

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: 17th Feb 2020

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 16.02.2020.

महोदय/Dear Sir,

आई०ई०जी०सी०-2010 की धारा स.-5.5.1 के प्रावधान के अनुसार, दिनांक 16-फरवरी-2020 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 16th Feb 2020, 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 17-Feb-20

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)	44094	47805	40248	17798	2323	152268
Peak Shortage (MW)	611	0	0	0	34	645
Energy Met (MU)	961	1191	1026	354	40	3571
Hydro Gen (MU)	129	37	66	30	3	265
Wind Gen (MU)	2	35	45			81
Solar Gen (MU)*	42.69	27.30	102.14	1.54	0.04	174
Energy Shortage (MU)	12.7	0.0	0.0	0.0	0.7	13.5
Maximum Demand Met during the day (MW) & time	48915	56013	46107	18450	2439	168236
(from NLDC SCADA)	09:45	11:03	09:28	19:00	18:03	09:28

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	0.035	0.00	0.38	2.84	3.22	75.08	21.70

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	6138	0	126.9	82.1	-1.0	44	0.0
	Haryana	6323	0	129.1	82.2	0.5	249	0.0
	Rajasthan	13784	0	245.5	78.4	0.0	476	0.0
NR	Delhi	3813	0	61.1	45.2	-1.0	290	0.0
	UP	14671	0	286.6	125.3	0.2	575	0.7
	Uttarakhand	1849	0	34.3	15.0	-0.2	158	0.0
	HP	1474	0	25.2	17.6	0.8	298	0.0
	J&K(UT) and Ladakh(UT)	2442	611	48.8	45.5	0.4	229	12.1
	Chandigarh	201	0	3.2	3.2	0.0	48	0.0
	Chhattisgarh	3828	0	83.8	39.0	-0.2	255	0.0
	Gujarat	15622	0	335.0	94.1	2.1	497	0.0
	MP	14083	0	265.3	135.3	-3.2	802	0.0
WR	Maharashtra	22051	0	461.2	148.7	-0.2	635	0.0
WK	Goa	438	0	9.3	8.9	-0.1	30	0.0
	DD	295	0	6.8	6.3	0.5	42	0.0
	DNH	759	0	18.0	17.9	0.1	34	0.0
	Essar steel	791	0	11.3	11.4	-0.1	242	0.0
	Andhra Pradesh	9496	0	189.7	64.2	0.0	447	0.0
	Telangana	11783	0	235.6	127.8	1.1	936	0.0
SR	Karnataka	11438	0	225.3	77.1	-1.8	543	0.0
JI.	Kerala	3580	0	71.9	60.6	1.3	280	0.0
	Tamil Nadu	13019	0	296.6	157.1	0.0	439	0.0
	Pondy	322	0	6.8	7.2	-0.4	30	0.0
	Bihar	4087	0	77.4	74.1	0.5	400	0.0
	DVC	3176	0	64.2	-39.6	0.5	110	0.0
ER	Jharkhand	1314	0	23.5	17.8	0.2	40	0.0
LIN	Odisha	3964	0	71.1	-0.8	-0.4	90	0.0
	West Bengal	6251	0	115.9	29.2	-0.9	210	0.0
	Sikkim	123	0	1.7	1.6	0.1	10	0.0
	Arunachal Pradesh	121	1	2,2	2.3	-0.2	14	0.0
	Assam	1386	25	21.4	19.7	0.1	145	0.4
	Manipur	210	1	2.8	2.9	-0.2	19	0.0
NER	Meghalaya	371	0	6.5	5.5	-0.1	41	0.2
	Mizoram	99	1	1.6	1.6	-0.1	16	0.0
	Nagaland	131	1	2.3	2.0	0.1	28	0.1
	Tripura	221	1	3.4	1.5	-0.2	25	0.0

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

	Bhutan	Nepal	Bangladesh
Actual(MU)	2.1	-10.3	-13.3
Day peak (MW)	410.8	-583.4	-894.0

