

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, क़त्ब इन्स्टीट्यूशनल एरिया, कटवारिया सराये, न्यू दिल्ली-110016

Ref: POSOCO/NLDC/SO/Daily PSP Report

दिनांक: 20th July 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. महाप्रबंधक, ऊ. क्षे. भा. प्रे. के., 18/ ए, शहीद जीत सिंह सनसनवाल मार्ग, नई दिल्ली 110016 General Manager, 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. महाप्रबंधक , द .क्षे .भा .प्रे .के., २९ , रेस कोर्स क्रॉस रोड, बंगलुरु -560009 General Manager, SRLDC, 29, Race Course Cross Road, Bangalore-560009

Sub: Daily PSP Report for the date 24.05.2018.

महोदय/Dear Sir,

आई०ई०जी०सी०-2010 की धारा स.-5.5.1 के प्रावधान के अनुसार, दिनांक 19-जुलाई-2018 की अखिल भारतीय प्रणाली की दैनिक ग्रिड निष्पादन रिपोर्ट रा०भा०प्रे०के० की वेबसाइट पर उप्लब्ध है ।

As per article 5.5.1 of the Indian Electricity Grid Code, the daily report pertaining power supply position of All India Power System for the date 19th July 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-Jul-18

A. Maximum Demand

	NR	WR	SR	ER	NER	Total
Demand Met during Evening Peak hrs(MW) (at 2000 hrs; from RLDCs)	54264	41783	40349	21079	2732	160207
Peak Shortage (MW)	1397	76	0	300	191	1964
Energy Met (MU)	1270	950	915	464	55	3653
Hydro Gen (MU)	333	20	97	105	23	578
Wind Gen (MU)	9	96	237			342
Solar Gen (MU)*	14.38	9.46	44.23	0.87	0.02	69
Energy Shortage (MU)	10.2	0.8	0.0	0.9	1.2	13.0
Maximum Demand Met during the day	58413	43790	41235	22041	2768	164714
(MW) & time (from NLDC SCADA)	21:18	19:43	07:07	20:27	18:52	19:46

B. Frequency Profile (%)

Region	FVI	<49.7	49.7-49.8	49.8-49.9	<49.9	49.9-50.05	> 50.05
All India	0.084	0.64	3.28	19.77	23.68	71.82	4.50

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	10856	0	237.6	135.8	-1.0	88	0.0
NR	Haryana	8892	0	187.8	142.7	0.7	354	0.0
	Rajasthan	7776	0	172.3	61.6	1.3	529	0.0
	Delhi	6365	0	128.6	102.7	-1.9	127	0.1
	UP	19139	0	420.8	206.6	-0.1	347	0.0
	Uttarakhand	2130	0	46.7	25.4	0.2	161	0.0
	HP	1361	37	28.6	-1.3	4.2	356	0.0
	J&K	2179	545	42.1	19.5	-2.7	107	10.0
	Chandigarh	308	0	5.7	6.3	-0.6	13	0.0
	Chhattisgarh	3538	0	80.2	12.8	-0.6	543	0.0
	Gujarat	12369	0	274.4	80.7	7.3	609	0.8
	MP	7598	0	159.6	76.0	-1.4	243	0.0
WR	Maharashtra	17623	0	390.1	89.3	-3.3	462	0.0
	Goa	486	0	9.6	8.5	0.4	58	0.0
	DD	334	0	7.4	6.4	1.0	98	0.0
	DNH	729	0	17.1	16.6	0.5	93	0.0
	Essar steel	556	0	11.4	11.5	-0.2	292	0.0
	Andhra Pradesh	7803	0	174.4	24.1	2.2	461	0.0
	Telangana	8505	0	175.7	85.9	1.4	402	0.0
SR	Karnataka	8572	0	170.6	42.3	-0.1	371	0.0
SK	Kerala	3023	0	60.5	27.6	0.8	202	0.0
	Tamil Nadu	14720	0	325.8	104.7	-2.5	415	0.0
	Pondy	362	0	8.0	7.8	0.2	69	0.0
	Bihar	5035	0	96.8	94.0	0.5	225	0.3
	DVC	3286	0	68.8	-30.8	-0.1	220	0.0
ER	Jharkhand	1167	0	24.9	18.9	1.4	80	0.0
EK	Odisha	4449	0	90.6	41.1	2.4	225	0.6
	West Bengal	8979	0	181.6	59.5	4.0	400	0.0
	Sikkim	86	0	1.1	1.3	-0.2	12	0.0
	Arunachal Pradesh	119	2	2.4	2.1	0.3	0	0.0
	Assam	1758	112	34.7	28.5	2.4	114	0.8
	Manipur	155	2	2.5	2.4	0.1	10	0.0
NER	Meghalaya	325	0	6.2	2.2	0.2	35	0.0
	Mizoram	90	0	1.6	0.7	0.2	8	0.0
	Nagaland	114	1	2.2	1.8	0.0	6	0.0
	Tripura	281	31	5.1	4.2	0.0	1	0.2

