

## 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: 25<sup>th</sup> 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 24.07.2018.

महोदय/Dear Sir,

आई॰ई॰जी॰सी॰-2010 की धारा स.-5.5.1 के प्रावधान के अनुसार, दिनांक 24-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 24<sup>th</sup> July 2018, is available at the NLDC website.

धन्यवाद.

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

**Date of Reporting** 

25-Jul-18

Report for previous day

#### A. Maximum Demand

	NR	WR	SR	ER	NER	Total
Demand Met during Evening Peak hrs(MW) (at 2000 hrs; from RLDCs)	54053	42282	41477	19965	2471	160249
Peak Shortage (MW)	685	0	30	200	280	1195
Energy Met (MU)	1213	955	947	422	49	3585
Hydro Gen (MU)	337	26	109	105	27	603
Wind Gen (MU)	21	122	217			360
Solar Gen (MU)*	10.58	7.70	46.32	0.31	0.01	65
Energy Shortage (MU)	9.9	0.0	0.1	0.6	1.6	12.3
Maximum Demand Met during the day	56572	44037	42569	21144	2478	164974
(MW) & time (from NLDC SCADA)	20:49	19:43	07:27	20:46	19:58	20:15

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	0.031	0.00	0.00	5.60	5.60	81.54	12.86

C. Power Supply Position in States

wer Supply Po	osition in States	Max. Demand	Shortage during					1
Region	States	Met during the day (MW)	maximum Demand (MW)	Energy Met (MU)	Drawal Schedule (MU)	OD(+)/UD(-) (MU)	Max OD (MW)	Energy Shortage (M
	Punjab	10719	0	238.1	139.9	0.3	124	0.0
	Haryana	8793	0	183.0	149.7	2.6	274	0.3
	Rajasthan	7829	0	170.3	64.6	1.8	389	0.0
	Delhi	5990	0	120.2	97.7	-1.2	130	0.0
NR	UP	18544	100	384.4	181.6	0.6	373	0.0
	Uttarakhand	2001	0	44.8	28.2	1.6	162	0.2
	HP	1268	0	27.2	-2.1	2.7	217	0.0
	J&K	2089	522	39.3	16.7	-3.0	181	9.4
	Chandigarh	303	0	5.9	6.5	-0.6	9	0.0
	Chhattisgarh	3429	0	75.9	10.3	-1.8	172	0.0
	Gujarat	12677	0	283.3	60.2	2.1	598	0.0
	MP	7148	0	152.4	71.3	-0.7	319	0.0
WR	Maharashtra	18072	0	394.4	102.5	3.6	583	0.0
WK	Goa	440	0	10.2	9.0	0.4	141	0.0
	DD	333	0	7.4	6.3	1.1	73	0.0
	DNH	751	0	17.5	16.7	0.8	75	0.0
	Essar steel	612	0	13.6	13.3	0.3	239	0.0
	Andhra Pradesh	8148	0	179.3	16.9	2.6	410	0.0
	Telangana	8824	0	192.0	88.3	0.5	349	0.0
SR	Karnataka	8754	0	177.0	51.6	1.6	504	0.0
310	Kerala	3015	0	62.4	25.1	0.9	258	0.0
	Tamil Nadu	14892	0	327.9	104.1	-1.0	406	0.0
	Pondy	360	0	8.0	7.8	0.2	56	0.1
	Bihar	4720	0	88.7	87.6	0.8	80	0.0
	DVC	3016	0	67.4	-37.2	-0.5	150	0.0
ER	Jharkhand	1148	0	22.2	18.1	-1.1	80	0.0
	Odisha	4354	0	81.8	37.5	5.9	550	0.6
	West Bengal	8201	0	160.4	44.0	3.3	280	0.0
	Sikkim	97	0	1.2	1.3	-0.1	10	0.0
	Arunachal Pradesh	106	3	2.3	2.6	-0.3	0	0.0
	Assam	1574	218	31.4	26.4	1.1	97	1.4
	Manipur	161	2	2.2	2.6	-0.4	6	0.0
NER	Meghalaya	296	0	5.5	1.1	-0.2	29	0.0
	Mizoram	83	0	1.6	0.9	0.1	11	0.0
	Nagaland	114	2	2.1	2.1	-0.4	0	0.0
	Tripura	248	2	4.1	4.0	-0.7	40	0.1

