

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, कृतुब इन्स्टीट्यूशनल एरिया, कटवारिया सराय, न्यू दिल्ली-110016

Ref: POSOCO/NLDC/SO/Daily PSP Report

दिनांक: 04th July 2018

Τо

- 1. महाप्रबंधक, पू .क्षे .भा .प्रे .के.,14 , गोल्फ क्लब रोड , कोलकाता 700033 General Manager, 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. महाप्रबंधक, प .क्षे .भा .प्रे .के., एफ3-, एम आई डी सी क्षेत्र , अंधेरी, मुंबई -400093 General Manager, WRLDC, F-3, M.I.D.C. Area, Marol, Andheri (East), Mumbai-400093
- 4. महाप्रबंधक, ऊ. पू. क्षे. भा. प्रे. के., डोंगतिएह, लोअर नोंग्रह, लापलंग, शिलोंग ७९३००६ General Manager, NERLDC, Dongteih, Lower Nongrah, Lapalang, Shillong - 793006, Meghalaya
- 5. अपर महाप्रबंधक , द .क्षे .भा .प्रे .के., २९ , रेस कोर्स क्रॉस रोड, बंगलुरु –५६०००९ Additional General Manager, SRLDC, 29, Race Course Cross Road, Bangalore-560009

Sub: Daily PSP Report for the date 03.06.2018.

महोदय/Dear Sir,

आई॰ई॰जी॰सी॰-2010 की धारा स.-5.5.1 के प्रावधान के अनुसार, दिनांक 3 जुलाई 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 3rd 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** 4-Jul-18

A. Maximum Demand

	NR	WR	SR	ER	NER	Total
Demand Met during Evening Peak hrs(MW) (at 2000 hrs; from RLDCs)	51697	42219	40130	19407	2506	155960
Peak Shortage (MW)	822	42	0	0	212	1076
Energy Met (MU)	1164	1016	870	399	47	3496
Hydro Gen (MU)	332	13	48	93	29	515
Wind Gen (MU)	52	138	152			342
Solar Gen (MU)*	15.16	14.76	49.76	0.41	0.01	80
Energy Shortage (MU)	9.6	0.0	0.0	0.0	1.6	11.2
Maximum Demand Met during the day	55066	44025	41418	20048	2513	159810
(MW) & time (from NLDC SCADA)	22:13	11:06	19:27	20:21	19:29	20:26

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	0.026	0.00	0.00	2.84	2.84	78.67	18.50

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	9707	0	193.3	120.5	-6.0	153	0.0
	Harvana	9004	0	188.0	142.8	1.0	302	0.0
	Rajasthan	9204	151	206.8	47.8	5.0	501	0.4
	Delhi	5968	0	117.3	93.1	-1.3	190	0.1
NR	UP	17460	420	352.4	164.3	1.8	287	0.0
	Uttarakhand	1915	0	39.1	10.4	0.8	172	0.0
	HP	1286	0	23.9	-3.2	2.3	182	0.0
	J&K	2029	507	38.4	19.5	-6.3	143	9.1
	Chandigarh	250	0	5.3	6.1	-0.8	3	0.0
	Chhattisgarh	3479	0	82.2	25.6	-0.8	188	0.0
	Gujarat	13573	0	304.4	85.5	2.4	500	0.0
	MP	7517	0	168.7	63.0	-2.0	456	0.0
WR	Maharashtra	18730	0	416.2	112.9	1.4	389	0.0
WK	Goa	444	0	9.1	9.2	-0.1	42	0.0
	DD	327	0	7.2	6.3	0.9	77	0.0
	DNH	753	0	17.5	16.6	0.8	61	0.0
	Essar steel	524	0	10.7	9.5	1.2	245	0.0
	Andhra Pradesh	6940	0	156.3	19.8	1.0	465	0.0
	Telangana	7672	0	164.1	87.6	0.2	333	0.0
SR	Karnataka	8684	0	188.4	58.6	0.7	482	0.0
3K	Kerala	3476	0	68.0	44.9	0.9	150	0.0
	Tamil Nadu	13909	0	285.4	120.7	-0.6	394	0.0
	Pondy	366	0	7.7	8.0	-0.4	51	0.0
	Bihar	4229	0	76.2	77.1	-3.0	210	0.0
	DVC	2900	0	68.4	-24.2	-0.4	220	0.0
ER	Jharkhand	935	0	21.5	16.2	-0.5	80	0.0
EK	Odisha	4099	0	76.0	34.7	1.9	220	0.0
	West Bengal	8460	0	155.5	39.5	2.2	225	0.0
	Sikkim	85	0	1.3	1.5	-0.2	12	0.0
	Arunachal Pradesh	112	2	2.3	3.1	-0.8	0	0.0
	Assam	1589	109	29.7	23.6	0.5	152	1.4
	Manipur	160	2	2.4	2.7	-0.4	30	0.0
NER	Meghalaya	293	0	5.1	0.3	-0.1	38	0.0
	Mizoram	87	1	1.5	1.1	-0.1	35	0.0
	Nagaland	110	2	2.1	2.2	-0.3	20	0.0
	Tripura	246	12	4.0	4.3	-0.7	29	0.1

