

Agenda for 129th PCC Meeting

Date: 08/09/2023 Eastern Regional Power Committee 14, Golf Club Road, Tollygunge Kolkata: 700 033

EASTERN REGIONAL POWER COMMITTEE

AGENDA FOR 129th PROTECTION COORDINATION SUB-COMMITTEE MEETING TO BE HELD ON 08.09.2023 AT 10:30 HRS THROUGH MS TEAMS

<u> PART – A</u>

ITEM NO. A.1: Confirmation of Minutes of 128th Protection Coordination sub-Committee Meeting held on 20nd July 2023 through MS Teams online platform.

The minutes of 128th Protection Coordination sub-Committee meeting held on 20.07.2023 was circulated vide letter dated 25.08.2023.

Members may confirm.

PART – B

ITEM NO. B.1: Tripping of 3*200 MW Unit and 2*500 MW Unit at FSTPP on 01.07.2023 at 02:17 Hrs

On 01.07.2023 at 02:17 Hrs, FSTPP Unit-4 (500 MW) got tripped on Low Vacuum and other remaining four units of FSTPP St I & II went off Bar on low vacuum within next 45 Mins one by one.

Disturbance report from ERLDC is attached at Annexure B.1.

Gen. Loss: 1420 MW Outage Duration: 03:11 Hrs

NTPC may explain.

ITEM NO. B.2: Disturbance at 400 kV GMR S/s on 31.07.2023 at 16:29 Hrs

400 kV GMR-Meramundali B got tripped due to B phase fault. Consequently, 350 MW Unit # 3 at GMR got tripped due to loss of evacuation path.

Disturbance report from ERLDC is attached at Annexure B.2.

Gen. Loss: 262 MW Outage Duration: 24:11 Hrs

GMR and OPTCL may explain.

ITEM NO. B.3: Disturbance at 220/132 kV Motipur (BSPTCL) S/s on 15.08.2023 at 14:31 Hrs

220 kV Motipur-MTPS-2 got tripped due to B phase-Earth fault, however, breaker at Motipur didn't open and LBB operated. As reported, isolator status of 220 kV Darbhanga (DMTCL)-

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Motipur-1 at Motipur end was showing connected to both buses subsequently both 220 kV Bus at Motipur got tripped and Motipur S/s became dead.



Disturbance report from ERLDC is attached at Annexure B.3.

Load Loss: 121 MW Outage Duration: 00:15 Hrs

BSPTCL may explain.

ITEM NO. B.4: Disturbance at 400 kV APNRL S/s on 17.08.2023 at 12:18 Hrs

On 17.08.2023 at 12:18 Hrs, 2*270 MW Unit 1 & Unit 2 at APNRL got tripped. As reported, there was resistive fault in 400 kV Chaibasa-Kharagpur line which persisted for around 2.5 seconds. Consequently, GT of both units got tripped on earth fault protection.

Disturbance report from ERLDC is attached at Annexure B.4.

Gen. Loss: 490 MW Outage Duration: 06:25 Hrs

APNRL may explain.

ITEM NO. B.5: Disturbance at 220 kV Budhipadar(OPTCL) S/s and 220 kV Ib-TPS(OPGC) S/s on 29.07.2023 at 19:13 Hrs

On 29/07/2023 at 19:13 Hrs, voltage disturbance was observed in OPTCL network due to tripping of 220 kV Budhipadar- OPGC circuit 1 and circuit 2 from both ends subsequently at 19:20 Hrs, 220 kV Budhipadar- OPGC circuit 3 got tripped.

The relay indications were as follows-

Line 1 – ZCOM trip, Fault location - 22.3km Line 2 – ZCOM trip, Fault location – 19.8km Line 3 – Zone-1 trip, Fault location – 13.8km

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OPGC vide letter dated 16.08.2023 requested to include above agenda in PCC Meeting.

OPTCL and OPGC may explain.

ITEM NO. B.6: Major grid events other than GD/GI

1) Bus tripping occurred in Eastern Region during July and August 2023

Element Name	Tripping Date	Reason	Utility
220 kV Bus-2 at TSTPP	On 05.08.2023 at 11:08 Hrs	-	NTPC
220 kV Bus-1 at NJP	On 09.08.2023 at 13:33 Hrs	-	WBSETCL
220 kV Bus-1 at KASBA	On 19.08.2023 at 18:12 Hrs	Bus fault at Kasba	WBSETCL

Concerned utilities may explain.