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

	Bhutan	Nepal	Bangladesh
Actual(MU)	30.7	-7.3	-13.8
Day peak (MW)	1421.4	-237.0	-604.3

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

	NR	WR	SR	ER	NER	TOTAL
Schedule(MU)	300.5	-284.0	25.6	-43.1	1.6	0.5
Actual(MU)	291.1	-298.0	19.8	-15.8	2.0	-0.9
O/D/U/D(MU)	-9.4	-14.0	-5.8	27.3	0.4	-1.5

F. Generation Outage(MW)

	NR	WR	SR	ER	NER	Total
Central Sector	4189	14984	9762	1380	77	30392
State Sector	8315	18255	11540	5705	50	43865
Total	12504	33239	21302	7085	127	74256

G. Sourcewise generation (MU)

	NR	WR	SR	ER	NER	All India
Thermal (Coal & Lignite)	576	1049	421	412	9	2467
Hydro	333	20	98	105	23	579
Nuclear	27	30	44	0	0	101
Gas, Naptha & Diesel	27	47	25	0	24	123
RES (Wind, Solar, Biomass & Others)	35	106	315	1	0	457
Total	998	1252	904	518	56	3727

Share of RES in total generation (%)	3.52	8.43	34.83	0.22	0.06	12.25
Share of Non-fossil fuel (Hydro, Nuclear and	39.66	12.40	50.58	20.42	41.30	30.51
RES) in total generation (%)	39.00	12.40	50.56	20.42	41.50	30.51

H. Diversity Factor
All India Demand Diversity Factor
1.021
Diversity factor = Sum of regional maximum demands / All India maximum demand

