



**MADHYA PRADESH POWER TRANSMISSION COMPANY LIMITED  
STATE LOAD DESPATCH CENTRE, NAYAGAON, RAMPUR, JABALPUR**

Telephone: (0761) 2970089 Fax: (0761) 2664343/2970119 e-mail [sldcmpjbp@gmail.com](mailto:sldcmpjbp@gmail.com)

**Corporate office:** Madhya Pradesh Power Transmission Co. Ltd., Block No.2, Shakti Bhawan,  
Rampur, Jabalpur 482008, CIN-U40109MP2001SGC014880, Email-mdtransco.nic.co.in



No.07-05/SG-9B-II/1715

Jabalpur, dated:27.12.2023

To

**As per distribution list**

Sub: Minutes of 87<sup>th</sup> meeting of Operation and Coordination Committee of MP.

...

The Minutes of 87<sup>th</sup> meeting of the Operation and Coordination Committee of MP held on **31<sup>st</sup> October 2023** at Conference Hall, SLDC, MPPTCL, Jabalpur has been uploaded on the website of SLDC 'www.sldcmpindia.com' and can be downloaded. The meeting was hosted by BLA Power and was conducted in Hybrid Mode (i.e., Physically as well as online).

**V. K. Agrawal**  
**Superintending Engineer (Opn)**  
**& Member Secretary, MP-OCC,**  
**SLDC, MPPTCL, Jabalpur.**

### **Distribution List**

1. The Chief Engineer (Works), MP Power Transmission Co. Limited, Shakti Bhawan, Jabalpur, email- [ceehtmi@yahoo.com](mailto:ceehtmi@yahoo.com).
2. The Chief Engineer (T&C), MP Power Transmission Co. Limited, Jabalpur. Fax No- 0761-2665593, 2702710 Email, [ce.tnc@mptransco.nic.in](mailto:ce.tnc@mptransco.nic.in), [se2.tc@mptransco.nic.in](mailto:se2.tc@mptransco.nic.in)
3. The Chief Engineer (Transmission-East Zone), MP Power Transmission Co. Limited, Shakti Bhawan, Jabalpur. Email- [sk.gaikwad@mptransco.nic.in](mailto:sk.gaikwad@mptransco.nic.in).
4. The Chief Engineer (Transmission-West Zone), MP Power Transmission Co. Limited, Indore.
5. The Chief Engineer (Transmission-Central Zone), MP Power Transmission Co. Limited, Bijlee Nagar, Govindpura, Bhopal, email- [setncbpl@gmail.com](mailto:setncbpl@gmail.com).
6. The Chief Engineer (Plg & Des), MP Power Transmission Co. Limited, Jabalpur, Fax No- 0761-2660908 Email- [ceps321@yahoo.com](mailto:ceps321@yahoo.com), [ce.pnd@mptransco.nic.in](mailto:ce.pnd@mptransco.nic.in)
7. The Chief Engineer (Procurement.), MP Power Transmission Co. Limited, Jabalpur, .Fax No- 0761-2660908 Email – [substation\\_vi@yahoo.com](mailto:substation_vi@yahoo.com)
8. The Chief Engineer(EHT:Const.), MP Power Transmission Co. Limited, Jabalpur. Fax-0761-2661618, E-mail- [ce.ehtc@mptransco.nic.in](mailto:ce.ehtc@mptransco.nic.in).
9. The Chief Engineer(EHT:Maint&insp.), MP Power Transmission Co. Limited, Jabalpur. Fax-0761-2665593, E-mail- [ce.mni@mptransco.nic.in](mailto:ce.mni@mptransco.nic.in).
10. The Executive Director (O & M:Gen), MP Power Generating Company Limited, Jabalpur. Fax No- 0761-2664749, Email- [gcc.mppgcl@gmail.com](mailto:gcc.mppgcl@gmail.com), Email- [edomg\\_mpeb@rediffmail.com](mailto:edomg_mpeb@rediffmail.com)
11. The Chief Engineer (O&M:Hydel), MP Power Generating Co. Ltd, Jabalpur, Fax No-0761-2664749.
12. The General Manager(PM), MPPMCL, Jabalpur Email – [gm\\_pm@mptradeco.com](mailto:gm_pm@mptradeco.com) [controlroom.tradeco@gmail.com](mailto:controlroom.tradeco@gmail.com)
13. The Superintending Engineer (GCC), MPPGCL, Jabalpur Email – [segcc.mppgcl@gmail.com](mailto:segcc.mppgcl@gmail.com) [gcc.mppgcl@gmail.com](mailto:gcc.mppgcl@gmail.com).
14. The General Manger (DCC-EZ), DISCOM Control Centre, MP Poorva Kshetra Vidyut Vitaran Co.Limited, Jabalpur, Fax No- 0761-2668503, Email – [cmdez\\_ld@yahoo.co.in](mailto:cmdez_ld@yahoo.co.in).
15. The Dy. General Manager (DCC –CZ), DISCOM Control Centre, MP Madhya Kshetra Vidyut Vitaran Co. Limited, Bhopal, Fax No-0755-2580611, Email- [plm.mpcz@gmail.com](mailto:plm.mpcz@gmail.com).
16. The Executive Engineer (DCC-WZ), DISCOM Control Centre, MP Paschim Kshetra Vidyut Vitaran Co. Limited, Near Polo Ground, Jail Road, Indore, Fax No- 0731-2421554, Email- [dccindore@gmail.com](mailto:dccindore@gmail.com).
17. The Executive Engineer, Sub Load Despatch Centre, MPPTCL, Indore, Fax No- 0731-2874515, Email – [eesubldcind@yahoo.com](mailto:eesubldcind@yahoo.com).
18. The Executive Engineer, Sub Load Despatch Centre, MPPTCL, Bhopal, Fax No- 0755-2885220, Email – [aldc\\_bpl@yahoo.co.in](mailto:aldc_bpl@yahoo.co.in)
19. The General Manger(RO), MPPMCL, In front of Bhojpur Club, E-4, Arera Colony,Bhopal, Fax No-0755-2423046, [Email- Rajeev\\_keskar@rediffmail.com](mailto:Email-Rajeev_keskar@rediffmail.com)
20. The Chief Engineer (PM&C), Narmada Hydroelectric Development Corpn. Ltd, NHDC Parisar, Shamla Hills, Bhopal – 462013., Fax No- 0755-4030130, Email – [om.co.nhdc@gmail.com](mailto:om.co.nhdc@gmail.com)
21. The Chief Electrical Distribution Engineer, West Central Railway (WCR), General Manager's Office, Electrical Department, Jabalpur-482001 (MP), Fax: 0761-2627629, Email- [cede@wcr.gov.in](mailto:cede@wcr.gov.in), [dyceetrdwcr@gmail.com](mailto:dyceetrdwcr@gmail.com), M-9752415312, Mr.Satyendra Kumar (Dy.CE), Mob.9752415301 (CEDE, WCR).
22. The General Manager, Indira Sagar Power Station, NHDC Office complex, PO : Narmada Nagar, Distt : Khandwa (MP) – 450 119, Fax No- 07323-284080, Email – [nhdc-isp@rediffmail.com](mailto:nhdc-isp@rediffmail.com)
23. The General Manager, Omkareshwar Power Station, Prashnsnik Bhawan, Urja Vihar, Sidhwarkut, Distt : Khandwa (MP) – 450 554, FaxNo-07280-271703, Email- [omkareshwar.nhdc@gmail.com](mailto:omkareshwar.nhdc@gmail.com).
24. The Director (Projects), BLA Power Limited, At : Niwari, PO: Khorsipan, Tah : Gadarwara, Distt ; Narsinghpur 487 551, Fax No. 07791-243667 / 243669, Email – [manish@bla.co.in](mailto:manish@bla.co.in), [electricalop@bla.co.in](mailto:electricalop@bla.co.in)
25. The Sr. Vice President, Jaiprakash Power Ventures Ltd., Village Sirchopi Subpost Office-Agasod, Post Office-Bina- 470113 Distt- Sagar, Fax No. 07580-277200, Email – [jbtppbina400kvswitchyard@gmail.com](mailto:jbtppbina400kvswitchyard@gmail.com) [jptpp.switchyard@jalindia.co.in](mailto:jptpp.switchyard@jalindia.co.in).
26. The Senior Manager Operation Satpura Transco Pvt. Ltd., Satpura Colony, Betul Road, Old Itarsi, Distt. Hoshangabad, Email – [sachin.ashish@apraava.com](mailto:sachin.ashish@apraava.com), [manoj.kumar@apraava.com](mailto:manoj.kumar@apraava.com).
27. M/s Ujaas Energy Ltd. 701, NRK Business park, Vijay Nagar Sqaure, Indore – 452010, Email id :-[solar@ujaas.com](mailto:solar@ujaas.com)
28. M/s Suzlon Global Services Ltd., 1090, Scheme no. 114, Park-2, Ring Road, Universal Hospital Row, Email- [deepesh.sankwa@suzlon.com](mailto:deepesh.sankwa@suzlon.com), Indore – 452010, [Badree.hirve@suzlon.com](mailto:Badree.hirve@suzlon.com).
29. Chief General Manager, Power Grid Bhind-Guna Transmission Limited ((PBGTL), Plot no. 54, Sama savli Road,Vadodra-390024 (Gujarat)
30. M.P. Power Transmission Package –II Limited, (Adani Transmission Ltd.), Shantigaram Near Vaisnav Devi, Circle, SG Highway, Khodiyar, Ahemdabad-382421(Gujarat). [AmitKumar.Dixena@adani.com](mailto:AmitKumar.Dixena@adani.com), [Abhishek.Kukreja@adani.com](mailto:Abhishek.Kukreja@adani.com)

**MINUTES FOR 87th MEETING OF OPERATION & COORDINATION COMMITTEE OF MP  
HELD ON 31<sup>st</sup> OCTOBER 2023 AT 11:00 AM AT CONFERENCE HALL, SLDC, MPPTCL,  
NAYAGAON, JABALPUR.**

The 87th meeting of Operation & Coordination Committee of MP held on 31st OCTOBER 2023 at 11:00 AM at conference hall, SLDC, MPPTCL, Nayagaon, Jabalpur was hosted by BLA Power. The list of participants is enclosed as **Annexure -1.0**.

Shri Vivek Agrawal, Superintending Engineer SLDC & Member Secretary OCCM welcomed all the participants and requested all for introduction.

Thereafter, the agenda was discussed.

**ITEM NO. 1 : CONFIRMATION OF MINUTES :** Minutes of 86<sup>th</sup> meeting of Operation & Coordination Committee of MP were forwarded to the committee members vide No. 07-05/SG-9B-II/1416 Jabalpur dated 26.10.23 respectively. No comments have been received.

**ITEM NO.2: REVIEW OF SYSTEM OPERATION DURING THE MONTHS AUGUST 2023 TO SEPTEMBER 2023.**

**2.1. Frequency Particulars:** The committee was apprised about the detailed frequency particulars for the month of **AUGUST 2023 TO SEPTEMBER 2023** are enclosed at **Annexure-2.1**. The brief detail of frequency profile is given here under:-

Month	Average frequency	Minimum Integrated frequency over an hour	Maximum integrated frequency over an hour	Instantaneous Minimum Frequency	Instantaneous Maximum Frequency
AUGUST 2023	50 Hz	49.09 Hz	50.24 Hz	49.51 Hz	50.29 Hz
SEPTEMBER 2023	50 Hz	49.61 Hz	50.23Hz	49.49 Hz	50.33 Hz

**2.2 Operational Matters**

**2.2.1 Operational Discipline:** The committee was apprised about the frequency profile for the months **AUGUST 2023 TO SEPTEMBER 2023** is as given below for discussion by the committee:

	%age of time when frequency was	Aug-23	Sep-23
3.1	Above 50.30 Hz	0.00	0.00
3.2	Between 50.05 Hz and 50.30 Hz	13.21	13.95
3.3	Between 50.00 Hz and 50.05 Hz	38.00	34.99
3.4	Between 49.9 Hz and 50.00 Hz	41.16	44.91
3.5	Between 49.5 Hz and 49.9 Hz	7.63	6.15

3.6	Between 49.2 Hz and 49.5 Hz	0.00	0.00
3.7	Below 49.2 Hz	0.00	0.00

**2.2.2 Voltage Profile:** The committee was apprised about the maximum and minimum voltage as recorded at important 400 KV s/s in MP Grid from **AUGUST 2023 TO SEPTEMBER 2023** is enclosed as **Annexure – 2.2.2**. Representative from SLDC informed the committee that the voltages at Kirnapur was high throughout the rainy season and requested P&D and T&C MPPTCL to expedite the work of commissioning of 125Mvar Bus Reactor at 400KV S/s Kirnapur.

**2.2.3 STATUS OF CAPACITOR BANKS IN SUB-TRANSMISSION SYSTEM:** The committee was apprised about the updated information of the status of capacitor banks in sub-transmission system as on 30<sup>th</sup> SEPTEMBER 2023 as submitted by DISCOMs is detailed below:

DISCOM	Capacitor bank installed in good condition (No)				Capacitor Banks healthy but not in service due to control ckt problem			Capacitor bank installed but defective & are repairable (No)			Requirement of repair against each unit (No)	Requirement against non-repairable capacitor banks		Capacitor banks already covered under ADB T-V		Balance capacitor banks to be covered in other schemes	
	600 KVAR	1200 KVAR	1500 KVAR	1800 KVAR	600 KVAR	1200 KVAR	1500 KVAR	600 KVAR	1200 KVAR	1500 KVAR	No of 100 KVAR Units required	600 KVAR	1200 KVAR	600 KVAR	1200 KVAR	600 KVAR	1500 KVAR
EZ	373	122	142	-	8	6	13	30	5	2	75	0	0	0	0	-	0
CZ	0	517	1126	197	-	-	-	0	0	0	0	0	0	0	0	0	538
WZ	514	518	845	-	0	0	0	55	52	62	545	9	16	0	0	-	0

Discoms were requested to ensure the status of capacitor banks and plan for capacity addition in the low voltage pockets.

**2.2.4 Status of Shunt Capacitor Banks installed at various EHV Transmission Substation:** The committee was apprised about the updated information of the status of installed capacitor banks (in MVAR) in EHV transmission system as on 30.09.2023 as submitted by MPPTCL is given below: -

Voltage Class	Capacitor bank installed as on 30.06.2023 (MVAR)	Capacity Added after Last OCC Meeting (MVAR)	TOTAL CAPACITY AS ON 30.09.2023 (MVAR)	Capacitor Bank Installed but defective & are not repairable (No & MVAR)
220 KV	0.00	0.00	0.00	All in Service
132 KV	1139.00	0.00	1139.00	
33/36 KV	7668.50	48.00	7716.50	
TOTAL	8807.50	48.00	8855.50	

## 2.2.5 U/F and df/dt Relay Operation

- (i) **U/F and df/dt Relay Operation:** The committee was informed that during **AUGUST 2023 TO SEPTEMBER 2023** , frequency did not touch 49.40 Hz. There was no df/dt operation during the same period. MPPTCL informed that under Frequency Plan for all the stages have been implemented and in operation.
- (ii) **Defective u/f, df/dt Relays:** The committee was apprised that MPPTCL has informed that all the df/dt and U/F relays are in operation, where the U/F relays are not available, the numerical relays programmed for under frequency operation. All U/F stages are in good/ healthy & working condition.

### 2.3 POWER CUTS / LOAD RESTRICTIONS/DIFFERENTIAL LOAD SHEDDING BY DISCOMS & GROUP ALLOCATION TO 33 KV FEEDERS: -

- (i) The committee was apprised about the details of DISCOM wise Power supply given to various domestic categories during the period **AUGUST 2023 TO SEPTEMBER 2023** is enclosed at **Annexure 2.3(i)**.

- (ii) **Group Allocation to Newly Commissioned existing EHV substations:-** The committee was apprised about the region wise list of 33 KV feeders emanating from various newly commissioned/existing EHV substations for which groups have not been allocated provided by T&C. **The DISCOM wise details of pending group allocation to 33 KV feeders as provided by DISCOMS is given below:-**

SN	DISCOM	Region	No of 33 KV feeders for which groups to be allocated
01	EAST	Jabalpur	07
02		Sagar	09
		Seoni	08
03		Satna	49
04		Total	73
05	WEST	Indore	04
06		Khandwa	14
07		Mandsaur/Ujjain	23
08		Total	41
09	CENTRAL	Bhopal	23
10		Gwalior	01
		Guna	05
11		Total	29
TOTAL		Grand Total	143

DISCOMs are requested to furnish the details as per list enclosed at **Annexure-2.3(ii)** in the meeting.

In view of the above it is requested that the order copy for which group have been allocated may please be submitted to T&C, MPPTCL under intimation to SLDC.

### ITEM NO. 3 : OPERATIONAL PLANNING:

**3.1 Generating Units under planned outage and proposed maintenance program:** The committee was apprised about the latest status for annual maintenance /outages of thermal generating units of MPPGCL as provided by ED(O&M:Gen) for FY-2023 – 2024 is enclosed as **Annexure-3.1**.

**3.2 Proposed shutdown program of Transmission lines / Transformers:** The committee was apprised about the proposed shutdown of transmission elements for the period 01.06.2023 to 31.08.2023 as submitted by T&C, MPPTCL is enclosed as **Annexure-3.2**.

**3.3 Long Outages of transmission elements and protections:** The committee was apprised about the status submitted by MPPGCL /MPPTCL are given below:-

Sr. No	Line/Transformer/ etc under long Outage	Outage date	Reason	Response from Utility
1	220 KV ATPS – Railway Traction Ckt - 1	15.05.2019	B-Phase LA Burst	MPPGCL in 79th OCCM intimated that the line is ready for charging from ATPS end. Railway replied that the line cannot be charged from railway end as it was suspected that high voltage impulse is generated in charging the line which is the cause of frequent failure of power transformers. Railway was again requested to submit the status or the losses imposed by generation for keeping the ckt charged from ATPS end shall be beard by Railway.
2	50Mvar line reactor of 400 KV Indore – ISP Ckt-II at 400 KV Indore end	02.02.2022	Y-PH BUCHOLZ, IT GOT BURST AND CAUGHT FIRE.	Representative from P&D intimated that estimate has been sanctioned so the reactor is expected by March 2024.
3	3X40MVA, 220/132KV, MITSUBISHI X'mer at 220 KV S/s Itarsi	28.04.2023	Differential and Buchholz trip indication.	Transformer is replaced by New 160MVA transformer due to aging on Dt. 03.08.2023
4	50MVA, 132/33KV BBL X'mer at 132 KV S/s Damoh	26.05.2023	Buchholz trip indication	X'MER replaced by 50MVA 'Transformer on Dt. 02.09 .2023
	40MVA, 132/33KV BHEL X'mer 220 KV S/s Ratlam	28.06.2023	Buchholz trip indication	X'mer is being replaced by 50MVA X'mer by Sep-2023. X'MER replaced by 50MVA Transformer on Dt. 05. 10.2023

	63MVA, 132/33KV BBL Morar (Gwator) 132Kv s/s	05.09.2023	Differential trip indication	X'mer replaced by 63MVA Transformer on Dt. 14.10.2023
	63MVA, 132 / 33Kv BBL, at Harda 132Kv s/s	13.08.2023	high content of key gases in DGA	MPPTCL informed that X'mer replaced by 63MVA Transformer on 25.10.2023.
	40MVA, 132/33KV BBL make Transformer at Lalgathi (Bhopatf 1B2KV s/s	19.07.2023	Differential, Buchholz trip indication	replaced by 50MVA Transformer on Dt. 17.10.2023

Any transmission element/ EHV element under outage, which has not been intimated/included under aforesaid outage list, should be invariably intimated to SLDC. All entities are requested to ensure the same. The utility may submit the latest status.

#### **ITEM NO. 4 : OPERATIONAL STATISTICS FROM AUGUST 2023 TO SEPTEMBER**

##### **2023 :**

The details of actual generation, Schedule from Central Sector, demand etc. are given in the following Annexures:

- Annex. 4.1** Unit wise actual Generation of MPPGCL thermal Units and station wise Generation of MPPGCL & NHDC Hydel Units.
- Annex. 4.2** Power Supply Position(Energy Balance Sheet).
- Annex. 4.3** Hourly Average of Availability and Demand.
- Annex. 4.4** Hourly average schedule Vs Drawal of DISCOMs.

#### **ITEM NO. 5: SYSTEM DISTURBANCE IN MP**

##### **5.1 REPORTING OF FLASH REPORT, DR AND EL FOR 400KV, INTERSTATE TRANSMISSION ELEMENTS & DETAILED TRIPPING REPORT:-**

The committee was apprised that as per the provisions of Regulation 5.2 (r) of CERC (Indian Electricity Grid Code) Regulations 2010 and Regulation of 5(9) of CERC (Indian Electricity Grid Code) (First Amendment) Regulations, 2012 all the Regional Entities of the Region shall furnish the tripping details including DR & EL output to RLDC with in 24 hrs of the event for analysis and identify the real-time measures required in future to ensure secured grid operation. The flash report is also required to be furnished to SLDC within an hour of tripping. Sometimes It is observed that FLASH REPORT are being made available but not DR & EL of tripping of transmission grid element by the State Grid Entities.

It has been intimated by WRLDC that in case of tripping of Inter State & inter Regional lines of voltage class 220 KV & above level, a tripping report along with the DR/EL files shall be submitted to WRLDC within 24Hrs. Also the DR/EL shall be submitted to WRLDC tripping portal, details of which were previously

circulated. The incidences / tripping's which occurred during the month of AUGUST-2023 to SEPTEMBER-2023 for which the details have not been submitted are:-

S NO	Event at s/s	Date	Flash report	DR/EL	REMARK
1	220 kV Bhanpura-Ranpur	14-09-2023	Not submitted	Not submitted	FIR, DR, EL to be uploaded within 24 hours
2	220kV Mehgaon-Auraiya S/C	20-09-2023	Not submitted	Not submitted	A/R not attempted for single phase fault, MPPTCL/ NTPC may kindly look into the issue FIR, DR, EL to be uploaded within 24 hours
3	220kV Malanpur-Auraiya S/C	20-09-2023	Not submitted	Not submitted	A/R not attempted for single phase fault, MPPTCL/ NTPC may kindly look into the issue FIR, DR, EL to be uploaded within 24 hours
4	220kV Malanpur-Auraiya S/C	05-08-2023	submitted	submitted	A/R not attempted for single phase fault, MPPTCL/ NTPC may kindly look into the issue

T&C MPPTCL informed that the carrier communication at NTPC end is kept out by NTPC hence A/R does not operate at Malanpur/Mehgaon end. He also informed the committee that A/R of most of the lines connected with PGCIL/NTPC end is kept out from PGCIL/NTPC end. Advisor SLDC informed that non operation of A/R of Inter regional is a serious issue and is violation of IEGC and requested MPPTCL to ensure it healthiness/operationalization through correspondence with PGCIL. He also requested T&C to provide the list of lines to SLDC for which the A/R has been disabled by PGCIL.

## ITEM NO. 6.0 : IMPORTANT OPERATIONAL ISSUES:-

### 6.1 STATUS OF COMPLETION OF ONGOING SCHEMES FOR COMMISSIONING OF REACTORS / TRANSMISSION ELEMENTS:-

The committee was apprised about the committee was apprised about the present status regarding schedule and commissioning of reactors / transmission elements is as below:-

S.No.	400 KV S/s	Size MVAR	Implementing Agency	Expected Date of Commissioning as intimated in last OCC
1.	Line reactor on 400 KV S/s	50 MVAR Line	MPPTCL	P&D informed that the reactor is in the tendering stage, it will be completed by



	Satna (PG) – Sagar Ckt at 400 KV S/s Sagar end.	Reactor		Dec-22, after that it will require 12 months for commissioning work. P&D informed the committee that the expected date of commissioning is January 2024
2.	400KV S/s Sagar	125 MVar Bus Reactor	MPPTCL	Some shifting work is required after that Reactor will be ready for commissioning. It is also to intimate that a revised/recent EI approval shall be provided prior to its charging as the element was not in service for more than 6 months. P&D informed the committee that the expected date of commissioning is January 2024.
3	400 KV S/S KIRNAPUR	125 MVar Bus Reactor	MPPTCL	P&D informed the committee that the expected date of commissioning is March 2024.

**6.2 PROTECTION AUDIT :-** The committee was apprised about that in 132nd PCM held on 18/04/2018, it was decided that the protection audit of all critical S/S of 220 kV and all 400 kV level S/S newly commissioned S/S's immediately shall be carried out on specified interval of time (**i.e. within one year of commissioning**) and S/S's where protection audit has been carried out **5 years** back.

CERC vide its order dated 21.02.2014 in respect to petition No. 220/MP/2012 filed by POWERGRID have directed that CTU and SLDCs shall submit quarterly Protection Audit Report to the respective RPC latest by 15th day of the first month of next quarter and RPCs shall submit the report to the Commission latest by 15th day of the second month of next quarter. The Member Secretary of Regional Power Committees shall monitor the protection related issues and bring to the notice of the Commission any instance of non-compliance of the Regulation 1.5 of the Grid Code in respect of the protection related issues considered in the instant petition.

WRPC in 153<sup>rd</sup> PCM requested all the entities to submit the compliance report at the earliest to SLDC. Thereafter WRPC conducted a separate meeting for review the progress of compliance of protection audit which was held on 12.10.2023 and again requested all the entities to submit the protection audit compliance report to SLDC in the prescribed format. However compliance reports from T&C-MPPTCL and NHDC ISP & OSP is still awaited even after continuous persuasion by SLDC.

All the concerned entities were requested to provide the Protection Audit Compliance Report in the 86<sup>th</sup> OCCM of MP. CE(T&C)-MPPTCL, NHDC (ISP & OSP) is again requested to provide the compliance report to SLDC at the earliest.

WRPC also intimated that Protection Audit of all critical S/Ss above 220kV level shall be carried out as detailed below:

- i. TPPA of all 220 kV critical s/s, all 400 kV above substations is required to be carried out once in 5 years**

**ii. All newly commissioned 400 kV and above substations shall be audited with in 6 months**

In 86<sup>th</sup> OCCM of MP, T&C-MPPTCL was requested to submit the dates of the last Third Party Protection Audit Conducted at 400KV S/s of MPPTCL. However the details have not been received from T&C,MPPTCL. It is requested to provide the details in the meeting.

Further list of critical 220KV S/S have been provided by T&C-MPPTCL which shall be discussed in the meeting to finalize the programme for protection audit to be conducted.

Representative from T&C-MPPTCL ensured that the protection audit report shall be submitted shortly and also requested the committee to discuss the issue of protection audit in a separate meeting. He also ensured the committee that the list of 400KV S/s along with the date of its last protection audit shall be provided to SLDC shortly.

Further it was decided in the meeting that a separate meeting shall be called to identify/finalize the critical S/s for which the protection audit shall be carried out and also to finalize the format of protection audit as per CEA guidelines.

NHDC was also requested to provide the protection audit compliance report of ISP and OSP.

**6.3 THIRD PARTY PROTECTION AUDIT NODAL OFFICER AND TEAMS:-** The committee was apprised that in 153rd PCM meeting it was decided that all States/Utilities will nominate a Nodal Officer for their system for coordination of the third-party protection Audit activity. Nodal officer will ensure the suitable arrangements of the lodging and boarding as per the entitlements of the TPPA team members.

<b>Sr. No.</b>	<b>State Team who will carry out TPPA</b>	<b>Whose TPPA will be carried out</b>	<b>Details of nodal officer</b>	<b>Details of Members of TPPA Teams</b>
1.	CSPTCL	MPPTCL	TO BE FINALIZED	TO BE FINALIZED
2.	MPPTCL	CSPTCL and other IPPs	TO BE FINALIZED	TO BE FINALIZED

Accordingly, it was requested to nominate 20 no. officers from T&C-MPPTCL, 5 no. officers from NHDC, 3 no. officers from JP-Bina & 3 no. officers from BLA. Nominations from T&C, NHDC have been received. However nomination from JP Bina is still awaited. Hence JP Bina is requested to provide the nominations to SLDC at the earliest.

Further MPPGCL is requested to nominate 10 no. officers in compliance to the above.

Representative from MPPGCL intimated that due to shortage of manpower it is not possible to nominate 10.no. officers. However 5 no. officers shall be nominated in compliance to the above.

Representative from JP Bina also intimated that due to shortage it is difficult to nominate officials. However 1 no. officer shall be nominated shortly.

**6.4 REGARDING DATA SUBMISSION FOR PREPARING THE TTC/ATC BASE CASES AND INTERCONNECTION STUDIES:-** As per Regulation 33 of IEGC 2023 TTC/ATC assessment and interconnections studies to be carried out NLDC/RLDCs/SLDCs. In this regard CERC Approved procedure for Assessment of Transfer Capability has been notified on 29.09.23. The procedure is enclosed as **Annexure-6.4**. Details of data submission along with timelines are given in the procedure.

