

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: 25th 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 24.02.2020.

महोदय/Dear Sir,

आई०ई०जी०सी०-2010 की धारा स.-5.5.1 के प्रावधान के अनुसार, दिनांक 24-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 24rd 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 25-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)	43810	49793	50436	17297	2295	163631
Peak Shortage (MW)	589	0	0	0	23	612
Energy Met (MU)	923	1227	1090	339	39	3617
Hydro Gen (MU)	130	47	111	30	4	322
Wind Gen (MU)	5	39	49			93
Solar Gen (MU)*	35.07	26.30	90.44	1.55	0.02	153
Energy Shortage (MU)	11.1	0.0	0.0	0.0	0.3	11.4
Maximum Demand Met during the day (MW) & time	47015	58824	51259	18298	2427	173816
(from NLDC SCADA)	07:36	11:23	09:54	19:30	18:24	09:31

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	0.047	0.00	0.94	8.89	9.83	73.96	16.22

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	5893	0	121.8	78.2	-1.3	176	0.0
	Haryana	6064	0	120.5	85.2	0.2	226	0.0
	Rajasthan	13765	0	242.6	73.5	2.1	482	0.0
NR	Delhi	3587	0	63.9	47.5	0.1	224	0.0
	UP	13462	0	259.9	114.8	-1.1	545	0.6
	Uttarakhand	1904	0	34.9	15.9	0.1	179	0.0
	HP	1607	0	27.5	19.6	0.6	165	0.0
	J&K(UT) and Ladakh(UT)	2400	600	48.4	44.0	-1.0	229	10.5
	Chandigarh	220	0	3.4	3.3	0.1	37	0.0
	Chhattisgarh	3583	0	75.8	31.0	-2.1	185	0.0
	Gujarat	16529	0	356.3	104.8	4.9	602	0.0
	MP	13253	0	252,2	125.0	-2.7	482	0.0
WR	Maharashtra	24323	0	495.9	162.6	-0.8	534	0.0
WK	Goa	510	0	10.5	10.1	-0.1	47	0.0
	DD	327	0	7.3	6.8	0.5	53	0.0
	DNH	808	0	18.7	18.7	0.0	100	0.0
	Essar steel	772	0	9.8	10.1	-0.3	198	0.0
	Andhra Pradesh	9661	0	195.0	67.6	0.9	731	0.0
	Telangana	12769	0	255.1	134.1	-0.8	1010	0.0
SR	Karnataka	12468	0	242.7	85.3	-0.3	656	0.0
311	Kerala	3823	0	77.6	61.9	0.5	182	0.0
	Tamil Nadu	14824	0	311.6	168.6	-0.3	490	0.0
	Pondy	361	0	7.5	7.9	-0.4	23	0.0
	Bihar	3937	0	64.5	62.4	-1.0	247	0.0
	DVC	3167	0	64.3	-39.2	-0.5	242	0.0
ER	Jharkhand	1243	0	22,2	13.4	-0.5	103	0.0
LIN	Odisha	3721	0	70.3	4.2	-0.9	201	0.0
	West Bengal	6412	0	116.3	26.8	-1.7	143	0.0
	Sikkim	119	0	1.4	1.6	-0.2	28	0.0
	Arunachal Pradesh	116	1	2.3	2.1	0.1	57	0.0
	Assam	1399	14	20.7	19.5	-0.3	157	0.0
	Manipur	189	2	2.6	2.8	-0.2	23	0.0
NER	Meghalaya	326	0	5.5	4.2	0.1	24	0.2
	Mizoram	98	1	1.9	1.5	0.0	15	0.0
	Nagaland	124	0	2.1	2.0	0.1	46	0.0
	Tripura	231	3	3.6	1.8	0.1	39	0.0

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

	Bhutan	Nepal	Bangladesh
Actual(MU)	2.2	-10.3	-14.6
Day peak (MW)	258.7	-595.0	-939.0

