

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

Ref: POSOCO/NLDC/SO/Daily PSP Report

दिनांक: 22nd July 2019

To,

- 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.,29 , रेस कोर्स क्रॉस रोड, बंगलुरु -560009 Executive Director, SRLDC, 29, Race Course Cross Road, Bangalore-560009

Sub: Daily PSP Report for the date 21.07.2019.

महोदय/Dear Sir,

आई॰ई॰जी॰सी॰-2010 की धारा स.-5.5.1 के प्रावधान के अनुसार, दिनांक 21-जुलाई-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 21st July 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-Jul-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)	52058	46486	36766	21579	2619	159508
Peak Shortage (MW)	952	39	281	0	198	1470
Energy Met (MU)	1262	1107	848	481	51	3749
Hydro Gen (MU)	336	28	40	117	28	550
Wind Gen (MU)	10	22	149			181
Solar Gen (MU)*	19.97	19.4	68.94	2.20	0.05	111
Energy Shortage (MU)	10.1	0.0	0.0	0.0	2.0	12.0
Maximum Demand Met during the day	57492	48082	35489	23428	2545	163851
(MW) & time (from NLDC SCADA)	22:36	22:35	07:12	23:25	19:46	00:00

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	0.061	0.08	4.13	5.93	10.14	70.67	19.19

Region	States	Max. Demand Met during the	Shortage during maximum Demand	Energy Met (MU)	Drawal Schedule (MU)	OD(+)/UD(-) (MU)	Max OD (MW)	Energy Shortage (MU
		day (MW)	(MW)		Schedule (MC)	(-/	· · · · ·	Shortage (MC
	Punjab	9689	0	211.6	127.9	-2.3	8	0.0
	Haryana	7912	0	171.5	134.3	-0.5	239	0.0
	Rajasthan	10723	0	240.5	67.0	1.9	576	0.0
	Delhi	5184	0	105.6	89.1	0.0	174	0.0
NR	UP	20414	170	418.2	196.2	0.5	458	0.0
	Uttarakhand	1900	0	41.2	16.5	0.3	180	0.4
	HP	1299	0	28.0	-2.5	-0.4	84	0.0
	J&K	2062	515	40.5	17.3	2.8	506	9.6
	Chandigarh	273	0	5.2	5.1	0.2	59	0.0
	Chhattisgarh	4736	0	108.5	45.1	-0.2	213	0.0
	Gujarat	15305	0	339.6	107.1	4.5	752	0.0
	MP	9478	0	209.9	111.6	0.0	521	0.0
WR	Maharashtra	18282	0	405.6	107.7	-2.1	351	0.0
WK	Goa	541	0	11.4	9.5	1.3	82	0.0
	DD	313	0	7.2	6.6	0.6	55	0.0
	DNH	777	0	19.1	18.4	0.7	24	0.0
	Essar steel	315	0	5.5	5.6	-0.1	295	0.0
	Andhra Pradesh	7506	0	164.9	31.8	2.8	496	0.0
	Telangana	8086	0	170.3	80.1	0.7	492	0.0
SR	Karnataka	8657	0	168.0	56.2	-0.4	493	0.0
JI.	Kerala	2768	0	56.0	38.5	1.3	194	0.0
	Tamil Nadu	12558	0	282.4	102.0	-0.3	498	0.0
	Pondy	352	0	6.5	7.5	-0.9	36	0.0
	Bihar	5503	0	109.9	106.3	-0.6	300	0.0
	DVC	3121	0	64.5	-39.1	-3.8	450	0.0
ER	Jharkhand	1188	0	27.4	18.4	-0.3	100	0.0
LIN	Odisha	4333	0	95.3	39.9	2.2	400	0.0
	West Bengal	9130	0	182.7	80.1	1.9	380	0.0
	Sikkim	68	0	1.0	0.9	0.1	25	0.0
	Arunachal Pradesh	122	3	2.2	2.5	-0.3	54	0.0
	Assam	1622	88	30.4	24.2	0.6	169	1.8
	Manipur	152	7	2.5	2.4	0.1	43	0.0
NER	Meghalaya	312	9	5.6	-1.3	-0.1	66	0.0
	Mizoram	89	1	1.8	1.1	-0.1	26	0.0
	Nagaland	129	4	2.3	2.2	-0.2	26	0.1
	Tripura	297	17	6.2	4.4	1.5	53	0.1

