

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

Ref: POSOCO/NLDC/SO/Daily PSP Report

दिनांक: 21th Oct 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. 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.,29 , रेस कोर्स क्रॉस रोड, बंगलुरु -560009 Executive Director, SRLDC, 29, Race Course Cross Road, Bangalore-560009

Sub: Daily PSP Report for the date 20.10.2019.

महोदय/Dear Sir,

आई॰ई॰जी॰सी॰-2010 की धारा स.-5.5.1 के प्रावधान के अनुसार, दिनांक 20-अक्टूबर-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 20th Oct 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 21-Oct-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 1900 hrs; from RLDCs)	43117	43747	33073	20037	2627	142601
Peak Shortage (MW)	528	0	0	0	97	625
Energy Met (MU)	924	997	749	415	48	3134
Hydro Gen (MU)	158	47	97	94	12	407
Wind Gen (MU)	14	33	19			65
Solar Gen (MU)*	26.50	14.62	62.49	1.71	0.04	105
Energy Shortage (MU)	15.0	0.0	0.0	0.0	1.7	16.7
Maximum Demand Met during the day	44468	44854	33629	20624	2715	145564
(MW) & time (from NLDC SCADA)	19:15	18:47	18:43	18:52	18:47	18:43

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 0.027 79.91

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	5210	0	110.9	58.8	-1.4	94	0.0
	Haryana	6499	0	137.5	99.3	0.0	143	0.0
NR	Rajasthan	9676	0	202,2	63.3	-2.7	374	0.0
	Delhi	3595	0	75.3	59.5	-1.1	55	0.0
	UP	15397	0	299.3	131.2	1.9	570	4.0
	Uttarakhand	1548	0	31.8	16.1	0.4	208	0.0
	HP	1285	0	23.7	10.9	1.0	186	1.5
	J&K	2292	573	40.0	32.1	-1.1	201	9.5
	Chandigarh	181	0	3.3	3.4	-0.1	19	0.0
	Chhattisgarh	3230	0	75.7	25.9	-1.5	158	0.0
	Gujarat	15334	0	343.1	87.0	2.5	370	0.0
	MP	7813	0	168.1	114.6	-2,2	249	0.0
WR	Maharashtra	16971	0	368.4	122.6	-5.5	427	0.0
WK	Goa	541	0	10.8	10.4	-0.2	80	0.0
	DD	311	0	7.2	6.6	0.6	48	0.0
	DNH	770	0	18.1	18.2	-0.1	27	0.0
	Essar steel	312	0	5.9	5.7	0.2	266	0.0
	Andhra Pradesh	6836	0	149.7	63.2	-0.9	376	0.0
	Telangana	6529	0	142.9	47.6	-2.4	451	0.0
SR	Karnataka	7131	0	138.3	24.4	-0.7	518	0.0
JI.	Kerala	3026	0	61.8	45.0	0.9	219	0.0
	Tamil Nadu	11497	0	249.8	133.4	-1.6	381	0.0
	Pondy	334	0	6.6	7.1	-0.5	46	0.0
	Bihar	4627	0	83.8	83.5	-2.0	205	0.0
	DVC	2917	0	61.6	-26.1	0.1	210	0.0
ER	Jharkhand	1035	0	22.3	18.6	-1.8	50	0.0
LIV	Odisha	4597	0	90.4	17.6	7.4	520	0.0
	West Bengal	7753	0	156.5	45.6	2.5	280	0.0
	Sikkim	87	0	0.8	1.3	-0.5	15	0.0
	Arunachal Pradesh	108	1	2.1	2.0	-0.1	9	0.0
	Assam	1675	90	29.1	23.3	0.6	131	1.7
	Manipur	156	2	2,2	2.3	-0.1	25	0.0
NER	Meghalaya	317	0	6.0	2.8	0.2	43	0.0
	Mizoram	87	2	1.8	0.4	1.0	43	0.0
	Nagaland	133	1	1.9	2.2	-0.6	41	0.0
	Tripura	280	1	4.9	3.6	0.7	32	0.0