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

						Date of I	Reporting :	20-Jul-
								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		446	0.0		(2
2	765kV	GAYA-VARANASI SASARAM-FATEHPUR	D/C S/C	6 252	446 23	0.0 3.1	0.0	-6.2 3.1
3	70011	GAYA-BALIA	S/C	0	404	0.0	7.7	-7.7
4	HVDC	ALIPURDUAR-AGRA	-	0	689	0.0	15.6	-15.6
5	пове	PUSAULI B/B	S/C	2	147	0.0	3.3	-3.3
6	_	PUSAULI-VARANASI	S/C	0	150	0.0	0.0	0.0
7 8	_	PUSAULI -ALLAHABAD	S/C D/C	63	50 699	0.0	0.0	0.0 -12.1
9	400 kV	MUZAFFARPUR-GORAKHPUR PATNA-BALIA	O/C	0	920	0.0	17.3	-12.1
10	100 K	BIHARSHARIFF-BALIA	D/C	0	342	0.0	5.8	-5.8
11		MOTIHARI-GORAKHPUR	D/C	312	1	5.3	0.0	5.3
12		BIHARSHARIFF-VARANASI	D/C	708	0	0.0	0.4	-0.4
13	220 kV	PUSAULI-SAHUPURI	S/C	0	188	0.0	3.6	-3.6
14		SONE NAGAR-RIHAND	S/C	0	0	0.0	0.0	0.0
15	132 kV	GARWAH-RIHAND	S/C	35	0	0.3	0.0	0.3
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
port/I	Export of	ER (With WR)			ER-NR	8.7	72.0	-63.2
18	765 kV	JHARSUGUDA-DHARAMJAIGARH S/C	D/C	809	0	21.3	0.0	21.3
19	ļ	NEW RANCHI-DHARAMJAIGARH	D/C	1129	0	21.1	0.0	21.1
20	400 kV	JHARSUGUDA-RAIGARH	Q/C	1304	0	23.8	0.0	23.8
21	1	RANCHI-SIPAT	D/C S/C	518 173	0	11.0 2.7	0.0	11.0 2.7
23	220 kV	BUDHIPADAR-RAIGARH BUDHIPADAR-KORBA	D/C	208	0	4.2	0.0	4.2
23		BUDIII ADAR-KOKBA	D/C	200	ER-WR	84.1	0.0	84.1
port/I	Export of 765 kV	ER (With SR)	D/C	169.0	1467.8	0.0	9.0	-8.0
25		ANGUL-SRIKAKULAM JEYPORE-GAZUWAKA B/B	D/C D/C	0.0	431.8	0.0	9.8	-8.0
26	HVDC LINK	TALCHER-KOLAR BIPOLE	D/C	0.0	1582.9	0.0	24.1	-24.1
27	400 kV	TALCHER-I/C	D/C	978.0	0.6	0.0	15.9	-15.9
28	220 kV	BALIMELA-UPPER-SILERRU	S/C	0.0	0.0	0.0	0.0	0.0
		ED (MALATED)			ER-SR	0.0	41.9	-41.9
1 port/1 29	1	ER (With NER) BINAGURI-BONGAIGAON	D/C	0	493	0.0	9.0	-9
30	400 kV	ALIPURDUAR-BONGAIGAON	D/C	94	299	0.0	2.4	-2
31	220 kV	ALIPURDUAR-SALAKATI	D/C	0	126	0.0	2.3	-2
. /7		NED (Wild ND)	•		ER-NER	0.0	13.7	-13.7
32		NER (With NR) BISWANATH CHARIALI-AGRA	-	0	701	0.0	13.6	-13.6
								-13.6
					NER-NR	0.0	13.6	-15.0
iport/I	Export of	WR (With NR)			NER-NR	0.0	13.6	-13.0
port/I	Export of	WR (With NR) CHAMPA-KURUKSHETRA	D/C	0	NER-NR 2202	0.0	13.6 44.7	-44.7
33 34	Export of HVDC	CHAMPA-KURUKSHETRA V'CHAL B/B	D/C	240	2202	0.0 4.3	44.7	-44.7 4.3
33 34 35		CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG	D/C D/C	240	2202 0 1896	0.0 4.3 0.0	44.7 0.0 38.6	-44.7 4.3 -38.6
33 34 35 36		CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG GWALIOR-AGRA	D/C D/C D/C	240 0 0	2202 0 1896 1494	0.0 4.3 0.0 0.0	44.7 0.0 38.6 58.9	-44.7 4.3 -38.6 -58.9
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	240 0 0 0	2202 0 1896 1494 1559	0.0 4.3 0.0 0.0 0.0	44.7 0.0 38.6 58.9 29.5	-44.7 4.3 -38.6 -58.9 -29.5
33 34 35 36 37 38		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	240 0 0 0 0	2202 0 1896 1494 1559 675	0.0 4.3 0.0 0.0 0.0 0.0	44.7 0.0 38.6 58.9 29.5 29.9	-44.7 4.3 -38.6 -58.9 -29.5 -29.9
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	240 0 0 0 0 0 428	2202 0 1896 1494 1559 675 0	0.0 4.3 0.0 0.0 0.0 0.0 0.0 8.6	44.7 0.0 38.6 58.9 29.5 29.9 0.0	-44.7 4.3 -38.6 -58.9 -29.5 -29.9 8.6
33 34 35 36 37 38 39 40	HVDC	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	240 0 0 0 0 0 428 0	2202 0 1896 1494 1559 675 0 1812	0.0 4.3 0.0 0.0 0.0 0.0 0.0 8.6 0.0	44.7 0.0 38.6 58.9 29.5 29.9 0.0 39.5	-44.7 4.3 -38.6 -58.9 -29.5 -29.9 8.6 -39.5
