

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: 23rd 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 22.07.2019.

महोदय/Dear Sir,

आई॰ई॰जी॰सी॰-2010 की धारा स.-5.5.1 के प्रावधान के अनुसार, दिनांक 22-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 22nd 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 23-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)	56382	49840	39735	22119	2619	170695
Peak Shortage (MW)	2186	0	0	0	208	2394
Energy Met (MU)	1343	1156	887	492	50	3928
Hydro Gen (MU)	340	33	49	120	30	573
Wind Gen (MU)	8	32	147			188
Solar Gen (MU)*	26.35	22.77	64.79	2.02	0.03	116
Energy Shortage (MU)	14.8	1.1	0.0	0.0	1.9	17.8
Maximum Demand Met during the day	60554	50978	37196	23169	2589	171005
(MW) & time (from NLDC SCADA)	22:54	15:40	07:40	00:00	19:28	20:25

B. Frequency Profile (%) Region All India FVI <49.7 49.7-49.8 49.8-49.9 49.9-50.05 0.053 12.44

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	11231	0	245.9	133.5	-2.2	202	0.0
NR	Harvana	9349	0	194.3	150.2	0.0	222	0.0
	Rajasthan	11013	0	242.2	74.2	-0.2	497	0.0
	Delhi	5767	0	116.6	100.0	-0.5	196	0.0
	UP	19865	0	422.1	199.9	2.4	1041	3.7
	Uttarakhand	1935	0	42.9	18.9	0.9	148	1.0
	HP	1500	0	30.7	-0.5	3.0	474	0.0
	J&K	2135	534	42.4	19.2	2.6	402	10.1
	Chandigarh	324	0	6.3	6.4	-0.2	28	0.0
	Chhattisgarh	4660	0	110.2	45.7	0.6	372	0.0
	Gujarat	16213	0	342.2	81.6	8.1	1121	1.1
	MP	9928	0	219.0	119.5	5.4	948	0.0
WR	Maharashtra	19663	0	441.2	115.1	-1.1	773	0.0
WK	Goa	541	0	11.4	10.7	0.1	70	0.0
	DD	338	0	7.5	6.9	0.6	100	0.0
	DNH	820	0	18.9	18.5	0.4	147	0.0
	Essar steel	299	0	5.8	6.3	-0.5	227	0.0
	Andhra Pradesh	7650	0	165.3	31.7	-0.8	498	0.0
	Telangana	8493	0	184.1	90.4	-0.2	496	0.0
SR	Karnataka	8751	0	171.9	59.3	-1.8	490	0.0
JI.	Kerala	2992	0	60.0	41.0	1.4	208	0.0
	Tamil Nadu	14099	0	297.9	117.1	0.5	499	0.0
	Pondy	357	0	7.7	8.0	-0.3	36	0.0
	Bihar	5500	0	104.2	99.9	0.0	40	0.0
	DVC	3101	0	66.6	-42.3	-0.6	10	0.0
ER	Jharkhand	1204	0	27.1	17.8	-0.3	60	0.0
LIN	Odisha	4808	0	98.7	40.2	2.7	400	0.0
	West Bengal	9306	0	194.3	89.1	1.6	300	0.0
	Sikkim	97	0	1.3	1.1	0.2	25	0.0
	Arunachal Pradesh	126	2	2.2	2.9	-0.7	5	0.0
	Assam	1645	146	29.5	22.3	1.3	133	1.9
	Manipur	158	3	2.6	2.4	0.2	15	0.0
NER	Meghalaya	319	0	5.8	-0.6	0.0	40	0.0
	Mizoram	92	2	1.9	1.4	-0.3	12	0.0
	Nagaland	132	4	2.2	2.2	-0.5	31	0.0
	Tripura	281	9	5.6	5.6	0.6	83	0.0

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

	Bhutan	Nepal	Bangladesh
Actual(MU)	36.1	-3.4	-26.3
Day peak (MW)	1704.2	-60.8	-1128.0

