

# 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: 15<sup>th</sup>Sep 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 14.09.2019.

महोदय/Dear Sir,

आई॰ई॰जी॰सी॰-2010 की धारा स.-5.5.1 के प्रावधान के अनुसार, दिनांक 14-सितंबर-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 14<sup>th</sup> Sep 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 15-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)	59141	43494	39879	22414	2691	167619
Peak Shortage (MW)	1388	0	0	0	186	1574
Energy Met (MU)	1357	974	935	461	51	3778
Hydro Gen (MU)	332	104	171	143	24	773
Wind Gen (MU)	22	96	95			214
Solar Gen (MU)*	26.19	8.35	73.62	1.98	0.03	110
Energy Shortage (MU)	13.8	0.0	0.0	0.0	4.8	18.5
Maximum Demand Met during the day	60818	45558	41066	22516	2837	171046
(MW) & time (from NLDC SCADA)	00:13	19:23	18:52	20:48	18:13	19:23

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 0.023 0.00 0.00 1.56 1.56 79.50 18.94

C. Power Supply Position in States

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	11491	0	259.0	137.0	-1.6	33	0.0
	Harvana	9804	0	218.5	156.2	-0.2	132	0.0
	Rajasthan	10687	0	243.3	76.5	-1.1	416	0.0
	Delhi	6157	0	125.3	102.5	0.4	221	0.0
NR	UP	18817	0	390.4	167.5	0.0	575	3.7
	Uttarakhand	1905	0	41.3	14.5	-0.5	47	0.0
	HP	1441	0	31.0	3.0	-0.6	30	0.0
	J&K	2100	525	42.2	20.4	-1.2	166	10.1
	Chandigarh	284	0	6.0	6.5	-0.5	0	0.0
	Chhattisgarh	3987	0	89.1	31.2	1.5	272	0.0
	Gujarat	12884	0	287.7	80.4	1.5	629	0.0
	MP	7696	0	162.8	64.3	-2.1	363	0.0
	Maharashtra	17718	0	390.7	130.1	0.8	468	0.0
WR	Goa	541	0	11.8	11.1	0.2	49	0.0
	DD	323	0	7.3	6.7	0.5	36	0.0
	DNH	787	0	18.4	18.5	-0.1	33	0.0
	Essar steel	342	0	5.8	5.6	0.2	318	0.0
	Andhra Pradesh	8401	0	180.5	40.5	1.2	806	0.0
	Telangana	9397	0	199.8	45.6	-0.5	578	0.0
SR	Karnataka	9981	0	190.9	42.7	0.7	589	0.0
311	Kerala	3273	0	67.2	43.4	1.8	205	0.0
	Tamil Nadu	13237	0	288.8	132.1	0.6	604	0.0
	Pondy	371	-1	7.4	7.6	-0.2	49	0.0
	Bihar	5372	0	104.2	100.7	-0.2	300	0.0
	DVC	2922	0	63.5	-19.3	0.8	200	0.0
ER	Jharkhand	1232	0	25.8	17.2	-0.9	50	0.0
LIV	Odisha	4934	0	100.1	23.3	2.4	473	0.0
	West Bengal	8531	0	166.7	66.0	0.1	350	0.0
	Sikkim	95	0	1.0	1.4	-0.5	10	0.0
	Arunachal Pradesh	118	1	2.2	2.5	-0.4	45	0.0
	Assam	1750	147	31.5	26.6	1.1	146	4.7
	Manipur	166	1	2.4	2.3	0.1	28	0.0
NER	Meghalaya	327	0	5.7	1.0	-0.1	43	0.0
	Mizoram	92	3	1.8	0.8	0.5	64	0.0
	Nagaland	137	1	2.5	2.2	-0.1	41	0.0
	Tripura	300	2	4.8	4.4	0.5	105	0.0

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

	Bhutan	Nepal	Bangladesh
Actual(MU)	41.4	-4.6	-21.9
Day peak (MW)	1810.9	-193.7	-1106.0

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

	NR	WR	SR	ER	NER	TOTAL
Schedule(MU)	305.6	-241.6	14.7	-69.6	-0.1	8.9
Actual(MU)	294.5	-262.8	35.3	-65.1	1.6	3.6
O/D/U/D(MU)	-11.0	-21.2	20.6	4.5	1.8	-5.3

