

## 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: 29<sup>th</sup> Apr 2019

To,

- 1. कार्यकारी निदेशक, पू.क्षे.भा.प्रे.के.,14, गोल्फ क्लब रोड, कोलकाता 700033 Executive Director, ERLDC, 14 Golf Club Road, Tollygunge, Kolkata, 700033
- 2. कार्यकारी निदेशक, ऊ. क्षे. भा. प्रे. के., 18/ ए, शहीद जीत सिंह सनसनवाल मार्ग, नई दिल्ली 110016 Executive Director, NRLDC, 18-A, Shaheed Jeet Singh Marg, Katwaria Sarai, New Delhi – 110016
- 3. कार्यकारी निदेशक, प .क्षे .भा .प्रे .के., एफ3-, एम आई डी सी क्षेत्र , अंधेरी, मुंबई -400093 Executive Director, WRLDC, F-3, M.I.D.C. Area, Marol, Andheri (East), Mumbai-400093
- 4. मुख्य महाप्रबंधक, ऊ. पू. क्षे. भा. प्रे. के., डोंगतिएह, लोअर नोंग्रह, लापलंग, शिलोंग 793006 Chief General Manager, NERLDC, Dongteih, Lower Nongrah, Lapalang, Shillong - 793006, Meghalaya
- 5. कार्यकारी निदेशक , द .क्षे .भा .प्रे .के., २९ , रेस कोर्स क्रॉस रोड, बंगलुरु –५६०००९ Executive Director, SRLDC, 29, Race Course Cross Road, Bangalore-560009

## Sub: Daily PSP Report for the date 28.04.2019.

महोदय/Dear Sir,

आई॰ई॰जी॰सी॰-२०१० की धारा स.-5.5.१ के प्रावधान के अनुसार, दिनांक २८-अप्रैल-२०१९ 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 28<sup>th</sup> April 2019, 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 29-Apr-19

#### A. Maximum Demand

	NR	WR	SR	ER	NER	Total
Demand Met during Evening Peak hrs(MW) (at 1900 hrs; from RLDCs)	48941	49191	40163	21518	2104	161917
Peak Shortage (MW)	529	0	0	0	465	994
Energy Met (MU)	1054	1247	992	471	40	3804
Hydro Gen (MU)	262	35	66	76	4	443
Wind Gen (MU)	8	67	31			106
Solar Gen (MU)*	32.50	26.98	74.73	0.95	0.03	135
Energy Shortage (MU)	10.5	0.0	0.0	0.0	3.2	13.7
Maximum Demand Met during the day	52892	55242	43377	22687	2063	174344
(MW) & time (from NLDC SCADA)	23:18	23:55	22:50	00:00	19:54	22:42

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	0.036	0.00	0.00	1.70	1.70	66.39	31.91

