

# 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: 04<sup>th</sup> 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 03.07.2019.

महोदय/Dear Sir,

आई॰ई॰जी॰सी॰-2010 की धारा स.-5.5.1 के प्रावधान के अनुसार, दिनांक 03-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 03<sup>rd</sup> 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 4-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)	62627	43546	42143	19180	2811	170307
Peak Shortage (MW)	839	0	0	0	134	973
Energy Met (MU)	1491	989	940	433	51	3905
Hydro Gen (MU)	365	13	41	93	19	531
Wind Gen (MU)	27	95	203			324
Solar Gen (MU)*	26.55	14.97	68.37	1.93	0.04	112
Energy Shortage (MU)	11.4	0.0	0.0	0.0	1.0	12.4
Maximum Demand Met during the day	66687	45641	42069	21426	2833	175162
(MW) & time (from NLDC SCADA)	22:22	19:35	19:46	20:40	19:04	21:31

B. Frequency Profile (%) Region All India FVI 49.7-49.8 49.8-49.9 49.9-50.05 0.049

wer supply re	osition in States	Max. Demand	Shortage during					
Region	States	Met during the	maximum Demand	Energy Met (MU)	Drawal	OD(+)/UD(-)	Max OD	Energy
region.	States	day (MW)	(MW)	Energy Met (Me)	Schedule (MU)	(MU)	(MW)	Shortage (MU)
	Punjab	13041	0	300.0	145.9	-2.1	47	0.0
NR	Haryana	10850	125	237.2	166.4	0.3	193	0.2
	Rajasthan	11017	0	242.7	65.4	-1.3	611	0.0
	Delhi	6977	0	145.3	123.2	-0.2	272	0.2
	UP	20648	340	433.9	205.0	-0.5	600	0.0
	Uttarakhand	2128	0	47.0	20.1	1.0	122	0.1
	HP	1499	0	31.8	2.1	0.8	250	0.0
	J&K	2006	354	45.9	22.1	-1.2	251	10.9
	Chandigarh	367	0	7.4	8.1	-0.7	8	0.0
	Chhattisgarh	3313	0	73.8	25.8	-1.0	406	0.0
	Gujarat	15030	0	331.1	63.4	4.7	580	0.0
	MP	7428	0	156.6	68.4	0.0	738	0.0
WR	Maharashtra	17477	0	387.0	99.8	-2.9	433	0.0
WK	Goa	541	0	10.0	10.7	-1.3	106	0.0
	DD	335	0	7.5	6.8	0.7	83	0.0
	DNH	800	0	18.5	18.4	0.1	82	0.0
	Essar steel	284	0	4.7	4.7	0.0	327	0.0
	Andhra Pradesh	8164	0	171.4	0.6	0.8	495	0.0
	Telangana	7085	0	146.3	53.0	-0.3	377	0.0
SR	Karnataka	9905	0	195.9	58.0	-0.3	469	0.0
JK.	Kerala	3696	0	75.2	57.8	2.7	320	0.0
	Tamil Nadu	15719	0	342.8	148.2	2.9	1278	0.0
	Pondy	436	0	8.9	8.8	0.1	60	0.0
	Bihar	5286	0	99.3	96.7	0.2	50	0.0
	DVC	3029	0	65.3	-40.8	-0.5	75	0.0
ER	Jharkhand	1022	0	21.9	17.4	-0.7	70	0.0
EN	Odisha	3926	0	80.4	27.5	-1.1	100	0.0
	West Bengal	8285	0	164.8	50.9	3.4	250	0.0
	Sikkim	93	0	1.2	1.4	-0.2	30	0.0
	Arunachal Pradesh	128	1	2.2	2.8	-0.6	67	0.0
	Assam	1789	82	30.9	28.1	-1.3	188	0.9
	Manipur	167	2	2.4	2.4	0.0	51	0.0
NER	Meghalaya	330	0	6.2	2.0	-0.1	64	0.0
	Mizoram	97	1	1.7	1.5	0.1	13	0.0
	Nagaland	132	2	2.6	2.3	0.0	10	0.0
	Tripura	278	1	5.0	4.0	-0.7	58	0.0

