

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: 15th August 2018

Τо

- 1. कार्यकारी निदेशक, पू.क्षे.भा .प्रे.के.,14, गोल्फ क्लब रोड, कोलकाता ७०००३३ Executive Director, ERLDC, 14 Golf Club Road, Tolleygunge, Kolkata, 700033
- 2. महाप्रबंधक, ऊ. क्षे. भा. प्रे. के., 18/ ए, शहीद जीत सिंह सनसनवाल मार्ग, नई दिल्ली 110016 General Manager, 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 ७९३००६ Executive Director, NERLDC, Dongteih, Lower Nongrah, Lapalang, Shillong - 793006, Meghalaya
- 5. महाप्रबंधक , द .क्षे .भा .प्रे .के., २९ , रेस कोर्स क्रॉस रोड, बंगलुरु -560009 General Manager, SRLDC, 29, Race Course Cross Road, Bangalore-560009

Sub: Daily PSP Report for the date 14.08.2018.

महोदय/Dear Sir,

आई॰ई॰जी॰सी॰-2010 की धारा स.-5.5.1 के प्रावधान के अनुसार, दिनांक 14-अगस्त-2018 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 14th August 2018, is available at the NLDC website.

धन्यवाद,

पॉवर सिस्टम ऑपरेशन कारपोरेशन लिमिटेड राष्ट्रीय भार प्रेषण केंद्र, नई दिल्ली

Report for previous day **Date of Reporting** 15-Aug-18

A. Maximum Demand

	NR	WR	SR	ER	NER	Total
Demand Met during Evening Peak hrs(MW) (at 2000 hrs; from RLDCs)	55977	48223	38322	21102	2708	166332
Peak Shortage (MW)	993	0	0	160	103	1256
Energy Met (MU)	1264	1131	849	457	53	3755
Hydro Gen (MU)	228	34	161	107	23	553
Wind Gen (MU)	19	112	211			343
Solar Gen (MU)*	17.45	13.34	38.04	0.62	0.02	69
Energy Shortage (MU)	10.4	0.0	0.0	0.5	0.8	11.7
Maximum Demand Met during the day	57762	50526	38354	21980	2751	168279
(MW) & time (from NLDC SCADA)	23:45	11:49	07:34	19:57	18:59	19:58

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	0.043	0.00	0.57	11.50	12.07	80.83	7.09

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
NR	Punjab	10669	0	243.8	139.7	-1.0	65	0.0
	Harvana	9120	0	193.0	148.9	-0.1	148	0.0
	Rajasthan	10946	0	242.2	85.7	8.4	685	0.0
	Delhi	5777	0	117.3	101.0	-1.4	190	0.0
	UP	17328	0	360.2	190.0	0.2	316	0.0
	Uttarakhand	1926	0	38.2	21.2	1.0	141	1.6
	HP	1310	0	26.5	-2.1	3.0	568	0.0
	J&K	2018	505	37.3	24.7	-3.2	194	8.9
	Chandigarh	294	0	5.6	6.0	-0.4	39	0.0
	Chhattisgarh	3728	0	86.4	14.7	-0.8	110	0.0
	Gujarat	16463	0	365.2	73.1	5.1	572	0.0
	MP	8454	0	188.3	80.6	-0.3	573	0.0
WD	Maharashtra	20296	0	446.2	120.5	4.4	849	0.0
WR	Goa	423	0	9.4	8.8	0.0	155	0.0
	DD	343	0	7.5	6.5	1.0	72	0.0
	DNH	783	0	18.4	16.9	1.5	105	0.0
	Essar steel	481	0	9.8	8.8	1.0	323	0.0
	Andhra Pradesh	7152	0	158.4	11.5	0.4	697	0.0
	Telangana	8461	0	179.8	75.1	-0.3	414	0.0
SR	Karnataka	8315	0	164.5	23.4	-1.9	762	0.0
3N	Kerala	2715	0	56.6	20.8	-1.4	219	0.0
	Tamil Nadu	13243	0	282.5	80.5	-2.6	717	0.0
	Pondy	351	0	7.5	7.5	0.0	73	0.0
	Bihar	4824	0	95.3	90.3	2.8	401	0.0
	DVC	2781	0	65.0	-28.6	4.0	385	0.5
ER	Jharkhand	1065	0	24.1	18.4	-0.2	165	0.0
EN	Odisha	4995	0	95.6	45.2	0.4	400	0.0
	West Bengal	8766	0	176.1	68.9	3.0	435	0.0
	Sikkim	87	0	1.2	1.2	0.0	20	0.0
	Arunachal Pradesh	122	2	2.2	2.3	-0.1	0	0.0
	Assam	1760	59	34.6	27.8	2.0	185	0.5
	Manipur	163	3	2.3	2.4	-0.1	21	0.0
NER	Meghalaya	299	0	5.4	1.1	0.0	25	0.0
	Mizoram	75	2	1.4	1.0	0.1	11	0.0
	Nagaland	121	1	2.3	1.7	0.3	26	0.0
	Tripura	242	8	4.7	4.3	0.8	49	0.1