C. Power Supply Position in State

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	6740	0	126.3	47.5	-2.7	31	0.0
	Haryana	7467	0	132.9	91.5	-1.4	178	0.0
	Rajasthan	10170	0	224.7	70.9	-0.3	332	0.0
	Delhi	4886	0	98.7	85.6	-2.6	58	0.0
NR	UP	19268	0	358.7	163.0	-6.2	555	0.0
	Uttarakhand	1803	0	38.7	15.7	-0.3	129	0.0
	HP	1219	0	25.7	3.9	0.3	150	0.0
	J&K	2206	551	44.2	25.4	-1.8	64	10.4
	Chandigarh	203	0	4.1	4.7	-0.6	11	0.0
	Chhattisgarh	4544	0	104.1	47.3	-2.9	276	0.0
	Gujarat	17181	0	375.4	112.4	3.6	676	0.0
	MP	9688	0	217.3	107.6	-1.3	497	0.0
WR	Maharashtra	21987	0	504.1	150.8	-2.3	494	0.0
WK	Goa	541	0	13.5	10.4	2.5	65	0.0
	DD	312	0	7.2	7.0	0.2	26	0.0
	DNH	782	0	18.3	18.2	0.1	73	0.0
	Essar steel	328	0	6.7	6.2	0.5	299	0.0
	Andhra Pradesh	8801	0	189.0	66.1	0.4	907	0.0
	Telangana	7760	0	171.1	59.9	0.2	769	0.0
SR	Karnataka	11341	0	219.1	73.1	1.2	549	0.0
3N	Kerala	3915	0	79.3	55.0	1.6	184	0.0
	Tamil Nadu	14273	0	325.7	164.8	0.1	541	0.0
	Pondy	393	0	8.3	8.5	-0.1	39	0.0
	Bihar	5080	0	94.2	89.5	-0.4	100	0.0
	DVC	3229	0	77.2	-50.6	0.5	100	0.0
ER	Jharkhand	1259	0	26.5	17.1	-1.2	0	0.0
EN	Odisha	4606	0	94.6	35.2	4.0	400	0.0
	West Bengal	8850	0	177.7	50.4	2,2	50	0.0
	Sikkim	86	0	1.0	1.4	-0.4	0	0.0
	Arunachal Pradesh	112	3	2.1	2.4	-0.2	55	0.0
	Assam	1197	314	22.0	17.2	1.0	127	2.5
	Manipur	131	48	1.9	2.0	-0.2	32	0.2
NER	Meghalaya	334	0	5.3	4.2	0.2	62	0.4
	Mizoram	92	2	1.8	1.4	0.2	16	0.0
	Nagaland	128	4	2.2	2.2	0.1	8	0.0
	Tripura	254	9	4.5	4.7	-0.2	54	0.0

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

	Bhutan	Nepal	Bangladesh
Actual(MU)	11.3	-7.8	-24.7
Day peak (MW)	731.1	-547.1	-1141.0

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

	NR	WR	SR	ER	NER	TOTAL
Schedule(MU)	158.8	-232.9	126.8	-58.0	4.8	-0.6
Actual(MU)	131.1	-242.4	158.5	-44.4	2.1	5.0
O/D/U/D(MU)	-27.7	-9.5	31.7	13.7	-2.6	5.6

F. Generation Outage(MW)

	NR	WR	SR	ER	NER	Total
Central Sector	5082	11479	6962	1100	405	25028
State Sector	7340	12822	4580	2385	50	27177
Total	12422	24301	11542	3485	455	52205

G. Sourcewise generation (MU)

	NR	WR	SR	ER	NER	All India
Coal	547	1271	544	468	12	2842
Lignite	19	14	47	0	0	80
Hydro	262	35	66	76	4	443
Nuclear	28	30	36	0	0	94
Gas, Naptha & Diesel	28	42	16	0	27	113
RES (Wind, Solar, Biomass & Others)	70	100	138	1	0	309
Total	954	1492	846	545	43	3881
CI EDECT ( ) (A/)		/ = 4	4 / 40	0.40	0.0=	

Share of RES in total generation (%)	7.33	6.73	16.28	0.18	0.07	7.97
Share of Non-fossil fuel (Hydro, Nuclear and RES) in total generation (%)	37.70	11.10	28.34	14.17	8.76	21.80

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

 $<sup>\</sup>textbf{*\underline{Source}:} \ RLDCs \ for \ solar \ connected \ to \ ISTS; \ SLDCs \ for \ embedded \ solar. \ Limited \ visibility \ of \ embedded \ solar \ data.$ 