F. Generation Outage(MW)

	NR	WR	SR	ER	NER	Total
Central Sector	4826	15900	8312	2360	340	31737
State Sector	5090	19617	9150	6140	50	40046
Total	9916	35516	17462	8500	389	71783
	,,,10	22210	17.102	0200	203	71700

G. Sourcewise generation (MU)

	NR	WR	SR	ER	NER	All India
Coal	615	923	409	389	6	2342
Lignite	18	10	46	0	0	74
Hydro	332	104	171	143	24	773
Nuclear	27	29	60	0	0	117
Gas, Naptha & Diesel	41	54	16	0	25	135
RES (Wind, Solar, Biomass & Others)	64	113	208	2	0	387
Total	1096	1232	910	535	55	3827

Share of RES in total generation (%)	5.83	9.14	22.90	0.38	0.05	10.11
Share of Non-fossil fuel (Hydro, Nuclear and	38.56	10.02	48.30	27 21	42.12	33.36
RES) in total generation (%)	30.30	19.93	40.30	27.21	43.13	33.30

H. Diversity Factor
All India Demand Diversity Factor 1.010

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

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

		INI	ER-REGI	ONAL EXCH	ANGES	Date of 1	Reporting	: 15-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)
	Export of	ER (With NR)	1					1
2	765kV	GAYA-VARANASI SASARAM-FATEHPUR	D/C S/C	19 188	277 102	0.0 1.5	0.0	-3.8 1.5
3	- rock v	GAYA-BALIA	S/C	0	322	0.0	6.0	-6.0
4	HVDC	ALIPURDUAR-AGRA	-	0	1401	0.0	32.3	-32.3
5	пурс	PUSAULI B/B	S/C	0	196	0.0	4.8	-4.8
6 7	1	PUSAULI-VARANASI	S/C	0	186	0.0	4.0	-4.0
8	1	PUSAULI -ALLAHABAD MUZAFFARPUR-GORAKHPUR	S/C D/C	0	62 808	0.0	0.6	-0.6 -10.1
9	400 kV	PATNA-BALIA	Q/C	0	865	0.0	15.9	-15.9
10	1	BIHARSHARIFF-BALIA	D/C	30	216	0.0	3.0	-3.0
11		MOTIHARI-GORAKHPUR	D/C	0	0	0.0	0.0	0.0
12		BIHARSHARIFF-VARANASI	D/C	183	81	1.6	0.0	1.6
13	220 kV	PUSAULI-SAHUPURI	S/C	2	204	0.0	3.5	-3.5
14		SONE NAGAR-RIHAND	S/C	0	0	0.0	0.0	0.0
15	132 kV	GARWAH-RIHAND	S/C	30	0	0.4	0.0	0.4
16	1	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	3.4	84.0	-80.7
	Saport OI		0/2	1045		20.0	0.0	20.0
18	765 kV	JHARSUGUDA-DHARAMJAIGARH	Q/C	1346	0	20.0	0.0	20.0
19 20	- 00 K	NEW RANCHI-DHARAMJAIGARH	D/C	906	134 47	11.4	0.0	11.4
20		JHARSUGUDA-DURG JHARSUGUDA-RAIGARH	D/C Q/C	324 378	64	3.3 5.0	0.0	3.3 5.0
22	400 kV	RANCHI-SIPAT	D/C	341	42	4.7	0.0	4.7
23	220 kV	BUDHIPADAR-RAIGARH	S/C	0	108	0.0	1.6	-1.6
24	220 K V	BUDHIPADAR-KORBA	D/C	108	3	1.3	0.0	1.3
					ER-WR	45.7	1.6	44.2
		ER (With SR)						1
25	765 kV	ANGUL-SRIKAKULAM	D/C	0.0	1529.0	0.0	22.1	-22.1
26	HVDC LINK	JEYPORE-GAZUWAKA B/B	D/C	316.0	0.0	7.4	0.0	7.4
27		TALCHER-KOLAR BIPOLE TALCHER-I/C	D/C D/C	0.0 306.0	1004.0 258.0	0.0	20.7	-20.7 -1.9
29	400 kV 220 kV	BALIMELA-UPPER-SILERRU	S/C	1.0	0.0	0.0	0.0	0.0
- 27	220 R V	BALLANDER OF ER SIEERRO	5/0	1.0	ER-SR	7.4	42.8	-35.5
Import/E	Export of	ER (With NER)				<u> </u>		1
30	400 kV	BINAGURI-BONGAIGAON	D/C	0	746	0.0	11.0	-11
31	400 K V	ALIPURDUAR-BONGAIGAON	D/C	71	287	0.0	1.6	-2
32	220 kV	ALIPURDUAR-SALAKATI	D/C	0	158	0.0	1.9	-2
/-					ER-NER	0.0	14.5	-14.5
		NER (With NR) BISWANATH CHARIALI-AGRA		0	704	0.0	15.6	15.6
33	HVDC	BISWANATH CHARIALI-AGRA	-	0	704 NER-NR	0.0 <b>0.0</b>	15.6 15.6	-15.6 -15.6
