

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)

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Ref: POSOCO/NLDC/SO/Daily PSP Report

दिनांक: 12th 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 11.08.2018.

महोदय/Dear Sir.

आई॰ई॰जी॰सी॰-2010 की धारा स.-5.5.1 के प्रावधान के अनुसार, दिनांक 11-अगस्त-2018 की अखिल भारतीय प्रणाली की दैनिक ग्रिंड 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 11th 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** 12-Aug-18

A. Maximum Demand

	NR	WR	SR	ER	NER	Total
Demand Met during Evening Peak hrs(MW) (at 2000 hrs; from RLDCs)	54621	46884	38562	20952	2642	163661
Peak Shortage (MW)	1070	0	0	0	209	1279
Energy Met (MU)	1276	1103	881	467	52	3780
Hydro Gen (MU)	314	17	123	111	24	589
Wind Gen (MU)	50	156	232			438
Solar Gen (MU)*	21.76	13.92	23.69	0.59	0.02	60
Energy Shortage (MU)	9.1	0.0	0.0	0.0	1.7	10.8
Maximum Demand Met during the day	57495	49558	39545	21920	2663	166159
(MW) & time (from NLDC SCADA)	00:14	09:45	07:43	20:54	19:56	19:53

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	0.023	0.00	0.00	1.79	1.79	86.62	11.59

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	11177	0	249.1	135.4	-0.4	88	0.0
	Haryana	8810	0	191.0	143.8	0.7	169	0.0
	Rajasthan	10621	0	226.2	47.5	-0.6	303	0.0
	Delhi	5755	0	117.6	95.9	-0.7	181	0.1
NR	UP	18479	0	379.2	190.9	0.0	351	0.0
	Uttarakhand	1859	0	40.8	21.1	0.1	149	0.0
	HP	1397	0	28.6	-4.4	4.2	360	0.0
	J&K	1925	481	38.0	17.9	-5.3	31	9.1
	Chandigarh	286	0	5.9	6.3	-0.4	7	0.0
	Chhattisgarh	3576	0	85.8	21.5	-1.7	119	0.0
	Gujarat	15691	0	352.1	81.3	0.7	542	0.0
	MP	8081	0	178.5	63.3	-2.0	397	0.0
WR	Maharashtra	20126	0	441.3	118.8	-0.2	564	0.0
WK	Goa	444	0	9.5	9.0	-0.1	28	0.0
	DD	341	0	7.7	6.7	1.0	84	0.0
	DNH	776	0	18.1	17.2	1.0	65	0.0
	Essar steel	521	0	10.2	10.0	0.3	321	0.0
	Andhra Pradesh	6917	0	158.3	-4.9	-0.2	495	0.0
	Telangana	7962	0	171.4	92.5	-1.1	489	0.0
SR	Karnataka	9104	0	180.2	40.0	0.8	486	0.0
3N	Kerala	3120	0	61.9	23.0	-0.1	192	0.0
	Tamil Nadu	13984	0	301.7	85.4	-0.6	498	0.0
	Pondy	340	0	7.5	7.6	-0.1	63	0.0
	Bihar	4756	0	92.6	90.5	0.9	100	0.0
	DVC	2929	0	67.8	-24.0	3.1	200	0.0
ER	Jharkhand	1064	0	24.8	18.8	0.4	50	0.0
EN	Odisha	5079	0	104.8	55.2	1.8	200	0.0
	West Bengal	8466	0	176.3	65.8	3.7	490	0.0
	Sikkim	80	0	1.0	1.3	-0.3	5	0.0
	Arunachal Pradesh	110	7	2.5	2.5	0.0	0	0.0
	Assam	1705	134	32.2	27.4	1.5	185	1.6
	Manipur	141	24	2.5	2.3	0.2	21	0.0
NER	Meghalaya	309	4	5.6	0.6	-0.1	25	0.0
	Mizoram	79	3	1.7	0.9	0.4	11	0.0
	Nagaland	115	6	2.5	1.8	0.3	26	0.0
	Tripura	275	6	4.7	4.4	0.4	49	0.0