		INT	ER-REGI	ONAL EXCH	ANGES	Date of l	Reporting :	29-Apr-19
								Import=(+ve) /Export =(-ve) for NET (MU)
Sl No	Voltage Level	Line Details	Circuit	Max Import (MW)	Max Export (MW)	Import (MU)	Export (MU)	NET (MU)
Import/E		ER (With NR)					()	(,
1	7651-37	GAYA-VARANASI	D/C	280	418	0.0	1.9	-1.9
3	765kV	SASARAM-FATEHPUR GAYA-BALIA	S/C S/C	26 102	231 292	0.0	3.0	-3.0 -3.1
4	HVDC	ALIPURDUAR-AGRA	-	0	0	0.0	0.0	0.0
5	HVDC	PUSAULI B/B	S/C	0	50	0.0	0.0	0.0
6		PUSAULI-VARANASI	S/C	0	88	0.0	1.5	-1.5
7	_	PUSAULI -ALLAHABAD	S/C	27	14	0.3	0.0	0.3
9	400 kV	MUZAFFARPUR-GORAKHPUR	D/C Q/C	0	948 785	0.0	13.5 12.6	-13.5 -12.6
10	400 KV	PATNA-BALIA BIHARSHARIFF-BALIA	D/C	5	395	0.0	5.1	-5.1
11		MOTIHARI-GORAKHPUR	D/C	1	292	0.0	3.8	-3.8
12		BIHARSHARIFF-VARANASI	D/C	3	0	0.0	0.0	0.0
13	220 kV	PUSAULI-SAHUPURI	S/C	0	173	0.0	2.8	-2.8
14		SONE NAGAR-RIHAND	S/C	0	0	0.0	0.0	0.0
15	132 kV	GARWAH-RIHAND	S/C	30	0	0.5	0.0	0.5
16	132 K	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
I /	Exmant a	ED (With WP)			ER-NR	0.8	47.3	-46.5
-	export of	ER (With WR)	<del>                                     </del>					
18	,,,,,,	JHARSUGUDA-DHARAMJAIGARH S/C	D/C	2283	0	41.5	0.0	41.5
19	765 kV	NEW RANCHI-DHARAMJAIGARH	D/C	478	223	3.5	0.0	3.5
20		JHARSUGUDA-DURG	D/C	156	14	1.7	0.0	1.7
21	400 kV	JHARSUGUDA-RAIGARH RANCHI-SIPAT	Q/C D/C	185 181	59 64	2.3	0.0	2.3
23		BUDHIPADAR-RAIGARH	S/C	0	132	0.0	2.2	-2.2
24	220 kV	BUDHIPADAR-KORBA	D/C	181	0	3.1	0.0	3.1
	ı		1		ER-WR	53.3	2.2	51.1
Import/E	Export of	ER (With SR)						
25	765 kV	ANGUL-SRIKAKULAM	D/C	0.0	2070.0	0.0	39.8	-39.8
26	HVDC	JEYPORE-GAZUWAKA B/B	D/C	0.0	511.0	0.0	12.2	-12.2
27	LINK	TALCHER-KOLAR BIPOLE	D/C	0.0	2449.0	0.0	48.7	-48.7
28	400 kV	TALCHER-I/C	D/C	0.0	975.0	0.0	11.1	-11.1
29	220 kV	BALIMELA-UPPER-SILERRU	S/C	1.0	0.0 ER-SR	0.0	0.0	0.0 -100.6
Import/F	Export of	ER (With NER)			ER-SK	0.0	100.6	-100.6
30	T .	BINAGURI-BONGAIGAON	D/C	368	0	5.9	0.0	6
31	400 kV	ALIPURDUAR-BONGAIGAON	D/C	449	0	7.8	0.0	8
32	220 kV	ALIPURDUAR-SALAKATI	D/C	82	0	1.2	0.0	1
					ER-NER	14.8	0.0	14.8
	_	NER (With NR)	1 1					ı
33	HVDC	BISWANATH CHARIALI-AGRA	-	653	0 NER-NR	16.4	0.0	16.4
Import/F	Export of	WR (With NR)			NER-NR	16.4	0.0	16.4
34	Aport or	CHAMPA-KURUKSHETRA	D/C	0	1007	0.0	23.8	-23.8
		***************************************	+	241	1007	0.0		25.0
35	HVDC	V'CHAL B/B	D/C		0	6.0	0.0	6.0
35 36	HVDC	V'CHAL B/B APL -MHG	D/C D/C	0	0 1361	6.0 0.0	0.0 24.3	6.0 -24.3
	HVDC				+			
36	HVDC	APL -MHG	D/C	0	1361	0.0	24.3	-24.3
36 37		APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI	D/C D/C	0	1361 2344	0.0 0.0 0.0 0.0	24.3 31.2	-24.3 -31.2 -14.6 -17.3
36 37 38 39 40	HVDC - 765 kV	APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI	D/C D/C D/C D/C S/C	0 0 0 103 483	1361 2344 1037 763 0	0.0 0.0 0.0 0.0 9.9	24.3 31.2 14.6 17.3 0.0	-24.3 -31.2 -14.6 -17.3 9.9