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

	NR	WR	SR	ER	NER	TOTAL
Schedule(MU)	295.3	-236.0	-12.5	-35.9	-11.0	-0.1
Actual(MU)	297.1	-240.3	5.1	-43.4	-15.3	3.1
O/D/U/D(MU)	1.8	-4.3	17.6	-7.6	-4.3	3.2

F. Generation Outage(MW)

of Generation Guidge(ATT)								
	NR	WR	SR	ER	NER	Total		
Central Sector	4428	15100	6002	3050	132	28712		
State Sector	8155	13945	7740	4620	50	34510		
Total	12583	29045	13742	7670	181	63221		

G. Sourcewise generation (MU)

	NR	WR	SR	ER	NER	All India
Coal	603	1193	490	447	13	2747
Lignite	18	10	50	0	0	79
Hydro	340	33	49	120	30	573
Nuclear	27	31	60	0	0	118
Gas, Naptha & Diesel	24	64	11	0	28	127
RES (Wind, Solar, Biomass & Others)	48	59	248	2	0	358
Total	1060	1391	909	570	70	4000

Share of RES in total generation (%)	4.50	4.27	27.32	0.36	0.04	8.94
Share of Non-fossil fuel (Hydro, Nuclear and	39.15	0.07	20 26	21.49	42.00	26.20
RES) in total generation (%)	39.15	0.07	39.30	21.48	42.00	20.20

H. Diversity Factor
All India Demand Diversity Factor
1.020
Diversity factor = Sum of regional maximum demands / All India maximum demand