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

	NR	WR	SR	ER	NER	TOTAL
Schedule(MU)	213.7	-266.4	145.8	-104.3	11.3	0.0
Actual(MU)	204.2	-274.7	168.0	-111.9	14.6	0.2
O/D/U/D(MU)	-9.5	-8.3	22.2	-7.6	3.3	0.1

F. Generation Outage(MW)

	NR	WR	SR	ER	NER	Total
Central Sector	5331	13017	5402	1930	1090	26770
State Sector	14720	15016	8325	5470	11	43542
Total	20051	28032	13727	7400	1101	70311

G. Sourcewise generation (MU)

	NR	WR	SR	ER	NER	All India
Coal	458	1274	539	462	11	2744
Lignite	26	13	51	0	0	90
Hydro	130	47	111	30	4	322
Nuclear	19	37	45	0	0	100
Gas, Naptha & Diesel	33	60	15	0	13	122
RES (Wind, Solar, Biomass & Others)	68	71	177	2	0	318
Total	734	1501	938	494	29	3696

Share of RES in total generation (%)	9.26	4.72	18.90	0.31	0.07	8.60
Share of Non-fossil fuel (Hydro, Nuclear and RES) in total generation (%)	29.57	10.28	35.48	6.38	15.29	20.03

H. All India Demand Diversity Factor

11 111 India Demand Diversity Luctor	
Based on Regional Max Demands	1.023
Based on State Max Demands	1.059