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

	NR	WR	SR	ER	NER	TOTAL
Schedule(MU)	225.0	-257.0	126.0	-102.0	7.7	-0.3
Actual(MU)	216.4	-254.8	127.6	-100.6	9.3	-2.1
O/D/U/D(MU)	-8.6	2.2	1.6	1.3	1.7	-1.8

F. Generation Outage(MW)

	NR	WR	SR	ER	NER	Total
Central Sector	5134	13903	4832	1540	677	26086
State Sector	12650	13835	7845	5090	11	39681
Total	17784	27737	12677	6630	688	65766

G. Sourcewise generation (MU)

	NR	WR	SR	ER	NER	All India
Coal	482	1251	549	460	11	2754
Lignite	19	15	48	0	0	82
Hydro	129	37	66	30	3	265
Nuclear	24	36	32	0	0	93
Gas, Naptha & Diesel	36	42	16	0	22	116
RES (Wind, Solar, Biomass & Others)	73	73	183	2	0	330
Total	762	1455	895	493	36	3641

Share of RES in total generation (%)	9.51	5.04	20.44	0.32	0.11	9.07
Share of Non-fossil fuel (Hydro, Nuclear and RES) in total generation (%)	29.53	10.09	31.42	6.51	8.91	18.91

H. All India Demand Diversity Factor

11 111 maia Bemana Biversity Tuctor	
Based on Regional Max Demands	1.022
Based on State Max Demands	1.068

Diversity factor = Sum of regional or state-wise maximum demands / All India maximum demand

