

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)
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बी-9, क़ुतुब इन्स्टीट्यूशनल एरिया, कटवारिया सराये, न्यू दिल्ली-110016

Ref: POSOCO/NLDC/SO/Daily PSP Report

दिनांक: 12th Nov 2018

To,

- कार्यकारी निदेशक, पू.क्षे.भा.प्रे.के.,14, गोल्फ क्लब रोड, कोलकाता 700033
 Executive Director, ERLDC, 14 Golf Club Road, Tolleygunge, Kolkata, 700033
- 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.,29 , रेस कोर्स क्रॉस रोड, बंगलुरु -560009 Executive Director, SRLDC, 29, Race Course Cross Road, Bangalore-560009

Sub: Daily PSP Report for the date 11.11.2018.

महोदय/Dear Sir,

आई॰ई॰जी॰सी॰-2010 की धारा स.-5.5.1 के प्रावधान के अनुसार, दिनांक 11-नवंबर-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 11th November 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-Nov-18

A. Maximum Demand

	NR	WR	SR	ER	NER	Total
Demand Met during Evening Peak hrs(MW) (at 1900 hrs; from RLDCs)	40210	44040	39421	18703	2297	144671
Peak Shortage (MW)	458	0	0	130	38	626
Energy Met (MU)	849	1070	931	360	40	3250
Hydro Gen (MU)	147	14	67	39	8	276
Wind Gen (MU)	4	15	22			41
Solar Gen (MU)*	21.63	20.2	72.35	0.77	0.04	115
Energy Shortage (MU)	10.1	0.0	0.0	0.4	0.4	10.9
Maximum Demand Met during the day	41410	49798	40475	19270	2296	147765
(MW) & time (from NLDC SCADA)	18:47	11:54	12:50	18:50	18:04	18:44

B. Frequency Profile (%) FVI <49.7 49.7-49.8 49.8-49.9 <49.9 49.9-50.05 All India 0.044 0.14 80.02

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	4998	0	106.8	24.2	-0.5	93	0.0
NR	Haryana	5505	0	103.4	66.2	1.4	269	0.0
	Rajasthan	11055	0	218.1	54.9	1.5	279	0.0
	Delhi	2932	0	55.5	45.2	-0.8	175	0.0
	UP	13165	0	263.3	106.0	0.0	292	0.0
	Uttarakhand	1606	0	31.0	20.4	0.6	181	0.0
	HP	1402	0	25.3	15.5	0.4	117	0.0
	J&K	2113	528	42.5	36.8	-1.8	177	10.1
	Chandigarh	159	0	2.9	2.8	0.1	17	0.0
	Chhattisgarh	3572	0	76.0	10.5	-2.5	192	0.0
	Gujarat	12113	0	268.5	115.0	5.7	535	0.0
	MP	12726	0	257.8	167.4	-1.0	617	0.0
WR	Maharashtra	20353	0	426.6	134.1	-4.6	630	0.0
WK	Goa	444	0	9.8	9.2	0.2	37	0.0
	DD	268	0	6.0	5.6	0.4	65	0.0
	DNH	599	0	13.7	13.5	0.3	92	0.0
	Essar steel	520	0	11.1	11.2	-0.1	266	0.0
	Andhra Pradesh	8813	0	191.6	72.7	1.5	567	0.0
	Telangana	8875	0	187.2	91.3	0.7	339	0.0
SR	Karnataka	10201	0	206.8	66.8	0.6	465	0.0
3K	Kerala	3370	0	64.7	49.2	0.9	217	0.0
	Tamil Nadu	12432	0	274.5	142.5	1.6	382	0.0
	Pondy	298	0	6.4	6.7	-0.3	26	0.0
	Bihar	4301	0	72.9	71.5	-0.8	460	0.0
	DVC	2865	100	63.0	-9.6	1.1	396	0.4
ER	Jharkhand	1141	0	24.2	15.7	-1.3	169	0.0
EK	Odisha	4322	0	92.7	41.2	2.7	267	0.0
	West Bengal	6075	0	105.5	19.9	0.8	309	0.0
	Sikkim	75	0	1.5	1.2	0.3	18	0.0
	Arunachal Pradesh	119	2	2.1	1.9	0.2	24	0.0
	Assam	1368	28	23.3	18.0	1.3	139	0.3
	Manipur	173	3	2.5	2.4	0.1	28	0.0
NER	Meghalaya	300	0	5.2	3.1	-0.1	22	0.0
	Mizoram	76	2	1.7	1.1	0.2	0	0.0
	Nagaland	120	3	2.1	1.7	0.1	17	0.0
	Tripura	216	4	3.4	1.7	-0.1	36	0.0

