

National Load Despatch Centre राष्ट्रीय भार प्रेषण केंद्र

POWER SYSTEM OPERATION CORPORATION LIMITED पाँवर सिस्टम ऑपरेशन कारपोरेशन लिमिटेड

(Government of India Enterprise/ भारत सरकार का उद्यम) B-9, QUTUB INSTITUTIONAL AREA, KATWARIA SARAI, NEW DELHI -110016 बी-9, कृतुब इन्स्टीट्यूशनल एरिया, कटवारिया सराये, न्यू दिल्ली-110016

Ref: POSOCO/NLDC/SO/Daily PSP Report

दिनांक: 29th Sep 2019

To,

- 1. कार्यकारी निदेशक, पू.क्षे.भा.प्रे.के.,14, गोल्फ क्लब रोड, कोलकाता ७०००३३ 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. 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. कार्यकारी निदेशक , द .क्षे .भा .प्रे .के.,२९ , रेस कोर्स क्रॉस रोड, बंगलुरु –५६०००९ Executive Director, SRLDC, 29, Race Course Cross Road, Bangalore-560009

Sub: Daily PSP Report for the date 28.09.2019.

महोदय/Dear Sir,

आई०ई०जी०सी०-2010 की धारा स.-5.5.1 के प्रावधान के अनुसार, दिनांक 28-सितंबर-2019 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 28th Sep 2019, is available at the NLDC website.

धन्यवाद,

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

Date of Reporting Report for previous day 29-Sep-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)	45156	42812	36728	17621	2586	144903
Peak Shortage (MW)	455	0	0	0	235	690
Energy Met (MU)	999	943	848	349	49	3187
Hydro Gen (MU)	269	101	166	127	24	687
Wind Gen (MU)	9	41	13			63
Solar Gen (MU)*	26.02	14.1	78.10	1.50	0.03	120
Energy Shortage (MU)	10.6	0.0	0.0	0.0	4.5	15.1
Maximum Demand Met during the day	45953	44291	37732	17728	2674	147056
(MW) & time (from NLDC SCADA)	19:27	19:04	18:40	19:26	18:32	19:08

B. Frequency Profile (%)
Region
All India FVI <49.7 49.7-49.8 49.8-49.9 <49.9 49.9-50.05 > 50.05 0.030 33.31

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	8066	0	165.1	110.4	-1.6	49	0.0
	Haryana	7924	0	169.3	140.2	0.2	203	0.0
	Rajasthan	9360	0	210.8	75.4	-0.8	431	0.0
NR	Delhi	4276	0	94.6	78.9	-1.0	132	0.0
	UP	13646	0	261.3	123.8	1.6	71	3.3
	Uttarakhand	1662	0	36.5	13.6	0.2	117	0.0
	HP	1409	0	27.3	7.1	-0.8	66	0.0
	J&K	1950	488	30.1	14.5	-1.4	286	7.2
	Chandigarh	204	0	4.3	5.1	-0.8	9	0.0
	Chhattisgarh	3528	0	80.8	33.3	1.2	420	0.0
	Gujarat	12472	0	279.2	85.8	3.0	674	0.0
	MP	7419	0	152.4	70.5	-3.3	334	0.0
WR	Maharashtra	18044	0	385.6	159.2	-0.2	531	0.0
WK	Goa	541	0	11.9	11.1	0.2	55	0.0
	DD	329	0	7.4	6.9	0.5	45	0.0
	DNH	789	0	18.4	18.5	-0.1	76	0.0
	Essar steel	380	0	7.2	6.9	0.3	567	0.0
	Andhra Pradesh	6988	0	154.2	57.8	4.8	911	0.0
	Telangana	7472	0	160.2	35.7	-0.7	628	0.0
SR	Karnataka	8250	0	163.0	39.0	3.0	685	0.0
SK	Kerala	3421	0	71.3	45.5	1.5	183	0.0
	Tamil Nadu	12960	0	291.6	146.9	3.1	888	0.0
	Pondy	379	0	7.8	7.6	0.2	65	0.0
	Bihar	3320	0	53.0	60.8	-7.9	80	0.0
	DVC	2917	0	57.8	-17.3	0.0	210	0.0
ER	Jharkhand	1168	0	20.1	12.8	-1.5	8	0.0
EN	Odisha	4034	0	83.2	17.0	8.4	650	0.0
	West Bengal	7143	0	133.4	52.1	-3.7	190	0.0
	Sikkim	96	0	1.2	1.5	-0.3	10	0.0
	Arunachal Pradesh	117	2	2.3	2.2	0.1	54	0.0
	Assam	1630	153	29.4	23.3	0.6	120	4.5
	Manipur	159	3	2.4	2.2	0.2	37	0.0
NER	Meghalaya	344	0	6.1	1.5	-0.1	89	0.0
	Mizoram	92	2	1.4	1.1	0.3	40	0.0
	Nagaland	122	3	2.2	2.4	-0.5	16	0.0
	Tripura	269	2	4.7	4.4	-0.6	38	0.0