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

	Bhutan	Nepal	Bangladesh
Actual(MU)	24.5	-1.9	-26.4
Day peak (MW)	1050.0	-231.7	-1143.0

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

	NR	WR	SR	ER	NER	TOTAL
Schedule(MU)	208.9	-219.1	55.5	-55.8	8.6	-1.9
Actual(MU)	202.0	-231.7	60.7	-45.4	13.0	-1.3
O/D/U/D(MU)	-6.9	-12.6	5.3	10.5	4.4	0.6

F. Generation Outage(MW)

	NR	WR	SR	ER	NER	Total
Central Sector	2631	15656	8652	1970	910	29819
State Sector	9616	16945	10003	5160	11	41735
Total	12247	32601	18655	7130	922	71554

G. Sourcewise generation (MU)

	NR	WR	SR	ER	NER	All India
Coal	466	1027	373	386	7	2259
Lignite	16	13	52	0	0	82
Hydro	158	47	97	94	12	407
Nuclear	28	29	46	0	0	103
Gas, Naptha & Diesel	26	65	15	0	22	128
RES (Wind, Solar, Biomass & Others)	50	51	112	2	0	215
Total Total	743	1233	696	481	41	3194

Share of RES in total generation (%)	6.71	4.13	16.15	0.37	0.10	6.73
Share of Non-fossil fuel (Hydro, Nuclear and RES) in total generation (%)	31.67	10.31	36.76	19.80	28.95	22.71