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

	Bhutan	Nepal	Bangladesh
Actual(MU)	7.9	-2.2	-13.7
Day peak (MW)	365.0	-140.0	-692.0

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

	NR	WR	SR	ER	NER	TOTAL
Schedule(MU)	104.2	-175.7	129.4	-54.7	-2.9	0.2
Actual(MU)	100.4	-184.3	138.3	-51.0	-3.2	0.3
O/D/U/D(MU)	-3.8	-8.6	9.0	3.8	-0.3	0.1

F. Generation Outage(MW)

	NR	WR	SR	ER	NER	Total
Central Sector	5221	12983	7482	600	81	26367
State Sector	11000	17382	9110	7115	50	44657
Total	16221	30365	16592	7715	131	71023

G. Sourcewise generation (MU)

	NR	WR	SR	ER	NER	All India
Thermal (Coal & Lignite)	540	1153	542	392	10	2638
Hydro	147	14	67	39	8	276
Nuclear	25	31	40	0	0	96
Gas, Naptha & Diesel	14	37	25	0	29	106
RES (Wind, Solar, Biomass & Others)	42	36	129	1	0	209
Total	768	1272	805	432	47	3324

Share of RES in total generation (%)	5.53	2.83	16.07	0.19	0.09	6.28
Share of Non-fossil fuel (Hydro, Nuclear and	27.97	6,39	29.48	0.15	17.51	17.46
RES) in total generation (%)	27.87	0.39	29.40	9.15	17.51	17.40

H. Diversity Factor
All India Demand Diversity Factor
1.037
Diversity factor = Sum of regional maximum demands / All India maximum demand