36 37 38 39 40 41		APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI	D/C D/C D/C D/C S/C S/C	0 0 0 103 483	1361 2344 1037 763 0	0.0 0.0 0.0 0.0 9.9 0.0	24.3 31.2 14.6 17.3 0.0 24.8	-24.3 -31.2 -14.6 -17.3 9.9 -24.8
36 37 38 39 40 41 42		APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHITORGARH-BANASKANTHA	D/C D/C D/C D/C S/C S/C D/C	0 0 0 103 483 0 543	1361 2344 1037 763 0 1369 482	0.0 0.0 0.0 0.0 9.9 0.0	24.3 31.2 14.6 17.3 0.0 24.8 0.0	-24.3 -31.2 -14.6 -17.3 9.9 -24.8 0.2
36 37 38 39 40 41 42 43		APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHITORGARH-BANASKANTHA ZERDA-KANKROLI	D/C D/C D/C D/C S/C S/C S/C S/C S/C	0 0 0 103 483 0 543 235	1361 2344 1037 763 0 1369 482 37	0.0 0.0 0.0 0.0 9.9 0.0 0.2 2.3	24.3 31.2 14.6 17.3 0.0 24.8 0.0 0.0	-24.3 -31.2 -14.6 -17.3 9.9 -24.8 0.2 2.3
36 37 38 39 40 41 42 43 44		APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHITORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL	D/C D/C D/C D/C S/C S/C S/C S/C S/C S/C S/C	0 0 0 103 483 0 543 235	1361 2344 1037 763 0 1369 482 37	0.0 0.0 0.0 0.0 9.9 0.0 0.2 2.3 0.0	24.3 31.2 14.6 17.3 0.0 24.8 0.0 0.0 0.0	-24.3 -31.2 -14.6 -17.3 9.9 -24.8 0.2 2.3 -0.6
36 37 38 39 40 41 42 43 44 45	765 kV	APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND	D/C D/C D/C D/C S/C S/C S/C S/C S/C S/C S/C S/C	0 0 0 103 483 0 543 235 104 973	1361 2344 1037 763 0 1369 482 37 133	0.0 0.0 0.0 0.0 9.9 0.0 0.2 2.3 0.0 21.8	24.3 31.2 14.6 17.3 0.0 24.8 0.0 0.0 0.6	-24.3 -31.2 -14.6 -17.3 9.9 -24.8 0.2 2.3 -0.6 21.8
36 37 38 39 40 41 42 43 44 45	765 kV	APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHITORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL V'CHAL -RIHAND RAPP-SHUJALPUR	D/C D/C D/C D/C S/C S/C S/C S/C D/C S/C S/C D/C S/C S/C D/C	0 0 0 103 483 0 543 235 104 973 262	1361 2344 1037 763 0 1369 482 37 133 0	0.0 0.0 0.0 0.0 9.9 0.0 0.2 2.3 0.0 21.8	24.3 31.2 14.6 17.3 0.0 24.8 0.0 0.0 0.6 0.0	-24.3 -31.2 -14.6 -17.3 9.9 -24.8 0.2 2.3 -0.6 21.8
36 37 38 39 40 41 42 43 44 45 46 47	- 765 kV - 400 kV	APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHITORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA-BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BADOD-KOTA	D/C D/C D/C D/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 0 103 483 0 543 235 104 973	1361 2344 1037 763 0 1369 482 37 133	0.0 0.0 0.0 0.0 9.9 0.0 0.2 2.3 0.0 21.8	24.3 31.2 14.6 17.3 0.0 24.8 0.0 0.0 0.6 0.0 0.0	-24.3 -31.2 -14.6 -17.3 9.9 -24.8 0.2 2.3 -0.6 21.8 0 0.1
36 37 38 39 40 41 42 43 44 45	765 kV	APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHITORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL V'CHAL -RIHAND RAPP-SHUJALPUR	D/C D/C D/C D/C S/C S/C S/C S/C D/C S/C S/C D/C S/C S/C D/C	0 0 0 103 483 0 543 235 104 973 262 49	1361 2344 1037 763 0 1369 482 37 133 0 256 53	0.0 0.0 0.0 0.0 9.9 0.0 0.2 2.3 0.0 21.8 0	24.3 31.2 14.6 17.3 0.0 24.8 0.0 0.0 0.6 0.0	-24.3 -31.2 -14.6 -17.3 9.9 -24.8 0.2 2.3 -0.6 21.8
