

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: 8th Jan 2020

To,

- 1. कार्यकारी निदेशक, पू.क्षे.भा.प्रे.के.,14, गोल्फ क्लब रोड, कोलकाता ७०००३३ 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. कार्यकारी निदेशक, ऊ. पू. क्षे. भा. प्रे. के., डोंगतिएह, लोअर नोंग्रह, लापलंग, शिलोंग ७९३००६ Executive Director, 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 07.01.2020.

महोदय/Dear Sir,

आई॰ई॰जी॰सी॰-2010 की धारा स.-5.5.1 के प्रावधान के अनुसार, दिनांक 07-जनवरी-2020 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 07th Jan 2020, 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 8-Jan-20

A. Power Supply Position at All India and Regional level

	NR	WR	SR	ER	NER	Total
Demand Met during Evening Peak hrs(MW) (at 1900 hrs; from RLDCs)	48692	48023	39584	18295	2452	157046
Peak Shortage (MW)	595	0	0	0	29	624
Energy Met (MU)	972	1124	959	345	41	3442
Hydro Gen (MU)	111	62	93	34	8	307
Wind Gen (MU)	14	37	46			98
Solar Gen (MU)*	12.98	18.40	63.26	1.36	0.03	96
Energy Shortage (MU)	11.9	0.0	0.0	0.0	0.9	12.8
Maximum Demand Met during the day (MW) & time	48476	54397	47471	18334	2518	165369
(from NLDC SCADA)	18:50	11:01	07:43	18:22	17:30	09:31

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	0.043	0.00	1.05	9.62	10.67	76.68	12.65

C. Power Supply Position in States

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	5698	0	112.0	58.4	-0.8	127	0.0
	Haryana	6570	0	124.7	76.9	-0.2	110	0.0
	Rajasthan	13672	0	242.6	77.1	-1.3	477	0.0
	Delhi	4338	0	74.5	62.8	-0.1	198	0.0
NR	UP	15897	0	292.3	124.5	-0.9	835	0.0
	Uttarakhand	2086	0	40.3	24.8	-0.2	70	0.1
	HP	1688	0	31.3	24.5	0.1	176	0.0
	J&K(UT) and Ladakh(UT)	2389	597	49.9	43.7	0.9	304	11.8
	Chandigarh	275	0	4.7	4.6	0.1	40	0.0
	Chhattisgarh	3553	0	75.8	19.1	-1.4	244	0.0
	Gujarat	15651	0	324.5	88.0	0.4	734	0.0
	MP	13747	0	242.4	124.9	-2.8	475	0.0
WR	Maharashtra	21596	0	437.2	140.9	2.7	736	0.0
WK	Goa	591	0	11.0	10.7	-0.2	95	0.0
	DD	327	0	7.3	7.0	0.3	45	0.0
	DNH	810	0	18.9	18.9	0.0	48	0.0
	Essar steel	360	0	6.5	6.4	0.1	269	0.0
	Andhra Pradesh	7668	0	161.3	61.6	-0.8	376	0.0
	Telangana	10851	0	209.3	112.6	0.8	588	0.0
SR	Karnataka	11770	0	215.4	56.0	-1.9	479	0.0
311	Kerala	3725	0	74.4	57.0	0.9	183	0.0
	Tamil Nadu	13878	0	291.7	150.1	-1.5	489	0.0
	Pondy	357	0	7.4	7.6	-0.2	33	0.0
	Bihar	4320	0	79.7	77.8	0.3	150	0.0
	DVC	3074	0	64.3	-31.9	0.0	400	0.0
ER	Jharkhand	1309	0	24.2	16.3	-1.3	100	0.0
EN	Odisha	3687	0	66.0	0.2	0.5	300	0.0
	West Bengal	6327	0	109.1	27.4	-0.4	200	0.0
	Sikkim	142	0	2.1	1.4	0.7	40	0.0
	Arunachal Pradesh	122	2	2.2	1.9	0.2	66	0.0
	Assam	1376	10	22.4	18.6	0.5	181	0.1
	Manipur	205	3	2.6	3.1	-0.5	26	0.0
NER	Meghalaya	366	0	6.4	3.1	0.9	35	0.7
	Mizoram	105	1	1.7	1.4	0.2	39	0.0
	Nagaland	126	1	2.2	2.1	0.0	25	0.0
	Tripura	226	1	3.5	1.6	1.0	95	0.0