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.}$

		<u>IN.</u>	TER-REGI	ONAL EXCH	ANGES	Date of 1	Reporting :	25-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	0 251	0.0	6.2	0.0 -6.2
1		PUSAULI B/B GAYA-VARANASI	S/C D/C	0	862	0.0	10.7	-6.2 -10.7
2	765kV	SASARAM-FATEHPUR	S/C	104	279	0.0	2.5	-2.5
3		GAYA-BALIA	S/C	0	441	0.0	7.9	-7.9
6		PUSAULI-VARANASI	S/C	0	202	0.0	4.1	-4.1
7	_	PUSAULI -ALLAHABAD	S/C	0	123	0.0	1.9	-1.9
9	400 kV	MUZAFFARPUR-GORAKHPUR PATNA-BALIA	D/C O/C	93	651 780	0.0	5.8 9.5	-5.8 -9.5
10	400 KV	BIHARSHARIFF-BALIA	D/C	22	252	0.0	3.3	-9.3
11		MOTIHARI-GORAKHPUR	D/C	0	491	0.0	2.7	-2.7
12		BIHARSHARIFF-VARANASI	D/C	144	227	0.0	0.7	-0.7
13	220 kV	PUSAULI-SAHUPURI	S/C	0	192	0.0	3.2	-3.2
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		KARMANASA-SAHUPURI	S/C	0	0	0.0	0.0	0.0
17		KARMANASA-CHANDAULI	S/C	0	0	0.0	0.0	0.0
Import/E	Evnert of	ER (With WR)			ER-NR	0.3	58.4	-58.2
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18	765 kV	JHARSUGUDA-DHARAMJAIGARH	Q/C	1863	0	32.9	0.0	32.9
19	705 KV	NEW RANCHI-DHARAMJAIGARH	D/C	926	0	8.9	0.0	8.9
20		JHARSUGUDA-DURG JHARSUGUDA-RAIGARH	D/C Q/C	325 183	60 257	1.3 0.0	0.0	1.3 -0.4
22	400 kV	RANCHI-SIPAT	D/C	293	3	3.0	0.4	3.0
23		BUDHIPADAR-RAIGARH	S/C	0	0	0.0	0.0	0.0
24	220 kV	BUDHIPADAR-KORBA	D/C	128	0	1.7	0.0	1.7
					ER-WR	47.8	0.4	47.4
Import/E	Export of	ER (With SR)						
26	HVDC	JEYPORE-GAZUWAKA B/B	D/C	0.0	705.0	0.0	16.3	-16.3
27		TALCHER-KOLAR BIPOLE	D/C	0.0	2454.0	0.0	50.2	-50.2
25	765 kV	ANGUL-SRIKAKULAM	D/C	0.0	3200.0	0.0	57.8	-57.8
28	400 kV 220 kV	TALCHER-I/C BALIMELA-UPPER-SILERRU	D/C S/C	1.0	975.0 0.0	0.0	7.5	-7.5 0.0
23	220 KV	BALIMELA-OITEK-SILEKKO	5/C	1.0	ER-SR	0.0	124.2	-124.2
Import/E	Export of	ER (With NER)						
30	Ĺ	BINAGURI-BONGAIGAON	D/C	0	547	0.0	9.5	-9
31	400 kV	ALIPURDUAR-BONGAIGAON	D/C	0	825	0.0	14.1	-14
32	220 kV	ALIPURDUAR-SALAKATI	D/C	0	158	0.0	2.5	-3
					ER-NER	0.0	26.2	-26.2
Import/E		NER (With NR) BISWANATH CHARIALI-AGRA	1 - 1	0	502	0.0	11.2	-11.2
33	HVDC	BISWANATH CHARIALI-AGRA	-	0	NER-NR	0.0	11.2	-11.2
Import/E	Export of	WD (With ND)			11231 1121	0.0	11.2	-11.2
	ZAPOL L OL	VV IX (VV ILII INIX)						
34	2xport or	CHAMPA-KURUKSHETRA	D/C	0	0	0.0	0.0	0.0
34 35	HVDC		D/C D/C	0 449	0 493	0.0 5.3	0.0	0.0 2.6
		CHAMPA-KURUKSHETRA						
35 36 37		CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG GWALIOR-AGRA	D/C D/C D/C	0 0	493 1917 2597	5.3 0.0 0.0	2.7 29.6 44.4	2.6 -29.6 -44.4
35 36 37 38		CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR	D/C D/C D/C D/C	0 0 0	493 1917 2597 1582	5.3 0.0 0.0 0.0	2.7 29.6 44.4 25.2	2.6 -29.6 -44.4 -25.2
35 36 37 38 39		CHAMPA-KURUKSHETRA VCHAL 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	493 1917 2597 1582 988	5.3 0.0 0.0 0.0 0.0	2.7 29.6 44.4 25.2 32.3	2.6 -29.6 -44.4 -25.2 -32.3
35 36 37 38 39 40	HVDC	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 S/C	449 0 0 0 0 0 0 658	493 1917 2597 1582 988 0	5.3 0.0 0.0 0.0 0.0 11.7	2.7 29.6 44.4 25.2 32.3 0.0	2.6 -29.6 -44.4 -25.2 -32.3 11.7
