

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: 23rd 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 22.02.2020.

महोदय/Dear Sir,

आई॰ई॰जी॰सी॰-२०१० की धारा स.-5.5.1 के प्रावधान के अनुसार, दिनांक 22-फरवरी-2020 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 22nd Feb 2020, is available at the NLDC website.

धन्यवाद,

Date of Reporting

23-Feb-20

Report for previous day

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 42953 49887 48656 17605 2366 161467 hrs; from RLDCs)
Peak Shortage (MW) 530 569 39 0 0 Energy Met (MU) 903 1230 1084 352 41 3609 Hydro Gen (MU) Wind Gen (MU) 132 38 81 34 4 288 22 64 73 159 Solar Gen (MU)* 36.50 27.40 96.22 1.17 0.02 161 Energy Shortage (MU) 13.0 0.0 0.0 0.0 0.7 13.7 Maximum Demand Met during the day (MW) & time 58403 18587 171379 45686 50708 2409 (from NLDC SCADA) 08:30 11:04 09:25 19:18 18:03 09:25

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	0.040	0.00	0.08	7.05	7.13	71.72	21.15

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	5914	0	118.0	77.2	-0.9	162	0.0
	Haryana	6099	0	115.6	81.7	0.9	282	0.0
	Rajasthan	13627	0	247.3	62.0	0.2	539	0.0
	Delhi	3592	0	60.7	45.4	-1.3	149	0.0
NR	UP	13115	200	247.1	109.1	1.4	882	1.3
	Uttarakhand	1884	0	34.6	15.8	-0.3	156	0.0
	HP	1571	0	26.8	19.5	0.0	155	0.0
	J&K(UT) and Ladakh(UT)	2414	604	49.5	44.5	-0.4	229	11.8
	Chandigarh	205	0	3.3	3.4	0.0	20	0.0
	Chhattisgarh	3990	0	88.1	42.9	-1.6	255	0.0
	Gujarat	16244	0	349.9	88.2	3.9	660	0.0
	MP	13449	0	255.9	129.9	-4.7	714	0.0
WR	Maharashtra	23637	0	489.1	154.7	-0.8	455	0.0
WK	Goa	499	0	10.6	10.1	0.0	39	0.0
	DD	325	0	6.8	6.5	0.3	30	0.0
	DNH	797	0	18.5	18.4	0.1	36	0.0
	Essar steel	769	0	10.8	11.3	-0.5	231	0.0
	Andhra Pradesh	9616	0	194.6	66.0	0.7	396	0.0
	Telangana	12454	0	252,2	140.5	0.4	885	0.0
SR	Karnataka	12207	0	236.8	79.7	-0.5	401	0.0
3K	Kerala	3738	0	76.9	59.7	2.4	236	0.0
	Tamil Nadu	14418	0	316.4	163.6	0.2	409	0.0
	Pondy	353	0	7.4	7.9	-0.5	33	0.0
	Bihar	3774	0	64.0	63.9	-1.2	261	0.0
	DVC	3166	0	65.2	-37.2	0.0	360	0.0
ER	Jharkhand	1250	0	24.3	18.5	-0.3	75	0.0
LIN	Odisha	3917	0	71.6	3.0	-1.1	370	0.0
	West Bengal	6669	0	124.9	31.1	-0.7	259	0.0
	Sikkim	123	0	1.7	1.8	-0.1	35	0.0
	Arunachal Pradesh	116	1	2.0	2.0	-0.1	58	0.0
	Assam	1385	35	22.8	19.6	0.2	112	0.4
	Manipur	189	1	2.6	2.8	-0.3	18	0.0
NER	Meghalaya	373	0	6.0	5.0	0.1	34	0.2
	Mizoram	89	1	1.7	1.3	0.3	26	0.0
	Nagaland	124	1	2.1	1.9	0.0	39	0.0
	Tripura	225	1	3.4	1.5	-0.1	61	0.0

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

The state of the s	Bhutan	Nepal	Bangladesh
Actual(MU)	1.8	-9.9	-14.3
Day peak (MW)	340.7	-545.7	-944.0

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

	NR	WR	SR	ER	NER	TOTAL
Schedule(MU)	204.7	-257.1	136.3	-96.8	12.9	0.1
Actual(MU)	196.5	-261.9	146.7	-98.5	15.9	-1.3
O/D/U/D(MU)	-8.2	-4.8	10.4	-1.7	3.0	-1.3