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

	Bhutan	Nepal	Bangladesh
Actual(MU)	33.2	-4.4	-15.8
Day peak (MW)	1547.3	-383.4	-691.4

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

	NR	WR	SR	ER	NER	TOTAL
Schedule(MU)	260.7	-239.8	12.5	-31.6	-0.5	1.4
Actual(MU)	251.5	-239.8	8.7	-20.5	0.8	0.7
O/D/U/D(MU)	-9.2	0.0	-3.9	11.1	1.3	-0.7

F. Generation Outage(MW)

	NR	WR	SR	ER	NER	Total
Central Sector	5281	16623	10012	1715	363	33994
State Sector	6540	14601	11840	7115	50	40145
Total	11821	31224	21852	8830	413	74140

G. Sourcewise generation (MU)

	NR	WR	SR	ER	NER	All India
Thermal (Coal & Lignite)	601	1105	421	397	6	2529
Hydro	314	18	123	111	24	589
Nuclear	27	27	24	0	0	79
Gas, Naptha & Diesel	24	43	24	0	25	115
RES (Wind, Solar, Biomass & Others)	85	170	295	1	0	551
Total	1051	1362	887	508	56	3864

Share of RES in total generation (%)	8.13	12.49	33.29	0.12	0.08	14.27
Share of Non-fossil fuel (Hydro, Nuclear and	40.58	15.79	49.83	21.04	42.50	31.55
RES) in total generation (%)	40.56	15.79	49.63	21.94	43.58	31.33

H. Diversity Factor
All India Demand Diversity Factor
1.030
Diversity factor = Sum of regional maximum demands / All India maximum demand