H. Diversity Factor All India Demand Diversity Factor

All India Demand Diversity Factor 1.005

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

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

		<u>IN'</u>	TER-REGIO	ONAL EXCH	ANGES	Date of I	Reporting :	21-Oct-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)						
2	765kV	GAYA-VARANASI SASARAM-FATEHPUR	D/C S/C	182	357 79	0.0 1.5	4.5 0.0	-4.5 1.5
3	70511	GAYA-BALIA	S/C	0	347	0.0	5.7	-5.7
4	HVDC	ALIPURDUAR-AGRA	-	0	701	0.0	15.8	-15.8
5		PUSAULI B/B	S/C	0	198	0.0	4.9	-4.9
6 7	_	PUSAULI-VARANASI PUSAULI -ALLAHABAD	S/C S/C	0	187 85	0.0	3.8 1.0	-3.8 -1.0
8	-	MUZAFFARPUR-GORAKHPUR	D/C	30	502	0.0	3.7	-3.7
9	400 kV	PATNA-BALIA	Q/C	0	876	0.0	13.4	-13.4
10		BIHARSHARIFF-BALIA	D/C	0	232	0.0	1.8	-1.8
11		MOTIHARI-GORAKHPUR	D/C	0	9	0.0	0.0	0.0
12		BIHARSHARIFF-VARANASI	D/C	208	72	2.6	0.0	2.6
13	220 kV	PUSAULI-SAHUPURI	S/C	0	138	0.0	2.6	-2.6
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 KARMANASA-CHANDAULI	S/C S/C	0	0	0.0	0.0	0.0
1 /	1	IN INITIALIANA CHANDAULI	3/C	U	ER-NR	4.5	57.0	-52.5
Import/I	Export of	ER (With WR)					57.0	1 02.0
18	1	JHARSUGUDA-DHARAMJAIGARH	Q/C	1709	0	29.5	0.0	29.5
	765 kV							
19 20	1	NEW RANCHI-DHARAMJAIGARH JHARSUGUDA-DURG	D/C D/C	1118 233	0	17.2 3.7	0.0	17.2 3.7
21	400 1 7	JHARSUGUDA-RAIGARH	Q/C	275	28	3.5	0.0	3.5
22	400 kV	RANCHI-SIPAT	D/C	405	0	6.0	0.0	6.0
23	220 kV	BUDHIPADAR-RAIGARH	S/C	23	49	0.0	0.3	-0.3
24	220 11.	BUDHIPADAR-KORBA	D/C	181	0	3.6	0.0	3.6
*		ED (WILL CD)			ER-WR	63.5	0.3	63.2
	<u> </u>	ER (With SR)	D/G	0.0	1560.0	0.0	22.2	22.2
25 26	765 kV HVDC	ANGUL-SRIKAKULAM JEYPORE-GAZUWAKA B/B	D/C D/C	0.0	1568.0 482.0	0.0	23.3	-23.3 -11.1
27	LINK	TALCHER-KOLAR BIPOLE	D/C	0.0	1187.0	0.0	28.9	-28.9
28	400 kV	TALCHER-I/C	D/C	298.0	205.0	0.0	3.0	-3.0
29	220 kV	BALIMELA-UPPER-SILERRU	S/C	1.0	0.0	0.0	0.0	0.0
					ER-SR	0.0	63.3	-63.3
Import/I	Export of	ER (With NER)						
30	400 kV	BINAGURI-BONGAIGAON	D/C	0	615	0.0	11.1	-11
31		ALIPURDUAR-BONGAIGAON	D/C	0	467	0.0	8.4	-8
32	220 kV	ALIPURDUAR-SALAKATI	D/C	0	138 ER-NER	0.0	2.5	-3 -22.0
Import/F	Export of	NER (With NR)			EK-IVEK	0.0	22.0	-22.0
33	HVDC	BISWANATH CHARIALI-AGRA	-	0	503	0.0	10.6	-10.6
					NER-NR			10.6
					11214-1114	0.0	10.6	-10.6
Import/I	Export of	WR (With NR)			HER-IN	0.0	10.6	-10.6
Import/I	Export of	WR (With NR) CHAMPA-KURUKSHETRA	D/C	0	751	0.0	13.5	-13.5
34 35	Export of HVDC	CHAMPA-KURUKSHETRA V'CHAL B/B	D/C	449	751 0	0.0 12.1	13.5	-13.5 12.1
34 35 36	Ĺ	CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG	D/C D/C	449 0	751 0 1553	0.0 12.1 0.0	13.5 0.0 38.9	-13.5 12.1 -38.9
34 35 36 37	Ĺ	CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG GWALIOR-AGRA	D/C D/C D/C	0 0	751 0 1553 2237	0.0 12.1 0.0 0.0	13.5 0.0 38.9 42.6	-13.5 12.1 -38.9 -42.6
34 35 36 37 38	Ĺ	CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR	D/C D/C D/C D/C	0 0 0	751 0 1553 2237 1008	0.0 12.1 0.0 0.0 0.0	13.5 0.0 38.9 42.6 19.6	-13.5 12.1 -38.9 -42.6 -19.6
34 35 36 37 38 39	Ĺ	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	0 0 0 0 0	751 0 1553 2237 1008 761	0.0 12.1 0.0 0.0 0.0 0.0	13.5 0.0 38.9 42.6 19.6 30.5	-13.5 12.1 -38.9 -42.6 -19.6 -30.5