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

	Bhutan	Nepal	Bangladesh
Actual(MU)	44.2	-2.3	-25.5
Day peak (MW)	1960.3	-105.4	-1098.0

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

	NR	WR	SR	ER	NER	TOTAL
Schedule(MU)	271.8	-242.5	46.3	-71.5	1.7	5.9
Actual(MU)	249.2	-234.8	78.1	-84.7	-5.2	2.5
O/D/U/D(MU)	-22.6	7.8	31.7	-13.3	-6.9	-3.3

F. Generation Outage(MW)

	NR	WR	SR	ER	NER	Total
Central Sector	4060	14785	8622	2070	403	29941
State Sector	13211	23961	10053	7360	11	54596
Total	17271	38746	18675	9430	414	84536

G. Sourcewise generation (MU)

	NR	WR	SR	ER	NER	All India
Coal	372	920	367	324	8	1991
Lignite	22	13	41	0	0	76
Hydro	269	101	166	127	24	687
Nuclear	23	29	60	0	0	112
Gas, Naptha & Diesel	40	62	16	0	27	145
RES (Wind, Solar, Biomass & Others)	47	59	123	2	0	231
Total	774	1182	773	452	59	3241

Share of RES in total generation (%)	6.10	4.96	15.95	0.34	0.05	7.12
Share of Non-fossil fuel (Hydro, Nuclear and	43.89	15.91	45.13	28.37	41.23	31.77
RES) in total generation (%)	43.07	15.51	45.15	20.57	41.23	31.77

