2.5 18.3 0 0.0 0.0 0.4 0.0 0.0 40.2	0.0 38.6 39.5 23.1 29.4 0.0 29.7 3.9 0.0 0.0 0.0 1 0.8 1.6 0.0 0.4 0.0 193.7	10.2 -38.6 -39.5 -23.1 -29.4 -7.9 -29.7 -3.9 1.0 -2.5 18.3 -1 -0.8 -1.6 0.4 -0.3 0.0 -145.8
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/E 52 53 54 55 56	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 CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BHANPURA-KOTA BHANPURA-MORAK MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHASURI-LSILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD KOLHAPUR-KUDGI	D/C	452 0 0 0 0 0 440 0 0 107 261 966 143 25 0 49 16 0	0 1638 1985 1374 777 0 1328 447 35 102 0 256 41 119 22 46 0 WR-NR	10.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 1.0 2.5 18.3 0 0.0 0.0 40.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 38.6 39.5 23.1 29.4 0.0 29.7 3.9 0.0 0.0 0.0 1 0.8 1.6 0.0 0.4 0.0 193.7 23.6 0.0 20.4 25.5 0.0	10.2 -38.6 -39.5 -23.1 -29.4 -7.9 -29.7 -3.9 1.0 -2.5 18.3 -1 -0.8 -1.6 0.4 -0.3 0.0 -145.8 -23.6 0.0 -20.4 -25.5 5.3
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/E 52 53 54 55	- 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 CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BHANPURA-KOTA BHANPURA-MORAK MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHADRAWATI B/B BARSUR-L.SILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD	D/C	452 0 0 0 0 0 440 0 0 107 261 966 143 25 0 49 16 0	0 1638 1985 1374 777 0 1328 447 35 102 0 256 41 119 22 46 0 WR-NR	10.2 0.0 0.0 0.0 0.0 0.0 0.0 1.0 2.5 18.3 0 0.0 0.0 0.4 0.0 0.0 40.2	0.0 38.6 39.5 23.1 29.4 0.0 29.7 3.9 0.0 0.0 1 0.8 1.6 0.0 0.4 0.0 193.7 23.6 0.0 20.4 25.5 0.0 0.0	10.2 -38.6 -39.5 -23.1 -29.4 -7.9 -29.7 -3.9 1.0 -2.5 18.3 -1 -0.8 -1.6 0.4 -0.3 0.0 -145.8
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/E 52 53 54 55 56	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 CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BHANPURA-KOTA BHANPURA-KOTA BHANPURA-WOTA GWALIOR-SAWAI MADHOPUR WR (With SR) BHARDARWATI B/B BARSUR-L.SILERU SOLAPUR-RICHUR WARDHA-NIZAMABAD KOLHAPUR-KUDGI KOLHAPUR-KUDGI KOLHAPUR-CHIKODI PONDA-AMBEWADI	D/C	452 0 0 0 0 440 0 0 107 261 966 143 25 0 49 16 0	0 1638 1985 1374 777 0 1328 447 35 102 0 256 41 119 22 46 0 WR-NR	10.2 0.0 0.0 0.0 0.0 0.0 0.0 1.0 2.5 18.3 0 0.0 0.0 40.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 38.6 39.5 23.1 29.4 0.0 29.7 3.9 0.0 0.0 1 0.8 1.6 0.0 0.4 0.0 193.7 23.6 0.0 20.4 25.5 0.0 0.0	10.2 -38.6 -39.5 -23.1 -29.4 -7.9 -29.7 -3.9 -1.0 -2.5 -18.3 -1 -0.8 -1.6 -0.4 -0.3 -0.0 -145.8 -23.6 -0.0 -20.4 -25.5 -5.3 -0.0 -0.0
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/E 52 53 54 55 56 57 58	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 GWALIOR-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BHANPURA-KOTA BHANPURA-MORAK MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHAGNAURAIT B/B BARSUR-L.SILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD KOLHAPUR-KUDGI KOLHAPUR-CHIKODI	D/C	452 0 0 0 0 440 0 0 107 261 966 143 25 0 0 0 0 0 0 0 0 0 0 0 0 0	0 1638 1985 1374 777 0 1328 447 35 102 0 256 41 119 22 46 0 WR-NR	10.2 0.0 0.0 0.0 0.0 0.0 0.0 1.0 2.5 18.3 0 0.0 0.0 40.2 0.0 0.0 0.0 0.0 0.0 0.0 1.0 0.0 0.0 0.0	0.0 38.6 39.5 23.1 29.4 0.0 29.7 3.9 0.0 0.0 1 0.8 1.6 0.0 0.4 0.0 193.7 23.6 0.0 20.4 25.5 0.0 0.0 0.0	10.2 -38.6 -39.5 -23.1 -29.4 -7.9 -29.7 -3.9 -1.0 -2.5 -18.3 -1 -0.8 -1.6 -0.4 -0.3 -0.0 -145.8 -23.6 -20.4 -25.5 -5.3 -0.0 -0.0 -1.0