F. Generation Outage(MW)

	NR	WR	SR	ER	NER	Total
Central Sector	5239	12953	5652	2280	1090	27214
State Sector	15475	15520	8915	4770	11	44691
Total	20714	28472	14567	7050	1101	71904

G. Sourcewise generation (MU)

	NR	WR	SR	ER	NER	All India
Coal	425	1248	530	455	11	2669
Lignite	27	17	54	0	0	98
Hydro	132	38	81	34	4	288
Nuclear	19	37	45	0	0	101
Gas, Naptha & Diesel	36	47	16	0	15	113
RES (Wind, Solar, Biomass & Others)	85	104	210	1	0	400
Total	724	1491	935	490	29	3670

Share of RES in total generation (%)	11.72	7.00	22.46	0.25	0.07	10.91
Share of Non-fossil fuel (Hydro, Nuclear and RES) in total generation (%)	32.54	12.00	35.91	7.16	13.40	21.51

H. All India Demand Diversity Factor

-	11 111 maia Bemana Biversity Tuctor	
I	Based on Regional Max Demands	1.026
ſ	Based on State Max Demands	1.064

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-REGI	ONAL EXCH	ANGES	Date of I	Reporting :	23-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/F		ER (With NR)					()	()
5	HVDC	ALIPURDUAR-AGRA PUSAULI B/B	S/C	0	0 251	0.0	0.0 5.9	0.0 -5.9
1		GAYA-VARANASI	D/C	74	821	0.0	8.9	-8.9
2	765kV	SASARAM-FATEHPUR	S/C	112	295	0.0	2.5	-2.5
3		GAYA-BALIA	S/C	0	432	0.0	6.6	-6.6
6		PUSAULI-VARANASI	S/C	0	225	0.0	4.1	-4.1
7		PUSAULI -ALLAHABAD	S/C	0	131	0.0	1.8	-1.8
9	400 kV	MUZAFFARPUR-GORAKHPUR PATNA-BALIA	D/C Q/C	252 0	341 669	0.4	7.7	-7.7
10	400 K	BIHARSHARIFF-BALIA	D/C	66	312	0.0	3.2	-3.2
11		MOTIHARI-GORAKHPUR	D/C	0	493	0.0	8.0	-8.0
12		BIHARSHARIFF-VARANASI	D/C	204	242	0.0	0.0	0.0
13	220 kV	PUSAULI-SAHUPURI	S/C	0	179	0.0	2.7	-2.7
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		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/F	Evnert of	FR (With WP)			ER-NR	0.8	51.4	-50.6
	vybort of	ER (With WR)	1		1			
18	765 kV	JHARSUGUDA-DHARAMJAIGARH	Q/C	1692	0	34.2	0.0	34.2
19	/05 KV	NEW RANCHI-DHARAMJAIGARH	D/C	848	0	11.5	0.0	11.5
20		JHARSUGUDA-DURG JHARSUGUDA-RAIGARH	D/C Q/C	188 96	47 409	1.5 0.0	0.0 4.2	1.5 -4.2
22	400 kV	JHARSUGUDA-RAIGARH RANCHI-SIPAT	Q/C D/C	261	0	3.0	0.0	3.0
23		BUDHIPADAR-RAIGARH	S/C	0	0	0.0	0.0	0.0
24	220 kV	BUDHIPADAR-KORBA	D/C	105	0	1.2	0.0	1.2
					ER-WR	51.4	4.2	47.2
Import/E	Export of	ER (With SR)						
26	HVDC	JEYPORE-GAZUWAKA B/B	D/C	0.0	668.0	0.0	16.2	-16.2
27		TALCHER-KOLAR BIPOLE	D/C	0.0	2452.0	0.0	50.2	-50.2
25	765 kV	ANGUL-SRIKAKULAM	D/C	0.0	2617.0	0.0	48.9	-48.9
28	400 kV	TALCHER-I/C	D/C	0.0	983.0	0.0	7.3	-7.3
29	220 kV	BALIMELA-UPPER-SILERRU	S/C	1.0	0.0 ER-SR	0.0	0.0	0.0 -115.3
Import/E	Export of	ER (With NER)			231 511	0.0	110.0	-113.5
30	Ĺ	BINAGURI-BONGAIGAON	D/C	0	606	0.0	10.4	-10
31	400 kV	ALIPURDUAR-BONGAIGAON	D/C	0	918	0.0	15.8	-16
32	220 kV	ALIPURDUAR-SALAKATI	D/C	0	179	0.0	2.9	-3
					ER-NER	0.0	29.1	-29.1
		NER (With NR)				0.0	100	100
33	HVDC			0	502	0.0	12.0	-12.0
	11.20	BISWANATH CHARIALI-AGRA	-		MED ND	0.0	12.0	12.0
Import/E			-		NER-NR	0.0	12.0	-12.0
		WR (With NR)		0	_			
34			D/C D/C	0 446	0 493	0.0	0.0	0.0
	Export of	WR (With NR) CHAMPA-KURUKSHETRA	D/C		0		0.0	0.0