H. Diversity Factor All India Demand Diversity Factor

1.009 Diversity factor = Sum of regional maximum demands / All India maximum demand

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

		IN	ΓER-REGI	ONAL EXCH	ANGES	Date of I	Reporting :	29-Sep-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)
Import/E		ER (With NR)						•
2	765kV	GAYA-VARANASI SASARAM-FATEHPUR	D/C S/C	0	490 257	0.0	8.6 4.1	-8.6 -4.1
3	705K	GAYA-BALIA	S/C	0	302	0.0	4.6	-4.6
4	HVDC	ALIPURDUAR-AGRA	-	0	1201	0.0	25.4	-25.4
5	пове	PUSAULI B/B	S/C	0	195	0.0	4.8	-4.8
6 7		PUSAULI-VARANASI	S/C	0	145	0.0	2.5	-2.5 -2.1
8	_	PUSAULI -ALLAHABAD MUZAFFARPUR-GORAKHPUR	S/C D/C	0	123 895	0.0	14.8	-2.1
9	400 kV	PATNA-BALIA	Q/C	0	845	0.0	15.6	-15.6
10		BIHARSHARIFF-BALIA	D/C	0	292	0.0	5.2	-5.2
11		MOTIHARI-GORAKHPUR	D/C	0	6	0.0	0.0	0.0
12		BIHARSHARIFF-VARANASI	D/C	44	204	0.0	2.5	-2.5
13	220 kV	PUSAULI-SAHUPURI	S/C	0	116	0.0	1.9	-1.9
14		SONE NAGAR-RIHAND	S/C	0	0	0.0	0.0	0.0
15	132 kV	GARWAH-RIHAND	S/C	30	0	0.3	0.0	0.3
16 17	_	KARMANASA-SAHUPURI	S/C S/C	0	0	0.0	0.0	0.0
1/	<u> </u>	KARMANASA-CHANDAULI	S/C	U	ER-NR	0.0	92.0	-91.7
Import/F	Export of	ER (With WR)			-A (R		, <u>, , , , , , , , , , , , , , , , , , </u>	
18		JHARSUGUDA-DHARAMJAIGARH	Q/C	1769	0	36.3	0.0	36.3
19	765 kV		D/C		0	10.3	0.0	10.3
20	1	NEW RANCHI-DHARAMJAIGARH JHARSUGUDA-DURG	D/C D/C	883 305	0	4.4	0.0	10.3
21	400 kV	JHARSUGUDA-RAIGARH	Q/C	254	80	1.9	0.0	1.9
22	400 KV	RANCHI-SIPAT	D/C	289	0	3.6	0.0	3.6
23	220 kV	BUDHIPADAR-RAIGARH	S/C	4	80	0.0	1.0	-1.0
24		BUDHIPADAR-KORBA	D/C	148	0	2.6	0.0	2.6
Immont/E	Ermout of	ED (With CD)			ER-WR	59.1	1.0	58.1
25	765 kV	ER (With SR) ANGUL-SRIKAKULAM	D/C	0.0	2031.0	0.0	34.0	-34.0
26	HVDC	JEYPORE-GAZUWAKA B/B	D/C	313.0	0.0	7.4	0.0	7.4
27	LINK	TALCHER-KOLAR BIPOLE	D/C	0.0	1780.0	0.0	32.9	-32.9
28	400 kV	TALCHER-I/C	D/C	0.0	1210.0	0.0	18.2	-18.2
29	220 kV	BALIMELA-UPPER-SILERRU	S/C	1.0	0.0	0.0	0.0	0.0
					ER-SR	7.4	66.9	-59.5
	Export of	ER (With NER)	1 2 2					
30	400 kV	BINAGURI-BONGAIGAON	D/C D/C	159	565 210	0.0	1.2	-6 -1
32	220 kV	ALIPURDUAR-BONGAIGAON ALIPURDUAR-SALAKATI	D/C	0	120	0.0	1.6	-1
32	220 R 1	TER CRECIMENTAL TRANSPORT	D/C	0	ER-NER	0.0	9.2	-9.2
Import/E	Export of	NER (With NR)				***		
33	HVDC	BISWANATH CHARIALI-AGRA	-	0	703	0.0	15.9	-15.9
					NER-NR		15.9	-15.9
Import/F						0.0	13.9	
	Export of	WR (With NR)			_			1
34		CHAMPA-KURUKSHETRA	D/C	0	3	0.0	0.0	0.0
34 35		CHAMPA-KURUKSHETRA V'CHAL B/B	D/C	451	3 0	0.0 10.9	0.0	10.9
34 35 36		CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG	D/C D/C	451 0	3 0 1741	0.0 10.9 0.0	0.0 0.0 33.4	10.9 -33.4
34 35 36 37		CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG GWALIOR-AGRA	D/C D/C D/C	451	3 0 1741 2257	0.0 10.9 0.0 0.0	0.0 0.0 33.4 41.4	10.9 -33.4 -41.4
34 35 36	HVDC	CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG	D/C D/C	451 0 0	3 0 1741	0.0 10.9 0.0	0.0 0.0 33.4	10.9 -33.4
34 35 36 37 38		CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR	D/C D/C D/C D/C	451 0 0 0	3 0 1741 2257 1393	0.0 10.9 0.0 0.0 0.0	0.0 0.0 33.4 41.4 28.6	10.9 -33.4 -41.4 -28.6