36 37 38 39 40 41 42 43 44 45 46 47 48	- 765 kV - 400 kV	APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHITORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA-BHINMAL VCHAL-RIHAND RAPP-SHUJALPUR BADOD-KOTA BADOD-MORAK	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 0 103 483 0 543 235 104 973 262 49	1361 2344 1037 763 0 1369 482 37 133 0 256 53 71	0.0 0.0 0.0 0.0 9.9 0.0 0.2 2.3 0.0 21.8 0 0.2	24.3 31.2 14.6 17.3 0.0 24.8 0.0 0.0 0.6 0.0 0 0.1	-24.3 -31.2 -14.6 -17.3 9.9 -24.8 0.2 2.3 -0.6 21.8 0 0.1 -0.8
36 37 38 39 40 41 42 43 44 45 46 47 48	- 765 kV - 400 kV	APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHITORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BADOD-KOTA BADOD-MORAK MEHGAON-AURAIYA	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 0 103 483 0 543 235 104 973 262 49 0	1361 2344 1037 763 0 1369 482 37 133 0 256 53 71 0	0.0 0.0 0.0 0.0 9.9 0.0 0.2 2.3 0.0 21.8 0 0.2 0.0	24.3 31.2 14.6 17.3 0.0 24.8 0.0 0.0 0.6 0.0 0 0.1 0.8	-24.3 -31.2 -14.6 -17.3 9.9 -24.8 0.2 2.3 -0.6 21.8 0 0.1 -0.8 1.0
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50	765 kV 400 kV 220 kV	APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHITORGARH-BANASKANTHA 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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 0 0 103 483 0 543 235 104 973 262 49 0 74 50	1361 2344 1037 763 0 1369 482 37 133 0 256 53 71 0 27	0.0 0.0 0.0 0.0 9.9 0.0 0.2 2.3 0.0 21.8 0 0.2 1.0	24.3 31.2 14.6 17.3 0.0 24.8 0.0 0.6 0.0 0.6 0.0 0.1 0.8	-24.3 -31.2 -14.6 -17.3 9.9 -24.8 0.2 2.3 -0.6 21.8 0 0.1 -0.8 1.0 0.3
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51	765 kV 400 kV 220 kV 132kV	APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHITORGARH-BANASKANTHA 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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 0 0 103 483 0 543 235 104 973 262 49 0 74 50	1361 2344 1037 763 0 1369 482 37 133 0 256 53 71 0 27 0 WR-NR	0.0 0.0 0.0 0.0 0.0 9.9 0.0 0.2 2.3 0.0 21.8 0 0.2 0.0 41.8	24.3 31.2 14.6 17.3 0.0 24.8 0.0 0.0 0.6 0.0 0 0.1 0.8 0.0 0.1 0.8	-24.3 -31.2 -14.6 -17.3 9.9 -24.8 0.2 2.3 -0.6 21.8 0 0.1 -0.8 1.0 0.3 0.0 -96.0
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51	765 kV 400 kV 220 kV 132kV Export of HVDC	APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHITORGARH-BANASKANTHA 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	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 0 103 483 0 543 235 104 973 262 49 0 74 50	1361 2344 1037 763 0 1369 482 37 133 0 256 53 71 0 WR-NR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.2 2.3 0.0 21.8 0 0.2 0.0 1.0 0.4 0.0 41.8	24.3 31.2 14.6 17.3 0.0 24.8 0.0 0.0 0.6 0.0 0.0 0.1 0.8 0.0 0.1 0.8 137.8	-24.3 -31.2 -14.6 -17.3 9.9 -24.8 0.2 2.3 -0.6 21.8 0 0.1 -0.8 1.0 0.3 0.0 -96.0