D. Transnational Exchanges (MU) - Import(+ve)/Export(-ve)

The state of the s	Bhutan	Nepal	Bangladesh
Actual(MU)	3.8	-9.8	-10.0
Day peak (MW)	543.6	-579.0	-757.0

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

	NR	WR	SR	ER	NER	TOTAL
Schedule(MU)	241.5	-277.9	120.3	-83.7	-0.1	0.2
Actual(MU)	233.0	-279.9	124.4	-76.2	2.6	4.0
O/D/U/D(MU)	-8.5	-2.0	4.2	7.4	2.6	3.7

F. Generation Outage(MW)

	NR	WR	SR	ER	NER	Total
Central Sector	4093	15565	7982	2310	757	30706
State Sector	10506	16348	7650	5940	11	40455
Total	14599	31912	15632	8250	768	71161

G. Sourcewise generation (MU)

	NR	WR	SR	ER	NER	All India
Coal	522	1218	492	417	14	2663
Lignite	19	13	44	0	0	76
Hydro	111	62	93	34	8	307
Nuclear	29	28	40	0	0	97
Gas, Naptha & Diesel	23	39	18	0	22	101
RES (Wind, Solar, Biomass & Others)	56	70	159	1	0	286
Total	761	1428	846	453	43	3531

Share of RES in total generation (%)	7.40	4.89	18.79	0.31	0.07	8.11
Share of Non-fossil fuel (Hydro, Nuclear and RES) in total generation (%)	25.79	11.15	34.52	7.81	18.07	19.56

H. All India Demand Diversity Factor

Based on Regional Max Demands	1.035	
Based on State Max Demands	1.082	

Diversity factor = Sum of regional or state-wise maximum demands / All India maximum demand