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

		IN	TER-REGIO	ONAL EXCH	ANGES	Date of 1	Reporting :	17-Feb-20
								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)					(1120)	(110)
5	HVDC	ALIPURDUAR-AGRA	- 0/0	0	0	0.0	9.3	0.0 -9.3
1		PUSAULI B/B GAYA-VARANASI	S/C D/C	0	380 930	0.0	10.3	-9.3 -10.3
2	765kV	SASARAM-FATEHPUR	S/C	110	193	0.0	1.2	-1.2
3		GAYA-BALIA	S/C	0	387	0.0	3.3	-3.3
6		PUSAULI-VARANASI	S/C	0	298	0.0	6.2	-6.2
7	_	PUSAULI -ALLAHABAD	S/C	0	161	0.0	2.9	-2.9
9	400 kV	MUZAFFARPUR-GORAKHPUR	D/C	0	286	0.0	2.6	-2.6
10	400 KV	PATNA-BALIA BIHARSHARIFF-BALIA	Q/C D/C	0	940 552	0.0	6.2	-10.1 -6.2
11		MOTIHARI-GORAKHPUR	D/C	0	495	0.0	8.1	-8.1
12		BIHARSHARIFF-VARANASI	D/C	174	220	0.0	0.2	-0.2
13	220 kV	PUSAULI-SAHUPURI	S/C	0	158	0.0	3.0	-3.0
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	102 111	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
Innr 4/5	Permont A	ED (With WP)			ER-NR	0.4	63.4	-63.1
	export of	ER (With WR)	1		1			1
18	g/5	JHARSUGUDA-DHARAMJAIGARH	Q/C	1365	0	20.6	0.0	20.6
19	765 kV	NEW RANCHI-DHARAMJAIGARH	D/C	930	0	12.7	0.0	12.7
20		JHARSUGUDA-DURG	D/C	77 0	117	0.0	0.9	-0.9
21	400 kV	JHARSUGUDA-RAIGARH RANCHI-SIPAT	Q/C D/C	276	460	0.0 3.5	0.0	-6.1 3.5
23		BUDHIPADAR-RAIGARH	S/C	0	0	0.0	0.0	0.0
24	220 kV	BUDHIPADAR-KORBA	D/C	70	13	0.7	0.0	0.7
					ER-WR	37.4	7.0	30.3
Import/E	Export of	ER (With SR)						
26	HVDC	JEYPORE-GAZUWAKA B/B	D/C	0.0	454.0	0.0	11.1	-11.1
27		TALCHER-KOLAR BIPOLE	D/C	0.0	1592.0	0.0	38.4	-38.4
25	765 kV	ANGUL-SRIKAKULAM	D/C	0.0	2782.0	0.0	51.4	-51.4
28	400 kV	TALCHER-I/C	D/C	340.0	0.0	6.7	0.0	6.7
29	220 kV	BALIMELA-UPPER-SILERRU	S/C	2.0	0.0 ER-SR	0.0	0.0	0.0
Import/F	export of	ER (With NER)			ER-SK	0.0	100.9	-100.9
30	Ĺ	BINAGURI-BONGAIGAON	D/C	0	598	0.0	8.3	-8
31	400 kV	ALIPURDUAR-BONGAIGAON	D/C	0	788	0.0	11.4	-11
32	220 kV	ALIPURDUAR-SALAKATI	D/C	0	155	0.0	2.1	-2
					ER-NER	0.0	21.7	-21.7
		NER (With NR)	1 1		_			1
33	HVDC	BISWANATH CHARIALI-AGRA		0	503	0.0	12.1	-12.1
		DIS WILL THE CHILDREN FROM	-		NIED NE			
Import/E	evnort of		-		NER-NR	0.0	12.1	-12.1
	Export of	WR (With NR)		0	NER-NR	0.0	12.1	1
34	Export of	WR (With NR) CHAMPA-KURUKSHETRA	D/C	0 448	NER-NR	0.0	0.0	0.0
	Ĺ	WR (With NR)		0 448 0	NER-NR	0.0	0.0 0.5	1
34 35	Ĺ	WR (With NR) CHAMPA-KURUKSHETRA V'CHAL B/B	D/C D/C	448	0 155	0.0 9.2	0.0	0.0 8.8
34 35 36	Ĺ	WR (With NR) CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG	D/C D/C D/C	448	0 155 1918	0.0 0.0 9.2 0.0	0.0 0.5 36.0	0.0 8.8 -36.0
34 35 36 37 38 39	HVDC	WR (With NR) CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI	D/C D/C D/C D/C	0 0 0 0 0	0 155 1918 2793 1667 1115	0.0 9.2 0.0 0.0 0.0 0.0	0.0 0.5 36.0 47.7 26.2 34.7	0.0 8.8 -36.0 -47.7 -26.2 -34.7