33 34 35 36 37 38 39	HVDC 765 kV	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	240 0 0 0 0 0 428	2202 0 1896 1494 1559 675 0	0.0 4.3 0.0 0.0 0.0 0.0 0.0 8.6	44.7 0.0 38.6 58.9 29.5 29.9 0.0	-44.7 4.3 -38.6 -58.9 -29.5 -29.9 8.6
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	240 0 0 0 0 0 428 0 192	2202 0 1896 1494 1559 675 0 1812 152	0.0 4.3 0.0 0.0 0.0 0.0 0.0 8.6 0.0	44.7 0.0 38.6 58.9 29.5 29.9 0.0 39.5 0.1	-44.7 4.3 -38.6 -58.9 -29.5 -29.9 8.6 -39.5 -0.1
33 34 35 36 37 38 39 40 41 42	HVDC 765 kV	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	240 0 0 0 0 0 428 0 192 178	2202 0 1896 1494 1559 675 0 1812 152 177	0.0 4.3 0.0 0.0 0.0 0.0 0.0 8.6 0.0 0.0	44.7 0.0 38.6 58.9 29.5 29.9 0.0 39.5 0.1	-44.7 4.3 -38.6 -58.9 -29.5 -29.9 8.6 -39.5 -0.1
33 34 35 36 37 38 39 40 41 42 43	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	D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C S/C	240 0 0 0 0 428 0 192 178 974	2202 0 1896 1494 1559 675 0 1812 152 177 0	0.0 4.3 0.0 0.0 0.0 0.0 8.6 0.0 0.0 0.0 22.1	44.7 0.0 38.6 58.9 29.5 29.9 0.0 39.5 0.1 0.5	-44.7 4.3 -38.6 -58.9 -29.5 -29.9 8.6 -39.5 -0.1 -0.5 22.1
33 34 35 36 37 38 39 40 41 42 43 44 45 46	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	240 0 0 0 0 428 0 192 178 974 0	2202 0 1896 1494 1559 675 0 1812 152 177 0 377	0.0 4.3 0.0 0.0 0.0 0.0 8.6 0.0 0.0 0.0 22.1	44.7 0.0 38.6 58.9 29.5 29.9 0.0 39.5 0.1 0.5 0.0 3	-44.7 4.3 -38.6 -58.9 -29.5 -29.9 8.6 -39.5 -0.1 -0.5 22.1
33 34 35 36 37 38 39 40 41 42 43 44 45	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	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	240 0 0 0 0 428 0 192 178 974 0 18 0 3	2202 0 1896 1494 1559 675 0 1812 152 177 0 377 53 60 56	0.0 4.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	44.7 0.0 38.6 58.9 29.5 29.9 0.0 39.5 0.1 0.5 0.0 3 0.7 1.1	-44.7 4.3 -38.6 -58.9 -29.5 -29.9 8.6 -39.5 -0.1 -0.5 22.1 -3 -0.5 -1.1
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48	HVDC 765 kV 400 kV 220 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 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	240 0 0 0 0 428 0 192 178 974 0 18 0 3	2202 0 1896 1494 1559 675 0 1812 152 177 0 377 53 60 56 72	0.0 4.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	44.7 0.0 38.6 58.9 29.5 29.9 0.0 39.5 0.1 0.5 0.0 3 0.7 1.1 0.7	-44.7 4.3 -38.6 -58.9 -29.5 -29.9 8.6 -39.5 -0.1 -0.5 22.1 -3 -0.5 -1.1 -0.7
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 D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	240 0 0 0 0 428 0 192 178 974 0 18 0 3	2202 0 1896 1494 1559 675 0 1812 152 177 0 377 53 60 56	0.0 4.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	44.7 0.0 38.6 58.9 29.5 29.9 0.0 39.5 0.1 0.5 0.0 3 0.7 1.1	-44.7 4.3 -38.6 -58.9 -29.5 -29.9 8.6 -39.5 -0.1 -0.5 22.1 -3 -0.5 -1.1 -0.7
33 33 34 35 36 37 38 39 40 41 42 42 43 44 44 45 46 47 48 49	HVDC 765 kV 400 kV 220 kV 132kV	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	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	240 0 0 0 0 428 0 192 178 974 0 18 0 3	2202 0 1896 1494 1559 675 0 1812 152 177 0 377 53 60 56 72 0	0.0 4.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	44.7 0.0 38.6 58.9 29.5 29.9 0.0 39.5 0.1 0.5 0.0 3 0.7 1.1 0.7 1.2 0.0	-44.7 4.3 -38.6 -58.9 -29.5 -29.9 8.6 -39.5 -0.1 -0.5 -22.1 -3 -0.5 -1.1 -0.7 -1.2 -0.0