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

		IN	FER-REGI	ONAL EXCH	ANGES	Date of 1	Reporting :	8-Jan-20
								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/I		ER (With NR)	l l				(MC)	(MC)
4	HVDC	ALIPURDUAR-AGRA	-	0	600	0.0	11.8	-11.8
5		PUSAULI B/B	S/C	0	297	0.0	7.1	-7.1
2	765kV	GAYA-VARANASI SASARAM-FATEHPUR	D/C S/C	76	956 372	0.0	7.9	-7.9 -2.8
3	70011	GAYA-BALIA	S/C	0	584	0.0	8.5	-8.5
6		PUSAULI-VARANASI	S/C	0	269	0.0	5.0	-5.0
7		PUSAULI -ALLAHABAD	S/C	0	136	0.0	1.9	-1.9
8		MUZAFFARPUR-GORAKHPUR	D/C	80	654	0.0	4.4	-4.4
9	400 kV	PATNA-BALIA	Q/C	0	867	0.0	14.2	-14.2
10		BIHARSHARIFF-BALIA	D/C	24	387	0.0	4.7	-4.7
11		MOTIHARI-GORAKHPUR	D/C	0	5	0.0	0.0	0.0
12		BIHARSHARIFF-VARANASI	D/C	141	309	0.0	0.6	-0.6
13	220 kV	PUSAULI-SAHUPURI	S/C	0	121	0.0	1.6	-1.6
14		SONE NAGAR-RIHAND	S/C	0	0	0.0	0.0	0.0
15	132 kV	GARWAH-RIHAND	S/C	30	0	0.7	0.0	0.7
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
	-	DD ANIA NEC			ER-NR	0.7	51.5	-50.8
Import/I	Export of	ER (With WR)	, ,			-		
18	1	JHARSUGUDA-DHARAMJAIGARH	Q/C	5496	0	22.6	0.0	22.6
19	765 kV	NEW RANCHI-DHARAMJAIGARH	D/C	648	24	9.6	0.0	9.6
20		JHARSUGUDA-DURG	D/C	151	151	0.7	0.0	0.7
21	400 kV	JHARSUGUDA-RAIGARH	Q/C	288	109	1.9	0.0	1.9
22	-100 K V	RANCHI-SIPAT	D/C	252	0	3.7	0.0	3.7
23	220 kV	BUDHIPADAR-RAIGARH	S/C	9	100	0.0	1.1	-1.1
24		BUDHIPADAR-KORBA	D/C	197	0	3.4	0.0	3.4
					ER-WR	41.9	1.1	40.8
Import/I	Export of	ER (With SR)			,			
26	HVDC	JEYPORE-GAZUWAKA B/B	D/C	0.0	666.0	0.0	16.2	-16.2
27		TALCHER-KOLAR BIPOLE	D/C	0.0	2468.0	0.0	44.7	-44.7
25	765 kV	ANGUL-SRIKAKULAM	D/C	0.0	1998.0	0.0	29.1	-29.1
28	400 kV	TALCHER-I/C	D/C	264.0	973.0	0.0	6.5	-6.5
29	220 kV	BALIMELA-UPPER-SILERRU	S/C	1.0	0.0	0.0	0.0	0.0
T	F 4	ER (With NER)			ER-SR	0.0	90.0	-90.0
30 30	Export of	BINAGURI-BONGAIGAON	D/C	0	337	0.0	3.8	-4
31	400 kV	ALIPURDUAR-BONGAIGAON	D/C	181	118	1.5	0.0	2
32	220 kV	ALIPURDUAR-SALAKATI	D/C	10	66	0.0	0.5	-1
32	220 R V	THE ORDER TO STEEL THE TIT	D/C	10	ER-NER	1.5	4.3	-2.8
Import/E	Export of	NER (With NR)			DI HER	1	4.0	-2.0
33	HVDC	BISWANATH CHARIALI-AGRA	-	0	0	0.0	0.0	0.0
	1	l	ı		NER-NR	0.0	0.0	0.0
Import/I	Export of	WR (With NR)				'		•
34								
		CHAMPA-KURUKSHETRA	D/C	0	2003	0.0	34.6	-34.6
35	HVDC	CHAMPA-KURUKSHETRA V'CHAL B/B	D/C D/C	0 448	2003 492	0.0 2.4	34.6 0.0	-34.6 2.4
	HVDC							
35	HVDC	V'CHAL B/B	D/C	448	492	2.4	0.0	2.4
35 36	HVDC	V'CHAL B/B APL -MHG	D/C D/C	448	492 1922	2.4 0.0	0.0 37.8	2.4 -37.8
35 36 37		V'CHAL B/B APL -MHG GWALIOR-AGRA	D/C D/C D/C	0 0	492 1922 2457	2.4 0.0 0.0	0.0 37.8 42.6	2.4 -37.8 -42.6
35 36 37 38	HVDC - 765 kV	V'CHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR	D/C D/C D/C D/C	448 0 0 0 0 0 0 709	492 1922 2457 1770	2.4 0.0 0.0 0.0	0.0 37.8 42.6 22.6	2.4 -37.8 -42.6 -22.6
35 36 37 38 39 40 41		V'CHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI	D/C D/C D/C D/C D/C S/C S/C	448 0 0 0 0 0 0 709	492 1922 2457 1770 996 0	2.4 0.0 0.0 0.0 0.0 0.0 5.7 0.0	0.0 37.8 42.6 22.6 29.3 0.0 28.4	2.4 -37.8 -42.6 -22.6 -29.3 5.7 -28.4