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

						Date of I	Reporting :	12-Aug-
								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			0.0		
2	765kV	GAYA-VARANASI SASARAM-FATEHPUR	D/C S/C	283	445	0.0 3.2	0.0	-6.8 3.2
3	7038 1	GAYA-BALIA	S/C	0	345	0.0	6.6	-6.6
4	HVDC	ALIPURDUAR-AGRA	-	0	687	0.0	15.4	-15.4
5	IIVDC	PUSAULI B/B	S/C	0	200	0.0	3.4	-3.4
6		PUSAULI-VARANASI	S/C	0	68	0.0	0.0	0.0
7 8	1	PUSAULI -ALLAHABAD MUZAFFARPUR-GORAKHPUR	S/C D/C	0	87 778	0.0	12.4	0.0 -12.4
9	400 kV	PATNA-BALIA	O/C	0	976	0.0	17.2	-12.4
10	1	BIHARSHARIFF-BALIA	D/C	0	244	0.0	6.0	-6.0
11	Ī	MOTIHARI-GORAKHPUR	D/C	119	0	3.7	0.0	3.7
12		BIHARSHARIFF-VARANASI	D/C	7	0	0.0	0.9	-0.9
13	220 kV	PUSAULI-SAHUPURI	S/C	0	130	0.0	3.8	-3.8
14	-	SONE NAGAR-RIHAND	S/C	0	0	0.0	0.0	0.0
15	132 kV	GARWAH-RIHAND	S/C	35 0	0	0.6	0.0	0.6
16 17	1	KARMANASA-SAHUPURI KARMANASA-CHANDAULI	S/C S/C	0	0	0.0	0.0	0.0
	1		5/0	· ·	ER-NR	7.5	72.4	-64.9
18		ER (With WR) JHARSUGUDA-DHARAMJAIGARH S/C	D/C	1054	1	17.3	0.0	17.3
19	765 kV	NEW RANCHI-DHARAMJAIGARH	D/C	1111	3086	20.7	0.0	20.7
20		JHARSUGUDA-RAIGARH	Q/C	1390	0	20.7	0.0	20.7
21	400 kV	RANCHI-SIPAT	D/C	502	0	8.9	0.0	8.9
22	220 kV	BUDHIPADAR-RAIGARH	S/C	190	0	2.5	0.0	2.5
23	220 11 1	BUDHIPADAR-KORBA	D/C	173	0	3.0	0.0	3.0
mort/F	Evport of	ER (With SR)			ER-WR	74.6	0.0	74.6
24	765 kV	ANGUL-SRIKAKULAM	D/C	0.0	1480.8	0.0	13.9	-13.9
25	HVDC	JEYPORE-GAZUWAKA B/B	D/C	0.0	416.8	0.0	9.9	-9.9
26	LINK	TALCHER-KOLAR BIPOLE	D/C	0.0	1778.5	0.0	24.8	-24.8
27	400 kV	TALCHER-I/C	D/C	1073.0	0.8	0.0	18.5	-18.5
28	220 kV	BALIMELA-UPPER-SILERRU	S/C	0.0	0.0 ER-SR	0.0	0.0	0.0
aport/I	Export of	ER (With NER)			ER-SK	0.0	48.6	-48.6
29	T .	BINAGURI-BONGAIGAON	D/C	0	596	0.0	9.7	-10
30	400 kV	ALIPURDUAR-BONGAIGAON	D/C	84	302	0.0	3.3	-3
31	220 kV	ALIPURDUAR-SALAKATI	D/C	0	115	0.0	3.0	-3
mort/L	Evnort of	NER (With NR)			ER-NER	0.0	16.0	-16.0
32		BISWANATH CHARIALI-AGRA	1 -	0	701	0.0	16.4	-16.4
	11,20	DID WITH CITE MEDICAL PROPERTY.		·	NER-NR	0.0	16.4	-16.4
port/I	Export of	WR (With NR)						
		1124 (111411114)						22.2
33		CHAMPA-KURUKSHETRA	D/C	0	0	0.0	23.2	-23.2
34	HVDC	CHAMPA-KURUKSHETRA V'CHAL B/B	D/C	0	0	5.2	0.0	5.2
34 35	HVDC	CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG	D/C D/C	0	0	5.2 0.0	0.0 34.9	5.2 -34.9
34 35 36	HVDC	CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG GWALIOR-AGRA	D/C D/C D/C	0 0	0 0 0	5.2 0.0 0.0	0.0 34.9 53.4	5.2 -34.9 -53.4
34 35 36 37	HVDC 765 kV	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	5.2 0.0 0.0 0.0	0.0 34.9 53.4 25.0	5.2 -34.9 -53.4 -25.0
34 35 36		CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG GWALIOR-AGRA	D/C D/C D/C	0 0	0 0 0	5.2 0.0 0.0	0.0 34.9 53.4	5.2 -34.9 -53.4
34 35 36 37 38		CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI	D/C D/C D/C D/C D/C	0 0 0 0	0 0 0 0	5.2 0.0 0.0 0.0 0.0	0.0 34.9 53.4 25.0 29.0	5.2 -34.9 -53.4 -25.0 -29.0
34 35 36 37 38 39		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 0 0 0 0	5.2 0.0 0.0 0.0 0.0 7.6	0.0 34.9 53.4 25.0 29.0 0.0	5.2 -34.9 -53.4 -25.0 -29.0 7.6