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

	Bhutan	Nepal	Bangladesh
Actual(MU)	32.9	-6.5	-15.1
Day peak (MW)	1529.4	-458.7	-648.8

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

	NR	WR	SR	ER	NER	TOTAL
Schedule(MU)	289.8	0.0	41.7	-73.3	0.2	258.4
Actual(MU)	289.9	0.0	46.7	-66.6	-5.1	264.8
O/D/U/D(MU)	0.1	0.0	4.9	6.7	-5.3	6.4

F. Generation Outage(MW)

	NR	WR	SR	ER	NER	Total
Central Sector	4083	17777	9292	2035	77	33264
State Sector	9255	17798	9790	5745	50	42638
Total	13338	35575	19082	7780	127	75901

G. Sourcewise generation (MU)

	NR	WR	SR	ER	NER	All India
Thermal (Coal & Lignite)	518	1006	431	407	8	2370
Hydro	337	26	111	105	27	605
Nuclear	27	30	56	0	0	113
Gas, Naptha & Diesel	22	40	25	0	24	111
RES (Wind, Solar, Biomass & Others)	43	130	297	1	0	471
Total	948	1232	919	512	59	3671

Share of RES in total generation (%)	4.59	10.56	32.32	0.12	0.04	12.84
Share of Non-fossil fuel (Hydro, Nuclear and	43.01	15.09	50.46	20.52	45.09	32.40
RES) in total generation (%)	45.01	15.09	50.40	20.52	45.09	32.40

H. Diversity Factor
All India Demand Diversity Factor
1.011
Diversity factor = Sum of regional maximum demands / All India maximum demand