35 36 37 38 39 40 41	HVDC	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 S/C S/C	449 0 0 0 0 0 0 658 0	493 1917 2597 1582 988 0	5.3 0.0 0.0 0.0 0.0 0.0 11.7 0.0	2.7 29.6 44.4 25.2 32.3 0.0 29.9	2.6 -29.6 -44.4 -25.2 -32.3 11.7 -29.9
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	449 0 0 0 0 0 658 0 116	493 1917 2597 1582 988 0 1414 917	5.3 0.0 0.0 0.0 0.0 11.7 0.0 0.0	2.7 29.6 44.4 25.2 32.3 0.0 29.9 5.9	2.6 -29.6 -44.4 -25.2 -32.3 11.7 -29.9 -5.9
35 36 37 38 39 40 41 42 43	HVDC - 765 kV	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 S/C S/C S/C S/C S/C	449 0 0 0 0 0 658 0 116 134	493 1917 2597 1582 988 0 1414 917 180	5.3 0.0 0.0 0.0 0.0 11.7 0.0 0.0 0.0	2.7 29.6 44.4 25.2 32.3 0.0 29.9 5.9 0.2	2.6 -29.6 -44.4 -25.2 -32.3 11.7 -29.9 -5.9 -0.2
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	449 0 0 0 0 0 658 0 116	493 1917 2597 1582 988 0 1414 917	5.3 0.0 0.0 0.0 0.0 11.7 0.0 0.0	2.7 29.6 44.4 25.2 32.3 0.0 29.9 5.9	2.6 -29.6 -44.4 -25.2 -32.3 11.7 -29.9 -5.9
35 36 37 38 39 40 41 42 43	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	D/C D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C S/C	449 0 0 0 0 0 658 0 116 134 90	493 1917 2597 1582 988 0 1414 917 180 415	5.3 0.0 0.0 0.0 0.0 11.7 0.0 0.0 0.0	2.7 29.6 44.4 25.2 32.3 0.0 29.9 5.9 0.2 3.0	2.6 -29.6 -44.4 -25.2 -32.3 11.7 -29.9 -5.9 -0.2 -3.0
35 36 37 38 39 40 41 42 43 44	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 D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C	449 0 0 0 0 0 658 0 116 134 90 978	493 1917 2597 1582 988 0 1414 917 180 415	5.3 0.0 0.0 0.0 0.0 11.7 0.0 0.0 0.0 0.0 22.7	2.7 29.6 44.4 25.2 32.3 0.0 29.9 5.9 0.2 3.0 0.0	2.6 -29.6 -44.4 -25.2 -32.3 11.7 -29.9 -5.9 -0.2 -3.0 22.7
35 36 37 38 39 40 41 42 43 44 45 46	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	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 0 658 0 116 134 90 978 142	493 1917 2597 1582 988 0 1414 917 180 415 0 387	5.3 0.0 0.0 0.0 0.0 11.7 0.0 0.0 0.0 0.0 22.7	2.7 29.6 44.4 25.2 32.3 0.0 29.9 5.9 0.2 3.0 0.0	2.6 -29.6 -44.4 -25.2 -32.3 11.7 -29.9 -5.9 -0.2 -3.0 22.7 -1
35 36 37 38 39 40 41 42 43 44 45 46 47	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 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 0 658 0 116 134 90 978 142 7	493 1917 2597 1582 988 0 1414 917 180 415 0 387 117	5.3 0.0 0.0 0.0 0.0 11.7 0.0 0.0 0.0 0.0 22.7 0	2.7 29.6 44.4 25.2 32.3 0.0 29.9 5.9 0.2 3.0 0.0 1	2.6 -29.6 -44.4 -25.2 -32.3 11.7 -29.9 -5.9 -0.2 -3.0 22.7 -1 -1.0
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 0 658 0 116 134 90 978 142 7 1 86 44	493 1917 2597 1582 988 0 1414 917 180 415 0 387 117 156 8 34	5.3 0.0 0.0 0.0 0.0 11.7 0.0 0.0 0.0 0.0 0.0 0.0 1.1 0.0 0.0	2.7 29.6 44.4 25.2 32.3 0.0 29.9 5.9 0.2 3.0 0.0 1 1.1 1.9 0.0 0.1	2.6 -29.6 -44.4 -25.2 -32.3 -11.7 -29.9 -5.9 -0.2 -3.0 -1 -1.0 -1.9 -1.1 -0.3