35 36 37 38 39 40 41 42		V'CHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHITTORGARH-BANASKANTHA	D/C D/C D/C D/C D/C S/C S/C D/C	448 0 0 0 0 0 709 0 300	492 1922 2457 1770 996 0 1450 851	2.4 0.0 0.0 0.0 0.0 0.0 5.7 0.0 0.0	0.0 37.8 42.6 22.6 29.3 0.0 28.4 4.6	2.4 -37.8 -42.6 -22.6 -29.3 5.7 -28.4 -4.6
35 36 37 38 39 40 41 42 43		VCHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATINA-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI	D/C D/C D/C D/C D/C S/C S/C D/C S/C S/C	448 0 0 0 0 0 709 0 300 170	492 1922 2457 1770 996 0 1450 851	2.4 0.0 0.0 0.0 0.0 0.0 5.7 0.0 0.0 0.0	0.0 37.8 42.6 22.6 29.3 0.0 28.4 4.6	2.4 -37.8 -42.6 -22.6 -29.3 5.7 -28.4 -4.6 0.8
35 36 37 38 39 40 41 42 43 44		VCHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL	D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C S/C	448 0 0 0 0 709 0 300 170 193	492 1922 2457 1770 996 0 1450 851 133 266	2.4 0.0 0.0 0.0 0.0 5.7 0.0 0.0 0.0 0.0	0.0 37.8 42.6 22.6 29.3 0.0 28.4 4.6 0.0	2.4 -37.8 -42.6 -22.6 -29.3 5.7 -28.4 -4.6 0.8 -1.7
35 36 37 38 39 40 41 42 43 44	765 kV	V'CHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL V'CHAL -RIHAND	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	448 0 0 0 0 0 709 0 300 170 193 981	492 1922 2457 1770 996 0 1450 851 133 266 0	2.4 0.0 0.0 0.0 0.0 5.7 0.0 0.0 0.8 0.0 24.8	0.0 37.8 42.6 22.6 29.3 0.0 28.4 4.6 0.0 1.7	2.4 -37.8 -42.6 -22.6 -29.3 5.7 -28.4 -4.6 0.8 -1.7 24.8
35 36 37 38 39 40 41 42 43 44 45	765 kV	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	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	448 0 0 0 0 0 709 0 300 170 193 981 156	492 1922 2457 1770 996 0 1450 851 133 266 0 417	2.4 0.0 0.0 0.0 0.0 5.7 0.0 0.0 0.8 0.0 24.8	0.0 37.8 42.6 22.6 29.3 0.0 28.4 4.6 0.0 1.7 0.0	2.4 -37.8 -42.6 -22.6 -29.3 5.7 -28.4 -4.6 0.8 -1.7 24.8
35 36 37 38 39 40 41 42 43 44 45 46 47	765 kV	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 BHANPURA-RANPUR	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	448 0 0 0 0 0 709 0 300 170 193 981 156 22	492 1922 2457 1770 996 0 1450 851 133 266 0 417 86	2.4 0.0 0.0 0.0 0.0 5.7 0.0 0.0 0.8 0.0 24.8 0	0.0 37.8 42.6 22.6 29.3 0.0 28.4 4.6 0.0 1.7 0.0 2	2.4 -37.8 -42.6 -22.6 -29.3 5.7 -28.4 -4.6 0.8 -1.7 24.8 -2 0.3
35 36 37 38 39 40 41 42 43 44 45 46 47	765 kV	VCHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA-BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR BHANPURA-MORAK	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	448 0 0 0 0 709 0 300 170 193 981 156 22 24	492 1922 2457 1770 996 0 1450 851 133 266 0 417 86	2.4 0.0 0.0 0.0 0.0 5.7 0.0 0.8 0.0 24.8 0 0.6 0.1	0.0 37.8 42.6 22.6 29.3 0.0 28.4 4.6 0.0 1.7 0.0 2 0.3	2.4 -37.8 -42.6 -22.6 -29.3 5.7 -28.4 -4.6 0.8 -1.7 24.8 -2 0.3 -0.9
35 36 37 38 39 40 41 42 43 44 45 46 47 48	765 kV	V'CHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL V'CHAL -RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR BHANPURA-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	448 0 0 0 0 0 709 0 300 170 193 981 156 22 24 91	492 1922 2457 1770 996 0 1450 851 133 266 0 417 86 122 0	2.4 0.0 0.0 0.0 0.0 5.7 0.0 0.0 0.8 0.0 24.8 0 0.6 0.1 1.2	0.0 37.8 42.6 22.6 29.3 0.0 28.4 4.6 0.0 1.7 0.0 2 0.3 0.9	2.4 -37.8 -42.6 -22.6 -29.3 5.7 -28.4 -4.6 0.8 -1.7 24.8 -2 0.3 -0.9