34 35 36 37 38	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	0 0 0	751 0 1553 2237 1008 761 0	0.0 12.1 0.0 0.0 0.0	13.5 0.0 38.9 42.6 19.6 30.5 0.0	-13.5 12.1 -38.9 -42.6 -19.6
34 35 36 37 38 39 40	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	449 0 0 0 0 0 0 366	751 0 1553 2237 1008 761	0.0 12.1 0.0 0.0 0.0 0.0 0.0 7.5	13.5 0.0 38.9 42.6 19.6 30.5	-13.5 12.1 -38.9 -42.6 -19.6 -30.5 7.5
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	449 0 0 0 0 0 0 366 0	751 0 1553 2237 1008 761 0	0.0 12.1 0.0 0.0 0.0 0.0 0.0 7.5	13.5 0.0 38.9 42.6 19.6 30.5 0.0 28.7	-13.5 12.1 -38.9 -42.6 -19.6 -30.5 7.5 -28.7
34 35 36 37 38 39 40 41 42	HVDC - 765 kV	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	449 0 0 0 0 0 0 366 0 25	751 0 1553 2237 1008 761 0 1306 599	0.0 12.1 0.0 0.0 0.0 0.0 7.5 0.0	13.5 0.0 38.9 42.6 19.6 30.5 0.0 28.7 4.4	-13.5 12.1 -38.9 -42.6 -19.6 -30.5 7.5 -28.7 -4.4
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	D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C	449 0 0 0 0 0 366 0 25 83	751 0 1553 2237 1008 761 0 1306 599 57	0.0 12.1 0.0 0.0 0.0 0.0 7.5 0.0 0.0	13.5 0.0 38.9 42.6 19.6 30.5 0.0 28.7 4.4 0.1	-13.5 12.1 -38.9 -42.6 -19.6 -30.5 7.5 -28.7 -4.4 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 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	449 0 0 0 0 366 0 25 83 105 981 0	751 0 1553 2237 1008 761 0 1306 599 57 190 0	0.0 12.1 0.0 0.0 0.0 0.0 7.5 0.0 0.0 0.7 0.6 22.6	13.5 0.0 38.9 42.6 19.6 30.5 0.0 28.7 4.4 0.1 1.1 0.0 4	-13.5 12.1 -38.9 -42.6 -19.6 -30.5 7.5 -28.7 -4.4 0.6 -0.5 22.6 -4
34 35 36 37 38 39 40 41 42 43 44 45 46 47	HVDC - 765 kV	CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI ZERDA-KANKROLI ZERDA -BHINMAL V'CHAL -RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR	D/C D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	449 0 0 0 0 366 0 25 83 105 981 0 23	751 0 1553 2237 1008 761 0 1306 599 57 190 0 285 49	0.0 12.1 0.0 0.0 0.0 0.0 7.5 0.0 0.0 0.7 0.6 0.7 0.6 0.0 0.0	13.5 0.0 38.9 42.6 19.6 30.5 0.0 28.7 4.4 0.1 1.1 0.0 4	-13.5 12.1 -38.9 -42.6 -19.6 -30.5 7.5 -28.7 -4.4 0.6 -0.5 22.6 -4 -0.7
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48	HVDC - 765 kV	CHAMPA-KURUKSHETRA VCHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI 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	449 0 0 0 0 366 0 25 83 105 981 0 23	751 0 1553 2237 1008 761 0 1306 599 57 190 0 285 49	0.0 12.1 0.0 0.0 0.0 0.0 7.5 0.0 0.0 0.7 0.6 22.6 0	13.5 0.0 38.9 42.6 19.6 30.5 0.0 28.7 4.4 0.1 1.1 0.0 4 0.7 1.1	-13.5 12.1 -38.9 -42.6 -19.6 -30.5 7.5 -28.7 -4.4 0.6 -0.5 22.6 -4 -0.7 -1.1
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49	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 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	449 0 0 0 0 366 0 25 83 105 981 0 23 0 46	751 0 1553 2237 1008 761 0 1306 599 57 190 0 285 49 80	0.0 12.1 0.0 0.0 0.0 0.0 7.5 0.0 0.0 0.7 0.6 22.6 0 0.0 0.0 0.0	13.5 0.0 38.9 42.6 19.6 30.5 0.0 28.7 4.4 0.1 1.1 0.0 4 0.7	-13.5 12.1 -38.9 -42.6 -19.6 -30.5 7.5 -28.7 -4.4 0.6 -0.5 -22.6 -4 -0.7 -1.1