In compliance to the above procedure STU-MPPTCL is requested to submit the node wise data to SLDC on 6<sup>th</sup> Day of 'M-12' Month, 5<sup>th</sup> Day of 'M-6' Month and 5<sup>th</sup> Day of 'M-1' Month.

P&D/STU,MPPTCL informed the committee that P&D can only provide details of new elements to be integrated in the grid and P&D cannot provide the node wise forecasted details.

Further it was decided that SPC-MPPMCL shall provide the node wise forecasted details to SLDC and P&D-MPPTCL shall provide the details of new elements to be commissioned.

**6.5 LOAD DROPPING SCHEME AT 400 KV SUBSTATIONS TO HANDLE EMERGENCY CONDITION:-** The Load Dropping Schemes implemented is utmost important from grid security point of view and further in the ensuing rabi season for reliable/secure operation of the grid it is expected that major elements / areas in MP Grid needs to be operated nearly to full load condition and in radial mode, hence load drop scheme plays an important role by avoiding overloading and tripping of elements in N-1 condition and overload condition. Therefore, its healthiness and availability shall be ensured on regular interval of time.

Further discussed in 80<sup>th</sup> & 86<sup>TH</sup> OCCM of MP, T&C is requested to provide the details (setting for operation of load drop scheme, feeders included, quantum of load relief to be obtained etc) of load drop scheme installed and to test the load trimming schemes installed on yearly basis and provide a report to SLDC by the month of every year in the format as below with an e.g.

S.NO	SUBSTATION	ELEMENT ON WHICH LOAD DROP INSTALLED	CRITERIA/SETTING AT WHICH LOAD DROP WILL OPERATE	ELEMENTS/FEEDERS TO PROVIDE LOAD RELIEF	QUANTUM OF LOAD RELIEF TO BE OBTAINED	TESTED (YES/NO)	LOAD RELIEF OBTAINED DURING TESTING	REMARK
1	SATNA PGCIL	315 MVA ICT - 1, 2 & 3	110% OF CURRENT LOADING ON ANY OF THE ICT WITH 2.5SEC. DELAY	132 KV SATNA - PAWAI CKT 133 KV SATNA - NAGOD CKT 134 KV SATNA - MAJHGAWAN CKT	120MW			
2								
3								

In 86<sup>th</sup> OCCM of MP, T&C-MPPTCL was requested to review the existing load drop scheme and shall revise the load drop scheme if required according to the changes/augmentation the network under intimation to SLDC and as also requested to provide the testing report to SLDC, however the testing report is still awaited from T&C-MPPTCL.

T&C-MPPTCL informed the committee that the report shall be submitted shortly.

## **ITEM NO. 7: BLACK-START MOCK DRILL OF HYDEL POWER STATIONS:**

**7.1 BLACK START MOCK DRILL OF HYDEL STATIONS OF MP:-** During 2023-2024 Black Start Mock Drill proposed to be conducted at various Hydel power station of MP is detailed as mentioned below:-

S.NO.	NAME OF HPS	PROPOSED/TENTATIVE DATE OF MOCK DRILL
1.	PENCH HPS	Mock drill conducted by Maharashtra on 12.09.2023
2.	BARGI HPS	Conducted in May 2023
3.	BIRSINGHPUR HPS	Conducted in Dec 2022
4.	MADIKHEDA HPS	Conducted 22.08.2023
5.	TONS HPS	Shall be conducted in first week of December 2024.
6.	ISP HPS	Cannot be conducted due to failure / non-availability of Line Reactor of 400 KV ISP – Indore Ckt – 2 at Indore end.
7.	OSP HPS	NHDC proposed the Month of October for the Mock Drill.
8.	RAJGHAT HPS	Conducted on 20.10.2023

## **ITEM NO. 8 : AVAILABILITY BASED TARIFF (ABT) RELATED ISSUES:**

### **8.1 Non availability of Interface meter data due problem in AMR facility, Including AMC list and Replacement meters:**

1. SLDC representative informed in previous OCCM that data of around 13 Nos. ABT meters installed at the interface points of Xmers / Feeders are not being downloaded through AMR system of SLDC due to problem in SIM card, no network or meter defective. The list of these interface points is shown in Annexure-I. These meters are included in AMC contract. CE(T&C) office is requested to issue instructions to field officers for resolving the issues so that meter data is downloaded remotely at SLDC. CE(T&C) office representative informed that instructions shall be issued to field offices for resolving problem in SIM card, no network or meter defective in coordination with M/s Secure Meters Ltd. for data downloading remotely.

2. SLDC representative informed that Around 10 Nos. ABT meters are installed at the interface points of newly commissioned substation / Xmers as shown in Annexure-II are not include in AMC list. The list of meters is already sent to CE(T&C) office vide email dated 31.08.2023 & 26.10.2023. He requested CE(T&C) office to include the list of newly installed meters in the existing AMC contract (Order No. 04-04/ TC-AMR/ SII/ Addl. Order/1799/310 dated 04/05/2022 so as to ensure complete data availability of meters. CE(T&C) office representative informed that they are including the list of newly installed meters in the existing AMC contract.

3. SLDC representative informed that Around 90 Nos. old meters replaced by field offices at the interface points of T-D are of sliding window type which is not recording the correct energy data

in 15 minutes time block. CE(T&C) office is requested to issue instructions to field officers to replace these meters with SAMAST compliant meters. The list of meters is enclosed herewith as Annexure-III. CE(T&C) office representative informed that they shall issue instructions to field offices for replacement of these meters with SAMAST compliant meters.

## **8.2 Non availability of JMR data of Interface points of MP Power Transmission Package -II Limited:**

SLDC representative informed that JMR data of interface points of newly commissioned substation / Xmers of MP Power Transmission Package -II Limited received by SLDC is not in proper format. Further, complete data of newly commissioned substations / Xmers is not received for the month of Sept 2023. MPPTP-IIL is requested to furnish the JMR data in SLDC format enclosed herewith as Annexure-IV every month for checking / verification of meter data. He further requested MPPTP-IIL to provide AMC of their interface points so as to ensure the completeness of weekly data received through their AMR system. MPPTP-IIL representative informed that they will send JMR data to SLDC on weekly / monthly basis. MPPTP-IIL also ensured to provide AMC of their interface points so that complete data is received through their AMR system installed at SLDC.

## **8.3 Non receipt of ABT meter data of Railway TSS through AMR System & JMR:**

SLDC representative stated that Railway has informed in the previous OCCMs that the proposal of AMC contract to M/s Secure Meters Ltd. is under process and they also ensured for timely receipt of meter data / JMR data at SLDC on weekly / monthly basis for issuance of accounts. However, in spite of repeated requests from SLDC, the complete meter data of Railways is not received by SLDC. He requested Railways once again to provide following assistance to SLDC for timely issuance of accounts on weekly / Monthly basis-

1. Issue instructions to concerned officials for providing the weekly / monthly JMR data of TSS end meters to SLDC.
2. In case of missing meter data and JMR data, Nodal officer shall send weekly / monthly meter data through email within two days on request of SLDC.
3. 55 Nos. ABT (main, check & standby) meters installed at TSS end for the month of Sept-2023 has not communicated with SLDC AMR system list enclosed as Annexure-V. Also, manually downloaded meter data of these TSS is not received by SLDC despite repeated requests from SLDC.
4. Provide AMC for AMR system of meters installed at TSS and GSS end for successful downloading of meter data.

Railway representative informed that their management has given approval for tendering process of AMC contract and ensured they will send JMR and load survey data to SLDC on weekly / monthly basis. Further, WCR has assured to coordinate with M/s Secure Meters Ltd. for data downloading remotely.

## **8.4 Non-receipt of ABT meter data of Solar Generating station:**

SLDC representative informed that meter data of some pooling stations qualified for RE DSM. The list of missing data of meters has already been emailed on monthly basis but, SLDC is not receiving the meter data timely. The list of meters whose data is not received at SLDC is as under:

Sr. no.	Feeder Name	Location	Meter No
1	UJAAS-2 BAROD	220KV S/S BAROD	XE525399

2	VIVAAN SOLAR -2 MAKDON	132KV S/S MAKDON	XC529587
3	33KV VIVAAN SOLAR -1 TARANA	132KV S/S MAKDON	XD501478

SLDC requested to DCC Indore to take-up the issue with concerned officials for not receiving meter data of above meters. DCC Indore has informed that concerned SE(O&M) have been intimated for taking necessary action for data downloading remotely.

#### 8.5 Non-receipt of ABT meter data and JMR data of M/s Orient Green Ltd.:

SLDC is not receiving the meter data (Main & Check) and JMR data of M/s OGPL, Gadawara connected at 132KV Gadawara S/s. CE(T&C) office is requested to instruct AE substation, Narsinghpur to provide JMR data in SLDC format. CE(T&C) office representative informed that they have issued instructions to field officers for sending the JMR and load survey data to SLDC.

#### 8.6 Time drift in ABT meter installed at the pooling stations of Wind and Solar Generating Stations and Sliding Window problem:

SLDC representative stated that ABT meters installed at the following Pooling Stations of Wind and Solar Power Project has time drift and thus not recording the correct data. SLDC has requested to QCA / Generators with copy to concerned licensee vide letter no 07-05/REG-201/147 dated 25/01/2021 and letter no 07-05/REG -201/2215 dated 30.11.2021 for time synchronization of the ABT meters with GPS so that correct DSM account of these Wind and Solar Projects is issued by SLDC.

Sr. no.	FEEDER	SUBSTATION	ZONE (Discom)	Meter No.	TIME DRIFT IN MINUTES
1	UJAAS I SUSNER	132KV S/s Susner	WZONE	XB571653	427.00
2	UJAAS-1 BERCHHA	132KV S/s BERCHA	WZONE	XB571652	180.00
3	GLOBUS STEEL & POWER	132KV S/s SITAMOU	WZONE	XC562469	126.00
4	UJAAS-1 RAJGARH (BIORA)	220KV S/S RAJGARH BIAORA	CZONE	MPP28513	98.00
5	UJAAS 1 ICHHAWAR	132KV S/S ICHHAWAR	CZONE	MPC58881	32.00
6	UJAAS 2 SITAMAU	132KV SITAMAU	WZONE	XD501479	24.00
7	33KV TODAY CLEAN ENERGY FDR-II	220KV S/S BAROD	WZONE	XD511507	21.00

Further, ABT meters installed at the following Wind and Solar Generating Stations are recording the 15 minutes block wise data on sliding window principal thus blockwise data do not match with midnight data. SLDC has requested to Generators with copy to concerned licensee vide letter no. 2353 dated 31/08/2019, letter no. 2771, dated 16/10/2019, letter no. 809 & 810 dated 03/06/2020 and letter no 07-05/REG -201/2215 dated 30.11.2021 for immediate replacement of these ABT meters.

Sr.No.	FEEDER NAME	SUBSTATION	ABT METER No.	ZONE	QCA NAME
1	33KV SUZLON-V (SUSNER-III)	132KV S/S SUSNER	XE479867	WZONE	RECONNECT ENERGY SOLUTION PVT LTD
2	33KV GI POWER PVT. LTD.	220KV S/s MAKDON	X1071843	WZONE	KREATE TECHNOLOGY PVT LTD
3	SIMCON FEEDER -2	220KV GANJBASODA	Y0327309	CZONE	MANIKARAN PVT LTD
4	M/S SUZLON INFRA. MAHURIYA 1	132KV S/S SUSNER	XE479866	WZONE	RECONNECT ENERGY SOLUTION PVT LTD

SLDC representative requested the Licensee to take-up the issue with concerned officials for time synchronization and replacement of ABT meters. He further requested to provide monthly status of those meters in which correction of time drift and replacement/ reconfiguration of meters based on sliding window principle were done.

DCC Bhopal and Indore has informed that concerned nodal officer / SE(O&M) / Commercial Section have been intimated for taking necessary action for time synchronization and replacement of meters..

#### **8.7 Verification of captive status of Generating Plants and their Users:**

SLDC representative informed that it is already intimated in the previous OCCM\_85 & 86 that Hon'ble M.P. Electricity Regulatory Commission vide order dated 24.03.2023 has authorized Chief Engineer (SLDC), MPPTCL, Jabalpur as the "Designated Authority" under Regulation 5.1 of the Madhya Pradesh Electricity Regulatory Commission (Verification of Captive Generating Plants and Captive Users) Regulations 2023 for determination of the captive status of Captive Generating Plants and Captive Users. The Hon'ble Commission vide aforesaid order has also directed that Designated Authority shall intimate the fulfillment of condition in regard to the captive status to the Captive Generating Plant / Captive Users and the Distribution Licensee by the 15<sup>th</sup> July 2023. Hon'ble MPERC has issued the procedure for verification of Captive Status of Generating Plants and Users which is applicable for FY-2023-24.

SLDC vide letter no. 462 dated 13.04.2023, 587 dated 08.05.2023, 805 dated 20.06.2023, 927 dated 12.07.2023 and 1044 dated 01.08.2023 has requested the commercial sections of Discoms to provide the information's in respect of Captive Generating Plants and Captive Users under area of their jurisdiction for verification of captive status of Generator and Users so that information could be submitted timely to Hon'ble Commission. The required information of CPP has been received from West Discoms only, the information is pending from Central & East Discom.

DCC's Central & East Discom representative stated that they will take up the matter with their commercial sections for timely submission of information to SLDC.

## **ITEM NO. 9: SCADA and E&T RELATED ISSUES**

### **9.1 INTEGRATION OF INTERFACE ENERGY METERS INTO RTUS FOR PROVIDING REAL TIME DATA TO SLDC SCADA/EMS SYSTEM:-**

As per WRPC decision, The Interface Energy meters installed at interface points are to be integrated into SCADA/EMS system installed at SLDC Jabalpur. By implementing this, all the interface points of STU with ISTS, real time data of interface meters can also be integrated in SCADA for better management of drawl of State from the Regional Grid. Further WRPC is constantly monitoring the progress regarding installation of Interface Energy meters at interface points with SCADA/EMS system. The list of interface point where integration is to be done is provided earlier and again enclosed herewith as **Annexure-I**.

The matter regarding integration of energy meter with RTU at MPPGCL and MPPTCL S/s was also discussed in the meeting dtd. 23.12.21 and various OCCMs at SLDC and list of interface point have already been shared to official of MPPGCL and MPPTCL. However No significant progress is observed in this matter.

During the meeting, it was decided that the integration work of Interface meters with RTUs at all the interface point /Drawl point shall be carried out at the earliest, for which PGCIL permission shall be obtained. Further, MPPGCL official informed that integration of Energy meter at STPS at the interface point of 400 KV Feeder Itarsi(PG), Seoni (PG), and Koradi (MH) and providing real time telemetry data at SCADA system installed at SLDC shall be carried out after procurement of energy meter.

### **9.2 REPLACEMENT OF RTUS IN THERMAL POWER STATIONS:-** The matter was taken up by SLDC in various OCCM meetings as well as in separate SCADA and communication meetings held with power station officers and status as per the last OCC Meeting is summarized hereunder.

- (i) STPS: - it was informed by MPPGCL they are planning to procure new RTU instead of exploring the possibility of integrating the telemetry of thermal Power Stations through existing SCADA system at Power stations at STPS PH-IV.
- (ii) SGTPS: - Procurement of New RTU is in process and is under budgetary offer stage. SLDC requested to provide present status and time line regarding procurement of RTU.
- (iii) ATPS:- MPPGCL engineer informed that the Procurement of RTU is in process and shall be completed at the earliest. SLDC requested to provide present status and time line regarding procurement of RTU.

MPPGCL official have assured that the procurement of RTU of STPS ,ATPS and STPS which is under tendering stage shall be expedited and finalized at the earliest for providing telemetry data at SLDC Jabalpur.

### **9.3 ARRANGEMENT OF TELEMETRY OF IMPORTANT 220KV SUB STATIONS & 132KV S/S HAVING INJECTION FROM RENEWABLES/CAPTIVE POWER PLANTS OR HAVING INTERDISCOM FEEDERS /TRACTION FEEDERS.**

The telemetry of Birsingpur HPS was commissioned, however the telemetry of Birsingpur HPS is currently not available due to RTU shifting work and some issue in 48 V DC Charger. MPPGCL informed that the 48 V DC Chargers is being replaced with a new Charger. New charger has been procured and connection needs to be done.



MPPGCL official have assured that the telemetry of Birsinghpur HPS shall be restored after procurement of RTU at Birsinghpur TPS and existing RTU shall be shifted to Birsinghpur HPS and assured to restore the same at the earliest.

The telemetry of Zinna HPS is not available at SLDC SCADA System due to some issue in PLCC Channel. MPPGCL officials told that there is no issue pending to generating side and MPPTCL officials have assured that FOTE equipment has already been installed at Rewa 220 KV S/s. However, integration work of PLCC and FOTE is pending. MPPGCL & MPPTCL assured to resolve the issue at the earliest.

#### **9.4 UPGRADATION OF EXISTING RTUS & DISCREPANCY IN TELEMETRERED VALUES RECEIVED FROM DIFFERENT EHV S/S & POWER STATIONS**

The present status of telemetry discrepancy including upgradation requirement is enclosed herewith as **Annexure-II**. The list of major telemetry discrepancies is as given below:-

##### **(a) MPPGCL Generating Substations :-**

##### **1. SGTPS :-**

<b>1.Sr. No.</b>	<b>Description</b>	<b>Unit</b>	<b>Pending since</b>
1	XFMR 220 /33, STN XFMR	CB	15 month

##### **(b) Transmission/ other Generating Substations :-**

<b>SI No.</b>	<b>Name of Substation</b>	<b>Name of feeders/transformers</b>
01	400 KV KATNI S/s	Bus 2 Voltage and Frequency is not available at SLDC SCADA System —issue resolved.
02	220 KV SATNA S/s	Katni Feeder MVAR and CB not available issue resolved

MPPTCL official have informed that they will arrange for rectification of above telemetry issue at the earliest. However, MPPGCL officials informed that they will rectify the issue within one month.

#### **9.5 Extension of RGMO/FGMO signal to SLDC/WRLDC:-** The extension of RGMO/FGMO signal of following generating units is still pending

<b>S.No.</b>	<b>Name of Generating Station</b>	<b>Unit.No.</b>	<b>MPPGCL response in last OCC</b>
1	SGTPS	1,2,3,4	MPPGCL informed in last six OCC meetings that it is under tendering process & telemetry integration of RGMO/FGMO signal shall be completed within 3-4 months. However, no progress in the matter has been observed even after lapse of one and half year period.
2.	Singha Ji Phase 2	3, 4	MPPGCL informed in last 6 OCCM that matter has been taken up with L&T to initiate the work at the earliest & the integration work will be done

			when the units will be taken on operation. MPPGCL is requested to update the progress in this matter.
--	--	--	---

MPPGCL Official have assured that 1 to 4 UNIT of SGTPS are old and there is no provision of extension of RGMO/FGMO signal until replacement of old instrument and upgradation of all old instrument shall be done within three month and after that extension of RGMO/FGMO signal shall be extended and extension of RGMO/FGMO signal of unit 3 and 4 shall be done at the earliest and also ensure that extension of RGMO/FGMO Singha Ji Phase 2 unit shall be done at the earliest.

#### 9.6 LONG OUTAGE OF RTUS, PROBLEM IN DATA AND VOICE CHANNELS & INTERMITTENT

**TELEMETRY:-** As per CERC communication regulation 2017, availability of telemetry is required to be ensured more than 99.9%. However following RTUs are either out since very long time or are intermittent:-

S.No.	Name of RTU	Remarks	Telemetry Availability %
1	Birsingpur HPS	Out since more than 20 months	20 %
2	132 KV Ingoria	Intermittent	81%
3	132 KV Amarwardkhurd	Intermittent	63 %
4	132 KV Khanooj	Intermittent	19%
5	220 KV Pitampur Sec -III	Intermittent	62%
6	132 KV Zinna	Intermittent	0%
7	132 KV Bara malhera	Intermittent	86%
8	132 KV Eshagarh	Intermittent	65%
9	132 KV Hosangabaad	Intermittent	82%
10	132 KV Shivpur kalan	Intermittent	77 %
11	132 KV Waidhan	Intermittent	65%
12	132 KV Momenbarodia	Intermittent	72%
13	220 KV Sidhi	Intermittent	28 %
14	132 KV Rewa	Intermittent	19 %
15	220 KV Barwaha	Intermittent	70 %

As per WRLDC directives poor telemetry availability (below 95%) is to be treated as violation of grid code as per Clause 4.6.2 of IEGC and WRLDC instructed SLDC to comply the same and to initiate necessary action as per grid code to ensure round the clock availability of telemetry. All grid users are therefore requested to take necessary action to ensure uninterrupted round the clock telemetry availability.

MPPGCL and MPPTCL have assured that reliability of telemetry shall be assured by shifting telemetry data link from PLCC to FOTE/Optical Fibre.

#### 9.7 NON AVAILABILITY VOICE COMMUNICATION BETWEEN SLDC TO BANSAGAR –IV

**(ZINNA) HYDEL POWER STATIONS:-** It is to inform that as per CERC communication regulation 2017, availability of communication channel is required to be ensured more than 99.9%. However, despite constant pursuance, the PLCC voice communication between SLDC to Bansagar-IV (zinna) has not been established so far. The matter has been also discussed with communication division Satna and it has been informed that due

to multiple breakage in coaxial cable and faulty LMU unit, PLCC link is currently not in working condition. However it is pending for more than two years.

MPPGCL has assured that same shall be restored at the earliest through FORTE Equipment which shall be commissioned in near future.

### 9.8 RECTIFICATION/CONFIRMATION OF READINESS OF OPGW LINKS

S.No.	OPGW LINK	Action	Remark
1.	220 KV Satna-Katni	Replacement of OPGW cable between 220 KV Satna-Katni	OK
2.	400 KV Bhopal -Bina	Shifting of traffic from Old link to newly constructed Link by MPPTCL	Distance between 400 KV Bhopal and Bina is about 140 KM. Hence Booster Amplifier/Optical Line Interphase is required. Matter has been taken to O/o of CE(Procurement)..
3.	400 KV Pithampur-Indore	Repairing of 22 faulty fibers out of 24 Fibers	No confirmation from field has been received and Repairing is pending

MPPTCL officials have assured that they will restore the link at the earliest and share the necessary confirmation.

**9.9 TELEMETRY OF RAILWAY TSS SUB STATIONS:-** The Reliability of telemetry of existing 76 Nos Railway Traction Sub Stations need to be improved by railway for monitoring of drawl by each TSS and also monitoring of demand of railway in MP. However, telemetry availability of Railway TSS is need to be improved.

Railways are requested to ensure reliable telemetry of existing Railway TSS. Further it is to mention that redundant link shall be established as IP scheme has already been provided by this office so that both at a time and through one channel it should report to SLDC Jabalpur and from another channel it should report to Back- up SLDC Bhopal rather to explore the possibility of automatic switching of link at SLDC Jabalpur from both dedicated links.

Railway officials informed that they have established redundant link both at a time and through one channel is reporting to SLDC Jabalpur and another channel is reporting to Back- up SLDC Bhopal and they have assured that they will improve the telemetry availability of commissioned railway TSS.

**ITEM NO 10 : DATE AND VENUE OF NEXT OCC MEETING :** In 86<sup>th</sup> OCC, the roster for the upcoming OCCM was discussed & finalized in the meeting which is as detailed below. The venue of the same shall be decided in the meeting. It is also proposed that the OCC members shall host the alternate OCC meeting.

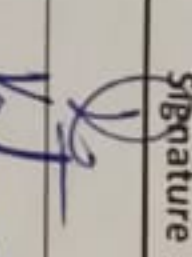



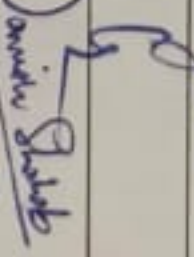
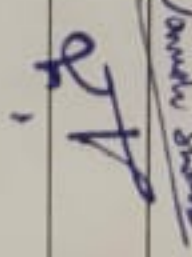

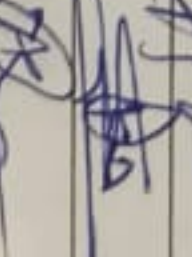
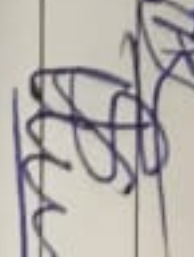
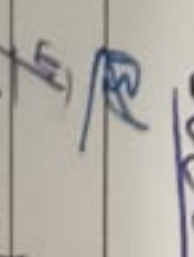
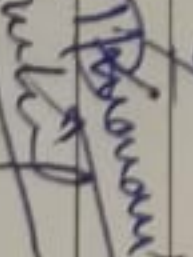
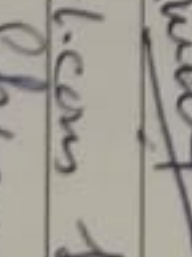
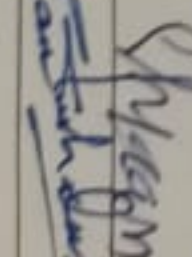

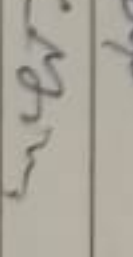

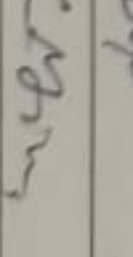

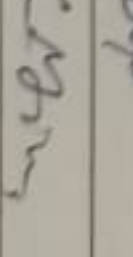

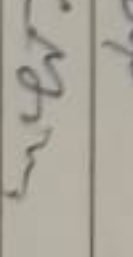

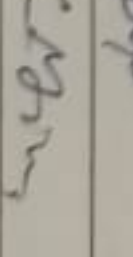

MEETING ROSTER	
HOST	MEETING NO.