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50	- 765 kV - 400 kV - 220 kV	VCHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR BHANPURA-MORAK MEHGAON-AURAIYA MALANPUR-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	448 0 0 0 0 709 0 300 170 193 981 156 22 24 91 33	492 1922 2457 1770 996 0 1450 851 133 266 0 417 86 122 0 27	2.4 0.0 0.0 0.0 0.0 5.7 0.0 0.8 0.0 24.8 0 0.6 0.1 1.2	0.0 37.8 42.6 22.6 29.3 0.0 28.4 4.6 0.0 1.7 0.0 2 0.3 0.9 0.0	2.4 -37.8 -42.6 -22.6 -29.3 5.7 -28.4 -4.6 0.8 -1.7 24.8 -2 0.3 -0.9 1.2
35 36 37 38 39 40 41 42 43 44 45 46 47 48	765 kV	V'CHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL V'CHAL -RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR BHANPURA-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	448 0 0 0 0 0 709 0 300 170 193 981 156 22 24 91	492 1922 2457 1770 996 0 1450 851 133 266 0 417 86 122 0 27	2.4 0.0 0.0 0.0 0.0 5.7 0.0 0.8 0.0 24.8 0 0.6 0.1 1.2 0.2	0.0 37.8 42.6 22.6 29.3 0.0 28.4 4.6 0.0 1.7 0.0 2 0.3 0.9 0.0	2.4 -37.8 -42.6 -22.6 -29.3 5.7 -28.4 -4.6 0.8 -1.7 24.8 -2 0.3 -0.9 1.2 0.1
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51	765 kV 400 kV 220 kV	VCHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR BHANPURA-RANPUR BHANPURA-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	448 0 0 0 0 709 0 300 170 193 981 156 22 24 91 33	492 1922 2457 1770 996 0 1450 851 133 266 0 417 86 122 0 27	2.4 0.0 0.0 0.0 0.0 5.7 0.0 0.8 0.0 24.8 0 0.6 0.1 1.2	0.0 37.8 42.6 22.6 29.3 0.0 28.4 4.6 0.0 1.7 0.0 2 0.3 0.9 0.0	2.4 -37.8 -42.6 -22.6 -29.3 5.7 -28.4 -4.6 0.8 -1.7 24.8 -2 0.3 -0.9 1.2
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51	765 kV 400 kV 220 kV	VCHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR BHANPURA-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	448 0 0 0 0 0 709 0 300 170 193 981 156 22 24 91 33 0	492 1922 2457 1770 996 0 1450 851 133 266 0 417 86 122 0 27 0 WR-NR	2.4 0.0 0.0 0.0 0.0 5.7 0.0 0.8 0.0 24.8 0 0.6 0.1 1.2 0.2 0.0 35.8	0.0 37.8 42.6 22.6 29.3 0.0 28.4 4.6 0.0 1.7 0.0 2 0.3 0.9 0.0 0.1 0.0	2.4 -37.8 -42.6 -22.6 -29.3 -5.7 -28.4 -4.6 -0.8 -1.7 -24.8 -2 -0.3 -0.9 -1.2 -0.1 -0.0 -169.3
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51	765 kV 400 kV 220 kV	VCHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR BHANPURA-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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	448 0 0 0 0 709 0 300 170 193 981 156 22 24 91 33 0	492 1922 2457 1770 996 0 1450 851 133 266 0 417 86 122 0 27 0 WR-NR	2.4 0.0 0.0 0.0 0.0 5.7 0.0 0.8 0.0 24.8 0 0.6 0.1 1.2 0.2 0.0 35.8	0.0 37.8 42.6 22.6 29.3 0.0 28.4 4.6 0.0 1.7 0.0 2 0.3 0.9 0.0 0.1 0.0 205.1	2.4 -37.8 -42.6 -22.6 -29.3 -5.7 -28.4 -4.6 -0.8 -1.7 -24.8 -2 -0.3 -0.9 -1.2 -0.1 -0.0 -169.3