ITEM NO. B.7: Review of Protection Philosophy of Eastern Region

CERC has notified CERC (Indian Electricity Grid Code) Regulations 2023 (IEGC 2023) and shall come into force with effect from 01.10.2023.

The clause 12(2) of the IEGC 2023 states that

"There shall be a uniform protection protocol for the users of the grid:

a) for proper co-ordination of protection system in order to protect the equipment/system from abnormal operating conditions, isolate the faulty equipment and avoid unintended operation of protection system;

b) to have a repository of protection system, settings and events at regional level;

c) specifying timelines for submission of data;

d) to ensure healthiness of recording equipment including triggering criteria and time synchronization; and

e) to provide for periodic audit of protection system."

Further clause 13 of the IEGC 2023 states that "13. Protection protocol

.....

(3) RPC shall develop the protection protocol and revise the same after review from time to time, in consultation with the stakeholders in the concerned region, and in doing so shall be guided by the principle that minimum electrical protection functions for equipment connected with the grid shall be provided as per the CEA Technical Standards for Construction, the CEA Technical Standards for Connectivity, the CEA Technical Standards for Communication, the CEA (Grid Standards) Regulations, 2010, the CEA (Measures relating to Safety and Electric Supply) Regulations, 2010, and any other CEA standards specified from time to time.

.....

Considering the above, the existing protection philosophy of ERPC need to be reviewed. Therefore, it is proposed that a sub-committee may be constituted with protection experts from

state transmission utilities, Powergrid, NTPC/NHPC, IPPs as well as representative from SLDCs, ERLDC & ERPC secretariat to review the existing protection philosophy of ERPC and suggest necessary changes to be incorporated in the philosophy.

Members may discuss.

ITEM NO. B.8: Tripping Incidence in month of Aug-2023

Single line tripping incidents in the month of July 2023 and Aug 2023 which needs explanation from constituents of either end is attached at **Annexure B.8**.

Members may discuss.

PART- C:: OTHER ITEMS

ITEM NO. C.1: SOP for Protection Audit of ER

As per discussions held in 13th NPC Meeting held on 05.07.2023, SOP for protection system audit to be followed by RPCs has finalized which is attached at **Annexure C.1**.

Members may discuss.

ITEM NO. C.2: Overcurrent settings in EHV lines

It has been observed that many utilities are keeping O/c settings to be enabled for 220 kV and 400 kV lines which is in contravention to "Central Electricity Authority (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations, 2022". It may be noted that wherever Main-1 and Main-2 protection is provided, Back Up O/c is not to be enabled.

Members may note.

ITEM NO. C.3: Review of methodology for Directional Earth Fault Settings

It has been observed that many utilities are using generic pick up and TMS values for Directional fault setting of EHV lines which leads to uncoordinated tripping of lines. In this regard, it is requested by all utilities to share the methodology used for arriving at DEF setting. Further, periodicity of review of these setting on changing of fault level or with addition of new generators or transmission elements may be shared.

Members may discuss.

ITEM NO. C.4: Implementation of Single-Phase Auto recloser feature in DEF Relays for the 400 kV transmission lines of TPTL

In 108th PCC meeting, the proposal of implementing auto reclosure with DEF protection was discussed and after discussion it was opined that the proposal needs elaborate technical discussion and confirmation from the relay manufacturers regarding provision of the single-phase auto reclosing functionality in DEF relay for which PCC had further advised TPTL to furnish relevant document / information for further discussion in this regard.

In 122nd PCC Meeting, ERLDC representative informed that as per communication received from NERLDC, single phase auto-recloser scheme in DEF relay had been implemented in 400 kV Silchar- Imphal d/c and 400 kV Silchar- Misa d/c line and it is operating satisfactorily. He further informed that current reversal guard need to be implemented along with auto recloser scheme in DEF relay for its successful operation.

In 124th PCC, Powergrid representative shared case study paper of IIT Mumbai describing about mal operation of DEF protection resulting in spurious tripping of healthy line. He suggested that comments may be shared by utilities before implementing single phase auto recloser feature in DEF Relays for the 400 kV transmission lines of TPTL.