35 36 37 38 39 40 41 42 43 44 45 46 47 48	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 0 658 0 116 134 90 978 142 7 1 86	493 1917 2597 1582 988 0 1414 917 180 415 0 387 117 156 8	5.3 0.0 0.0 0.0 0.0 11.7 0.0 0.0 0.0 22.7 0 0.1 0.0 1.1 0.0	2.7 29.6 44.4 25.2 32.3 0.0 29.9 5.9 0.2 3.0 0.0 1 1.1 1.9 0.0 0.1	2.6 -29.6 -44.4 -25.2 -32.3 -11.7 -29.9 -5.9 -0.2 -3.0 -1.0 -1.9 -1.1 -0.3 -0.0
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51	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 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 0 658 0 116 134 90 978 142 7 1 86 44	493 1917 2597 1582 988 0 1414 917 180 415 0 387 117 156 8 34	5.3 0.0 0.0 0.0 0.0 11.7 0.0 0.0 0.0 0.0 0.0 0.0 1.1 0.0 0.0	2.7 29.6 44.4 25.2 32.3 0.0 29.9 5.9 0.2 3.0 0.0 1 1.1 1.9 0.0 0.1	2.6 -29.6 -44.4 -25.2 -32.3 -11.7 -29.9 -5.9 -0.2 -3.0 -1 -1.0 -1.9 -1.1 -0.3
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51	HVDC 765 kV 400 kV 220 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-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 0 658 0 116 134 90 978 142 7 1 86 44 0	493 1917 2597 1582 988 0 1414 917 180 415 0 387 117 156 8 34 0 WR-NR	5.3 0.0 0.0 0.0 0.0 11.7 0.0 0.0 0.0 0.0 22.7 0 0.1 0.0 1.1 0.0 41.3	2.7 29.6 44.4 25.2 32.3 0.0 29.9 0.2 3.0 0.0 1 1.1 1.9 0.0 0.1 0.0 177.6	2.6 -29.6 -44.4 -25.2 -32.3 11.7 -29.9 -5.9 -0.2 -3.0 22.7 -1 -1.0 -1.9 1.1 0.3 0.0 -136.3
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51	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 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 0 658 0 116 134 90 978 142 7 1 86 44 0	493 1917 2597 1582 988 0 1414 917 180 415 0 387 117 156 8 34 0 WR-NR	5.3 0.0 0.0 0.0 0.0 11.7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	2.7 29.6 44.4 25.2 32.3 0.0 29.9 5.9 0.2 3.0 0.0 1 1.1 1.9 0.0 0.1 1.0,0 177.6	2.6 -29.6 -44.4 -25.2 -32.3 11.7 -29.9 -5.9 -0.2 -3.0 22.7 -1 -1.0 -1.9 1.1 0.3 0.0 -136.3
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	449 0 0 0 0 658 0 116 134 90 978 142 7 1 86 44 0	493 1917 2597 1582 988 0 1414 917 180 415 0 387 117 156 8 34 0 WR-NR	5.3 0.0 0.0 0.0 0.0 11.7 0.0 0.0 0.0 0.0 0.0 0.0 1.1 0.0 1.1 0.4 0.0 41.3	2.7 29.6 44.4 25.2 32.3 0.0 29.9 5.9 0.2 3.0 0.0 1 1.1 1.9 0.0 0.1 0.0 177.6	2.6 -29.6 -44.4 -25.2 -32.3 11.7 -29.9 -5.9 -0.2 -3.0 22.7 -1 -1.0 -1.9 1.1 0.3 0.0 -136.3
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	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-WORAK 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 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 0 658 0 116 134 90 978 142 7 1 86 44 0	493 1917 2597 1582 988 0 1414 917 180 415 0 387 117 156 8 34 0 WR-NR	5.3 0.0 0.0 0.0 0.0 11.7 0.0 0.0 0.0 0.0 0.0 11.7 0.0 0.0 1.1 0.0 1.1 0.4 0.0 41.3	2.7 29.6 44.4 25.2 32.3 0.0 29.9 5.9 0.2 3.0 0.0 1 1.1 1.9 0.0 0.1 0.0 177.6	2.6 -29.6 -44.4 -25.2 -32.3 11.7 -29.9 -5.9 -0.2 -3.0 22.7 -1 -1.0 -1.9 1.1 0.3 0.0 -136.3