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

	Bhutan	Nepal	Bangladesh
Actual(MU)	23.2	-10.3	-25.0
Day peak (MW)	1143.9	-576.0	-1058.0

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

	NR	WR	SR	ER	NER	TOTAL
Schedule(MU)	332.2	-271.3	14.0	-71.9	-3.0	0.0
Actual(MU)	332.8	-280.5	29.9	-83.7	-3.8	-5.3
O/D/U/D(MU)	0.6	-9.1	15.9	-11.8	-0.9	-5.3

F. Generation Outage(MW)

	NR	WR	SR	ER	NER	Total
Central Sector	4415	18435	7792	1970	56	32668
State Sector	4850	15179	8310	2880	50	31269
Total	9265	33614	16102	4850	106	63937

G. Sourcewise generation (MU)

	NR	WR	SR	ER	NER	All India
Coal	667	1078	454	446	25	2671
Lignite	22	15	49	0	0	86
Hydro	365	13	41	93	37	548
Nuclear	27	27	55	0	0	109
Gas, Naptha & Diesel	34	41	16	0	50	142
RES (Wind, Solar, Biomass & Others)	70	114	297	2	0	484
Total	1186	1289	912	541	113	4041

Share of RES in total generation (%)	5.90	8.87	32.63	0.36	0.04	11.97
Share of Non-fossil fuel (Hydro, Nuclear and	38.98	11.07	43.10	17.52	32 92	28.25
RES) in total generation (%)	30.70	11.77	43.10	17.52	34.74	20.23

H. Diversity Factor
All India Demand Diversity Factor

<sup>\*</sup>Source: RLDCs for solar connected to ISTS; SLDCs for embedded solar. Limited visibility of embedded solar data.