34 35	Export of	WR (With NR) CHAMPA-KURUKSHETRA V'CHAL B/B	D/C D/C	446	0 493	0.0 5.6	0.0	0.0 2.6
34 35 36	Export of	WR (With NR) CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR	D/C D/C D/C	446	0 493 1923	0.0 5.6 0.0	0.0 3.0 40.7	0.0 2.6 -40.7 -42.9 -21.0
34 35 36 37 38 39	Export of	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 D/C D/C D/C D/C	0 0 0 0 0	0 493 1923 2621 1401 1000	0.0 5.6 0.0 0.0 0.0 0.0	0.0 3.0 40.7 42.9 21.0 31.2	0.0 2.6 -40.7 -42.9 -21.0 -31.2
34 35 36 37 38 39 40	Export of HVDC	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 S/C	446 0 0 0 0 0 0 630	0 493 1923 2621 1401 1000 0	0.0 5.6 0.0 0.0 0.0 0.0 10.3	0.0 3.0 40.7 42.9 21.0 31.2 0.0	0.0 2.6 -40.7 -42.9 -21.0 -31.2 10.3
34 35 36 37 38 39 40 41	Export of 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	446 0 0 0 0 0 0 630 0	0 493 1923 2621 1401 1000 0 1438	0.0 5.6 0.0 0.0 0.0 0.0 10.3	0.0 3.0 40.7 42.9 21.0 31.2 0.0 27.7	0.0 2.6 -40.7 -42.9 -21.0 -31.2 10.3 -27.7
34 35 36 37 38 39 40 41 42	Export of HVDC	WR (With NR) 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 D/C D/C S/C S/C D/C	446 0 0 0 0 0 0 630 0 7	0 493 1923 2621 1401 1000 0 1438 1309	0.0 5.6 0.0 0.0 0.0 0.0 10.3 0.0	0.0 3.0 40.7 42.9 21.0 31.2 0.0 27.7 6.8	0.0 2.6 40.7 42.9 -21.0 -31.2 10.3 -27.7 -6.8
34 35 36 37 38 39 40 41 42 43	Export of 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	446 0 0 0 0 0 630 0 7 137	0 493 1923 2621 1401 1000 0 1438 1309 219	0.0 5.6 0.0 0.0 0.0 0.0 10.3 0.0 0.0	0.0 3.0 40.7 42.9 21.0 31.2 0.0 27.7 6.8 0.2	0.0 2.6 -40.7 -42.9 -21.0 -31.2 10.3 -27.7 -6.8 -0.2
34 35 36 37 38 39 40 41 42 43	Export of 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 D/C D/C D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C	446 0 0 0 0 0 630 0 7 137 173	0 493 1923 2621 1401 1000 0 1438 1309 219 395	0.0 5.6 0.0 0.0 0.0 0.0 10.3 0.0 0.0 0.0	0.0 3.0 40.7 42.9 21.0 31.2 0.0 27.7 6.8 0.2	0.0 2.6 -40.7 -42.9 -21.0 -31.2 10.3 -27.7 -6.8 -0.2
34 35 36 37 38 39 40 41 42 43 44 45	Export of 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-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND	D/C 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	446 0 0 0 0 0 630 0 7 137 173 993	0 493 1923 2621 1401 1000 0 1438 1309 219 395 0	0.0 5.6 0.0 0.0 0.0 0.0 10.3 0.0 0.0 0.0 0.0	0.0 3.0 40.7 42.9 21.0 31.2 0.0 27.7 6.8 0.2 0.6	0.0 2.6 -40.7 -42.9 -21.0 -31.2 10.3 -27.7 -6.8 -0.2 -0.6 22.9
34 35 36 37 38 39 40 41 42 43	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	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	446 0 0 0 0 0 630 0 7 137 173	0 493 1923 2621 1401 1000 0 1438 1309 219 395	0.0 5.6 0.0 0.0 0.0 0.0 10.3 0.0 0.0 0.0	0.0 3.0 40.7 42.9 21.0 31.2 0.0 27.7 6.8 0.2 0.6 0.0	0.0 2.6 -40.7 -42.9 -21.0 -31.2 10.3 -27.7 -6.8 -0.2 -0.6
34 35 36 37 38 39 40 41 42 43 44 45 46	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 D/C D/C S/C S/C S/C S/C S/C S/C S/C	446 0 0 0 0 0 630 0 7 137 173 993 152	0 493 1923 2621 1401 1000 0 1438 1309 219 395 0 313	0.0 5.6 0.0 0.0 0.0 0.0 10.3 0.0 0.0 0.0 0.0 22.9	0.0 3.0 40.7 42.9 21.0 31.2 0.0 27.7 6.8 0.2 0.6	0.0 2.6 -40.7 -42.9 -21.0 -31.2 10.3 -27.7 -6.8 -0.2 -0.6 22.9