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

		INT	ER-REGI	ONAL EXCH	ANGES	Date of 1	Reporting :	23-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)			1			
1	765kV	GAYA-VARANASI	D/C S/C	219	375 106	0.0 2.6	0.0	-4.5
3	703K V	SASARAM-FATEHPUR GAYA-BALIA	S/C	0	371	0.0	6.6	2.6 -6.6
4	HVDC	ALIPURDUAR-AGRA	-	0	2000	0.0	39.5	-39.5
5	HVDC	PUSAULI B/B	S/C	2	249	0.0	5.8	-5.8
6	1	PUSAULI-VARANASI	S/C	0	212	0.0	4.3	-4.3
7	1	PUSAULI -ALLAHABAD	S/C	7	104	0.0	1.3	-1.3
8	400 kV	MUZAFFARPUR-GORAKHPUR PATNA-BALIA	D/C Q/C	0	563 592	0.0	8.1 12.5	-8.1 -12.5
10	100 K	BIHARSHARIFF-BALIA	D/C	0	254	0.0	4.5	-4.5
11	i	MOTIHARI-GORAKHPUR	D/C	0	323	0.0	6.3	-6.3
12	i	BIHARSHARIFF-VARANASI	D/C	67	103	0.6	0.0	0.6
13	220 kV	PUSAULI-SAHUPURI	S/C	0	174	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	10211	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	Evnout of	FD (With WD)			ER-NR	3.8	96.8	-93.0
	export of	ER (With WR)	1 1		1	1		
18	7/5137	JHARSUGUDA-DHARAMJAIGARH	Q/C	1201	0	14.0	0.0	14.0
19	765 kV	NEW RANCHI-DHARAMJAIGARH	D/C	1413	0	26.5	0.0	26.5
20	 	JHARSUGUDA-DURG JHARSUGUDA-RAIGARH	D/C	327 94	311	4.6 0.0	1.3	4.6 -1.3
21	400 kV	RANCHI-SIPAT	Q/C D/C	450	0	7.1	0.0	7.1
23		BUDHIPADAR-RAIGARH	S/C	0	2	0.0	0.0	0.0
24	220 kV	BUDHIPADAR-KORBA	D/C	79	0	1.3	0.0	1.3
					ER-WR	53.5	1.3	52.2
Import/E	Export of	ER (With SR)						•
25	765 kV	ANGUL-SRIKAKULAM	D/C	0.0	1060.0	0.0	12.2	-12.2
26	HVDC	JEYPORE-GAZUWAKA B/B	D/C	0.0	428.0	0.0	8.7	-8.7
27	LINK	TALCHER-KOLAR BIPOLE	D/C	0.0	984.0	0.0	18.3	-18.3
28	400 kV	TALCHER-I/C	D/C	1276.0	0.0	21.8	0.0	21.8
29	220 kV	BALIMELA-UPPER-SILERRU	S/C	1.0	0.0 ER-SR	0.0	0.0 39.1	0.0 -39.1
Import/F	Export of	ER (With NER)			ER-5R	0.0	37.1	-37.1
30	T	BINAGURI-BONGAIGAON	D/C	0	694	0.0	10.6	-11
31	400 kV	ALIPURDUAR-BONGAIGAON	D/C	495	76	4.6	0.0	5
32	220 kV	ALIPURDUAR-SALAKATI	D/C	6	95	0.0	1.1	-1
					ER-NER	4.6	11.6	-7.0
		NER (With NR)						
33	HVDC	BISWANATH CHARIALI-AGRA	-	0	1004	0.0	23.9	-23.9
Import/L	Export of	WR (With NR)			NER-NR	0.0	23.9	-23.9
34	Export or				,			
			D/C	()	2009	0.0	38.3	-38 3
35	HVDC	CHAMPA-KURUKSHETRA V'CHAL R/B	D/C D/C	52	2009	0.0	38.3	-38.3 1.2
35 36	HVDC		D/C D/C D/C	52	2009 50 1454	0.0 1.3 0.0	38.3 0.0 33.4	-38.3 1.2 -33.4
	HVDC	V'CHAL B/B	D/C	52	50	1.3	0.0	1.2
36	HVDC	V'CHAL B/B APL -MHG	D/C D/C	52	50 1454	1.3 0.0	0.0 33.4	1.2 -33.4
36 37 38 39	<u> </u> 	V'CHAL B/B APL -MHG GWALIOR-AGRA	D/C D/C D/C	52 0 0	50 1454 2578	1.3 0.0 0.0	0.0 33.4 46.7	1.2 -33.4 -46.7
36 37 38 39 40	HVDC - 765 kV	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	52 0 0 0 0 0 493	50 1454 2578 1241 1090	1.3 0.0 0.0 0.0 0.0 0.0 10.1	0.0 33.4 46.7 22.8 40.3 0.0	1.2 -33.4 -46.7 -22.8 -40.3 10.1
36 37 38 39 40 41	<u> </u> 	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	52 0 0 0 0 0 493	50 1454 2578 1241 1090 0 1435	1.3 0.0 0.0 0.0 0.0 0.0 10.1	0.0 33.4 46.7 22.8 40.3 0.0 29.4	1.2 -33.4 -46.7 -22.8 -40.3 10.1 -29.4