D. Transnational Exchanges (MU) - Import(+ve)/Export(-ve)

	Bhutan	Nepal	Bangladesh
Actual(MU)	36.3	-3.0	-26.0
Day peak (MW)	1703.6	-307.6	-1126.0

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

	NR	WR	SR	ER	NER	TOTAL
Schedule(MU)	268.4	-206.1	-12.3	-37.6	-12.5	0.0
Actual(MU)	268.0	-225.0	26.6	-60.0	-13.3	-3.7
O/D/U/D(MU)	-0.4	-19.0	38.9	-22.4	-0.8	-3.6

F. Generation Outage(MW)

	NR	WR	SR	ER	NER	Total
Central Sector	5219	16239	6802	2550	82	30891
State Sector	8415	14201	9370	4460	50	36496
Total	13634	30440	16172	7010	131	67387
				•		

G. Sourcewise generation (MU)

	NR	WR	SR	ER	NER	All India
Coal	556	1152	459	442	14	2624
Lignite	18	12	45	0	0	75
Hydro	336	28	40	117	28	551
Nuclear	27	31	60	0	0	118
Gas, Naptha & Diesel	25	47	11	0	28	110
RES (Wind, Solar, Biomass & Others)	44	46	256	2	0	349
Total	1007	1317	872	561	70	3827

Share of RES in total generation (%)	4.38	3.52	29.37	0.40	0.07	9.12
Share of Non-fossil fuel (Hydro, Nuclear and	40.51	8.03	40.91	21.26	40.52	26.60
RES) in total generation (%)	40.51	0.03	40.91	21.26	40.52	20.00

H. Diversity Factor
All India Demand Diversity Factor

^{*}Source: RLDCs for solar connected to ISTS; SLDCs for embedded solar. Limited visibility of embedded solar data.