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

		INTE	R-REGI	ONAL EX	CHANGES	Date of I	Reporting :	25-Jul-18
								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)				1		
2	765kV	GAYA-VARANASI SASARAM-FATEHPUR	D/C S/C	139	585 107	0.0	9.9	-9.9 0.1
3	703KV	GAYA-BALIA	S/C	0	390	0.0	7.3	-7.3
4	HVDC	ALIPURDUAR-AGRA	-	0	591	0.0	14.7	-14.7
5	11.20	PUSAULI B/B	S/C	0	146	0.0	3.7	-3.7
6 7		PUSAULI-VARANASI PUSAULI -ALLAHABAD	S/C S/C	0	133 85	0.0	0.0	0.0
8		MUZAFFARPUR-GORAKHPUR	D/C	0	943	0.0	16.6	-16.6
9	400 kV	PATNA-BALIA	Q/C	0	978	0.0	19.6	-19.6
10		BIHARSHARIFF-BALIA	D/C	0	412	0.0	7.9	-7.9
11		MOTIHARI-GORAKHPUR	D/C	312	0	4.6	0.0	4.6
12		BIHARSHARIFF-VARANASI	D/C	842	0	0.0	4.3	-4.3
13	220 kV	PUSAULI-SAHUPURI	S/C	0	154	0.0	3.2	-3.2
15	1	SONE NAGAR-RIHAND GARWAH-RIHAND	S/C S/C	35	0	0.0	0.0	0.0
16	132 kV	KARMANASA-SAHUPURI	S/C	0	0	0.0	0.0	0.0
17		KARMANASA-CHANDAULI	S/C	0	0	0.0	0.0	0.0
Import/F	Export of	ER (With WR)	·		ER-NR	5.1	87.1	-82.0
18		JHARSUGUDA-DHARAMJAIGARH S/C	D/C	767	1	13.2	0.0	13.2
19	765 kV	NEW RANCHI-DHARAMJAIGARH	D/C	767	0	10.1	0.0	10.1
20		JHARSUGUDA-RAIGARH	Q/C	853	0	15.2	0.0	15.2
21	400 kV	RANCHI-SIPAT	D/C	401	0	6.5	0.0	6.5
22	220 kV	BUDHIPADAR-RAIGARH	S/C	142	0	1.6	0.0	1.6
23	220 11 1	BUDHIPADAR-KORBA	D/C	182	0	3.3	0.0	3.3
Import/E	Exmant of	ED (With CD)			ER-WR	50.0	0.0	50.0
24		ER (With SR) ANGUL-SRIKAKULAM	D/C	0.0	1367.8	0.0	17.3	-17.3
25	HVDC	JEYPORE-GAZUWAKA B/B	D/C	0.0	434.5	0.0	8.6	-8.6
26	LINK	TALCHER-KOLAR BIPOLE	D/C	0.0	1974.5	0.0	26.1	-26.1
27	400 kV	TALCHER-I/C	D/C	658.4	0.6	0.2	8.8	-8.6
28	220 kV	BALIMELA-UPPER-SILERRU	S/C	0.0	0.0	0.0	0.0	0.0
T 1/15		CED (WALLED)			ER-SR	0.0	52.0	-52.0
1mport/E	export of	ER (With NER)	D/C	4	420	0.0	5.1	5
30	400 kV	BINAGURI-BONGAIGAON ALIPURDUAR-BONGAIGAON	D/C	154	430 255	0.0	5.1	-5 0
			D, C	10.	200	0.2	0.0	Ü
31	220 kV	ALIPURDUAR-SALAKATI	D/C	0	103	0.0	1.6	-2
31	220 kV	ALIPURDUAR-SALAKATI	D/C	0	103 ER-NER	0.0 <b>0.2</b>	1.6 <b>6.7</b>	-2 - <b>6.4</b>
		ALIPURDUAR-SALAKATI NER (With NR)	D/C	0				
	Export of		D/C	0	ER-NER	0.0	<b>6.7</b> 13.4	<b>-6.4</b> -13.4
Import/E	Export of HVDC	NER (With NR) BISWANATH CHARIALI-AGRA	D/C		ER-NER	0.2	6.7	-6.4
Import/E 32 Import/E	Export of HVDC	NER (With NR) BISWANATH CHARIALI-AGRA WR (With NR)	-	0	ER-NER 613 NER-NR	0.2 0.0 0.0	13.4 13.4	-6.4 -13.4 -13.4
Import/E	Export of HVDC	NER (With NR) BISWANATH CHARIALI-AGRA	D/C - D/C D/C		ER-NER	0.0	<b>6.7</b> 13.4	<b>-6.4</b> -13.4
Import/E 32 Import/E 33	Export of HVDC	NER (With NR) BISWANATH CHARIALI-AGRA WR (With NR) CHAMPA-KURUKSHETRA	D/C	0	613 NER-NR	0.2 0.0 0.0	13.4 13.4 13.4 48.0	-6.4 -13.4 -13.4 -48.0
32 Import/E 33 34	Export of HVDC	NER (With NR) BISWANATH CHARIALI-AGRA WR (With NR) CHAMPA-KURUKSHETRA VCHAL B/B	D/C D/C	0 0	613 NER-NR  0 0	0.0 0.0 0.0	13.4 13.4 48.0 0.5	-6.4 -13.4 -13.4 -48.0 -0.5
Import/E 32 Import/E 33 34 35 36 37	Export of HVDC Export of HVDC	NER (With NR) BISWANATH CHARIALI-AGRA  WR (With NR) CHAMPA-KURUKSHETRA V'CHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR	D/C D/C D/C D/C D/C D/C	0 0 0 0	613 NER-NR  0 0 0 0 0 0 0	0.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0	6.7 13.4 13.4 48.0 0.5 27.8 49.2 28.5	-6.4  -13.4  -13.4  -48.0  -0.5  -27.8  -49.2  -28.5