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

	Bhutan	Nepal	Bangladesh
Actual(MU)	32.0	-5.4	-15.3
Day peak (MW)	1563.6	-297.0	-674.9

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

	NR	WR	SR	ER	NER	TOTAL
Schedule(MU)	307.7	-273.2	6.8	-43.9	2.2	-0.4
Actual(MU)	302.0	-262.0	-17.2	-25.9	3.3	0.1
O/D/U/D(MU)	-5.7	11.2	-24.0	18.0	1.1	0.5

F. Generation Outage(MW)

	NR	WR	SR	ER	NER	Total
Central Sector	3980	15586	10722	1970	394	32652
State Sector	8695	15503	12250	7495	50	43993
Total	12675	31089	22972	9465	444	76645

G. Sourcewise generation (MU)

	NR	WR	SR	ER	NER	All India
Thermal (Coal & Lignite)	582	1174	385	403	5	2549
Hydro	302	35	161	107	23	627
Nuclear	27	27	24	0	0	79
Gas, Naptha & Diesel	16	49	24	0	26	115
RES (Wind, Solar, Biomass & Others)	51	126	280	1	0	457
Total	979	1411	875	510	53	3827

Share of RES in total generation (%)	5.20	8.92	31.96	0.12	0.08	11.94
Share of Non-fossil fuel (Hydro, Nuclear and	38.86	12.22	53.18	21.03	42.33	30,39
RES) in total generation (%)	30.00	13.32	55.16	21.03	42.33	30.39

H. Diversity Factor
All India Demand Diversity Factor
1.018
Diversity factor = Sum of regional maximum demands / All India maximum demand