		<u>IN'</u>	FER-REGI	ONAL EXCH	ANGES	Date of 1	Reporting :	22-Jul-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/C	0	401	0.0	5.0	5.0
2	765kV	GAYA-VARANASI SASARAM-FATEHPUR	D/C S/C	212	401	0.0 2.3	5.9 0.0	-5.9 2.3
3	70587	GAYA-BALIA	S/C	0	391	0.0	7.1	-7.1
4	HVDC	ALIPURDUAR-AGRA	-	0	1401	0.0	24.8	-24.8
5	11,50	PUSAULI B/B	S/C	0	249	0.0	5.9	-5.9
6 7		PUSAULI-VARANASI	S/C	0	207	0.0	4.4	-4.4
8		PUSAULI -ALLAHABAD MUZAFFARPUR-GORAKHPUR	S/C D/C	0	101 565	0.0	1.5 9.0	-1.5 -9.0
9	400 kV	PATNA-BALIA	Q/C	0	678	0.0	12.7	-12.7
10	1	BIHARSHARIFF-BALIA	D/C	0	256	0.0	4.9	-4.9
11		MOTIHARI-GORAKHPUR	D/C	0	337	0.0	6.0	-6.0
12		BIHARSHARIFF-VARANASI	D/C	84	130	0.0	0.4	-0.4
13	220 kV	PUSAULI-SAHUPURI	S/C	0	173	0.0	3.4	-3.4
14	_	SONE NAGAR-RIHAND	S/C	0	0	0.0	0.0	0.0
15	132 kV	GARWAH-RIHAND	S/C	30	0	0.6	0.0	0.6
16 17		KARMANASA-SAHUPURI	S/C	0	0	0.0	0.0	0.0
1/		KARMANASA-CHANDAULI	S/C	0	0 ER-NR	0.0 2.9	0.0 86.0	0.0 -83.0
Import/F	Export of	ER (With WR)			EK-NK	2.9	00.0	-83.0
-			0/0	1002	0	15.0	0.0	15.6
18	765 kV	JHARSUGUDA-DHARAMJAIGARH	Q/C	1092	0	15.6	0.0	15.6
19 20		NEW RANCHI-DHARAMJAIGARH JHARSUGUDA-DURG	D/C D/C	1408 300	0	23.5 4.7	0.0	23.5 4.7
21		JHARSUGUDA-DURG JHARSUGUDA-RAIGARH	Q/C	70	223	0.0	2.0	-2.0
22	400 kV	RANCHI-SIPAT	D/C	433	0	8.6	0.0	8.6
23	220 kV	BUDHIPADAR-RAIGARH	S/C	0	2	0.0	0.0	0.0
24	220 K V	BUDHIPADAR-KORBA	D/C	86	0	1.4	0.0	1.4
					ER-WR	53.9	2.0	51.9
		ER (With SR)			1			Т
25		ANGUL-SRIKAKULAM	D/C	0.0	921.0	0.0	11.4	-11.4
26	HVDC LINK	JEYPORE-GAZUWAKA B/B	D/C	206.0	428.0	0.0	8.4	-8.4
27 28	400 kV	TALCHER-KOLAR BIPOLE TALCHER-I/C	D/C D/C	1303.0	1289.0 0.0	21.0	21.9 0.0	-21.9 21.0
29	220 kV	BALIMELA-UPPER-SILERRU	S/C	1.0	0.0	0.0	0.0	0.0
- 27	220 11 1	D. ILLINDEN OF LER BILLIANC	5,0	1.0	ER-SR	0.0	41.8	-41.8
Import/E	Export of	ER (With NER)						1
30	400 kV	BINAGURI-BONGAIGAON	D/C	0	703	0.0	11.6	-12
31	400 K V	ALIPURDUAR-BONGAIGAON	D/C	408	248	1.0	0.0	1
32	220 kV	ALIPURDUAR-SALAKATI	D/C	0	121	0.0	1.5	-1
					ER-NER	1.0	13.0	-12.0
_ •		NER (With NR)	1 1	0	1274	0.0	27.4	27.4
33	HVDC	BISWANATH CHARIALI-AGRA	-	0	1374 NER-NR	0.0	27.4 27.4	-27.4 -27.4
Import/F	Export of							-27.4
Import a		WR (With NR)				0.0	27.4	
34	2xport or	WR (With NR) CHAMPA-KURUKSHETRA	D/C	0	_			-23.6
34 35		WR (With NR) CHAMPA-KURUKSHETRA V'CHAL B/B	D/C D/C	0 450	1004	0.0	23.6	-23.6 6.0
		CHAMPA-KURUKSHETRA			1004	0.0	23.6	
35		CHAMPA-KURUKSHETRA V'CHAL B/B	D/C	450	1004 53	0.0 6.5	23.6 0.5	6.0
35 36 37 38		CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR	D/C D/C D/C D/C	450 0 0 0	1004 53 1172 2456 1337	0.0 6.5 0.0 0.0	23.6 0.5 29.1 47.1 22.9	6.0 -29.1 -47.1 -22.9
35 36 37 38 39		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	450 0 0 0 0	1004 53 1172 2456 1337 1025	0.0 6.5 0.0 0.0 0.0 0.0	23.6 0.5 29.1 47.1 22.9 41.6	6.0 -29.1 -47.1 -22.9 -41.6
35 36 37 38 39 40	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	450 0 0 0 0 0 557	1004 53 1172 2456 1337 1025	0.0 6.5 0.0 0.0 0.0 0.0 10.5	23.6 0.5 29.1 47.1 22.9 41.6 0.0	6.0 -29.1 -47.1 -22.9 -41.6 10.5