Import/E 32  Import/E 33 34 35 36 37 38	Export of HVDC Export of HVDC	NER (With NR) BISWANATH CHARIALI-AGRA  WR (With NR) CHAMPA-KURUKSHETRA V'CHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI	D/C D/C D/C D/C D/C D/C D/C D/C	0 0 0 0 0	613 NER-NR  0 0 0 0 0 0 0 0	0.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0	48.0 0.5 27.8 49.2 28.5 16.2	-6.4  -13.4  -13.4  -48.0  -0.5  -27.8  -49.2  -28.5  -16.2
Import/E 32 Import/E 33 34 35 36 37 38 39	Export of HVDC Export of HVDC	NER (With NR) BISWANATH CHARIALI-AGRA  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 D/C C D/C C D/C S/C	0 0 0 0 0 0	613 NER-NR  0 0 0 0 0 0 0 0 0 0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	6.7 13.4 13.4 48.0 0.5 27.8 49.2 28.5 16.2 0.0	-6.4  -13.4  -13.4  -48.0  -0.5  -27.8  -49.2  -28.5  -16.2  7.6
Import/E 32 Import/E 33 34 35 36 37 38 39 40	Export of HVDC Export of HVDC	NER (With NR) BISWANATH CHARIALI-AGRA  WR (With NR) CHAMPA-KURUKSHETRA VCHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI	D/C D/C D/C D/C D/C D/C D/C S/C S/C	0 0 0 0 0 0	613  NER-NR  0 0 0 0 0 0 0 0 0 0 0 0 0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	48.0 0.5 27.8 49.2 28.5 16.2 0.0 38.1	-6.4  -13.4  -13.4  -48.0  -0.5  -27.8  -49.2  -28.5  -16.2  7.6  -38.1
Import/E 32 Import/E 33 34 35 36 37 38 39	Export of HVDC Export of HVDC 765 kV	NER (With NR) BISWANATH CHARIALI-AGRA  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 D/C C D/C C D/C S/C	0 0 0 0 0 0	613 NER-NR  0 0 0 0 0 0 0 0 0 0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	6.7 13.4 13.4 48.0 0.5 27.8 49.2 28.5 16.2 0.0	-6.4  -13.4  -13.4  -48.0  -0.5  -27.8  -49.2  -28.5  -16.2  7.6
Import/E 32 Import/E 33 34 35 36 37 38 39 40 41	Export of HVDC Export of HVDC	NER (With NR) BISWANATH CHARIALI-AGRA  WR (With NR) 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 D/C D/C S/C S/C S/C	0 0 0 0 0 0 0 0	613  NER-NR  0  0  0  0  0  0  0  0  0  0  0  0  0	0.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0	48.0 0.5 27.8 49.2 28.5 16.2 0.0 38.1	-6.4  -13.4  -13.4  -13.4  -48.0  -0.5  -27.8  -49.2  -28.5  -16.2  7.6  -38.1  -1.4
Import/E 32 Import/E 33 34 35 36 37 38 39 40 41 42	Export of HVDC Export of HVDC 765 kV	NER (With NR) BISWANATH CHARIALI-AGRA  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 D/C D/C S/C S/C S/C S/C	0 0 0 0 0 0 0 0	613  NER-NR  0  0  0  0  0  0  0  0  0  0  0  0  0	0.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0	48.0 0.5 27.8 49.2 28.5 16.2 0.0 38.1 1.5	-6.4  -13.4  -13.4  -48.0  -0.5  -27.8  -49.2  -28.5  -16.2  7.6  -38.1  -1.4  -1.2
Import/E 32 Import/E 33 34 35 36 37 38 39 40 41 42 43 44 45	Export of HVDC Export of HVDC 765 kV	NER (With NR)  BISWANATH CHARIALI-AGRA  WR (With NR)  CHAMPA-KURUKSHETRA  VCHAL B/B  APL-MHG  GWALIOR-AGRA  PHAGI-GWALIOR  JABALPUR-ORAI  GWALIOR-ORAI  SATNA-ORAI  ZERDA-KANKROLI  ZERDA -BHINMAL  VCHAL -RIHAND  RAPP-SHUJALPUR  BADOD-KOTA	D/C D/C D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C	0 0 0 0 0 0 0 0 0 0 0	613  NER-NR  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0	48.0 0.5 27.8 49.2 28.5 16.2 0.0 38.1 1.5 1.3 0.0 5	-6.4  -13.4 -13.4 -13.4  -48.0 -0.5 -27.8 -49.2 -28.5 -16.2 -7.6 -38.1 -1.4 -1.2 21.8 -5 -0.8