> 50.05

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

		INTE	R-REGIO	ONAL EX	CHANGES	Date of 1	Reporting :	12-Nov-18
							. 0	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)	D/G	201	0.5		0.0	
2	765kV	GAYA-VARANASI SASARAM-FATEHPUR	D/C S/C	281 265	87 0	3.0	0.0	3.0
3	7038 7	GAYA-BALIA	S/C	77	136	0.0	1.4	-1.4
4	HVDC	ALIPURDUAR-AGRA	-	0	200	0.0	4.7	-4.7
5	пъс	PUSAULI B/B	S/C	0	400	0.0	10.0	-10.0
6		PUSAULI-VARANASI	S/C	0	298	0.0	6.5	-6.5
7 8		PUSAULI -ALLAHABAD	S/C D/C	0 149	163	0.0	3.2 1.2	-3.2
9	400 kV	MUZAFFARPUR-GORAKHPUR PATNA-BALIA	Q/C	0	242 745	0.0	12.3	-1.2 -12.3
10	400 K	BIHARSHARIFF-BALIA	D/C	44	67	0.0	1.0	-12.3
11		MOTIHARI-GORAKHPUR	D/C	0	312	0.0	6.1	-6.1
12		BIHARSHARIFF-VARANASI	D/C	273	0	2.6	0.0	2.6
13	220 kV	PUSAULI-SAHUPURI	S/C	0	120	0.0	2.4	-2.4
14		SONE NAGAR-RIHAND	S/C	0	0	0.0	0.0	0.0
15	132 kV	GARWAH-RIHAND	S/C	25	0	0.6	0.0	0.6
16		KARMANASA-SAHUPURI	S/C	0	0	0.0	0.0	0.0
17		KARMANASA-CHANDAULI	S/C	0	0	0.0	0.0	0.0
Import/E	Export of	ER (With WR)			ER-NR	7.4	48.7	-41.3
_	Aport OI		D/C	061	0	20.7	0.0	20.5
18	765 kV	JHARSUGUDA-DHARAMJAIGARH S/C	D/C	961	0	28.5	0.0	28.5
19	-	NEW RANCHI-DHARAMJAIGARH	D/C	317	203	2.7	0.0	2.7
20	400 kV	JHARSUGUDA-RAIGARH RANCHI-SIPAT	Q/C D/C	368 222	0	6.5 4.0	0.0	6.5 4.0
22		BUDHIPADAR-RAIGARH	S/C	30	54	0.0	0.3	-0.3
23	220 kV	BUDHIPADAR-KORBA	D/C	161	0	3.1	0.0	3.1
					ER-WR	44.8	0.3	44.5
Import/E	Export of	ER (With SR)						
24	765 kV	ANGUL-SRIKAKULAM	D/C	0.0	1660.0	0.0	31.5	-31.5
25	HVDC	JEYPORE-GAZUWAKA B/B	D/C	0.0	661.0	0.0	15.1	-15.1
26	LINK	TALCHER-KOLAR BIPOLE	D/C	0.0	2466.0	0.0	47.5	-47.5
27	400 kV 220 kV	TALCHER-I/C BALIMELA-UPPER-SILERRU	D/C S/C	1.0	988.0 0.0	0.0	8.9 0.0	-8.9 0.0
20	220 K V	BALIWELA-OTTEK-SILEKKO	5/C	1.0	ER-SR	0.0	94.1	-94.1
Import/F	Export of	ER (With NER)						
29	400 kV	BINAGURI-BONGAIGAON	D/C	0	330	0.0	5.2	-5
30	400 K V	ALIPURDUAR-BONGAIGAON	D/C	0	196	0.0	2.4	-2
31	220 kV	ALIPURDUAR-SALAKATI	D/C	0	69	0.0	1.0	-1
T ./T		NED (HEL ND)			ER-NER	0.0	8.6	-8.6
_		NER (With NR)		0				-12.0
32	TITIDO			U	512			-12.0
	HVDC	BISWANATH CHARIALI-AGRA	-		512 NER-NR	0.0	12.0	-12.0
Import/E	11.50	DIS WILL WITH CHE HELLEN FIGURE	-		512 NER-NR	0.0 0.0	12.0 12.0	-12.0
Import/E	11.50	BISWANATH CHARIALI-AGRA WR (With NR) CHAMPA-KURUKSHETRA	- D/C	0				-12.0 -21.5
	Export of	WR (With NR)	D/C D/C	0 242	NER-NR	0.0	12.0	
33	Export of	WR (With NR) CHAMPA-KURUKSHETRA	+		NER-NR	0.0	12.0 21.5	-21.5
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	242 0 0	903 0 886 676	0.0 0.0 6.0 0.0	21.5 0.0 21.8 21.5	-21.5 6.0 -21.8 -21.5
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	242 0 0 0	903 0 886 676	0.0 0.0 6.0 0.0 0.0	21.5 0.0 21.8 21.5 17.8	-21.5 6.0 -21.8 -21.5 -17.8
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	242 0 0 0 0 351	903 0 886 676 1191 57	0.0 0.0 6.0 0.0 0.0 0.0 0.0	21.5 0.0 21.8 21.5 17.8 3.3	-21.5 6.0 -21.8 -21.5 -17.8 -3.3
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	242 0 0 0 0 351 554	903 0 886 676 1191 57	0.0 6.0 0.0 0.0 0.0 0.0 0.0 9.4	21.5 0.0 21.8 21.5 17.8 3.3 0.0	-21.5 6.0 -21.8 -21.5 -17.8 -3.3 9.4
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	242 0 0 0 0 351 554 0	NER-NR 903 0 886 676 1191 57 0 1592	0.0 6.0 0.0 0.0 0.0 0.0 0.0 0.0 9.4	12.0 21.5 0.0 21.8 21.5 17.8 3.3 0.0 36.1	-21.5 6.0 -21.8 -21.5 -17.8 -3.3 9.4 -36.1
33 34 35 36 37 38 39	Export of HVDC 765 kV	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	242 0 0 0 0 351 554	903 0 886 676 1191 57	0.0 6.0 0.0 0.0 0.0 0.0 0.0 9.4	21.5 0.0 21.8 21.5 17.8 3.3 0.0	-21.5 6.0 -21.8 -21.5 -17.8 -3.3 9.4
33 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 ZERDA-KANKROLI	D/C D/C D/C D/C D/C S/C S/C S/C	242 0 0 0 351 554 0 334	NER-NR 903 0 886 676 1191 57 0 1592	0.0 6.0 0.0 0.0 0.0 0.0 0.0 9.4 0.0 6.3	21.5 0.0 21.8 21.5 17.8 3.3 0.0 36.1	-21.5 6.0 -21.8 -21.5 -17.8 -3.3 9.4 -36.1 6.3