1		IN	TER-REGI	ONAL EXCH	ANGES	Date of 1	Reporting :	: 4-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	500	0.0	0.5	0.5
2	765kV	GAYA-VARANASI SASARAM-FATEHPUR	D/C S/C	0 297	502 0	0.0 4.0	8.5 0.0	-8.5 4.0
3	- rock v	GAYA-BALIA	S/C	0	654	0.0	12.5	-12.5
4	HVDC	ALIPURDUAR-AGRA	-	0	1304	0.0	29.2	-29.2
5	n,be	PUSAULI B/B	S/C	0	346	0.0	8.5	-8.5
6 7	1	PUSAULI-VARANASI	S/C	0	273	0.0	6.0	-6.0
8	1	PUSAULI -ALLAHABAD MUZAFFARPUR-GORAKHPUR	S/C D/C	0	119 604	0.0	2.2 8.6	-2.2 -8.6
9	400 kV	PATNA-BALIA	Q/C	0	1153	0.0	22.3	-22.3
10	1	BIHARSHARIFF-BALIA	D/C	0	407	0.0	7.9	-7.9
11	Ī	MOTIHARI-GORAKHPUR	D/C	311	0	5.7	0.0	5.7
12		BIHARSHARIFF-VARANASI	D/C	170	28	2.0	0.0	2.0
13	220 kV	PUSAULI-SAHUPURI	S/C	0	185	0.0	3.3	-3.3
14		SONE NAGAR-RIHAND	S/C	0	0	0.0	0.0	0.0
15	132 kV	GARWAH-RIHAND	S/C	30	0	0.5	0.0	0.5
16		KARMANASA-SAHUPURI	S/C	0	0	0.0	0.0	0.0
17		KARMANASA-CHANDAULI	S/C	0	0 ER-NR	0.0	0.0	0.0
Import/E	Export of	ER (With WR)			ER-NK	12.2	108.9	-96.8
-	Laport OI		2					
18	765 LV	JHARSUGUDA-DHARAMJAIGARH	Q/C	899	0	11.7	0.0	11.7
19	765 kV	NEW RANCHI-DHARAMJAIGARH	D/C	1065	0	16.3	0.0	16.3
20	<b> </b>	JHARSUGUDA-DURG JHARSUGUDA-RAIGARH	D/C Q/C	199 501	23	2.3 7.9	0.0	2.3 7.9
22	400 kV	RANCHI-SIPAT	D/C	430	0	7.7	0.0	7.7
23	220 1-37	BUDHIPADAR-RAIGARH	S/C	0	69	0.0	0.9	-0.9
24	220 kV	BUDHIPADAR-KORBA	D/C	208	0	2.0	0.0	2.0
					ER-WR	47.9	0.9	47.1
Import/E	Export of	ER (With SR)						
25	1	ANGUL-SRIKAKULAM	D/C	0.0	1331.0	0.0	20.0	-20.0
26	HVDC	JEYPORE-GAZUWAKA B/B	D/C	0.0	312.0	0.0	7.2	-7.2
27	LINK	TALCHER-KOLAR BIPOLE	D/C	0.0	1787.0	0.0	35.8	-35.8 -7.1
28 29	400 kV 220 kV	TALCHER-I/C BALIMELA-UPPER-SILERRU	D/C S/C	238.0	795.0 0.0	0.0	7.1	0.0
29	220 K V	BALINELA-OFFER-SILERRO	3/C	1.0	ER-SR	0.0	63.0	-63.0
Import/F	Export of	ER (With NER)			-			
30	400 kV	BINAGURI-BONGAIGAON	D/C	0	534	0.0	8.7	-9
31	400 K V	ALIPURDUAR-BONGAIGAON	D/C	366	48	3.2	0.0	3
32	220 kV	ALIPURDUAR-SALAKATI	D/C	0	89	0.0	1.2	-1
					ER-NER	3.2	10.0	-6.8
		NER (With NR)			1 1			1
33	HVDC	BISWANATH CHARIALI-AGRA	-	0	503	0.0	12.3	-12.3
Import/E					NED ND	0.0	10.2	
	Evnort of	WR (With NR)			NER-NR	0.0	12.3	-12.3
	Export of	WR (With NR)	D/C	0				
34		CHAMPA-KURUKSHETRA	D/C D/C	0	3012	0.0	71.1	-71.1
			D/C D/C D/C	0 0				
34 35		CHAMPA-KURUKSHETRA V'CHAL B/B	D/C	0	3012 490	0.0	71.1	-71.1 -4.5
34 35 36		CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG	D/C D/C	0	3012 490 1916	0.0 0.0 0.0	71.1 4.5 48.4	-71.1 -4.5 -48.4
34 35 36 37	HVDC	CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG GWALIOR-AGRA	D/C D/C D/C	0 0 0	3012 490 1916 2602	0.0 0.0 0.0 0.0	71.1 4.5 48.4 51.0	-71.1 -4.5 -48.4 -51.0
34 35 36 37 38 39 40		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	0 0 0 0 0 0 411	3012 490 1916 2602 1239 970	0.0 0.0 0.0 0.0 0.0 0.0 0.0 7.8	71.1 4.5 48.4 51.0 21.8 37.6 0.0	-71.1 -4.5 -48.4 -51.0 -21.8 -37.6 7.8
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	D/C D/C D/C D/C D/C S/C S/C	0 0 0 0 0 0 411	3012 490 1916 2602 1239 970 0 1427	0.0 0.0 0.0 0.0 0.0 0.0 0.0 7.8	71.1 4.5 48.4 51.0 21.8 37.6 0.0 30.4	-71.1 -4.5 -48.4 -51.0 -21.8 -37.6 7.8 -30.4
