

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, क़ुत्ब इन्स्टीट्यूशनल एरिया, कटवारिया सराये, न्यू दिल्ली-110016

दिनांक: 30th July 2018

Ref: POSOCO/NLDC/SO/Daily PSP Report

To,

- 1. कार्यकारी निदेशक, पू.क्षे.भा.प्रे.के.,14 , गोल्फ क्लब रोड , कोलकाता 700033 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 793006 Executive Director, NERLDC, Dongteih, Lower Nongrah, Lapalang, Shillong - 793006, Meghalaya
- 5. महाप्रबंधक , द .क्षे .भा .प्रे .के.,29 , रेस कोर्स क्रॉस रोड, बंगलुरु -560009 General Manager, SRLDC, 29, Race Course Cross Road, Bangalore-560009

Sub: Daily PSP Report for the date 29.07.2018.

महोदय/Dear Sir,

आई॰ई॰जी॰सी॰-2010 की धारा स.-5.5.1 के प्रावधान के अनुसार, दिनांक 29-जुलाई-2018 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 29th July 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** 30-Jul-18

A. Maximum Demand

	NR	WR	SR	ER	NER	Total
Demand Met during Evening Peak hrs(MW) (at 2000 hrs; from RLDCs)	46955	42088	40183	19121	2623	150970
Peak Shortage (MW)	887	197	0	0	71	1155
Energy Met (MU)	1060	988	937	413	49	3447
Hydro Gen (MU)	323	21	106	103	25	578
Wind Gen (MU)	34	128	195			357
Solar Gen (MU)*	17.95	13.74	46.55	0.45	0.02	79
Energy Shortage (MU)	10.3	0.6	0.0	0.0	1.0	11.8
Maximum Demand Met during the day	50202	44826	41341	20104	2610	158031
(MW) & time (from NLDC SCADA)	21:25	20:27	07:43	20:37	18:53	20:27

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	0.034	0.00	0.58	6.35	6.93	83.94	9.13

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	9275	0	212.5	136.3	-0.9	113	0.0
	Haryana	7665	0	152.0	135.3	1.1	223	0.0
	Rajasthan	9009	0	198.9	72.2	1.1	310	0.0
	Delhi	5290	0	94.6	84.7	-0.7	320	0.0
NR	UP	14739	0	300.3	167.4	0.8	315	0.0
	Uttarakhand	1681	0	32.3	25.4	0.1	307	0.6
	HP	1131	0	23.6	-4.5	3.6	276	0.0
	J&K	2578	455	40.6	19.4	-4.4	837	9.6
	Chandigarh	253	0	4.8	5.6	-0.8	9	0.0
	Chhattisgarh	3714	0	85.4	13.2	0.5	331	0.5
	Gujarat	12917	0	288.2	75.4	5.7	875	0.0
	MP	7602	0	165.7	76.5	0.5	430	0.0
WR	Maharashtra	18140	0	406.8	112.3	1.8	657	0.0
WK	Goa	444	0	8.9	7.7	0.5	44	0.0
	DD	290	0	6.4	5.6	0.8	89	0.0
	DNH	684	0	16.1	15.7	0.4	48	0.0
	Essar steel	516	0	10.2	10.2	0.0	253	0.0
	Andhra Pradesh	8163	0	179.4	24.6	0.6	456	0.0
	Telangana	9470	0	210.3	103.9	0.0	467	0.0
SR	Karnataka	8297	0	172.5	55.8	1.0	412	0.0
3K	Kerala	3104	0	60.4	19.7	0.2	209	0.0
	Tamil Nadu	13346	0	307.0	92.9	-2.6	520	0.0
	Pondy	346	0	7.4	7.7	-0.3	19	0.0
	Bihar	4279	0	72.4	72.2	-0.2	345	0.0
	DVC	2908	0	67.7	-39.9	0.8	312	0.0
ER	Jharkhand	1029	0	21.9	18.5	-0.6	156	0.0
EK	Odisha	4515	0	91.7	53.3	2.7	385	0.0
	West Bengal	7649	0	158.1	43.7	4.8	402	0.0
	Sikkim	77	0	1.5	1.3	0.2	25	0.0
	Arunachal Pradesh	100	2	2.4	2.7	-0.3	55	0.0
	Assam	1662	38	31.0	25.0	1.6	178	0.8
	Manipur	172	0	2.2	2.4	-0.2	20	0.0
NER	Meghalaya	310	0	5.8	1.3	-0.2	24	0.0
	Mizoram	73	2	1.2	0.8	0.0	8	0.0
	Nagaland	114	1	2.2	2.0	-0.2	9	0.0
	Tripura	254	2	4.6	5.7	0.2	40	0.0