34 35 36 37 38	Ĺ	WR (With NR) CHAMPA-KURUKSHETRA VCHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI	D/C D/C D/C D/C D/C D/C	448 0 0 0 0 0 726	0 155 1918 2793 1667 1115	0.0 9.2 0.0 0.0 0.0 0.0 0.0 11.4	0.0 0.5 36.0 47.7 26.2 34.7 0.0	0.0 8.8 -36.0 -47.7 -26.2 -34.7 11.4
34 35 36 37 38 39 40 41	HVDC	WR (With NR) CHAMPA-KURUKSHETRA VCHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI	D/C D/C D/C D/C D/C D/C S/C S/C	448 0 0 0 0 0 726 0	NER-NR 0 155 1918 2793 1667 1115 0 1454	0.0 9.2 0.0 0.0 0.0 0.0 0.0 11.4 0.0	12.1 0.0 0.5 36.0 47.7 26.2 34.7 0.0 29.7	0.0 8.8 -36.0 -47.7 -26.2 -34.7 11.4 -29.7
34 35 36 37 38 39 40 41 42	HVDC	WR (With NR) 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 D/C D/C S/C S/C D/C	448 0 0 0 0 0 726 0 33	NER-NR 0 155 1918 2793 1667 1115 0 1454 917	0.0 9.2 0.0 0.0 0.0 0.0 11.4 0.0	0.0 0.5 36.0 47.7 26.2 34.7 0.0 29.7 9.1	0.0 8.8 -36.0 -47.7 -26.2 -34.7 11.4 -29.7 -9.1
34 35 36 37 38 39 40 41 42 43	HVDC	WR (With NR) 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 D/C D/C S/C S/C S/C S/C S/C	448 0 0 0 0 726 0 33 80	NER-NR 0 155 1918 2793 1667 1115 0 1454 917 179	0.0 9.2 0.0 0.0 0.0 0.0 11.4 0.0 0.0	0.0 0.5 36.0 47.7 26.2 34.7 0.0 29.7 9.1	0.0 8.8 -36.0 -47.7 -26.2 -34.7 11.4 -29.7 -9.1 -0.7
34 35 36 37 38 39 40 41 42 43	HVDC	WR (With NR) 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	448 0 0 0 0 726 0 33 80	NER-NR 0 155 1918 2793 1667 1115 0 1454 917 179 489	0.0 9.2 0.0 0.0 0.0 0.0 0.0 11.4 0.0 0.0 0.0	12.1 0.0 0.5 36.0 47.7 26.2 34.7 0.0 29.7 9.1 0.7 4.8	0.0 8.8 -36.0 -47.7 -26.2 -34.7 11.4 -29.7 -9.1 -0.7 -4.8
34 35 36 37 38 39 40 41 42 43 44 45	HVDC - 765 kV	WR (With NR) CHAMPA-KURUKSHETRA VCHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHITTORGARH-BANASKANTHA ZERDA-BHINMAL VCHAL -RIHAND	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	448 0 0 0 0 726 0 33 80 0 991	0 155 1918 2793 1667 1115 0 1454 917 179 489 0	0.0 9.2 0.0 0.0 0.0 0.0 11.4 0.0 0.0 0.0 0.0 0.0	12.1 0.0 0.5 36.0 47.7 26.2 34.7 0.0 29.7 9.1 0.7 4.8 0.0	0.0 8.8 -36.0 -47.7 -26.2 -34.7 11.4 -29.7 -9.1 -0.7 -4.8 22.8
34 35 36 37 38 39 40 41 42 43 44 45 46	HVDC - 765 kV	WR (With NR) 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 D/C S/C S/C S/C S/C S/C S/C D/C	448 0 0 0 0 726 0 33 80 0 991 24	0 155 1918 2793 1667 1115 0 1454 917 179 489 0	0.0 9.2 0.0 0.0 0.0 0.0 11.4 0.0 0.0 0.0 0.0 22.8	0.0 0.5 36.0 47.7 26.2 34.7 0.0 29.7 9.1 0.7 4.8 0.0	0.0 8.8 -36.0 -47.7 -26.2 -34.7 11.4 -29.7 -9.1 -0.7 -4.8 22.8
34 35 36 37 38 39 40 41 42 43 44 45 46 47	HVDC - 765 kV - 400 kV	WR (With NR) 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	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	448 0 0 0 0 726 0 33 80 0 991	0 155 1918 2793 1667 1115 0 1454 917 179 489 0	0.0 9.2 0.0 0.0 0.0 0.0 11.4 0.0 0.0 0.0 0.0 0.0	0.0 0.5 36.0 47.7 26.2 34.7 0.0 29.7 9.1 0.7 4.8 0.0 4 0.5	0.0 8.8 -36.0 -47.7 -26.2 -34.7 11.4 -29.7 -9.1 -0.7 -4.8 22.8