36 37 38 39 40 41 42	<u> </u> 	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	52 0 0 0 0 0 493 0	50 1454 2578 1241 1090 0 1435 627	1.3 0.0 0.0 0.0 0.0 0.0 10.1 0.0 4.3	0.0 33.4 46.7 22.8 40.3 0.0 29.4 0.0	1.2 -33.4 -46.7 -22.8 -40.3 10.1 -29.4 4.3
36 37 38 39 40 41 42 43	<u> </u> 	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 S/C	52 0 0 0 0 0 493 0 2 60	50 1454 2578 1241 1090 0 1435 627 110	1.3 0.0 0.0 0.0 0.0 10.1 0.0 4.3 0.4	0.0 33.4 46.7 22.8 40.3 0.0 29.4 0.0	1.2 -33.4 -46.7 -22.8 -40.3 10.1 -29.4 4.3 -0.3
36 37 38 39 40 41 42 43 44	<u> </u> 	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	52 0 0 0 0 0 493 0 2 60 30	50 1454 2578 1241 1090 0 1435 627 110 237	1.3 0.0 0.0 0.0 0.0 10.1 0.0 4.3 0.4 0.0	0.0 33.4 46.7 22.8 40.3 0.0 29.4 0.0 0.6 1.6	1.2 -33.4 -46.7 -22.8 -40.3 10.1 -29.4 4.3 -0.3 -1.6
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 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	52 0 0 0 0 0 493 0 2 60 30 968	50 1454 2578 1241 1090 0 1435 627 110 237 0	1.3 0.0 0.0 0.0 0.0 10.1 0.0 4.3 0.4 0.0 22.5	0.0 33.4 46.7 22.8 40.3 0.0 29.4 0.0 0.6 1.6	1.2 -33.4 -46.7 -22.8 -40.3 10.1 -29.4 4.3 -0.3 -1.6 22.5
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 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 D/C S/C S/C S/C S/C S/C S/C S/C D/C	52 0 0 0 0 493 0 2 60 30 968 0	50 1454 2578 1241 1090 0 1435 627 110 237 0 382	1.3 0.0 0.0 0.0 0.0 10.1 0.0 4.3 0.4 0.0 22.5	0.0 33.4 46.7 22.8 40.3 0.0 29.4 0.0 0.6 1.6 0.0 3	1.2 -33.4 -46.7 -22.8 -40.3 10.1 -29.4 4.3 -0.3 -1.6 22.5 -3
36 37 38 39 40 41 42 43 44 45	- 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 BHANPURA-RANPUR	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	52 0 0 0 0 0 493 0 2 60 30 968	50 1454 2578 1241 1090 0 1435 627 110 237 0	1.3 0.0 0.0 0.0 0.0 10.1 0.0 4.3 0.4 0.0 22.5	0.0 33.4 46.7 22.8 40.3 0.0 29.4 0.0 0.6 1.6	1.2 -33.4 -46.7 -22.8 -40.3 10.1 -29.4 4.3 -0.3 -1.6 22.5
36 37 38 39 40 41 42 43 44 45 46 47	765 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	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	52 0 0 0 0 493 0 2 60 30 968 0	50 1454 2578 1241 1090 0 1435 627 110 237 0 382 72	1.3 0.0 0.0 0.0 0.0 10.1 0.0 4.3 0.4 0.0 22.5 0	0.0 33.4 46.7 22.8 40.3 0.0 29.4 0.0 0.6 1.6 0.0 3	1.2 -33.4 -46.7 -22.8 -40.3 10.1 -29.4 4.3 -0.3 -1.6 22.5 -3 -0.9
36 37 38 39 40 41 42 43 44 45 46 47	- 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-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	52 0 0 0 0 493 0 2 60 30 968 0 0	50 1454 2578 1241 1090 0 1435 627 110 237 0 382 72 129	1.3 0.0 0.0 0.0 0.0 10.1 0.0 4.3 0.4 0.0 22.5 0 0.0	0.0 33.4 46.7 22.8 40.3 0.0 29.4 0.0 0.6 1.6 0.0 3 0.9 2.0	1.2 -33.4 -46.7 -22.8 -40.3 10.1 -29.4 4.3 -0.3 -1.6 22.5 -3 -0.9 -2.0
36 37 38 39 40 41 42 43 44 45 46 47 48	- 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-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	52 0 0 0 0 493 0 2 60 30 968 0 0 0	50 1454 2578 1241 1090 0 1435 627 110 237 0 382 72 129 0	1.3 0.0 0.0 0.0 0.0 10.1 0.0 4.3 0.4 0.0 22.5 0 0.0 0.0	0.0 33.4 46.7 22.8 40.3 0.0 29.4 0.0 0.6 1.6 0.0 3 0.9 2.0 0.0	1.2 -33.4 -46.7 -22.8 -40.3 10.1 -29.4 4.3 -0.3 -1.6 22.5 -3 -0.9 -2.0 0.9