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 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	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	449 0 0 0 0 366 0 25 83 105 981 0 23 0 46 11	751 0 1553 2237 1008 761 0 1306 599 57 190 0 285 49 80 12	0.0 12.1 0.0 0.0 0.0 0.0 7.5 0.0 0.0 0.7 0.6 22.6 0 0.0 0.0 0.0 0.0 0.0	13.5 0.0 38.9 42.6 19.6 30.5 0.0 28.7 4.4 0.1 1.1 0.0 4 0.7 1.1	-13.5 12.1 -38.9 -42.6 -19.6 -30.5 7.5 -28.7 -4.4 0.6 -0.5 -2.6 -4 -0.7 -1.1 0.2 -0.5
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49	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 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	449 0 0 0 0 366 0 25 83 105 981 0 23 0 46	751 0 1553 2237 1008 761 0 1306 599 57 190 0 285 49 80 12 41	0.0 12.1 0.0 0.0 0.0 0.0 7.5 0.0 0.0 0.7 0.6 22.6 0 0.0 0.0 0.0	13.5 0.0 38.9 42.6 19.6 30.5 0.0 28.7 4.4 0.1 1.1 0.0 4 0.7	-13.5 12.1 -38.9 -42.6 -19.6 -30.5 7.5 -28.7 -4.4 0.6 -0.5 -22.6 -4 -0.7 -1.1
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	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	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	449 0 0 0 0 366 0 25 83 105 981 0 23 0 46 11	751 0 1553 2237 1008 761 0 1306 599 57 190 0 285 49 80 12	0.0 12.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	13.5 0.0 38.9 42.6 19.6 30.5 0.0 28.7 4.4 0.1 1.1 0.0 4 0.7 1.1 0.0 0.5 0.0	-13.5 12.1 -38.9 -42.6 -19.6 -30.5 7.5 -28.7 -4.4 0.6 -0.5 22.6 -4 -0.7 -1.1 0.2 -0.5 0.0
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-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	449 0 0 0 0 366 0 25 83 105 981 0 23 0 46 11	751 0 1553 2237 1008 761 0 1306 599 57 190 0 285 49 80 12 41	0.0 12.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	13.5 0.0 38.9 42.6 19.6 30.5 0.0 28.7 4.4 0.1 1.1 0.0 4 0.7 1.1 0.0 0.5 0.0	-13.5 12.1 -38.9 -42.6 -19.6 -30.5 7.5 -28.7 -4.4 0.6 -0.5 22.6 -4 -0.7 -1.1 0.2 -0.5 0.0
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 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 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	449 0 0 0 0 366 0 25 83 105 981 0 23 0 46 11	751 0 1553 2237 1008 761 0 1306 599 57 190 0 285 49 80 12 41 0 WR-NR	0.0 12.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.7 0.6 22.6 0 0.0 0.0 0.0 0.2 0.0 0.0 0.0 43.7	13.5 0.0 38.9 42.6 19.6 30.5 0.0 28.7 4.4 0.1 1.1 0.0 4 0.7 1.1 0.0 0.5 0.0	-13.5 12.1 -38.9 -42.6 -19.6 -30.5 7.5 -28.7 -4.4 0.6 -0.5 22.6 -4 -0.7 -1.1 0.2 -0.5 0.0 -141.3
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 - 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-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	449 0 0 0 0 366 0 25 83 105 981 0 23 0 46 11	751 0 1553 2237 1008 761 0 1306 599 57 190 0 285 49 80 12 41 0 WR-NR	0.0 12.1 0.0 0.0 0.0 0.0 7.5 0.0 0.0 0.7 0.6 0.2.6 0 0.0 0.0 0.2 0.0 0.43.7	13.5 0.0 38.9 42.6 19.6 30.5 0.0 28.7 4.4 0.1 0.0 4 0.7 1.1 0.0 0.5 0.0 0.7 1.1 0.0 0.5 0.0 0.7 1.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0	-13.5 12.1 -38.9 -42.6 -19.6 -30.5 7.5 -28.7 -4.4 0.6 -0.5 -2.2 -4 -0.7 -1.1 0.2 -0.5 0.0 -141.3