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51	765 kV 400 kV 220 kV 132kV	VCHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI SATNA-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR BHANPURA-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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	448 0 0 0 0 0 709 0 300 170 193 981 156 22 24 91 33 0	492 1922 2457 1770 996 0 1450 851 133 266 0 417 86 122 0 27 0 WR-NR	2.4 0.0 0.0 0.0 0.0 5.7 0.0 0.8 0.0 24.8 0 0.6 0.1 1.2 0.2 0.0 35.8	0.0 37.8 42.6 22.6 29.3 0.0 28.4 4.6 0.0 1.7 0.0 2 0.3 0.9 0.0 0.1 0.0 205.1	2.4 -37.8 -42.6 -22.6 -29.3 5.7 -28.4 -4.6 0.8 -1.7 24.8 -2 0.3 -0.9 1.2 0.1 0.0 -169.3
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51	765 kV 400 kV 220 kV 132kV	VCHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI GWALIOR-ORAI SATNA-ORAI CHITTORGARH-BANASKANTHA ZERDA-BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR BHANPURA-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 S/C S/C S/C S/C S/C S/C S/C S/C S/C S	448 0 0 0 0 0 709 0 300 170 193 981 156 22 24 91 33 0	492 1922 2457 1770 996 0 1450 851 133 266 0 417 86 122 0 27 0 WR-NR	2.4 0.0 0.0 0.0 0.0 5.7 0.0 0.8 0.0 24.8 0 0.6 0.1 1.2 0.2 0.0 35.8	0.0 37.8 42.6 22.6 29.3 0.0 28.4 4.6 0.0 1.7 0.0 2 0.3 0.9 0.0 0.1 0.0 205.1	2.4 -37.8 -42.6 -22.6 -29.3 5.7 -28.4 -4.6 0.8 -1.7 24.8 -2 0.3 -0.9 1.2 0.1 0.0 -169.3
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/F 52 53 54 55	- 765 kV - 400 kV - 220 kV - 132kV - Export of - HVDC - 765 kV	VCHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR BHANPURA-MORAK MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHADRAWATI B/B BARSUR-L.SILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD	D/C	448 0 0 0 0 709 0 300 170 193 981 156 22 24 91 33 0	492 1922 2457 1770 996 0 1450 851 133 266 0 417 86 122 0 27 0 WR-NR	2.4 0.0 0.0 0.0 0.0 0.0 5.7 0.0 0.8 0.0 24.8 0 0.6 0.1 1.2 0.2 0.0 35.8	0.0 37.8 42.6 22.6 29.3 0.0 28.4 4.6 0.0 1.7 0.0 2 0.3 0.9 0.0 0.1 0.0 205.1	2.4 -37.8 -42.6 -22.6 -29.3 -5.7 -28.4 -4.6 -0.8 -1.7 -24.8 -2 -0.3 -0.9 -1.2 -0.1 -0.0 -169.3 -21.2 -21.2 -33.5
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Import/F 52 53 54 55 56	765 kV 400 kV 220 kV 132kV Export of HVDC	VCHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI GWALIOR-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BHANPURA-MORAK MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHADRAWATI B/B BARSUR-L.SILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD KOLHAPUR-KUDGI	D/C D/C D/C D/C D/C D/C 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 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	448 0 0 0 0 709 0 300 170 193 981 156 22 24 91 33 0	492 1922 2457 1770 996 0 1450 851 133 266 0 417 86 122 0 27 0 WR-NR	2.4 0.0 0.0 0.0 0.0 0.0 5.7 0.0 0.0 0.8 0.0 24.8 0 0.6 0.1 1.2 0.2 0.0 35.8 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	0.0 37.8 42.6 22.6 29.3 0.0 28.4 4.6 0.0 1.7 0.0 2 0.3 0.9 0.1 0.0 205.1 21.2 0.0 22.5 33.5 0.0	2.4 -37.8 -42.6 -22.6 -29.3 5.7 -28.4 -4.6 0.8 -1.7 24.8 -2 0.3 -0.9 1.2 0.1 0.0 -169.3