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/E 52 53	765 kV 400 kV 220 kV 132kV	APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHITORGARH-BANASKANTHA 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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 0 0 103 483 0 543 235 104 973 262 49 0 74 50 0	1361 2344 1037 763 0 1369 482 37 133 0 256 53 71 0 27 0 WR-NR	0.0 0.0 0.0 0.0 0.0 9.9 0.0 0.2 2.3 0.0 21.8 0 0.2 0.0 1.0 0.4 0.0 41.8	24.3 31.2 14.6 17.3 0.0 24.8 0.0 0.0 0.0 0.0 0.1 0.8 0.0 0.1 0.8 23.4 0.0	-24.3 -31.2 -14.6 -17.3 9.9 -24.8 0.2 2.3 -0.6 21.8 0 0.1 -0.8 1.0 0.3 0.0 -96.0
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/E 52 53 54	765 kV 400 kV 220 kV 132kV Export of HVDC	APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHITORGARH-BANASKANTHA 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	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 0 103 483 0 543 235 104 973 262 49 0 74 50 0	1361 2344 1037 763 0 1369 482 37 133 0 256 53 71 0 27 0 WR-NR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.2 2.3 0.0 21.8 0 0.2 0.0 1.0 0.4 0.0 41.8	24.3 31.2 14.6 17.3 0.0 24.8 0.0 0.0 0.6 0.0 0.1 0.8 0.0 0.1 0.0 137.8	-24.3 -31.2 -14.6 -17.3 9.9 -24.8 0.2 2.3 -0.6 21.8 0 0.1 -0.8 1.0 0.3 0.0 -96.0
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 <b>Import/E</b> 52 53	- 765 kV - 400 kV - 220 kV - 132kV - Export of - HVDC - LINK - 765 kV	APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABAL-PUR-ORAI GWALIOR-ORAI GWALIOR-ORAI CHITORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJAL-PUR 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 S/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 D/C S/C D/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 0 103 483 0 543 235 104 973 262 49 0 74 50 0	1361 2344 1037 763 0 1369 482 37 133 0 256 53 71 0 WR-NR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.2 2.3 0.0 21.8 0 0.2 0.0 1.0 0.4 0.0 41.8	24.3 31.2 14.6 17.3 0.0 24.8 0.0 0.0 0.6 0.0 0.0 0.1 0.8 0.0 0.1 0.0 137.8 23.4 0.0 37.2 39.1	-24.3 -31.2 -14.6 -17.3 9.9 -24.8 0.2 2.3 -0.6 21.8 0 0.1 -0.8 1.0 0.3 0.0 -96.0
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51  Import/E 52 53 54 55	- 765 kV - 400 kV - 220 kV - 132kV - Export of - HVDC - LINK	APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI GWALIOR-ORAI CHITORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL V'CHAL -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-KUDGI	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	0 0 0 103 483 0 543 235 104 973 262 49 0 74 50 0	1361 2344 1037 763 0 1369 482 37 133 0 256 53 71 0 27 0 WR-NR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.2 2.3 0.0 21.8 0 0.2 0.0 1.0 0.4 0.0 41.8	24.3 31.2 14.6 17.3 0.0 24.8 0.0 0.0 0.6 0.0 0.1 0.8 0.0 0.1 0.0 137.8 23.4 0.0 37.2 39.1	-24.3 -31.2 -14.6 -17.3 9.9 -24.8 0.2 2.3 -0.6 21.8 0 0.1 -0.8 1.0 0.3 0.0 -96.0