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	D/C D/C D/C D/C D/C S/C S/C	450 0 0 0 0 0 0 557 0	1004 53 1172 2456 1337 1025 0	0.0 6.5 0.0 0.0 0.0 0.0 10.5	23.6 0.5 29.1 47.1 22.9 41.6 0.0 28.3	6.0 -29.1 -47.1 -22.9 -41.6 10.5 -28.3
35 36 37 38 39 40 41 42	HVDC	CHAMPA-KURUKSHETRA 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	450 0 0 0 0 0 557 0 230	1004 53 1172 2456 1337 1025 0 1368 560	0.0 6.5 0.0 0.0 0.0 0.0 10.5 0.0	23.6 0.5 29.1 47.1 22.9 41.6 0.0 28.3 3.5	6.0 -29.1 -47.1 -22.9 -41.6 10.5 -28.3 3.5
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 CHITTORGARH-BANASKANTHA ZERDA-KANKROLI	D/C D/C D/C D/C D/C S/C S/C S/C S/C	450 0 0 0 0 0 557 0 230 106	1004 53 1172 2456 1337 1025 0 1368 560 99	0.0 6.5 0.0 0.0 0.0 0.0 10.5 0.0 0.0	23.6 0.5 29.1 47.1 22.9 41.6 0.0 28.3 3.5 0.3	6.0 -29.1 -47.1 -22.9 -41.6 10.5 -28.3 3.5 0.5
35 36 37 38 39 40 41 42	HVDC	CHAMPA-KURUKSHETRA 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 S/C S/C S/C S/C S/C S/C S/C	450 0 0 0 0 557 0 230 106 174	1004 53 1172 2456 1337 1025 0 1368 560	0.0 6.5 0.0 0.0 0.0 0.0 10.5 0.0 0.0 0.0	23.6 0.5 29.1 47.1 22.9 41.6 0.0 28.3 3.5 0.3 1.6	6.0 -29.1 -47.1 -22.9 -41.6 10.5 -28.3 3.5 0.5 -1.2
35 36 37 38 39 40 41 42 43 44	HVDC - 765 kV	CHAMPA-KURUKSHETRA 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	450 0 0 0 0 0 557 0 230 106	1004 53 1172 2456 1337 1025 0 1368 560 99 255	0.0 6.5 0.0 0.0 0.0 0.0 10.5 0.0 0.0	23.6 0.5 29.1 47.1 22.9 41.6 0.0 28.3 3.5 0.3	6.0 -29.1 -47.1 -22.9 -41.6 10.5 -28.3 3.5 0.5
35 36 37 38 39 40 41 42 43 44 45	HVDC - 765 kV	CHAMPA-KURUKSHETRA 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	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	450 0 0 0 0 0 557 0 230 106 174 963	1004 53 1172 2456 1337 1025 0 1368 560 99 255 0	0.0 6.5 0.0 0.0 0.0 10.5 0.0 0.0 0.0 0.0 4 22.5	23.6 0.5 29.1 47.1 22.9 41.6 0.0 28.3 3.5 0.3 1.6	6.0 -29.1 -47.1 -22.9 -41.6 10.5 -28.3 3.5 0.5 -1.2 22.5
35 36 37 38 39 40 41 42 43 44 45 46	HVDC - 765 kV - 400 kV	CHAMPA-KURUKSHETRA 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	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	450 0 0 0 0 0 557 0 230 106 174 963 0	1004 53 1172 2456 1337 1025 0 1368 560 99 255 0 462	0.0 6.5 0.0 0.0 0.0 10.5 0.0 0.0 0.8 0.4 22.5	23.6 0.5 29.1 47.1 22.9 41.6 0.0 28.3 3.5 0.3 1.6 0.0 3	6.0 -29.1 -47.1 -22.9 -41.6 10.5 -28.3 3.5 0.5 -1.2 22.5 -3
35 36 37 38 39 40 41 42 43 44 45 46 47	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 RAPP-SHUJALPUR BHANPURA-RANPUR	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	450 0 0 0 0 557 0 230 106 174 963 0	1004 53 1172 2456 1337 1025 0 1368 560 99 255 0 462 71	0.0 6.5 0.0 0.0 0.0 10.5 0.0 0.0 0.8 0.4 22.5 0	23.6 0.5 29.1 47.1 22.9 41.6 0.0 28.3 3.5 0.3 1.6 0.0 3	6.0 -29.1 -47.1 -22.9 -41.6 10.5 -28.3 3.5 0.5 -1.2 22.5 -3 -1.0