<b>MP Power Transmission Package-II Limited</b>	89 <sup>TH</sup>
<b>OSP</b>	90 <sup>TH</sup>
<b>RAILWAY</b>	91 <sup>ST</sup>
<b>JP Bina</b>	92 <sup>ND</sup>
<b>WEST DISCOM</b>	93 <sup>rd</sup>
<b>ISP</b>	94 <sup>th</sup>

\*\*\*\*\*

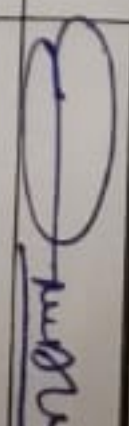



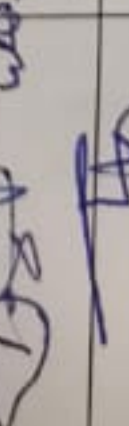
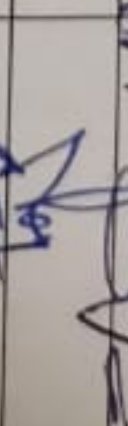




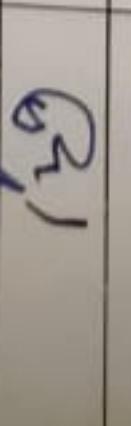




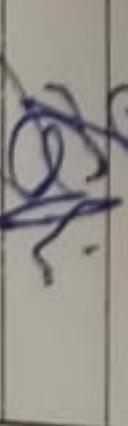

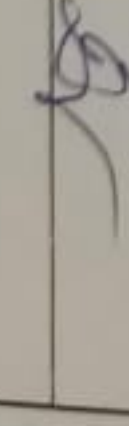




**List of participants of "87th OCC Meeting of MP", held at MP SLDC Jabalpur on date -31.10.2023.**

S. No.	Name	Designation	Office name	Contact no	E-Mail ID	Signature
1	Sh. Paadeep Sachan	CE	SLDC	9425805274	ce.slde@mptransco.nic.in	
2	-II- K.K. Parabhakar	Advisor	SLDC	9425805267		
3	-II- V.K. Agrawal	SE	SLDC	9425805235		
4	-II- R.K. Gupta	SE	SLDC	9425805182	rv.gupta@mptransco.nic.in	
5	-II- Anurag Mishra	SE	SLDC	9425805231		
6	Praveen Kumar Jain	CGM (PM)	MP PMCL	9425805920	praveen.jain@mppmcl.com	
7	S.K. Gargiwal	CE (EMM)	MPPTCL	9425805014	skg@mpptcl.com	
8	Danish Shahra	SSE/Rc	INDIAN RAILWAYS	8815103614	sscrc@bdepot@gmail.com	
9	P.K. Gargawa	ACE (EC)	MPPTCL	9425804454	ce.tnc@mptransco.nic.in	
10	S.N. VADU	ACE (TU)	MPPTCL	9425805025		
11	Dr HIMANSHU SRIVASTAVA	EE	MPPTCL	9425806888	h.shrivastava@mpptcl.com	
12	S. K. Roy	ME	SLDC DBP	9425043226	sankar@dbp@gmail.com	
13	A.K. Chakraborty	EE	SLDC BPL	9425804904	akchakraborty@gmail.com	
14	SANJAY K. MEHTA	EE	SLDC, Jabalpur	9425805017	sanjaykmehta@gmail.com	
15	Bashiruddin Khan	AC.E	(SLM) MPPTCL	9425806560	edongmp@rediffmail.com	
16	Rajesh Shrivastava	SE (GC)	" "	9425806513	rajesh@mpptcl@gmail.com	
17	Brijesh Kumar Maravi	EE (GC)	" "	9425806537	bjesh@mpptcl@gmail.com	
18	Sudhir Kumar Pal	EE (GC)	(OSM) MPPTCL	9425806638	selvad@jabalpur@gmail.com	
19	J.S. Pasricha	GM (PM)	MP PMCL	9425805875	jswant.pasricha@mppmcl.com	
20	Shyam Sunder Gupta	Site In-charge	MPPTCL	8319620372	shyam.sunder@gmail.com	
21	Priankush Datta	Asst. Mgr	Adani	8518886085	priankush.datta@adani.com	
22	Amrit Kumar Dixena	Manager	Adani (MPPTCL)	9764019302	amritkumar.dixena@adani.com	
23	Rishabh Nigat	Asst. Mgr	SLDC	9425805232	rishabh.nigat@mptransco.nic.in	
24	C. M. Jain	ME	SLDC	9425803094	cmjain2002@gmail.com	



List of participants of "87th OCC Meeting of MP", held at MP SLDC Jabalpur on 14.04.2023

S. No.	Name	Designation	Office name	Contact no	E-Mail ID	Signature
25	Dhruvendra Dhoti	Dy. Commr.	BLA Power Rtd.	9826656650	DHOTI-BLA@CO.IN	
26	Sudhir K. Tiwari	E.E.	o/c ECHT-c)	9425806869	s.sudhir1541962@gmail.com	
27	Mukesh Sharma	AE	SLDC, NARAILA	9425805227	sharmamukesh@yahoo.co.in	
28	G.S. Thakur	E.E.	SLDC, JBP	9425805099	gsthakur301@gmail.com	
29	Aashish Gupta	B.B.	SLDC, JBP	9425806913	aashishgupta@gmail.com	
30	S.K. Kundu	B.E.	DCC, Bilaspur	9893818444	slm.mpc@gmail.com	
31	Dwijendra Roy	Supr	NHDC, Bilaspur	9755782800	om.co.nhdc@gmail.com	
32	S.P. Singh	Asst. Engr.	DCC, Bilaspur	9425805513	cunder-bd@gmail.com	
33	Abhishek Rai	A.E.	EH- Narmada	9425802964	abhishekrai@gmail.com	
34	Rajeev Kumar	AE	SLDC	9425804659	om-rajeevareddy@gmail.com	
35	Shikha Nema	AE	SLDC	9425805299	shikhanema07@gmail.com	
36	Cindrella Felix	AE	SLDC	9425802661		
37	Nitin Kapatwadi	D.G.M.	BLA Power Rtd. M.	8359592169	nragkapatwadi@bha.co.in	
38	Manoj Kumar	G.M. Com	—	9826955021	manojkumar.co.in	
39	Anjana Thakur	A.E.	o/c C.E. (Rtd)	9425805691	anjana.thakur.mic.in	
40	Archana Tiwari	AE	o/c C.E. (Rtd)	9425802865	archana.tiwari@gmail.com	
41	Adilash Chaudhary	D.G.	o/c CCE (Narmada)	9425811292	adilashchaudhary2002@gmail.com	
42	Nikita Agar	AE	SLDC	9425802053	nikitaagar02@gmail.com	
43	Girish Pratap Singh	A.E.	C.E. (O&M) Hyd	9425802603	gpratap191288@gmail.com	
44	P.K. Dangar	A.E.	Generator Room, TBP	9425805379	aeexjp@gmail.com	
45	S.S. Mishra	AC	o/c CB Stae	9425806851	devlatsd@gmail.com	
46						
47						
48						



**FREQUENCY PARTICULARS**

S. No.	Particulars	Aug-23		Sep-23	
1 INTEGRATED OVER AN-HOUR					
1.1	Maximum Frequency	50.24 Hz	Between 13.00 hrs & 13.15 Hrs on 02.08.23	50.23 Hz	Between 13.15 hrs & 13.30 Hrs on 08.09.23
1.2	Minimum Frequency	49.09 Hz	Between 17.00 hrs & 17.15 Hrs on 09.08.23	49.61 Hz	Between 14.45 hrs & 15.00 Hrs on 01.08.23
1.3	Average Frequency	50 Hz		50 Hz	
2 INSTANTANEOUS FREQUENCY					
2.1	Maximum Frequency	50.29 Hz	AT 13.18:00 HRS ON 02.08.23	50.33 Hz	AT 08.59:00 HRS ON 23.09.23
2.2	Minimum Frequency	49.51 Hz	AT 22:31:00 HRS ON 29.08.23	49.49 Hz	AT 22:09:09 HRS ON 15.09.23

**3 Percentage of time when frequency was :-**

	%age of time when frequency was	Aug-23	Sep-23
3.1	Above 50.30 Hz	0.00	0.00
3.2	Between 50.05 Hz and 50.30 Hz	13.21	13.95
3.3	Between 50.00 Hz and 50.05 Hz	38.00	34.99
3.4	Between 49.9 Hz and 50.00 Hz	41.16	44.91
3.5	Between 49.5 Hz and 49.9 Hz	7.63	6.15
3.6	Between 49.2 Hz and 49.5 Hz	0.00	0.00
3.7	Below 49.2 Hz	0.00	0.00

## Discoms wise Average Supply Hours

PARTICULARS	East Zone		Central Zone	
	Aug-23	Sep-23	Aug-23	Sep-23
Commissinary HQ	23:57	23:56	23:46	23:40
District HQ	23:38	23:46	23:50	23:46
Tehsil HQ	23:37	23:38	23:40	23:34
Rural -Mixed	23:13	23:08	23:15	22:57
Rural -DLF	23:15	23:08	23:18	22:55
Rural -Irrigation	9:43	9:12	9:46	9:09
PARTICULARS	West Zone		MP	
	Aug-23	Sep-23	Aug-23	Sep-23
Commissinary HQ	23:57	23:54	23:52	23:50
District HQ	23:53	23:48	23:46	23:46
Tehsil HQ	23:51	23:37	23:42	23:37
Rural -3Phase	23:44	22:24	23:16	23:01
Rural -1Phase	23:45	23:12	23:25	23:05
Total Rural	9:50	9:22	9:46	9:14



**ANNEXURE-2.2.2**

**Aug-23**

Sr No	Name of Sub Station	M A X I M U M			M I N I M U M		
		KV	TIME	DATE	KV	TIME	DATE
1	Indore	421	4.00	3 Aug 23	402	12.00	31 Aug 23
2	Bhopal	422	13.10	2 Aug 23	402	11.50	31 Aug 23
3	Nagda	421	10.00	3 Aug 23	400	12.00	31 Aug 23
4	Satpura	425	4.00	3 Aug 23	398	9.00	7 Aug 23
5	SGTPS Birsinghpur	423	4.00	8 Aug 23	408	10.00	17 Aug 23
6	Bina	417	13.05	4 Aug 23	398	11.50	31 Aug 23
7	Pithampur	421	4.00	3 Aug 23	404	12.00	31 Aug 23
8	Ashta	422	4.00	3 Aug 23	402	12.00	31 Aug 23
9	Julwania	423	4.00	3 Aug 23	403	12.00	31 Aug 23
10	Kirnapur	432	13.00	3 Aug 23	413	7.00	28 Aug 23
11	Badnawar	427	10.00	3 Aug 23	408	12.00	29 Aug 23

**Sep-23**

Sr No	Name of Sub Station	M A X I M U M			M I N I M U M		
		KV	TIME	DATE	KV	TIME	DATE
1	Indore	421	4.00	9 Sep 23	402	14.00	4 Sep 23
2	Bhopal	423	15.05	17 Sep 23	398	14.45	4 Sep 23
3	Nagda	422	4.00	10 Sep 23	401	14.00	4 Sep 23
4	Satpura	426	1.00	10 Sep 23	410	4.00	21 Sep 23
5	SGTPS Birsinghpur	424	11.00	17 Sep 23	406	14.00	4 Sep 23
6	Bina	419	15.05	17 Sep 23	398	14.25	14 Sep 23
7	Pithampur	422	4.00	10 Sep 23	404	14.00	4 Sep 23
8	Ashta	423	4.00	10 Sep 23	403	14.00	4 Sep 23
9	Julwania	427	13.00	16 Sep 23	392	14.00	4 Sep 23
10	Kirnapur	432	14.00	18 Sep 23	414	12.00	1 Sep 23
11	Badnawar	428	13.00	16 Sep 23	409	14.00	5 Sep 23

## Point 10: Details of 33KV feeder which are not allocated with any Group No. as on 30.09.23

Sl.No.	T&C Circle	EHV Sub-Station	Name of 33KV Feeder not allocated with any Group number for U/F & Load Shadding	Feeder DOC
1	JABALPUR	DHEEMARKHEDA 132	33KV DASRAMAN	06.09.2022
2	JABALPUR	DHEEMARKHEDA 132	33KV KHIRHNI	24.04.2023
3	JABALPUR	DHEEMARKHEDA 132	33KV DHEEMARKHEDA	06.06.2023
4	JABALPUR	DHEEMARKHEDA 132	33KV JHINNA PIPARIYA	06.06.2023
5	JABALPUR	GORAKHPUR 132	33KV GORAKHPUR	21.12.2020
6	JABALPUR	GORAKHPUR 132	33KV KARANJIYA	21.12.2020
7	JABALPUR	GORAKHPUR 132	33KV DAMEHARI	20.12.2022
8	SEONI	CHHINDWARA 132	33KV DIST HOSPITAL	06-04-2018
9	SEONI	SAORI 132	33KV SAORI	12-11-2018
10	SEONI	SAORI 132	33KV LAWAGHOGRI	13-11-2018
11	SEONI	SAORI 132	33KV MUJAWAR	12-11-2018
12	SEONI	SAORI 132	33KV BHUTAI	30-01-2019
13	SEONI	KHAPASWAMI 132	33KV JUNNARDEO	21-11-2020
14	SEONI	KHAPASWAMI 132	33KV NEW JUNNARDEO	22-09-2021
15	SEONI	LALBURRA 132	33KV PHE	10-02-2017
16	SAGAR	REHLI 132	33KV REHLI	03.06.2019
17	SAGAR	REHLI 132	33KV CHIRARI	02.04.2019
18	SAGAR	REHLI 132	33KV PATNA BUJURG	30.07.2019
19	SAGAR	REHLI 132	33KV GUDA	27.06.2020
20	SAGAR	DEORI 132	33KV KOPRA	20.07.2020
21	SAGAR	DEORI 132	33KV DEORI	20.07.2020
22	SAGAR	BANDA 132	33KV DALPATPUR-2	28.07.2021
23	SAGAR	BANDA 132	33KV JALNIGAM	12.10.2022
24	SAGAR	BADAMALAHERA 132	33KV JALNIGAM (PANNA)	15.09.2022
25	SATNA	SATNA 220	33KV BHILAI J P	29.09.2009
26	SATNA	KOTAR-220	33KV SUKWAH	15.11.2010
27	SATNA	KOTAR-220	33KV KOTAR-II	16.02.2018
28	SATNA	MAHAIR 220	33KV BHARAULI	02.04.2011
29	SATNA	MAHAIR 220	33KV UDAYPUR	20.08.2013
30	SATNA	AMARPATAN 132	33KV NADAN -2	20.08.2009
31	SATNA	AMARPATAN 132	33KV JAL NIGAM	10.03.2022
32	SATNA	MAJHGAWAN 132	33KV BARONDHA	07.07.2010
33	SATNA	MAJHGAWAN 132	33KV KOTHI	07.07.2010
34	SATNA	MAJHGAWAN 132	33KV EAST DICOM	13.03.2018
35	SATNA	NAGOD 132	33KV RAHIKWARA	13.02.2012
36	SATNA	NAGOD 132	33KV BASUDHA	23.07.2015
37	SATNA	NAGOD 132	33KV JASO-II	13.07.2021
38	SATNA	NAGOD 132	33KV DEVENDRA NAGAR	Only bay charge
39	SATNA	SATNA II 132	33KV TRANSPORT NAGAR	03.01.2019
40	SATNA	SATNA II 132	33KV ANIKET MATEHNA	17.09.2019
41	SATNA	SATNA II 132	33KV NAVEEN UDHYOGIK BABUPUR	03.02.2022
42	SATNA	SATNA II 132	33KV TIKURIYA TOLA	07.01.2019
43	SATNA	SATNA II 132	33KV BHATANVARA	22.07.2022
44	SATNA	SATNA II 132	33KV MAHADEVA	22.07.2022
45	SATNA	SATNA II 132	33KV SMART CITY	03.09.2021
46	SATNA	SATNA II 132	33KV PURANA POWER HOUSE	22.12.2019
47	SATNA	SATNA II 132	33KV MEDICAL COLLEGE	08.12.2018
48	SATNA	UNCHEHRA 132	33KV UNCHEHRA	18.07.2020
49	SATNA	UNCHEHRA 132	33KV JEETNAGAR	18.07.2020
50	SATNA	UNCHEHRA 132	33KV EAST DISCOM	Only bay charge
51	SATNA	RAMPUR BAGHELAN 132	33KV MATEHNA	31.01.2019
52	SATNA	PANNA 132	NEW EAST DISCOM	21.11.2013
53	SATNA	PANNA 132	NEW 33KV JAY KAYCEM	Only bay charge
54	SATNA	REWA 220	33KV SUPIYA	07.07.2018
55	SATNA	REWA 220	33KV GOVIND GARH	11.10.2022
56	SATNA	REWA II 132	33KV SANDARIYA	03.06.2021
57	SATNA	REWA II 132	33KV MSW (RMSWPL)	23.03.2022
58	SATNA	REWA II 132	33KV JAL NIGAM	13.09.2022
59	SATNA	MAUGANJ 132	33KV KHATKAHRI	07.12.2018
60	SATNA	MAUGANJ 132	33KV MAUGANJ JAIL	06.12.2018
61	SATNA	MAUGANJ 132	33KV DHERA	31.03.2018
62	SATNA	ATRAILA 132	33KV ATRAILA	26.09.2021

Sl.No.	T&C Circle	EHV Sub-Station	Name of 33KV Feeder not allocated with any Group number for U/F & Load Shaddino	Feeder DOC
63	SATNA	ATRAILA 132	33KV RAMBAG	26.09.2021
64	SATNA	KATRA 132	33KV GARH	17.08.2015
65	SATNA	KATRA 132	33KV PANGADHI	17.08.2015
66	SATNA	REWA 132	33KV VTL NEW	08.06.2020
67	SATNA	SIRMOUR 220	33KV DEWAS	20.06.2016
68	SATNA	SIRMOUR 220	33KV PATEHRA	20.06.2016
69	SATNA	SIRMOUR 220	33KV UMARI	19.10.2015
70	SATNA	RAMPUR NAIKIN 132	33KV RAMNAGAR (EEWRD SATNA )	09.04.2022
71	SATNA	RAMPUR NAIKIN 132	33KV KOTHIYA	28.08.2015
72	SATNA	RAMPUR NAIKIN 132	33KV DHANHA	03.04.2019
73	SATNA	DONGARITAL 132	33KV APMDCL	24.01.2022
74	MANDSAUR	SAILANA 220	33KV DHAMEDI FEEDER	29.04.2020
75	MANDSAUR	SAILANA 220	33KV KHEDAWADA FEEDER	29.04.2020
76	MANDSAUR	SHIVGARH 132	33KV BHADANKALA	19.08.2020
77	MANDSAUR	SHIVGARH 132	33KV NEW RAOTI	07.09.2020
78	MANDSAUR	SHIVGARH 132	33KV PALSODI	18.10.2020
79	MANDSAUR	DALODA 220	33KV JAWASIA	17.10.2020
80	MANDSAUR	DALODA 220	33KV KHLCHIPURA2	13.01.2021
81	MANDSAUR	RAMPURA 132	33KV KHIMLA	11.08.2023
82	UJJAIN	CHAPDA 220	33KV NVDA	26.04.2023
83	UJJAIN	SONKATCH 132	33KV NVDA	14.11.2022
84	UJJAIN	NALKHEDA 220	33KV M/S MKPMU (WRD) FOR PUMP HOUSE OF KUNDALIVA IRRIGATION PROJECT	06.01.2023
85	UJJAIN	SUSNER 132	33KV M/S MKPMU (WRD) FOR PUMP HOUSE OF KUNDALIVA IRRIGATION PROJECT	01.12.2022
86	KHANDWA	KHANDWA 132	33KV WEST DISCOM	30.11.2014
87	KHANDWA	BADGAON 132	33KV AKVN	17.03.2021
88	KHANDWA	MOONDI 132	33KV SHIWARIYA TOWN-I	15.10.2020
89	KHANDWA	SINGOT 132	33KV EEND	02.06.2023
90	KHANDWA	SINGOT 132	33KV VIVAAN SOLAR	02.06.2023
91	KHANDWA	SHAHUPURA 132	33KV WARLA	22.12.2021
92	KHANDWA	SHAHUPURA 132	33KV BALWADI	10.04.2019
93	KHANDWA	SHAHUPURA 132	33KV JAMTI	15.10.2019
94	KHANDWA	SENDHWA 220	33KV GAWADI	29.05.2020
95	KHANDWA	SENDHWA 220	33KV CHACHRIYA	16.08.2021
96	KHANDWA	PATI 132	33KV SILAWAD	14.01.2021
97	KHANDWA	BARWANI 132	33KV GHUGSI BIJASAN	20.04.2023
98	KHANDWA	JULWANIYA 400	33KV NVDA PH5&7	17.02.2023
99	KHANDWA	TALAKPURA 132	33KV LEKHU (PH-6)	15.06.2023
100	INDORE	RAU 132	33 KV HARIFATAK	29.09.2013
101	INDORE	RAU 132	33KV PANTHER-II	29.09.2013
102	INDORE	RAU 132	33KV MPIDC-I	16.10.2022
103	INDORE	RAU 132	33KV MPIDC-II	16.10.2022
104	GWALIOR	MORAR 132	33KV SHARMA FARM-II	04.06.2023
105	GUNA	MYANA 132	33KV SENDHUA	19.06.2021
106	GUNA	CHACHODA 132	33KV CHACHODA	10.11.2020
107	GUNA	CHACHODA 132	33KV RAMDI	10.11.2020
108	GUNA	CHACHODA 132	33KV SANAI	19.06.2021
109	GUNA	CHACHODA 132	33KV PANCHI	03.02.2022
110	BHOPAL	MOHASA 132	33KV MOHASA	09.09.2023
111	BHOPAL	AMLA (BETUL) 132	33KV AIR FORCE	18.05.2023
112	BHOPAL 400	MANDIDEEP 132	33KV DAHOD	23.12.2019
113	BHOPAL 400	MANDIDEEP 220	33KV INTERCONNECTOR 1	30.12.2010
114	BHOPAL 400	MANDIDEEP 220	33KV INTERCONNECTOR 2	16.02.2020
115	BHOPAL 400	MANDIDEEP 220	33KV MAHAPET -1	17.03.2019
116	BHOPAL 400	MANDIDEEP 220	33KV MAHAPET -2	26.09.2019
117	BHOPAL 400	MANDIDEEP 220	33KV INTERCONNECTOR 3	03.03.2012
118	BHOPAL 400	MANDIDEEP 220	33KV PARLE	26.02.2020
119	BHOPAL 400	TAMOT 132	33KV AKVN NO. I.	05.10.2016
120	BHOPAL 400	TAMOT 132	33KV AKVN NO. II.	05.10.2016
121	BHOPAL 400	TAMOT 132	33KV OBEDULLAH GANJ	02.02.2017
122	BHOPAL 400	TAMOT 132	33KV PLASTIC PARK NO-1	04.04.2018
123	BHOPAL 400	TAMOT 132	33KV PLASTIC PARK NO-2	04.04.2018
124	BHOPAL 400	BAGRODA 132	33KV AKVN NO. I.	02.07.2016
125	BHOPAL 400	BAGRODA 132	33KV AKVN NO. II.	02.07.2016

Sl.No.	T&C Circle	EHV Sub-Station	Name of 33KV Feeder not allocated with any Group number for U/F & Load Shaddina	Feeder DOC
126	BHOPAL 400	BAGRODA 132	33KV DURGA STEEL	22.02.2019
127	BHOPAL 400	BAGRODA 132	33KV SOLANKI ENERGY	11.04.2018
128	BHOPAL 400	KANNOD 132	33KV M.S.K.	27.07.2008
129	BHOPAL 400	TENDUKHEDA 132	33KV SPARE BAY	30.07.2020
130	BHOPAL 400	SILWANI 132	33KV SPARE BAY	28.03.2019
131	BHOPAL 400	EINTKHEDI 132	33KV TEXTTILE PARK - I	26.03.2023
132	BHOPAL 400	EINTKHEDI 132	33KV TEXTTILE PARK - II	26.03.2023

## POINT 5: PROPOSED SHUTDOWN OF TRANSMISSION ELEMENTS FOR THE PERIOD : 01.11.2023 To 31.12.2023

Sr- No	KV	LINE / TRANSFORMER / REACTOR / BAY WITH NAME OF SUB-STATION	From		To		Basis (Daily/ Continue)	Reason
			Date	Time	Date	Time		
A- 400 KV TRANSFORMERS								
1	400	500MVA TRANSFORMER-1 AT 400KV S/S BHOPAL	06-Nov-23	09:00	06-Nov-23	18:00	DAILY	FOR POST MONSOON MAINTENANCE AND TESTING WORK
2	400	500MVA TRANSFORMER-1 AT 400KV S/S BHOPAL	07-Nov-23	09:00	07-Nov-23	18:00	DAILY	FOR POST MONSOON MAINTENANCE AND TESTING WORK
3	400	315MVA TRANSFORMER-II AT 400KV S/S BHOPAL	09-Nov-23	09:00	09-Nov-23	18:00	DAILY	FOR POST MONSOON MAINTENANCE AND TESTING WORK
4	400	315MVA TRANSFORMER-II AT 400KV S/S BHOPAL	10-Nov-23	09:00	10-Nov-23	18:00	DAILY	FOR POST MONSOON MAINTENANCE AND TESTING WORK
5	400	315MVA TRANSFORMER-III AT 400KV S/S BHOPAL	13-Nov-23	09:00	13-Nov-23	18:00	DAILY	FOR POST MONSOON MAINTENANCE AND TESTING WORK
6	400	315MVA TRANSFORMER-III AT 400KV S/S BHOPAL	14-Nov-23	09:00	14-Nov-23	18:00	DAILY	FOR POST MONSOON MAINTENANCE AND TESTING WORK
7	400	315MVA TRANSFORMER-IV AT 400KV S/S BHOPAL	16-Nov-23	09:00	16-Nov-23	18:00	DAILY	FOR POST MONSOON MAINTENANCE AND TESTING WORK
8	400	315MVA TRANSFORMER-IV AT 400KV S/S BHOPAL	17-Nov-23	09:00	17-Nov-23	18:00	DAILY	FOR POST MONSOON MAINTENANCE AND TESTING WORK
9	400	400KV 100MVA BHEL TRANSFORMER-I AT 400KV S/S KIRNAPUR	20-Nov-23	09:00	20-Nov-23	17:00	DAILY	FOR POST MONSOON MAINTENANCE AND TESTING WORK
10	400	400KV 315MVA TRANSFORMER-I AT 400KV S/S UJJAIN	21-Nov-23	09:00	21-Nov-23	18:00	DAILY	FOR POST MONSOON MAINTENANCE AND TESTING WORK
11	400	400KV 100MVA BHEL TRANSFORMER-II AT 400KV S/S KIRNAPUR	21-Nov-23	09:00	21-Nov-23	17:00	DAILY	FOR POST MONSOON MAINTENANCE AND TESTING WORK
12	400	400KV 315MVA TRANSFORMER-II AT 400KV S/S UJJAIN	22-Nov-23	09:00	22-Nov-23	18:00	DAILY	FOR POST MONSOON MAINTENANCE AND TESTING WORK
13	400	400KV 315MVA TRANSFORMER-I AT 400KV S/S UJJAIN	15-Dec-23	09:00	15-Dec-23	18:00	DAILY	FOR POST MONSOON MAINTENANCE AND TESTING WORK
14	400	400KV 315MVA TRANSFORMER-II AT 400KV S/S UJJAIN	18-Dec-23	09:00	18-Dec-23	18:00	DAILY	FOR POST MONSOON MAINTENANCE AND TESTING WORK
B- 400 KV REACTORS								
1	400	50MVAR BUS REACTOR AT 400KV S/S NAGDA	13-Nov-23	09:00	13-Nov-23	18:00	DAILY	FOR POST MONSOON MAINTENANCE AND TESTING WORK
2	400	125MVAR BUS REACTOR AT 400KV S/S NAGDA	18-Nov-23	09:00	18-Nov-23	18:00	DAILY	FOR POST MONSOON MAINTENANCE AND TESTING WORK
3	400	400KV, 125 MVAR REACTOR AT 400KV S/S UJJAIN	23-Nov-23	09:00	23-Nov-23	18:00	DAILY	FOR POST MONSOON MAINTENANCE AND TESTING WORK
4	400	400KV, 125 MVAR REACTOR AT 400KV S/S UJJAIN	14-Dec-23	09:00	14-Dec-23	18:00	DAILY	FOR POST MONSOON MAINTENANCE AND TESTING WORK
C- 400 KV FEEDER & BAYS								
1	400	400KV MAIN BUS -I AT 400KV S/S UJJAIN	01-Nov-23	09:00	01-Nov-23	18:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S UJJAIN
2	400	400KV INDORE-ISP-I AT 400KV S/S INDORE	01-Nov-23	09:00	01-Nov-23	18:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S INDORE
3	400	400KV MAIN BUS -II AT 400KV S/S UJJAIN	02-Nov-23	09:00	02-Nov-23	18:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S UJJAIN
4	400	400KV JULWANIA-CHHEGAON AT 400KV S/S JULWANIYA	02-Nov-23	09:00	02-Nov-23	17:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S JULWANIYA
5	400	400KV BINA-JP POPWER AT 400KV S/S BINA	02-Nov-23	09:00	02-Nov-23	17:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S BINA
6	400	400KV UJJAIN -NAGDA-I	03-Nov-23	09:00	03-Nov-23	18:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S UJJAIN
7	400	400KV INDORE-ISP-II AT 400KV S/S INDORE	03-Nov-23	09:00	03-Nov-23	18:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S INDORE