Import/F	Evnort of	TVD (TV!4L ND)					15.0	-13.0
		WK (WIIII NK)			I			
34	Export or	WR (With NR) CHAMPA-KURUKSHETRA	D/C	0	2502	0.0	39.6	-39.6
35		CHAMPA-KURUKSHETRA V'CHAL B/B	D/C D/C	0 452			39.6 4.5	-39.6 -4.5
		CHAMPA-KURUKSHETRA			2502	0.0		
35		CHAMPA-KURUKSHETRA V'CHAL B/B	D/C	452 0 0	2502 102	0.0 0.0 0.0 0.0	4.5	-4.5
35 36 37 38		CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR	D/C D/C D/C D/C	452 0 0 0	2502 102 2108 2240 1263	0.0 0.0 0.0 0.0 0.0	4.5 39.4 40.3 23.8	-4.5 -39.4 -40.3 -23.8
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	452 0 0 0 0	2502 102 2108 2240 1263 854	0.0 0.0 0.0 0.0 0.0 0.0	4.5 39.4 40.3 23.8 30.0	-4.5 -39.4 -40.3 -23.8 -30.0
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	452 0 0 0 0 0 0 294	2502 102 2108 2240 1263 854 0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 5.1	4.5 39.4 40.3 23.8 30.0 0.0	-4.5 -39.4 -40.3 -23.8 -30.0 5.1
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	452 0 0 0 0 0 0 294 0	2502 102 2108 2240 1263 854 0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 5.1 0.0	4.5 39.4 40.3 23.8 30.0 0.0 30.2	-4.5 -39.4 -40.3 -23.8 -30.0 5.1 -30.2
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	452 0 0 0 0 0 294 0 0	2502 102 2108 2240 1263 854 0 1465 1244	0.0 0.0 0.0 0.0 0.0 0.0 0.0 5.1 0.0	4.5 39.4 40.3 23.8 30.0 0.0 30.2 15.4	-4.5 -39.4 -40.3 -23.8 -30.0 5.1 -30.2 -15.4
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 S/C	452 0 0 0 0 0 294 0 0 70	2502 102 2108 2240 1263 854 0 1465 1244 185	0.0 0.0 0.0 0.0 0.0 0.0 0.0 5.1 0.0 0.0	4.5 39.4 40.3 23.8 30.0 0.0 30.2 15.4 1.2	-4.5 -39.4 -40.3 -23.8 -30.0 5.1 -30.2 -15.4 -0.9
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 D/C	452 0 0 0 0 0 294 0 0	2502 102 2108 2240 1263 854 0 1465 1244	0.0 0.0 0.0 0.0 0.0 0.0 0.0 5.1 0.0	4.5 39.4 40.3 23.8 30.0 0.0 30.2 15.4	-4.5 -39.4 -40.3 -23.8 -30.0 5.1 -30.2 -15.4 -0.9 -1.8
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 D/C S/C S/C S/C S/C S/C S/C S/C	452 0 0 0 0 0 294 0 0 0 70 45	2502 102 2108 2240 1263 854 0 1465 1244 185 248	0.0 0.0 0.0 0.0 0.0 0.0 0.0 5.1 0.0 0.0 0.2	4.5 39.4 40.3 23.8 30.0 0.0 30.2 15.4 1.2	-4.5 -39.4 -40.3 -23.8 -30.0 5.1 -30.2 -15.4 -0.9
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 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	452 0 0 0 0 0 294 0 0 70 45 984	2502 102 2108 2240 1263 854 0 1465 1244 185 248	0.0 0.0 0.0 0.0 0.0 0.0 0.0 5.1 0.0 0.0 0.2 0.1 22.8	4.5 39.4 40.3 23.8 30.0 0.0 30.2 15.4 1.2 1.8 0.0	-4.5 -39.4 -40.3 -23.8 -30.0 5.1 -30.2 -15.4 -0.9 -1.8 22.8