						01 1	Reporting :	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)	D/G		120	0.0			
2	765kV	GAYA-VARANASI SASARAM-FATEHPUR	D/C S/C	0 288	429 0	0.0 3.7	7.6	-7.6 3.7	
3	705K V	GAYA-BALIA	S/C	0	405	0.0	7.0	-7.0	
4	www.c	ALIPURDUAR-AGRA	-	0	721	0.0	16.6	-16.6	
5	HVDC	PUSAULI B/B	S/C	0	200	0.0	3.6	-3.6	
6		PUSAULI-VARANASI	S/C	0	145	0.0	0.0	0.0	
7		PUSAULI -ALLAHABAD	S/C	0	87	0.0	0.0	0.0	
8		MUZAFFARPUR-GORAKHPUR	D/C	0	770	0.0	13.1	-13.1	
9	400 kV	PATNA-BALIA	Q/C	0	1058	0.0	20.6	-20.6	
10		BIHARSHARIFF-BALIA	D/C	0	242	0.0	4.9	-4.9	
		MOTIHARI-GORAKHPUR	D/C	119	0	5.5	0.0	5.5	
12	220 kV	BIHARSHARIFF-VARANASI	D/C S/C	25 0	0 162	0.0	0.9 3.5	-0.9 -3.5	
14	220 KV	PUSAULI-SAHUPURI SONE NAGAR-RIHAND	S/C	0	0	0.0	0.0	0.0	
15		GARWAH-RIHAND	S/C	35	0	0.6	0.0	0.6	
16	132 kV	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	
					ER-NR	9.8	77.8	-68.0	
port/E	export of	ER (With WR)						•	
18		JHARSUGUDA-DHARAMJAIGARH S/C	D/C	1096	0	15.0	0.0	15.0	
	765 kV				0				
19 20		NEW RANCHI-DHARAMJAIGARH JHARSUGUDA-RAIGARH	D/C Q/C	1086 1129	0	19.7 20.5	0.0	19.7 20.5	
21	400 kV	RANCHI-SIPAT	D/C	544	0	9.6	0.0	9.6	
22	2500	BUDHIPADAR-RAIGARH	S/C	82	30	0.7	0.0	0.7	
23	220 kV	BUDHIPADAR-KORBA	D/C	146	0	2.5	0.0	2.5	
					ER-WR	68.0	0.0	68.0	
port/E	export of	ER (With SR)						•	
24	765 kV	ANGUL-SRIKAKULAM	D/C	100.0	937.9	0.0	8.0	-8.0	
25	HVDC	JEYPORE-GAZUWAKA B/B	D/C	0.0	420.9	0.0	9.9	-9.9	
26	LINK	TALCHER-KOLAR BIPOLE	D/C	0.0	698.6	0.0	14.8	-14.8	
27	400 kV	TALCHER-I/C	D/C	1157.9	0.5	0.0	19.9	-19.9	
28	220 kV	BALIMELA-UPPER-SILERRU	S/C	0.0	0.0	0.0	0.0	0.0	
port/E	Export of	ER (With NER)			ER-SR	0.0	32.7	-32.7	
29	400 kV	BINAGURI-BONGAIGAON	D/C	0	623	0.0	11.1	-11	
30	400 K V	ALIPURDUAR-BONGAIGAON	D/C	14	354	0.0	3.8	-4	
31	220 kV	ALIPURDUAR-SALAKATI	D/C	0	124	0.0	3.7	-4	
					ER-NER	0.0	18.6	-18.6	
		NER (With NR)							
32								-16.9	
	HVDC	BISWANATH CHARIALI-AGRA	-	0	702	0.0	16.9		
			-	0	702 NER-NR	0.0	16.9 16.9	-16.9	
port/E		WR (With NR)	-		NER-NR	0.0	16.9	1	
port/E	export of	WR (With NR) CHAMPA-KURUKSHETRA	D/C	0	NER-NR	0.0	16.9 32.6	-32.6	
33 34		WR (With NR) CHAMPA-KURUKSHETRA VCHAL B/B	D/C	0	NER-NR 0 0	0.0	32.6 2.3	-32.6 -0.3	
33 34 35	export of	WR (With NR) CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG	D/C D/C	0 0 0	0 0 0	0.0 0.0 2.0 0.0	32.6 2.3 48.4	-32.6 -0.3 -48.4	
33 34 35 36	export of	WR (With NR) CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG GWALIOR-AGRA	D/C D/C D/C	0 0 0	0 0 0 0	0.0 0.0 2.0 0.0 0.0	32.6 2.3 48.4 56.6	-32.6 -0.3 -48.4 -56.6	
33 34 35 36 37	Export of HVDC	WR (With NR) CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR	D/C D/C D/C D/C	0 0 0 0	0 0 0 0 0	0.0 0.0 2.0 0.0 0.0 0.0	32.6 2.3 48.4 56.6 34.2	-32.6 -0.3 -48.4 -56.6 -34.2	
33 34 35 36 37 38	Export of 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 D/C D/C	0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.0 2.0 0.0 0.0 0.0 0.0 0.0	32.6 2.3 48.4 56.6 34.2 29.3	-32.6 -0.3 -48.4 -56.6 -34.2 -29.3	
33 34 35 36 37 38 39	Export of HVDC	WR (With NR) 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 0 0 0	NER-NR 0 0 0 0 0 0 0 0 0 0 0 0	0.0 2.0 0.0 0.0 0.0 0.0 0.0 9.8	32.6 2.3 48.4 56.6 34.2 29.3 0.0	-32.6 -0.3 -48.4 -56.6 -34.2 -29.3 9.8	