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

	Bhutan	Nepal	Bangladesh
Actual(MU)	32.5	-3.7	-14.5
Day peak (MW)	1432.4	-269.4	-642.3

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

	NR	WR	SR	ER	NER	TOTAL
Schedule(MU)	234.1	-219.0	78.3	-89.2	-3.3	0.9
Actual(MU)	227.6	-219.7	80.5	-73.4	-8.1	6.9
O/D/U/D(MU)	-6.5	-0.7	2.2	15.8	-4.8	6.0

F. Generation Outage(MW)

	NR	WR	SR	ER	NER	Total
Central Sector	5238	14744	8572	715	118	29387
State Sector	7830	18147	8980	5545	50	40552
Total	13068	32891	17552	6260	168	69938

G. Sourcewise generation (MU)

	NR	WR	SR	ER	NER	All India
Thermal (Coal & Lignite)	490	1004	455	412	7	2368
Hydro	332	13	49	93	29	517
Nuclear	27	26	45	0	0	98
Gas, Naptha & Diesel	32	49	21	0	22	124
RES (Wind, Solar, Biomass & Others)	77	153	231	1	0	461
Total	959	1245	801	506	58	3568

Share of RES in total generation (%)	8.03	12.29	28.79	0.11	0.02	12.92
Share of Non-fossil fuel (Hydro, Nuclear and	45.51	15.40	40.60	10.54	50.21	20.16
RES) in total generation (%)	45.51	15.40	40.60	18.54	50.31	30.16

H. Diversity Factor
All India Demand Diversity Factor
1.020
Diversity factor = Sum of regional maximum demands / All India maximum demand