ERLDC informed that spurious tripping of healthy line is even possible if single phase auto recloser feature is disabled in DEF relays however they requested all utilities to share the observation on the proposed scheme.

In 128th PCC Meeting, M/S GE representative explained the implementation of single-phase auto recloser feature in M/S GE make DEF Relays with help of presentation which is attached at **Annexure C.4.** The major points explained was as follows:

- Directional earth fault is used for high resistance ground faults as distance protection cannot sense the zone accurately in such cases due to low current.
- Either double channel can be used in this scheme i.e. one channel for distance protection, backup overcurrent protection etc and other channel for DEF protection or single channel available in PLCC can also be shared for DEF protection implementation.
- In case of separate channel for distance protection and DEF protection, directional comparison protection allows both to operate in parallel so in case of earth fault, both protection elements will pick up and the faster of the two will perform trip. However, in case of shared channel, distance protection is given priority above DEF.
- Further, use of aided trip logic in conjunction with DEF element allows less trip time and can facilitate single phase tripping if single phase tripping is applied to breaker.
- DEF schemes are identical to distance protection i.e. DEF forward is equivalent to zone 2 distance protection and DEF reverse is equivalent to zone 4 distance protection with better accuracy and sensitivity for high resistive faults. However, there is no equivalency for zone 1 distance protection as DEF elements do not have defined reach.
- Regarding algorithm followed for high resistance earth fault detection, he informed that high resistance fault will be detected if zero sequence voltage and current threshold is crossed for more than one and half cycle. The fault direction is determined by measuring angle between residual current and voltage derivative. Further phase is selected in same way as done in distance protection.

PCC advised all utilities to submit their observation on the above scheme before next PCC Meeting.

MPL vide letter dated 12th Aug 2023 had submitted following observations-

 Existing distance protection on 400 KV system are able to sense and operate all type fault inclusive of High resistance fault. There are no non-operations incidents of these Distance protection for faults on lines.

- 2. The fault currents are adequate and impedance setting available on distance relays are sufficient to take care of high resistance faults.
- 3. Presently DPOC & DEF are acting as backup protection and operating three phase lockout and blocking auto recloser.
- 4. Line differential protection is a better alternative to Aided DEF scheme.
- 5. Aided DEF scheme can be selectively used where there is a week infeed and low fault levels.

Concerned utilities may update.

ITEM NO. C.5: Submission of protection settings for newly charged elements/change in network configuration

In 123rd PCC Meeting, PCC advised all the utilities to intimate any changes in network configuration in their intra state network regularly and review the settings accordingly & upload the relay settings in PDMS by using DMNS portal or by sending the settings file in desired format to <u>erpc-protection@gov.in</u>.

The updated status of protection settings for new elements charged in ER Grid from Nov 22 to Sep 2023 is given at **Annexure C.5**.

In 127th PCC Meeting, PRDC representative requested all the utilities to intimate any changes in network configuration in their intra state network regularly and review the settings accordingly & upload the relay settings in PDMS by using DMNS portal or by sending the settings file in desired format to <u>erpc-protection@gov.in</u>.

She further demonstrated the procedure to extract relay settings from PDMS portal and how to use the relay settings to in PSCT application for relay coordination study. She requested all concerned utilities to use the protection database and the PSCT application for relay coordination purpose and in case of any help/query they may take help of PRDC personnel.

Member Secretary advised utilities take necessary steps for timely Updation of settings data in protection database and also advised to use the database with the help of PSCT tool for relay coordination, setting review of their network.

Members may update.

ITEM NO. C.6: Follow-up of Decisions of the Previous Protection Sub-Committee Meeting(s)

The decisions of previous PCC meetings are attached at Annexure C.6.

Members may update the latest status.



घटना संख्या: 01-07-2023/1

दिनांक: 08-08-2023

Report on the grid event in Eastern Region (पूर्वी क्षेत्र में ग्रिड घटना पर रिपोर्ट)

1. Summary of the event (घटना का सारांश):

At 02:17 Hrs. FSTPP Unit-4 (500 MW) tripped on Low Vacuum and other remaining four units of FSTPP St I & II went off Bar on low vacuum within next 45 Mins one by one. Around 1420 MW generation loss occurred.