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

	Bhutan	Nepal	Bangladesh
Actual(MU)	31.4	-4.7	-15.4
Day peak (MW)	1531.5	-305.5	-651.2

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

	NR	WR	SR	ER	NER	TOTAL
Schedule(MU)	260.4	-234.4	52.7	-77.8	-1.8	-0.8
Actual(MU)	246.9	-229.5	53.8	-63.8	-3.0	4.4
O/D/U/D(MU)	-13.5	4.9	1.1	14.0	-1.2	5.2

F. Generation Outage(MW)

	NR	WR	SR	ER	NER	Total
Central Sector	5087	16860	7972	1460	429	31808
State Sector	14050	18934	8950	5735	50	47719
Total	19137	35794	16922	7195	479	79527

G. Sourcewise generation (MU)

	NR	WR	SR	ER	NER	All India
Thermal (Coal & Lignite)	402	986	431	398	6	2223
Hydro	323	21	108	103	25	579
Nuclear	27	30	61	0	0	118
Gas, Naptha & Diesel	9	39	24	0	25	98
RES (Wind, Solar, Biomass & Others)	64	142	279	1	0	486
Total	826	1217	904	501	56	3505

Share of RES in total generation (%)	7.79	11.65	30.89	0.13	0.05	13.87
Share of Non-fossil fuel (Hydro, Nuclear and RES) in total generation (%)	50.20	15.81	49.61	20.65	43.88	33.78