34 35 36 37 38 39	HVDC	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	451 0 0 0 0	3 0 1741 2257 1393 823	0.0 10.9 0.0 0.0 0.0 0.0	0.0 0.0 33.4 41.4 28.6 30.3	10.9 -33.4 -41.4 -28.6 -30.3
34 35 36 37 38 39 40 41 42	HVDC	CHAMPA-KURUKSHETRA VCHAL 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	451 0 0 0 0 0 406 0 52	3 0 1741 2257 1393 823 0 1417 814	0.0 10.9 0.0 0.0 0.0 0.0 7.3 0.0	0.0 0.0 33.4 41.4 28.6 30.3 0.0 29.8 6.5	10.9 -33.4 -41.4 -28.6 -30.3 7.3 -29.8 -6.5
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 D/C S/C S/C	451 0 0 0 0 0 406 0 52 88	3 0 1741 2257 1393 823 0 1417 814	0.0 10.9 0.0 0.0 0.0 0.0 0.0 7.3 0.0 0.0	0.0 0.0 33.4 41.4 28.6 30.3 0.0 29.8 6.5 0.9	10.9 -33.4 -41.4 -28.6 -30.3 7.3 -29.8 -6.5 -0.5
34 35 36 37 38 39 40 41 42 43	HVDC	CHAMPA-KURUKSHETRA VCHAL 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	451 0 0 0 0 406 0 52 88 108	3 0 1741 2257 1393 823 0 1417 814 126	0.0 10.9 0.0 0.0 0.0 0.0 7.3 0.0 0.0 0.0	0.0 0.0 33.4 41.4 28.6 30.3 0.0 29.8 6.5 0.9	10.9 -33.4 -41.4 -28.6 -30.3 7.3 -29.8 -6.5 -0.5
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 CHITTORGARH-BANASKANTHA 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 S/C S/C	451 0 0 0 0 406 0 52 88 108 956	3 0 1741 2257 1393 823 0 1417 814 126 160	0.0 10.9 0.0 0.0 0.0 0.0 7.3 0.0 0.0 0.0 0.0	0.0 0.0 33.4 41.4 28.6 30.3 0.0 29.8 6.5 0.9	10.9 -33.4 -41.4 -28.6 -30.3 7.3 -29.8 -6.5 -0.5 -1.0 19.1
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 D/C S/C S/C S/C S/C S/C S/C S/C D/C	451 0 0 0 0 406 0 52 88 108 956 0	3 0 1741 2257 1393 823 0 1417 814 126 160 0	0.0 10.9 0.0 0.0 0.0 0.0 7.3 0.0 0.0 0.0 0.4 0.3 19.1	0.0 0.0 33.4 41.4 28.6 30.3 0.0 29.8 6.5 0.9 1.3 0.0	10.9 -33.4 -41.4 -28.6 -30.3 7.3 -29.8 -6.5 -0.5 -1.0 19.1
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 D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	451 0 0 0 0 406 0 52 88 108 956 0 17	3 0 1741 2257 1393 823 0 1417 814 126 160 0 493	0.0 10.9 0.0 0.0 0.0 7.3 0.0 0.0 0.4 19.1 0	0.0 0.0 33.4 41.4 28.6 30.3 0.0 29.8 6.5 0.9 1.3 0.0 4	10.9 -33.4 -41.4 -28.6 -30.3 7.3 -29.8 -6.5 -0.5 -1.0 19.1 -4 -0.7
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 D/C S/C S/C S/C S/C S/C S/C S/C D/C	451 0 0 0 0 406 0 52 88 108 956 0	3 0 1741 2257 1393 823 0 1417 814 126 160 0	0.0 10.9 0.0 0.0 0.0 0.0 7.3 0.0 0.0 0.0 0.4 0.3 19.1	0.0 0.0 33.4 41.4 28.6 30.3 0.0 29.8 6.5 0.9 1.3 0.0	10.9 -33.4 -41.4 -28.6 -30.3 7.3 -29.8 -6.5 -0.5 -1.0 19.1
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 CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -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	451 0 0 0 0 406 0 52 88 108 956 0 17	3 0 1741 2257 1393 823 0 1417 814 126 160 0 493 65	0.0 10.9 0.0 0.0 0.0 0.0 7.3 0.0 0.0 0.4 0.3 19.1 0	0.0 0.0 33.4 41.4 28.6 30.3 0.0 29.8 6.5 0.9 1.3 0.0 4 0.7	10.9 -33.4 -41.4 -28.6 -30.3 7.3 -29.8 -6.5 -0.5 -1.0 19.1 -4 -0.7 -1.4