						Date of I	Reporting :	4-Jul-
								Import=(+ve) /Export =(-ve) for NET (MU)
Sl No	Voltage Level	Line Details	Circuit	Max Import (MW)	Max Export (MW)	Import (MU)	Export (MU)	NET (MU)
_	Export of	ER (With NR)	D/C	0	516	0.0	7.4	-7.4
2	765kV	GAYA-VARANASI SASARAM-FATEHPUR	D/C S/C	0 147	516 51	0.0	7.4	1.1
3	70011	GAYA-BALIA	S/C	0	383	0.0	5.9	-5.9
4	HVDC	ALIPURDUAR-AGRA	-	0	677	0.0	12.3	-12.3
5	пове	PUSAULI B/B	S/C	0	378	0.0	9.1	-9.1
6	_	PUSAULI-VARANASI	S/C	0	251	0.0	0.0	0.0
7 8	_	PUSAULI -ALLAHABAD	S/C D/C	0	189 781	0.0	0.0 15.9	0.0 -15.9
9	400 kV	MUZAFFARPUR-GORAKHPUR PATNA-BALIA	O/C	0	1010	0.0	18.1	-13.9
10	100 K	BIHARSHARIFF-BALIA	D/C	0	411	0.0	7.5	-7.5
11		MOTIHARI-GORAKHPUR	D/C	307	1	3.2	0.0	3.2
12		BIHARSHARIFF-VARANASI	D/C	888	0	0.0	3.0	-3.0
13	220 kV	PUSAULI-SAHUPURI	S/C	0	180	0.0	3.7	-3.7
14		SONE NAGAR-RIHAND	S/C	0	0	0.0	0.0	0.0
15	132 kV	GARWAH-RIHAND	S/C	35	0	0.3	0.0	0.3
16		KARMANASA-SAHUPURI	S/C	0	44	0.0	0.0	0.0
17		KARMANASA-CHANDAULI	S/C	0	0	0.0	0.0	0.0
port/E	Export of	ER (With WR)			ER-NR	4.6	82.9	-78.3
18	765 kV	JHARSUGUDA-DHARAMJAIGARH S/C	D/C	1046	5	27.8	0.0	27.8
19	1	NEW RANCHI-DHARAMJAIGARH	D/C	589	208	7.3	0.0	7.3
20	400 kV	JHARSUGUDA-RAIGARH	Q/C	1020	0	16.6	0.0	16.6
21	1	RANCHI-SIPAT BUDHIPADAR-RAIGARH	D/C S/C	298 81	62	4.4 0.0	0.0	-0.2
23	220 kV	BUDHIPADAR-KAIGARH BUDHIPADAR-KORBA	D/C	139	0	2.3	0.2	2.3
23		DUDNIF ADAK-KUKBA	D/C	139	ER-WR	58.3	0.0	58.1
	· •	ER (With SR)			1210.0		47.0	15.0
24	765 kV	ANGUL-SRIKAKULAM	D/C	0.0	1218.8	0.0	17.2	-17.2
25 26	HVDC LINK	JEYPORE-GAZUWAKA B/B TALCHER-KOLAR BIPOLE	D/C D/C	0.3	598.2 1975.4	0.0	9.1 42.0	-9.1 -42.0
27	400 kV	TALCHER-I/C	D/C	704.2	0.8	0.0	8.1	-7.7
28	220 kV	BALIMELA-UPPER-SILERRU	S/C	0.0	0.0	0.0	0.0	0.0
					ER-SR	0.0	68.3	-68.3
-	Export of	ER (With NER)	D/G		105	0.0		1 -
29 30	400 kV	BINAGURI-BONGAIGAON	D/C	153	405 139	0.0	4.5 0.0	-5 0
31	220 kV	ALIPURDUAR-BONGAIGAON ALIPURDUAR-SALAKATI	D/C D/C	0	101	0.0	1.4	-1
31	220 KV	ALIFUNDUAR-SALAKATI	D/ C		ER-NER	0.3	6.0	-5.6
ıport/F	Export of	NER (With NR)	<i>D</i> , C		ER-NER		6.0	1
	Export of	<u> </u>	-	0	ER-NER 701	0.0	6.0 15.4	-15.4
nport/F	Export of HVDC	NER (With NR)	-		ER-NER		6.0	1
nport/F	Export of HVDC	NER (With NR) BISWANATH CHARIALI-AGRA	- D/C		ER-NER 701	0.0	6.0 15.4	-15.4
32 nport/E	Export of HVDC	NER (With NR) BISWANATH CHARIALI-AGRA WR (With NR)	-	0	FR-NER 701 NER-NR	0.0	15.4 15.4	-15.4 -15.4
32 1 port/F 33	Export of HVDC Export of	NER (With NR) BISWANATH CHARIALI-AGRA WR (With NR) CHAMPA-KURUKSHETRA	- D/C	0 32	701 NER-NR	0.0	15.4 15.4 25.1	-15.4 -15.4 -25.1