33 34 35 36 37 38 39 40 41 42	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	D/C D/C D/C D/C D/C S/C S/C S/C S/C	242 0 0 0 351 554 0 334 211	NER-NR 903 0 886 676 1191 57 0 1592 0 44	0.0 0.0 6.0 0.0 0.0 0.0 0.0 0.0	12.0 21.5 0.0 21.8 21.5 17.8 3.3 0.0 36.1 0.0	-21.5 6.0 -21.8 -21.5 -17.8 -3.3 9.4 -36.1 6.3 2.9
33 34 35 36 37 38 39 40 41 42 43	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	D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C	242 0 0 0 351 554 0 334 211 989	NER-NR 903 0 886 676 1191 57 0 1592 0 44	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	21.5 0.0 21.8 21.5 17.8 3.3 0.0 36.1 0.0 0.0	-21.5 6.0 -21.8 -21.5 -17.8 -3.3 9.4 -36.1 6.3 2.9 22.7
33 34 35 36 37 38 39 40 41 42 43 44 45 46	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 ZERDA-KANKROLI ZERDA-KANKROLI ZERDA-HINMAL V'CHAL-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	242 0 0 0 351 554 0 334 211 989 459 67 76	NER-NR 903 0 886 676 1191 57 0 1592 0 44 0 0 0 18	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	21.5 0.0 21.8 21.5 17.8 3.3 0.0 36.1 0.0 0.0 0.0 0.0	-21.5 6.0 -21.8 -21.5 -17.8 -3.3 9.4 -36.1 6.3 2.9 22.7 -3 2.9 0.8
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47	HVDC 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	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	242 0 0 0 351 554 0 334 211 989 459 67 76 125	NER-NR 903 0 886 676 1191 57 0 1592 0 444 0 0 0 18	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	21.5 0.0 21.8 21.5 17.8 3.3 0.0 36.1 0.0 0.0 0.0 0.0	-21.5 6.0 -21.8 -21.5 -17.8 -3.3 9.4 -36.1 6.3 2.9 22.7 -3 2.9 0.8 1.8
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48	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 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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	242 0 0 0 351 554 0 334 211 989 459 67 76 125 83	NER-NR 903 0 886 676 1191 57 0 1592 0 444 0 0 0 18	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	21.5 0.0 21.8 21.5 17.8 3.3 0.0 36.1 0.0 0.0 0.0 0.0 0.0	-21.5 6.0 -21.8 -21.5 -17.8 -3.3 9.4 -36.1 6.3 2.9 22.7 -3 2.9 0.8 1.8
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47	HVDC 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	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	242 0 0 0 351 554 0 334 211 989 459 67 76 125	NER-NR 903 0 886 676 1191 57 0 1592 0 44 0 0 0 0 0 18	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	21.5 0.0 21.8 21.5 17.8 3.3 0.0 36.1 0.0 0.0 0.0 0.0 0.0 0.0	-21.5 6.0 -21.8 -21.5 -17.8 -3.3 9.4 -36.1 6.3 2.9 22.7 -3 2.9 0.8 1.8 1.0 0.0
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49	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 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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	242 0 0 0 351 554 0 334 211 989 459 67 76 125 83	NER-NR 903 0 886 676 1191 57 0 1592 0 444 0 0 0 18	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	21.5 0.0 21.8 21.5 17.8 3.3 0.0 36.1 0.0 0.0 0.0 0.0 0.0	-21.5 6.0 -21.8 -21.5 -17.8 -3.3 9.4 -36.1 6.3 2.9 22.7 -3 2.9 0.8 1.8
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49	Export of HVDC 765 kV 400 kV 220 kV 132kV	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	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	242 0 0 0 351 554 0 334 211 989 459 67 76 125 83	NER-NR 903 0 886 676 1191 57 0 1592 0 44 0 0 0 0 0 18	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	21.5 0.0 21.8 21.5 17.8 3.3 0.0 36.1 0.0 0.0 0.0 0.0 0.0 0.0	-21.5 6.0 -21.8 -21.5 -17.8 -3.3 9.4 -36.1 6.3 2.9 22.7 -3 2.9 0.8 1.8 1.0 0.0
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49	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 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	242 0 0 0 351 554 0 334 211 989 459 67 76 125 83 0	NER-NR 903 0 886 676 1191 57 0 1592 0 44 0 0 18 0 WR-NR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	21.5 0.0 21.8 21.5 17.8 21.5 17.8 3.3 0.0 36.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	-21.5 6.0 -21.8 -21.5 -17.8 -3.3 -36.1 6.3 2.9 22.7 -3 2.9 0.8 1.8 1.0 0.0 -71.3