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 <b>Import/E</b> 52 53	- 765 kV - 400 kV - 220 kV - 132kV - Export of - HVDC - LINK - 765 kV	APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABAL-PUR-ORAI GWALIOR-ORAI GWALIOR-ORAI CHITORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJAL-PUR 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 S/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 D/C S/C D/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 0 103 483 0 543 235 104 973 262 49 0 74 50 0	1361 2344 1037 763 0 1369 482 37 133 0 256 53 71 0 27 0 WR-NR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.2 2.3 0.0 21.8 0 0.2 0.0 1.0 0.4 0.0 41.8	24.3 31.2 14.6 17.3 0.0 24.8 0.0 0.0 0.6 0.0 0.1 0.8 0.0 0.1 0.0 137.8 23.4 0.0 0.0 37.2 39.1 0.0	-24.3 -31.2 -14.6 -17.3 9.9 -24.8 0.2 2.3 -0.6 21.8 0 0.1 -0.8 1.0 0.3 0.0 -96.0
36 37 38 39 40 41 41 42 43 44 45 46 47 48 49 50 51  Import/E 52 53 54 55 56	- 765 kV - 400 kV - 220 kV - 132kV - Export of HVDC LINK - 765 kV - 400 kV - 100 kV - 100 kV - 100 kV	APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI GWALIOR-ORAI CHITORGARH-BANASKANTHA 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-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	0 0 0 103 483 0 543 235 104 973 262 49 0 74 50 0	1361 2344 1037 763 0 1369 482 37 133 0 256 53 71 0 27 0 WR-NR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.2 2.3 0.0 21.8 0 0.2 0.0 1.0 0.4 0.0 41.8	24.3 31.2 14.6 17.3 0.0 24.8 0.0 0.0 0.6 0.0 0.1 0.8 0.0 0.1 0.0 137.8 23.4 0.0 37.2 39.1	-24.3 -31.2 -14.6 -17.3 9.9 -24.8 0.2 2.3 -0.6 21.8 0 0.1 -0.8 1.0 0.3 0.0 -96.0  -23.4 0.0 -37.2 -39.1 2.4 0.0
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 <b>Import/E</b> 52 53 54 55 56 57 58	- 765 kV - 400 kV - 220 kV - 132kV - Export of HVDC LINK - 765 kV - 400 kV - 100 kV - 100 kV - 100 kV	APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI GWALIOR-ORAI CHITORGARH-BANASKANTHA 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-KUDGI KOLHAPUR-CHIKODI PONDA-AMBEWADI	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 S/C S/C S/C S/C S/C S/C S/C S	0 0 0 103 483 0 543 235 104 973 262 49 0 74 50 0	1361 2344 1037 763 0 1369 482 37 133 0 256 53 71 0 27 0 WR-NR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.2 2.3 0.0 21.8 0 0.2 1.0 0.0 1.0 0.4 0.0 41.8	24.3 31.2 14.6 17.3 0.0 24.8 0.0 0.0 0.0 0.1 0.8 0.0 0.1 0.0 137.8 23.4 0.0 37.2 39.1 0.0 0.0	-24.3 -31.2 -14.6 -17.3 9.9 -24.8 0.2 2.3 -0.6 21.8 0 0.1 -0.8 1.0 0.3 0.0 -96.0  -23.4 0.0 -37.2 -39.1 2.4 0.0 0.0