34 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	0 0 0 0 0 411 0 428	3012 490 1916 2602 1239 970 0 1427 352	0.0 0.0 0.0 0.0 0.0 0.0 7.8 0.0	71.1 4.5 48.4 51.0 21.8 37.6 0.0 30.4 2.2	-71.1 -4.5 -48.4 -51.0 -21.8 -37.6 7.8 -30.4 1.1
34 35 36 37 38 39 40 41 42 43	HVDC	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	0 0 0 0 0 411 0 428 195	3012 490 1916 2602 1239 970 0 1427 352 15	0.0 0.0 0.0 0.0 0.0 0.0 0.0 7.8 0.0 1.1	71.1 4.5 48.4 51.0 21.8 37.6 0.0 30.4 2.2 0.0	-71.1 -4.5 -48.4 -51.0 -21.8 -37.6 -7.8 -30.4 1.1
34 35 36 37 38 39 40 41 42 43 44	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	0 0 0 0 0 411 0 428 195 330	3012 490 1916 2602 1239 970 0 1427 352 15 28	0.0 0.0 0.0 0.0 0.0 0.0 0.0 7.8 0.0 1.1 1.6 3.5	71.1 4.5 48.4 51.0 21.8 37.6 0.0 30.4 2.2 0.0	-71.1 -4.5 -48.4 -51.0 -21.8 -37.6 -30.4 1.1 1.6 3.5
34 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	0 0 0 0 0 411 0 428 195 330 971	3012 490 1916 2602 1239 970 0 1427 352 15 28 0	0.0 0.0 0.0 0.0 0.0 0.0 7.8 0.0 1.1 1.6 3.5 22.4	71.1 4.5 48.4 51.0 21.8 37.6 0.0 30.4 2.2 0.0 0.0	-71.1 -4.5 -48.4 -51.0 -21.8 -37.6 7.8 -30.4 1.1 1.6 3.5 22.4
34 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 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	0 0 0 0 0 411 0 428 195 330 971	3012 490 1916 2602 1239 970 0 1427 352 15 28 0 407	0.0 0.0 0.0 0.0 0.0 0.0 0.0 7.8 0.0 1.1 1.6 3.5 22.4	71.1 4.5 48.4 51.0 21.8 37.6 0.0 30.4 2.2 0.0 0.0 0.0 3	-71.1 -4.5 -48.4 -51.0 -21.8 -37.6 -7.8 -30.4 1.1 1.6 3.5 22.4 -3
34 35 36 37 38 39 40 41 42 43 44 45 46 47	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	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	0 0 0 0 0 411 0 428 195 330 971	3012 490 1916 2602 1239 970 0 1427 352 115 28 0 407 53	0.0 0.0 0.0 0.0 0.0 0.0 0.0 7.8 0.0 1.1 1.6 3.5 22.4 0	71.1 4.5 48.4 51.0 21.8 37.6 0.0 30.4 2.2 0.0 0.0 0.0 3.3 0.7	-71.1 -4.5 -48.4 -51.0 -21.8 -37.6 7.8 -30.4 1.1 1.6 3.5 22.4 -3 -0.6
34 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 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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 0 0 0 0 411 0 428 195 330 971 0	3012 490 1916 2602 1239 970 0 1427 352 15 28 0 407	0.0 0.0 0.0 0.0 0.0 0.0 0.0 7.8 0.0 1.1 1.6 3.5 22.4	71.1 4.5 48.4 51.0 21.8 37.6 0.0 30.4 2.2 0.0 0.0 0.0 3	-71.1 -4.5 -48.4 -51.0 -21.8 -37.6 -7.8 -30.4 1.1 1.6 3.5 22.4 -3
34 35 36 37 38 39 40 41 42 43 44 45 46 47	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	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	0 0 0 0 0 411 0 428 195 330 971 0	3012 490 1916 2602 1239 970 0 1427 352 115 28 0 407 53 110	0.0 0.0 0.0 0.0 0.0 0.0 7.8 0.0 1.1 1.6 3.5 22.4 0 0.0	71.1 4.5 48.4 51.0 21.8 37.6 0.0 30.4 2.2 0.0 0.0 0.0 3.0 7.1 1.6	-71.1 -4.5 -48.4 -51.0 -21.8 -37.6 7.8 -30.4 1.1 1.6 3.5 22.4 -3 -0.6 -1.6
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49	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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 0 0 0 0 411 0 428 195 330 971 0 20 0	3012 490 1916 2602 1239 970 0 1427 352 15 28 0 407 53 110 31	0.0 0.0 0.0 0.0 0.0 0.0 7.8 0.0 1.1 1.6 3.5 22.4 0 0.0 0.0	71.1 4.5 48.4 51.0 21.8 37.6 0.0 30.4 2.2 0.0 0.0 0.0 3 0.7 1.6 0.2	-71.1 -4.5 -48.4 -51.0 -21.8 -37.6 7.8 -30.4 1.1 1.6 3.5 22.4 -3 -0.6 -1.6 -0.1