35 36 37 38 39 40 41 42 43 44 45 46 47 48	HVDC - 765 kV - 400 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 BHANPURA-RANPUR BHANPURA-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	450 0 0 0 0 557 0 230 106 174 963 0 0	1004 53 1172 2456 1337 1025 0 1368 560 99 255 0 462 71 154	0.0 6.5 0.0 0.0 0.0 10.5 0.0 0.0 0.8 0.4 22.5 0	23.6 0.5 29.1 47.1 22.9 41.6 0.0 28.3 3.5 0.3 1.6 0.0 3 1.0	6.0 -29.1 -47.1 -22.9 -41.6 10.5 -28.3 3.5 0.5 -1.2 22.5 -3 -1.0 -2.1
35 36 37 38 39 40 41 42 43 44 45 46 47 48	HVDC - 765 kV - 400 kV	CHAMPA-KURUKSHETRA 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-RANPUR 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	450 0 0 0 0 557 0 230 106 174 963 0 0 0	1004 53 1172 2456 1337 1025 0 1368 560 99 255 0 462 71 154 0 33 0	0.0 6.5 0.0 0.0 0.0 0.0 10.5 0.0 0.0 0.8 0.4 22.5 0 0.0 0.0	23.6 0.5 29.1 47.1 22.9 41.6 0.0 28.3 3.5 0.3 1.6 0.0 3 1.0 0.0 2.1 0.0	6.0 -29.1 -47.1 -22.9 -41.6 10.5 -28.3 3.5 0.5 -1.2 22.5 -3 -1.0 -2.1 0.7 -0.2 0.0
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50	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 CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL V'CHAL -RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR BHANPURA-MORAK MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR	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	450 0 0 0 0 557 0 230 106 174 963 0 0 0 72	1004 53 1172 2456 1337 1025 0 1368 560 99 255 0 462 71 154 0 33	0.0 6.5 0.0 0.0 0.0 0.0 10.5 0.0 0.0 0.8 0.4 22.5 0 0.0 0.0	23.6 0.5 29.1 47.1 22.9 41.6 0.0 28.3 3.5 0.3 1.6 0.0 3 1.0 2.1 0.0	6.0 -29.1 -47.1 -22.9 -41.6 10.5 -28.3 3.5 0.5 -1.2 22.5 -3 -1.0 -2.1 0.7 -0.2
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51	HVDC - 765 kV - 400 kV - 220 kV - 132kV Export of	CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATTNA-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL V'CHAL -RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR BHANPURA-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	450 0 0 0 0 0 557 0 230 106 174 963 0 0 0 72 31 0	1004 53 1172 2456 1337 1025 0 1368 560 99 255 0 462 71 154 0 33 0 WR-NR	0.0 6.5 0.0 0.0 0.0 10.5 0.0 0.0 0.8 0.4 22.5 0 0.0 0.0 0.0 41.4	23.6 0.5 29.1 47.1 22.9 41.6 0.0 28.3 3.5 0.3 1.6 0.0 3 1.0 2.1 0.0 2.3 0.0 2.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	6.0 -29.1 -47.1 -22.9 -41.6 10.5 -28.3 3.5 0.5 -1.2 22.5 -3 -1.0 -2.1 0.7 -0.2 0.0 -156.0
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51	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 CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL V'CHAL -RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR BHANPURA-MORAK MEHGAON-AURAIYA MALANPUR-JURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHADRAWATI B/B	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	450 0 0 0 0 0 557 0 230 106 174 963 0 0 0 72 31 0	1004 53 1172 2456 1337 1025 0 1368 560 99 255 0 462 71 154 0 33 0 WR-NR	0.0 6.5 0.0 0.0 0.0 10.5 0.0 0.0 0.8 0.4 22.5 0 0.0 0.0 0.0 41.4	23.6 0.5 29.1 47.1 22.9 41.6 0.0 28.3 3.5 0.3 1.6 0.0 3 1.0 2.1 0.0 0.3 3.5 0.3 1.6 0.0 3 1.0 2.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	6.0 -29.1 -47.1 -22.9 -41.6 10.5 -28.3 3.5 0.5 -1.2 22.5 -3 -1.0 -2.1 0.7 -0.2 0.0 -156.0