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	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-WORAK 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	449 0 0 0 0 658 0 116 134 90 978 142 7 1 86 44 0	493 1917 2597 1582 988 0 1414 917 180 415 0 387 117 156 8 34 0 WR-NR	5.3 0.0 0.0 0.0 0.0 0.0 11.7 0.0 0.0 0.0 0.0 0.0 11.7 0.0 0.0 1.1 0.4 0.0 41.3	2.7 29.6 44.4 25.2 32.3 0.0 29.9 5.9 0.2 3.0 0.0 1 1.1 1.9 0.0 0.1 0.0 177.6 7.9 0.0 34.6 56.8	2.6 -29.6 -44.4 -25.2 -32.3 -11.7 -29.9 -5.9 -0.2 -3.0 -22.7 -1 -1.0 -1.9 -1.1 -0.3 -0.0 -136.3 -7.9 -0.0 -34.6 -56.8
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 - 765 kV	CHAMPA-KURUKSHETRA VCHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-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) BHADSUR-LSILERU 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 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 0 658 0 116 134 90 978 142 7 1 86 44 0	493 1917 2597 1582 988 0 1414 917 180 415 0 387 117 156 8 34 0 WR-NR	5.3 0.0 0.0 0.0 0.0 11.7 0.0 0.0 0.0 0.0 0.0 11.7 0.0 0.0 1.1 0.0 1.1 0.4 0.0 41.3	2.7 29.6 44.4 25.2 32.3 0.0 29.9 5.9 0.2 3.0 0.0 1 1.1 1.9 0.0 0.1 0.0 177.6	2.6 -29.6 -44.4 -25.2 -32.3 11.7 -29.9 -5.9 -0.2 -3.0 22.7 -1 -1.0 -1.9 1.1 0.3 0.0 -136.3
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 - 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 RAPP-SHUJALPUR BHANPURA-RANPUR BHANPURA-RANPUR BHANPURA-WORAK 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 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 0 116 134 90 978 142 7 1 1 86 44 0 0 0 0 0 841	493 1917 2597 1582 988 0 1414 917 180 415 0 387 117 156 8 34 0 WR-NR	5.3 0.0 0.0 0.0 0.0 11.7 0.0 0.0 0.0 0.0 22.7 0 0.1 1.1 0.4 0.0 41.3	2.7 29.6 44.4 25.2 32.3 0.0 0.2 9.9 5.9 0.2 3.0 0.0 1 1.1 1.9 0.0 0.1 0.0 177.6 7.9 0.0 34.6 56.8 0.0	2.6 -29.6 -44.4 -25.2 -32.3 -11.7 -29.9 -5.9 -0.2 -3.0 -1.0 -1.9 -1.1 -0.3 -0.0 -136.3 -7.9 -0.0 -34.6 -56.8 -10.8
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	HVDC - 765 kV - 400 kV - 220 kV - 132kV - Export of - 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 MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHASWATI B/B BARSUR-LSILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD KOLHAPUR-KUDGI KOLHAPUR-CHIKODI	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 0 658 0 116 134 90 978 142 7 1 0 0 0 0 0 0 0 0 0 841	493 1917 2597 1582 988 0 1414 917 180 415 0 387 117 156 8 34 0 WR-NR	5.3 0.0 0.0 0.0 0.0 11.7 0.0 0.0 0.0 0.0 0.0 0.0 1.1 0.4 0.0 41.3	2.7 29.6 44.4 25.2 32.3 0.0 29.9 0.2 3.0 0.0 1 1.1 1.9 0.0 0.1 0.0 177.6 7.9 0.0 34.6 56.8 0.0 0.0	2.6 -29.6 -44.4 -25.2 -32.3 11.7 -29.9 -5.9 -0.2 -3.0 22.7 -1 -1.0 -1.9 1.1 0.3 0.0 -136.3 -7.9 0.0 -34.6 -56.8 10.8 0.0