Sr- No	KV	LINE / TRANSFORMER / REACTOR / BAY WITH NAME OF SUB-STATION	From		To		Basis (Daily/ Continue)	Reason
			Date	Time	Date	Time		
8	400	400KV UJJAIN -NAGDA-II	06-Nov-23	09:00	06-Nov-23	18:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S UJJAIN
9	400	400KV INDORE-NAGDA AT 400 KV S/S INDORE	06-Nov-23	09:00	06-Nov-23	18:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S INDORE
10	400	400KV BINA-BHOPAL-1 AT 400KV S/S BINA	06-Nov-23	09:00	06-Nov-23	17:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S BINA
11	400	400KV UJJAIN -(INDORE)PGCIL-I	07-Nov-23	09:00	07-Nov-23	18:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S UJJAIN
12	400	400KV BINA-BHOPAL-2 AT 400KV S/S BINA	07-Nov-23	09:00	07-Nov-23	17:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S BINA
13	400	400KV UJJAIN -(INDORE)PGCIL-II	08-Nov-23	09:00	08-Nov-23	18:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S UJJAIN
14	400	400KV BINA-GUNA-1 AT 400KV BINA	08-Nov-23	09:00	08-Nov-23	17:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S BINA
15	400	400KV BINA-GUNA-2 AT 400KV BINA	09-Nov-23	09:00	09-Nov-23	17:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S BINA
16	400	400KV UJJAIN -ASHTA-I	16-Nov-23	09:00	16-Nov-23	18:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S UJJAIN
17	400	400KV UJJAIN -ASHTA-II	17-Nov-23	09:00	17-Nov-23	18:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S UJJAIN
18	400	400KV BUS TIE AT 400KV S/S UJJAIN	20-Nov-23	09:00	20-Nov-23	18:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S UJJAIN
19	400	400KV KIRNAPUR -BHILAI	22-Nov-23	09:00	22-Nov-23	17:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S KIRNAPUR
20	400	400KV KIRNAPUR -SEONI	23-Nov-23	09:00	23-Nov-23	17:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S KIRNAPUR
21	400	400KV NAGDA-MANDSOUR-1 AT 400KV S/S NAGDA	25-Nov-23	09:00	25-Nov-23	18:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S NAGDA
22	400	400KV NAGDA-MANDSOUR-2 AT 400KV S/S NAGDA	28-Nov-23	09:00	28-Nov-23	18:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S NAGDA
23	400	400KV MAIN BUS -I AT 400KV S/S UJJAIN	01-Dec-23	09:00	01-Dec-23	18:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S UJJAIN
24	400	400KV MAIN BUS -II AT 400KV S/S UJJAIN	04-Dec-23	09:00	04-Dec-23	18:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S UJJAIN
25	400	400KV NAGDA-ISP AT 400KV S/S NAGDA	04-Dec-23	09:00	04-Dec-23	18:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S NAGDA
26	400	400KV BHOPAL-BINA - II AT 400KV S/S BHOPAL	04-Dec-23	09:00	18-Dec-23	18:00	CONTINUE	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S BINA
27	400	400KV UJJAIN -NAGDA-I	05-Dec-23	09:00	05-Dec-23	18:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S UJJAIN
28	400	400KV UJJAIN -NAGDA-II	06-Dec-23	09:00	06-Dec-23	18:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S UJJAIN
29	400	400KV UJJAIN -(INDORE)PGCIL-I	07-Dec-23	09:00	07-Dec-23	18:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S UJJAIN
30	400	400KV UJJAIN -(INDORE)PGCIL-II	08-Dec-23	09:00	08-Dec-23	18:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S UJJAIN
31	400	400KV UJJAIN -ASHTA-I	11-Dec-23	09:00	11-Dec-23	18:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S UJJAIN
32	400	400KV BINA-BHOPAL-2 AT 400KV S/S BINA	11-Dec-23	09:00	20-Dec-23	17:00	CONTINUE	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S BINA
33	400	400KV UJJAIN -ASHTA-II	12-Dec-23	09:00	12-Dec-23	18:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S UJJAIN
34	400	400KV BUS TIE AT 400KV S/S UJJAIN	13-Dec-23	09:00	13-Dec-23	18:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S UJJAIN
<b>D- 220 KV TRANSFORMERS</b>								
1	220	160MVA TRANSFORMER-I AT 220KV S/S SOUTH ZONE INDORE	01-Nov-23	09:00	01-Nov-23	18:00	DAILY	FOR POST MONSOON MAINTENANCE AND TESTING WORK

Sr- No	KV	LINE / TRANSFORMER / REACTOR / BAY WITH NAME OF SUB-STATION	From		To		Basis (Daily/ Continue)	Reason
			Date	Time	Date	Time		
2	220	160MVA TRANSFORMER-II AT 220KV S/S SOUTH ZONE INDORE	02-Nov-23	09:00	02-Nov-23	18:00	DAILY	FOR POST MONSOON MAINTENANCE AND TESTING WORK
3	220	160MVA TRANSFORMER-III AT 220KV S/S SOUTH ZONE INDORE	03-Nov-23	09:00	03-Nov-23	18:00	DAILY	FOR POST MONSOON MAINTENANCE AND TESTING WORK
4	220	160MVA TRANSFORMER-IV AT 220KV S/S SOUTH ZONE INDORE	06-Nov-23	09:00	06-Nov-23	18:00	DAILY	FOR POST MONSOON MAINTENANCE AND TESTING WORK
5	220	160MVA CGL TRANSFORMER-I AT 220KV S/S SEONI	29-Nov-23	09:00	29-Nov-23	17:00	DAILY	FOR POST MONSOON MAINTENANCE AND TESTING WORK
6	220	160MVA BBL TRANSFORMER-II AT 220KV S/S SEONI	30-Nov-23	09:00	30-Nov-23	17:00	DAILY	FOR POST MONSOON MAINTENANCE AND TESTING WORK
<b>E- 220 KV FEEDER &amp; BAYS</b>								
1	220	220KV GWALIOR II-PGCIL-I	02-Nov-23	10:00	02-Nov-23	17:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 220KV S/S GWALIOR-II
2	220	220KV MAHALGAON PGCIL-I	02-Nov-23	09:00	02-Nov-23	17:00	DAILY	SHUTDOWN ON 220KV MAIN BUS FOR PT SHIFTING & JUMPERING WORK AT 220KV S/S MAHALGAON
3	220	220KV MAHALGAON PGCIL-II	02-Nov-23	09:00	02-Nov-23	17:00	DAILY	SHUTDOWN ON 220KV MAIN BUS FOR PT SHIFTING & JUMPERING WORK AT 220KV S/S MAHALGAON
4	220	220KV MAHALGAON- DATIA-I	02-Nov-23	09:00	02-Nov-23	17:00	DAILY	SHUTDOWN ON 220KV MAIN BUS FOR PT SHIFTING & JUMPERING WORK AT 220KV S/S MAHALGAON
5	220	220KV MAHALGAON- DATIA-II	02-Nov-23	09:00	02-Nov-23	17:00	DAILY	SHUTDOWN ON 220KV MAIN BUS FOR PT SHIFTING & JUMPERING WORK AT 220KV S/S MAHALGAON
6	220	220KV NIMRANI-CHHEGAON-I AT 220KV S/S NIMRANI	04-Nov-23	09:00	04-Nov-23	17:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 220KV S/S Nimrani
7	220	220KV BARWAHA-OMKARESHWAR AT 220KV S/S BARWAHA	05-Nov-23	09:00	05-Nov-23	17:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 220KV S/S BARWAHA
8	220	220KV NIMRANI-CHHEGAON-II AT 220KV S/S NIMRANI	05-Nov-23	09:00	05-Nov-23	17:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 220KV S/S Nimrani
9	220	315MVA ICT -I AT 220KV S/S SUKHA	06-Nov-23	08:00	07-Nov-23	18:00	CONTINUE	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 220KV S/S SUKHA
10	220	220KV GWALIOR II-PGCIL-II	06-Nov-23	10:00	06-Nov-23	17:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 220KV S/S GWALIOR-II
11	220	220KV BARWAHA-NIMRANI TAP OMKARESHWAR AT 220KV S/S BARWAHA	07-Nov-23	09:00	07-Nov-23	17:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 220KV S/S BARWAHA
12	220	220KV NIMRANI-BARWAHA TAP OMKARESHWAR AT 220KV S/S NIMRANI	07-Nov-23	09:00	07-Nov-23	17:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 220KV S/S Nimrani
13	220	220KV INTERCONNECTOR-I AT 400KV S/S JULWANIYA	07-Nov-23	09:00	07-Nov-23	17:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S Julwania
14	220	220KV MALANPUR-AURAIYA	07-Nov-23	10:00	07-Nov-23	17:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 220KV S/S MALANPUR
15	220	220KV DATIA- PICHHORE	07-Nov-23	09:00	07-Nov-23	17:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 220KV S/S DATIA
16	220	220KV INTERCONNECTOR-II AT 400KV S/S JULWANIYA	09-Nov-23	09:00	09-Nov-23	17:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S Julwania
17	220	315MVA ICT -II AT 220KV S/S SUKHA	09-Nov-23	08:00	10-Nov-23	18:00	CONTINUE	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 220KV S/S SUKHA
18	220	220KV DATIA- BINA	09-Nov-23	09:00	09-Nov-23	17:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 220KV S/S DATIA
19	220	220KV MALANPUR MORENA-I	10-Nov-23	10:00	10-Nov-23	17:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 220KV S/S MALANPUR
20	220	220KV INDORE-SOUTH ZONE-I	10-Nov-23	09:00	10-Nov-23	18:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S INDORE
21	220	220KV NIMARNI-MAHESHWAR-I AT 220KV S/S NIMRANI	11-Nov-23	09:00	11-Nov-23	17:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 220KV S/S Nimrani
22	220	220KV NIMARNI-MAHESHWAR-II AT 220KV S/S NIMRANI	12-Nov-23	09:00	12-Nov-23	17:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 220KV S/S Nimrani

Sr- No	KV	LINE / TRANSFORMER / REACTOR / BAY WITH NAME OF SUB-STATION	From		To		Basis (Daily/ Continue)	Reason
			Date	Time	Date	Time		
23	220	220KV MALANPUR MORENA-II	13-Nov-23	10:00	13-Nov-23	17:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 220KV S/S MALANPUR
24	220	220KV MEHGAON- AURAIYA	14-Nov-23	10:00	14-Nov-23	17:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 220KV S/S MEHGAON
25	220	220KV INDORE-SOUTH ZONE-II	14-Nov-23	09:00	14-Nov-23	18:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S INDORE
26	220	220KV UJJAIN-HATUNIYA-PGCIL-I	16-Nov-23	09:00	16-Nov-23	17:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 220KV S/S UJJAIN
27	220	220KV INDORE-MANGLIYA	16-Nov-23	09:00	16-Nov-23	18:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S INDORE
28	220	220KV UJJAIN-HATUNIYA-PGCIL-II	17-Nov-23	09:00	17-Nov-23	17:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 220KV S/S UJJAIN
29	220	220KV NIMRANI-JULWANIYA AT 220KV S/S NIMRANI	19-Nov-23	09:00	19-Nov-23	17:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 220KV S/S Nimrani
30	220	220KV MALANPUR-PGCIL-I	20-Nov-23	10:00	20-Nov-23	17:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 220KV S/S MALANPUR
31	220	220KV MALANPUR-ADANI	21-Nov-23	10:00	21-Nov-23	17:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 220KV S/S MALANPUR
32	220	220KV INTERCONNECTOR-1 AT 220KV S/S BHOPAL	22-Nov-23	10:00	22-Nov-23	18:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 220KV S/S BHOPAL
33	220	220KV MALANPUR-PGCIL-II	24-Nov-23	10:00	24-Nov-23	17:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 220KV S/S MALANPUR
34	220	220KV INTERCONNECTOR-2 AT 220KV S/S BHOPAL	24-Nov-23	10:00	24-Nov-23	18:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 220KV S/S BHOPAL
35	220	220KV MEHGAON- ADANI	28-Nov-23	10:00	28-Nov-23	17:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 220KV S/S MEHGAON
36	220	220KV GWALIOR II-PGCIL-I	04-Dec-23	10:00	04-Dec-23	17:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 220KV S/S GWALIOR-II
37	220	220KV NAGDA-NAGRA-I AT 400KV S/S NAGDA	05-Dec-23	09:00	05-Dec-23	18:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S NAGDA
38	220	220KV BARWAHA-INDORE-I AT 220KV S/S BARWAHA	05-Dec-23	09:00	05-Dec-23	17:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 220KV S/S BARWAHA
39	220	220KV MAHALGAON PGCIL-I	05-Dec-23	09:00	05-Dec-23	17:00	DAILY	SHUTDOWN ON 220KV MAIN BUS FOR PT SHIFTING & JUMPERING WORK AT 220KV S/S MAHALGAON
40	220	220KV MAHALGAON PGCIL-II	05-Dec-23	09:00	05-Dec-23	17:00	DAILY	SHUTDOWN ON 220KV MAIN BUS FOR PT SHIFTING & JUMPERING WORK AT 220KV S/S MAHALGAON



Sr- No	KV	LINE / TRANSFORMER / REACTOR / BAY WITH NAME OF SUB-STATION	From		To		Basis (Daily/ Continue)	Reason
			Date	Time	Date	Time		
41	220	220KV MAHALGAON- DATIA-I	05-Dec-23	09:00	05-Dec-23	17:00	DAILY	SHUTDOWN ON 220KV MAIN BUS FOR PT SHIFTING & JUMPERING WORK AT 220KV S/S MAHALGAON
42	220	220KV MAHALGAON- DATIA-II	05-Dec-23	09:00	05-Dec-23	17:00	DAILY	SHUTDOWN ON 220KV MAIN BUS FOR PT SHIFTING & JUMPERING WORK AT 220KV S/S MAHALGAON
43	220	220KV BUS-COUPLER AT 220KV S/S BARWAHA	06-Dec-23	09:00	06-Dec-23	17:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 220KV S/S BARWAHA
44	220	315MVA ICT -I AT 220KV S/S SUKHA	06-Dec-23	08:00	07-Dec-23	18:00	CONTINUE	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 220KV S/S SUKHA
45	220	220KV BUS-COUPLER AT 220KV S/S NIMRANI	07-Dec-23	09:00	07-Dec-23	17:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 220KV S/S Nimrani
46	220	220KV GWALIOR II-PGCIL-II	07-Dec-23	10:00	07-Dec-23	17:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 220KV S/S GWALIOR-II
47	220	220KV DATIA- PICHHORE	07-Dec-23	09:00	07-Dec-23	17:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 220KV S/S DATIA
48	220	220KV MALANPUR-AURAIYA	08-Dec-23	10:00	08-Dec-23	17:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 220KV S/S MALANPUR
49	220	315MVA ICT -II AT 220KV S/S SUKHA	11-Dec-23	08:00	12-Dec-23	18:00	CONTINUE	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 220KV S/S SUKHA
50	220	220KV MALANPUR-PGCIL-I	11-Dec-23	10:00	11-Dec-23	17:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 220KV S/S MALANPUR
51	220	220KV DATIA- BINA	11-Dec-23	09:00	11-Dec-23	17:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 220KV S/S DATIA
52	220	220KV UJJAIN-HATUNIYA-PGCIL-I	12-Dec-23	09:00	12-Dec-23	17:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 220KV S/S UJJAIN
53	220	220KV UJJAIN-HATUNIYA-PGCIL-II	13-Dec-23	09:00	13-Dec-23	17:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 220KV S/S UJJAIN
54	220	220KV NAGDA INTERCONNECTOR -3 AT 400KV S/S NAGDA	13-Dec-23	09:00	13-Dec-23	18:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S NAGDA
55	220	220KV MALANPUR-PGCIL-II	14-Dec-23	10:00	14-Dec-23	17:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 220KV S/S MALANPUR
56	220	220KV MEHGAON- ADANI	15-Dec-23	10:00	15-Dec-23	17:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 220KV S/S MEHGAON
57	220	220KV MALANPUR MORENA-I	18-Dec-23	10:00	18-Dec-23	17:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 220KV S/S MALANPUR
58	220	220KV BHOPAL-VIDISHA	19-Dec-23	09:00	19-Dec-23	18:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S BHOPAL
59	220	220KV BHOPAL-GANJBASODA	20-Dec-23	09:00	20-Dec-23	18:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S BHOPAL
60	220	220KV MALANPUR MORENA-II	21-Dec-23	10:00	21-Dec-23	17:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 220KV S/S MALANPUR
61	220	220KV BHOPAL-SHUJALPUR-I	21-Dec-23	09:00	21-Dec-23	18:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S BHOPAL
62	220	220KV MALANPUR-ADANI	22-Dec-23	10:00	22-Dec-23	17:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 220KV S/S MALANPUR
63	220	220KV BHOPAL-SHUJALPUR-II	22-Dec-23	09:00	22-Dec-23	18:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S BHOPAL
64	220	220KV BHOPAL-BAIRAGARH-I	26-Dec-23	09:00	26-Dec-23	18:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S BHOPAL
65	220	220KV BHOPAL-BAIRAGARH-II	27-Dec-23	09:00	27-Dec-23	18:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S BHOPAL
66	220	220KV BHOPAL-MUGALIYACHHAP	28-Dec-23	09:00	28-Dec-23	18:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S BHOPAL
67	220	220KV MEHGAON- AURAIYA	29-Dec-23	10:00	29-Dec-23	17:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 220KV S/S MEHGAON
68	220	220KV BHOPAL-BAIRAGARH-III	29-Dec-23	09:00	29-Dec-23	18:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S BHOPAL
69	220	220KV INDORE-JETPURA	20-Nov-24	10:00	20-Nov-24	18:00	DAILY	FOR BAY EQUIPMENT MAINTENANCE AND TESTING WORK AT 400KV S/S INDORE

TENTATIVE MAINTENANCE PROGRAMME OF MPPGCL THERMAL UNITS FOR THE YEAR 2023-2024 R(6)																									18-Oct-2023						
STATION	UNIT No.	AOH START	AOH COMP	APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC		JAN		FEB		MAR		No of Days	REMARKS		
AMK EXT	5	Deferred																										0			
STP-IV	10	Deferred																										0			
STP-IV	11	22-Jul-23	30-Aug																								40	C.O.H.	LP Module Overhauling		
SGTPS - I	1	21-Sep-23	25-Oct																								35	A.O.H.	Repl. of Eco. Coils		
SGTPS - I	2	30-Jul-23	09-Sep																								42	A.O.H.			
SGTPS - II	3	Deferred																									0				
SGTPS - II	4	5-May-23	25-May																								21	A.O.H.			
SGTPS - III	5	7-Aug-23	23-Sep																								48	C.O.H.	LP Module Overhauling		
SSTPS - I	1	Deferred																									0				
SSTPS - I	2	14-Jun-23	28-Jul																								45	C.O.H.	HPT / IPT Module /LP		
SSTPS - II	3	Deferred																									0				
SSTPS - II	4	25-Aug-23	31-Oct																								68	A.O.H.	APH Works		
Capacity under Planned Maintenance				0	0	140	140	0	600	600	767	627	1180	1300	1133	870	800	0	0	0	0	0	0	0	0	0	0				
PLANNED MAINTENANCE %				0	0	3	3	0	11	11	14	12	22	24	21	16	15	0	0	0	0	0	0	0	0	0	0				
Sent out MW (PLF Based)				3059		2990		2890		2821		2587		2591		3001		3624		3624		3624		3624		3624		2897		3171	

A.O.H

C.O.H

Unitwise / Stationwise Genration in MU				
A. Thermal			Ann 4.1	
Stn. Name	UNIT No.	Capacity MW	Aug-23	Sep-23
AMARKA	5	210	153.40	149.49
	PH III	210	153.40	149.49
	TOT	210	153.40	149.49
SATPURA	6	200	0.00	0.00
	7	210	0.00	0.00
	PH II	410	0.00	0.00
	8	210	0.00	0.00
	9	210	0.00	0.00
	PH III	420	0.00	0.00
	10	250	160.90	156.75
	11	250	1.99	160.70
	PH IV	500	162.88	317.45
	TOT	1330	162.88	317.45
SANJAY GANDHI	1	210	100.14	77.01
	2	210	0.00	82.27
	PH I	420	100.14	159.28
	3	210	123.38	127.57
	4	210	124.17	130.57
	PH II	420	247.55	258.14
	5	500	79.76	78.98
	PH III	500	79.76	78.98
	TOT	1340	427.45	496.40
SSTPS	1	600	333.18	316.95
	2	600	367.98	336.13
	PH1	1200	701.16	653.08
	3	660	420.57	401.16
	4	660	213.64	0.00
	PH II	1320	634.21	401.16
	TOT	2520	1335.37	1054.24
MPPGCL THERMAL		5400	2079.10	2017.57
B. Hydel				
Station Name		Capacity MW	Aug-23	Sep-23
GANDHISAGAR		115.0	7.00	18.44
R.P.SAGAR		172.0	50.91	40.01
J.SAGAR		99.0	31.84	28.88
CHAMBAL		386.0	89.75	87.32
M.P.CHAMBAL		193.0	44.88	43.66
PENCH		160.0	69.60	81.09
M.P.PENCH		107.0	46.40	54.06
BARGI		90.0	64.91	54.24
TONS		315.0	75.42	98.43
BIRSINGHPUR		20.0	12.91	11.78
B.SGR(DEOLONDH)		60.0	40.32	26.52
B.SGR(SILPARA)		30.0	5.85	8.98
RAJGHAT		45.0	16.21	15.45
M.P.RAJGHAT		22.5	9.67	9.22
B.SGR(JINHA)		20.0	9.72	12.59
MADIKHEDA		60.0	8.81	8.89
TOTAL HYDEL		1186.0	393.50	405.28
MPPGCL Hydel		915.0	310.75	336.40
MPSEB HYDEL Share		917.5	318.89	328.36
C. NHDC (Ex-Bus)				
Station Name		Capacity MW	Aug-23	Sep-23
Indira Sagar Hydel Project		1000	754.40	463.66
Omkareshwar Hydel Project		520	350.13	206.44

# ENERGY BALANCE SHEET

Year : 2023 -24

All figures in Million Unit

S No.	Source	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Total
		30	31	30	31	31	30	0	0	0	0	0	0	183
<b>A.</b>	<b>M.P. Availability</b>													
1	Thermal	2212.70	2239.04	2094.62	2122.49	1945.55	1886.06	0.00	0.00	0.00	0.00	0.00	0.00	12500.46
2	Hydel	100.04	112.53	111.09	226.53	317.27	325.36	0.00	0.00	0.00	0.00	0.00	0.00	1192.83
3	Total	2312.74	2351.58	2205.70	2349.02	2262.83	2211.42	0.00	0.00	0.00	0.00	0.00	0.00	13693.29
<b>B.</b>	<b>Exchange with other States / Systems</b>													
1	Indira Sagar	28.14	73.93	190.00	376.34	744.19	458.33	0.00	0.00	0.00	0.00	0.00	0.00	1870.93
2	Omkareshwar	20.63	34.86	101.71	230.44	350.13	206.44	0.00	0.00	0.00	0.00	0.00	0.00	944.21
3	MPPMCL Schedule from Central Sector of WR	2402.35	2364.92	2160.52	2182.54	2560.56	2476.53	0.00	0.00	0.00	0.00	0.00	0.00	14147.41
4	MPPMCL Schedule from Central Sector ER	31.71	36.72	38.74	40.84	45.63	40.07	0.00	0.00	0.00	0.00	0.00	0.00	233.70
5	Total MPPMCL Schedule from Central Sector (WR+ER)	2434.05	2401.65	2199.26	2223.38	2606.18	2516.60	0.00	0.00	0.00	0.00	0.00	0.00	14381.12
6	Deviation Energy of (WR+ER)	-96.66	-108.97	-101.87	-98.14	-88.18	-84.37	0.00	0.00	0.00	0.00	0.00	0.00	-578.20
7	NET NR ISGS POWER SCH to MP	20.09	26.57	82.31	50.70	92.65	69.67	0.00	0.00	0.00	0.00	0.00	0.00	341.99
8	RUMS SOLAR REWA (Scheduled Energy)	348.62	366.75	326.43	314.68	311.39	306.41	0.00	0.00	0.00	0.00	0.00	0.00	1974.28
9	Schedule REMC (Wind) IWISL (Kuchh Gujrat)+ASIPL Wind	31.98	43.63	36.27	36.53	62.06	28.87	0.00	0.00	0.00	0.00	0.00	0.00	239.35
10	Azure Solar Power Rajasthan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	Schedule From Sugan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	LANCO Amk	110.73	143.06	159.40	182.38	127.58	130.90	0.00	0.00	0.00	0.00	0.00	0.00	854.05
13	SASAN	770.90	874.30	984.41	992.06	1019.78	913.53	0.00	0.00	0.00	0.00	0.00	0.00	5554.97
14	ESSAR (STOA against LTA)	27.00	20.79	22.31	22.11	15.07	14.63	0.00	0.00	0.00	0.00	0.00	0.00	121.91
15	J P Nigri	326.19	333.41	332.92	335.03	196.07	269.34	0.00	0.00	0.00	0.00	0.00	0.00	1792.96
16	MB Power	215.40	226.33	244.42	263.64	261.84	259.09	0.00	0.00	0.00	0.00	0.00	0.00	1470.73
17	JHABUA Power	99.67	102.65	91.73	105.61	78.53	118.53	0.00	0.00	0.00	0.00	0.00	0.00	596.71
18	Other Open Access Schedule other than MPPMCL Incl. Seci	-172.90	-199.42	-177.11	-149.20	-137.53	-157.75	0.00	0.00	0.00	0.00	0.00	0.00	-993.91
21	Schedule from Sardar Sarovar	42.58	31.66	38.61	231.17	512.94	345.18	0.00	0.00	0.00	0.00	0.00	0.00	1202.14
22	SCH to Railway from RGPL ebid	261.29	270.63	262.64	276.96	266.39	263.05	0.00	0.00	0.00	0.00	0.00	0.00	1600.97
23	Schedule from SEZ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	Schedule from Rihand+Matatila	0.83	3.91	5.86	9.52	10.81	10.07	0.00	0.00	0.00	0.00	0.00	0.00	41.01
25	MTOA / STOA FROM RAJASTHAN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Additional Power Purchase	60.69	54.82	55.74	68.97	53.12	86.07	0.00	0.00	0.00	0.00	0.00	0.00	379.41
29	Energy Exchange	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Banking of Energy	-58.25	-146.23	-376.80	-588.77	-614.84	-553.87	0.00	0.00	0.00	0.00	0.00	0.00	-2338.75
31	Sale of Power	-367.38	-365.55	-375.85	-514.41	-1040.37	-522.56	0.00	0.00	0.00	0.00	0.00	0.00	-3186.11
32	Total MP Schedule (Including Railway)	4151.49	4188.98	3912.56	3860.35	3821.68	4097.76	0.00	0.00	0.00	0.00	0.00	0.00	24032.82
33	Total MP Drawal (Including Railway)	4054.83	4080.01	3810.69	3762.21	3733.50	4013.39	0.00	0.00	0.00	0.00	0.00	0.00	23454.62
34	Wheeled Energy of Tawa HEG	4.77	1.43	0.00	0.00	8.00	8.61	0.00	0.00	0.00	0.00	0.00	0.00	22.81
35	Wheeled Energy of Wind Farm	85.99	99.80	20.75	86.43	19.98	13.25	0.00	0.00	0.00	0.00	0.00	0.00	326.19
36	Wheeled Energy of Solar Plant	101.66	108.30	89.15	74.60	76.24	75.90	0.00	0.00	0.00	0.00	0.00	0.00	525.84
37	Wheeled Energy of Bio-Mass + Baggase	9.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.93
38	Wheeled Energy of Ascent Hydro +SAS Hydel Hatta	17.24	19.02	17.76	20.74	22.45	20.65	0.00	0.00	0.00	0.00	0.00	0.00	117.86
39	Export to MSEB (Nepa-Dhami) Wheeling	-14.86	-9.96	-8.74	-6.25	-6.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-46.08
40	Deviation Energy of MPPGCL Thermal	-11.18	-15.37	-14.64	-24.73	-21.21	-21.07	0.00	0.00	0.00	0.00	0.00	0.00	-108.20
41	Energy Purchased by MP from Wind Farm	356.26	406.89	585.52	329.00	555.23	334.68	0.00	0.00	0.00	0.00	0.00	0.00	2567.58
42	Energy Purchased by MP from Solar Plant	149.23	159.96	125.77	101.02	106.17	102.09	0.00	0.00	0.00	0.00	0.00	0.00	744.24
43	Firm / Infirm Energy of HEG Mandideep+Hindalco+HEG Tawa +Trimula Ind. purchase by MP +Wheeled enrgy of CPP / IPP	113.73	155.88	135.06	119.89	81.55	100.99	0.00	0.00	0.00	0.00	0.00	0.00	707.10
44	Purchased from ASN Biomass Katni + RDM Care Ind. Biogas Pariyat + Pragma Energy Pvt. Ltd. Biogas Richhai+ Arya Energy Kotma + Orient Green Power Limited, Gadrawara Bio-Mass+Shailwaha (CHH+Umariya) + JBP MSW	11.78	10.43	11.17	8.99	5.35	8.53	0.00	0.00	0.00	0.00	0.00	0.00	56.24
45	Deviation Energy of ISP	1.51	2.21	3.86	4.20	10.20	5.32	0.00	0.00	0.00	0.00	0.00	0.00	27.31
46	Schedule Energy of BLA Power against LTOA	4.37	9.48	8.81	7.75	11.49	9.08	0.00	0.00	0.00	0.00	0.00	0.00	50.99
47	Schedule Energy of JP BINA Power against LTOA	139.30	157.18	151.87	162.01	103.97	153.44	0.00	0.00	0.00	0.00	0.00	0.00	867.79
48	Import from bargi Left Bank Canal Power House + ISP NVDA	0.35	1.07	0.29	0.26	0.28	3.27	0.00	0.00	0.00	0.00	0.00	0.00	5.51
49	Chambal Complex Excess / less Overshare by MP	13.20	10.76	-0.71	-31.78	-38.45	-25.82	0.00	0.00	0.00	0.00	0.00	0.00	-72.79
50	Rajghat Hydel Power Station Excess / Less Overshare by MP	-0.01	0.00	0.15	0.12	-0.40	11.74	0.00	0.00	0.00	0.00	0.00	0.00	11.60
51	State Supply (Ex-Power stn. Bus)	7399.60	7657.47	7434.18	7570.27	8025.23	7690.23	0.00	0.00	0.00	0.00	0.00	0.00	45776.99
52	AVERAGE DAILY (Ex-Bus)	246.65	247.02	247.81	244.20	258.88	256.34	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	250.15
53	MINIMUM DAILY (MP Periphery)	177.96	176.09	201.00	204.42	203.58	191.28	0.00	0.00	0.00	0.00	0.00	0.00	176.09
54	MAXIMUM DAILY (MP Periphery)	269.45	271.75	265.12	264.33	297.42	320.34	0.00	0.00	0.00	0.00	0.00	0.00	320.34
55	State Supply (Ex-Power st. Bus):- YEAR : 2022-23	8025.87	8195.39	6988.10	6581.99	6575.53	6709.20	6435.08	8859.00	9811.42	9679.33	8608.65	7465.47	43076.08
56	Year ((23-24)-(22-23))*100/Year (22-23)	-7.80	-6.56	6.38	15.01	22.05	14.62	-100.00	-100.00	-100.00	-100.00	-100.00	-100.00	6.27
57	Unshedule L/S : Year-2023-24	0.00	0.00	0.00	0.00	0.00	34.99	0.00	0.00	0.00	0.00	0.00	0.00	34.99
58	Frequency Correction	3.85	4.21	3.01	3.28	4.10	4.29	0.00	0.00	0.00	0.00	0.00	0.00	22.73
59	Restricted Requirement : Year-2023-24	7403.46	7661.68	7437.19	7573.55	8029.33	7729.50	0.00	0.00	0.00	0.00	0.00	0.00	45834.70