34 35 36 37 38 39 40 41 42 43 44 45 46 47	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	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	446 0 0 0 0 0 630 0 7 137 173 993 152 7	0 493 1923 2621 1401 1000 0 1438 1309 219 395 0 313	0.0 5.6 0.0 0.0 0.0 10.3 0.0 0.0 0.0 0.0 0.0 0.0	0.0 3.0 40.7 42.9 21.0 31.2 0.0 27.7 6.8 0.2 0.6 0.0	0.0 2.6 40.7 42.9 -21.0 -31.2 10.3 -27.7 -6.8 -0.2 -0.6 22.9 -1 -0.9
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 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	446 0 0 0 0 0 630 0 7 137 173 993 152 7	0 493 1923 2621 1401 1000 0 1438 1309 219 395 0 313 109	0.0 5.6 0.0 0.0 0.0 10.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 3.0 40.7 42.9 21.0 31.2 0.0 27.7 6.8 0.2 0.6 0.0 1	0.0 2.6 -40.7 -42.9 -21.0 -31.2 10.3 -27.7 -6.8 -0.2 -0.6 22.9 -1 -0.9 -1.8
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49	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	446 0 0 0 0 630 0 7 137 173 993 152 7 7	0 493 1923 2621 1401 1000 0 1438 1309 219 395 0 313 109 143	0.0 5.6 0.0 0.0 0.0 0.0 10.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 3.0 40.7 42.9 21.0 31.2 0.0 27.7 6.8 0.2 0.6 0.0 1 1.0	0.0 2.6 40.7 42.9 -21.0 -31.2 10.3 -27.7 -6.8 -0.2 -0.6 22.9 -1 -0.9 -1.8 1.3
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51	Export of 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	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	446 0 0 0 0 0 630 0 7 137 173 993 152 7 7 89 48	0 493 1923 2621 1401 1000 0 1438 1309 219 395 0 313 109 143 0	0.0 5.6 0.0 0.0 0.0 0.0 10.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 3.0 40.7 42.9 21.0 31.2 0.0 27.7 6.8 0.2 0.6 0.0 1 1.0 1.8	0.0 2.6 40.7 42.9 -21.0 31.2 10.3 -27.7 -6.8 -0.2 -0.6 22.9 -1 -0.9 -1.8 1.3 0.5
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51	Export of 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)	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	446 0 0 0 0 0 630 0 7 137 173 993 152 7 7 89 48	0 493 1923 2621 1401 1000 0 1438 1309 219 395 0 313 109 143 0 20 0 WR-NR	0.0 5.6 0.0 0.0 0.0 0.0 10.3 0.0 0.0 0.0 0.0 0.0 1.3 0.5 0.0 40.8	0.0 3.0 40.7 42.9 21.0 31.2 0.0 27.7 6.8 0.2 0.6 0.0 1 1.0 1.8 0.0 0.0 177.6	0.0 2.6 40.7 42.9 -21.0 -31.2 10.3 -27.7 -6.8 -0.2 -0.6 22.9 -1 -0.9 -1.8 1.3 0.5 0.0 -136.8
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51	Export of 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	446 0 0 0 0 0 0 630 0 7 137 173 993 152 7 7 89 48 0	0 493 1923 2621 1401 1000 0 1438 1309 219 395 0 313 109 143 0 20 0 WR-NR	0.0 5.6 0.0 0.0 0.0 0.0 10.3 0.0 0.0 0.0 0.0 0.0 0.0 1.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	0.0 3.0 40.7 42.9 21.0 31.2 0.0 27.7 6.8 0.2 0.6 0.0 1 1.0 1.8 0.0 0.0 177.6	0.0 2.6 40.7 42.9 -21.0 -31.2 10.3 -27.7 -6.8 -0.2 -0.6 22.9 -1 -0.9 -1.8 1.3 0.5 0.0 -136.8