34 35 36 37 38 39 40 41 42 43 44 45 46	HVDC - 765 kV	WR (With NR) 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 D/C S/C S/C S/C S/C S/C S/C D/C	448 0 0 0 0 726 0 33 80 0 991 24	NER-NR 0 155 1918 2793 1667 1115 0 1454 917 179 489 0 404 85	0.0 9.2 0.0 0.0 0.0 0.0 11.4 0.0 0.0 0.0 0.0 0.0	0.0 0.5 36.0 47.7 26.2 34.7 0.0 29.7 9.1 0.7 4.8 0.0	0.0 8.8 -36.0 -47.7 -26.2 -34.7 11.4 -29.7 -9.1 -0.7 -4.8 22.8 -4 -0.1
34 35 36 37 38 39 40 41 42 43 44 45 46 47	HVDC - 765 kV - 400 kV	WR (With NR) 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 D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	448 0 0 0 0 726 0 33 80 0 991 24 7 30	NER-NR 0 155 1918 2793 1667 1115 0 1454 917 179 489 0 404 85	0.0 9.2 0.0 0.0 0.0 0.0 11.4 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.5 36.0 47.7 26.2 34.7 0.0 29.7 9.1 0.7 4.8 0.0 4 0.5	0.0 8.8 -36.0 -47.7 -26.2 -34.7 11.4 -29.7 -9.1 -0.7 -4.8 22.8 -4 -0.1 -1.1
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48	HVDC - 765 kV - 400 kV	WR (With NR) 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 D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	448 0 0 0 0 726 0 33 80 0 991 24 7 30 106	NER-NR 0 155 1918 2793 1667 1115 0 1454 917 179 489 0 404 85 127 0	0.0 9.2 0.0 0.0 0.0 0.0 11.4 0.0 0.0 0.	0.0 0.5 36.0 47.7 26.2 34.7 0.0 29.7 9.1 0.7 4.8 0.0 4 0.5	0.0 8.8 -36.0 -47.7 -26.2 -34.7 11.4 -29.7 -9.1 -0.7 -4.8 22.8 -4 -0.1 -1.1 1.4
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50	HVDC - 765 kV - 400 kV - 220 kV	WR (With NR) 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	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	448 0 0 0 0 726 0 33 80 0 991 24 7 30 106 60	NER-NR 0 155 1918 2793 1667 1115 0 1454 917 179 489 0 404 85 127 0 9	0.0 9.2 0.0 0.0 0.0 0.0 11.4 0.0 0.0 0.	0.0 0.5 36.0 47.7 26.2 34.7 0.0 29.7 9.1 0.7 4.8 0.0 4 0.5 1.2 0.0	0.0 8.8 -36.0 -47.7 -26.2 -34.7 11.4 -29.7 -9.1 -0.7 -4.8 22.8 -4 -0.1 -1.1 1.4 0.6
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	WR (With NR) CHAMPA-KURUKSHETRA VCHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-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)	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	448 0 0 0 0 726 0 33 80 0 991 24 7 30 106 60 0	NER-NR 0 155 1918 2793 1667 1115 0 1454 917 179 489 0 404 85 127 0 9 0 WR-NR	0.0 0.0 9.2 0.0 0.0 0.0 11.4 0.0 0.0 0.0 22.8 0 0.4 0.1 1.4 0.6 0.0 45.9	12.1 0.0 0.5 36.0 47.7 26.2 34.7 0.0 29.7 9.1 0.7 4.8 0.0 4 0.5 1.2 0.0 0.0 1.2	0.0 8.8 -36.0 -47.7 -26.2 -34.7 11.4 -29.7 -9.1 -0.7 -4.8 22.8 -4 -0.1 -1.1 1.4 0.6 0.0 -149.1