34 35 36 37 38 39 40 41 42		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 0 0 0 0 0 0 0	5.2 0.0 0.0 0.0 0.0 7.6 0.0 0.7 0.0	0.0 34.9 53.4 25.0 29.0 0.0 35.2 0.0	5.2 -34.9 -53.4 -25.0 -29.0 7.6 -35.2 0.7 -1.1
34 35 36 37 38 39 40 41 42 43	765 kV	CHAMPA-KURUKSHETRA VCHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND	D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	5.2 0.0 0.0 0.0 0.0 7.6 0.0 0.7 0.0 20.6	0.0 34.9 53.4 25.0 29.0 0.0 35.2 0.0 1.1	5.2 -34.9 -53.4 -25.0 -29.0 7.6 -35.2 0.7 -1.1 20.6
34 35 36 37 38 39 40 41 42 43 44	765 kV	CHAMPA-KURUKSHETRA VCHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR	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 0 0 0 0 0 0 0 0 0	5.2 0.0 0.0 0.0 0.0 7.6 0.0 0.7 0.0 20.6	0.0 34.9 53.4 25.0 29.0 0.0 35.2 0.0 1.1 0.0	5.2 -34.9 -53.4 -25.0 -29.0 7.6 -35.2 0.7 -1.1 20.6 -2
34 35 36 37 38 39 40 41 42 43 44 45	765 kV	CHAMPA-KURUKSHETRA VCHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR 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	0 0 0 0 0 0 0 0 0 0 0 0	5.2 0.0 0.0 0.0 0.0 7.6 0.0 0.7 0.0 20.6 0	0.0 34.9 53.4 25.0 29.0 0.0 35.2 0.0 1.1 0.0 2	5.2 -34.9 -53.4 -25.0 -29.0 7.6 -35.2 0.7 -1.1 20.6 -2 -1.2
34 35 36 37 38 39 40 41 42 43 44	765 kV	CHAMPA-KURUKSHETRA VCHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI ZERDA-KANKROLI ZERDA-BHINMAL VCHAL-RIHAND RAPP-SHUJALPUR 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	0 0 0 0 0 0 0 0 0 0 0 0 0	5.2 0.0 0.0 0.0 0.0 7.6 0.0 0.7 0.0 20.6 0 0.0	0.0 34.9 53.4 25.0 29.0 0.0 35.2 0.0 1.1 0.0 2 1.3	5.2 -34.9 -53.4 -25.0 -29.0 7.6 -35.2 0.7 -1.1 20.6 -2 -1.2 -1.5
34 35 36 37 38 39 40 41 42 43 44 45	765 kV	CHAMPA-KURUKSHETRA VCHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR 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	0 0 0 0 0 0 0 0 0 0 0 0	5.2 0.0 0.0 0.0 0.0 7.6 0.0 0.7 0.0 20.6 0	0.0 34.9 53.4 25.0 29.0 0.0 35.2 0.0 1.1 0.0 2	5.2 -34.9 -53.4 -25.0 -29.0 7.6 -35.2 0.7 -1.1 20.6 -2 -1.2
34 35 36 37 38 39 40 41 42 43 44 45 46 47	765 kV	CHAMPA-KURUKSHETRA VCHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI ZERDA-KANKROLI ZERDA-BHINMAL VCHAL-RIHAND RAPP-SHUJALPUR 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 0 0 0 0 0 0 0 0 0 0 0	5.2 0.0 0.0 0.0 0.0 7.6 0.0 0.7 0.0 20.6 0 0.0 0.0	0.0 34.9 53.4 25.0 29.0 0.0 35.2 0.0 1.1 0.0 2 1.3 1.5	5.2 -34.9 -53.4 -25.0 -29.0 7.6 -35.2 0.7 -1.1 20.6 -2 -1.2 -1.5 0.6
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49	765 kV - 400 kV - 220 kV	CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI ZERDA-KANKROLI ZERDA -BHINMAL V'CHAL -RIHAND RAPP-SHUJALPUR 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	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5.2 0.0 0.0 0.0 0.0 7.6 0.0 0.7 0.0 20.6 0 0.0 0.0	0.0 34.9 53.4 25.0 29.0 0.0 35.2 0.0 1.1 0.0 2 1.3 1.5 0.0 0.2	5.2 -34.9 -53.4 -25.0 -29.0 7.6 -35.2 0.7 -1.1 20.6 -2 -1.2 -1.5 0.6 -0.1
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49	765 kV 400 kV 220 kV 132kV	CHAMPA-KURUKSHETRA V'CHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI ZERDA-KANKROLI ZERDA-BHINMAL V'CHAL-RIHAND RAPP-SHUJALPUR BADOD-KOTA BADOD-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	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	5.2 0.0 0.0 0.0 0.0 7.6 0.0 0.7 0.0 20.6 0 0.0 0.0 0.0	0.0 34.9 53.4 25.0 29.0 0.0 35.2 0.0 1.1 0.0 2 1.3 1.5 0.0 0.2	5.2 -34.9 -53.4 -25.0 -29.0 7.6 -35.2 0.7 -1.1 20.6 -2 -1.2 -1.5 0.6 -0.1