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/F 52 53	HVDC - 765 kV - 400 kV - 220 kV - 132kV Export of 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-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	449 0 0 0 0 366 0 25 83 105 981 0 23 0 46 11 0	751 0 1553 2237 1008 761 0 1306 599 57 190 0 285 49 80 12 41 0 WR-NR	0.0 12.1 0.0 0.0 0.0 0.0 7.5 0.0 0.0 0.7 0.6 0.0 0.0 0.7 0.6 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	13.5 0.0 38.9 42.6 19.6 30.5 0.0 28.7 4.4 0.1 1.1 0.0 4 0.7 1.1 0.0 0.5 0.5 0.7 1.1 0.0 0.5 0.0 0.7 1.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0	-13.5 12.1 -38.9 -42.6 -19.6 -30.5 7.5 -28.7 -4.4 0.6 -0.5 -2.6 -4 -0.7 -1.1 0.2 -0.5 0.0 -141.3
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	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) BHASPUR-LSILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD KOLHAPUR-RUDGI	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	449 0 0 0 0 366 0 25 83 105 981 0 23 0 46 11 0	751 0 1553 2237 1008 761 0 1306 599 57 190 0 285 49 80 12 41 0 WR-NR	0.0 12.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.7 0.6 22.6 0 0.0 0.0 0.2 0.0 0.0 43.7	13.5 0.0 38.9 42.6 19.6 30.5 0.0 28.7 4.4 0.1 1.1 0.0 4 0.7 1.1 0.0 0.5 0.0 185.0 7.3 0.0 5.5 23.3 0.0	-13.5 12.1 -38.9 -42.6 -19.6 -30.5 7.5 -28.7 -4.4 0.6 -0.5 -0.7 -1.1 0.2 -0.5 0.0 -141.3 -7.3 0.0 -5.5 -23.3 11.0
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 57	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-MORAK MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHADRAWATI B/B BHASWATI B/B BHASWATI B/B BHASWALIOR-SAWAI MADHOPUR WR (With SR) BHADRAWATI B/B	D/C D/C D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C S/C S/C S/C D/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	449 0 0 0 0 366 0 25 83 105 981 0 23 0 46 11 0	751 0 1553 2237 1008 761 0 1306 599 57 190 0 285 49 80 12 41 0 WR-NR	0.0 12.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.7 0.6 22.6 0 0.0 0.0 0.2 0.0 0.0 43.7	13.5 0.0 38.9 42.6 19.6 30.5 0.0 28.7 4.4 0.1 1.1 0.0 4 0.7 1.1 0.0 185.0 7.3 0.0 185.0	-13.5 12.1 -38.9 -42.6 -19.6 -30.5 7.5 -28.7 -4.4 0.6 -0.5 22.6 -4 -0.7 -1.1 0.2 -0.5 0.0 -141.3 -7.3 0.0 -5.5 -23.3 11.0 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 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-WARMA 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	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	449 0 0 0 0 0 366 0 25 83 105 981 0 0 46 11 0 0 701 0 0	751 0 1553 2237 1008 761 0 1306 599 57 190 0 285 49 80 12 41 0 WR-NR	0.0 12.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	13.5 0.0 38.9 42.6 19.6 30.5 0.0 28.7 4.4 0.1 1.0 0.7 1.1 0.0 0.5 0.0 1.1 0.0 0.5 0.0 1.1 0.0 0.5 0.0 0.0 0.0 0.0 0.0 0.0	-13.5 12.1 -38.9 -42.6 -19.6 -30.5 7.5 -28.7 -4.4 0.6 -0.5 -22.6 -4 -0.7 -1.1 0.2 -0.5 0.0 -141.3 -7.3 0.5 -23.3 11.0 0.0 -1.2