60	Schedule L/S : Year-2023-24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
61	Un-Restricted Requirement : Year-2023-24	7403.46	7661.68	7437.19	7573.55	8029.33	7729.50	0.00	0.00	0.00	0.00	0.00	0.00	45834.70

### ENERGY BALANCE SHEET : Demand & Sypply Hours

Year : 2023 -24

S.NO.		Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Yr 20-21
<b>C. MORNING PEAK (MAX)</b>														
1	DEMAND MET	11711	11429	11260	11815	13074	13458	0	0	0	0	0	0	13458
2	LOAD RELIEF	0	0	0	0	0	0	0	0	0	0	0	0	0
3	LOAD SHEDDING	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>D. EVENING PEAK (MAX)</b>														
1	DEMAND MET	11782	11518	11393	11728	12415	13385	0	0	0	0	0	0	13385
2	LOAD RELIEF	0	0	0	0	0	0	0	0	0	0	0	0	0
3	LOAD SHEDDING	0	0	0	0	0	0	0	0	0	0	0	0	0
F.	REGISTERED MAXIMUM	11974	12103	11631	11815	13664	14876	0	0	0	0	0	0	14876
G.	COMPUTED MAXIMUM DEMAND	12028	12103	11631	11815	13664	14876	0	0	0	0	0	0	14876
H.	UNRESTRICTED MAXIMUM DEMAND	12028	12103	11718	11815	13680	15006	0	0	0	0	0	0	15006
<b>I. Average Power Supply per day to</b>														
1.	Div. Head Quarters	23:52	23:54	23:54	23:52	23:52	23:50	0:00	0:00	0:00	0:00	0:00	0:00	23:53
2.	District Head Quarters	23:49	23:47	23:49	23:41	23:46	23:46	0:00	0:00	0:00	0:00	0:00	0:00	23:46
3.	Tahsil Head Quarters	23:41	23:37	23:40	23:41	23:42	23:37	0:00	0:00	0:00	0:00	0:00	0:00	23:40
4.	Rural -Mixed	23:21	23:13	23:15	23:17	23:16	23:01	0:00	0:00	0:00	0:00	0:00	0:00	23:14
5.	Rural -DLF	23:20	23:18	23:21	23:23	23:25	23:05	0:00	0:00	0:00	0:00	0:00	0:00	23:19
6.	Rural -Irrigation	9:40	9:40	9:40	9:46	9:46	9:14	0:00	0:00	0:00	0:00	0:00	0:00	9:38
J	LOAD FACTOR %	59.09	59.99	64.19	62.41	54.62	49.47	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.00	58.29

### FREQUENCY ANALYSIS YEAR 2023-24

S.N	PARTICULARS	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Yr 20-21
<b>A. INTGRATED FREQUENCY</b>														
1	MAXIMUM	50.26	50.37	50.34	50.35	50.24	50.23	0.00	0.00	0.00	0.00	0.00	0.00	50.37
2	MINIMUM	49.67	49.64	49.60	49.70	49.09	49.61	0.00	0.00	0.00	0.00	0.00	0.00	49.09
<b>B. INSTANTANEOUS FREQUENCY</b>														
1	MAXIMUM	50.33	50.40	50.41	50.42	50.29	50.33	0.00	0.00	0.00	0.00	0.00	0.00	50.42
2	MINIMUM	49.49	49.43	49.51	49.58	49.51	49.49	0.00	0.00	0.00	0.00	0.00	0.00	49.43
<b>C. AVG FREQUENCY</b>		50.00	50.00	50.01	50.01	50.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00	50.00
<b>D. % TIME WHEN FREQUENCY WAS</b>														
1	Above 50.30 Hz	0.04	0.08	0.10	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
2	Between 50.05 TO 51.30 Hz	21.68	21.72	25.31	17.25	13.21	13.95	0.00	0.00	0.00	0.00	0.00	0.00	7.71
3	Between 50.00 TO 50.05 Hz	26.50	27.24	29.17	35.01	38.00	34.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Between 49.90 TO 50.00 Hz	41.25	41.10	38.71	42.25	41.16	44.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Between 49.50 TO 49.90 Hz	10.53	9.85	6.71	5.38	7.63	6.15	0.00	0.00	0.00	0.00	0.00	0.00	7.71
6	Between 49.20 TO 49.50 Hz	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	BELOW 49.2 Hz	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**Hourly Average Own Generation, Schedule Drawal , Actual Drawal & Demand**  
**Month :- August 2023**

Own Generation														Schedule from																			Load Shedding						
Hrs.	FREQ	Ther Ind Aux	Ther East Aux	HYD	ISP	OSP	Total IPS Watts	Total OPs Injection	Total	CSS	Net NR to MP	Surge n	Lanco	Sasan	Essa r	JP Nighi	RUMS (SOLA R) RUMA TO MPW CL	MB Power	Jhabu a Power	SCH to Rate by	SEZ	Banking	Sale	Pur	STOA	Rhan d-Ma sathe Rugh at	MTDA / STOA FROM RUMS THAN	Total	Tot. Avl.	Act Dtl	Devia tion	Expor tto MS	DEMAN D MET	SCH	UN SCH	TOTAL	REST. DEMAN D	UNREST. DEMAND	
1:00	50.00	2847	2671	378	1013	467	278	957	5765	3623	74	0	163	1311	24	256	0	354	94	709	347	0	-1234	-1141	82	-108	5	0	4558	10323	4550	-8	-9	10307	0	0	0	10310	10310
2:00	50.00	2838	2663	361	1033	446	270	971	5744	3500	78	0	168	1314	24	255	0	348	102	737	362	0	-1234	-1157	79	-108	5	0	4472	10215	4445	-26	-9	10180	0	0	0	10183	10183
3:00	50.01	2841	2665	349	1027	460	257	943	5701	3336	69	0	168	1321	21	254	0	344	111	696	373	0	-1015	-1164	71	-116	5	0	4474	10175	4550	76	-9	10242	0	0	0	10245	10245
4:00	50.01	2802	2629	355	1023	470	256	911	5645	3364	51	0	168	1325	21	255	0	336	105	654	373	0	-744	-1362	72	-115	5	0	4508	10153	4530	22	-9	10166	0	0	0	10168	10168
5:00	49.99	2808	2634	355	1031	468	261	888	5638	3348	36	0	168	1326	21	254	0	337	111	691	367	0	-731	-1379	72	-116	5	0	4511	10149	4518	7	-9	10147	0	0	0	10153	10153
6:00	49.99	2830	2656	399	1011	480	269	855	5670	3542	153	0	168	1327	22	253	3	349	111	690	367	0	-718	-1259	79	-108	5	0	4985	10654	4971	-14	-9	10631	0	0	0	10638	10638
7:00	50.01	2868	2691	417	1017	497	274	862	5760	3679	326	0	168	1327	23	253	8	361	116	696	359	0	-695	-1078	82	-130	5	0	5500	11259	5605	105	-10	11354	0	0	0	11358	11358
8:00	50.05	2821	2646	419	1018	483	267	993	5826	3574	314	0	168	1327	21	254	114	355	116	688	353	0	-698	-1207	79	-172	5	0	5290	11116	5451	161	-9	11268	0	0	0	11268	11268
9:00	50.04	2780	2608	400	1020	492	250	1177	5947	3199	136	0	168	1328	17	254	209	319	102	589	373	0	-705	-1201	64	-234	5	0	4623	10570	5006	383	-8	10945	0	0	0	10946	10946
10:00	50.02	2755	2584	376	1012	493	248	1338	6051	3052	138	0	168	1327	16	253	315	324	99	520	362	0	-705	-1486	61	-290	5	0	4150	10201	4856	706	-8	10900	0	0	0	10904	10904
11:00	50.01	2865	2499	364	991	497	245	1429	6026	2945	201	0	161	1356	15	253	383	332	92	468	348	0	-711	-1770	55	-321	5	0	3814	9839	4588	774	-7	10606	0	0	0	10611	10611
12:00	50.00	2848	2484	349	980	486	242	1448	5988	2893	173	0	158	1340	15	253	403	320	93	510	352	0	-718	-1897	55	-331	5	0	3625	9613	4452	827	-7	10432	0	0	0	10437	10437
13:00	50.01	2818	2455	353	942	474	241	1445	5909	2887	119	0	158	1340	15	256	378	328	88	576	358	0	-718	-1990	52	-335	5	0	3514	9423	4476	962	-7	10379	0	0	0	10383	10383
14:00	50.00	2831	2467	344	944	461	245	1431	5892	2743	135	0	155	1340	15	256	360	301	82	669	339	0	-727	-1887	61	-325	5	0	3521	9413	4442	921	-7	10328	0	0	0	10334	10334
15:00	49.97	2709	2541	333	957	453	259	1357	5900	3049	131	0	158	1332	17	257	271	325	95	710	335	0	-727	-2041	60	-296	5	0	3681	9582	4543	861	-7	10436	0	0	0	10449	10449
16:00	49.97	2770	2598	349	985	456	260	1200	5849	3319	132	0	164	1334	18	258	156	325	97	758	335	0	-737	-2069	65	-246	5	0	3914	9763	4645	731	-7	10487	0	0	0	10499	10499
17:00	49.99	2809	2635	374	990	458	267	983	5707	3352	149	0	168	1334	18	257	49	331	105	752	341	0	-737	-1690	66	-196	5	0	4303	10011	4679	376	-7	10379	0	0	0	10385	10385
18:00	49.96	2857	2681	389	1015	460	270	729	5544	3383	182	0	168	1332	20	256	7	343	111	712	361	0	-737	-1336	70	-151	5	0	4726	10270	4977	252	-7	10514	0	0	0	10525	10525
19:00	49.97	2879	2702	468	1032	466	282	588	5608	3586	66	0	170	1316	24	256	0	358	107	714	350	0	-737	-935	83	-111	5	0	5249	10857	5371	122	-9	10970	0	0	0	10984	10984
20:00	50.01	2897	2718	485	1016	464	289	717	5688	3811	44	0	172	1315	24	254	0	361	103	714	317	0	-769	-904	85	-112	5	0	5419	11106	5284	-135	-10	10962	0	0	0	10968	10968
21:00	50.00	2898	2719	461	1026	466	289	785	5746	3777	45	0	172	1307	24	254	0	361	102	689	320	0	-1008	-1132	82	-112	5	0	4886	10632	4654	-232	-10	10390	0	0	0	10396	10396
22:00	50.02	2896	2718	417	1007	461	290	832	5725	3766	41	0	168	1307	24	254	0	361	101	689	325	0	-1011	-1329	80	-112	5	0	4670	10395	4577	-93	-10	10292	0	0	0	10296	10296
23:00	50.00	2879	2702	416	1027	501	289	885	5821	3770	40	0	168	1307	24	254	0	360	101	686	330	0	-1011	-1253	81	-113	5	0	4749	10569	4728	-21	-9	10539	0	0	0	10548	10548
24:00	50.02	2870	2693	405	1042	493	286	917	5837	3690	42	0	168	1308	24	253	0	359	101	717	331	0	-1011	-1247	82	-113	5	0	4708	10545	4672	-36	-9	10500	0	0	0	10501	10501
Avg.	50.00	2801	2627	388	1007	473	266	1030	5791	3383	120	0	166	1325	20	255	111	341	101	668	349	0	-827	-1413	72	-182	5	0	4494	10285	4774	280	-8	10556	0	0	0	10562	10562
00 TO 06 HRS.	50.00	2828	2653	366	1023	465	265	921	5684	3452	77	0	167	1321	22	254	0	345	106	696	365	0	-946	-1244	76	-112	5	0	4585	10278	4594	10	-9	10279	0	0	0	10283	10283
06 TO 12 HRS.	50.02	2756	2585	387	1006	491	254	1208	5933	3224	215	0	165	1334	18	253	239	335	101	579	358	0	-705	-1440	66	-246	5	0	4500	10433	4993	493	-8	10917	0	0	0	10920	10920
12 TO 18 HRS.	49.99	2732	2563	357	972	460	257	1191	5800	3122	141	0	162	1335	17	256	203	325	96	696	345	0	-731	-1836	62	-258	5	0	3943	9744	4627	684	-7	10421	0	0	0	10429	10429
06 TO 18 HRS.	50.00	2744	2574	372	989	476	256	1200	5867	3173	178	0	163	1335	18	255	221	330	99	637	351	0	-718	-1638	64	-252	5	0	4222	10088	4610	588	-8	10669	0	0	0	10675	10675
18 TO 24 HRS.	50.00	2887	2709	442	1025	475	287	799	5737	3733	46	0	169	1310	24	254	0	360	102	702	329	0	-925	-1133	82	-112	5	0	4947	10684	4881	-66	-9	10609	0	0	0	10615	10615

**Hourly Average Own Generation, Schedule Drawal , Actual Drawal & Demand**  
**Month :- September 2023**

**FIGURES IN MW**

FIGURES IN MW																																							
Own Generation													Schedule from														Load Shedding												
Hrs.	FREQ	Ther. Ind. Aux.	Ther. East Aux.	HYD.	ISP	OSP	Total IP% injected	Total CP% injected	Total	CSS	Net NR to MP	Sage n	Lanco	Sasan	Esar	JP Ngrl	RUMS (SOLA R) RUMS TO MP/NU CL	MB Power	Jhabu Power	SCH to SEZ	SEZ	Banking	Sale	Pur	STOA	Rhan d-Ma tte/Raj at	MTDA/ STOA FROM RAJAS THAN	Total	Tot. Avl.	Act. Dtl	Devia tion	Expor t to MS	DEMAN D MET	SCH	UN SCH	TOTAL	REST. DEMAN D	UNREST. DEMAND	
1:00	50.00	2897	2706	434	719	324	374	661	5218	3634	58	0	260	1216	23	364	0	374	175	481	362	0	-1153	-572	115	-144	6	0	5198	10416	5156	-43	-9	10364	0	114	114	10482	10482
2:00	50.01	2868	2678	417	689	304	375	672	5105	3602	104	0	192	1222	21	365	0	367	172	496	371	0	-1146	-567	131	-144	6	0	5192	10297	5066	-125	-9	10163	0	114	114	10278	10278
3:00	50.00	2823	2636	399	612	271	367	691	4976	3425	94	0	192	1235	21	360	0	362	172	513	365	0	-688	-719	105	-143	6	0	5298	10274	5261	-37	-9	10229	0	63	63	10295	10295
4:00	50.00	2789	2604	395	596	277	361	687	4920	3359	123	0	192	1251	20	360	0	355	159	517	372	0	-661	-743	99	-144	6	0	5265	10186	5200	-66	-9	10111	0	36	36	10151	10151
5:00	49.99	2810	2623	393	583	280	357	676	4912	3342	126	0	145	1233	20	364	0	349	166	509	369	0	-661	-717	116	-142	6	0	5227	10138	5101	-126	-9	10004	0	9	9	10020	10020
6:00	50.01	2867	2677	426	613	302	382	678	5079	3498	121	0	145	1232	22	370	1	367	170	459	373	0	-661	-600	91	-142	6	0	5451	10531	5403	-49	-9	10473	0	9	9	10485	10485
7:00	50.00	2911	2719	483	718	327	387	717	5351	3718	186	0	145	1220	23	370	7	373	177	451	366	0	-661	-472	89	-163	6	0	5833	11185	5868	35	-10	11209	0	24	24	11239	11239
8:00	50.06	2836	2649	480	688	311	379	840	5316	3632	196	0	145	1219	21	370	121	366	174	424	364	0	-661	-508	97	-211	6	0	5754	11071	5830	76	-10	11136	0	37	37	11173	11173
9:00	50.04	2774	2590	463	605	278	363	1028	5326	3179	99	0	145	1211	18	368	251	330	157	275	366	0	-661	-341	105	-267	6	0	5242	10568	5516	274	-9	10833	0	20	20	10854	10854
10:00	50.01	2705	2525	414	568	247	352	1181	5287	3012	92	0	145	1228	16	368	373	323	145	274	360	0	-661	-551	94	-323	6	0	4902	10189	5520	618	-8	10799	0	34	34	10837	10837
11:00	50.01	2877	2499	399	546	224	342	1261	5272	2769	68	0	145	1236	16	362	422	305	134	268	347	0	-661	-624	148	-372	6	0	4568	9840	5345	777	-8	10609	0	25	25	10638	10638
12:00	49.98	2665	2488	395	542	220	341	1265	5251	2752	48	0	145	1228	16	362	448	311	133	379	342	0	-661	-891	132	-389	6	0	4360	9611	5115	755	-8	10358	0	57	57	10424	10424
13:00	49.99	2563	2392	368	510	220	329	1256	5075	2675	32	0	145	1235	16	361	428	298	127	449	348	0	-661	-831	171	-387	6	0	4412	9487	5279	867	-8	10346	0	0	0	10353	10353
14:00	50.01	2539	2389	383	539	236	325	1183	5035	2517	40	0	145	1213	16	353	387	279	121	478	334	0	-671	-707	172	-356	6	0	4326	9362	5213	887	-7	10241	0	48	48	10294	10294
15:00	49.97	2679	2500	391	573	243	351	1100	5158	2911	66	0	145	1220	18	349	296	316	143	477	331	0	-678	-1111	150	-321	6	0	4317	9475	5096	779	-7	10247	0	33	33	10294	10294
16:00	49.96	2785	2601	413	573	248	366	912	5114	3193	118	0	145	1214	19	355	154	335	159	498	326	0	-678	-1225	145	-267	6	0	4496	9609	5062	567	-8	10168	0	27	27	10208	10208
17:00	49.97	2785	2601	416	602	264	374	704	4961	3404	161	0	145	1282	20	355	33	354	160	495	335	0	-678	-1060	129	-210	6	0	4902	9863	5192	289	-8	10145	0	31	31	10188	10188
18:00	49.97	2828	2641	497	664	298	382	524	5007	3496	126	0	145	1242	23	355	4	361	166	514	355	0	-678	-663	123	-169	6	0	5405	10412	5492	87	-9	10490	0	24	24	10524	10524
19:00	49.99	2898	2707	550	795	331	384	517	5284	3755	107	0	180	1219	23	355	0	366	164	537	353	0	-778	-333	99	-155	6	0	5898	11182	5971	74	-10	11246	0	54	54	11310	11310
20:00	50.05	2920	2728	535	769	352	383	568	5335	3876	65	0	216	1222	23	355	0	373	171	529	348	0	-812	-707	102	-156	6	0	5610	10945	5409	-201	-10	10734	0	94	94	10829	10829
21:00	50.00	2932	2739	504	772	343	382	576	5316	3834	49	0	216	1219	23	355	0	367	160	514	389	0	-1002	-919	99	-154	6	0	5126	10441	5007	-119	-10	10313	0	80	80	10398	10398
22:00	50.05	2942	2748	461	762	340	389	587	5287	3820	59	0	239	1222	23	358	0	374	169	512	363	0	-1002	-981	102	-153	6	0	5110	10397	4991	-120	-9	10268	0	67	67	10335	10335
23:00	50.02	2941	2747	436	728	344	389	598	5242	3760	62	0	264	1230	23	363	0	374	172	513	368	0	-968	-823	103	-154	6	0	5293	10535	5253	-40	-9	10486	0	79	79	10567	10567
24:00	50.04	2935	2741	437	732	325	385	613	5235	3797	59	0	264	1219	23	374	0	374	166	515	378	0	-968	-828	101	-153	6	0	5328	10563	5216	-112	-9	10442	0	157	157	10599	10599
Avg.	50.00	2807	2621	437	643	288	368	812	5169	3373	94	0	177	1226	20	361	122	348	159	461	356	0	-771	-729	117	-217	6	0	5105	10274	5315	210	-9	10476	0	51	51	10532	10532
00 TO 06 HRS.	50.00	2842	2654	411	630	293	369	678	5035	3477	104	0	188	1231	21	364	0	362	169	496	369	0	-828	-653	109	-143	6	0	5272	10307	5198	-74	-9	10224	0	58	58	10285	10285
06 TO 12 HRS.	50.02	2761	2578	439	606	268	361	1049	5301	3177	115	0	145	1224	18	367	270	335	153	345	358	0	-661	-565	111	-287	6	0	5110	10410	5532	422	-9	10824	0	33	33	10861	10861
12 TO 18 HRS.	49.98	2696	2517	411	577	251	355	947	5058	3033	91	0	145	1229	18	355	217	324	146	485	338	0	-674	-933	148	-285	6	0	4643	9701	5222	579	-8	10273	0	27	27	10310	10310
06 TO 18 HRS.	50.00	2729	2548	425	592	260	358	998	5179	3105	103	0	145	1226	18	361	244	329	150	415	348	0	-668	-749	130	-286	6	0	4876	10056	5377	501	-8	10548	0	30	30	10586	10586
18 TO 24 HRS.	50.02	2928	2735	487	760	339	385	576	5283	3807	87	0	230	1222	23	360	0	371	167	520	362	0	-921	-765	101	-154	6	0	5394	10677	5308	-86	-10	10581	0	89	89	10673	10673

**Discomwise Hourly Average Schedule Drawal , Actual Drawal &Over(+)/Under(-) Drawal**  
**Month :- August 2023**

**FIGURES IN MW**

Hrs.	FREQ.	EZONE								CZONE								WZONE								Railway	
		SCH	Demand Met	O/U DRL	SCH LS	Unsch LS	Restrict ed Demand	Unrestrict ed Demand		SCH	Demand Met	O/U DRL	SCH LS	Unsch LS	Restrict ed Demand	Unrestrict ed Demand		SCH	Demand Met	O/U DRL	SCH LS	Unsch LS	Restrict ed Demand	Unrestrict ed Demand		Total Sch	Total Drawal
1:00	50.00	3275	3251	-24	0	0	3252	3252		3908	3879	-29	0	0	3881	3881		2818	2798	-20	0	0	2799	2799		347	379
2:00	50.00	3220	3191	-29	0	0	3192	3192		3814	3780	-34	0	0	3781	3781		2849	2826	-23	0	0	2827	2827		362	383
3:00	50.01	3170	3176	6	0	0	3177	3177		3811	3817	6	0	0	3818	3818		2857	2865	8	0	0	2866	2866		373	384
4:00	50.01	3161	3159	-2	0	0	3159	3159		3782	3779	-4	0	0	3779	3779		2858	2856	-2	0	0	2856	2856		373	373
5:00	49.99	3109	3103	-6	0	0	3104	3104		3811	3802	-9	0	0	3804	3804		2881	2874	-7	0	0	2876	2876		367	369
6:00	49.99	3130	3113	-16	0	0	3115	3115		3982	3962	-20	0	0	3964	3964		3197	3183	-14	0	0	3185	3185		367	373
7:00	50.01	3307	3304	-3	0	0	3305	3305		4176	4171	-5	0	0	4172	4172		3509	3508	-2	0	0	3509	3509		359	372
8:00	50.05	3323	3285	-38	0	0	3285	3285		4139	4093	-47	0	0	4093	4093		3575	3536	-39	0	0	3536	3536		353	354
9:00	50.04	3294	3246	-48	0	0	3247	3247		3911	3856	-55	0	0	3857	3857		3520	3472	-48	0	0	3472	3472		373	370
10:00	50.02	3182	3173	-9	0	0	3175	3175		4007	3994	-13	0	0	3996	3996		3383	3373	-10	0	0	3374	3374		362	359
11:00	50.01	3162	3122	-41	0	0	3123	3123		3941	3889	-52	0	0	3891	3891		3293	3250	-44	0	0	3251	3251		348	346
12:00	50.00	3066	3023	-43	0	0	3024	3024		3800	3745	-54	0	0	3747	3747		3355	3311	-44	0	0	3312	3312		352	353
13:00	50.01	2996	2991	-5	0	0	2992	2992		3751	3742	-8	0	0	3744	3744		3291	3287	-5	0	0	3288	3288		358	359
14:00	50.00	2975	2962	-13	0	0	2964	2964		3764	3746	-19	0	0	3748	3748		3291	3279	-12	0	0	3281	3281		339	341
15:00	49.97	2996	2986	-10	0	0	2990	2990		3812	3799	-13	0	0	3804	3804		3320	3312	-9	0	0	3316	3316		335	339
16:00	49.97	2934	2939	5	0	0	2942	2942		3846	3851	5	0	0	3855	3855		3352	3358	7	0	0	3362	3362		335	340
17:00	49.99	2905	2873	-32	0	0	2875	2875		3944	3900	-44	0	0	3902	3902		3294	3257	-37	0	0	3259	3259		341	349
18:00	49.98	2889	2887	-2	0	0	2890	2890		3896	3895	0	0	0	3899	3899		3361	3361	1	0	0	3365	3365		361	370
19:00	49.97	3233	3237	4	0	0	3241	3241		3830	3835	4	0	0	3840	3840		3511	3517	6	0	0	3521	3521		350	381
20:00	50.01	3477	3397	-80	0	0	3398	3398		3932	3841	-90	0	0	3843	3843		3413	3334	-79	0	0	3336	3336		317	390
21:00	50.00	3437	3326	-111	0	0	3328	3328		3771	3650	-121	0	0	3652	3652		3127	3026	-101	0	0	3028	3028		320	388
22:00	50.02	3405	3341	-64	0	0	3342	3342		3668	3598	-69	0	0	3599	3599		3020	2963	-57	0	0	2965	2965		325	390
23:00	50.00	3451	3411	-40	0	0	3414	3414		3828	3782	-46	0	0	3785	3785		2987	2950	-36	0	0	2953	2953		330	396
24:00	50.02	3389	3347	-42	0	0	3348	3348		3947	3898	-48	0	0	3899	3899		2900	2865	-35	0	0	2866	2866		331	389
Avg.	50.00	3187	3160	-27	0	0	3162	3162		3878	3846	-32	0	0	3848	3848		3207	3182	-25	0	0	3183	3183		349	369
00 TO 06 HRS.	50.00	3177	3165	-12	0	0	3167	3167		3852	3836	-15	0	0	3838	3838		2910	2900	-10	0	0	2901	2901		365	377
06 TO 12 HRS.	50.02	3222	3192	-30	0	0	3193	3193		3996	3958	-38	0	0	3959	3959		3439	3408	-31	0	0	3409	3409		358	359
12 TO 18 HRS.	49.99	2949	2940	-10	0	0	2942	2942		3835	3822	-13	0	0	3825	3825		3318	3309	-9	0	0	3312	3312		345	350
06 TO 18 HRS.	50.00	3086	3066	-20	0	0	3068	3068		3916	3890	-25	0	0	3892	3892		3379	3359	-20	0	0	3360	3360		351	354
18 TO 24 HRS.	50.00	3399	3343	-55	0	0	3345	3345		3829	3767	-62	0	0	3770	3770		3160	3109	-50	0	0	3111	3111		329	389