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49	765 kV 400 kV 220 kV 132kV	CHAMPA-KURUKSHETRA V'CHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI ZERDA-KANKROLI ZERDA-BHINMAL V'CHAL-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	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5.2 0.0 0.0 0.0 0.0 7.6 0.0 0.7 0.0 20.6 0 0.0 0.0 0.0 34.8	0.0 34.9 53.4 25.0 29.0 0.0 35.2 0.0 1.1 0.0 2 1.3 1.5 0.0 0.2 0.0	5.2 -34.9 -53.4 -25.0 -29.0 7.6 -35.2 0.7 -1.1 20.6 -2 -1.2 -1.5 0.6 -0.1 0.0 -172.0
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49	765 kV 400 kV 220 kV 132kV Export of HVDC LINK	CHAMPA-KURUKSHETRA VCHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI 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 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	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5.2 0.0 0.0 0.0 0.0 7.6 0.0 0.7 0.0 20.6 0 0.0 0.0 0.0 34.8	0.0 34.9 53.4 25.0 29.0 0.0 35.2 0.0 1.1 0.0 2 1.3 1.5 0.0 0.2 0.0 206.8	5.2 -34.9 -53.4 -25.0 -29.0 7.6 -35.2 0.7 -1.1 20.6 -2 -1.2 -1.5 0.6 -0.1 0.0 -172.0
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 **Papert/F** 50 51 52 53	765 kV 400 kV 220 kV 132kV Export of HVDC LINK 765 kV	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 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	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5.2 0.0 0.0 0.0 0.0 0.0 7.6 0.0 0.7 0.0 20.6 0 0.0 0.0 34.8	0.0 34.9 53.4 25.0 29.0 0.0 35.2 0.0 1.1 0.0 2 1.3 1.5 0.0 0.2 0.0 206.8	5.2 -34.9 -53.4 -25.0 -29.0 7.6 -35.2 -0.7 -1.1 20.6 -2 -1.2 -1.5 0.6 -0.1 0.0 -172.0
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 Solution 50 51 52 53 54	765 kV 400 kV 220 kV 132kV Export of HVDC LINK	CHAMPA-KURUKSHETRA VCHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI 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 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	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	5.2 0.0 0.0 0.0 0.0 0.0 7.6 0.0 0.7 0.0 20.6 0 0.0 0.6 0.1 0.0 34.8 0.0 0.0 14.0 0.0 13.0	0.0 34.9 53.4 25.0 29.0 0.0 35.2 0.0 1.1 0.0 2 1.3 1.5 0.0 0.2 0.0 206.8	5.2 -34.9 -53.4 -25.0 -29.0 7.6 -35.2 -1.1 20.6 -2 -1.2 -1.5 0.6 -0.1 0.0 -172.0 -11.7 0.0 14.0 -14.5
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 Au 55 51 52 53 54 55	765 kV 400 kV 220 kV 132kV Export of HVDC LINK 765 kV 400 kV	CHAMPA-KURUKSHETRA VCHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI ZERDA-KANKROLI ZERDA-KANKROLI ZERDA-KHIMAND 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 D/C S/C S/C D/C S/C S/C D/C S/C S/C D/C S/C S/C S/C 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	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5.2 0.0 0.0 0.0 0.0 0.0 7.6 0.0 0.7 0.0 20.6 0 0.0 0.0 34.8 0.0 0.0 14.0 0.0 13.0 0.0	0.0 34.9 53.4 25.0 29.0 0.0 35.2 0.0 1.1 0.0 2 1.3 1.5 0.0 0.2 0.0 206.8	5.2 -34.9 -53.4 -25.0 -29.0 7.6 -35.2 0.7 -1.1 20.6 -2 -1.2 -1.5 0.6 -0.1 0.0 -172.0 14.0 -14.5 13.0 0.0