33 34 35 36 37 38 39 40	Export of HVDC	WR (With NR) 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	0 0 0 0 0 0	NER-NR 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.0 2.0 0.0 0.0 0.0 0.0 0.0 0.0	32.6 2.3 48.4 56.6 34.2 29.3 0.0 41.8	-32.6 -0.3 -48.4 -56.6 -34.2 -29.3 9.8 -41.8	
33 34 35 36 37 38 39 40	HVDC 765 kV	WR (With NR) CHAMPA-KURUKSHETRA VCHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI ZERDA-KANKROLI	D/C D/C D/C D/C D/C S/C S/C S/C	0 0 0 0 0 0 0	NER-NR 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.0 2.0 0.0 0.0 0.0 0.0 0.0 0.0	32.6 2.3 48.4 56.6 34.2 29.3 0.0 41.8	-32.6 -0.3 -48.4 -56.6 -34.2 -29.3 9.8 -41.8 -1.4	
33 34 35 36 37 38 39 40 41 42	Export of HVDC	WR (With NR) CHAMPA-KURUKSHETRA VCHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI ZERDA-KANKROLI ZERDA - BHINMAL	D/C D/C D/C D/C D/C S/C S/C S/C S/C	0 0 0 0 0 0 0 0 0	NER-NR 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.0 2.0 0.0 0.0 0.0 0.0 0.0 0.0	32.6 2.3 48.4 56.6 34.2 29.3 0.0 41.8 1.4	-32.6 -0.3 -48.4 -56.6 -34.2 -29.3 9.8 -41.8 -1.4	
33 34 35 36 37 38 39 40	HVDC 765 kV	WR (With NR) CHAMPA-KURUKSHETRA VCHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND	D/C D/C D/C D/C D/C S/C S/C S/C	0 0 0 0 0 0 0 0 0	NER-NR 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.0 2.0 0.0 0.0 0.0 0.0 0.0 0.0	32.6 2.3 48.4 56.6 34.2 29.3 0.0 41.8	-32.6 -0.3 -48.4 -56.6 -34.2 -29.3 9.8 -41.8 -1.4	
port/E 33 34 35 36 37 38 39 40 41 42 43 44	HVDC 765 kV	WR (With NR) 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	D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C D/C	0 0 0 0 0 0 0 0 0	NER-NR 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.0 0.0 2.0 0.0 0.0 0.0 0.0 0.0	32.6 2.3 48.4 56.6 34.2 29.3 0.0 41.8 1.4 3.1 0.0	-32.6 -0.3 -48.4 -56.6 -34.2 -29.3 9.8 -41.8 -1.4 -3.1 22.6	
port/E 33 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 ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BADOD-KOTA	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	0 0 0 0 0 0 0 0 0 0 0	NER-NR 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.0 0.0 2.0 0.0 0.0 0.0 0.0 0.0	32.6 2.3 48.4 56.6 34.2 29.3 0.0 41.8 1.4 3.1 0.0 4	-32.6 -0.3 -48.4 -56.6 -34.2 -29.3 9.8 -41.8 -1.4 -3.1 22.6 -4	
port/E 33 34 35 36 37 38 39 40 41 42 43 44	HVDC 765 kV	WR (With NR) 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	D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C D/C	0 0 0 0 0 0 0 0 0 0	NER-NR 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.0 0.0 2.0 0.0 0.0 0.0 0.0 0.0	32.6 2.3 48.4 56.6 34.2 29.3 0.0 41.8 1.4 3.1 0.0	-32.6 -0.3 -48.4 -56.6 -34.2 -29.3 9.8 -41.8 -1.4 -3.1 22.6	
port/E 33 34 35 36 37 38 39 40 41 42 43 44 45 46	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 ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BADOD-KOTA BADOD-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	0 0 0 0 0 0 0 0 0 0 0 0	NER-NR 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.0 0.0 2.0 0.0 0.0 0.0 0.0 0.0	32.6 2.3 48.4 56.6 34.2 29.3 0.0 41.8 1.4 3.1 0.0 4 1.0	-32.6 -0.3 -48.4 -56.6 -34.2 -29.3 9.8 -41.8 -1.4 -3.1 22.6 -4 -0.9 -1.3	