32 nport/F 33 34 35 36	Export of HVDC Export of	NER (With NR) BISWANATH CHARIALI-AGRA WR (With NR) CHAMPA-KURUKSHETRA VCHAL B/B APL-MHG GWALIOR-AGRA	D/C D/C D/C D/C	0 32 0 0	701 NER-NR 1460 250 1412 2678	0.0 0.0 0.0 6.1 0.0 0.0	15.4 15.4 15.4 25.1 0.0 22.9 43.5	-15.4 -15.4 -25.1 -21.0 -22.9 -43.5
32 mport/F 33 34 35 36 37	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	D/C D/C D/C D/C D/C D/C	32 0 0 0	701 NER-NR 1460 250 1412 2678 1520	0.0 0.0 0.0 6.1 0.0 0.0 0.0	6.0 15.4 15.4 25.1 0.0 22.9 43.5 22.2	-15.4 -15.4 -25.1 6.1 -22.9 -43.5 -22.2
32 aport/F 33 34 35 36 37 38	Export of HVDC Export of	NER (With NR) BISWANATH CHARIALI-AGRA WR (With NR) CHAMPA-KURUKSHETRA VCHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI	D/C D/C D/C D/C D/C D/C D/C	32 0 0 0 0	701 NER-NR 1460 250 1412 2678 1520 1442	0.0 0.0 0.0 6.1 0.0 0.0 0.0 0.0	15.4 15.4 25.1 0.0 22.9 43.5 22.2 21.7	-15.4 -15.4 -25.1 -6.1 -22.9 -43.5 -22.2 -21.7
32 aport/F 33 34 35 36 37 38 39	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	D/C D/C D/C D/C D/C D/C S/C	32 0 0 0 0 0	250 1412 2678 1520 1442 1666	0.0 0.0 6.1 0.0 0.0 0.0 0.0 0.0 7.4	15.4 15.4 25.1 0.0 22.9 43.5 22.2 21.7 0.0	-15.4 -15.4 -25.1 -6.1 -22.9 -43.5 -22.2 -21.7 7.4
32 aport/F 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 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 D/C D/C S/C S/C	32 0 0 0 0 0 0	250 1412 2678 1520 1442 1666 0	0.0 0.0 6.1 0.0 0.0 0.0 0.0 0.0 7.4 0.0	15.4 15.4 15.4 25.1 0.0 22.9 43.5 22.2 21.7 0.0 33.2	-15.4 -15.4 -25.1 -6.1 -22.9 -43.5 -22.2 -21.7 7.4 -33.2
32 aport/F 33 34 35 36 37 38 39 40 41	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 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 32 0 0 0 0 0 0 0 0 426 283	250 1412 2678 1520 1442 1666 0	0.0 0.0 0.0 6.1 0.0 0.0 0.0 0.0 7.4 0.0 1.9	15.4 15.4 15.4 25.1 0.0 22.9 43.5 22.2 21.7 0.0 33.2 0.0	-15.4 -15.4 -25.1 -6.1 -22.9 -43.5 -22.2 -21.7 7.4 -33.2 1.9
32 aport/F 33 34 35 36 37 38 39 40 41 42	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 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 32 0 0 0 0 0 0 0 0 426 283 293	250 1440 250 1412 2678 1520 1442 1666 0 128	0.0 0.0 0.0 6.1 0.0 0.0 0.0 0.0 7.4 0.0 1.9 2.6	15.4 15.4 15.4 25.1 0.0 22.9 43.5 22.2 21.7 0.0 33.2 0.0	-15.4 -15.4 -25.1 6.1 -22.9 -43.5 -22.2 -21.7 7.4 -33.2 1.9 2.6
32 aport/F 33 34 35 36 37 38 39 40 41	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 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 32 0 0 0 0 0 0 0 0 426 283	250 1412 2678 1520 1442 1666 0	0.0 0.0 0.0 6.1 0.0 0.0 0.0 0.0 7.4 0.0 1.9	15.4 15.4 15.4 25.1 0.0 22.9 43.5 22.2 21.7 0.0 33.2 0.0	-15.4 -15.4 -25.1 -6.1 -22.9 -43.5 -22.2 -21.7 7.4 -33.2 1.9