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 D/C	452 0 0 0 0 0 294 0 0 70 45 984 0	2502 102 2108 2240 1263 854 0 1465 1244 185 248 0 417	0.0 0.0 0.0 0.0 0.0 0.0 0.0 5.1 0.0 0.0 0.2 0.1 22.8	4.5 39.4 40.3 23.8 30.0 0.0 30.2 15.4 1.2 1.8 0.0 3	-4.5 -39.4 -40.3 -23.8 -30.0 5.1 -30.2 -15.4 -0.9 -1.8 22.8 -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 CHITTORGARH-BANASKANTHA 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	452 0 0 0 0 0 294 0 0 70 45 984 0 7	2502 102 2108 2240 1263 854 0 1465 1244 1885 248 0 417 58	0.0 0.0 0.0 0.0 0.0 0.0 0.0 5.1 0.0 0.0 0.2 0.1 22.8 0	4.5 39.4 40.3 23.8 30.0 0.0 30.2 15.4 1.2 1.8 0.0 3	-4.5 -39.4 -40.3 -23.8 -30.0 5.1 -30.2 -15.4 -0.9 -1.8 22.8 -3 -0.5
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 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	452 0 0 0 0 294 0 0 70 45 984 0 7	2502 102 2108 2240 1263 854 0 1465 1244 1885 248 0 417 58 97	0.0 0.0 0.0 0.0 0.0 0.0 0.0 5.1 0.0 0.0 0.2 0.1 22.8 0 0.0	4.5 39.4 40.3 23.8 30.0 0.0 30.2 15.4 1.2 1.8 0.0 3	-4.5 -39.4 -40.3 -23.8 -30.0 5.1 -30.2 -15.4 -0.9 -1.8 22.8 -3 -0.5 -1.3
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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	452 0 0 0 0 294 0 0 70 45 984 0 7 0 64	2502 102 2108 2240 1263 854 0 1465 1244 185 248 0 417 58 97 20 50 0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	4.5 39.4 40.3 23.8 30.0 0.0 30.2 15.4 1.2 1.8 0.0 3 0.5 1.3 0.1	-4.5 -39.4 -40.3 -23.8 -30.0 5.1 -30.2 -15.4 -0.9 -1.8 22.8 -3 -0.5 -1.3 0.3 -0.4 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-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	452 0 0 0 0 294 0 0 70 45 984 0 7 0 64 26	2502 102 2108 2240 1263 854 0 1465 1244 185 248 0 417 58 97 20 50	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	4.5 39.4 40.3 23.8 30.0 0.0 30.2 15.4 1.2 1.8 0.0 3 0.5 1.3 0.1	-4.5 -39.4 -40.3 -23.8 -30.0 5.1 -30.2 -15.4 -0.9 -1.8 -22.8 -3 -0.5 -1.3 -0.3 -0.4
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 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 GWALIOR-SAWAI MADHOPUR WR (With SR)	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	452 0 0 0 0 0 294 0 0 70 45 984 0 7 0 64 26 0	2502 102 2108 2240 1263 854 0 1465 1244 185 248 0 417 58 97 20 50 0 WR-NR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 5.1 0.0 0.2 0.1 22.8 0 0.0 0.0 0.0 0.2 0.1 22.8	4.5 39.4 40.3 23.8 30.0 0.0 30.2 15.4 1.2 1.8 0.0 3 0.5 1.3 0.1 0.4 0.0 231.5	-4.5 -39.4 -40.3 -23.8 -30.0 5.1 -30.2 -15.4 -0.9 -1.8 22.8 -3 -0.5 -1.3 0.3 -0.4 0.0 -202.9
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-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	452 0 0 0 0 0 294 0 0 70 45 984 0 7 0 64 26 0	2502 102 2108 2240 1263 854 0 1465 1244 185 248 0 417 58 97 20 50 0 WR-NR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	4.5 39.4 40.3 23.8 30.0 0.0 30.2 15.4 1.2 1.8 0.0 3 0.5 1.3 0.1 0.4 0.0 231.5	-4.5 -39.4 -40.3 -23.8 -30.0 5.1 -30.2 -15.4 -0.9 -1.8 22.8 -3 -0.5 -1.3 0.3 -0.4 0.0 -202.9
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	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	452 0 0 0 0 0 294 0 0 70 45 984 0 7 0 64 26 0	2502 102 2108 2240 1263 854 0 1465 1244 185 248 0 417 58 97 20 50 0 WR-NR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	4.5 39.4 40.3 23.8 30.0 0.0 30.2 15.4 1.2 1.8 0.0 3 0.5 1.3 0.1 0.4 0.0 231.5	-4.5 -39.4 -40.3 -23.8 -30.0 5.1 -30.2 -15.4 -0.9 -1.8 22.8 -3 -0.5 -1.3 0.3 -0.4 -0.0 -202.9