33 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	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	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	242 0 0 0 351 554 0 334 211 989 459 67 76 125 83 0	NER-NR 903 0 886 676 1191 57 0 1592 0 44 0 0 0 WR-NR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	21.5 0.0 21.8 21.5 17.8 3.3 0.0 36.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 125.2	-21.5 6.0 -21.8 -21.5 -17.8 -3.3 9.4 -36.1 6.3 2.9 22.7 -3 2.9 0.8 1.8 1.0 0.0 -71.3
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 Import/F 50 51	HVDC 765 kV 400 kV 132kV Export of HVDC	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	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	242 0 0 0 351 554 0 334 211 989 459 67 76 125 83 0	NER-NR 903 0 886 676 1191 57 0 1592 0 0 44 0 0 0 WR-NR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	21.5 0.0 21.8 21.5 17.8 3.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 125.2	-21.5 6.0 -21.8 -21.5 -17.8 -3.3 9.4 -36.1 6.3 2.9 22.7 -3 2.9 0.8 1.8 1.0 0.0 -71.3
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 Import/E 50 51 52	HVDC 765 kV 400 kV 220 kV 132kV Export of HVDC LINK	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	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	242 0 0 0 351 554 0 334 211 989 459 67 76 125 83 0	NER-NR 903 0 886 676 1191 57 0 1592 0 44 0 0 0 0 WR-NR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	21.5 0.0 21.8 21.5 17.8 3.3 0.0 36.1 0.0 0.0 0.0 0.0 0.0 125.2 21.3 0.0 32.5	-21.5 6.0 -21.8 -21.5 -17.8 -3.3 -3.6.1 6.3 -2.9 -22.7 -3 -2.9 0.8 1.8 1.0 0.0 -71.3 -21.3 0.0 -32.5
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 Import/F 50 51 52 53 54 55	220 kV 220 kV 132kV Export of HVDC HVDC T65 kV 400 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-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-LSILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD KOLHAPUR-KUDGI KOLHAPUR-CHIKODI	D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C S/C S/C S/C D/C S/C S/C S/C D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	242 0 0 0 351 554 0 334 211 989 459 67 76 125 83 0 0 0 0 0 0	NER-NR 903 0 886 676 1191 57 0 1592 0 44 0 0 0 WR-NR 999 0 2145 2281 0 0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	21.5 0.0 21.8 21.5 17.8 3.3 0.0 36.1 0.0 0.0 0.0 0.0 0.0 125.2 21.3 0.0 32.5 39.7 0.0 0.0	-21.5 6.0 -21.8 -21.5 -17.8 -3.3 9.4 -36.1 6.3 2.9 22.7 -3 2.9 0.8 1.8 1.0 0.0 -71.3 -21.3 0.0 -32.5 -39.7 6.6 0.0
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 Import/F 50 51 52 53 54 55 56	220 kV 220 kV 132kV Export of HVDC HVDC T65 kV 400 kV	WR (With NR) CHAMPA-KURUKSHETRA V'CHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-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 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 S/C D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	242 0 0 0 351 554 0 334 211 989 459 67 76 125 83 0 0 0 0 0 0	NER-NR 903 0 886 676 1191 57 0 1592 0 44 0 0 0 WR-NR 999 0 2145 2281 0 0 0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	21.5 0.0 21.8 21.5 17.8 3.3 0.0 36.1 0.0 0.0 0.0 0.0 0.0 125.2 21.3 0.0 32.5 39.7 0.0 0.0 0.0 0.0	-21.5 6.0 -21.8 -21.5 -17.8 -3.3 9.4 -36.1 6.3 2.9 22.7 -3 2.9 0.8 1.8 1.0 0.0 -71.3 -21.3 0.0 -32.5 -39.7 6.6 0.0 0.0
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 Import/F 50 51 52 53 54 55	220 kV 220 kV 132kV Export of HVDC HVDC T65 kV 400 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-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-LSILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD KOLHAPUR-KUDGI KOLHAPUR-CHIKODI	D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C S/C S/C S/C D/C S/C S/C S/C D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	242 0 0 0 351 554 0 334 211 989 459 67 76 125 83 0 0 0 0 0 0	NER-NR 903 0 886 676 1191 57 0 1592 0 44 0 0 0 0 WR-NR 999 0 2145 2281 0 0 0 64	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	21.5 0.0 21.8 21.5 17.8 3.3 0.0 36.1 0.0 0.0 0.0 0.0 0.0 125.2 21.3 0.0 32.5 39.7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	-21.5 6.0 -21.8 -21.5 -17.8 -3.3 9.4 -36.1 6.3 2.9 22.7 -3 2.9 0.8 1.8 1.0 0.0 -71.3 -21.3 0.0 -32.5 -39.7 6.6 0.0 0.0 1.2