32 32 33 34 35 36 37 38 39 40 41 42 43	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	D/C D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C	0 32 0 0 0 0 0 0 0 0 426 283 293 954	### FR-NER 701 NER-NR 1460 250 1412 2678 1520 1442 1666 0 128 87 0	0.0 0.0 0.0 6.1 0.0 0.0 0.0 0.0 7.4 0.0 1.9 2.6 18.9	15.4 15.4 15.4 25.1 0.0 22.9 43.5 22.2 21.7 0.0 33.2 0.0 0.0	-15.4 -15.4 -25.1 6.1 -22.9 -43.5 -22.2 -21.7 7.4 -33.2 1.9 2.6 18.9
32 mport/F 33 34 35 36 37 38 39 40 41 42 43 44	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	D/C D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C S/C D/C	0 32 0 0 0 0 0 0 0 0 426 283 293 954 36	### FRICT FRICT	0.0 0.0 6.1 0.0 0.0 0.0 0.0 0.0 7.4 0.0 1.9 2.6 18.9	15.4 15.4 15.4 25.1 0.0 22.9 43.5 22.2 21.7 0.0 33.2 0.0 0.0 0.0	-15.4 -15.4 -15.4 -25.1 6.1 -22.9 -43.5 -22.2 -21.7 7.4 -33.2 1.9 2.6 18.9 -2
32 aport/F 33 34 35 36 37 38 39 40 41 42 43 44 44	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 IABALPUR-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 32 0 0 0 0 0 0 0 426 283 293 954 36 27	### FRICT FRICT	0.0 0.0 6.1 0.0 0.0 0.0 0.0 7.4 0.0 1.9 2.6 18.9 0	15.4 15.4 15.4 25.1 0.0 22.9 43.5 22.2 21.7 0.0 33.2 0.0 0.0 0.0 2	-15.4 -15.4 -15.4 -15.4 -25.1 -6.1 -22.9 -43.5 -22.2 -21.7 7.4 -33.2 1.9 2.6 18.9 -2 -0.9
32 sport/F 32 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 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 32 0 0 0 0 0 0 0 0 426 283 293 954 36 27 0	### FRICT FRICT	0.0 0.0 6.1 0.0 0.0 0.0 0.0 7.4 0.0 1.9 2.6 18.9 0 0.0	15.4 15.4 15.4 25.1 0.0 22.9 43.5 22.2 21.7 0.0 33.2 0.0 0.0 0.0 2 0.9	-15.4 -15.4 -15.4 -15.4 -25.1 -6.1 -22.9 -43.5 -22.2 -21.7 -7.4 -33.2 -1.9 -2.6 -18.9 -2 -0.9 -1.4
32 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 VCHAL B/B APL-MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI ZERDA-KANKROLI ZERDA-BHINMAL VCHAL-RIHAND RAPP-SHUJALPUR BADOD-KOTA BADOD-MORAK MEHGAON-AURAIYA	D/C D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	0 32 0 0 0 0 0 0 426 283 293 36 27 0 39	### FRICT FRICT FRICT	0.0 0.0 0.0 6.1 0.0 0.0 0.0 0.0 1.9 2.6 18.9 0 0.0 0.0 0.0	15.4 15.4 15.4 25.1 0.0 22.9 43.5 22.2 21.7 0.0 33.2 0.0 0.0 0.0 2 0.9 1.4 0.2 0.6 0.0	-15.4 -15.4 -15.4 -15.4 -15.4 -25.1 -6.1 -22.9 -43.5 -22.2 -21.7 -7.4 -33.2 -33.2 -1.9 -2.6 -1.8.9 -2 -0.9 -1.4 -0.0 -0.6 -0.0