Import/E 32  Import/E 33 34 35 36 37 38 39 40 41 42 43 44 45 46	Export of HVDC Export of HVDC 765 kV	NER (With NR)  BISWANATH CHARIALI-AGRA  WR (With NR)  CHAMPA-KURUKSHETRA  VCHAL B/B  APL-MHG  GWALIOR-AGRA  PHAGI-GWALIOR  JABALPUR-ORAI  GWALIOR-ORAI  SATNA-ORAI  ZERDA-KANKROLI  ZERDA-BHINMAL  VCHAL -RIHAND  RAPP-SHUJALPUR  BADOD-KOTA  BADOD-MORAK	D/C D/C D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 0 0 0 0 0 0 0 0 0 0 0 0	613  NER-NR  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0	48.0 0.5 27.8 49.2 28.5 16.2 0.0 38.1 1.5 1.3 0.0 5	-6.4  -13.4 -13.4 -13.4  -48.0 -0.5 -27.8 -49.2 -28.5 -16.2 -7.6 -38.1 -1.4 -1.2 21.8 -5 -0.8 -1.4
Import/E 32  Import/E 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47	Export of HVDC Export of HVDC 765 kV	NER (With NR) BISWANATH CHARIALI-AGRA  WR (With NR) CHAMPA-KURUKSHETRA V'CHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATTAA-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 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	613  NER-NR  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0	13.4 13.4 13.4 48.0 0.5 27.8 49.2 28.5 16.2 0.0 38.1 1.5 1.3 0.0 5 0.8	-6.4  -13.4  -13.4  -48.0  -0.5  -27.8  -49.2  -28.5  -16.2  7.6  -38.1  -1.4  -1.2  21.8  -5  -0.8  -1.4  0.0
Import/E  32  Import/E  33  34  35  36  37  38  39  40  41  42  43  44  45  46  47  48	Export of HVDC Export of HVDC 765 kV 400 kV	NER (With NR) BISWANATH CHARIALI-AGRA  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   D/C   D/C   S/C   S/C	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	613  NER-NR  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.2  0.0  0.0  0.0  0.0  0.0  0.0  0.0	13.4 13.4 13.4 48.0 0.5 27.8 49.2 28.5 16.2 0.0 38.1 1.5 1.3 0.0 5 0.8 1.4	-6.4  -13.4  -13.4  -13.4  -48.0  -0.5  -27.8  -49.2  -28.5  -16.2  7.6  -38.1  -1.4  -1.2  21.8  -5  -0.8  -1.4  0.0  -0.6
Import/E 32  Import/E 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49	Export of HVDC Export of HVDC 765 kV 400 kV	NER (With NR) BISWANATH CHARIALI-AGRA  WR (With NR) CHAMPA-KURUKSHETRA VCHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI ZERDA-KANKROLI ZERDA-BHINMAL VCHAL-RIHAND RAPP-SHUJALPUR BADOD-KOTA BADOD-MORAK MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR	D/C D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	613  NER-NR  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0	13.4 13.4 13.4 48.0 0.5 27.8 49.2 28.5 16.2 0.0 38.1 1.5 1.3 0.0 5 0.8	-6.4  -13.4  -13.4  -48.0  -0.5  -27.8  -49.2  -28.5  -16.2  7.6  -38.1  -1.4  -1.2  21.8  -5  -0.8  -1.4  0.0
Import/E  32  Import/E  33  34  35  36  37  38  39  40  41  42  43  44  45  46  47  48  49  Import/E	Export of HVDC Export of HVDC 765 kV 400 kV 132kV Export of	NER (With NR) BISWANATH CHARIALI-AGRA  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)	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	613  NER-NR  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.2  0.0  0.0  0.0  0.0  0.0  0.0  0.0	6.7 13.4 13.4 48.0 0.5 27.8 49.2 28.5 16.2 0.0 38.1 1.5 1.3 0.0 5 0.8 1.4 0.1 0.6 0.0 219.0	-6.4  -13.4  -13.4  -13.4  -0.5  -27.8  -49.2  -28.5  -16.2  7.6  -38.1  -1.4  -1.2  21.8  -5  -0.8  -1.4  0.0  -0.6  0.0  -189.2