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/F 52 53	HVDC - 765 kV - 400 kV - 220 kV - 132kV Export of	CHAMPA-KURUKSHETRA 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-RANPUR 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	450 0 0 0 0 0 557 0 230 106 174 963 0 0 0 72 31 0	1004 53 1172 2456 1337 1025 0 1368 560 99 255 0 462 71 154 0 33 0 WR-NR	0.0 6.5 0.0 0.0 0.0 0.0 10.5 0.0 0.0 0.8 0.4 22.5 0 0.0 0.0 0.7 0.1 0.0 41.4	23.6 0.5 29.1 47.1 22.9 41.6 0.0 28.3 3.5 0.3 1.6 0.0 3 1.0 2.1 0.0 0.3 3 1.0 2.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	6.0 -29.1 -47.1 -22.9 -41.6 10.5 -28.3 3.5 0.5 -1.2 22.5 -3 -1.0 -2.1 0.7 -0.2 0.0 -156.0
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/E 52 53 54	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 CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL V'CHAL -RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR BHANPURA-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	450 0 0 0 0 0 557 0 230 106 174 963 0 0 0 72 31 0	1004 53 1172 2456 1337 1025 0 1368 560 99 255 0 462 71 154 0 333 0 WR-NR	0.0 6.5 0.0 0.0 0.0 0.0 10.5 0.0 0.0 0.8 0.4 22.5 0 0.0 0.7 0.1 0.0 41.4	23.6 0.5 29.1 47.1 22.9 41.6 0.0 28.3 3.5 0.3 1.6 0.0 3 1.0 2.1 0.0 0.3 0.0 204.3	6.0 -29.1 -47.1 -22.9 -41.6 10.5 -28.3 3.5 0.5 -1.2 22.5 -3 -1.0 -2.1 0.7 -0.2 0.0 -156.0
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/F 52 53 54 55	HVDC - 765 kV - 400 kV - 220 kV - 132kV - Export of HVDC LINK - 765 kV	CHAMPA-KURUKSHETRA V'CHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHITTORGARH-BANASKANTHA ZERDA-BHINMAL V'CHAL-RIHAND RAPP-SHUJALPUR BHANPURA-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 D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	450 0 0 0 0 0 557 0 230 106 174 963 0 0 0 72 31 0 385 0 1570 715	1004 53 1172 2456 1337 1025 0 1368 560 99 255 0 462 71 154 0 333 0 WR-NR	0.0 6.5 0.0 0.0 0.0 0.0 10.5 0.0 0.0 0.8 0.4 22.5 0 0.0 0.7 0.1 0.0 41.4 0.7 0.0 0.0 0.0	23.6 0.5 29.1 47.1 22.9 41.6 0.0 28.3 3.5 0.3 1.6 0.0 2.1 0.0 0.3 0.0 204.3	6.0 -29.1 -47.1 -22.9 -41.6 10.5 -28.3 3.5 0.5 -1.2 22.5 -3 -1.0 -2.1 0.7 -0.2 0.0 -156.0
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/E 52 53 54	HVDC - 765 kV - 400 kV - 220 kV - 132kV - Export of HVDC LINK - 765 kV	CHAMPA-KURUKSHETRA 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-RANPUR BHANPURA-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	450 0 0 0 0 0 557 0 230 106 174 963 0 0 0 72 31 0	1004 53 1172 2456 1337 1025 0 1368 560 99 255 0 462 71 154 0 333 0 WR-NR	0.0 6.5 0.0 0.0 0.0 0.0 10.5 0.0 0.0 0.8 0.4 22.5 0 0.0 0.7 0.1 0.0 41.4	23.6 0.5 29.1 47.1 22.9 41.6 0.0 28.3 3.5 0.3 1.6 0.0 3 1.0 2.1 0.0 0.3 0.0 204.3	6.0 -29.1 -47.1 -22.9 -41.6 10.5 -28.3 3.5 0.5 -1.2 22.5 -3 -1.0 -2.1 0.7 -0.2 0.0 -156.0