32 sport/F 33 34 35 36 37 38 39 40 41 42 43 44 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	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 32 0 0 0 0 0 0 426 283 293 954 36 27 0 39 13	### FRICT FR	0.0 0.0 6.1 0.0 0.0 0.0 0.0 0.0 7.4 0.0 1.9 2.6 18.9 0 0.0 0.0	15.4 15.4 15.4 25.1 0.0 22.9 43.5 22.2 21.7 0.0 33.2 0.0 0.0 0.0 2 0.9 1.4 0.2	-15.4 -15.4 -15.4 -25.1 -6.1 -22.9 -43.5 -22.2 -21.7 -7.4 -33.2 -3.2 -1.9 -2.6 -1.8.9 -1.4 -0.0 -0.6
nport/F 32 nport/F 32 nport/F 33 34 35 37 38 39 40 41 42 43 44 45 44 45 46 47 48 49	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	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 32 0 0 0 0 0 0 426 283 293 954 36 27 0 39 13	### FRICT FRICT FRICT	0.0 0.0 0.0 6.1 0.0 0.0 0.0 0.0 1.9 2.6 18.9 0 0.0 0.0 0.0	15.4 15.4 15.4 25.1 0.0 22.9 43.5 22.2 21.7 0.0 33.2 0.0 0.0 0.0 2 0.9 1.4 0.2 0.6 0.0	-15.4 -15.4 -15.4 -25.1 -6.1 -22.9 -43.5 -22.2 -21.7 -7.4 -33.2 -3.2 -1.9 -2.6 -0.9 -1.4 -0.0 -0.6 -0.0
nport/F 32 nport/F 32 nport/F 33 34 35 37 38 39 40 41 42 43 44 45 46 47 48 49	Export of HVDC Export of HVDC 765 kV 400 kV 132kV Export of	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)	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 32 0 0 0 0 0 0 426 283 293 954 36 27 0 0 39 13 0	ER-NER 701 NER-NR 1460 250 1412 2678 1520 1442 1666 0 128 87 0 226 88 96 222 42 0 WR-NR	0.0 0.0 0.0 6.1 0.0 0.0 0.0 0.0 7.4 0.0 1.9 2.6 18.9 0 0.0 0.0 0.0 1.9 2.6 18.9 0.0 0.0 0.0 0.0 1.9 1.0 0.0 0.0 0.0 1.0 0.0 1.0 0.0 0	6.0 15.4 15.4 25.1 0.0 22.9 43.5 22.2 21.7 0.0 33.2 0.0 0.0 0.0 2.9 1.4 0.2 0.6 0.0 173.2	-15.4 -15.4 -15.4 -15.4 -25.1 6.1 -22.9 -43.5 -22.2 -21.7 7.4 -33.2 1.9 2.6 18.9 -2 -0.9 -1.4 0.0 -0.6 0.0 -136.1
nport/F 32 nport/F 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 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	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 32 0 0 0 0 0 0 0 426 283 293 954 36 27 0 39 13 0	ER-NER 701 NER-NR 1460 250 1412 2678 1520 1442 1666 0 128 87 0 226 88 96 222 42 0 WR-NR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	6.0 15.4 15.4 15.4 25.1 0.0 22.9 43.5 22.2 21.7 0.0 33.2 0.0 0.0 0.0 2.9 1.4 0.2 0.6 0.0 1.7 0.0 1.7 0.0 1.7 0.0 0.0 1.7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	-15.4 -15.4 -15.4 -15.4 -15.4 -25.1 -6.1 -22.9 -43.5 -22.2 -21.7 -7.4 -33.2 -3.2 -1.9 -2.6 -18.9 -2 -0.9 -1.4 -0.0 -0.6 -0.0 -136.1
32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 49 49 49 40 50 51	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 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	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 32 0 0 0 0 0 0 0 0 426 283 293 954 36 27 0 39 13 0	### RENER 701 NER-NR 1460 250 1412 2678 1520 1442 1666 0 128 87 0 226 88 96 22 42 0 WR-NR 800 0 1268 1739 1739 1739	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	6.0 15.4 15.4 15.4 25.1 0.0 22.9 43.5 22.2 21.7 0.0 0.0 0.0 0.0 2.0 0.0 0.0 1.4 0.2 0.6 0.0 173.2	-15.4 -15.4 -15.4 -15.4 -15.4 -25.1 -6.1 -22.9 -43.5 -22.2 -21.7 -7.4 -33.2 -3.9 -2.6 -18.9 -2 -0.9 -1.4 -0.0 -0.6 -0.0 -136.1 -16.4 -0.0 -7.6 -26.1