Import/E  32  Import/E  33  34  35  36  37  38  39  40  41  42  43  44  45  46  47  48  49  Import/E  50	Export of HVDC Export of HVDC 765 kV 400 kV 132kV Export of HVDC	NER (With NR) BISWANATH CHARIALI-AGRA  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 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	613  NER-NR  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.2  0.0  0.0  0.0  0.0  0.0  0.0  0.0	6.7 13.4 13.4 13.4 48.0 0.5 27.8 49.2 28.5 16.2 0.0 38.1 1.5 1.3 0.0 5 0.8 1.4 0.1 0.6 0.0 219.0	-6.4  -13.4  -13.4  -13.4  -0.5  -0.5  -27.8  -49.2  -28.5  -16.2  7.6  -38.1  -1.4  -1.2  21.8  -5  -0.8  -1.4  0.0  -0.6  0.0  -189.2
Import/E 32  Import/E 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49  Import/E 50 51	Export of HVDC Export of HVDC 765 kV 400 kV 132kV Export of HVDC LINK	NER (With NR)  BISWANATH CHARIALI-AGRA  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 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	613  NER-NR  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.2  0.0  0.0  0.0  0.0  0.0  0.0  0.0	6.7  13.4  13.4  13.4  13.4  48.0  0.5  27.8  49.2  28.5  16.2  0.0  38.1  1.5  1.3  0.0  5  0.8  1.4  0.1  0.6  0.0  219.0	-6.4  -13.4  -13.4  -13.4  -48.0  -0.5  -27.8  -49.2  -28.5  -16.2  7.6  -38.1  -1.4  -1.2  21.8  -5  -0.8  -1.4  -0.0  -0.0  -0.0  -189.2
Import/E  32  Import/E  33  34  35  36  37  38  39  40  41  42  43  44  45  46  47  48  49  Import/E  50  51	Export of HVDC Export of HVDC 765 kV 400 kV 132kV Export of HVDC	NER (With NR)  BISWANATH CHARIALI-AGRA  WR (With NR)  CHAMPA-KURUKSHETRA  VCHAL B/B  APL-MHG  GWALIOR-AGRA  PHAGI-GWALIOR  JABALPUR-ORAI  GWALIOR-ORAI  SATNA-ORAI  ZERDA-KANKROLI  ZERDA-KANKROLI  ZERDA -BHINMAL  VCHAL -RIHAND  RAPP-SHUJALPUR  BADOD-KOTA  BADOD-MORAK  MEHGAON-AURAIYA  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 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	613  NER-NR  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.2  0.0  0.0  0.0  0.0  0.0  0.0  0.0	6.7  13.4  13.4  13.4  13.4  48.0  0.5  27.8  49.2  28.5  16.2  0.0  38.1  1.5  1.3  0.0  5  0.8  1.4  0.1  0.6  0.0  219.0  0.0  0.0  3.2	-6.4  -13.4 -13.4 -13.4  -48.0 -0.5 -27.8 -49.2 -28.5 -16.2 -7.6 -38.1 -1.4 -1.2 -21.8 -5 -0.8 -1.4 -0.0 -0.6 -0.0 -189.2  0.0 0.0 3.6
Import/E  32  Import/E  33  34  35  36  37  38  39  40  41  42  43  44  45  46  47  48  49  Import/E  50  51	Export of HVDC Export of HVDC 765 kV 400 kV 132kV Export of HVDC LINK	NER (With NR)  BISWANATH CHARIALI-AGRA  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 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	613  NER-NR  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.2  0.0  0.0  0.0  0.0  0.0  0.0  0.0	6.7  13.4  13.4  13.4  13.4  48.0  0.5  27.8  49.2  28.5  16.2  0.0  38.1  1.5  1.3  0.0  5  0.8  1.4  0.1  0.6  0.0  219.0	-6.4  -13.4  -13.4  -13.4  -48.0  -0.5  -27.8  -49.2  -28.5  -16.2  7.6  -38.1  -1.4  -1.2  21.8  -5  -0.8  -1.4  -0.0  -0.0  -0.0  -189.2