- Date / Time of disturbance: 01-07-2023 at 02:17 hrs.
- Event type: GI-2
- Systems/ Subsystems affected: 400 kV Farakka STPS
- Load and Generation loss.
 - 1420 MW generation loss occurred at Farakka.
 - No load loss occurred during the event.

2. Important Transmission Line/element if out (महत्वपूर्ण संचरण लाइने जो बंद है):

NIL

3. Major elements tripped (प्रमुख ट्रिपिंग)

- 500 MW U#4 at FSTPP
- 200 MW U#2 at FSTPP
- 200 MW U#3 at FSTPP
- 200 MW U#1 at FSTPP
- 500 MW U#5 at FSTPP

4. Network across the affected area (प्रभावित क्षेत्र का नक्शा)



Figure 1: Network across the affected area

समय	नाम	उप केंद्र 1 रिले संकेत	उप केंद्र 2 रिले संकेत	पीएमयू पर्यवेक्षण
02:17	500 MW U#4 at FSTPP	Condenser vacuum low pro	tection	
02.21	200 MW U#2 at FSTPP	CW tripped on Lube water I	ow pressure	All units tripped consecutively due to
02:31	200 MW U#3 at FSTPP	CW tripped on Lube water l	ow pressure	low vacuum pressure. There was no electrical
02:35	200 MW U#1 at FSTPP	CW tripped on Lube water l	ow pressure	fault thus no fault observed from PMU.
03:00	500 MW U#5 at FSTPP	Condenser vacuum low pro	tection	

5. Relay indication and PMU observation (रिले संकेत और पीएमयू पर्यवेक्षण):



Figure 2: PMU Voltage snapshot of 400 kV Farakka S/s

6. Restoration (पूर्वावस्था की प्रप्ति)

Transmission/Generation element name	Restoration time
200 MW U#1 at FSTPP	07:05
200 MW U#2 at FSTPP	09:08
200 MW U#3 at FSTPP	10:17
500 MW U#4 at FSTPP	13:42
500 MW U#5 at FSTPP	05:28

7. Analysis of the event & Protection issue (घटना का विश्लेषण और सुरक्षा समस्या):

- All units of Farakka St.1 & 2 tripped one by one within a span of 45 minutes on low vacuum pressure.
- There are four raw water pumps which supplies raw water to pre-treatment plant for clarified and service water production, which in turn is used by CW system and compressors.
- As reported at 00:10 Hrs, Raw Water Pump-1 was brought back into service after cable termination works. Trial run of the pump was taken and then stopped. It is suspected that at this time, NRV of raw water Pump-1 got stuck in open condition and raw water supply short circuited to canal.
- Gradually clarified/service water tank level reduced to minimum level which resulted in tripping of instrument air compressor of stage-2 and CW pumps of stage-1. All units tripped on low vacuum pressure.
- Report received from NTPC FSTPP is attached at Annexure-1.
- NTPC may explain the event and necessary measures taken to avoid such incident in future.

8. Status of Reporting (रिपोर्टिंग की स्थिति):

• Report received from NTPC FSTPP.

Incident Report of Multiple Unit Tripping at NTPC Farakka

Due to Raw water supply Failure

Date of occurrence: 1st July 2023

Presently Stg 1 CW system lub water, compressors cooling water are supplied from clarified water p/p located in Stage 1 DM plant (3 clarified pumps are available taking suction from st1 clarified tank).

Stg 2 CW system lub water, compressors cooling water are supplied from service water pumps located in Stage 2 DM plant (3 service water p/p available, taking suction from Stg 2 service water tank)

Both clarified and service water production source is RAW WATER supplied from Stg1 Raw Water Pump(4 nos. of raw water p/p)

Incident: At 00:10 hrs on 01/07/23, Stg 1 RW pump -1 PTW cancelled after Cable termination, Pump Trial run taken and stopped, after that RW header Pressure dropped to 0.33 ksc from 0.95 ksc, this resulted in interruption of Raw water supply to clarified/service water system and clarified/service water tank, Both tank level gradually dropped to its minimum level, Connected clarified/Service water pumps failed to discharge to various facilities Like CW Lube water Tank, IAC, PAC Cooling water supply etc.