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 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	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	240 0 0 0 0 428 0 192 178 974 0 18 0 0 3 0	2202 0 1896 1494 1559 675 0 1812 152 177 0 377 53 60 56 72 0 WR-NR	0.0 4.3 0.0 0.0 0.0 0.0 8.6 0.0 0.0 22.1 0 0.2 0.0 0.0 0.0 35.2	44.7 0.0 38.6 58.9 29.5 29.9 0.0 39.5 0.1 0.5 0.0 3 0.7 1.1 0.7 1.2 0.0 248.5	-44.7 4.3 -38.6 -58.9 -29.5 -29.9 8.6 -39.5 -0.1 -0.5 22.1 -3 -0.5 -1.1 -0.7 -1.2 0.0 -213.3
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49	HVDC 765 kV 400 kV 220 kV 132kV	CHAMPA-KURUKSHETRA VCHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI ZERDA-KANKROLI ZERDA-BHINMAL VCHAL-RIHAND RAPP-SHUJALPUR BADOD-KOTA BADOD-MORAK MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHADRAWATI B/B BARSUR-L.SILERU	D/C D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	240 0 0 0 0 428 0 192 178 974 0 18 0 3 0 0	2202 0 1896 1494 1559 675 0 1812 152 177 0 377 53 60 56 72 0 WR-NR	0.0 4.3 0.0 0.0 0.0 0.0 8.6 0.0 0.0 22.1 0 0.2 0.0 0.0 0.0 0.0 35.2	44.7 0.0 38.6 58.9 29.5 29.9 0.0 39.5 0.1 0.5 0.0 3 0.7 1.1 0.7 1.2 0.0 248.5	-44.7 4.3 -38.6 -58.9 -29.5 -29.9 8.6 -39.5 -0.1 -0.5 22.1 -3 -0.5 -1.1 -0.7 -1.2 0.0 -213.3
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49	HVDC 765 kV 400 kV 220 kV 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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	240 0 0 0 0 428 0 192 178 974 0 18 0 0 3 0 0	2202 0 1896 1494 1559 675 0 1812 152 177 0 377 53 60 56 72 0 WR-NR	0.0 4.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	44.7 0.0 38.6 58.9 29.5 29.9 0.0 39.5 0.1 0.5 0.0 3 0.7 1.1 0.7 1.2 0.0 248.5 6.7 0.0 0.0	-44.7 4.3 -38.6 -58.9 -29.5 -29.9 8.6 -39.5 -0.1 -0.5 22.1 -3 -0.5 -1.1 -0.7 -1.2 -0.0 -213.3
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 **Papert/H** 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-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	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	240 0 0 0 0 0 428 0 192 178 974 0 18 0 0 0 483 0 0	2202 0 1896 1494 1559 675 0 1812 152 177 0 377 53 60 56 72 0 WR-NR	0.0 4.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	44.7 0.0 38.6 58.9 29.5 29.9 0.0 39.5 0.1 0.5 0.0 3 0.7 1.1 0.7 1.2 0.0 248.5 6.7 0.0 0.0 18.6	-44.7 4.3 -38.6 -58.9 -29.5 -29.9 8.6 -39.5 -0.1 -0.5 22.1 -3 -0.5 -1.11 -0.7 -1.2 0.0 -213.3
33 34 35 36 37 38 39 40 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54	HVDC 765 kV 400 kV 220 kV 132kV Export of HVDC LINK	CHAMPA-KURUKSHETRA VCHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI ZERDA-KANKROLI ZERDA-BHINMAL VCHAL-RIHAND RAPP-SHUJALPUR BADOD-KOTA BADOD-MORAK MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHADRAWATI B/B BARSUR-L-SILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD KOLHAPUR-KUDGI	D/C D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	240 0 0 0 0 0 428 0 192 178 974 0 18 0 3 0 0	2202 0 1896 1494 1559 675 0 1812 152 177 0 377 53 60 56 72 0 WR-NR	0.0 4.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	44.7 0.0 38.6 58.9 29.5 29.9 0.0 39.5 0.1 0.5 0.0 3 0.7 1.1 0.7 1.2 0.0 248.5 6.7 0.0 0.0 18.6 0.0	-44.7 4.3 -38.6 -58.9 -29.5 -29.9 8.6 -39.5 -0.1 -0.5 22.1 -3 -0.5 -1.1 -0.7 -1.2 0.0 -213.3