**Discomwise Hourly Average Schedule Drawal , Actual Drawal &Over(+)/Under(-) Drawal**  
**Month :- September 2023**

**FIGURES IN MW**

Hrs.	FREQ.	EZONE								CZONE								WZONE								Railway	
		SCH	Demand Met	O/U DRL	SCH LS	Unsch LS	Restrict ed Demand	Unrestrict ed Demand		SCH	Demand Met	O/U DRL	SCH LS	Unsch LS	Restrict ed Demand	Unrestrict ed Demand		SCH	Demand Met	O/U DRL	SCH LS	Unsch LS	Restrict ed Demand	Unrestrict ed Demand		Total Sch	Total Drawal
1:00	50.00	3351	3335	-16	0	45	3382	3382		3848	3831	-17	0	39	3871	3871		2833	2824	-9	0	30	2856	2856		362	374
2:00	50.01	3297	3249	-48	0	42	3292	3292		3760	3709	-52	0	47	3756	3756		2857	2822	-35	0	25	2848	2848		371	383
3:00	50.00	3282	3267	-16	0	18	3285	3285		3728	3711	-18	0	25	3737	3737		2888	2878	-10	0	21	2899	2899		365	373
4:00	50.00	3268	3248	-20	0	9	3258	3258		3676	3652	-23	0	17	3671	3671		2851	2831	-19	0	10	2843	2843		372	380
5:00	49.99	3244	3203	-41	0	5	3210	3210		3694	3648	-45	0	5	3655	3655		2814	2777	-37	0	0	2779	2779		369	376
6:00	50.01	3223	3207	-15	0	3	3211	3211		3842	3821	-21	0	2	3824	3824		3083	3066	-17	0	4	3071	3071		373	378
7:00	50.00	3389	3388	-1	0	9	3399	3399		4042	4038	-4	0	8	4047	4047		3412	3410	-2	0	7	3419	3419		366	373
8:00	50.06	3372	3322	-49	0	12	3334	3334		4015	3955	-60	0	10	3965	3965		3539	3489	-50	0	15	3504	3504		364	370
9:00	50.04	3357	3285	-73	0	6	3291	3291		3859	3775	-84	0	6	3782	3782		3478	3403	-75	0	7	3410	3410		366	370
10:00	50.01	3258	3213	-45	0	18	3232	3232		4020	3968	-52	0	2	3972	3972		3295	3253	-42	0	14	3268	3268		360	365
11:00	50.01	3211	3173	-38	0	6	3180	3180		3932	3885	-47	0	10	3897	3897		3237	3200	-38	0	9	3210	3210		347	351
12:00	49.98	3147	3090	-57	0	15	3108	3108		3819	3749	-70	0	20	3772	3772		3231	3172	-59	0	22	3197	3197		342	347
13:00	49.99	3146	3120	-26	0	0	3122	3122		3773	3742	-31	0	0	3744	3744		3156	3134	-22	0	0	3136	3136		348	351
14:00	50.01	3041	3033	-8	0	17	3051	3051		3713	3704	-9	0	20	3725	3725		3176	3168	-8	0	12	3181	3181		334	336
15:00	49.97	3059	3044	-15	0	15	3063	3063		3756	3737	-19	0	12	3755	3755		3151	3132	-19	0	5	3142	3142		331	334
16:00	49.96	3000	2986	-13	0	11	3001	3001		3722	3706	-16	0	5	3716	3716		3164	3145	-19	0	11	3160	3160		326	331
17:00	49.97	2937	2917	-21	0	10	2930	2930		3774	3751	-23	0	12	3767	3767		3163	3137	-26	0	10	3151	3151		335	340
18:00	49.97	3017	3005	-12	0	6	3014	3014		3830	3817	-13	0	9	3829	3829		3316	3306	-9	0	8	3318	3318		355	362
19:00	49.99	3422	3432	10	0	11	3447	3447		3958	3971	13	0	22	3996	3996		3459	3471	12	0	20	3494	3494		353	372
20:00	50.05	3477	3398	-79	0	29	3427	3427		3877	3788	-89	0	38	3826	3826		3242	3167	-75	0	27	3194	3194		348	381
21:00	50.00	3384	3336	-48	0	30	3367	3367		3689	3636	-54	0	29	3666	3666		3004	2960	-44	0	21	2982	2982		359	382
22:00	50.05	3394	3352	-43	0	24	3376	3376		3643	3596	-46	0	26	3623	3623		2977	2938	-38	0	17	2955	2955		363	382
23:00	50.02	3458	3439	-19	0	25	3465	3465		3767	3747	-20	0	26	3773	3773		2927	2913	-14	0	28	2941	2941		368	387
24:00	50.04	3407	3365	-41	0	61	3426	3426		3893	3848	-46	0	59	3906	3906		2872	2838	-33	0	38	2877	2877		378	390
Avg.	50.00	3256	3225	-31	0	18	3245	3245		3818	3783	-35	0	19	3803	3803		3130	3101	-29	0	15	3118	3118		356	366
00 TO 06 HRS.	50.00	3277	3251	-26	0	20	3273	3273		3758	3729	-29	0	22	3752	3752		2888	2866	-21	0	15	2883	2883		369	377
06 TO 12 HRS.	50.02	3289	3245	-44	0	11	3257	3257		3948	3895	-53	0	9	3906	3906		3365	3321	-44	0	12	3335	3335		358	363
12 TO 18 HRS.	49.98	3033	3017	-16	0	10	3030	3030		3761	3743	-19	0	10	3756	3756		3188	3170	-17	0	8	3181	3181		338	342
06 TO 18 HRS.	50.00	3161	3131	-30	0	10	3144	3144		3855	3819	-36	0	10	3831	3831		3277	3246	-31	0	10	3258	3258		348	352
18 TO 24 HRS.	50.02	3424	3387	-37	0	30	3418	3418		3804	3764	-40	0	33	3798	3798		3080	3048	-32	0	25	3074	3074		362	382

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**No. L-1/261/2021/CERC**

**CORAM:**

**Shri Jishnu Barua, Chairperson  
Shri I. S. Jha, Member  
Shri Arun Goyal, Member  
Shri P. K. Singh, Member**

**Date of Order: 29.09.2023**

**In the matter of:**

Approval of 'Detailed Procedure for Allocation of Transmission Corridor for Scheduling of General Network Access and Temporary General Network Access under Central Electricity Regulatory Commission (Connectivity and General Network Access to the inter-State Transmission System) Regulations, 2022

**Order**

Central Electricity Regulatory Commission (Connectivity and General Network Access to the inter-State Transmission System) Regulations, 2022 (hereinafter called 'GNA Regulations') were published on 19.07.2022 in Part III, Section 4 of the Gazette of India (Extraordinary) No 364.

2. In accordance with Regulation 39.2 of the GNA Regulations, NLDC was required to submit a Detailed Procedure in respect of Regulation 36 of the GNA Regulations for approval of the Commission.



3. Accordingly, NLDC vide its letter dated 14.07.2023 submitted the 'Detailed Procedure for Allocation of Transmission Corridor for Scheduling of General Network Access and Temporary General Network Access'.
4. The Commission has examined the Detailed Procedure submitted by NLDC and after incorporating suitable changes hereby approves the "Detailed Procedure for Allocation of Transmission Corridor for Scheduling under General Network Access and Temporary General Network Access" in terms of proviso to Regulation 39.2 of the GNA Regulations. The approved Detailed Procedure is enclosed as Annexure to this order.

Sd/  
**(P. K. Singh)**  
**Member**

Sd/  
**(Arun Goyal)**  
**Member**

Sd/  
**(I. S. Jha)**  
**Member**

Sd/  
**(Jishnu Barua)**  
**Chairperson**



**Allocation of Transmission Corridor under General Network Access (GNA) and Temporary General Network Access (T-GNA) to the Inter-State Transmission System**

**1. Background**

- 1.1. This procedure is in accordance with Regulation 39.2 of the Central Electricity Regulatory Commission (Connectivity and General Network Access to the inter-State Transmission System) Regulations, 2022 (hereinafter called 'GNA Regulations').
- 1.2. The procedure lays down the guidelines for allocation of the transmission corridor for scheduling of GNA and T-GNA transactions as per the provisions stipulated in GNA Regulations and the Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2023 (hereinafter called 'Grid Code, 2023').

The procedure will supplement NLDC's Procedure for granting Temporary General Network Access (T-GNA) to the inter-State Transmission system through the National Open Access Registry (NOAR) prepared in accordance with the aforementioned regulations.

- 1.3 All the provisions of this Procedure as applicable to GNA Applicants are also applicable to GNA<sub>RE</sub> and all the provisions of this Procedure as applicable to T-GNA Applicants are also applicable to T-GNA<sub>RE</sub>. Accordingly, GNA<sub>RE</sub> and T-GNA<sub>RE</sub> have not been repeated everywhere in the Procedure as the same provisions are applicable.

**2. Definitions**

- 2.1. 'Applicant' means Distribution licensee directly connected to ISTS / Bulk consumer directly connected to ISTS, drawee entity connected to intrastate transmission system or to distribution system, all generating stations, including based on a renewable source of energy with or without Energy Storage System including Renewable Hybrid Generating Station for meeting its auxiliary consumption or start-up power or for meeting its supply obligations in terms of clause (3) of Regulation 6 of the Power Market Regulations, Captive generating

plant, Standalone Energy Storage System, Generating station based on a renewable source of energy with or without Energy Storage System including Renewable Hybrid Generating Station for drawal during non-generation hours as buyers. Trading Licensee on behalf of above buyers or engaged in cross border trade of electricity for injection into or drawal from the Indian grid. Power Exchange for collective or bilateral transactions on behalf of the above buyers or on behalf of trading licensees engaged in cross border trade of electricity for injection into or drawal from the Indian grid., or any other entity as per GNA Regulations

- 2.2. 'Bid Area' is defined as the largest geographical area within which market participants are able to exchange energy without capacity allocation.
- 2.3. 'Control Area' means an electrical system bound by interconnections (tie lines), metering and telemetry which controls its generation and/or load to maintain its interchange schedule with other control areas and contributes to the regulation of frequency as specified in Grid Code, 2023.
- 2.4. 'Cross Border Transaction' means transactions involving the import or export of electricity between India and any of the neighbouring countries and shall also include transactions across India involving neighbouring countries.
- 2.5. 'Day' means a day starting at 00:00 hours and ending at 24:00 hours.
- 2.6. Grid Controller of India Ltd. (hereinafter called 'Grid-India') (erstwhile Power System Operation Corporation Ltd. (POSOCO)) means the wholly Government owned independent Company notified by Central Government under Section 26 and subsection (2) of Section 27 of the Electricity Act vide notification dated 19th December 2016. Grid-India is operating all five RLDCs and the NLDC w.e.f. 1<sup>st</sup> October, 2010;
3. Words and expressions used in this procedure that are not defined herein but defined in the Act or any other regulations of the Central Commission shall, unless the context otherwise requires, have the meanings assigned to them under the Act or the said regulations specified by the Central Commission.

#### **4. Declaration of Total Transfer Capability (TTC), Available Transfer Capability (ATC) and Transmission Reliability Margin (TRM)**

##### **4.1 Declaration of Transfer Capability**

- a) The procedure for calculation of TTC, ATC and TRM is attached as Appendix -I of this Procedure.
- b) The Central Transmission Utility of India Limited (CTUIL) shall furnish to NLDC on a rolling basis, the import and export ATC of the inter-regional links/corridors as considered by it while granting General Network Access (GNA) to entities.
- c) The National Load Despatch Centre (NLDC), Regional Load Despatch Centres (RLDCs) and State Load Despatch Centres (SLDCs) shall consider the quantum declared by CTUIL while assessing the import and export TTC, TRM and ATC for the purpose of grant of Temporary General Network Address (T-GNA), scheduling of GNA and T-GNA transactions.
- d) The declaration of the import and export TTC, ATC and TRM shall be carried out by RLDCs and NLDC in accordance with Regulation 44 (1) and Regulation 44(2) of the Grid Code 2023. The TTC, ATC, and TRM figures for the month along with the details of the basis of calculations, including assumptions, if any, shall be published on the website of NLDC and concerned RLDCs at least eleven (11) months in advance. The specific constraints indicated in the system study shall also be published on the website.
- e) SLDCs in consultation with RLDCs shall declare the import and export TTC, ATC, and TRM of the individual control/bid areas within the region in accordance with Regulation 44 (3) of the Grid Code 2023. RLDCs shall assess the import and export TTC, TRM and ATC for the group of control/bid areas within the region (if required). The computed TTC, TRM and ATC figures shall be published on the website of respective SLDCs and RLDCs, along with the details of the basis of calculations, including assumptions, if any, at least eleven (11) months in advance. The specific constraints indicated in the system study shall also be published on the website.

- f) The consolidated bid area/control area/combination of control areas wise import and export TTC, TRM and ATC shall also be published on the NLDC/Grid-India website.
- g) NLDC, RLDCs and SLDCs shall perform the TTC computation studies such that all anticipated operating conditions are covered. In the studies, the worst credible contingency shall be considered to ensure equipment loadings, voltage stability, and transient stability limits.

Provided further that NLDC and/or concerned RLDCs and SLDCs in consultation with each other may revise the TTC, ATC and TRM of respective control areas due to changes in system conditions, which includes changes in network topology or changes in anticipated active or reactive generation or load, on account of outage of one or more generators or transmission lines at any of the nodes in the study. Revised TTC, TRM and, ATC figures along with the reasons for revision shall be published on the websites of NLDC/GRID-INDIA, concerned RLDCs and SLDCs.

- a) The TTC, ATC and TRM may also be revised near the operating horizon depending on the anticipated system conditions at that time.

## **5. Allocation of Transmission Corridor**

- a) In order to determine whether the drawl schedules as requisitioned by the GNA and T-GNA grantees can be allowed, RLDCs shall check the availability of the margin for each and every time block against the available inter-regional import/export transfer capability as well as intra-regional and bid/control area import/export transfer capability. This process shall be carried out for all the bid area (s) / control area (s) / group of control or bid areas.
- b) For the purpose of transmission corridor allocation, all states and Union Territories shall be configured as bid areas. Further, additional bid areas/groups of bid areas may also be configured as and when the need arises.
- c) NLDC shall be responsible for the configuration/reconfiguration of these bid area(s) based on the anticipated congestion and prevailing grid conditions. Power Exchanges shall keep the provision in their respective systems for the configuration of bid areas as and when intimated by NLDC with due advance notice.

- d) First, the GNA grantees shall be eligible to schedule power within the GNA granted to them subject to the available import and export transfer capability of the concerned bid area (s)/control area (s)/group of control or bid area (s). After the allocation of the corridors to the GNA grantees, the concerned RLDC shall allow the drawl schedules as requisitioned by the T-GNA/ grantees based on the available margin. The detailed procedure for the same is provided in a subsequent section.
- e) Responsibilities of CTUIL:
  - i) The CTUIL shall be responsible for electronically intimating details of any new grant of GNA to all the stakeholders (including NLDC) within 15 days of such grant.
  - ii) In case of a change in the original quantum or date of effectiveness of GNA, the same shall be intimated by CTUIL to all the stakeholders (including NLDC) at least 15 days in advance from the original date of effectiveness of GNA.
  - iii) CTUIL shall also provide an interface (Application Programming Interface – API based) for communicating approved GNA quantum to NLDC.
  - iv) CTUIL shall also inform the details of authorisation of use of GNA by other GNA grantees under Regulation 23 of the GNA Regulations to the RLDCs and NLDC at least 15 days before the effective date of such authorization.

## **5.1. Allocation of Transmission Corridor and Scheduling of Transactions under GNA and T-GNA**

- a) Respective SLDCs on behalf of the intra-state entities which are drawee GNA grantees or other drawee GNA grantees which are regional entities, shall furnish the details of the contracts(which may include power purchase agreements (PPAs) or Letters of Award (LOA)or any other type of contract) already entered into by such entities two days before the day when scheduling request is to made ( i.e. for scheduling for ‘S’ day, scheduling request is placed on ‘S-1’ day, copy of the contract may be submitted by 11:00 hrs of ‘S-3’ day) so as to configure these details in the scheduling system. In case contracts have not been entered into by S-3 day, contracts are required to be submitted at least one time block before the time block when the scheduling request is made.



As per Regulation 45(5) of the Grid Code 2023, the copy of contracts once submitted by sellers and buyers need not be submitted again before every scheduling request and the copy of the contract can be linked with a unique ID by RLDC for reference before scheduling request.

- b) The requisite information shall be provided in the Web based Energy Scheduling Software (WBES) for scheduling requests under GNA or NOAR for scheduling requests under T-GNA. The said details of the contract shall be provided for Intra Day, Day Ahead Contingency (DAC), Term Ahead, Green Intra Day, Green Day Ahead Contingency (DAC) and Green Term Ahead contracts as per above.
- c) SLDCs or drawee GNA grantees shall place a request for schedule in accordance with Regulation 49 of the Grid Code 2023.
- d) RLDCs shall check if drawl schedules as requisitioned by the drawee GNA grantees can be allowed based on the available transmission capability.
- e) RLDCs shall check the availability of the margin for each and every time block against the available inter-regional import/export transfer capability as well as the intra-regional and bid/control area import/export transfer capability. This process shall be carried out for all the bid area (s) / control area / group of control areas.
- f) Once such entity has placed a scheduling request with RLDC and there is a constraint in the transmission system due to which a full schedule as requested by all drawee DICs in the region cannot be accommodated, RLDC shall allocate the transmission corridor as follows:
  - i. In case of constraint in the transmission system “from outside the region”, the transmission corridor shall be allocated in proportion to the “outside the region” bifurcation of all such drawee DICs.
  - ii. In case of constraint in the transmission system “within the region”, the transmission corridor shall be allocated in proportion to the total GNA quantum for such drawee DICs (sum of “within the region” and “from outside the region” bifurcation)

- g) Drawee GNA grantees shall revise their requisition for drawl schedule based on the availability of transmission corridors for such grantees. In case of no revision is furnished by drawee GNA grantees, within their allotted corridor, RLDC shall consider revised schedules where, the generation from wind, solar, wind-solar hybrid and run of the river hydro plants with up to three hours pondage (in case of excess water leading to spillage) shall be scheduled first followed by scheduling of generation from other sources.

## **5.2. Allocation of Transmission Corridor and Scheduling of Transactions under Advance T-GNA Application Category**

- a) After the day-ahead schedule is finalised for the GNA grantees, the schedule for T-GNA grantees under the Advance category shall be finalised over the balance transmission margin, in accordance with clause (j) of Regulation 49(1) of the Grid Code, 2023.
- b) Respective SLDC on behalf of intra-State entities which are T-GNA grantees or other drawee T-GNA grantees who are regional entities shall furnish the details of the contracts already entered into by such entities two days before the day when scheduling request is to be made ( i.e. for scheduling for 'S' day, scheduling request is placed on 'S-1' day, copy of contract may be submitted by 11:00 hrs of 'S-3' day) so as to configure these details in the scheduling system. In case contracts have not been entered into by such an entity before S-3 day, and the entity enters into a contract after 'S-3' day, such contracts are required to be submitted at least one time block before a scheduling request is made.

As per Regulation 45(5) of the Grid Code 2023, the copy of contracts once submitted by sellers and buyers need not be submitted again before every scheduling request and the copy of the contract can be linked with a unique ID by RLDC for reference before scheduling request.

The requisite information shall be provided in the Web based Energy Scheduling Software (WBES for scheduling requests under GNA or NOAR for scheduling requests under T-GNA.). The said details of the contract shall be provided for for Intra Day, Day Ahead Contingency (DAC), Term Ahead, Green Intra Day, Green Day Ahead Contingency (DAC) and Green Term Ahead contracts as per above.

- c) Standing clearance, as applicable, shall be furnished in accordance with Regulation 28 of the GNA Regulations.
- d) The available margin for transactions under the advance bilateral category shall be determined for each bid area /control area /group of control areas as:

Margin for scheduling of advance bilateral category of T-GNA transactions:

- Import T-GNA margin = import ATC – import schedule (GNA) + 'A'% export schedule (GNA)
- Export T-GNA margin = export ATC – export schedule (GNA) + 'B'% import schedule (GNA)

Where 'A' and 'B' are the percentage export/import in the opposite direction which shall be determined by NLDC from time to time based on RE variability and other system exigencies.

- e) RLDCs shall check if the drawl schedules as requisitioned by the drawee T-GNA grantees can be allowed based on the available import/export transfer capability and the standing clearance issued by the NLDC/RLDC/SLDC.
- f) For this, the RLDCs shall check the availability of corridor for each and every time block of the next day against the available inter-regional import/export transfer capability as well as the intra-regional and bid area import/export transfer capability and the standing clearance issued by the NLDC/RLDC/SLDC for injecting and drawee entities. This process shall be carried out for all the bid area (s) / control area / group of control areas.
- g) In case the day-ahead scheduling request of T-GNA grantees for a full quantum of T-GNA/T-GNA<sub>RE</sub> cannot be accommodated due to the non-availability of sufficient transmission corridor, then the available transmission corridor shall be allocated for scheduling on a pro-rata basis to the T-GNA grantees in proportion to their granted T-GNA quantum.

Within such proportionate T-GNA allocated, the curtailment of requested schedule shall be done first from generation sources other than wind, solar, wind-solar hybrid and run of the river hydro plants with up to three hours pondage (in case of excess water leading to spillage) in proportion to the requested schedule from such sources .

- h) .
- i) There shall be no refund in transmission charges in case the advance T-GNA applications were applied more than the standing clearances issued by the SLDC/RLDC for the injecting entity. However, if SLDC/RLDC has revised the standing clearances due to transmission constraints or in view of grid security, transmission charges for the quantum not scheduled shall be refunded to the T-GNA grantee.
- j) A T-GNA grantee who has been granted Advance T-GNA, but does not request a schedule for the full quantum of T-GNA by 9.15 AM on 'D-1' day as per Regulation 49(1)(j)(i) of the Grid Code 2023, it may request for scheduling up to T-GNA granted after 2.00 PM on 'D-1' day which shall be processed as per exigency applications. In case, a scheduling request cannot be accommodated due to transmission constraints, no refund of transmission charges for such quantum shall be made.
- k) After Scheduling of Advance applications of T-GNA the balance corridor including the unutilised quantum of T-GNA shall be released in the following sequence:
- i. Collective transactions under day ahead market.
  - ii. Bilateral transactions under exigency T-GNA applications received till 13:00 hours of 'D-1' day
  - iii. Schedule revision by GNA grantees OR Bilateral transactions under exigency T-GNA applications received after 13:00 hours of 'D-1' day OR upward scheduling request by Advance T-GNA grantee on first cum first serve basis.
  - iv. Collective transactions under real time market

Inter-se, the exigency applications after 13:00 hrs of 'D-1' day and revisions requests under GNA received after 14:00 hrs of 'D-1' day shall be scheduled on first cum first serve basis as per available transmission margin.

### 5.3. Allocation of Transmission Corridor and Scheduling of Collective Transactions

- a) After allocation of the transmission corridor to the GNA grantees and T-GNA grantees under the Advance category, the balance transmission margin shall be released for collective transactions under the Integrated Day Ahead Market (IDAM). The available margin for IDAM transactions shall be determined for each bid area /control area /group of control areas as:

#### **Margin for IDAM category of transactions:**

- Import IDAM margin = import ATC – scheduled import (GNA + advance T-GNA) + 'M'% scheduled export (GNA +T-GNA)
- Export IDAM margin = export ATC – scheduled export (GNA + advance T-GNA) + 'N'% scheduled import (GNA + T-GNA)

Where 'M' and 'N' are the percentage export/import in the opposite direction which shall be determined by NLDC from time to time based on RE variability and other system exigencies.

- b) In case of congestion in any of the bid area/ control area / group of control areas, the allocation of available corridor margin among the power exchanges shall be in the ratio of initial unconstrained market clearing volume in the respective Power Exchange(s) submitted by the respective power exchanges for the particular time block in the congested corridors, as per Grid Code 2023.

Provided that within an integrated day ahead market, high price day ahead market transactions shall be curtailed first, followed by day ahead market transactions and then green day ahead market transactions.

- c) For uncongested corridors, the margin shall be the requisition in MW plus residual quantum (in that particular uncongested corridor left over after the total requisition from all power exchanges in that time block) in proportion to the IDAM provisional volume for the respective exchanges.

- d) The Power Exchange(s) shall ensure that the scheduling request for IDAM transaction is within the limits for each bid area/ control area / group of control areas and for each time block as intimated by NLDC through NOAR.

#### **5.4. Allocation of Transmission Corridor and Scheduling of Exigency Bilateral Transactions**

- a) After the finalisation of the collective transactions under IDAM, Exigency applications for the grant of T-GNA shall be processed in accordance with clause (o) of Regulation 49(1) of the Grid Code, 2023 and Regulation 29.4 of the GNA Regulations.
- b) The available margin for transactions under the exigency category shall be determined for each bid area /control area /group of control areas as:

Margin for Scheduling of Exigency Bilateral Transactions:

- Import T-GNA margin = import ATC – net scheduled (GNA + T-GNA)
- Export T-GNA margin = export ATC – net scheduled (GNA + T-GNA)
- c) An application for a grant of exigency T-GNA/T-GNA<sub>RE</sub> for a bilateral transaction through NOAR may be submitted in accordance with clause (b) of Regulation 28.4 of the GNA Regulations. For each and every time block of a particular day, the requests shall initially be checked against the available inter-regional import/export transfer capability followed by intra-regional and bid area import/export transfer capability. This process shall be carried out for all the bid area (s) / control area / group of control areas.
- d) Based on the above, nodal RLDC shall therefore approve / reject / partially approve the transactions as the case may be.
- e) In the event T-GNA as applied for, cannot be granted for full quantum and full period as sought in the application, in view of constraints in the transmission system, the entire application shall be rejected.

Provided that, in case the applicant has given consent in its application through NOAR that T-GNA for part quantum or part period or both may be granted to it, T-GNA for such part quantum and part period or both shall be granted as per available transmission margin.

- f) T-GNA granted under the exigency application category shall be considered as schedule, which cannot be revised, except in case of forced outage of a unit of a generating station or ESS, transmission constraint and in view of grid security.
- g) RLDC shall update the availability of balance transmission corridors, if any, for utilization by GNA grantees by way of revision of schedule, under any contract within its GNA or for exigency applications or in real time market on first cum first serve basis, in accordance with clause (p) of Regulation 49(1) of the Grid Code, 2023.

#### **5.5. Allocation of Transmission Corridor and Scheduling of Real Time Collective Transaction**

- a) All the entities participating in the real-time market (RTM) may place their bids and offers on the Power Exchange(s) in accordance with clause (q) of Regulation 49.1 of the Grid Code 2023.
- b) NLDC shall finalize schedules under RTM in accordance with clause (r) of Regulation 49.1 of the Grid Code 2023.
- c) The available margin for real time market collective category of transactions shall be determined for each bid area /control area /group of control areas as:

For real time market collective category of transactions:

- Import RTM margin = import ATC – net scheduled import (GNA + T-GNA)
- Export RTM margin = export ATC – net scheduled export (GNA + T-GNA)
- d) In case the combined trade volume submitted by the power exchange(s) exceeds the available transmission margin limit for any of the bid area/ control area / group of control areas, the allocation of available corridor margin for a particular time block among the power exchanges shall be in the ratio of initial unconstrained market clearing volume in

the respective Power Exchange(s) submitted by the respective power exchanges for the particular time block in the congested corridors, as per Grid Code 2023

## **5.6. Scheduling of Cross Border transactions**

Scheduling of cross border GNA and T-GNA transactions shall be done in accordance with the Procedure for approval and facilitating Import/Export (Cross Border) of Electricity by the Designated Authority (DA), Cross Border Trade of Electricity Regulations, 2019 and amendments thereof and Central Electricity Regulatory Commission (Connectivity and General Network Access to the inter-State transmission System) Regulations, 2022 and amendments thereof.

## **5.7 Revision of Schedules under GNA and T-GNA in Case of Real time congestion**

- a) When to maintain the grid security in the opinion of NLDC/RLDC/SLDC because of interstate/intrastate transmission constraints other than outage of dedicated transmission lines owned and operated by the generating station itself, it becomes necessary to curtail the power flow on a transmission corridor, the transactions already scheduled shall be curtailed in accordance with provisions of Grid Code 2023 and in the manner which in the opinion of NLDC/RLDC/SLDC as the case may be, would relieve transmission constraints and/ or enhance grid security.
- b) NLDC/RLDC/SLDC shall initiate the process of curtailment of transactions for all such bid area/ control area/ group of control areas and the same shall become effective from the 7th or 8th time block for any revision in schedule made in odd or even time blocks respectively, counting the time block in which the schedule revision made by the RLDC as the first-time block.
- c) The actual generation of sellers shall be treated as scheduled generation from the 1st till the 6th or 7th time block as the case may be. The schedule of buyers will be revised, in proportion, based on the actual generation of the seller.



Provided that the transmission charges for the quantum not scheduled or curtailed shall be refunded to the T-GNA grantee.

- d) When because of transmission constraints in the neighbouring countries, it becomes necessary to curtail power flow on a bid area/ control area/ block of control areas/ transmission corridor, the concerned NLDC of the country shall intimate the transactions to be curtailed to NLDC, India. Subsequently, curtailment shall become effective from the 7th or 8th time block for any revision in the schedule made in odd or even time blocks respectively, counting the time block in which the schedule revision made by the NLDC/RLDC as the first-time block.
- e) The transactions already scheduled may be curtailed by the Regional Load Despatch Centre as per Regulation 49 (3) of Grid Code 2023.
  - i. Provided that within an integrated day ahead market, high price day ahead market transactions shall be curtailed first followed by day ahead market transactions and then green day ahead market transactions.
- f) The priority of restoration of transactions shall be in the reverse order of that of curtailment as specified in points (e) above.