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/F 52 53 54 55	HVDC - 765 kV - 400 kV - 220 kV - 132kV - Export of HVDC LINK - 765 kV - 400 kV	CHAMPA-KURUKSHETRA 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-RANPUR BHANPURA-MORAK MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHASEUR-LSILEEU SOLAPUR-RAICHUR WARDHA-NIZAMABAD KOLHAPUR-RAUGI	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 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	450 0 0 0 0 0 557 0 230 106 174 963 0 0 0 72 31 0 385 0 1570 715 1352	1004 53 1172 2456 1337 1025 0 1368 560 99 255 0 462 71 154 0 33 0 WR-NR	0.0 6.5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.8 0.4 22.5 0 0.0 0.0 0.7 0.1 0.0 41.4 0.7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	23.6 0.5 29.1 47.1 22.9 41.6 0.0 28.3 3.5 0.3 1.6 0.0 3 1.0 2.1 0.0 0.3 0.0 204.3	6.0 -29.1 -47.1 -22.9 -41.6 10.5 -28.3 3.5 0.5 -1.2 22.5 -3 -1.0 -2.1 0.7 -0.2 0.0 -156.0
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/E 52 53 54 55 56 57	HVDC - 765 kV - 400 kV - 220 kV - 132kV - Export of HVDC LINK - 765 kV - 400 kV	CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATINA-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL V'CHAL -RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR BHANPURA-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	450 0 0 0 0 0 557 0 230 106 174 963 0 0 0 72 31 0 385 0 1570 715 1352 0	1004 53 1172 2456 1337 1025 0 1368 560 99 255 0 462 71 1154 0 33 0 WR-NR	0.0 6.5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	23.6 0.5 29.1 47.1 22.9 41.6 0.0 28.3 3.5 0.3 1.6 0.0 2.1 0.0 0.3 0.0 204.3 8.9 0.0 12.3 9.3 0.0 0.0	6.0 -29.1 -47.1 -22.9 -41.6 10.5 -28.3 3.5 0.5 -1.2 22.5 -3 -1.0 -2.1 0.7 -0.2 0.0 -156.0
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/F 52 53 54 55 56 57 58	HVDC - 765 kV - 400 kV - 220 kV - 132kV - Export of HVDC LINK - 765 kV - 400 kV	CHAMPA-KURUKSHETRA 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-RANPUR BHANPURA-RANPUR BHANPURA-WARAI MALANPUR-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHADRAWATI B/B BARSUR-L.SILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD KOLHAPUR-UDGI KOLHAPUR-CHIKODI PONDA-AMBEWADI	D/C	450 0 0 0 0 0 557 0 230 106 174 963 0 0 0 72 31 0 385 0 1570 715 1352 0 3	1004 53 1172 2456 1337 1025 0 1368 560 99 255 0 462 71 154 0 33 0 WR-NR	0.0 6.5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	23.6 0.5 29.1 47.1 22.9 41.6 0.0 28.3 3.5 0.3 1.6 0.0 2.1 0.0 2.1 0.0 204.3 8.9 0.0 12.3 9.3 0.0 0.4	6.0 -29.1 -47.1 -22.9 -41.6 10.5 -28.3 3.5 0.5 -1.2 22.5 -3 -1.0 0.7 -0.2 0.0 -156.0 -8.2 0.0 -12.3 -9.3 21.6 0.0 -0.4