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	CHAMPA-KURUKSHETRA 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) 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	452 0 0 0 0 0 294 0 0 70 45 984 0 7 0 64 26 0	2502 102 2108 2240 1263 854 0 1465 1244 185 248 0 417 58 97 20 50 0 WR-NR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	4.5 39.4 40.3 23.8 30.0 0.0 30.2 15.4 1.2 1.8 0.0 3 0.5 1.3 0.1 0.4 0.0 231.5 4.9 0.0 4.5	-4.5 -39.4 -40.3 -23.8 -30.0 5.1 -30.2 -15.4 -0.9 -1.8 22.8 -3 -0.5 -1.3 0.3 -0.4 0.0 -202.9
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-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	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	452 0 0 0 0 0 294 0 0 70 45 984 0 7 0 64 26 0 0 0	2502 102 2108 2240 1263 854 0 1465 1244 185 248 0 417 58 97 20 50 0 WR-NR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	4.5 39.4 40.3 23.8 30.0 0.0 30.2 15.4 1.2 1.8 0.0 3 0.5 1.3 0.1 0.4 0.0 231.5 4.9 0.0 4.5 20.2	-4.5 -39.4 -40.3 -23.8 -30.0 5.1 -30.2 -15.4 -0.9 -1.8 22.8 -3 -0.5 -1.3 0.3 -0.4 -0.0 -202.9
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 <b>Import/E</b> 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 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 BHASPUR-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 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	452 0 0 0 0 294 0 0 0 70 45 984 0 7 0 64 26 0 0 0 7 0 64 26 0 0	2502 102 2108 2240 1263 854 0 1465 1244 185 248 0 417 58 97 20 50 0 WR-NR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	4.5 39.4 40.3 23.8 30.0 0.0 30.2 15.4 1.2 1.8 0.0 3 0.5 1.3 0.1 0.4 0.0 231.5 4.9 0.0 4.5 20.2	-4.5 -39.4 -40.3 -23.8 -30.0 5.1 -30.2 -15.4 -0.9 -1.8 22.8 -3 -0.5 -1.3 0.3 -0.4 0.0 -202.9
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/F 52 53 54 55	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	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	452 0 0 0 0 0 294 0 0 70 45 984 0 7 0 64 26 0 0 0	2502 102 2108 2240 1263 854 0 1465 1244 185 248 0 417 58 97 20 50 0 WR-NR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	4.5 39.4 40.3 23.8 30.0 0.0 30.2 15.4 1.2 1.8 0.0 3 0.5 1.3 0.1 0.4 0.0 231.5 4.9 0.0 4.5 20.2	-4.5 -39.4 -40.3 -23.8 -30.0 5.1 -30.2 -15.4 -0.9 -1.8 22.8 -3 -0.5 -1.3 0.3 -0.4 -0.0 -202.9
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 <b>Import/F</b> 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) 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 S/C D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	452 0 0 0 0 294 0 0 70 45 984 0 7 0 64 26 0 0 0 7 0 64 26 0 0	2502 102 2108 2240 1263 854 0 1465 1244 185 248 0 417 58 97 20 50 0 WR-NR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	4.5 39.4 40.3 23.8 30.0 0.0 30.2 15.4 1.2 1.8 0.0 3 0.5 1.3 0.1 0.4 0.0 231.5 4.9 0.0 4.5 20.2 0.0 0.0	-4.5 -39.4 -40.3 -23.8 -30.0 5.1 -30.2 -15.4 -0.9 -1.8 22.8 -3 -0.5 -1.3 0.3 -0.4 0.0 -202.9