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50	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-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	52 0 0 0 0 493 0 2 60 30 968 0 0 0 74	50 1454 2578 1241 1090 0 1435 627 110 237 0 382 72 129 0 21	1.3 0.0 0.0 0.0 0.0 10.1 0.0 4.3 0.4 0.0 22.5 0 0.0 0.0	0.0 33.4 46.7 22.8 40.3 0.0 29.4 0.0 0.6 1.6 0.0 3 0.9 2.0 0.0	1.2 -33.4 -46.7 -22.8 -40.3 10.1 -29.4 4.3 -0.3 -1.6 22.5 -3 -0.9 -2.0 0.9 0.0
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51	765 kV 400 kV 220 kV 132kV	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-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	52 0 0 0 0 493 0 2 60 30 968 0 0 0 74 35 0	50 1454 2578 1241 1090 0 1435 627 110 237 0 382 72 129 0 21 0 WR-NR	1.3 0.0 0.0 0.0 0.0 10.1 0.0 4.3 0.4 0.0 22.5 0 0.0 0.0 0.0 39.5	0.0 33.4 46.7 22.8 40.3 0.0 29.4 0.0 0.6 1.6 0.0 3 0.9 2.0 0.0 0.1 0.0	1.2 -33.4 -46.7 -22.8 -40.3 10.1 -29.4 4.3 -0.3 -1.6 22.5 -3 -0.9 -2.0 0.9 0.0 0.0 -179.4
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51	765 kV 400 kV 220 kV 132kV Export of HVDC	V'CHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI CHITTORGARI-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	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	52 0 0 0 0 493 0 2 60 30 968 0 0 0 74 35 0	50 1454 2578 1241 1090 0 1435 627 110 237 0 382 72 129 0 21 0 WR-NR	1.3 0.0 0.0 0.0 0.0 10.1 0.0 4.3 0.4 0.0 22.5 0 0.0 0.0 0.0 39.5	0.0 33.4 46.7 22.8 40.3 0.0 29.4 0.0 0.6 1.6 0.0 3 0.9 2.0 0.0 0.1 0.0 218.8	1.2 -33.4 -46.7 -22.8 -40.3 10.1 -29.4 4.3 -0.3 -1.6 22.5 -3 -0.9 -2.0 0.0 0.0 -179.4
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/F 52 53	765 kV 400 kV 220 kV 132kV	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	52 0 0 0 0 493 0 2 60 30 968 0 0 0 74 35 0	50 1454 2578 1241 1090 0 1435 627 1110 237 0 382 72 129 0 21 0 WR-NR	1.3 0.0 0.0 0.0 0.0 10.1 0.0 4.3 0.4 0.0 22.5 0 0.0 0.0 0.9 0.1 0.0 39.5	0.0 33.4 46.7 22.8 40.3 0.0 29.4 0.0 0.6 1.6 0.0 3 0.9 2.0 0.1 0.0 218.8	1.2 -33.4 -46.7 -22.8 -40.3 10.1 -29.4 4.3 -0.3 -1.6 22.5 -3 -0.9 -2.0 0.9 0.0 -179.4
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 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	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	52 0 0 0 0 493 0 2 60 30 968 0 0 0 74 35 0	50 1454 2578 1241 1090 0 1435 627 1110 237 0 382 72 129 0 21 0 WR-NR	1.3 0.0 0.0 0.0 0.0 10.1 0.0 4.3 0.4 0.0 22.5 0 0.0 0.0 39.5	0.0 33.4 46.7 22.8 40.3 0.0 29.4 0.0 0.6 1.6 0.0 3 0.9 2.0 0.0 0.1 0.0 218.8	1.2 -33.4 -46.7 -22.8 -40.3 10.1 -29.4 4.3 -0.3 -1.6 22.5 -3 -0.9 -2.0 0.9 0.0 0.0 -179.4