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47	Export of HVDC 765 kV	WR (With NR) CHAMPA-KURUKSHETRA VCHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI ZERDA-KANKROLI ZERDA-KANKROLI ZERDA -BHINMAL VCHAL-RIHAND RAPP-SHUJALPUR BADOD-KOTA BADOD-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	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NER-NR 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.0 2.0 0.0 0.0 0.0 0.0 0.0 0.0	32.6 2.3 48.4 56.6 34.2 29.3 0.0 41.8 1.4 3.1 0.0 4 1.0	-32.6 -0.3 -48.4 -56.6 -34.2 -29.3 9.8 -41.8 -1.4 -3.1 22.6 -4 -0.9 -1.3 0.2	
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48	Export 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 ZERDA-KANKROLI ZERDA-KANKROLI ZERDA-BHINMAL VCHAL-RIHAND RAPP-SHUJALPUR BADOD-KOTA BADOD-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	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NER-NR 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.0 0.0 2.0 0.0 0.0 0.0 0.0 0.0	32.6 2.3 48.4 56.6 34.2 29.3 0.0 41.8 1.4 3.1 0.0 4 1.0 1.3 0.1	-32.6 -0.3 -48.4 -56.6 -34.2 -29.3 9.8 -41.8 -1.4 -3.1 22.6 -4 -0.9 -1.3 0.2	
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49	220 kV	WR (With NR) CHAMPA-KURUKSHETRA VCHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI ZERDA-KANKROLI ZERDA-KANKROLI ZERDA-BHINMAL VCHAL-RIHAND RAPP-SHUJALPUR BADOD-KOTA BADOD-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	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NER-NR 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.0 0.0 2.0 0.0 0.0 0.0 0.0 0.0	32.6 2.3 48.4 56.6 34.2 29.3 0.0 41.8 1.4 3.1 0.0 4 1.0 1.3 0.1 0.5	-32.6 -0.3 -48.4 -56.6 -34.2 -29.3 9.8 -41.8 -1.4 -22.6 -4 -0.9 -1.3 -0.2 -0.4 -0.0	
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49	xport of HVDC 765 kV 400 kV 220 kV 132kV xport of	WR (With NR) 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 BADOD-KOTA BADOD-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	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NER-NR 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.0 0.0 2.0 0.0 0.0 0.0 0.0 0.0	32.6 2.3 48.4 56.6 34.2 29.3 0.0 41.8 1.4 3.1 0.0 4 1.0 1.3 0.1 0.5	-32.6 -0.3 -48.4 -56.6 -34.2 -29.3 9.8 -41.8 -1.4 -22.6 -4 -0.9 -1.3 -0.2 -0.4 -0.0	
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49	xport of HVDC 765 kV 400 kV 220 kV 132kV xport of	WR (With NR) 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 BADOD-KOTA BADOD-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	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NER-NR 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	32.6 2.3 48.4 56.6 34.2 29.3 0.0 41.8 1.4 3.1 0.0 4 1.0 1.3 0.1 0.5 0.0	-32.6 -0.3 -48.4 -56.6 -34.2 -29.3 -9.8 -41.8 -1.4 -3.1 -22.6 -4 -0.9 -1.3 -0.2 -0.4 -0.0 -221.7	
33 34 35 36 37 38 38 39 40 41 42 43 44 45 46 47 48 49 port/E 50	220 kV 220 kV 220 kV Apprt of HVDC LINK	WR (With NR) CHAMPA-KURUKSHETRA VCHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR IABALPUR-ORAI SATNA-ORAI ZERDA-KANKROLI ZERDA-BHINMAL VCHAL-RIHAND RAPP-SHUJALPUR BADOD-KOTA BADOD-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	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NER-NR 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.0 0.0 2.0 0.0 0.0 0.0 0.0 0.0	32.6 2.3 48.4 56.6 34.2 29.3 0.0 41.8 1.4 3.1 0.0 4 1.0 1.0 0.5 0.0	-32.6 -0.3 -48.4 -56.6 -34.2 -29.3 -9.8 -41.8 -1.4 -3.1 -22.6 -4 -0.9 -1.3 -0.2 -0.4 -0.0 -221.7	