32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 **Poport/F** 50 51 52 53 54	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 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 32 0 0 0 0 0 0 426 283 293 954 36 27 0 39 13 0	## Company of the com	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	15.4 15.4 15.4 25.1 0.0 22.9 43.5 22.2 21.7 0.0 33.2 0.0 0.0 0.0 2 0.9 1.4 0.2 0.6 0.0 173.2 16.4 0.0 7.6 26.1 0.0	-15.4 -16.4 -16.4 -16.4 -16.4 -16.4 -16.4 -16.4 -16.4 -16.4 -16.6 -16.1 -16.4
nport/F 32 nport/F 32 nport/F 32 nport/F 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 nport/F 50 51 51 52 53 54	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 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 WARDHA-NIZAMABAD KOLHAPUR-KUDGI KOLHAPUR-CHIKODI	D/C D/C D/C D/C S/C S/C	0 32 0 0 0 0 0 0 0 426 283 293 954 36 27 0 39 13 0 0 0 0 0 0 0 0 0 0 0 0 0	ER-NER 701 NER-NR 1460 250 1412 2678 1520 1442 1666 0 128 87 0 226 88 96 222 42 0 WR-NR 800 0 1268 1739 0 0	0.0 0.0 0.0 6.1 0.0 0.0 0.0 0.0 0.0 1.9 2.6 18.9 0 0.0 0.0 0.0 0.0 0.0 0.0 1.9 2.6 18.9 0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	15.4 15.4 15.4 15.4 25.1 0.0 22.9 43.5 22.2 21.7 0.0 33.2 0.0 0.0 0.0 2 0.9 1.4 0.2 0.6 0.0 173.2 16.4 0.0 7.6 26.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	-15.4 -15.4 -15.4 -15.4 -25.1 -6.1 -22.9 -43.5 -22.2 -21.7 -7.4 -33.2 -3.2 -1.9 -2.6 -0.9 -1.4 -0.0 -0.6 -0.0 -136.1 -16.4 -0.0 -7.6 -26.1 -13.6 -0.0
nport/F 32 nport/F 32 nport/F 32 nport/F 32 nport/F 33 34 35 37 38 39 40 41 42 43 44 45 46 47 48 49 nport/F 50 51 52 53 54 55 56	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 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 WARDHA-NIZAMABAD KOLHAPUR-KUDGI KOLHAPUR-CHIKODI PONDA-AMBEWADI	D/C D/C D/C D/C D/C D/C D/C D/C S/C S/C	0 32 0 0 0 0 0 0 426 283 293 954 36 27 0 0 0 0 0 0 0 0 0 0 0 0 0	ER-NER 701 NER-NR 1460 250 1412 2678 1520 1442 1666 0 128 87 0 226 88 96 222 42 0 WR-NR 800 0 1268 1739 0 0 0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	15.4 15.4 15.4 15.4 25.1 0.0 22.9 43.5 22.2 21.7 0.0 33.2 0.0 0.0 2 0.9 1.4 0.2 0.6 0.0 173.2 16.4 0.0 0.0 0.0 0.0 17.6 26.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	-15.4 -15.4 -15.4 -15.4 -25.1 -6.1 -22.9 -43.5 -22.2 -21.7 -7.4 -33.2 -3.2 -1.9 -2.6 -0.9 -1.4 -0.0 -0.6 -0.0 -136.1 -16.4 -0.0 -7.6 -26.1 -13.6 -0.0 -0.0