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	451 0 0 0 0 406 0 52 88 108 956 0 17 0 73	3 0 1741 2257 1393 823 0 1417 814 126 160 0 493 65	0.0 10.9 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 33.4 41.4 28.6 30.3 0.0 29.8 6.5 0.9 1.3 0.0 4 0.7	10.9 -33.4 -41.4 -28.6 -30.3 7.3 -29.8 -6.5 -0.5 -1.0 19.1 -4 -0.7 -1.4 0.9
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	CHAMPA-KURUKSHETRA VCHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATTNA-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR 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	451 0 0 0 0 406 0 52 88 108 956 0 17 0 73 40	3 0 1741 2257 1393 823 0 1417 814 126 160 0 493 65 91 0	0.0 10.9 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 33.4 41.4 28.6 30.3 0.0 29.8 6.5 0.9 1.3 0.0 4 0.7 1.4 0.0	10.9 -33.4 -41.4 -28.6 -30.3 -7.3 -29.8 -6.5 -0.5 -1.0 19.1 -4 -0.7 -1.4 0.9 0.3
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	CHAMPA-KURUKSHETRA VCHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATTNA-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR 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	451 0 0 0 0 406 0 52 88 108 956 0 17 0 73 40 0	3 0 1741 2257 1393 823 0 1417 814 126 160 0 493 65 91 0 144 0	0.0 10.9 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 33.4 41.4 28.6 30.3 0.0 29.8 6.5 0.9 1.3 0.0 4 0.7 1.4 0.0 0.0 1.7 1.7 1.7 1.7 1.7 1.7 1.7 1.7	10.9 -33.4 -41.4 -28.6 -30.3 -7.3 -29.8 -6.5 -0.5 -1.0 19.1 -4 -0.7 -1.4 0.9 0.3 0.0 -139.1
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 HVDC	CHAMPA-KURUKSHETRA 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-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	451 0 0 0 0 406 0 52 88 108 956 0 17 0 73 40 0	3 0 1741 2257 1393 823 0 1417 814 126 160 0 493 65 91 0 WR-NR	0.0 10.9 0.0 0.0 0.0 0.0 7.3 0.0 0.0 0.3 19.1 0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 33.4 41.4 28.6 30.3 0.0 29.8 6.5 0.9 1.3 0.0 4 0.7 1.4 0.0 0.0 178.3	10.9 -33.4 -41.4 -28.6 -30.3 -7.3 -29.8 -6.5 -0.5 -1.0 19.1 -4 -0.7 -1.4 0.9 0.3 0.0 -139.1
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 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	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	451 0 0 0 0 406 0 52 88 108 956 0 17 0 73 40 0	3 0 1741 2257 1393 823 0 1417 814 126 160 0 493 65 91 0 14 0 WR-NR	0.0 10.9 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 33.4 41.4 28.6 30.3 0.0 29.8 6.5 0.9 1.3 0.0 4 0.7 1.4 0.0 0.0 178.3	10.9 -33.4 -41.4 -28.6 -30.3 7.3 -29.8 -6.5 -0.5 -1.0 19.1 -4 -0.7 -1.4 0.9 0.3 0.0 -139.1
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 S2 S3 S4	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 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	451 0 0 0 0 406 0 52 88 108 956 0 17 0 73 40 0	3 0 1741 2257 1393 823 0 1417 814 126 160 0 493 65 91 0 144 0 WR-NR	0.0 10.9 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 33.4 41.4 28.6 30.3 0.0 29.8 6.5 0.9 1.3 0.0 4 0.7 1.4 0.0 0.0 178.3	10.9 -33.4 -41.4 -28.6 -30.3 -7.3 -29.8 -6.5 -0.5 -1.0 19.1 -4 -0.7 -1.4 0.9 0.3 0.0 -139.1 -1.7 0.0 -13.4