H. Diversity Factor
All India Demand Diversity Factor
1.007
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.$

		INTE	K-KEGI	UNAL EX	<u>CHANGES</u>	Date of I	Reporting :	30-Jul
								Import=(+ve) /Export =(-ve)
Sl No	Voltage Level	Line Details	Circuit	Max Import (MW)	Max Export (MW)	Import (MU)	Export (MU)	for NET (MU) NET (MU)
_	Export of	ER (With NR)			1			1
2	765kV	GAYA-VARANASI	D/C	0 76	701 163	0.0	10.2	-10.2 -1.0
3	/03KV	SASARAM-FATEHPUR GAYA-BALIA	S/C S/C	0	440	0.0	7.4	-7.4
4	www.c	ALIPURDUAR-AGRA	-	0	399	0.0	9.6	-9.6
5	HVDC	PUSAULI B/B	S/C	0	148	0.0	3.7	-3.7
6		PUSAULI-VARANASI	S/C	0	97	0.0	0.0	0.0
7		PUSAULI -ALLAHABAD	S/C	0	118	0.0	0.0	0.0
9	400 1-37	MUZAFFARPUR-GORAKHPUR PATNA-BALIA	D/C	0	913	0.0	17.1 18.1	-17.1 -18.1
10	400 KV	BIHARSHARIFF-BALIA	Q/C D/C	0	1162 429	0.0	9.2	-16.1
11		MOTIHARI-GORAKHPUR	D/C	251	14	3.4	0.0	3.4
12	1	BIHARSHARIFF-VARANASI	D/C	837	0	0.0	5.1	-5.1
13	220 kV	PUSAULI-SAHUPURI	S/C	0	147	0.0	2.9	-2.9
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	0.0	0.0
16	4	KARMANASA-SAHUPURI	S/C	0	0	0.0	0.0	0.0
17	<u> </u>	KARMANASA-CHANDAULI	S/C	0	0 FR-NR	0.0	0.0	0.0
port/E	Export of	ER (With WR)	,	1	ER-NR	3.4	84.3	-80.8
18	765 kV	JHARSUGUDA-DHARAMJAIGARH S/C	D/C	934	7	16.4	0.0	16.4
19	103 KV	NEW RANCHI-DHARAMJAIGARH	D/C	606	193	7.2	0.0	7.2
20	400 kV	JHARSUGUDA-RAIGARH	Q/C	792	0	14.5	0.0	14.5
21	.00 K	RANCHI-SIPAT	D/C	301	0	5.9	0.0	5.9
22	220 kV	BUDHIPADAR-RAIGARH	S/C	132	14	1.0	0.0	1.0
23		BUDHIPADAR-KORBA	D/C	194	0 ER-WR	3.3 48.3	0.0	3.3 48.3
	1	ER (With SR)			1			
24		ANGUL-SRIKAKULAM	D/C	0.0	1243.8	0.0	17.2	-17.2
25	HVDC LINK	JEYPORE-GAZUWAKA B/B	D/C	0.0	478.2	0.0	9.8	-9.8
26 27	400 kV	TALCHER-KOLAR BIPOLE TALCHER-I/C	D/C D/C	0.0 797.5	1189.4 0.8	0.0	24.4 12.0	-24.4 -12.0
28	220 kV	BALIMELA-UPPER-SILERRU	S/C	0.0	0.0	0.0	0.0	0.0
			l		ER-SR	0.0	51.5	-51.5
1 port/E 29	Τ.	ER (With NER) BINAGURI-BONGAIGAON	D/C	0	400	0.0	5.9	-6
30	400 kV	ALIPURDUAR-BONGAIGAON	D/C	71	222	0.0	1.9	-2
31	220 kV	ALIPURDUAR-SALAKATI	D/C	0	111	0.0	3.2	-3
nort/F	Export of	NER (With NR)			ER-NER	0.0	11.0	-11.0
32		BISWANATH CHARIALI-AGRA	-	0	600	0.0	14.3	-14.3
. //		TYD (TY') AID)	•		NER-NR	0.0	14.3	-14.3
	Export of	WR (With NR)						1
- 2 2	1	, ,	D/C	0	1002	0.0	21.0	
33	Ĺ	CHAMPA-KURUKSHETRA	D/C	0 241	1002	0.0 6.0	21.9	-21.9 6.0
34	Ĺ	CHAMPA-KURUKSHETRA V'CHAL B/B	D/C	241	0	6.0	0.0	6.0
	Ĺ	CHAMPA-KURUKSHETRA						1
34 35	Ĺ	CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG	D/C D/C	241 0	0 688	6.0 0.0	0.0 17.0	6.0 -17.0
34 35 36	HVDC	CHAMPA-KURUKSHETRA V'CHAL B/B APL-MHG GWALIOR-AGRA	D/C D/C D/C	241 0 0	0 688 1369	6.0 0.0 0.0	0.0 17.0 48.9	6.0 -17.0 -48.9
34 35 36 37 38 39	HVDC	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	241 0 0 0 0 0 477	0 688 1369 1599 759 0	6.0 0.0 0.0 0.0 0.0 0.0 8.7	0.0 17.0 48.9 30.1 23.5 0.0	6.0 -17.0 -48.9 -30.1 -23.5 8.7
34 35 36 37 38 39 40	HVDC	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	241 0 0 0 0 0 477 0	0 688 1369 1599 759 0	6.0 0.0 0.0 0.0 0.0 0.0 8.7 0.0	0.0 17.0 48.9 30.1 23.5 0.0 39.1	6.0 -17.0 -48.9 -30.1 -23.5 8.7 -39.1