32 apport/F 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 apport/F 55 51 55 53 54	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 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 WARDHA-NIZAMABAD KOLHAPUR-KUDGI KOLHAPUR-CHIKODI	D/C D/C D/C D/C S/C S/C	0 32 0 0 0 0 0 0 0 426 283 293 954 36 27 0 39 13 0 0 0 0 0 0 0 0 0 0 0 0 0	ER-NER 701 NER-NR 1460 250 1412 2678 1520 1442 1666 0 128 87 0 226 88 96 222 42 0 WR-NR 800 0 1268 1739 0 0 0 0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	6.0 15.4 15.4 15.4 25.1 0.0 22.9 43.5 22.2 21.7 0.0 33.2 0.0 0.0 2 0.9 1.4 0.2 0.6 0.0 173.2 16.4 0.0 0.0 0.0 0.0 0.0 0.0 0.0	-15.4 -15.4 -15.4 -15.4 -15.4 -25.1 -6.1 -22.9 -43.5 -22.2 -21.7 -7.4 -33.2 -33.2 -1.9 -2.6 -0.9 -1.4 -0.0 -0.6 -0.0 -136.1 -16.4 -0.0 -7.6 -26.1 -13.6 -0.0 -0.0 -1.5
pport/F 32 pport/F 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 pport/F 50 51 52 53 54	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 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 WARDHA-NIZAMABAD KOLHAPUR-CHIKODI PONDA-AMBEWADI XELDEM-AMBEWADI	D/C D/C D/C D/C D/C D/C D/C D/C S/C S/C	0 32 0 0 0 0 0 0 426 283 293 954 36 27 0 0 0 0 0 0 0 0 0 0 0 0 0	ER-NER 701 NER-NR 1460 250 1412 2678 1520 1442 1666 0 128 87 0 226 88 96 222 42 0 WR-NR 800 0 1268 1739 0 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	15.4 15.4 15.4 15.4 25.1 0.0 22.9 43.5 22.2 21.7 0.0 33.2 0.0 0.0 2 0.9 1.4 0.2 0.6 0.0 173.2 16.4 0.0 0.0 0.0 0.0 17.6 26.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	-15.4 -15.4 -15.4 -15.4 -15.4 -15.4 -15.4 -15.4 -22.9 -43.5 -22.2 -21.7 -7.4 -33.2 -33.2 -1.9 -2.6 -0.9 -1.4 -0.0 -0.6 -0.0 -136.1 -16.4 -0.0 -7.6 -26.1 -13.6 -0.0 -0.0
pport/F 32 pport/F 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 pport/F 50 51 52 53 54	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 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 WARDHA-NIZAMABAD KOLHAPUR-CHIKODI PONDA-AMBEWADI XELDEM-AMBEWADI	D/C D/C D/C D/C D/C D/C D/C D/C S/C S/C	0 32 0 0 0 0 0 0 426 283 293 954 36 27 0 0 0 0 0 0 0 0 0 0 0 0 0	ER-NER 701 NER-NR 1460 250 1412 2678 1520 1442 1666 0 128 87 0 226 88 96 222 42 0 WR-NR 800 0 1268 1739 0 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	6.0 15.4 15.4 15.4 25.1 0.0 22.9 43.5 22.2 21.7 0.0 33.2 0.0 0.0 2 0.9 1.4 0.2 0.6 0.0 173.2 16.4 0.0 0.0 0.0 0.0 0.0 0.0 0.0	-15.4 -15.4 -15.4 -15.4 -15.4 -15.4 -15.4 -15.4 -15.4 -15.4 -15.4 -15.4 -15.4 -15.4 -15.4 -16.1 -16.4 -16.4 -16.4 -16.4 -16.4 -16.4 -16.4 -16.4 -16.4 -16.4 -16.4 -16.6 -17.6 -18.9