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/F 52 53 54 55	- 765 kV - 400 kV - 220 kV - 132kV - THYDC LINK - 765 kV	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 D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	52 0 0 0 0 493 0 2 60 30 968 0 0 0 74 35 0	50 1454 2578 1241 1090 0 1435 627 1110 237 0 382 72 129 0 21 0 WR-NR	1.3 0.0 0.0 0.0 0.0 10.1 0.0 4.3 0.4 0.0 22.5 0 0.0 0.0 39.5	0.0 33.4 46.7 22.8 40.3 0.0 29.4 0.0 0.6 1.6 0.0 3 0.9 2.0 0.0 0.1 0.0 218.8 5.5 0.0 9.6	1.2 -33.4 -46.7 -22.8 -40.3 10.1 -29.4 4.3 -0.3 -1.6 22.5 -3 -0.9 -2.0 0.9 0.0 -179.4 -5.4 0.0 -9.6 -12.7
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/F 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-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	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 S/C S/C S/C S/C S/C S/C S/C S	52 0 0 0 0 493 0 2 60 30 968 0 0 0 74 35 0	50 1454 2578 1241 1090 0 1435 627 110 237 0 382 72 129 0 WR-NR	1.3 0.0 0.0 0.0 0.0 10.1 0.0 4.3 0.4 0.0 22.5 0 0.0 0.0 39.5	0.0 33.4 46.7 22.8 40.3 0.0 0.6 1.6 0.0 3 0.9 2.0 0.1 0.0 218.8 5.5 0.0 9.6	1.2 -33.4 -46.7 -22.8 -40.3 10.1 -29.4 4.3 -0.3 -1.6 22.5 -3 -0.9 -2.0 0.9 0.0 -179.4 -5.4 0.0 -9.6 -12.7 -21.7
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/F 52 53 54 55	765 kV 400 kV 220 kV 132kV Export of HVDC LINK 765 kV 400 kV	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 D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	52 0 0 0 0 493 0 2 60 30 968 0 0 0 74 35 0	50 1454 2578 1241 1090 0 1435 627 1110 237 0 382 72 129 0 21 0 WR-NR	1.3 0.0 0.0 0.0 0.0 10.1 0.0 4.3 0.4 0.0 22.5 0 0.0 0.0 39.5	0.0 33.4 46.7 22.8 40.3 0.0 29.4 0.0 0.6 1.6 0.0 3 0.9 2.0 0.0 0.1 0.0 218.8 5.5 0.0 9.6	1.2 -33.4 -46.7 -22.8 -40.3 10.1 -29.4 4.3 -0.3 -1.6 22.5 -3 -0.9 -2.0 0.9 0.0 -179.4 -5.4 0.0 -9.6 -12.7
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/F 52 53 54 55	765 kV 400 kV 220 kV 132kV Export of HVDC LINK 765 kV 400 kV	V'CHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI GWALIOR-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL V'CHAL -RIHAND RAPP-SHUJALPUR BHANPURA-MORAK MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHASWATI 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 S/C S/C S/C S/C S/C S/C S/C S	52 0 0 0 0 493 0 2 60 30 968 0 0 0 74 35 0 189 0 1201 195 1234 0	50 1454 2578 1241 1090 0 1435 627 110 237 0 382 72 129 0 21 0 WR-NR	1.3 0.0 0.0 0.0 0.0 10.1 0.0 4.3 0.4 0.0 22.5 0 0.0 0.0 0.9 0.1 0.0 39.5	0.0 33.4 46.7 22.8 40.3 0.0 0.6 1.6 0.0 3 0.9 2.0 0.1 0.0 218.8 5.5 0.0 9.6 12.7 0.0 0.0	1.2 -33.4 -46.7 -22.8 -40.3 10.1 -29.4 4.3 -0.3 -1.6 22.5 -3 -0.9 -2.0 0.9 0.0 -179.4 -5.4 -0.0 -9.6 -12.7 -21.7 -0.0