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 Import/F 50 51 52 53 54 55 56	220 kV 220 kV 132kV Export of HVDC HVDC T65 kV 400 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-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 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	242 0 0 0 351 554 0 334 211 989 459 67 76 125 83 0 0 0 0 0 0 0	NER-NR 903 0 886 676 1191 57 0 1592 0 44 0 0 0 18 0 0 WR-NR 999 0 2145 2281 0 0 0 WR-SR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	21.5 0.0 21.8 21.5 17.8 3.3 0.0 36.1 0.0 0.0 0.0 0.0 0.0 125.2 21.3 0.0 32.5 39.7 0.0 0.0 0.0 0.0	-21.5 6.0 -21.8 -21.5 -17.8 -3.3 9.4 -36.1 6.3 2.9 22.7 -3 2.9 0.8 1.8 1.0 0.0 -71.3 -21.3 0.0 -32.5 -39.7 6.6 0.0 0.0
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 Import/F 50 51 52 53 54 55 56 57	220 kV 220 kV 132kV Export of HVDC HVDC T65 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-BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BADOD-MORAK MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHADRAWATI B/B BARSUR-L.SILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD KOLHAPUR-CHIKODI PONDA-AMBEWADI TRA	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	242 0 0 0 351 554 0 334 211 989 459 67 76 125 83 0 0 0 0 0 0	NER-NR 903 0 886 676 1191 57 0 1592 0 44 0 0 0 18 0 0 WR-NR 999 0 2145 2281 0 0 0 WR-SR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	21.5 0.0 21.8 21.5 17.8 3.3 0.0 36.1 0.0 0.0 0.0 0.0 0.0 125.2 21.3 0.0 32.5 39.7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	-21.5 6.0 -21.8 -21.5 -17.8 -3.3 9.4 -36.1 6.3 2.9 22.7 -3 2.9 0.8 1.8 1.0 0.0 -71.3 -21.3 0.0 -32.5 -39.7 6.6 0.0 0.0 1.2 -85.6
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 Import/F 50 51 52 53 54 55 56 57	220 kV 220 kV 132kV Export of HVDC HVDC T65 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-BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BADOD-KOTA BADOD-MORAK MEHGAON-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHADRAWATI B/B BARSUR-L-SILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD KOLHAPUR-CHIKODI PONDA-AMBEWADI TRA BHUTAN	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	242 0 0 0 351 554 0 334 211 989 459 67 76 125 83 0 0 0 0 0 0 0	NER-NR 903 0 886 676 1191 57 0 1592 0 44 0 0 0 18 0 0 WR-NR 999 0 2145 2281 0 0 0 WR-SR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	21.5 0.0 21.8 21.5 17.8 3.3 0.0 36.1 0.0 0.0 0.0 0.0 0.0 125.2 21.3 0.0 32.5 39.7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	-21.5 6.0 -21.8 -21.5 -17.8 -3.3 -9.4 -36.1 6.3 -2.9 -22.7 -3 -3 -9 -0.8 1.8 1.0 0.0 -71.3 -21.3 0.0 -32.5 -39.7 6.6 0.0 0.0 1.2 -85.6
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 Import/F 50 51 52 53 54 55 56 57	220 kV 220 kV 132kV Export of HVDC HVDC T65 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-BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BADOD-MORAK MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHADRAWATI B/B BARSUR-L.SILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD KOLHAPUR-CHIKODI PONDA-AMBEWADI TRA	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	242 0 0 0 351 554 0 334 211 989 459 67 76 125 83 0 0 0 0 0 0 0	NER-NR 903 0 886 676 1191 57 0 1592 0 44 0 0 0 18 0 0 WR-NR 999 0 2145 2281 0 0 0 WR-SR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	21.5 0.0 21.8 21.5 17.8 3.3 0.0 36.1 0.0 0.0 0.0 0.0 0.0 125.2 21.3 0.0 32.5 39.7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	-21.5 6.0 -21.8 -21.5 -17.8 -3.3 9.4 -36.1 6.3 2.9 22.7 -3 2.9 0.8 1.8 1.0 0.0 -71.3 -21.3 0.0 -32.5 -39.7 6.6 0.0 0.0 1.2 -85.6