## **6. Revision of Procedure**

As and when required, the procedure shall be reviewed and revised by NLDC with the approval of the Commission.

**Procedure for Assessment of Transfer Capability**

**1. Background**

- 1.1. Central Electricity Regulatory Commission (Connectivity and General Network Access to the inter-State Transmission System) Regulations 2022( hereinafter 'GNA Regulations'), provides at Regulation 28.1 that T-GNA may be applied for any period from 1 (one) time block and up to 11 (eleven) months. Regulation 29.1 provides that T-GNA shall be granted within the Available Transfer Capability (ATC) on the ISTS after accounting for the GNA of the GNA grantees.
- 1.2. As per Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2023 (hereinafter 'Grid Code 2023) provides at Regulation 33 (5) that RLDC shall assess intra-regional and inter-state level TTC and ATC and submit them to NLDC. Further NLDC shall declare TTC and ATC for import or export of electricity between regions including simultaneous import or export capability for a region, and cross border interconnections 11 (Eleven) months in advance for each month on a rolling basis. The study inputs from SLDCs would serve as the foundation for the assessment of transfer capabilities at the interstate, intra-regional levels, interregional and cross-border levels.
  - 1.1. Regulation 33 (3)(a) of the Grid Code 2023 provides that SLDCs shall assess and declare the Total import/export Transfer Capability (TTC) and Available Transfer Capability (ATC) of the state. Further Grid Code 2023 at Regulation 44(1)(e)(iii), 44(2)(e), 44(3)(f) provides that SLDCs, RLDCs and NLDC shall assess TTC/ATC at least three months in advance for their respective control areas.
  - 1.2. A harmonious reading of all the provisions in GNA regulations and Grid Code 2023 indicates that transfer capability by SLDCs, RLDCs and NLDC shall be assessed and declared 11 (Eleven) months in advance for each month on a rolling basis.
  - 1.3. The procedure lays down the guidelines for the assessment of TTC and ATC for the import or export of different states/union territories, intra-regional/inter-state level, inter-regional system & cross- border interconnections.

**2. Scope:**

The procedure shall apply to all Users, State Load Despatch Centres (SLDCs), Regional Load Despatch Centres (RLDCs), National Load Despatch Centre (NLDC), Central Transmission Utility (CTU), State Transmission Utilities (STUs), Licensees, and Settlement

Nodal Agencies, to the extent applicable.

### 3. **Definitions:**

- 3.1. 'Available Transfer Capability (ATC)' means available power transfer capability across control areas or across regions or between ISTS and state network or between cross-border interconnections declared by the concerned load despatch centre for scheduling transactions in a specific direction with due consideration for the network security. Mathematically, ATC is the Total Transfer Capability Less Transmission Reliability Margin. [Grid Code 2023, Regulation 3(1) (10)]
- 3.2. 'Bid Area' is defined as the largest geographical area within which market participants are able to exchange energy without capacity allocation.
- 3.3. 'Congestion' means a situation where the demand for transmission capacity or power flow on any transmission corridor exceeds its Available Transfer Capability [Grid Code 2023, Regulation 3(1) (32)]
- 3.4. 'Control Area' means an electrical system bounded by interconnections (tie lines), metering and telemetry which controls its generation and/or load to maintain its interchange schedule with other control areas and contributes to the regulation of frequency. [Grid Code 2023, Regulation 3(1) (32)]
- 3.5. 'Credible contingency' means the likely to happen contingency, which would affect the Total Transfer Capability of the inter-control area transmission system [CERC Measures to relieve congestion in realtime operation Regulations, 2009 – Definition: 2(1)(f)]
- 3.6. 'Interconnection Study' means a joint system study to be carried out by LDCs for assessment of the impact of energization of new elements in the grid six months in advance as per Regulation 10 (3) of Grid Code 2023 .
- 3.7. 'Limiting Constraint' is the limitation on one or more transmission elements that may be reached during normal operation or contingency beyond which the security criteria would be violated.
- 3.8. 'Prolonged outage' means planned or forced shutdown of a transmission element or generator for more than 7 days.
- 3.9. 'System constraint' is a situation in which there is a need to prepare and activate a remedial action in order to respect operational security limits. [Grid Code 2023, Regulation 3(1) (121)]

3.10. 'Swing bus' means the bus designated in the load-flow study to balance the active power (P) and reactive power (Q) of the system by absorbing/supplying the same.

3.11. "Total Transfer Capability (TTC)" means the amount of electric power that can be transferred reliably over the inter-control area transmission system under a given set of operating conditions considering the effect of the occurrence of the worst credible contingency. [Grid Code 2023, Regulation 3(1) (128)]. The characteristics of Total Transfer Capability are as follows:

- a) TTC is dependent upon the network topology, point and quantum of injection /drawl and power flows in other paths of the interconnected network as well as the prevailing voltage profile in the network during the assessment period.
- b) TTC is directional in nature and the transfer capability for the import of power in a region or control area from another region or control area may be different from the transfer capability for the export of power from that region or control area to the other region or control area.
- c) Total Transfer Capability is time variant and there could be different figures for different times of the day/month/season/year.
- d) Transfer Capability is mentioned in MW.

3.12. "Transmission Reliability Margin (TRM)" means the amount of margin earmarked in the total transfer capability to ensure that the interconnected transmission network is secure under a reasonable range of uncertainties in system conditions. [Grid Code 2023, Regulation 3(1) (130)]

3.13. 'Unit commitment' means committing generating units while respecting unit operating characteristics as specified in Grid Code 2023 or standards issued by CEA

Any words mentioned in this procedure and not explicitly defined shall have the meaning assigned to them under the Act or other regulations specified by the Central Commission, or Central Electricity Authority as the case may be.

#### **4. Roles and responsibility and Timeline for Data sharing & TTC/ATC calculation:**

4.1. For calculation of the T-GNA margin eleven months in advance, declaration of TTC needs to be done keeping a clear gap of eleven months. Hence TTC assessment and declaration for month 'M' month shall be done before the end of month 'M-12'.

4.2. NLDC shall declare the time of the day corresponding to cardinal points of the

anticipated aggregate All India demand for any particular month, “M” (for which the transfer capability is to be assessed). The time of the day shall be declared by NLDC by the 3<sup>rd</sup> day of month “M-12”. These time instants shall be used for simulation base case preparation and subsequent transfer capability assessment & inter-connection studies.

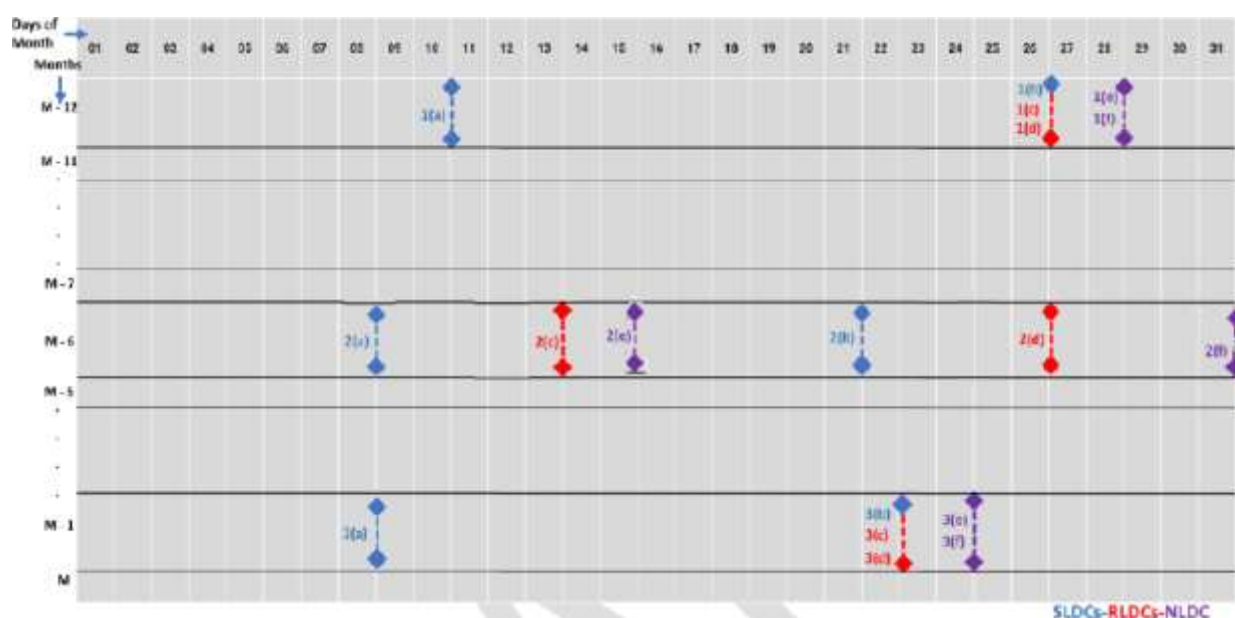
4.3. Detailed roles and responsibilities for Load Dispatch Centers in various timelines are provided in the table below.

Purpose	SI No	Action of Stakeholder	Responsibility	Submission to	Data/Information Submission Time line
<b>1. Revision 0 TTC/ATC Declaration for Month ‘M’</b>	1(a)	Submission of node wise Load and generation data along with envisaged scenarios for assessment of transfer capability	SLDC	RLDC	10 <sup>th</sup> Day of ‘M-12’ month
		Assessment of TTC/ATC of the import/export capability of the state and intra-state system and sharing of updated network simulation models			
	1(b)	Declaration of TTC/ATC of the intra-state system by SLDC in consultation with RLDC			26 <sup>th</sup> Day of ‘M-12’ month
	1 (c)	Updating state and regional load & generation & modelling of inter-state & intra-state elements in the regional system base case	RLDCs	NLDC	26 <sup>th</sup> Day of ‘M-12’ month
	1 (d)	Assessment and declaration of TTC/ATC by RLDC for the intra-regional and interstate system & sharing of network simulation models			
	1 (e)	Update the All-India network model with inputs from RLDCs/SNA	NLDC	RLDCs	28 <sup>th</sup> Day of ‘M-12’ month
	1(f)	Assessment and declaration of inter-regional, bid area and cross-border TTC/ATC on the website			

Purpose	SI No	Action of Stakeholder	Responsibility	Submission to	Data/Information Submission Time line
<b>2. Interconnection Studies for elements to be integrated in the month 'M'</b>	2(a)	Submission of node-wise load and generation data & sharing of network simulation models for intra-state elements coming in the next six months	SLDC	RLDC	8 <sup>th</sup> Day of 'M-6' month
	2(b)	Sharing of inter-connection study results			21 <sup>st</sup> Day of 'M-6' month
	2(c)	Updating state and regional load & generation & modelling of inter-state & intra-state elements coming in the next six months in the regional system base case	RLDCs	NLDC	13 <sup>th</sup> Day of 'M-6' month
	2(d)	Sharing of inter-connection study results			26 <sup>th</sup> Day of 'M-6' month
	2(e)	Update the All-India network model for interconnection studies	NLDC	RLDCs	15 <sup>th</sup> Day of 'M-6' month
	2(f)	Completion of inter-connection study for elements coming in the next six months			Last Day of 'M-6' month
<b>3. Month Ahead TTC/ATC Declaration &amp; Base case for Operational Studies for Month 'M'</b>	3(a)	Submission of node wise Load and generation data along with envisaged scenarios for assessment of transfer capability	SLDC	RLDC	8 <sup>th</sup> Day of 'M-1' month
		Assessment of TTC/ATC of the intra-state system and sharing of updated network simulation models			
	3(b)	Declaration of TTC/ATC of the intra-state system in consultation with RLDC	SLDC	RLDC	22 <sup>nd</sup> Day of 'M-1' month
	3(c)	Updating state and regional load & generation and modelling of inter-state & intra-state elements in the regional system base case	RLDCs	NLDC	22 <sup>nd</sup> Day of 'M-1' month
		Assessment and declaration of TTC/ATC for the intra-regional and interstate system & sharing of network simulation models			

	3(e)	Update the All-India network model with inputs from RLDCs/SNA	NLDC	RLDCs	24 <sup>th</sup> Day of 'M-1' month
	3(f)	Assessment and declaration of inter-regional and cross-border TTC/ATC on the website			

4.4. Timelines for data collection, Base Case Preparation, declaration of TTC/ATC and its review for a typical month 'M' is depicted below. The serial numbers marked for each month in the figure below correspond to the those given against responsibilities of Table in clause 4.2 of this procedure.

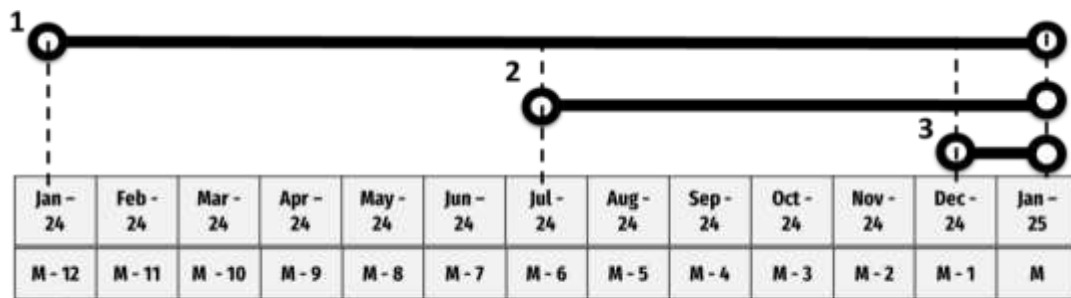


4.5. Every month, three sets of different base cases shall be prepared by all the concerned LDCs.

- Base cases for Revision - 0 TTC/ATC Declaration
- Base cases for Interconnection Studies for new elements to be integrated.
- Base cases for Month Ahead TTC/ATC Declaration & Operational Studies

The limiting cases used for the assessment of Transfer Capability shall also be shared along with the base cases. The yearly timeline for base case sharing for TTC/Inter-connection study is given below:





#### Preparation of 3 Sets of Simulation Base-Cases

1. Base cases to be prepared in **Jan 2024** for Revision – 0 TTC/ATC Declaration for **Jan 2025**  
(For TTC Declaration)
2. Base cases to be prepared in **July 2024** for 6 Month Ahead Interconnection Studies for elements to be integrated in **January 2025**  
(For Interconnection Studies)
3. Base cases to be prepared in **December 2024** for 1 Month Ahead TTC/ATC Declaration & Operational Studies for **January 2025**  
(For TTC Declaration and Operational Planning Studies)

### 5. Methodology for assessment of TTC, TRM and ATC

- 5.1. The Total Transfer Capability (TTC), Available Transfer Capability (ATC) and Transmission Reliability Margin (TRM) for both import & export shall be computed for all the States/Union Territories (UT), Intra-regional/Inter-state level, Inter-regional system, Cross-border interconnections and bid areas. The bid area can also be a part of the Region/State/UT or any combination of the same. The bid area shall be separately defined from time to time as per operational/commercial requirements.
- 5.2. The TTC, ATC and TRM shall be assessed with the help of simulation studies such that all anticipated operating conditions in a particular month are covered. For this, the TTC computation studies may be carried out for at least following four time periods (i.e. considering the load-generation balance of four cardinal points on the monthly load curve or the sum of the absolute value of interregional/regional flow or both depending on the bid area in consideration for TTC assessment) of a typical day of the month.
  - a) Solar Peak
  - b) Non-Solar Peak
  - c) Non-Solar Off-peak
  - d) Morning Peak Demand

If required, further granular resolution i.e. hourly, sub-hourly (15 min.) may also be considered for TTC

assessment and declaration. This shall be in line with Grid Code 2023, Regulation 31(2)(d) under Operational planning.

- 5.3. Separate limiting cases for computing the export and import capability corresponding to preferably four load-generation scenarios (as specified in point 5.2 above) for the time frame for which transfer capability is to be assessed shall be used in the simulation studies. If additional study cases, apart from the ones prepared for 04 time periods are prepared, then the same shall also be shared by the concerned SLDC with concerned RLDCs and vice-versa.
- 5.4. **Modelling of Power System:** The TTC assessment simulation studies will require setting up of a power system model and obtaining a power flow solution. The construction of an accurate base case simulation model is of utmost importance for the accurate assessment of TTC. The modelling and input data guidelines to be followed for TTC assessment are as under:
- 5.4.1 EHV transmission network shall be normally modelled down to at least 110 kV level with exceptions for generating units connected at lower voltage levels.
- 5.4.2 Normally, all the conventional generating units greater than 50 MW and connected at 110 kV and above shall be modelled. Smaller generating units (particularly hydro) may be lumped for study purposes.
- 5.4.3 For Renewable Energy (solar, wind, solar-wind hybrid) and Battery Energy Storage plants, equivalent modelling shall be done at 33 kV or higher voltage level. Attempts shall be made to model individual plants in the simulation cases to the extent possible. However, in the case of very small plants, the capacity can be lumped together at the nearest 33 kV or higher voltage level bus.
- 5.4.4 Modelling data shall be shared by CTU, ISTS licensees, ISGS/IPPs, STUs/SLDCs and all other Users for carrying out interconnection studies. The models need to be submitted as per the formats prescribed in GRID-INDIA/NLDC's procedure for "*First Time Charging/Energization (FTC) and Integration of New or Modified Power System Element*".
- 5.4.5 New transmission elements shall be considered only after the date of commissioning of that asset and duly considering their reliability during the initial operation period.

- 5.4.6 Whenever a new element is commissioned, depending on the jurisdiction of SLDC/RLDC/NLDC, the concerned LDC may add it to the network and a file for the same may be created and maintained. The automation file (such as Python scripts) will be shared with all other concerned LDCs.
- 5.4.7 The equipment ratings and models submitted by the users at the time of first-time charging/inter-connection study (or revised models submitted later) shall be considered in the assessment of transfer capability. In case any clarification is required regarding the model/rating of any equipment during transfer capability studies, the same shall be sought from the asset owner/user. The ratings of equipment will also be reviewed based on operational permissible loading and dynamic rating of the equipment from time to time.
- 5.4.8 Load shall be generally lumped at 110/132 kV, as the case may be. Actual system data wherever available shall be used for power system modelling. In cases, where data is not available, standard data as given in the CEA Manual on Transmission Planning Criteria shall be considered. The different components of load as constant power, constant current and constant impedance should be modelled as per the information available from users. In the absence of the above information load should be modelled as constant power load.

## **5.5 Load Set – Point**

- 5.5.1 For the 1<sup>st</sup> time to build the All-India Base case in this format SLDC/RLDC may submit node-wise data as per *format-2* given at the end of this procedure. For the subsequent base-case preparation and simulation studies, the data shall be provided in the base-case itself or as per requirement.
- 5.5.2 Nodal MW demand shall be considered as per the node-wise load forecast provided by SLDCs. Independent load forecasts by RLDCs/NLDC shall be considered in case of the absence of SLDC data. For all four scenarios as mentioned above, node-wise demand must be updated. For overall demand estimation, LGBR finalized by RPC and the latest EPS data may be taken into consideration.
- 5.5.3 Nodal MVAR demand shall be as per the anticipated power factor provided by SLDCs or power factors as observed from the historical data for each node. This, however, shall be verified, post facto, with actual data, and if different, shall be revised for accurate assessment in the future. For all the four scenarios mentioned above node-wise reactive power demand must be updated.

5.5.4 Bulk consumer connected to ISTS/ having dual connectivity shall explicitly submit their net active and reactive power consumption/injection for all four scenarios to the respective RLDC.

#### **5.6 Network Topology to be Considered for Base Case Preparation:**

5.6.1 Outage plan for grid elements as finalized by RPC shall be considered during base case preparation for assessment of Transfer Capability. In case the same is not available, information available from respective utilities shall be considered.

5.6.2 Updated network topology shall be prepared by SLDCs/RLDCs/NLDC as per prevailing network configuration. If the updated network topology is not received from respective agencies, network details as available previously shall be used for TTC computation studies.

5.6.3 The transmission elements/generators under prolonged outage shall be considered in the simulation cases for assessment of Transfer Capability based on their expected date of revival in consultation with the concerned asset owner/utility.

#### **5.7 Unit Commitment and Active Power Generation Dispatch:**

5.7.1 The unit commitment (on-bar units) and source-wise dispatch in the base case shall be considered as per the output of Short-Term Resource Adequacy/Production Cost Modelling Studies carried out by states/ RLDCs/NLDC. In the absence of such information, LGBR and the annual generation outage plan published by RPCs in line with Grid Code 2023, Regulation 32(3)(b) may be considered along with the following source-wise dispatch methodology.

- a) **Nuclear dispatch** shall be considered as per the past trend of Plant Load Factor available with Central Electricity Authority (CEA) or SLDCs/RLDCs/NLDC while suitably factoring in the maintenance schedule finalized by Regional Power Committees (RPCs).
- b) **Solar and wind dispatch** shall be considered based on the historical dispatch factors available with SLDCs/RLDCs/NLDC corresponding to each study scenario. For newer plants, either the profile data available as specified in CEA's Manual on Transmission Planning Criteria or the historical dispatch of nearby existing plants may be considered.
- c) **Hydro dispatch** shall be considered as per the past trend available at SLDCs/ RLDCs/NLDC. The current inflow pattern shall also be suitably considered in the studies.

- d) **Gas Dispatch** shall be considered as per the past trend of Plant Load Factor available with Central Electricity Authority (CEA) or SLDCs/RLDCs/NLDC while suitably factoring in the maintenance schedule finalized by Regional Power Committees (RPCs).
- e) **Coal-fired thermal dispatch** for the state/regional/control area/bid area may be arrived at after deducting the anticipated generation of other sources from the total anticipated generation requirement. While deciding the distribution of thermal generation, the merit order dispatch of thermal generators shall be considered.

Further, the generation shall be considered as per the anticipated ex-bus generation of the thermal generating units arrived after deducting a normative auxiliary consumption as per the norms specified by the Central Commission and suitably factoring in the maintenance schedule finalized by Regional Power Committees (RPCs). Distribution of thermal dispatch between state sector generators and ISGS shall be decided in consultation with states/past trends over and above merit order dispatch.

- f) Injection/Drawl value of cross-border connection will be set as per historical pattern. Apart from the historic pattern, data received from SNA/DA for additional contracts for all four scenarios shall also be considered.
- g) In case, the data from any of the sources mentioned above is unavailable or in case of additional data requirement, reasonable assumptions shall be made.

## 5.8 **Reactive power dispatch:**

- 5.8.1 For generating units, reactive power dispatch shall be considered as per the declared generator capability curve or demonstrated generator capability curve from the historical data. In the absence of such data, assumptions recommended in the extant CEA's Manual on Transmission Planning Criteria may be taken. The MVAR absorption of the Generator transformer (GT) shall be considered for implicitly modelled GTs.
- 5.8.2 The reactive power reserves of FACTS devices in the base case under steady-state shall be preserved to the extent possible so as to provide maximum dynamic support.
- 5.8.3 In the case of LCC HVDC links, the switching of HVDC Filter banks shall be done in the base case as per the filter switching sequence of the converter station depending on the HVDC power order.

5.9 For arriving at the Total Transfer Capability value of a control area/bid area, load and generation shall be changed for both importing and exporting areas in the base cases (incremental dispatch) as per the following methodology.

5.9.1 **Import Transfer Capability:** While calculating the import transfer capability of a control/bid area, the load of the control/bid-area shall be kept considering the peak demand scenario. Then the load of the importing area(s) may be increased and/or generation of the importing area(s) may be backed down as per reverse merit order for conventional generators & commensurate generation outside the area shall be increased. This process shall be continued till a credible N-1 contingency causes some limiting constraint in the importing/exporting area or joining both areas.

5.9.2 **Export Transfer Capability:** While calculating the export transfer capability of a control/bid area, the load of the control/bid-area shall be kept considering the off-peak demand scenario. Then the load of the exporting area may be decreased or generation of the exporting area(s) may be increased as per merit order and a commensurate decrease in generation will be done outside the area. This process shall be continued till a credible N-1 contingency causes some limiting constraint in the importing/exporting area or joining both areas.

5.10 Following points shall be considered while assessing the import & export transfer capability

5.10.1 Reserve requirements/technical minimum should be honored during scaling up/down of generation

5.10.2 The dispatch of swing bus generators in the load flow solution results shall be within their technical maximum/minimum limits.

5.10.3 The swing bus in the load flow studies shall be located outside the importing/exporting area in the transfer capability assessment.

5.11 The credible N-1 contingencies considered in the TTC/ATC studies shall be as specified in the latest CEA Manual on Transmission Planning Criteria.

5.12 In the studies, the worst credible contingency shall be considered to ensure the following limits:

a) Equipment Loading (Thermal or any other operational Limit)

b) Voltage Stability

c) Transient Stability

5.13 During the assessment of Total Transfer Capability, it shall be ensured that the Reliability Criteria specified for N-1 and N-1-1 contingencies in the latest CEA Manual on Transmission Planning Criteria are satisfied.

5.14 Power Order and direction of the HVDC links shall be based on the envisaged scenarios and capability of the HVDC link. The same may also be modulated in the base-case for the particular scenario based on the power flow in AC lines/ICTs & bus voltages.

5.15 The Transmission Reliability Margin (TRM) shall be kept within the total transfer capability to ensure that the interconnected transmission network is secure under a reasonable range of uncertainties in the system conditions. Computation of TRM for a region, control area or group of control areas may be based on the consideration of the following:

5.15.1 Size of largest generating unit in the importing control or bid area/group of control or bid areas

5.15.2 Two per cent (2%) of the total anticipated peak demand met in MW of the control/bid area/group of control or bid areas (to account for forecasting uncertainties).

Provided that either of the above TRM values may be decided by the concerned LDC to ensure the reliability of the system under prevailing system conditions.

5.16 For base case preparation and simulation studies for transfer capability assessment of intra-state system, the realistic set points for HVDC and any other ISTS points may be varied by respective NLDC/RLDCs/SLDC after mutual consultation.

## **6. Declaration of TTC, TRM, ATC and Anticipated Constraints**

6.1. The State Load Despatch Centres (SLDCs), in consultation with Regional Load Despatch Centres (RLDCs) shall assess & declare the Transfer Capability for the import or export of electricity by the State.

6.2. The Regional Load Despatch Centres (RLDCs), in consultation with State Load Despatch Centres

(SLDCs) & National Load Despatch Centre (NLDC) shall assess & declare the Transfer Capability for intra-regional and inter-state level.

6.3. The National Load Despatch Centre (NLDC) shall assess & declare the Transfer Capability for inter-regional systems and cross-border interconnections.

6.4. SLDCs/RLDCs/NLDC shall declare the assessed Transfer Capability for both export and import scenarios on their website with the following information

- a) Total Transfer Capability (TTC)
- b) Available Transfer Capability (ATC),
- c) Transmission Reliability Margin (TRM),
- d) Limiting constraints and limiting elements
- e) Assumptions in the base case for assessment of Transfer Capability,
- f) Details of the reason for the revision of the Transfer Capability

6.5. The National Load Despatch Centre (NLDC), Regional Load Despatch Centres (RLDCs) and State Load Despatch Centre (SLDCs) shall refer to the quantum declared by CTUIL while assessing the TTC, TRM and ATC for the purpose of grant of GNA.

Sample format for declaration of TTC/TRM/ATC is enclosed as **Format-I**.

6.6. NLDC and/or concerned RLDCs/SLDCs in consultation with each other may revise the TTC, ATC and TRM of respective areas due to changes in system conditions, which includes changes in network topology or changes in anticipated active or reactive generation or load, on account of outage or otherwise, of one or more generators or transmission elements, at any of the nodes in the study. Revised TTC, TRM and, ATC shall be published on the website of NLDC, concerned RLDCs and SLDCs and shall clearly state the reasons for revision thereof.

6.7. The TTC, ATC and TRM may also be revised near the operating horizon depending on the anticipated system conditions at that time.

6.8. SLDCs / RLDCs / and NLDC shall designate Main and Alternate officers as *“Reliability co-coordinator(s) for TTC Computation and Declaration”*.