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	765 kV 400 kV 220 kV 132kV Export of HVDC LINK 765 kV 400 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-RAPUR BHANPURA-MORAK MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHANGHAND BHANGHAND BHANGHAND BHANGHAND GWALIOR-SAWAI MADHOPUR WR (WITH SR) BHANGHAND BHANGHAND KOLHAPUR-RUDGI KOLHAPUR-KUDGI KOLHAPUR-CHIKODI PONDA-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 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	52 0 0 0 0 493 0 2 60 30 968 0 0 0 74 35 0 0 189 0 1201 195 1234 0 0	50 1454 2578 1241 1090 0 1435 627 110 237 0 382 72 129 0 21 0 WR-NR	1.3 0.0 0.0 0.0 0.0 10.1 0.0 4.3 0.4 0.0 22.5 0 0.0 0.0 39.5	0.0 33.4 46.7 22.8 40.3 0.0 0.6 1.6 0.0 3 0.9 2.0 0.1 0.0 218.8 5.5 0.0 9.6 12.7 0.0 0.0 1.1	1.2 -33.4 -46.7 -22.8 -40.3 10.1 -29.4 4.3 -0.3 -1.6 22.5 -3 -0.9 -2.0 0.0 0.0 -179.4 -5.4 0.0 -9.6 -12.7 21.7 0.0 -1.1
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	765 kV 400 kV 220 kV 132kV Export of HVDC LINK 765 kV 400 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-MAPUR BHANPURA-MORAK MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHANGAWATI 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 S/C S	52 0 0 0 0 493 0 2 60 30 968 0 0 0 74 35 0 0 189 0 1201 195 1234 0 0	50 1454 2578 1241 1090 0 1435 627 110 237 0 382 72 129 0 21 0 WR-NR	1.3 0.0 0.0 0.0 0.0 10.1 0.0 4.3 0.4 0.0 22.5 0 0.0 0.0 39.5 0.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 33.4 46.7 22.8 40.3 0.0 0.6 1.6 0.0 3 0.9 2.0 0.0 0.1 0.0 218.8 5.5 0.0 9.6 12.7 0.0 0.0 1.1 0.0	1.2 -33.4 -46.7 -22.8 -40.3 10.1 -29.4 4.3 -0.3 -1.6 22.5 -3 -0.9 -2.0 0.9 0.0 0.0 -179.4 -5.4 0.0 -12.7 21.7 0.0 -1.1 0.6
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 59	765 kV 400 kV 220 kV 132kV Export of HVDC LINK 765 kV 400 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-RANPUR BHANPURA-RANPUR BHANPURA-WARIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHANBAWATI 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 D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	52 0 0 0 0 493 0 2 60 30 968 0 0 0 74 35 0 0 189 0 1201 195 1234 0 0	50 1454 2578 1241 1090 0 1435 627 110 237 0 382 72 129 0 21 0 WR-NR	1.3 0.0 0.0 0.0 0.0 10.1 0.0 4.3 0.4 0.0 22.5 0 0.0 0.0 39.5 0.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 33.4 46.7 22.8 40.3 0.0 0.6 1.6 0.0 3 0.9 2.0 0.0 0.1 0.0 218.8 5.5 0.0 9.6 12.7 0.0 0.0 1.1 0.0	1.2 -33.4 -46.7 -22.8 -40.3 10.1 -29.4 4.3 -0.3 -1.6 22.5 -3 -0.9 -2.0 0.0 0.0 -179.4 -5.4 0.0 -9.6 -12.7 21.7 0.0 -1.1 0.6 -6.4
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	765 kV 400 kV 220 kV 132kV Export of HVDC LINK 765 kV 400 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-MAPUR BHANPURA-MORAK MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHANGAWATI 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 S/C S	52 0 0 0 0 493 0 2 60 30 968 0 0 0 74 35 0 0 189 0 1201 195 1234 0 0	50 1454 2578 1241 1090 0 1435 627 110 237 0 382 72 129 0 21 0 WR-NR	1.3 0.0 0.0 0.0 0.0 10.1 0.0 4.3 0.4 0.0 22.5 0 0.0 0.0 39.5 0.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 33.4 46.7 22.8 40.3 0.0 0.6 1.6 0.0 3 0.9 2.0 0.0 0.1 0.0 218.8 5.5 0.0 9.6 12.7 0.0 0.0 1.1 0.0	1.2 -33.4 -46.7 -22.8 -40.3 10.1 -29.4 4.3 -0.3 -1.6 22.5 -3 -0.9 -2.0 0.9 0.0 0.0 -179.4 -5.4 0.0 -12.7 21.7 0.0 -1.1 0.6