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 <b>Import/E</b> 52 53 54 55 56 57 58	- 765 kV - 400 kV - 220 kV - 132kV - Export of HVDC LINK - 765 kV - 400 kV - 100 kV - 100 kV - 100 kV	APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI GWALIOR-ORAI CHTTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BADOD-KOTA BADOD-MORAK MEHGAON-AURAIYA GWALIOR-SAWAI MADHOPUR  WR (With SR) BHADRAWATI B/B BARSUR-LSILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD KOLHAPUR-KUDGI KOLHAPUR-CHIKODI PONDA-AMBEWADI XELDEM-AMBEWADI	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 0 103 483 0 543 235 104 973 262 49 0 74 50 0	1361 2344 1037 763 0 1369 482 37 133 0 256 53 71 0 27 0 WR-NR  1002 0 2035 2135 232 0 0 61 WR-SR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.2 2.3 0.0 21.8 0 0.2 1.0 0.0 1.0 0.4 0.0 41.8	24.3 31.2 14.6 17.3 0.0 24.8 0.0 0.0 0.0 0.1 0.8 0.0 0.1 0.0 137.8 23.4 0.0 37.2 39.1 0.0 0.0	-24.3 -31.2 -14.6 -17.3 9.9 -24.8 0.2 2.3 -0.6 21.8 0 0.1 -0.8 1.0 0.3 0.0 -96.0  -23.4 0.0 -37.2 -39.1 2.4 0.0 0.0 1.1
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/E 52 53 54 55 56 57 58 59	- 765 kV - 400 kV - 220 kV - 132kV - Export of HVDC LINK - 765 kV - 400 kV - 100 kV - 100 kV - 100 kV	APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL V'CHAL -RIHAND RAPP-SHUJALPUR BADOD-KOTA BADOD-MORAK MEHGAON-AURAIYA GWALIOR-SAWAI MADHOPUR  WR (With SR) BHADRAWATI B/B BARSUR-L.SILERU SOLAPUR-RAICHUR WARDHA-NIZAMBAD KOLHAPUR-KUDGI KOLHAPUR-CHIKODI PONDA-AMBEWADI XELDEM-AMBEWADI	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 0 103 483 0 543 235 104 973 262 49 0 74 50 0	1361 2344 1037 763 0 1369 482 37 133 0 256 53 71 0 27 0 WR-NR  1002 0 2035 2135 232 0 0 61 WR-SR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.2 2.3 0.0 21.8 0 0.2 1.0 0.0 1.0 0.4 0.0 41.8	24.3 31.2 14.6 17.3 0.0 24.8 0.0 0.0 0.0 0.1 0.8 0.0 0.1 0.0 137.8 23.4 0.0 37.2 39.1 0.0 0.0	-24.3 -31.2 -14.6 -17.3 9.9 -24.8 0.2 2.3 -0.6 21.8 0 0.1 -0.8 1.0 0.3 0.0 -96.0  -23.4 0.0 -37.2 -39.1 2.4 0.0 0.0 1.1
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 <b>Import/E</b> 52 53 54 55 56 57 58	- 765 kV - 400 kV - 220 kV - 132kV - Export of HVDC LINK - 765 kV - 400 kV - 100 kV - 100 kV - 100 kV	APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI GWALIOR-ORAI CHTTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BADOD-KOTA BADOD-MORAK MEHGAON-AURAIYA GWALIOR-SAWAI MADHOPUR  WR (With SR) BHADRAWATI B/B BARSUR-LSILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD KOLHAPUR-KUDGI KOLHAPUR-CHIKODI PONDA-AMBEWADI XELDEM-AMBEWADI	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 0 103 483 0 543 235 104 973 262 49 0 74 50 0	1361 2344 1037 763 0 1369 482 37 133 0 256 53 71 0 27 0 WR-NR  1002 0 2035 2135 232 0 0 61 WR-SR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.2 2.3 0.0 21.8 0 0.2 1.0 0.0 1.0 0.4 0.0 41.8	24.3 31.2 14.6 17.3 0.0 24.8 0.0 0.0 0.0 0.1 0.8 0.0 0.1 0.0 137.8 23.4 0.0 37.2 39.1 0.0 0.0	-24.3 -31.2 -14.6 -17.3 9.9 -24.8 0.2 2.3 -0.6 21.8 0 0.1 -0.8 1.0 0.3 0.0 -96.0  -23.4 0.0 -37.2 -39.1 2.4 0.0 0.0 1.1