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 Emport/E 52 53 54 55 56 57	765 kV 400 kV 220 kV 132kV Export of HVDC 765 kV 400 kV	VCHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI GWALIOR-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BHANPURA-MORAK MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHASWATI B/B BARSUR-L.SILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD KOLHAPUR-KUDGI KOLHAPUR-CHIKODI	D/C	448 0 0 0 0 709 0 300 170 193 981 156 22 24 91 33 0	492 1922 2457 1770 996 0 1450 851 133 266 0 417 86 122 0 27 0 WR-NR	2.4 0.0 0.0 0.0 0.0 5.7 0.0 0.8 0.0 24.8 0 0.6 0.1 1.2 0.2 0.0 35.8 0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 37.8 42.6 22.6 29.3 0.0 1.7 0.0 28.4 4.6 0.0 1.7 0.0 2 0.3 0.9 0.1 0.0 205.1 21.2 0.0 0.2 22.5 33.5 0.0 0.0	2.4 -37.8 -42.6 -22.6 -29.3 -5.7 -28.4 -4.6 -0.8 -1.7 -24.8 -2 -0.3 -0.9 -1.2 -0.1 -0.0 -169.3 -21.2 -21.2 -0.0 -22.5 -33.5 -3.9 -0.9 -3.9
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 (mport/F 52 53 54 55 56 57 58	- 765 kV - 400 kV - 220 kV - 132kV - Export of - HVDC - 765 kV	VCHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI GWALIOR-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR BHANPURA-RANPUR BHANPURA-WORAN 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	448 0 0 0 0 0 709 0 300 170 193 981 156 22 24 91 33 0 0 0 0 0 0 0 0 0 0 0 0 0	492 1922 2457 1770 996 0 1450 851 133 266 0 417 86 122 0 27 0 WR-NR	2.4 0.0 0.0 0.0 0.0 5.7 0.0 0.8 0.0 24.8 0 0.6 0.1 1.2 0.2 0.0 35.8 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	0.0 37.8 42.6 22.6 29.3 0.0 28.4 4.6 0.0 1.7 0.0 2 0.3 0.9 0.0 0.1 0.0 205.1 21.2 0.0 22.5 33.5 0.0 0.0 0.0	2.4 -37.8 -42.6 -22.6 -29.3 -5.7 -28.4 -4.6 -0.8 -1.7 -24.8 -2 -0.3 -0.9 -1.2 -0.1 -0.0 -169.3 -21.2 -21.2 -22.5 -33.5 -39.0 -0.0 -0.0
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 51 52 53 54 55 56 57	765 kV 400 kV 220 kV 132kV Export of HVDC 765 kV 400 kV	VCHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI GWALIOR-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BHANPURA-MORAK MEHGAON-AURAIYA MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR WR (With SR) BHASWATI B/B BARSUR-L.SILERU SOLAPUR-RAICHUR WARDHA-NIZAMABAD KOLHAPUR-KUDGI KOLHAPUR-CHIKODI	D/C	448 0 0 0 0 709 0 300 170 193 981 156 22 24 91 33 0	492 1922 2457 1770 996 0 1450 851 133 266 0 417 86 122 0 27 0 WR-NR	2.4 0.0 0.0 0.0 0.0 5.7 0.0 0.8 0.0 24.8 0 0.6 0.1 1.2 0.2 0.0 35.8 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	0.0 37.8 42.6 22.6 29.3 0.0 28.4 4.6 0.0 1.7 0.0 2 0.3 0.9 0.0 0.1 0.0 205.1 21.2 0.0 22.5 33.5 0.0 0.0 0.0 0.0	2.4 -37.8 -42.6 -22.6 -29.3 -5.7 -28.4 -4.6 0.8 -1.7 24.8 -2 0.3 -0.9 1.2 0.1 0.0 -169.3 -21.2 0.0 0.0 -22.5 -33.5 4.9 0.0 0.0 1.1
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58	765 kV 400 kV 220 kV 132kV Export of HVDC 765 kV 400 kV	VCHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI GWALIOR-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR BHANPURA-RANPUR BHANPURA-WORAN 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	448 0 0 0 0 0 709 0 300 170 193 981 156 22 24 91 33 0 0 0 0 0 0 0 0 0 0 0 0 0	492 1922 2457 1770 996 0 1450 851 133 266 0 417 86 122 0 27 0 WR-NR	2.4 0.0 0.0 0.0 0.0 5.7 0.0 0.8 0.0 24.8 0 0.6 0.1 1.2 0.2 0.0 35.8 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	0.0 37.8 42.6 22.6 29.3 0.0 28.4 4.6 0.0 1.7 0.0 2 0.3 0.9 0.0 0.1 0.0 205.1 21.2 0.0 22.5 33.5 0.0 0.0 0.0	2.4 -37.8 -42.6 -22.6 -29.3 -5.7 -28.4 -4.6 0.8 -1.7 24.8 -2 0.3 -0.9 1.2 0.1 0.0 -169.3 -21.2 0.0 0.0 -22.5 -33.5 4.9 0.0 0.0