Import/E  32  Import/E  33  34  35  36  37  38  39  40  41  42  43  44  45  46  47  48  49  Import/E  50  51  52  53	Export of HVDC Export of HVDC 765 kV 400 kV 132kV Export of HVDC LINK 765 kV	NER (With NR)  BISWANATH CHARIALI-AGRA  WR (With NR)  CHAMPA-KURUKSHETRA  VCHAL B/B  APL-MHG  GWALIOR-AGRA  PHAGI-GWALIOR  JABALPUR-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	D/C   D/C   D/C   D/C   D/C   D/C   D/C   D/C   S/C   S/C	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	613  NER-NR  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.2  0.0  0.0  0.0  0.0  0.0  0.0  0.0	13.4 13.4 13.4 48.0 0.5 27.8 49.2 28.5 16.2 0.0 38.1 1.5 1.3 0.0 5 0.8 1.4 0.1 0.6 0.0 219.0	-6.4  -13.4 -13.4 -13.4  -13.4  -13.4  -13.4  -13.4  -1.5 -0.5 -27.8  -49.2 -28.5 -16.2  7.6 -38.1 -1.4 -1.2 21.8 -5 -0.8 -1.4 -0.0 -0.6 -0.0 -189.2  0.0 0.0 3.6 -27.4
Import/E  32  Import/E  33  34  35  36  37  38  39  40  41  42  43  44  45  46  47  48  49  Import/E  50  51  52  53  54	Export of HVDC Export of HVDC 765 kV 400 kV 132kV Export of HVDC LINK 765 kV 400 kV	NER (With NR) BISWANATH CHARIALI-AGRA  WR (With NR) CHAMPA-KURUKSHETRA VCHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI ZERDA-KANKROLI ZERDA-BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BADOD-KOTA BADOD-MORAK MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR  WR (With SR) BHADRAWATI B/B BARSUR-L-SILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD KOLHAPUR-KUDGI	D/C   D/C   D/C   D/C   D/C   S/C   S/C	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	613  NER-NR  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.2  0.0  0.0  0.0  0.0  0.0  0.0  0.0	6.7  13.4  13.4  48.0  0.5  27.8  49.2  28.5  16.2  0.0  38.1  1.5  1.3  0.0  5  0.8  1.4  0.1  0.6  0.0  219.0  0.0  0.0  3.2  27.4  0.0	-6.4  -13.4  -13.4  -13.4  -48.0  -0.5  -27.8  -49.2  -28.5  -16.2  7.6  -38.1  -1.4  -1.2  21.8  -5  -0.8  -1.4  0.0  -0.6  0.0  -189.2  0.0  0.0  3.6  -27.4  8.8
Import/E  32  Import/E  33  34  35  36  37  38  39  40  41  42  43  44  45  46  47  48  49  Import/E  50  51  52  53  54  55	Export of HVDC Export of HVDC 765 kV 400 kV 132kV Export of HVDC LINK 765 kV 400 kV	NER (With NR)  BISWANATH CHARIALI-AGRA  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  GWALIOR-SAWAI MADHOPUR  WR (With SR)  BHADRAWATI B/B  BHADRAWATI B/B  BHASUR-LSILERU  SOLAPUR-RAICHUR  WARDHA-NIZAMABAD  KOLHAPUR-CHIKODI	D/C   D/C   D/C   D/C   D/C   S/C   S/C	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Color   Colo	0.2  0.0  0.0  0.0  0.0  0.0  0.0  0.0	6.7  13.4  13.4  48.0  0.5  27.8  49.2  28.5  16.2  0.0  38.1  1.5  0.8  1.4  0.1  0.6  0.0  219.0  0.0  3.2  27.4  0.0  0.0	-6.4  -13.4  -13.4  -13.4  -48.0  -0.5  -27.8  -49.2  -28.5  -16.2  7.6  -38.1  -1.4  -1.2  21.8  -5  -0.8  -1.4  0.0  -0.6  0.0  -189.2  0.0  0.0  3.6  -27.4  8.8  0.0