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	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 D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	446 0 0 0 0 0 630 0 7 137 173 993 152 7 7 89 48 0	0 493 1923 2621 1401 1000 0 1438 1309 219 395 0 313 109 143 0 20 0 WR-NR	0.0 5.6 0.0 0.0 0.0 0.0 10.3 0.0 0.0 0.0 0.0 0.0 10.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 3.0 40.7 42.9 21.0 31.2 0.0 27.7 6.8 0.2 0.6 0.0 1 1.0 1.8 0.0 0.0 177.6	0.0 2.6 40.7 42.9 -21.0 -31.2 10.3 -27.7 -6.8 -0.2 -0.6 22.9 -1 -0.9 -1.8 1.3 0.5 0.0 -136.8
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	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 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	446 0 0 0 0 0 630 0 7 137 173 993 152 7 7 89 48 0	0 493 1923 2621 1401 1000 0 1438 1309 219 395 0 313 109 143 0 20 0 WR-NR	0.0 5.6 0.0 0.0 0.0 0.0 10.3 0.0 0.0 0.0 0.0 0.0 1.3 0.5 0.0 40.8	0.0 3.0 40.7 42.9 21.0 31.2 0.0 27.7 6.8 0.2 0.6 0.0 1 1.0 1.8 0.0 0.0 177.6	0.0 2.6 40.7 42.9 -21.0 -31.2 10.3 -27.7 -6.8 -0.2 -0.6 22.9 -1 -0.9 -1.8 1.3 0.5 0.0 -136.8
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/F 52 53 54 55	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-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 S/C S	446 0 0 0 0 0 0 630 0 7 137 173 993 152 7 7 89 48 0	0 493 1923 2621 1401 1000 0 1438 1309 219 395 0 313 109 143 0 20 0 WR-NR	0.0 5.6 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	0.0 3.0 40.7 42.9 21.0 31.2 0.0 27.7 6.8 0.2 0.6 0.0 1 1.0 1.8 0.0 0.0 177.6 23.8 0.0 25.9 45.9	0.0 2.6 40.7 42.9 -21.0 -31.2 10.3 -27.7 -6.8 -0.2 -0.6 22.9 -1 -0.9 -1.8 1.3 0.5 0.0 -136.8
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/F 52 53 54 55	Export of 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-RANPUR BHANPURA-WORAK MEHGAON-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHADRAWATI B'B BARSUR-L-SILIERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD KOLHAPUR-KUDGI	D/C	446 0 0 0 0 0 0 630 0 7 137 173 993 152 7 7 89 48 0 0 0 1142	0 493 1923 2621 1401 1000 0 1438 1309 219 395 0 313 109 143 0 20 0 WR-NR	0.0 5.6 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	0.0 3.0 40.7 42.9 21.0 31.2 0.0 27.7 6.8 0.2 0.6 0.0 1 1.0 1.8 0.0 0.0 177.6 23.8 0.0 25.9 45.9	0.0 2.6 40.7 42.9 -21.0 -31.2 10.3 -27.7 -6.8 -0.2 -0.6 22.9 -1 -0.9 -1.8 1.3 0.5 0.0 -136.8 -23.8 0.0 -24.9 -45.9 16.2
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	220 kV 220 kV 2400 kV 400 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-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	D/C	446 0 0 0 0 0 0 630 0 7 137 173 993 152 7 7 7 89 48 0 0 1142 0	0 493 1923 2621 1401 1000 0 1438 1309 219 395 0 313 109 1443 0 20 0 WR-NR	0.0 5.6 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	0.0 3.0 40.7 42.9 21.0 31.2 0.0 27.7 6.8 0.2 0.6 0.0 1 1.0 0.0 177.6 23.8 0.0 25.9 45.9 0.0 0.0	0.0 2.6 40.7 42.9 -21.0 -31.2 10.3 -27.7 -6.8 -0.2 -0.6 22.9 -1 -0.9 -1.8 1.3 0.5 0.0 -136.8 -23.8 0.0 -24.9 -45.9 16.2 0.0