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50	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 CHITTORGARH-BANASKANTHA ZERDA-BHINMAL V'CHAL-RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR BHANPURA-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	0 0 0 0 0 411 0 428 195 330 971 0 20 0 42	3012 490 1916 2602 1239 970 0 1427 352 15 28 0 407 53 110 31	0.0 0.0 0.0 0.0 0.0 0.0 7.8 0.0 1.1 1.6 3.5 22.4 0 0.0 0.0 0.0	71.1 4.5 48.4 51.0 21.8 37.6 0.0 30.4 2.2 0.0 0.0 0.0 3 3 0.7 1.6 0.2	-71.1 -4.5 -48.4 -51.0 -21.8 -37.6 -7.8 -30.4 1.1 1.6 3.5 22.4 -3 -0.6 -1.6 -0.1 -0.8
34 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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 0 0 0 0 411 0 428 195 330 971 0 20 0 42 13	3012 490 1916 2602 1239 970 0 1427 352 15 28 0 407 53 110 31 55 0 WR-NR	0.0 0.0 0.0 0.0 0.0 0.0 7.8 0.0 1.1 1.6 3.5 22.4 0 0.0 0.0 0.0 0.0 1.1 1.6 3.5 22.4	71.1 4.5 48.4 51.0 21.8 37.6 0.0 30.4 2.2 0.0 0.0 0.0 3 0.7 1.6 0.2 0.8 0.0 273.0	-71.1 -4.5 -48.4 -51.0 -21.8 -37.6 -30.4 1.1 1.6 3.5 22.4 -3 -0.6 -1.6 -0.1 -0.8 0.0 -234.3
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51  Import/E 52	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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 0 0 0 0 411 0 428 195 330 971 0 20 0 42 13	3012 490 1916 2602 1239 970 0 1427 352 15 28 0 407 53 110 31 55 0 WR-NR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 7.8 0.0 1.1 1.6 3.5 22.4 0 0.0 0.0 0.0 0.0 1.1 1.6 3.5 22.4 0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	71.1 4.5 48.4 51.0 21.8 37.6 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	-71.1 -4.5 -48.4 -51.0 -21.8 -37.6 -30.4 1.1 1.6 3.5 22.4 -3 -0.6 -1.6 -0.1 -0.8 0.0 -234.3
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51  Import/E 52 53	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  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	0 0 0 0 0 411 0 428 195 330 971 0 20 0 42 13 0	3012 490 1916 2602 1239 970 0 1427 352 15 28 0 407 53 110 31 55 0 WR-NR	0.0 0.0 0.0 0.0 0.0 0.0 7.8 0.0 1.1 1.6 3.5 22.4 0 0.0 0.0 0.0 0.0 3.5 22.4 0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	71.1 4.5 48.4 51.0 21.8 37.6 0.0 30.4 2.2 0.0 0.0 0.0 3 0.7 1.6 0.2 0.8 0.0 273.0	-71.1 -4.5 -48.4 -51.0 -21.8 -37.6 7.8 -30.4 1.1 1.6 3.5 22.4 -3 -0.6 -1.6 -0.1 -0.8 0.0 -234.3
34 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	0 0 0 0 0 411 0 428 195 330 971 0 20 0 42 13 0	3012 490 1916 2602 1239 970 0 1427 352 15 28 0 407 53 110 31 55 0 WR-NR	0.0 0.0 0.0 0.0 0.0 0.0 7.8 0.0 1.1 1.6 3.5 22.4 0 0.0 0.0 0.0 0.0 3.5 22.4 0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	71.1 4.5 48.4 51.0 21.8 37.6 0.0 30.4 2.2 0.0 0.0 3 0.7 1.6 0.2 0.8 0.0 273.0	-71.1 -4.5 -48.4 -51.0 -21.8 -37.6 7.8 -30.4 1.1 1.6 3.5 22.4 -3 -0.6 -1.6 -0.1 -0.8 0.0 -234.3