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 49 49 50 51 51 52 53 54 55 56	765 kV 400 kV 220 kV 132kV Export of HVDC LINK 765 kV 400 kV	CHAMPA-KURUKSHETRA VCHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI 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 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 D/C S/C S/C D/C S/C S/C D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	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	5.2 0.0 0.0 0.0 0.0 0.0 7.6 0.0 0.7 0.0 20.6 0 0.0 0.6 0.1 0.0 34.8 0.0 0.0 14.0 0.0 13.0 0.0 0.0	0.0 34.9 53.4 25.0 29.0 0.0 35.2 0.0 1.1 0.0 2 1.3 1.5 0.0 0.2 0.0 206.8	5.2 -34.9 -53.4 -25.0 -29.0 7.6 -35.2 0.7 -1.1 20.6 -2 -1.2 -1.5 0.6 -0.1 0.0 -172.0 -11.7 0.0 14.0 -14.5 13.0 0.0
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 49 51 51 52 53 54 55	765 kV 400 kV 220 kV 132kV Export of HVDC LINK 765 kV 400 kV	CHAMPA-KURUKSHETRA VCHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI ZERDA-KANKROLI ZERDA-KANKROLI ZERDA-KHIMAND 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 D/C S/C S/C D/C S/C S/C D/C S/C S/C D/C S/C S/C S/C 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	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5.2 0.0 0.0 0.0 0.0 0.0 7.6 0.0 0.7 0.0 20.6 0 0.0 0.6 0.1 0.0 34.8 0.0 0.0 14.0 0.0 13.0 0.0 0.0 0.0	0.0 34.9 53.4 25.0 29.0 0.0 35.2 0.0 1.1 0.0 2 1.3 1.5 0.0 0.2 0.0 206.8	5.2 -34.9 -53.4 -25.0 -29.0 7.6 -35.2 0.7 -1.1 20.6 -2 -1.2 -1.5 0.6 -0.1 0.0 -172.0 -11.7 0.0 14.0 -14.5 13.0 0.0 0.0
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 **Port/II** 50 51 52 53 54 55 56	765 kV 400 kV 220 kV 132kV Export of HVDC LINK 765 kV 400 kV	CHAMPA-KURUKSHETRA VCHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI 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 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 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	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5.2 0.0 0.0 0.0 0.0 0.0 7.6 0.0 0.7 0.0 20.6 0 0.0 0.6 0.1 0.0 34.8 0.0 0.0 14.0 0.0 13.0 0.0 0.0	0.0 34.9 53.4 25.0 29.0 0.0 35.2 0.0 1.1 0.0 2 1.3 1.5 0.0 0.2 0.0 206.8	5.2 -34.9 -53.4 -25.0 -29.0 7.6 -35.2 0.7 -1.1 20.6 -2 -1.2 -1.5 0.6 -0.1 0.0 -172.0 -11.7 0.0 14.0 -14.5 13.0 0.0
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 **Port/II** 50 51 52 53 54 55 56	765 kV 400 kV 220 kV 132kV Export of HVDC LINK 765 kV 400 kV	CHAMPA-KURUKSHETRA VCHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI 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 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 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	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5.2 0.0 0.0 0.0 0.0 0.0 7.6 0.0 0.7 0.0 20.6 0 0.0 0.6 0.1 0.0 34.8 0.0 0.0 14.0 0.0 13.0 0.0 0.0 0.0	0.0 34.9 53.4 25.0 29.0 0.0 35.2 0.0 1.1 0.0 2 1.3 1.5 0.0 0.2 0.0 206.8	5.2 -34.9 -53.4 -25.0 -29.0 7.6 -35.2 0.7 -1.1 20.6 -2 -1.2 -1.5 0.6 -0.1 0.0 -172.0 -11.7 0.0 14.0 -14.5 13.0 0.0 0.0