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 58	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	446 0 0 0 0 0 0 630 0 7 137 173 993 152 7 7 7 89 48 0 0 1142 0 0	0 493 1923 2621 1401 1000 0 1438 1309 219 395 0 313 109 143 0 20 0 WR-NR	0.0 5.6 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	0.0 3.0 40.7 42.9 21.0 31.2 0.0 27.7 6.8 0.2 0.6 0.0 1 1.0 0.0 177.6 23.8 0.0 25.9 45.9 0.0 0.0 1.4	0.0 2.6 40.7 42.9 -21.0 -31.2 10.3 -27.7 -6.8 -0.2 -0.6 22.9 -1 -0.9 -1.8 1.3 0.5 0.0 -136.8 -23.8 0.0 -24.9 -45.9 16.2 0.0 -1.4
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/F 52 53 54 55 56 57	220 kV 220 kV 2400 kV 400 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-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	D/C	446 0 0 0 0 0 0 630 0 7 137 173 993 152 7 7 7 89 48 0 0 1142 0	0 493 1923 2621 1401 1000 0 1438 1309 219 395 0 313 109 143 0 0 WR-NR	0.0 5.6 0.0 0.0 0.0 0.0 10.3 0.0 0.0 0.0 0.0 0.0 0.0 1.3 0.5 0.0 40.8	0.0 3.0 40.7 42.9 21.0 31.2 0.0 27.7 6.8 0.2 0.6 0.0 1 1.0 1.8 0.0 0.0 177.6 23.8 0.0 25.9 45.9 0.0 0.0 1.4	0.0 2.6 40.7 42.9 -21.0 -31.2 10.3 -27.7 -6.8 -0.2 -0.6 22.9 -1 -0.9 -1.8 1.3 0.5 0.0 -136.8 -23.8 0.0 -24.9 45.9 16.2 0.0 -1.4 1.8
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 58	220 kV 220 kV 2400 kV 400 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 S/C S	446 0 0 0 0 0 0 630 0 7 137 173 993 152 7 7 89 48 0 0 1142 0 0 0	0 493 1923 2621 1401 1000 0 1438 1309 219 395 0 313 109 143 0 20 0 WR-NR	0.0 5.6 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	0.0 3.0 40.7 42.9 21.0 31.2 0.0 27.7 6.8 0.2 0.6 0.0 1 1.0 0.0 177.6 23.8 0.0 25.9 45.9 0.0 0.0 1.4	0.0 2.6 40.7 42.9 -21.0 -31.2 10.3 -27.7 -6.8 -0.2 -0.6 22.9 -1 -0.9 -1.8 1.3 0.5 0.0 -136.8 -23.8 0.0 -24.9 -45.9 16.2 0.0 -1.4
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	220 kV 220 kV 2400 kV 400 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-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 S/C S	446 0 0 0 0 0 0 630 0 7 137 173 993 152 7 7 7 89 48 0 0 1142 0 0	0 493 1923 2621 1401 1000 0 1438 1309 219 395 0 313 109 143 0 20 0 WR-NR	0.0 5.6 0.0 0.0 0.0 0.0 10.3 0.0 0.0 0.0 0.0 0.0 0.0 1.3 0.5 0.0 40.8	0.0 3.0 40.7 42.9 21.0 31.2 0.0 27.7 6.8 0.2 0.6 0.0 1 1.0 1.8 0.0 0.0 177.6 23.8 0.0 25.9 45.9 0.0 0.0 1.4	0.0 2.6 -40.7 -42.9 -21.0 -31.2 10.3 -27.7 -6.8 -0.2 -0.6 22.9 -1 -0.9 -1.8 1.3 0.5 0.0 -136.8 -23.8 0.0 -24.9 -45.9 16.2 0.0 -1.4 1.8 -77.9
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 58	220 kV 220 kV 2400 kV 400 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 S/C S	446 0 0 0 0 0 0 630 0 7 137 173 993 152 7 7 89 48 0 0 1142 0 0 0	0 493 1923 2621 1401 1000 0 1438 1309 219 395 0 313 109 143 0 20 0 WR-NR	0.0 5.6 0.0 0.0 0.0 0.0 10.3 0.0 0.0 0.0 0.0 0.0 0.0 1.3 0.5 0.0 40.8	0.0 3.0 40.7 42.9 21.0 31.2 0.0 27.7 6.8 0.2 0.6 0.0 1 1.0 1.8 0.0 0.0 177.6 23.8 0.0 25.9 45.9 0.0 0.0 1.4	0.0 2.6 40.7 42.9 -21.0 -31.2 10.3 -27.7 -6.8 -0.2 -0.6 22.9 -1 -0.9 -1.8 1.3 0.5 0.0 -136.8 -23.8 0.0 -24.9 -45.9 16.2 0.0 -1.4 1.8