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51  Import/E 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-RANPUR BHANPURA-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	0 0 0 0 0 411 0 428 195 330 971 0 20 0 42 13 0	3012 490 1916 2602 1239 970 0 1427 352 15 28 0 407 53 110 31 55 0 WR-NR	0.0 0.0 0.0 0.0 0.0 0.0 7.8 0.0 1.1 1.6 3.5 22.4 0 0.0 0.0 0.0 0.0 3.5 22.4 0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	71.1 4.5 48.4 51.0 21.8 37.6 0.0 30.4 2.2 0.0 0.0 0.0 3 0.7 1.6 0.2 0.8 0.0 273.0 1.8 0.0 4.1 10.8	-71.1 -4.5 -48.4 -51.0 -21.8 -37.6 -7.8 -30.4 -1.1 -1.6 -3.5 -22.4 -3 -0.6 -1.6 -0.1 -0.8 -0.0 -234.3 -1.1 -0.0 -1.2 -10.8
34 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) BHASPUL-SILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD KOLHAPUR-RAICHUR	D/C D/C D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C S/C S/C S/C D/C S/C S/C D/C S/C S/C D/C S/C S/C D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 0 0 0 0 411 0 428 195 330 971 0 20 0 42 13 0	3012 490 1916 2602 1239 970 0 1427 352 15 28 0 407 53 110 31 55 0 WR-NR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 7.8 0.0 1.1 1.6 3.5 22.4 0 0.0 0.0 0.1 0.0 0.0 36.4  0.7 0.0 5.3 0.0 15.2	71.1 4.5 48.4 51.0 21.8 37.6 0.0 30.4 2.2 0.0 0.0 0.0 3 3 0.7 1.6 0.2 0.8 0.0 273.0 1.8 0.0 4.1 10.8	-71.1 -4.5 -48.4 -51.0 -21.8 -37.6 -7.8 -30.4 1.1 1.6 3.5 22.4 -3 -0.6 -1.6 -0.1 -0.8 0.0 -234.3 -1.1 0.0 1.2 -10.8 15.2
34 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	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 WARDHA-NIZAMABAD KOLHAPUR-KUDGI KOLHAPUR-CHIKODI	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 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 D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 0 0 0 0 411 0 428 195 330 971 0 20 0 42 13 0	3012 490 1916 2602 1239 970 0 1427 352 15 28 0 407 53 110 31 55 0 WR-NR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 7.8 0.0 1.1 1.6 3.5 22.4 0 0.0 0.0 0.1 0.0 0.0 36.4  0.7 0.0 5.3 0.0 15.2 0.0	71.1 4.5 48.4 51.0 21.8 37.6 0.0 30.4 2.2 0.0 0.0 0.0 3 0.7 1.6 0.2 0.8 0.0 273.0 1.8 0.0 4.1 10.8 0.0 0.0	-71.1 -4.5 -48.4 -51.0 -21.8 -37.6 -7.8 -30.4 1.1 1.6 3.5 22.4 -3 -0.6 -1.6 -0.1 -0.8 0.0 -234.3 -1.1 0.0 1.2 -10.8 15.2 0.0
34 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 58	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 WARDHA-NIZAMABAD KOLHAPUR-VUDGI KOLHAPUR-CHIKODI PONDA-AMBEWADI	D/C D/C D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C S/C S/C 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	0 0 0 0 0 411 0 428 195 330 971 0 20 0 42 13 0 97 0 1097 344 1150 0	3012 490 1916 2602 1239 970 0 1427 352 15 28 0 407 53 110 31 55 0 WR-NR 109 0 0 64	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	71.1 4.5 48.4 51.0 21.8 37.6 0.0 30.4 2.2 0.0 0.0 0.0 3 0.7 1.6 0.2 0.8 0.0 273.0 1.8 0.0 4.1 10.8 0.0 0.0 1.2	-71.1 -4.5 -48.4 -51.0 -21.8 -37.6 -7.8 -30.4 1.1 1.6 3.5 22.4 -3 -0.6 -1.6 -0.1 -0.8 0.0 -234.3 -1.1 0.0 1.2 -10.8 15.2 0.0 -1.2