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	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 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 D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	452 0 0 0 0 0 294 0 0 70 45 984 0 7 0 64 26 0 0 0 0 7 0 64 26 0 0	2502 102 2108 2240 1263 854 0 1465 1244 185 248 0 417 58 97 20 50 0 WR-NR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	4.5 39.4 40.3 23.8 30.0 0.0 30.2 15.4 1.2 1.8 0.0 3 0.5 1.3 0.1 0.4 0.0 231.5 4.9 0.0 4.5 20.2 0.0 0.0 0.0 0.0 0.0 0.0 0.	-4.5 -39.4 -40.3 -23.8 -30.0 5.1 -30.2 -15.4 -0.9 -1.8 -22.8 -3 -0.5 -1.3 -0.3 -0.4 -0.0 -202.9 -4.9 -0.0 -0.3 -20.2 -11.7 -0.0 -1.2
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 <b>Import/F</b> 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-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	452 0 0 0 0 0 294 0 0 7 0 45 984 0 7 0 64 26 0 0 0 0 0 0 7 0 64 26 0 0 0 0 0 0 0 0 0 0 0 0 0	2502 102 2108 2240 1263 854 0 1465 1244 185 248 0 417 58 97 20 50 0 WR-NR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	4.5 39.4 40.3 23.8 30.0 0.0 30.2 15.4 1.2 1.8 0.0 3 0.5 1.3 0.1 0.4 0.0 231.5 4.9 0.0 4.5 20.2 0.0 0.0 0.0 0.0 0.0 0.0 0.	-4.5 -39.4 -40.3 -23.8 -30.0 5.1 -30.2 -15.4 -0.9 -1.8 -22.8 -3 -0.5 -1.3 -0.3 -0.4 -0.0 -202.9 -4.9 -0.0 -0.3 -20.2 -11.7 -0.0 -1.2 -0.7
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 <b>Import/F</b> 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-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	452 0 0 0 0 0 294 0 0 70 45 984 0 7 0 64 26 0 0 0 0 7 0 64 26 0 0	2502 102 2108 2240 1263 854 0 1465 1244 185 248 0 417 58 97 20 50 0 WR-NR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	4.5 39.4 40.3 23.8 30.0 0.0 30.2 15.4 1.2 1.8 0.0 3 0.5 1.3 0.1 0.4 0.0 231.5 4.9 0.0 4.5 20.2 0.0 0.0 0.0 0.0 0.0 0.0 0.	-4.5 -39.4 -40.3 -23.8 -30.0 5.1 -30.2 -15.4 -0.9 -1.8 -22.8 -3 -0.5 -1.3 -0.3 -0.4 -0.0 -202.9 -4.9 -0.0 -0.3 -20.2 -11.7 -0.0 -1.2 -0.7
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 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 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 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	452 0 0 0 0 0 294 0 0 7 0 45 984 0 7 0 64 26 0 0 0 0 0 0 7 0 64 26 0 0 0 0 0 0 0 0 0 0 0 0 0	2502 102 2108 2240 1263 854 0 1465 1244 185 248 0 417 58 97 20 50 0 WR-NR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	4.5 39.4 40.3 23.8 30.0 0.0 30.2 15.4 1.2 1.8 0.0 3 0.5 1.3 0.1 0.4 0.0 231.5 4.9 0.0 4.5 20.2 0.0 0.0 0.0 0.0 0.0 0.0 0.	-4.5 -39.4 -40.3 -23.8 -30.0 5.1 -30.2 -15.4 -0.9 -1.8 -22.8 -3 -0.5 -1.3 -0.3 -0.4 -0.0 -202.9 -4.9 -0.0 -0.3 -20.2 -11.7 -0.0 -1.2 -0.7 -14.2