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/E 52 53 54 55 56 57 58	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 CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BHANPURA-KOTA BHANPURA-KOTA BHANPURA-KOTA GWALIOR-SAWAI MADHOPUR WR (With SR) BHADRAWATI B/B BARSUR-L.SILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD KOLHAPUR-CHIKODI PONDA-AMBEWADI XELDEM-AMBEWADI XELDEM-AGRA XELDEM-AMBEWADI XELDEM-AGRA ANDERSON SOLAPUR-CHIKODI PONDA-AMBEWADI XELDEM-AMBEWADI	D/C	452 0 0 0 0 0 440 0 0 107 261 966 143 25 0 0 49 16 0 0 0 0 107 261 966 143 25 0 0 107 107 107 107 107 107 10	0 1638 1985 1374 777 0 1328 447 35 102 0 256 41 119 22 46 0 WR-NR	10.2 0.0 0.0 0.0 0.0 0.0 0.0 1.0 2.5 18.3 0 0.0 0.0 40.2 0.0 0.0 0.0 0.0 5.3 0.0 0.0	0.0 38.6 39.5 23.1 29.4 0.0 29.7 3.9 0.0 0.0 1 0.8 1.6 0.0 0.4 0.0 193.7 23.6 0.0 20.4 25.5 0.0 0.0	10.2 -38.6 -39.5 -23.1 -29.4 -7.9 -29.7 -3.9 -1.0 -2.5 -18.3 -1 -0.8 -1.6 -0.4 -0.3 -0.0 -145.8 -23.6 -20.4 -25.5 -5.3 -0.0 -0.0
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/E 52 53 54 55 56 57 58 59	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 CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BHANPURA-KOTA BHANPURA-KOTA BHANPURA-WARAI GWALIOR-SAWAI MADHOPUR WR (With SR) BHADRAWATI B/B BARSUR-L.SILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD KOLHAPUR-CHIKODI PONDA-AMBEWADI XELDEM-AMBEWADI	D/C	452 0 0 0 0 440 0 0 107 261 966 143 25 0 0 0 0 0 0 0 0 0 0 0 0 0	0 1638 1985 1374 777 0 1328 447 35 102 0 256 41 119 22 46 0 WR-NR	10.2 0.0 0.0 0.0 0.0 0.0 0.0 1.0 2.5 18.3 0 0.0 0.0 40.2 0.0 0.0 0.0 0.0 0.0 0.0 1.0 0.0 0.0 0.0	0.0 38.6 39.5 23.1 29.4 0.0 29.7 3.9 0.0 0.0 1 0.8 1.6 0.0 0.4 0.0 193.7 23.6 0.0 20.4 25.5 0.0 0.0 0.0	10.2 -38.6 -39.5 -23.1 -29.4 -7.9 -29.7 -3.9 -1.0 -2.5 -18.3 -1 -0.8 -1.6 -0.4 -0.3 -0.0 -145.8 -23.6 -20.4 -25.5 -5.3 -0.0 -0.0 -1.0 -63.1
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/E 52 53 54 55 56 57 58	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 CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BHANPURA-KOTA BHANPURA-KOTA BHANPURA-KOTA GWALIOR-SAWAI MADHOPUR WR (With SR) BHADRAWATI B/B BARSUR-L.SILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD KOLHAPUR-CHIKODI PONDA-AMBEWADI XELDEM-AMBEWADI XELDEM-AGRA XELDEM-AMBEWADI XELDEM-AGRA ANDERSON SOLAPUR-CHIKODI PONDA-AMBEWADI XELDEM-AMBEWADI	D/C	452 0 0 0 0 0 440 0 0 107 261 966 143 25 0 0 49 16 0 0 0 0 107 261 966 143 25 0 0 107 107 107 107 107 107 10	0 1638 1985 1374 777 0 1328 447 35 102 0 256 41 119 22 46 0 WR-NR	10.2 0.0 0.0 0.0 0.0 0.0 0.0 1.0 2.5 18.3 0 0.0 0.0 40.2 0.0 0.0 0.0 0.0 0.0 0.0 1.0 0.0 0.0 0.0	0.0 38.6 39.5 23.1 29.4 0.0 29.7 3.9 0.0 0.0 1 0.8 1.6 0.0 0.4 0.0 193.7 23.6 0.0 20.4 25.5 0.0 0.0 0.0	10.2 -38.6 -39.5 -23.1 -29.4 -7.9 -29.7 -3.9 -1.0 -2.5 -18.3 -1 -0.8 -1.6 -0.4 -0.3 -0.0 -145.8 -23.6 -20.4 -25.5 -5.3 -0.0 -0.0 -1.0