34 35 36 37 38 39 40 41	HVDC	CHAMPA-KURUKSHETRA V'CHAL 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	241 0 0 0 0 0 477 0 164	0 688 1369 1599 759 0 1812	6.0 0.0 0.0 0.0 0.0 0.0 8.7 0.0 0.0	0.0 17.0 48.9 30.1 23.5 0.0 39.1 0.3	6.0 -17.0 -48.9 -30.1 -23.5 8.7 -39.1 -0.3
34 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 ZERDA-KANKROLI ZERDA -BHINMAL	D/C D/C D/C D/C D/C S/C S/C S/C S/C	241 0 0 0 0 477 0 164 128	0 688 1369 1599 759 0 1812 197	6.0 0.0 0.0 0.0 0.0 0.0 8.7 0.0 0.0	0.0 17.0 48.9 30.1 23.5 0.0 39.1 0.3 0.5	6.0 -17.0 -48.9 -30.1 -23.5 8.7 -39.1 -0.3
34 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 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 S/C	241 0 0 0 0 477 0 164 128 971	0 688 1369 1599 759 0 1812 197 169	6.0 0.0 0.0 0.0 0.0 0.0 8.7 0.0 0.0 0.0 18.4	0.0 17.0 48.9 30.1 23.5 0.0 39.1 0.3 0.5	6.0 -17.0 -48.9 -30.1 -23.5 8.7 -39.1 -0.3 -0.5 18.4
34 35 36 37 38 39 40 41 42	HVDC 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	241 0 0 0 0 477 0 164 128	0 688 1369 1599 759 0 1812 197	6.0 0.0 0.0 0.0 0.0 0.0 8.7 0.0 0.0	0.0 17.0 48.9 30.1 23.5 0.0 39.1 0.3 0.5	6.0 -17.0 -48.9 -30.1 -23.5 8.7 -39.1 -0.3
34 35 36 37 38 39 40 41 42 43	HVDC 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	D/C D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C D/C	241 0 0 0 0 477 0 164 128 971 0	0 688 1369 1599 759 0 1812 197 169 0	6.0 0.0 0.0 0.0 0.0 8.7 0.0 0.0 0.0 18.4	0.0 17.0 48.9 30.1 23.5 0.0 39.1 0.3 0.5 0.0	6.0 -17.0 -48.9 -30.1 -23.5 8.7 -39.1 -0.3 -0.5 18.4 -3
34 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 ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BADOD-KOTA	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	241 0 0 0 0 477 0 164 128 971 0 16	0 688 1369 1599 759 0 1812 197 169 0 431	6.0 0.0 0.0 0.0 0.0 8.7 0.0 0.0 18.4 0	0.0 17.0 48.9 30.1 23.5 0.0 39.1 0.3 0.5 0.0 3	6.0 -17.0 -48.9 -30.1 -23.5 8.7 -39.1 -0.3 -0.5 18.4 -3 -1.7
34 35 36 37 38 39 40 41 42 43 44 45	HVDC 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	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	241 0 0 0 0 477 0 164 128 971 0 16 0	0 688 1369 1599 759 0 1812 197 169 0 431 65	6.0 0.0 0.0 0.0 0.0 8.7 0.0 0.0 0.0 18.4 0 0.0	0.0 17.0 48.9 30.1 23.5 0.0 39.1 0.3 0.5 0.0 3 1.7	6.0 -17.0 -48.9 -30.1 -23.5 8.7 -39.1 -0.3 -0.5 18.4 -3 -1.7 -2.2
34 35 36 37 38 39 40 41 42 43 44 45 46 47	HVDC 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	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	241 0 0 0 0 477 0 164 128 971 0 16 0 55	0 688 1369 1599 759 0 1812 197 169 0 431 65 120 12	6.0 0.0 0.0 0.0 0.0 8.7 0.0 0.0 18.4 0 0.0 0.0 0.0 0.0	0.0 17.0 48.9 30.1 23.5 0.0 39.1 0.3 0.5 0.0 3 1.7 2.2 0.0 0.3 0.0	6.0 -17.0 -48.9 -30.1 -23.5 8.7 -0.3 -0.5 18.4 -3 -1.7 -2.2 0.3 -0.3
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48	HVDC 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 D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	241 0 0 0 0 477 0 164 128 971 0 16 0 55 27	0 688 1369 1599 759 0 1812 197 169 0 431 65 120	6.0 0.0 0.0 0.0 0.0 8.7 0.0 0.0 18.4 0 0.0 0.0 0.0	0.0 17.0 48.9 30.1 23.5 0.0 39.1 0.3 0.5 0.0 3 1.7 2.2 0.0 0.3	6.0 -17.0 -48.9 -30.1 -23.5 8.7 -39.1 -0.3 -0.5 18.4 -3 -1.7 -2.2 0.3 -0.3