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 57	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-MORAK MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHADRAWATI B/B BHASWATI B/B BHASWATI B/B BHASWALIOR-SAWAI MADHOPUR WR (With SR) BHADRAWATI B/B	D/C D/C D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C S/C S/C S/C D/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	449 0 0 0 0 366 0 25 83 105 981 0 23 0 46 11 0	751 0 1553 2237 1008 761 0 1306 599 57 190 0 285 49 80 12 41 0 WR-NR 525 0 1168 1662 0 0 62 39	0.0 12.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	13.5 0.0 38.9 42.6 19.6 30.5 0.0 28.7 4.4 0.1 1.0 0.5 0.0 1.1 0.0 0.5 1.1 0.0 0.5 1.1 0.0 0.5 1.1 0.0 0.5 1.1 0.0 0.0 1.1 0.0 0.0 1.1 0.0 0.0	-13.5 12.1 -38.9 -42.6 -19.6 -30.5 7.5 -28.7 -4.4 0.6 -22.6 -4 -0.7 -1.1 0.2 -0.5 -0.0 -141.3 -7.3 0.0 -5.5 -23.3 11.0 0.0 -1.2 0.7
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 51 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 SATTNA-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR BHANPURA-RANPUR BHANPURA-WARIAM 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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	449 0 0 0 0 0 366 0 25 83 105 981 0 23 0 46 11 0 0 701 0 0 0 0	751 0 1553 2237 1008 761 0 1306 599 57 190 0 285 49 80 12 41 0 WR-NR 525 0 1168 1662 0 0 62 39 WR-SR	0.0 12.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	13.5 0.0 38.9 42.6 19.6 30.5 0.0 28.7 4.4 0.1 1.0 0.7 1.1 0.0 0.5 0.0 1.1 0.0 0.5 0.0 1.1 0.0 0.5 0.0 0.0 0.0 0.0 0.0 0.0	-13.5 12.1 -38.9 -42.6 -19.6 -30.5 7.5 -28.7 -4.4 0.6 -0.5 -22.6 -4 -0.7 -1.1 0.2 -0.5 0.0 -141.3 -7.3 0.0 -5.5 -23.3 11.0 0.0 -1.2
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 51 52 53 54 55 56 57 58 59	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 SATTNA-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR BHANPURA-RANPUR BHANPURA-WANDUR GWALIOR-ORAI MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHADRAWATI B/B BARSUR-L.SILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD 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 S/C S	449 0 0 0 0 0 366 0 25 83 105 981 0 0 46 11 0 0 701 0 0	751 0 1553 2237 1008 761 0 1306 599 57 190 0 285 49 80 12 41 0 WR-NR 525 0 1168 1662 0 0 62 39 WR-SR	0.0 12.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	13.5 0.0 38.9 42.6 19.6 30.5 0.0 28.7 4.4 0.1 1.0 0.5 0.0 1.1 0.0 0.5 1.1 0.0 0.5 1.1 0.0 0.5 1.1 0.0 0.5 1.1 0.0 0.0 1.1 0.0 0.0 1.1 0.0 0.0	-13.5 12.1 -38.9 -42.6 -49.6 -30.5 7.5 -28.7 -4.4 0.6 -20.6 -4 -0.7 -1.1 0.2 -0.5 -0.0 -141.3 -7.3 0.0 -5.5 -23.3 11.0 0.0 -1.2 0.7 -25.7
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 51 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 SATTNA-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR BHANPURA-RANPUR BHANPURA-WARIAM 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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	449 0 0 0 0 0 366 0 25 83 105 981 0 23 0 46 11 0 0 701 0 0 0 0	751 0 1553 2237 1008 761 0 1306 599 57 190 0 285 49 80 12 41 0 WR-NR 525 0 1168 1662 0 0 62 39 WR-SR	0.0 12.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	13.5 0.0 38.9 42.6 19.6 30.5 0.0 28.7 4.4 0.1 1.0 0.5 0.0 1.1 0.0 0.5 1.1 0.0 0.5 1.1 0.0 0.5 1.1 0.0 0.5 1.1 0.0 0.0 1.1 0.0 0.0 1.1 0.0 0.0	-13.5 12.1 -38.9 -42.6 -19.6 -30.5 7.5 -28.7 -4.4 0.6 -20.6 -4 -0.7 -1.1 0.2 -0.5 -0.0 -141.3 -7.3 0.0 -5.5 -23.3 11.0 0.0 -1.2 0.7