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/E	HVDC 765 kV 400 kV 220 kV	WR (With NR) 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	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	448 0 0 0 0 726 0 33 80 0 991 24 7 30 106 60 0	NER-NR 0 155 1918 2793 1667 1115 0 1454 917 179 489 0 404 85 127 0 9 0 WR-NR	0.0 0.0 9.2 0.0 0.0 0.0 11.4 0.0 0.0 0.0 22.8 0 0.4 0.1 1.4 0.6 0.0 45.9	12.1 0.0 0.5 36.0 47.7 26.2 34.7 0.0 29.7 9.1 0.7 4.8 0.0 4 0.5 1.2 0.0 0.0 195.0	0.0 8.8 -36.0 -47.7 -26.2 -34.7 11.4 -29.7 -9.1 -0.7 -4.8 22.8 -4 -0.1 -1.1 1.4 0.6 0.0 -149.1
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	WR (With NR) 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	448 0 0 0 0 726 0 33 80 0 991 24 7 30 106 60 0	NER-NR 0 155 1918 2793 1667 1115 0 1454 917 179 489 0 404 85 127 0 9 WR-NR	0.0 0.0 9.2 0.0 0.0 0.0 11.4 0.0 0.0 0.0 0.	0.0 0.5 36.0 47.7 26.2 34.7 0.0 29.7 9.1 0.7 4.8 0.0 4 0.5 1.2 0.0 0.0 1.2 0.0 0.0 1.2 0.0 0.0 0.0 1.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	0.0 8.8 -36.0 -47.7 -26.2 -34.7 11.4 -29.7 -9.1 -0.7 -4.8 22.8 -4 -0.1 -1.1 1.4 0.6 0.0 -149.1
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	WR (With NR) 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 D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	448 0 0 0 0 726 0 33 80 0 991 24 7 30 106 60 0	NER-NR 0 155 1918 2793 1667 1115 0 1454 917 179 489 0 404 85 127 0 9 WR-NR	0.0 0.0 9.2 0.0 0.0 0.0 0.0 11.4 0.0 0.0 0.	0.0 0.5 36.0 47.7 26.2 34.7 0.0 29.7 9.1 0.7 4.8 0.0 4 0.5 1.2 0.0 0.0 195.0	0.0 8.8 -36.0 -47.7 -26.2 -34.7 11.4 -29.7 -9.1 -0.7 -4.8 -22.8 -4 -0.1 -1.1 1.4 0.6 0.0 -149.1
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/E 52 53 54 55	HVDC - 765 kV - 400 kV - 220 kV - 132kV - Export of HVDC - 765 kV	WR (With NR) 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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	448 0 0 0 0 726 0 33 80 0 991 24 7 30 106 60 0	NER-NR 0 155 1918 2793 1667 1115 0 1454 917 179 489 0 404 85 127 0 9 0 WR-NR	0.0 9.2 0.0 0.0 0.0 0.0 11.4 0.0 0.0 0.	12.1 0.0 0.5 36.0 47.7 26.2 34.7 0.0 29.7 9.1 0.7 4.8 0.0 4 0.5 1.2 0.0 0.0 195.0 23.6 0.0 22.1	0.0 8.8 -36.0 47.7 -26.2 -34.7 11.4 -29.7 -9.1 -0.7 -4.8 22.8 -4 -0.1 -1.1 1.4 0.6 0.0 -149.1 -23.6 0.0 -22.1 -40.7
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/E 52 53 54	HVDC - 765 kV - 400 kV - 220 kV - 132kV Export of - HVDC	WR (With NR) 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 GWALIOR-SAWAI MADHOPUR WR (With SR) BHASUR-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 S	448 0 0 0 0 726 0 33 80 0 991 24 7 30 106 60 0	NER-NR 0 155 1918 2793 1667 1115 0 1454 917 179 489 0 404 85 127 0 9 0 WR-NR	0.0 9.2 0.0 0.0 0.0 0.0 11.4 0.0 0.0 0.	12.1 0.0 0.5 36.0 47.7 26.2 34.7 0.0 29.7 9.1 0.7 4.8 0.0 4 0.5 1.2 0.0 0.0 195.0 23.6 0.0 22.1 40.7 0.0	0.0 8.8 -36.0 -47.7 -26.2 -34.7 11.4 -29.7 -9.1 -0.7 -4.8 22.8 -4 -0.1 -1.1 1.4 0.6 0.0 -149.1 -23.6 0.0 -22.1 -40.7 12.3