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48	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 ZERDA-KANKROLI ZERDA-BHINMAL VCHAL-RIHAND RAPP-SHUJALPUR BADOD-KOTA BADOD-MORAK MEHGAON-AURAIYA MALANPUR-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	241 0 0 0 0 477 0 164 128 971 0 16 0 55 27	0 688 1369 1599 759 0 1812 197 169 0 431 65 120 12	6.0 0.0 0.0 0.0 0.0 8.7 0.0 0.0 18.4 0 0.0 0.0 0.0 0.0	0.0 17.0 48.9 30.1 23.5 0.0 39.1 0.3 0.5 0.0 3 1.7 2.2 0.0 0.3 0.0	6.0 -17.0 -48.9 -30.1 -23.5 8.7 -0.3 -0.5 18.4 -3 -1.7 -2.2 0.3 -0.3
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49	HVDC 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	241 0 0 0 0 477 0 164 128 971 0 16 0 55 27 0	0 688 1369 1599 759 0 1812 197 169 0 431 65 120 12 28 0	6.0 0.0 0.0 0.0 0.0 8.7 0.0 0.0 18.4 0 0.0 0.0 0.0 33.5	0.0 17.0 48.9 30.1 23.5 0.0 39.1 0.3 0.5 0.0 3 1.7 2.2 0.0 0.3 0.0 188.4	6.0 -17.0 -48.9 -30.1 -23.5 8.7 -39.1 -0.3 -0.5 18.4 -3 -1.7 -2.2 0.3 -0.3 0.0 -154.9
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49	HVDC 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	241 0 0 0 0 477 0 164 128 971 0 16 0 55 27 0	0 688 1369 1599 759 0 1812 197 169 0 431 65 120 12 28 0 WR-NR	6.0 0.0 0.0 0.0 0.0 8.7 0.0 0.0 18.4 0 0.0 0.0 0.3 0.1 0.0 33.5	0.0 17.0 48.9 30.1 23.5 0.0 39.1 0.3 0.5 0.0 3 1.7 2.2 0.0 0.3 0.0 188.4	6.0 -17.0 -48.9 -30.1 -23.5 8.7 -39.1 -0.3 -0.5 18.4 -3 -1.7 -2.2 0.3 -0.3 -0.3
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 port/F 50 51 52 53	HVDC 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	241 0 0 0 0 477 0 164 128 971 0 16 0 55 27 0 0	0 688 1369 1599 759 0 1812 197 169 0 431 65 120 12 28 0 WR-NR	6.0 0.0 0.0 0.0 0.0 8.7 0.0 0.0 0.0 18.4 0 0.0 0.3 0.1 0.0 33.5	0.0 17.0 48.9 30.1 23.5 0.0 39.1 0.3 0.5 0.0 3 1.7 2.2 0.0 0.3 0.0 188.4 13.5 0.0 0.0 0.0 13.5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	6.0 -17.0 -48.9 -30.1 -23.5 8.7 -39.1 -0.3 -0.5 18.4 -3 -1.7 -2.2 0.3 -0.3 -0.3 -0.5 18.4 -3 -1.7 -2.2 0.3 -0.3 -0.3 -0.3 -0.3 -0.4 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 pport/F 50 51 52 53 54	HVDC 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-KANKROLI ZERDA-KANKROLI 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	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	241 0 0 0 0 477 0 164 128 971 0 16 0 55 27 0 0 0 1087 0 0	0 688 1369 1599 759 0 1812 197 169 0 431 65 120 12 28 0 WR-NR	6.0 0.0 0.0 0.0 0.0 8.7 0.0 0.0 0.0 18.4 0 0.0 0.0 0.3 0.1 0.0 33.5	0.0 17.0 48.9 30.1 23.5 0.0 39.1 0.3 0.5 0.0 3 1.7 2.2 0.0 0.3 0.0 188.4 13.5 0.0 0.0 13.5 0.0 14.7 15.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.	6.0 -17.0 -48.9 -30.1 -23.5 8.7 -39.1 -0.3 -0.5 18.4 -3 -1.7 -2.2 0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3 -0.4 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 Paport/F 51 52 53 54	HVDC 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	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 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	241 0 0 0 0 477 0 164 128 971 0 16 0 55 27 0 0 1087 0 0	0 688 1369 1599 759 0 1812 197 169 0 431 65 120 12 28 0 WR-NR	6.0 0.0 0.0 0.0 0.0 8.7 0.0 0.0 18.4 0 0.0 0.3 0.1 