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 - 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-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	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 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 0 0 658 0 116 134 90 978 142 7 1 866 44 0 0 0 0 0 0 0 0 0 841	493 1917 2597 1582 988 0 1414 917 180 415 0 387 117 156 8 34 0 WR-NR	5.3 0.0 0.0 0.0 0.0 0.0 11.7 0.0 0.0 0.0 0.0 0.0 1.1 0.4 0.0 41.3	2.7 29.6 44.4 25.2 32.3 0.0 29.9 0.2 3.0 0.0 1 1.1 1.9 0.0 0.1 0.0 177.6 7.9 0.0 34.6 56.8 0.0 0.0	2.6 -29.6 -44.4 -25.2 -32.3 11.7 -29.9 -5.9 -0.2 -3.0 22.7 -1 -1.0 -1.9 1.1 0.3 0.0 -136.3 -7.9 0.0 -34.6 -56.8 10.8 0.0 -1.3
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 - 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-WARIAM 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 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	449 0 0 0 0 0 0 0 658 0 116 134 90 978 142 7 1 86 44 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	493 1917 2597 1582 988 0 1414 917 180 415 0 387 117 156 8 34 0 WR-NR	5.3 0.0 0.0 0.0 0.0 0.0 11.7 0.0 0.0 0.0 0.0 0.0 0.0 1.1 0.4 0.0 41.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	2.7 29.6 44.4 25.2 32.3 0.0 29.9 0.2 3.0 0.0 1 1.1 1.9 0.0 0.1 0.0 177.6 7.9 0.0 34.6 56.8 0.0 0.0	2.6 -29.6 -44.4 -25.2 -32.3 11.7 -29.9 -5.9 -0.2 -3.0 22.7 -1 -1.0 -1.9 1.1 0.3 0.0 -136.3 -7.9 0.0 -34.6 -56.8 10.8 0.0 -1.3 1.8
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 59	HVDC - 765 kV - 400 kV - 220 kV - 132kV - Export of - HVDC - 765 kV - 400 kV	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-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-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 S/C S/C S/C S/C S/C S/C S/C S	449 0 0 0 0 0 0 658 0 116 134 90 978 142 7 1 866 44 0 0 0 0 0 0 0 0 0 841	493 1917 2597 1582 988 0 1414 917 180 415 0 387 117 156 8 34 0 WR-NR	5.3 0.0 0.0 0.0 0.0 0.0 11.7 0.0 0.0 0.0 0.0 0.0 0.0 1.1 0.4 0.0 41.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	2.7 29.6 44.4 25.2 32.3 0.0 29.9 0.2 3.0 0.0 1 1.1 1.9 0.0 0.1 0.0 177.6 7.9 0.0 34.6 56.8 0.0 0.0	2.6 -29.6 -44.4 -25.2 -32.3 11.7 -29.9 -5.9 -0.2 -3.0 22.7 -1 -1.0 -1.9 1.1 0.3 0.0 -136.3 -7.9 0.0 -34.6 -56.8 10.8 0.0 -1.3 1.8 -88.0
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 - 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-WARIAM 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 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	449 0 0 0 0 0 0 0 658 0 116 134 90 978 142 7 1 86 44 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	493 1917 2597 1582 988 0 1414 917 180 415 0 387 117 156 8 34 0 WR-NR	5.3 0.0 0.0 0.0 0.0 0.0 11.7 0.0 0.0 0.0 0.0 0.0 0.0 1.1 0.4 0.0 41.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	2.7 29.6 44.4 25.2 32.3 0.0 29.9 0.2 3.0 0.0 1 1.1 1.9 0.0 0.1 0.0 177.6 7.9 0.0 34.6 56.8 0.0 0.0	2.6 -29.6 -44.4 -25.2 -32.3 11.7 -29.9 -5.9 -0.2 -3.0 22.7 -1 -1.0 -1.9 1.1 0.3 0.0 -136.3 -7.9 0.0 -34.6 -56.8 10.8 0.0 -1.3 1.8