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58	765 kV 400 kV 220 kV 132kV Export of HVDC 765 kV 400 kV	VCHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI GWALIOR-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR BHANPURA-RANPUR BHANPURA-RANPUR 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 S/C S/C S/C S/C S/C S/C S/C D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	448 0 0 0 0 0 709 0 300 170 193 981 156 22 24 91 33 0 0 0 0 0 0 0 0 0 0 0 0 0	492 1922 2457 1770 996 0 1450 851 133 266 0 417 86 122 0 27 0 WR-NR	2.4 0.0 0.0 0.0 0.0 5.7 0.0 0.8 0.0 24.8 0 0.6 0.1 1.2 0.2 0.0 35.8 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	0.0 37.8 42.6 22.6 29.3 0.0 28.4 4.6 0.0 1.7 0.0 2 0.3 0.9 0.0 0.1 0.0 205.1 21.2 0.0 22.5 33.5 0.0 0.0 0.0 0.0	2.4 -37.8 -42.6 -22.6 -29.3 -5.7 -28.4 -4.6 0.8 -1.7 24.8 -2 0.3 -0.9 1.2 0.1 0.0 -169.3 -21.2 0.0 0.0 -22.5 -33.5 4.9 0.0 0.0 1.1
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 51 55 56 57 58 59	765 kV 400 kV 220 kV 132kV Export of HVDC 765 kV 400 kV	VCHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI SATNA-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR BHANPURA-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 T BHUTAN	D/C D/C D/C D/C D/C D/C D/C S/C S/C S/C S/C S/C S/C S/C D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	448 0 0 0 0 0 0 0 0 300 170 193 981 156 22 24 91 33 0 0 0 0 0 0 0 170 193 981 156 21 22 24 91 156 156 156 156 156 156 156 15	492 1922 2457 1770 996 0 1450 851 133 266 0 417 86 122 0 27 0 WR-NR	2.4 0.0 0.0 0.0 0.0 5.7 0.0 0.8 0.0 24.8 0 0.6 0.1 1.2 0.2 0.0 35.8 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	0.0 37.8 42.6 22.6 29.3 0.0 28.4 4.6 0.0 1.7 0.0 2 0.3 0.9 0.0 0.1 0.0 205.1 21.2 0.0 22.5 33.5 0.0 0.0 0.0 0.0	2.4 -37.8 -42.6 -22.6 -29.3 -5.7 -28.4 -4.6 -0.8 -1.7 -24.8 -2 -0.3 -0.9 -1.2 -0.1 -0.0 -169.3 -21.2 -21.2 -2.5 -33.5 -3.5 -3.5 -3.5 -3.5 -3.5 -3.5 -
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 51 52 53 54 55 56 57 58 59	765 kV 400 kV 220 kV 132kV Export of HVDC 765 kV 400 kV	VCHAL B/B APL -MHG GWALIOR-AGRA PHAGI-GWALIOR JABALPUR-ORAI GWALIOR-ORAI GWALIOR-ORAI CHITTORGARH-BANASKANTHA ZERDA-KANKROLI ZERDA -BHINMAL VCHAL -RIHAND RAPP-SHUJALPUR BHANPURA-RANPUR BHANPURA-RANPUR BHANPURA-WALIYA 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 S/C S/C S/C S/C S/C S/C S/C D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S	448 0 0 0 0 0 0 0 0 300 170 193 981 156 22 24 91 33 0 0 0 0 0 0 0 170 193 981 156 21 22 24 91 156 156 156 156 156 156 156 15	492 1922 2457 1770 996 0 1450 851 133 266 0 417 86 122 0 27 0 WR-NR	2.4 0.0 0.0 0.0 0.0 5.7 0.0 0.8 0.0 24.8 0 0.6 0.1 1.2 0.2 0.0 35.8 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	0.0 37.8 42.6 22.6 29.3 0.0 28.4 4.6 0.0 1.7 0.0 2 0.3 0.9 0.0 0.1 0.0 205.1 21.2 0.0 22.5 33.5 0.0 0.0 0.0 0.0	2.4 -37.8 -42.6 -22.6 -29.3 -5.7 -28.4 -4.6 0.8 -1.7 24.8 -2 0.3 -0.9 1.2 0.1 0.0 -169.3 -21.2 0.0 0.0 -22.5 -33.5 4.9 0.0 0.0 1.1