## **7. Study of the impact of new elements on TTC Transfer Capability**

- 7.1. Each LDC shall study the impact of new elements on the Transfer Capability as per the relevant regulations of Grid Code 2023, (Operating Code: Regulation 33(9) to 33(13)) for interconnection study for new power system elements.
  - 7.1.1. Each SLDC shall undertake a study on the impact of new elements to be commissioned in the intra-state system in the next six (6) months on the TTC and ATC for the State and share the results of the studies with RLDC.
  - 7.1.2. Each RLDC shall undertake a study on the impact of new elements to be commissioned in the next six (6) months in (a) the ISTS of the region and (b) the intrastate system on the inter-state system and share the results of the studies with NLDC.
  - 7.1.3. NLDC shall undertake study on the impact of new elements to be commissioned in the next six (6) months in (a) inter-regional system, (b) cross-border link and (c) intraregional system on the inter-regional system.
- 7.2. Timelines and methodology of the interconnection studies are to be followed as per “Procedure for Carrying Out Interconnection Studies of New Power System Elements” notified by NLDC.
- 7.3. Any major impact on TTC figure by the commissioning of a new element needs to be notified to the concerned utilities

## Format-I

National / \_\_\_\_\_ Regional/ State Load Dispatch Centre TOTAL TRANSFER  
CAPABILITY FOR MMM, YYYY \_\_\_\_\_

Issue Date:

Issue Time:

Revision No.

Corridor/ Control Area	Date	Time Period	Time Blocks	Total Transfer Capability (TTC) (MW)	Reliability Margin (RM) (MW)	Available Transfer Capability (ATC) (MW)	Appr oved GNA (MW)	Margin for T- GNA (MW)	Change sin TTC w.r.t last revisio n	Remar ks
		Period-1								
		Period-2								
		Period-3								
		Period-4								

**Assumptions:**

**A. Aggregate Load and Generation (MW)**

Region/State/Bid-Area		Scenarios			
		Period 1	Period 2	Period 3	Period 4
	Load				
	Generation				

**B. HVDC Settings**

Name of the HVDC Link	Direction of Operation	Power Order (MW)

**C. Constraints**

Corridor / Control Area	Limiting Constraints for TTC

**D. Revision History**

Revision Number	Date of Revision	Reason for Revision	Corridors Involved

**E. Miscellaneous**

### Format-II (Node Wise Load Details)

Bus Number	Bus Name	S/s name	In Service	Morning Peak		Solar Peak		Evening Peak		Off-Peak	
				Pload (MW)	Qload (Mvar)	Pload (MW)	Qload (Mvar)	Pload (MW)	Qload (Mvar)	Pload (MW)	Qload (Mvar)

**Note:** The formats are not exhaustive and may be changed suitably based on the requirement.

Annexure-I

Sl.No.	Meter No.	Modem No.	Circle	Division	Substation	Feeder	Error
1	X1316352	X0209633	NAGDA	T.DN.400KV S/S BADNAWAR	BILPANK 132	40MVA MAKE EMCO HT1661-12505	No Active Sim Card
2	MPP30272	X0209697	NAGDA	T.DN.400KV S/S BADNAWAR	KANWAN 220	63MVA MAKE BBL SN 5582-04	No Active Sim Card
3	XF409798	X1116181	SEONI	T.DN.SEONI	NAINPUR 132	40MVA MAKE BBL 5033-26	No Active Sim Card
4	X1105789	X1116180	SEONI	T.DN.SEONI	WARASEONI 132	50MVA MAKE BBL 5831-15	No Active Sim Card
5	MPP28395	MOD70277	SATNA	T.DN.REWA	REWA 132	40MVA MAKE BHEL SN 2014002	No Active Sim Card
6	X1317646	XG476657	MANDSAUR	T.DN.NEEMUCH	SINGOLI 132	50MVA MAKE BBL SN 575705	Network Not Available
7	MPC57144	MPP08798	BINA 400	T.DN.VIDISHA	RUNAHA 132	63MVA MAKE BBL SN 5308-10	Network Not Available
8	XB549199	MOD99693	SATNA	T.DN. SINGROLI	DONGRITAL 132	20MVA MAKE EMCO SN 1058B-10930	Network Not Available
9	X1317043	MOD70427	SATNA	T.DN. SINGROLI	DONGRITAL 132	20MVA MAKE NGEF SN 2800050840	Network Not Available
10	XE486214	XG442195	SEONI	T.DN NARSINGHPUR	DEONAGAR 132	40MVA MAKE BBL SN 5687-1	Network Not Available
11	XD449689	MOD70317	SEONI	T.DN NARSINGHPUR	PALOHABADA 132	50MVA MAKE BBL SN 5571-04	Network Not Available
12	MPE53418	MOD70615	INDORE	T.DN. 400KV PITHAMPUR	PITHAMPUR (SEC-III)	63MVA MAKE BBL (SEZ) SN 5442-8	Meter Defective
13	MPB24600	MOD99755	SATNA	T.DN.SATNA	SATNA 220	132KV Satna Cement BCL (Main)	Meter Defective

S. No.	Meter No.	Modem No.	Circle	Division	Substation	Feeder
1	X1317050	X1116300	UJJAIN	T.DN.SHUJALPUR	KALAPIPAL 132	50 MVA
2	XF409783	X0209656	NAGDA	T.DN.400KV S/S NAGDA	220KV NAGDA	50 MVA
3	Y0221815	X1116157	SATNA	T.DN. SINGROLI	DEOSAR 132	50 MVA
4	XD532652	X1116168	JABALPUR	T.DN. KATNI	MANSAKRA 132	63 MVA
5	Y0221469	X1116313	BHOPAL	T.DN.HOSHANGABAD	SEONI MALWA 132	40MVA
6	X1177082	X1116299	BHOPAL	T.DN.HOSHANGABAD	HARDA 132	63 MVA
7	X1572651	X1116384	SAGAR	T.DN. TIKAMGARTH	ORCHHA 132	50 MVA
8	Y0221445	X1116259	INDORE	T.DN. 400KV PITHAMPUR	PITHAMPUR (SEC-III) 220	50 MVA
9	MPC74139	X1116261	KHANDWA 400	T.DN.400KV S/S JULWANIYA	TALAKPURA 132	40 MVA
10	Y0221747	X1116301	BHOPAL	T.DN.HOSHANGABAD	SALKANPUR	50 MVA

**List of meters (sliding window Problem)**

S.No.	Feeder	Substation	Circle	Serial No.
1	50MVA TAL S.NO.SP1153/12	132KV S/S CHACHODA	400KV BINA	X1270419
2	50MVA	132KV S/S KAPSI	400KV BINA	X0363187
3	63 MVA BBL 5582/03	132KV S/S AMLA	BHOPAL	X1210857
4	40MVA XMER	132KV S/S BILKISGANJ	BHOPAL	MP925296
5	50MVA X-MER	132KV S/S BISNOOR	BHOPAL	Y0434482
6	50MVA TAL	132KV S/S KHIRKIYA	BHOPAL	X1210858
7	50MVA	132KV S/S KHUJNER	BHOPAL	Y0434481
8	50 MVA BBL	132KV S/S MACHALPUR	BHOPAL	X1428403
9	40MVA	132KV S/S NARSINGGARH	BHOPAL	XF466079
10	63MVA BBL	132KV S/S PACHORE	BHOPAL	XC476894
11	50MVA BBL	132KV S/S SOHAGPUR	BHOPAL	X1371480
12	50MVA TAL	132KV S/S SUTHALIA	BHOPAL	X1270416
13	63 MVA	220KV S/S ADAMPUR	BHOPAL	XE486216
14	50 MVA	132KV S/S GYARASPUR	BHOPAL 400	X1317641
15	40MVA MAKE CGL SN 24787	132KV S/S RAISEN	BHOPAL 400	X1105810
16	50MVA TAL	132KV S/S SAHARWASA	BHOPAL 400	X1210860
17	40MVA MAKE BBL SN 5197/2	132KV S/S SHAMSHABAD	BHOPAL 400	XE410862
18	40 MVA	132KV S/S SILWANI	BHOPAL 400	XE486220
19	20MVA MAKE AMCO SN 1239/11300	132KV S/S SIRONJ	BHOPAL 400	XF464812
20	100MVA XMER AREVA SN- B-30264 (LV2)	220KV S/S BHOPAL	BHOPAL 400	XF408750
21	50 MVA	132KV S/S BADAGAON	GWALIOR	XD449515
22	50MVA	132KV S/S BAIRAD	GWALIOR	X1105712
23	63 MVA MAKE BHEL SN 6004953	132KV S/S BHIND	GWALIOR	XC476841
24	40 MVA MAKE BBL SN 4733/10	132KV S/S BHIND	GWALIOR	XC476875
25	50 MVA	132KV S/S BHITARWAR	GWALIOR	X1577352
26	50MVA MAAKE BBL SN 5406/04	132KV S/S CHINNOR	GWALIOR	XC476826
27	50MVA MAAKE BBL SN 5406/04	132KV S/S DABRA	GWALIOR	X1105688
28	40 MVA MAKE BBL SN 1239/11296	132KV S/S DABRA	GWALIOR	XC476873
29	40MVA MAKE BHEL SN 60004953	132KV S/S DATIA	GWALIOR	X1236332
30	63MVA	132KV S/S MOHNA	GWALIOR	X1317059
31	40 MVA BBL SN.5423/3	132KV S/S MORENA	GWALIOR	XC476789
32	50 MVA,BHEL	132KV S/S PICHORE	GWALIOR	XF408711
33	40MVA	132KV S/S VIJAYPUR	GWALIOR	X1319670
34	63 MVA MAKE BHEL SN 6004351	220KV S/S MEHGAON	GWALIOR	XC476819
35	40 MVA MAKE BBL SN 5033/7	220KV S/S MEHGAON	GWALIOR	XC476818
36	63MVA BBL	220KV S/S SHEOPUR	GWALIOR	X1270420
37	50MVA TAL	132KV S/S BAGDI	INDORE	X1317065
38	40 MVA BBL	132KV S/S BETMA	INDORE	X1210861
39	63 MVA MAKE XMER-II	132KV S/S INDORE (NZ)	INDORE	X1317049
40	63 MVA MAKE ABB SR.NO 12018-022	132KV S/S INDORE (NZ)	INDORE	X1317056
41	40 MVA ABB S.NO. 12020-019	132KV S/S JAMLI	INDORE	XD449588
42	63MVA 132/33KV XMER BBL S.NO. 5032/5	132KV S/S MANAWAR	INDORE	XC476870
43	40MVA BBL	132KV S/S TEESGAON	INDORE	XE486219
44	63MVA BBL SN 5790/05	220KV S/S S/Z, INDORE	INDORE	XF409777
45	20MVA	132KV S/S ANJAD	KHANDWA	X1317041
46	40MVA XMER SN 6004696	132KV S/S BADGAON	KHANDWA	X1105744
47	63 MVA,ABB SN 12018-005	132KV S/S BAHADARPUR	KHANDWA	X1105700
48	50MVA BBL	132KV S/S BISTAN	KHANDWA	XE486217
49	20MVA NGEF	132KV S/S BISTAN	KHANDWA	XE486242
50	50MVA	132KV S/S CHHANERA	KHANDWA	MP925298
51	40 MVA,ECE, SN 85898	132KV S/S CHHEGAON	KHANDWA	XF409787
52	50MVA	132KV S/S JHIRNIYA	KHANDWA	X1334226
53	63 MVA,BBL, SN 5032\1	132KV S/S KHANDWA	KHANDWA	X1105826
54	40MVA-II MAKE GEC SNO. B-27469	132KV S/S KHARGONE	KHANDWA	XC476779
55	40 MVA,BBL, SN 3072/3	132KV S/S KHARGONE	KHANDWA	X1105730
56	40MVA IMP SN. PT-6726	132KV S/S MOONDI	KHANDWA	MP925303
57	20 MVA,BBL, SN 1448/2	132KV S/S PANSEMAL	KHANDWA	XC476882
58	50MVA	132KV S/S PATI	KHANDWA	X1270417
59	50MVA	132KV S/S PIPALPANI	KHANDWA	XE485752
60	50MVA BBL	132KV S/S SINGOT	KHANDWA	MP925251
61	40MVA XMER II MAKE BHEL SN.2037073	220KV S/S BARWAHA	KHANDWA	X1105692
62	40MVA 132/33KV ECE MAKE XMER S.No. S/86021	220KV S/S CHHEGAON MAKHAN	KHANDWA	XF409785
63	40 MVA BBL	132KV S/S MORWAN	NAGDA	XE485185
64	40MVA XMER	132KV S/S SHAMGARH	NAGDA	XE486218
65	50MVA	132KV S/S SHIVGARH	NAGDA	X1177045
66	50MVA BBL SN.5759/05	132KV S/S SINGOLI	NAGDA	X1317646
67	50MVA	132KV S/S SITAMOU	NAGDA	X1210859
68	40MVA MAKE BHEL SN 2014006	220KV S/S RATLAM	NAGDA	X1207463
69	63MVA	220KV S/S SAILANA	NAGDA	XD471934

70	40MVA	220KV S/S SUWASARA	NAGDA	MP925250
71	50MVA XMER	132KV S/S BHAIOLA	UJJAIN	XE486215
72	50MVA TAL	132KV S/S JARDA	UJJAIN	X1210862
73	40MVA MAKE GEC SN B-29053	132KV S/S JARDA	UJJAIN	X1210865
74	40MVA BBL Xmer S.No-5076/15	132KV S/S KHATEGAON	UJJAIN	X1207444
75	40MVA MAKE BBL SN 4910/3	132KV S/S MAXI	UJJAIN	X1207464
76	40MVA MAKE IMP	132KV S/S TAL	UJJAIN	XC573290
77	20MVA	132KV S/S TAL	UJJAIN	X1317062
78	50MVA MAKE BBL	132KV S/S UNHEL	UJJAIN	MP925297
79	40MVA	132KV S/S KHIMLASA	400KV BINA	XF408712
80	40MVA MAKE IMP	132KV S/S BARHI	JABALPUR	MP925355
81	40MVA XMER MAKE BHEL	132KV S/S KARPAGAON	JABALPUR	MP925365
82	63MVA MAKE VIJAY ELECTRICALS SN 90033-A-01	220KV S/S JABALPUR	JABALPUR	X0684475
83	50MVA BBL XMER	132KV S/S DEORI	SAGAR	X0849928
84	50MVA TAL SN SP1176/2	132KV S/S LAUNDI	SAGAR	XF464835
85	40MVA BBL	132KV S/S REHLI	SAGAR	MP925331
86	40MVA	132KV S/S TEJGARH	SAGAR	X1210856
87	40MVA CGL	220KV S/S DAMOH	SAGAR	XE485766
88	50MVA TAL	132KV S/S ATRALIA	SATNA	X1572652
89	63MVA XMER	220 KV S/S KOTAR	SATNA	XC476008
90	50MVA	132KV S/S SAORI	SEONI	MP925333



M.P. POWER TRANSMISSION COMPANY LTD

NAME OF Substation :- ----

Annex-iv

132KV/33KV INPUT/OUTPUT AT TRANSFORMERS - (ACTIVE ENERGY IN MWH)											Month							REMARKS
Sl. No.	NAME OF SUBSTATION	DETAILS OF TRANSFORMERS	220/132/33 KV SIDE	METER SERIAL NO.	IMPORT						EXPORT							
					PREVIOUS READING WITH TIME & DATE	PRESENT READING WITH TIME & DATE	MF	DIFF.	ASSESEMENT (MWH)	CONSUMPTION (MWH)	PREVIOUS READING WITH TIME & DATE	PRESENT READING WITH TIME & DATE	MF	DIFF.	ASSESEMENT (MWH)	CONSUMPTION (MWH)		
1																		
2																		
	Substation Auxiliary Consumption																	

## Annexure-V

sr. no	Railway TSS		Grid S/s	Feeder Name	T&C Circle	T&C Division	Main (Not Available)
	Meter No	Check Serial	Standby				
1	XD520993	Q0306123	Q0306124	132KV TSS MUNGAOLI-II	RAILWAY	400 KV Testing Division Bina	01-09-2023 to 30-09-2023,
2	MPE51673	XB541548		220KV TSS AMKT-ANOOPPUR(RLY.TR.)-I	RAILWAY	AMK	01-09-2023 to 30-09-2023,
3	Q0306126	Q0306127	Q0306128	132KV TSS ASHOKNAGAR II	RAILWAY	Testing Division Guna	01-09-2023 to 30-09-2023,
4	X0229641	X0229642	X0229643	Tr.132KV RLY. TR. SAUSAR	RAILWAY	Testing Division - Chindwara	01-09-2023 to 30-09-2023,
5	Q0287739	Q0287740	X0209259	Tr.132KV TRACTION	RAILWAY	Testing Division - Ratlam	01-09-2023 to 30-09-2023,
6	X0209262	5245819		Tr.132KV TSS SUWASARA	RAILWAY	Testing Division - Ratlam	01-09-2023 to 30-09-2023,
7	MPP30238	Q0265561	Q0265591	132KV TSS SINGRAULI	RAILWAY	Testing Division - Rewa	01-09-2023 to 30-09-2023,
8	Q0238658	Q0238659	Q0228579	132KV TSS MARWASGRAM	RAILWAY	Testing Division - Rewa	18-09-2023 to 30-09-2023,
9	MPP30267	MPP30268	MPP30269	132KV TSS DABHAURA	RAILWAY	Testing Division - Rewa	01-09-2023 to 30-09-2023,
10	MPP28362			220KV TSS KARAIYA BHADOLI- II	RAILWAY	Testing Division - Sagar	01-09-2023 to 30-09-2023,
11	Q0232421	Q0228578	Q0228580	132KV TSS BEOHARI	RAILWAY	Testing Division - Shahdol	01-09-2023 to 30-09-2023,
12	Q0300247	Q0300248	Q0300246	132KV TSS SHIVPURI	RAILWAY	Testing Division - Shivpuri	01-09-2023 to 30-09-2023,
13	Q0602144	Q0602145	X0412285	132KV TSS ISHANAGAR	RAILWAY	Testing Division - Tikamgarh	18-09-2023 to 30-09-2023,
14	MPP32355	MPP32356	X0209251	132KV TSS NIWARI	RAILWAY	Testing Division - Tikamgarh	01-09-2023 to 30-09-2023,
15	X0209250	Q0483405	Q0483406	132KV TSS HARPALPUR	RAILWAY	Testing Division - Tikamgarh	18-09-2023 to 30-09-2023,
16	MPP32357	MPP32358	X0209299	132KV TSS RAJGARH BIAORA	RAILWAY	Testing Division -Beora	01-09-2023 to 30-09-2023,
17	X0209312	X0209313		132KV TSS SIHORA	RAILWAY	Testing Division -Katni	18-09-2023 to 30-09-2023,
18	X0209237	X0209248	X0209249	220KV TSS NARSINGPUR	RAILWAY	Testing Division -Narsinghpur	01-09-2023 to 30-09-2023,
19	Q0238138	Q0238139	X0209300	132KV TSS NAINPUR	RAILWAY	Testing Division -Seoni	01-09-2023 to 30-09-2023,
20	Q0645666	Q0645667		132KV TSS SANK	RAILWAY	Testing Division Morena	01-09-2023 to 30-09-2023,
21	MPP28795			132KV TSS SANCHI	RAILWAY	Testing Division-Vidisha	01-09-2023 to 30-09-2023,

Annexure-9.1

S.NO.	Element Name	Metering End	Energy Meter End-1		RTU End-1			Energy Meter End-2		RTU End-2		
			Make	Model	Make	Model	Port Availability	Make	Model	Make	Model	Port Availability
<b>MPPTCL</b>												
1	400 KV Bina-Bina PGCIL Ckt-1	Bina MP	SEMS	PREMIER ENTITY	DFE	DF1700	Y					
2	400 KV Bina-Bina PGCIL Ckt-2	Bina MP	SEMS	PREMIER ENTITY	DFE	DF1700	Y					
3	400 KV Bina-Bina PGCIL Ckt-3	Bina MP	SEMS	PREMIER ENTITY	DFE	DF1700	Y					
4	400 KV Bina-Bina PGCIL Ckt-4	Bina MP	SEMS	PREMIER ENTITY	DFE	DF1700	Y					
5	220 KV Anuppur-Kotmikala Ckt-1	Anuppur	SEMS	PREMIER ENTITY	DFE	DF1700	Y					
6	220 KV Anuppur-Kotmikala Ckt-2	Anuppur	SEMS	PREMIER ENTITY	DFE	DF1700	Y					
7	132 KV Kirnapur-Dongargarh Ckt	Kirnapur	SEMS	PREMIER ENTITY	DFE	DF1700	Y					
8	132 KV Waidhan-Vindhyachal Ckt-1	Vindhyachal TPS	SEMS	P-300	DFE	DF1700	Y					
9	132 KV Waidhan-Vindhyachal Ckt-2	Vindhyachal TPS	SEMS	P-300	DFE	DF1700	Y					
10	220 KV Pandhurna-Kalmeshwar	Pandhurna	ELESTER		DFE	DF1700	Y					
11	400 KV Kirnapur-Seoni PG	Kirnapur	SEMS	PREMIER ENTITY	DFE	DF1700	Y					
12	400 KV Kirnapur-Bhilai	Kirnapur	SEMS	PREMIER ENTITY	DFE	DF1700	Y					
13	400 KV Sagar-Bina PG	Sagar 400	ELESTER	ALPHA A164	DFE	DF1700	Y					
14	400 KV Sagar-Satna-PG	Sagar 400	ELESTER	ALPHA A164	DFE	DF1700	Y					
15	132 KV Morwa-Anpara	Morwa	SEMS	P-300	DFE	DF1700	Y					
16	400 Katni-Damoh PG		SEMS	PREMIER ENTITY	DFE	DF1700	Y					
17	400 KV Bhopal-Itarsi Ckt-1	Itarsi PG	SEMS	PREMIER ENTITY	DFE	DF1700	Y					
18	400 KV Bhopal-Itarsi Ckt-2	Itarsi PG	SEMS	PREMIER ENTITY	DFE	DF1700	Y					
19	220 KV Mehgaon-Auraiya Ckt	Mehgaon	SEMS	PREMIER ENTITY	DFE	DF1700	Y					
20	400 KV Bhopal-BDTCL Ckt-1	Bhopal MP	SEMS	PREMIER ENTITY	DFE	DF1700	Y					
21	400 KV Bhopal-BDTCL Ckt-2	Bhopal MP	SEMS	PREMIER ENTITY	DFE	DF1700	Y					
22	132 KV Sheopur-Khandar				DFE	DF1700	Y					
23	220 KV Malanpur-Auraiya	Malanpur	SEMS	PREMIER ENTITY	DFE	DF1700	Y					
24	400 KV Bhopal-Damoh PG Ckt-1		SEMS	PREMIER ENTITY	DFE	DF1700	Y					
25	400 KV Bhopal-Damoh PG Ckt-2		SEMS	PREMIER ENTITY	DFE	DF1700	Y					

26	400 KV Indore-Itarsi Ckt-1	Indore MPPTCL	SEMS	PREMIER ENTITY	DFE	DF1700	Y						
27	400 KV Indore-Itarsi Ckt-2	Indore MPPTCL	SEMS	PREMIER ENTITY	DFE	DF1700	Y						
28	400 KV Indore-Asoj Ckt-1	Indore MPPTCL	SEMS	PREMIER ENTITY	DFE	DF1700	Y						
29	400 KV Indore-Asoj Ckt-2	Indore MPPTCL	SEMS	PREMIER ENTITY	DFE	DF1700	Y						
30	400 KV Nagda-Shujalpur Ckt-1	Nagda	SEMS	PREMIER ENTITY	DFE	DF1700	Y						
31	400 KV Nagda-Shujalpur Ckt-2	Nagda	SEMS	PREMIER ENTITY	DFE	DF1700	Y						
32	400 KV Badnawar-Rajgarh Ckt-1	Rajgarh PG	SEMS	P-300	DFE	DF1700	Y						
33	400 KV Badnawar-Rajgarh Ckt-2	Rajgarh PG	SEMS	P-300	DFE	DF1700	Y						
34	400 KV Nagda-Dehgam Ckt-1	Nagda	SEMS	PREMIER ENTITY	DFE	DF1700	Y						
35	400 KV Nagda-Dehgam Ckt-2	Nagda	SEMS	PREMIER ENTITY	DFE	DF1700	Y						
36	220 KV Bhanpura-Ranpur	Bhanpura	SEMS	P-100	DFE	DF1700	Y						
37	220 KV Bhanpura-Modak	Bhanpura	SEMS	P-300	DFE	DF1700	Y						
38	400 KV Indore-Indore(PG) Ckt-1	Indore MPPTCL	SEMS	PREMIER ENTITY	DFE	DF1700	Y						
39	400 KV Indore-Indore(PG) Ckt-2	Indore MPPTCL	SEMS	PREMIER ENTITY	DFE	DF1700	Y						
40	400 KV Pithampur-Indore PG Ckt-1	Indore PG	SEMS	PREMIER ENTITY	DFE	DF1700	Y						
41	400 KV Pithampur-Indore PG Ckt-2	Indore PG	SEMS	PREMIER ENTITY	DFE	DF1700	Y						
42	132 KV Pench-Seoni Ckt-1	Pench HPS	SEMS	P-300	Synergy	e706049 husky	Y	L&T	ER300P	DFE	DF1900	Y	
43	132 KV Pench-Seoni Ckt-2	Pench HPS	SEMS	P-300	Synergy	e706049 husky	Y	L&T	ER300P	DFE	DF1900	Y	
<b>MPPGCL</b>													
44	132 KV Pench-Seoni Ckt-1	Pench HPS	SEMS	P-300	Synergy	e706049 husky	Y	L&T	ER300P	DFE	DF1900	Y	
45	132 KV Pench-Seoni Ckt-2	Pench HPS	SEMS	P-300	Synergy	e706049 husky	Y	L&T	ER300P	DFE	DF1900	Y	
46	400 KV Birsingpur-Korba Ckt-1	Birsingpur TPS	SEMS	P-100	Honeywell	D20	N						
47	400 KV Birsingpur-Korba Ckt-2	Birsingpur TPS	SEMS	P-100	Honeywell	D20	N						
48	400 KV Birsingpur-Damoh PG Ckt-1	Birsingpur TPS	SEMS	PREMIER ENTITY	Honeywell	D20	N						
49	400 KV Birsingpur-Damoh PG Ckt-2	Birsingpur TPS	SEMS	P-100	Honeywell	D20	N						
50	400 KV Satpura-Koradi Ckt	Satpura TPS	SEMS	PREMIER ENTITY	Honeywell	D20	N						
51	400 KV Satpura-Itarsi Ckt	Satpura TPS	SEMS	PREMIER ENTITY	Honeywell	D20	N						
52	400 KV Satpura-Seoni Ckt	Satpura TPS	SEMS	PREMIER ENTITY	Honeywell	D20	N						
53	132 KV Rajghat-Lalitpur Ckt	Rajghat TPS	SEMS	P-300	SCOPE		Y						

PGCIL												
54	400/220 KV ICT-1 at Jabalpur PGCIL	Jabalpur PG										
55	400/220 KV ICT-2 at Jabalpur PGCIL	Jabalpur PG										
56	400/220 KV ICT-3 at Jabalpur PGCIL	Jabalpur PG										
57	400/220 KV ICT-1 Seoni PGCIL	Seoni PG										
58	400/220 KV ICT-2 Seoni PGCIL	Seoni PG										
59	400/220 KV ICT-1 at Satna PGCIL	Satna PG										
60	400/220 KV ICT-2 at Satna PGCIL	Satna PG										
61	400/220 KV ICT-3 at Satna PGCIL	Satna PG										
62	400/220 KV ICT-1 at Itarsi PGCIL	Itarsi PG										
63	400/220 KV ICT-2 at Itarsi PGCIL	Itarsi PG										
64	400/220 KV ICT-3 at Itarsi PGCIL	Itarsi PG										
65	400/220 KV ICT at Bina PGCIL	Bina PGCIL										
66	400/220 KV ICT-1 at Gwalior PGCIL	Gwalior PG										
67	400/220 KV ICT-2 at Gwalior PGCIL	Gwalior PG										
68	400/220 KV ICT-3 at Gwalior PGCIL	Gwalior PG										
69	400/220 KV ICT-1 at Khandwa PG	Khandwa PG										
70	400/220 KV ICT-2 at Khandwa PG	Khandwa PG										
71	400/220 KV ICT-3 at Khandwa PG	Khandwa PG										
72	400/220 KV ICT-1 at Shujalpur PG	Shujalpur PG										
73	400/220 KV ICT-2 at Shujalpur PG	Shujalpur PG										
74	400/220 KV ICT-1 at Rajgarh PG	Rajgarh PG										
75	400/220 KV ICT-2 at Rajgarh PG	Rajgarh PG										
76	400/220 KV ICT-1 at Betul PG	Betul PG										
77	400/220 KV ICT-2 at Betul PG	Betul PG										
78	400/220 KV ICT-1 at Morena	Morena 400										
79	400/220 KV ICT-2 at Morena	Morena 400										
80	400/220 KV ICT-1 at IndorePG	Indore PG										
81	400/220 KV ICT-2 at IndorePG	Indore PG										
82	400 KV JP Bina-Bina PG	Bina PGCIL	SEMS	RBH SOLUTIONS								