Import/E  32  Import/E  33  34  35  36  37  38  39  40  41  42  43  44  45  46  47  48  49  Import/E  50  51  52  53  54  55  56	Export of HVDC Export of HVDC 765 kV 400 kV 132kV Export of HVDC LINK 765 kV 400 kV	NER (With NR)  BISWANATH CHARIALI-AGRA  WR (With NR)  CHAMPA-KURUKSHETRA  VCHAL B/B  APL -MHG  GWALIOR-AGRA  PHAGI-GWALIOR  JABALPUR-ORAI  GWALIOR-ORAI  SATNA-ORAI  ZERDA-KANKROLI  ZERDA-BHINMAL  VCHAL-RIHAND  RAPP-SHUJALPUR  BADOD-KOTA  BADOD-MORAK  MEHGAON-AURAIYA  MALANPUR-AURAIYA  GWALIOR-SAWAI MADHOPUR  WR (With SR)  BHADRAWATI B/B  BARSUR-L.SILERU  SOLAPUR-RAICHUR  WARDHA-NIZAMABAD  KOLHAPUR-CHIKODI  PONDA-AMBEWADI	D/C   D/C   D/C   D/C   D/C   D/C   D/C   D/C   D/C   S/C   S/C	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	613  NER-NR  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.2  0.0  0.0  0.0  0.0  0.0  0.0  0.0	6.7  13.4  13.4  48.0  0.5  27.8  49.2  28.5  16.2  0.0  38.1  1.5  1.3  0.0  5  0.8  1.4  0.1  0.6  0.0  219.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0	-6.4  -13.4  -13.4  -13.4  -48.0  -0.5  -27.8  -49.2  -28.5  -16.2  7.6  -38.1  -1.4  -1.2  21.8  -5  -0.8  -1.4  0.0  -0.6  0.0  -189.2  0.0  3.6  -27.4  8.8  0.0  0.0
Import/E  32  Import/E  33  34  35  36  37  38  39  40  41  42  43  44  45  46  47  48  49  Import/E  50  51  52  53  54  55  56	Export of HVDC Export of HVDC 765 kV 400 kV 132kV Export of HVDC LINK 765 kV 400 kV	NER (With NR)  BISWANATH CHARIALI-AGRA  WR (With NR)  CHAMPA-KURUKSHETRA  VCHAL B/B  APL-MHG  GWALIOR-AGRA  PHAGI-GWALIOR  JABALPUR-ORAI  GWALIOR-ORAI  SATNA-ORAI  ZERDA-KANKROLI  ZERDA-BHINMAL  VCHAL-RIHAND  RAPP-SHUJALPUR  BADOD-KOTA  BADOD-MORAK  MEHGAON-AURAIYA  MALANPUR-AURAIYA  GWALIOR-SAWAI MADHOPUR  WR (With SR)  BHADRAWATI B/B  BARSUR-L.SILERU  SOLAPUR-RAICHUR  WARDHA-NIZAMABAD  KOLHAPUR-CHIKODI  PONDA-AMBEWADI  XELDEM-AMBEWADI	D/C   D/C   D/C   D/C   D/C   D/C   D/C   D/C   D/C   S/C   S/C	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	613  NER-NR  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.2  0.0  0.0  0.0  0.0  0.0  0.0  0.0	6.7  13.4  13.4  48.0  0.5  27.8  49.2  28.5  16.2  0.0  38.1  1.5  1.3  0.0  5  0.8  1.4  0.1  0.6  0.0  219.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0	-6.4  -13.4  -13.4  -13.4  -48.0  -0.5  -27.8  -49.2  -28.5  -16.2  7.6  -38.1  -1.4  -1.2  21.8  -5  -0.8  -1.4  0.0  -0.6  0.0  -189.2  0.0  0.0  3.6  -27.4  8.8  0.0  0.0  0.0
Import/E  32  Import/E  33  34  35  36  37  38  39  40  41  42  43  44  45  46  47  48  49  Import/E  50  51  52  53  54  55  56	Export of HVDC Export of HVDC 765 kV 400 kV 132kV Export of HVDC LINK 765 kV 400 kV	NER (With NR)  BISWANATH CHARIALI-AGRA  WR (With NR)  CHAMPA-KURUKSHETRA  VCHAL B/B  APL-MHG  GWALIOR-AGRA  PHAGI-GWALIOR  JABALPUR-ORAI  GWALIOR-ORAI  SATNA-ORAI  ZERDA-KANKROLI  ZERDA-BHINMAL  VCHAL-RIHAND  RAPP-SHUJALPUR  BADOD-KOTA  BADOD-MORAK  MEHGAON-AURAIYA  MALANPUR-AURAIYA  GWALIOR-SAWAI MADHOPUR  WR (With SR)  BHADRAWATI B/B  BARSUR-L.SILERU  SOLAPUR-RAICHUR  WARDHA-NIZAMABAD  KOLHAPUR-CHIKODI  PONDA-AMBEWADI  XELDEM-AMBEWADI	D/C   D/C   D/C   D/C   D/C   D/C   D/C   D/C   D/C   S/C   S/C	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	613  NER-NR  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.2  0.0  0.0  0.0  0.0  0.0  0.0  0.0	6.7  13.4  13.4  48.0  0.5  27.8  49.2  28.5  16.2  0.0  38.1  1.5  1.3  0.0  5  0.8  1.4  0.1  0.6  0.0  219.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0	-6.4  -13.4  -13.4  -13.4  -48.0  -0.5  -27.8  -49.2  -28.5  -16.2  7.6  -38.1  -1.4  -1.2  21.8  -5  -0.8  -1.4  0.0  -0.6  0.0  -189.2  0.0  0.0  3.6  -27.4  8.8  0.0  0.0  0.0