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 49 51 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-KUDGI 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	240 0 0 0 0 0 428 0 192 178 974 0 18 0 0 18 0 18 0 16 18 0 0 17 18 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2202 0 1896 1494 1559 675 0 1812 152 177 0 377 53 60 56 72 0 WR-NR 403 0 1318 2385 0	0.0 4.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	44.7 0.0 38.6 58.9 29.5 29.9 0.0 39.5 0.1 0.5 0.0 3 0.7 1.1 0.7 1.2 0.0 248.5 6.7 0.0 0.0 18.6 0.0 0.0	-44.7 4.3 -38.6 -58.9 -29.5 -29.9 8.6 -39.5 -0.1 -0.5 22.1 -3 -0.5 -1.1 -0.7 -1.2 0.0 -213.3
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 49 49 50 51 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 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	240 0 0 0 0 0 428 0 192 178 974 0 18 0 3 0 0	2202 0 1896 1494 1559 675 0 1812 152 177 0 377 53 60 56 72 0 WR-NR	0.0 4.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	44.7 0.0 38.6 58.9 29.5 29.9 0.0 39.5 0.1 0.5 0.0 3 0.7 1.1 0.7 1.2 0.0 248.5 6.7 0.0 0.0 18.6 0.0 0.0	-44.7 4.3 -38.6 -58.9 -29.5 -29.9 8.6 -39.5 -0.1 -0.5 22.1 -3 -0.5 -1.1 -0.7 -1.2 0.0 -213.3 0.0 7.5 -18.6 13.6 0.0 0.0
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 49 49 51 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-KUDGI 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	240 0 0 0 0 0 428 0 192 178 974 0 18 0 0 0 483 0 0 195 178 178 178 178 178 178 178 178	2202 0 1896 1494 1559 675 0 1812 152 177 0 377 53 60 56 72 0 WR-NR 403 0 1318 2385 0 0 0	0.0 4.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	44.7 0.0 38.6 58.9 29.5 29.9 0.0 39.5 0.1 0.5 0.0 3 0.7 1.1 0.7 1.2 0.0 248.5 6.7 0.0 0.0 18.6 0.0 0.0 0.0	-44.7 4.3 -38.6 -58.9 -29.5 -29.9 8.6 -39.5 -0.1 -0.5 22.1 -3 -0.5 -1.1 -0.7 -1.2 0.0 -213.3 0.0 7.5 -18.6 13.6 0.0 0.0
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 49 49 49 50 51 51 52 53 54 55 56 56 56 56 57 57 57 57 57 57 57 57 57 57	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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	240 0 0 0 0 0 428 0 192 178 974 0 18 0 0 187 0 187 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2202 0 1896 1494 1559 675 0 1812 152 177 0 377 53 60 56 72 0 WR-NR	0.0 4.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	44.7 0.0 38.6 58.9 29.5 29.9 0.0 39.5 0.1 0.5 0.0 3 0.7 1.1 0.7 1.2 0.0 248.5 6.7 0.0 0.0 18.6 0.0 0.0	-44.7 4.3 -38.6 -58.9 -29.5 -29.9 8.6 -39.5 -0.1 -0.5 22.1 -3 -0.5 -1.1 -0.7 -1.2 0.0 -213.3 0.0 7.5 -18.6 13.6 0.0 0.0
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 49 49 49 55 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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	240 0 0 0 0 0 428 0 192 178 974 0 18 0 0 0 483 0 0 195 178 178 178 178 178 178 178 178	2202 0 1896 1494 1559 675 0 1812 152 177 0 377 53 60 56 72 0 WR-NR	0.0 4.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	44.7 0.0 38.6 58.9 29.5 29.9 0.0 39.5 0.1 0.5 0.0 3 0.7 1.1 0.7 1.2 0.0 248.5 6.7 0.0 0.0 18.6 0.0 0.0 0.0	-44.7 4.3 -38.6 -58.9 -29.5 -29.9 8.6 -39.5 -0.1 -0.5 22.1 -3 -0.5 -1.1 -0.7 -1.2 0.0 -213.3 0.0 7.5 -18.6 13.6 0.0 0.0