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 port/E 50 51	220 kV 220 kV 220 kV Appril of HVDC	WR (With NR) CHAMPA-KURUKSHETRA VCHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR IABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI ZERDA-KANKROLI ZERDA-BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BADOD-KOTA BADOD-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	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NER-NR 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	32.6 2.3 48.4 56.6 34.2 29.3 0.0 41.8 1.4 3.1 0.0 4 1.0 1.3 0.1 0.5 5.6 6 4.7 0.0	-32.6 -0.3 -48.4 -56.6 -34.2 -29.3 -41.8 -1.4 -3.1 -22.6 -4 -0.9 -1.3 -0.2 -0.4 -0.0 -221.7	
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 port/E 50 51 52	220 kV 220 kV 220 kV Apprt of HVDC LINK	WR (With NR) 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 BADOD-KOTA BADOD-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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NER-NR 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.0 0.0 2.0 0.0 0.0 0.0 0.0 0.0	32.6 2.3 48.4 56.6 34.2 29.3 0.0 41.8 1.4 3.1 0.0 4 1.0 1.3 0.1 0.5 0.0 4 4.7 0.0	-32.6 -0.3 -48.4 -56.6 -34.2 -29.3 -41.8 -1.4 -3.1 -22.6 -4 -0.9 -1.3 -0.2 -0.4 -0.0 -221.7	
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 port/E 50 51 52 53	220 kV 220 kV 220 kV 132kV Export of HVDC LINK 765 kV	WR (With NR) 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 BADOD-KOTA BADOD-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	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NER-NR 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	32.6 2.3 48.4 56.6 34.2 29.3 0.0 41.8 1.4 3.1 0.0 4 1.0 1.3 0.1 0.5 0.0 256.4	-32.6 -0.3 -48.4 -56.6 -34.2 -29.3 -9.8 -41.8 -1.4 -3.1 -22.6 -4 -0.9 -1.3 -0.2 -0.4 -0.0 -221.7 -3.0 -0.0 -21.1 -7.9	
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 PPOTT/E 50 51 52 53 54	220 kV 220 kV 220 kV 132kV Export of HVDC LINK 765 kV	WR (With NR) 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 BADOD-KOTA BADOD-MORAK MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHADRAWATI B/B BARSUR-L.SILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD KOLHAPUR-KUDGI	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	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NER-NR 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	32.6 2.3 48.4 56.6 34.2 29.3 0.0 41.8 1.4 3.1 0.0 4 1.0 0.5 0.0 256.4 4.7 0.0 0.0 7.9	-32.6 -0.3 -48.4 -56.6 -34.2 -29.3 -9.8 -41.8 -1.4 -3.1 -22.6 -4 -0.9 -1.3 -0.2 -0.4 -0.0 -221.7 -3.0 -3.0 -21.1 -7.9 -15.7	
33 34 35 36 37 38 39 40 40 41 42 43 44 45 46 47 48 49 49 49 551 55 55 55 55 55 55 55 55 55 55 55 55	220 kV 220 kV 220 kV 220 kV 2400 kV 2400 kV	WR (With NR) CHAMPA-KURUKSHETRA VCHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI ZERDA-KANKROLI ZERDA-BHINMAL VCHAL-RIHAND RAPP-SHUJALPUR BADOD-KOTA BADOD-MORAK MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHADRAWATI B/B BARSUR-L.SILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD KOLHAPUR-KUDGI KOLHAPUR-CHIKODI	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	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NER-NR 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.0 0.0 2.0 0.0 0.0 0.0 0.0 0.0	32.6 2.3 48.4 56.6 34.2 29.3 0.0 41.8 1.4 3.1 0.0 4 1.0 1.3 0.1 0.5 0.0 256.4 4.7 0.0 0.0	-32.6 -0.3 -48.4 -56.6 -34.2 -29.3 9.8 -41.8 -1.4 -3.1 -22.6 -4 -0.9 -1.3 -0.2 -0.4 -0.0 -221.7 -3.0 -3.0 -21.1 -7.9 -15.7 -0.0	