0.0 33.5	0.0 17.0 48.9 30.1 23.5 0.0 39.1 0.3 0.5 0.0 3 1.7 2.2 0.0 0.3 0.0 188.4 13.5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	6.0 -17.0 -48.9 -30.1 -23.5 8.7 -39.1 -0.3 -0.5 18.4 -3 -1.7 -2.2 0.3 -0.3 -0.3 -0.3 -0.4 -1.7 -2.2 -1.7 -2.2 -1.7 -2.2 -1.7 -2.2 -1.7 -2.2 -1.7 -2.2 -1.7 -2.2 -1.7 -2.2 -1.7 -2.2 -1.7 -2.2 -1.7 -2.2 -1.7 -2.2 -1.7 -2.2 -1.7 -2.2 -1.7 -2.2 -1.7 -1.7 -2.2 -1.7 -1.7 -2.2 -1.7 -1.7 -2.2 -1.7 -1.7 -1.7 -2.2 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7 -1.7
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 Exercise 1 50 51 52 53 54 55 56	HVDC 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 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 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	241 0 0 0 0 0 477 0 164 128 971 0 16 0 55 27 0 0 0 1087 0 0	0 688 1369 1599 759 0 1812 197 169 0 431 65 120 12 28 0 WR-NR	6.0 0.0 0.0 0.0 0.0 8.7 0.0 0.0 0.0 18.4 0 0.0 0.3 0.1 0.0 33.5	0.0 17.0 48.9 30.1 23.5 0.0 39.1 0.3 0.5 0.0 3 1.7 2.2 0.0 0.3 0.0 188.4 13.5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	6.0 -17.0 -48.9 -30.1 -23.5 8.7 -39.1 -0.3 -0.5 -18.4 -3 -1.7 -2.2 -0.3 -0.3 -0.0 -154.9 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -13.5 -
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 **Poort/F** 55 51 52 53 54 55	HVDC 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	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 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	241 0 0 0 0 477 0 164 128 971 0 16 0 55 27 0 0 1087 0 0	0 688 1369 1599 759 0 1812 197 169 0 431 65 120 12 28 0 WR-NR	6.0 0.0 0.0 0.0 0.0 8.7 0.0 0.0 0.0 18.4 0 0.0 0.3 0.1 0.0 33.5	0.0 17.0 48.9 30.1 23.5 0.0 39.1 0.3 0.5 0.0 3 1.7 2.2 0.0 0.3 0.0 188.4 13.5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	6.0 -17.0 -48.9 -30.1 -23.5 8.7 -39.1 -0.3 -0.5 18.4 -3 -1.7 -2.2 0.3 -0.3 0.0 -154.9 -13.5 0.0 4.4 -25.4 8.1 0.0 0.0
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 port/F 55 55 56	HVDC 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 S/C S/C S/C S	241 0 0 0 0 0 477 0 164 128 971 0 16 0 55 27 0 0 1087 0 0 0 0 0 0 0 0 0 0 0 0 0	0 688 1369 1599 759 0 1812 197 169 0 431 65 120 12 28 0 WR-NR 620 0 769 1847 0 0 0 WR-SR	6.0 0.0 0.0 0.0 0.0 8.7 0.0 0.0 0.0 18.4 0 0.0 0.3 0.1 0.0 33.5	0.0 17.0 48.9 30.1 23.5 0.0 39.1 0.3 0.5 0.0 3 1.7 2.2 0.0 0.3 0.0 188.4 13.5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	6.0 -17.0 -48.9 -30.1 -23.5 8.7 -39.1 -0.3 -0.5 18.4 -3 -1.7 -2.2 0.3 -0.3 -0.0 -154.9 -13.5 0.0 4.4 -25.4 8.1 0.0
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 port/F 55 55 56	HVDC 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 S/C S/C S/C S	241 0 0 0 0 0 477 0 164 128 971 0 16 0 55 27 0 0 0 1087 0 0	0 688 1369 1599 759 0 1812 197 169 0 431 65 120 12 28 0 WR-NR 620 0 769 1847 0 0 0 WR-SR	6.0 0.0 0.0 0.0 0.0 8.7 0.0 0.0 0.0 18.4 0 0.0 0.3 0.1 0.0 33.5	0.0 17.0 48.9 30.1 23.5 0.0 39.1 0.3 0.5 0.0 3 1.7 2.2 0.0 0.3 0.0 188.4 13.5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	6.0 -17.0 -48.9 -30.1 -23.5 8.7 -39.1 -0.3 -0.5 18.4 -3 -1.7 -2.2 0.3 -0.3 0.0 -154.9 -13.5 0.0 4.4 -25.4 8.1 0.0 0.0