34 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-BHISMAL 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 D/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	451 0 0 0 0 406 0 52 88 108 956 0 17 0 73 40 0	3 0 1741 2257 1393 823 0 1417 814 126 160 0 493 65 91 0 144 0 WR-NR	0.0 10.9 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 3.3.4 41.4 28.6 30.3 0.0 29.8 6.5 0.9 1.3 0.0 4 0.7 1.4 0.0 0.0 178.3 5.2 0.0 13.9 32.5	10.9 -33.4 -41.4 -28.6 -30.3 -7.3 -29.8 -6.5 -0.5 -1.0 19.1 -4 -0.7 -1.4 0.9 0.3 0.0 -139.1 -1.7 0.0 -13.4 -32.5
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/F 52 53 54	HVDC - 765 kV - 400 kV - 220 kV - 132kV Export of HVDC LINK	CHAMPA-KURUKSHETRA V'CHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-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	451 0 0 0 0 406 0 52 88 108 956 0 17 0 73 40 0	3 0 1741 2257 1393 823 0 1417 814 126 160 0 493 65 91 0 144 0 WR-NR	0.0 10.9 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 33.4 41.4 28.6 30.3 0.0 29.8 6.5 0.9 1.3 0.0 4 0.7 1.4 0.0 0.0 178.3	10.9 -33.4 -41.4 -28.6 -30.3 -7.3 -29.8 -6.5 -0.5 -1.0 19.1 -4 -0.7 -1.4 0.9 0.3 0.0 -139.1
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	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-BHINMAL V'CHAL-RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR BHANPURA-MORAK MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHASPUR-LSILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD KOLHAPUR-RUDGI	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 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	451 0 0 0 0 406 0 52 88 108 956 0 17 0 73 40 0	3 0 1741 2257 1393 823 0 1417 814 126 160 0 493 655 91 0 144 0 WR-NR	0.0 10.9 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 33.4 41.4 28.6 30.3 0.0 29.8 6.5 0.9 1.3 0.0 4 0.7 1.4 0.0 0.0 178.3 5.2 0.0 13.9 32.5 0.0	10.9 -33.4 -41.4 -28.6 -30.3 -7.3 -29.8 -6.5 -0.5 -1.0 19.1 -4 -0.7 -1.4 0.9 0.3 0.0 -139.1 -1.7 0.0 -13.4 -32.5 11.6
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/F 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 CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR BHANPURA-MORAK MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHASUR-LSILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD KOLHAPUR-RUDGI KOLHAPUR-KUDGI	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	451 0 0 0 0 406 0 52 88 108 956 0 17 0 73 40 0	3 0 1741 2257 1393 823 0 1417 814 126 160 0 493 65 91 0 144 0 WR-NR	0.0 10.9 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 33.4 41.4 28.6 30.3 0.0 29.8 6.5 0.9 1.3 0.0 4 0.7 1.4 0.0 0.0 178.3 5.2 0.0 13.9 32.5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	10.9 -33.4 -41.4 -28.6 -30.3 -7.3 -29.8 -6.5 -0.5 -1.0 19.1 -4 -0.7 -1.4 -0.9 0.3 0.0 -139.1 -1.7 0.0 -13.4 -32.5 11.6 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 - 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 CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR BHANPURA-RANPUR BHANPURA-WARAK 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 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	451 0 0 0 0 406 0 52 88 108 956 0 17 0 73 40 0 0 199 0 297 0 747 0 0	3 0 1741 2257 1393 823 0 1417 814 126 160 0 493 65 91 0 144 0 WR-NR	0.0 10.9 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 33.4 41.4 28.6 30.3 0.0 29.8 6.5 0.9 1.3 0.0 4 0.7 1.4 0.0 0.0 178.3 5.2 0.0 13.9 32.5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	10.9 -33.4 -41.4 -28.6 -30.3 -7.3 -29.8 -6.5 -0.5 -1.0 19.1 -4 -0.7 -1.4 -0.9 0.3 0.0 -139.1 -1.7 0.0 -13.4 -32.5 11.6 0.0 -1.3
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/E 52 53 54 55 56 57 58	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 CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -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-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	451 0 0 0 0 406 0 52 88 108 956 0 17 0 73 40 0 0 199 0 297 0 747 0 0	3 0 1741 2257 1393 823 0 1417 814 126 160 0 493 65 91 0 144 0 WR-NR	0.0 10.9 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 33.4 41.4 28.6 30.3 0.0 29.8 6.5 0.9 1.3 0.0 4 0.7 1.4 0.0 0.0 178.3 5.2 0.0 13.9 32.5 0.0 0.0 1.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	10.9 -33.4 -41.4 -28.6 -30.3 -7.3 -29.8 -6.5 -0.5 -1.0 19.1 -4 -0.7 -1.4 -0.9 0.3 0.0 -139.1 -1.7 0.0 -13.4 -32.5 11.6 0.0 -1.3 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 - 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 CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -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-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 D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	451 0 0 0 0 406 0 52 88 108 956 0 17 0 73 40 0 0 199 0 297 0 747 0 0	3 0 1741 2257 1393 823 0 1417 814 126 160 0 493 65 91 0 144 0 WR-NR	0.0 10.9 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 33.4 41.4 28.6 30.3 0.0 29.8 6.5 0.9 1.3 0.0 4 0.7 1.4 0.0 0.0 178.3 5.2 0.0 13.9 32.5 0.0 0.0 1.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	10.9 -33.4 -41.4 -28.6 -30.3 -7.3 -29.8 -6.5 -0.5 -1.0 19.1 -4 -0.7 -1.4 -0.9 0.3 0.0 -139.1 -1.7 0.0 -13.4 -32.5 11.6 0.0 -1.3 0.7
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 S1 S2 S3 S4 S5 S5 S6 S7 S8 S9	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 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 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 S/C S/C S/C S/C S/C S/C S/C S	451 0 0 0 0 406 0 52 88 108 956 0 17 0 73 40 0 0 199 0 297 0 747 0 0	3 0 1741 2257 1393 823 0 1417 814 126 160 0 493 65 91 0 144 0 WR-NR	0.0 10.9 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 33.4 41.4 28.6 30.3 0.0 29.8 6.5 0.9 1.3 0.0 4 0.7 1.4 0.0 0.0 178.3 5.2 0.0 13.9 32.5 0.0 0.0 1.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	10.9 -33.4 -41.4 -28.6 -30.3 -7.3 -29.8 -6.5 -0.5 -1.0 19.1 -4 -0.7 -1.4 -0.9 0.3 0.0 -139.1 -1.7 0.0 -13.4 -32.5 -11.6 0.0 -1.3 0.7 -36.5