port/E 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 port/E 55 53 54	220 kV 220 kV 220 kV 220 kV 2400 kV 2400 kV	WR (With NR) 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 BADOD-KOTA BADOD-KOTA BADOD-MORAK MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHADRAWATI B/B BARSUR-L.SILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD KOLHAPUR-KUDGI KOLHAPUR-CHIKODI PONDA-AMBEWADI	D/C D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C S/C S/C D/C S/C S/C D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NER-NR 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	32.6 2.3 48.4 56.6 34.2 29.3 0.0 41.8 3.1 0.0 4 1.0 1.3 0.1 0.5 0.0 256.4 4.7 0.0 0.0 0.0 0.0 0.0	-32.6 -0.3 -48.4 -56.6 -34.2 -29.3 9.8 -41.8 -1.4 -3.1 22.6 -4 -0.9 -1.3 0.2 -0.4 0.0 -221.7 -3.0 0.0 21.1 -7.9 15.7 0.0 0.0	
port/E 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 port/E 55 53 54	220 kV 220 kV 220 kV 220 kV 2400 kV 2400 kV	WR (With NR) 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 BADOD-KOTA BADOD-KOTA BADOD-MORAK MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHADRAWATI B/B BARSUR-L.SILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD KOLHAPUR-KUDGI KOLHAPUR-CHIKODI PONDA-AMBEWADI XELDEM-AMBEWADI	D/C D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NER-NR 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.0 0.0 2.0 0.0 0.0 0.0 0.0 0.0	32.6 2.3 48.4 56.6 34.2 29.3 0.0 41.8 1.4 3.1 0.0 4 1.0 1.3 0.1 0.5 0.0 256.4 4.7 0.0 0.0 0.0	-32.6 -0.3 -48.4 -56.6 -34.2 -29.3 9.8 -41.8 -1.4 -3.1 22.6 -4 -0.9 -1.3 0.2 -0.4 0.0 -221.7 -3.0 0.0 21.1 -7.9 15.7 0.0 0.0	
port/E 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 port/E 55 55 56 57	220 kV 220 kV 220 kV 220 kV 2400 kV 2400 kV	WR (With NR) 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 BADOD-KOTA BADOD-MORAK MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHADRAWATI B/B BARSUR-L.SILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD KOLHAPUR-KUDGI KOLHAPUR-AMBEWADI TR.	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	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NER-NR 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	32.6 2.3 48.4 56.6 34.2 29.3 0.0 41.8 3.1 0.0 4 1.0 1.3 0.1 0.5 0.0 256.4 4.7 0.0 0.0 0.0 0.0 0.0	-32.6 -0.3 -48.4 -56.6 -34.2 -29.3 9.8 -41.8 -1.4 -3.1 -22.6 -4 -0.9 -1.3 -0.2 -0.4 -0.0 -221.7 -3.0 -0.0 21.1 -7.9 15.7 -0.0 0.0 -0.0 -25.9	
port/E 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 port/E 55 55 56	220 kV 220 kV 220 kV 220 kV 2400 kV 2400 kV	WR (With NR) 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 BADOD-KOTA BADOD-KOTA BADOD-MORAK MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHADRAWATI B/B BARSUR-L.SILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD KOLHAPUR-KUDGI KOLHAPUR-CHIKODI PONDA-AMBEWADI XELDEM-AMBEWADI	D/C D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NER-NR 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	32.6 2.3 48.4 56.6 34.2 29.3 0.0 41.8 3.1 0.0 4 1.0 1.3 0.1 0.5 0.0 256.4 4.7 0.0 0.0 0.0 0.0 0.0	-32.6 -0.3 -48.4 -56.6 -34.2 -29.3 9.8 -41.8 -1.4 -3.1 -22.6 -4 -0.9 -1.3 -0.2 -0.4 -0.0 -221.7 -3.0 -3.0 -21.1 -7.9 -15.7 -0.0 -0.0 -0.0	