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	HVDC - 765 kV - 400 kV - 220 kV - 132kV - 2xport of - HVDC - 765 kV - 400 kV	WR (With NR) CHAMPA-KURUKSHETRA VCHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI SATNA-ORAI CHITTORGARH-BANASKANTHA ZERDA-BHINMAL VCHAL-RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR BHANPURA-MORAK MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHADRAWATI B/B BHASWATI B/B BARSUR-L.SILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD 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 S/C D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	448 0 0 0 0 726 0 33 80 0 991 24 7 30 106 60 0 0 0	NER-NR 0 155 1918 2793 1667 1115 0 1454 917 179 489 0 404 85 127 0 9 0 WR-NR	0.0 9.2 0.0 0.0 0.0 0.0 11.4 0.0 0.0 0.	12.1 0.0 0.5 36.0 47.7 26.2 34.7 0.0 29.7 9.1 0.7 4.8 0.0 4 0.5 1.2 0.0 0.0 195.0 23.6 0.0 22.1 40.7 0.0 0.0 0.0	0.0 8.8 -36.0 -47.7 -26.2 -34.7 -11.4 -29.7 -9.1 -0.7 -4.8 -22.8 -4 -0.1 -1.1 1.4 0.6 0.0 -149.1 -23.6 0.0 -22.1 -40.7 12.3 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 - 765 kV	WR (With NR) CHAMPA-KURUKSHETRA VCHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI SATNA-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA-BHINMAL VCHAL-RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR BHANPURA-MORAK MEHGAON-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	448 0 0 0 0 0 726 0 33 80 0 991 24 7 30 106 60 0 0 787 0 1030 0 0	NER-NR 0 155 1918 2793 1667 1115 0 1454 917 179 489 0 404 85 127 0 9 0 WR-NR	0.0 0.0 9.2 0.0 0.0 0.0 11.4 0.0 0.0 0.0 22.8 0 0.4 0.1 1.4 0.6 0.0 45.9 0.0 0.0 0.0 0.0 0.0 0.0 0.0	12.1 0.0 0.5 36.0 47.7 26.2 34.7 0.0 29.7 9.1 0.7 4.8 0.0 4 0.5 1.2 0.0 0.0 195.0 23.6 0.0 22.1 40.7 0.0 0.0 1.3	0.0 8.8 -36.0 -47.7 -26.2 -34.7 -11.4 -29.7 -9.1 -0.7 -4.8 -22.8 -4 -0.1 -1.1 -1.4 -23.6 -23.6 -22.1 -40.7 -12.3 -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	HVDC - 765 kV - 400 kV - 220 kV - 132kV - 2xport of - HVDC - 765 kV - 400 kV	WR (With NR) CHAMPA-KURUKSHETRA VCHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI SATNA-ORAI CHITTORGARH-BANASKANTHA ZERDA-BHINMAL VCHAL-RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR BHANPURA-MORAK MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHADRAWATI B/B BHASWATI B/B BARSUR-L.SILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD 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 S/C D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	448 0 0 0 0 726 0 33 80 0 991 24 7 30 106 60 0 0 0	NER-NR 0 155 1918 2793 1667 1115 0 1454 917 179 489 0 404 85 127 0 9 0 WR-NR 995 0 2201 2769 0 0 67	0.0 0.0 9.2 0.0 0.0 0.0 11.4 0.0 0.0 0.0 0.	12.1 0.0 0.5 36.0 47.7 26.2 34.7 0.0 29.7 9.1 0.7 4.8 0.0 4 0.5 1.2 0.0 0.0 195.0 23.6 0.0 22.1 40.7 0.0 0.0 1.3 0.0	0.0 8.8 -36.0 -47.7 -26.2 -34.7 11.4 -29.7 -9.1 -0.7 -4.8 22.8 -4 -0.1 -1.1 1.4 0.6 0.0 -149.1 -23.6 0.0 -22.1 -40.7 12.3 0.0 -1.3 1.7