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/F 52 53 54 55 56 57 58	HVDC - 765 kV - 400 kV - 220 kV - 132kV - Export of HVDC LINK - 765 kV - 400 kV	CHAMPA-KURUKSHETRA 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-RANPUR BHANPURA-RANPUR BHANPURA-WARIAYA MALANPUR-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHADRAWATI B/B BARSUR-L.SILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD KOLHAPUR-VUDGI KOLHAPUR-CHIKODI PONDA-AMBEWADI XELDEM-AMBEWADI	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 D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	450 0 0 0 0 0 557 0 230 106 174 963 0 0 0 72 31 0 0 385 0 1570 715 1352 0 3 1	1004 53 1172 2456 1337 1025 0 1368 560 99 255 0 462 71 154 0 33 0 WR-NR	0.0 6.5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	23.6 0.5 29.1 47.1 22.9 41.6 0.0 28.3 3.5 0.3 1.6 0.0 2.1 0.0 2.1 0.0 204.3 8.9 0.0 12.3 9.3 0.0 0.4 0.0	6.0 -29.1 -47.1 -22.9 -41.6 10.5 -28.3 3.5 0.5 -1.2 22.5 -3 -1.0 0.7 -0.2 0.0 -156.0 -8.2 0.0 -12.3 -9.3 21.6 0.0 -0.4 0.2
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 S1 S2 S3 S4 S5 S5 S5 S5 S5 S5 S5 S5 S5 S5	HVDC - 765 kV - 400 kV - 220 kV - 132kV - Export of HVDC LINK - 765 kV - 400 kV	CHAMPA-KURUKSHETRA 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-RANPUR BHANPURA-RANPUR BHANPURA-WARIAYA MALANPUR-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 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 S/C S/C S/C S/C S/C S/C S	450 0 0 0 0 0 557 0 230 106 174 963 0 0 0 72 31 0 385 0 1570 715 1352 0 3	1004 53 1172 2456 1337 1025 0 1368 560 99 255 0 462 71 154 0 33 0 WR-NR	0.0 6.5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	23.6 0.5 29.1 47.1 22.9 41.6 0.0 28.3 3.5 0.3 1.6 0.0 2.1 0.0 2.1 0.0 204.3 8.9 0.0 12.3 9.3 0.0 0.4 0.0	6.0 -29.1 -47.1 -22.9 -41.6 10.5 -28.3 3.5 0.5 -1.2 22.5 -3 -1.0 0.7 -0.2 0.0 -156.0 -8.2 0.0 -12.3 -9.3 21.6 0.0 -0.4 0.2 -8.4
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/F 52 53 54 55 56 57 58	HVDC - 765 kV - 400 kV - 220 kV - 132kV - Export of HVDC LINK - 765 kV - 400 kV	CHAMPA-KURUKSHETRA 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-RANPUR BHANPURA-RANPUR BHANPURA-WARIAYA MALANPUR-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHADRAWATI B/B BARSUR-L.SILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD KOLHAPUR-VUDGI KOLHAPUR-CHIKODI PONDA-AMBEWADI XELDEM-AMBEWADI	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 D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	450 0 0 0 0 0 557 0 230 106 174 963 0 0 0 72 31 0 0 385 0 1570 715 1352 0 3 1	1004 53 1172 2456 1337 1025 0 1368 560 99 255 0 462 71 154 0 33 0 WR-NR	0.0 6.5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	23.6 0.5 29.1 47.1 22.9 41.6 0.0 28.3 3.5 0.3 1.6 0.0 2.1 0.0 2.1 0.0 204.3 8.9 0.0 12.3 9.3 0.0 0.4 0.0	6.0 -29.1 -47.1 -22.9 -41.6 10.5 -28.3 3.5 0.5 -1.2 22.5 -3 -1.0 0.7 -0.2 0.0 -156.0 -8.2 0.0 -12.3 -9.3 21.6 0.0 -0.4 0.2