34 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	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 WARDHA-NIZAMABAD KOLHAPUR-KUDGI KOLHAPUR-CHIKODI	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 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 D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 0 0 0 0 411 0 428 195 330 971 0 20 0 42 13 0	3012 490 1916 2602 1239 970 0 1427 352 15 28 0 407 53 110 31 55 0 WR-NR 109 0 0 64 37	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	71.1 4.5 48.4 51.0 21.8 37.6 0.0 30.4 2.2 0.0 0.0 0.0 3 0.7 1.6 0.2 0.8 0.0 273.0 1.8 0.0 4.1 10.8 0.0 0.0 1.2 0.0	-71.1 -4.5 -48.4 -51.0 -21.8 -37.6 -7.8 -30.4 1.1 1.6 3.5 22.4 -3 -0.6 -1.6 -0.1 -0.8 0.0 -234.3 -1.1 0.0 1.2 -10.8 15.2 0.0 -1.2 0.7
34 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 58	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 WARDHA-NIZAMABAD KOLHAPUR-CHIKODI PONDA-AMBEWADI XELDEM-AMBEWADI	D/C D/C D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C S/C S/C D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 0 0 0 0 411 0 428 195 330 971 0 20 0 42 13 0 97 0 1097 344 1150 0	3012 490 1916 2602 1239 970 0 1427 352 15 28 0 407 53 1110 31 55 0 WR-NR 109 0 0 64 37 WR-SR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	71.1 4.5 48.4 51.0 21.8 37.6 0.0 30.4 2.2 0.0 0.0 0.0 3 0.7 1.6 0.2 0.8 0.0 273.0 1.8 0.0 4.1 10.8 0.0 0.0 1.2	-71.1 -4.5 -48.4 -51.0 -21.8 -37.6 -7.8 -30.4 1.1 1.6 3.5 22.4 -3 -0.6 -1.6 -0.1 -0.8 0.0 -234.3 -1.1 0.0 1.2 -10.8 15.2 0.0 -1.2
34 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 58 59	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-RANPUR BHANPURA-WARIAYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR  WR (With SR) BHADRAWATI B/B BARSUR-L.SILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD KOLHAPUR-CHIKODI PONDA-AMBEWADI XELDEM-AMBEWADI	D/C D/C D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C S/C S/C D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 0 0 0 0 411 0 428 195 330 971 0 20 0 42 13 0 97 0 1097 344 1150 0	3012 490 1916 2602 1239 970 0 1427 352 15 28 0 407 53 1110 31 55 0 WR-NR 109 0 0 64 37 WR-SR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	71.1 4.5 48.4 51.0 21.8 37.6 0.0 30.4 2.2 0.0 0.0 0.0 3 0.7 1.6 0.2 0.8 0.0 273.0 1.8 0.0 4.1 10.8 0.0 0.0 1.2 0.0	-71.1 -4.5 -48.4 -51.0 -21.8 -37.6 -7.8 -30.4 1.1 1.6 3.5 22.4 -3 -0.6 -1.6 -0.1 -0.8 0.0 -234.3 -1.1 0.0 1.2 -10.8 15.2 0.0 -1.2 0.7 4.0
34 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 58	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 WARDHA-NIZAMABAD KOLHAPUR-CHIKODI PONDA-AMBEWADI XELDEM-AMBEWADI	D/C D/C D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C S/C S/C D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 0 0 0 0 411 0 428 195 330 971 0 20 0 42 13 0 97 0 1097 344 1150 0	3012 490 1916 2602 1239 970 0 1427 352 15 28 0 407 53 1110 31 55 0 WR-NR 109 0 0 64 37 WR-SR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	71.1 4.5 48.4 51.0 21.8 37.6 0.0 30.4 2.2 0.0 0.0 0.0 3 0.7 1.6 0.2 0.8 0.0 273.0 1.8 0.0 4.1 10.8 0.0 0.0 1.2 0.0	-71.1 -4.5 -48.4 -51.0 -21.8 -37.6 -7.8 -30.4 1.1 1.6 3.5 22.4 -3 -0.6 -1.6 -0.1 -0.8 0.0 -234.3 -1.1 0.0 1.2 -10.8 15.2 0.0 -1.2 0.7