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 - 2xport of - HVDC - 765 kV - 400 kV	WR (With NR) CHAMPA-KURUKSHETRA VCHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI SATNA-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA-BHINMAL VCHAL-RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR BHANPURA-MORAK MEHGAON-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHADRAWATI B/B BASUR-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	448 0 0 0 0 0 726 0 33 80 0 991 24 7 30 106 60 0 0 787 0 1030 0 0 0	NER-NR 0 155 1918 2793 1667 1115 0 1454 917 179 489 0 404 85 127 0 9 0 WR-NR 995 0 2201 2769 0 0 67 93 WR-SR	0.0 0.0 9.2 0.0 0.0 0.0 11.4 0.0 0.0 0.0 22.8 0 0.4 0.1 1.4 0.6 0.0 45.9 0.0 0.0 0.0 0.0 0.0 0.0 0.0	12.1 0.0 0.5 36.0 47.7 26.2 34.7 0.0 29.7 9.1 0.7 4.8 0.0 4 0.5 1.2 0.0 0.0 195.0 23.6 0.0 22.1 40.7 0.0 0.0 1.3	0.0 8.8 -36.0 -47.7 -26.2 -34.7 -11.4 -29.7 -9.1 -0.7 -4.8 -22.8 -4 -0.1 -1.1 -1.4 -23.6 -23.6 -22.1 -40.7 -12.3 -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 - 2xport of - HVDC - 765 kV - 400 kV	WR (With NR) 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-WORAK 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	448 0 0 0 0 0 726 0 33 80 0 991 24 7 30 106 60 0 0 787 0 1030 0 0	NER-NR 0 155 1918 2793 1667 1115 0 1454 917 179 489 0 404 85 127 0 9 0 WR-NR 995 0 2201 2769 0 0 67 93 WR-SR	0.0 0.0 9.2 0.0 0.0 0.0 11.4 0.0 0.0 0.0 0.	12.1 0.0 0.5 36.0 47.7 26.2 34.7 0.0 29.7 9.1 0.7 4.8 0.0 4 0.5 1.2 0.0 0.0 195.0 23.6 0.0 22.1 40.7 0.0 0.0 1.3 0.0	0.0 8.8 -36.0 -47.7 -26.2 -34.7 11.4 -29.7 -9.1 -0.7 -4.8 22.8 -4 -0.1 -1.1 1.4 0.6 0.0 -149.1 -23.6 0.0 -22.1 -40.7 12.3 0.0 -1.3 1.7 -73.7
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 - 2xport of - HVDC - 765 kV - 400 kV	WR (With NR) CHAMPA-KURUKSHETRA VCHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI SATNA-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA-BHINMAL VCHAL-RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR BHANPURA-MORAK MEHGAON-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHADRAWATI B/B BASUR-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	448 0 0 0 0 0 726 0 33 80 0 991 24 7 30 106 60 0 0 787 0 1030 0 0 0	NER-NR 0 155 1918 2793 1667 1115 0 1454 917 179 489 0 404 85 127 0 9 0 WR-NR 995 0 2201 2769 0 0 67 93 WR-SR	0.0 0.0 9.2 0.0 0.0 0.0 11.4 0.0 0.0 0.0 0.	12.1 0.0 0.5 36.0 47.7 26.2 34.7 0.0 29.7 9.1 0.7 4.8 0.0 4 0.5 1.2 0.0 0.0 195.0 23.6 0.0 22.1 40.7 0.0 0.0 1.3 0.0	0.0 8.8 -36.0 -47.7 -26.2 -34.7 11.4 -29.7 -9.1 -0.7 -4.8 22.8 -4 -0.1 -1.1 1.4 0.6 0.0 -149.1 -23.6 0.0 -22.1 -40.7 12.3 0.0 -1.3 1.7