Loss of Service water resulted in tripping of Stg-2 IAC, PAC. Due to tripping of Instrument air compressors IA header pressure dropped up to 1.5 ksc, Unit-4 (500 MW) tripped on Low vacuum protection as Running vacuum pump suction valve closed due to low IA pressure. Similar incident happened to unit-5(500 MW) also.

Loss of Lube water supply from clarifier system resulted in Tripping of Stg-1 all CW pumps, St-1 all units of 200 MW each (Unit 1,2 &3) got tripped on Low vacuum protection.



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Sequence of Ev	ents is	as	below:
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SI No	Equipment	Reason of tripping	Time	Remarks
1	Stg-1 RW pump-1	nll	00:10	Trial run taken and stopped
2	Stg-2 IAC PAC	Cooling water pressure Low	2:08	Due to loss of cooling water supply(service water)
3	Stg-1 CW pumps	Lube water pressure Low	2:33	Due to loss of lube water supply(clarified water)
4	Stg-2 Unit 4	Low vacuum protection	2:17	Due to closing of vacuum pump Suction Solenoid Valve
5	Stg-1 Unit-1,2,3	Low vacuum protection	2:33	Due to Tripping of CW pumps
5	St-2 Unit-5	Low vacuum protection	3:00	Due to closing of vacuum pump Suction Solenoid Valve

<u>Analysis:</u> RW flow to clarified/service water tank interrupted due to suspected stuck of RW pump-1 NRV in open condition as shown in fig-1. Raw water supply short circuited to canal and Discharge flow to supply header failed and this resulted in reduction of Clarified/service water tank level. This resulted in loss of cooling water to st-2 IAC & PAC and Loss of Lub water of Stg-1 CW Overhead tanks Causing Multiple unit tripping (unit-1-5) at FSTPS during Night hours of 01.07.2023.



Fig-1



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UNIT TRIPPING ON 01.07.2023

SL NO	Time	UNIT	REASON
1	02.17.00 HRS	4	CONDENSOR VACUUM LOW PROTECTION- Vacuum Pr Suction valve closed as per loss of IA
2	02.33.00 HRS	1	TRIPPED DUE TO VACUUM PROBLEM- CW tripped on Lube water low Pressure
3	02.33.00 HRS	2	TRIPPED DUE TO VACUUM PROBLEM- CW tripped on Lube water low Pressure
4	02.33.00 HRS	3	TRIPPED DUE TO VACUUM PROBLEM- CW tripped on Lube water low Pressure
5	03.00.00 HRS	5	CONDENSOR VACUUM LOW PROTECTION- Vacuum PP Suction valve closed as per loss of IA

Restoration:

RW pumps Normalized with taking pump1,2,& 3 in service, Clarifier/service water system charged , Unit-5 Synchronized at 5:30 hrs, Unit-1 synch at 6:55 hrs, Unit-2 Synch at 9:06 hrs, Unit-3 synch at 10:17 hrs and Unit -4 Synchronized 13:46 hrs.

Detailed and in depth analysis of system has been done while taking input from all stakeholders and all possible types of future emergency scenarios considered.

Based on due diligence, Following improvements and additional system strengthening measures are being put forward for implementation to avoid such type of incidents:





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घटना संख्या: 31-07-2023/1

दिनांक: 08-08-2023

Report on the grid event in Eastern Region (पूर्वी क्षेत्र में ग्रिड घटना पर रिपोर्ट)

1. Summary of the event (घटना का सारांश):

At 16:29 Hrs, 400 kV GMR-Meramundali B tripped due to B_N fault. Consequently, 350 MW U#3 of GMR tripped due to loss of evacuation path. 262 MW generation loss occurred.

- Date / Time of disturbance: 31-07-2023 at 16:29 hrs.
- Event type: GI-2
- Systems/ Subsystems affected: 400 kV GMR S/s
- Load and Generation loss.
 - 262 MW generation loss occurred at GMR.
 - No load loss occurred during the event.

2. Important Transmission Line/element if out (महत्वपूर्ण संचरण लाइने जो बंद है):

- NIL
- 3. Major elements tripped (प्रमुख ट्रिपिंग)
 - 400 KV GMR-Meramundali B-1
 - 350 MW U#3 at GMR

4. Network across the affected area (प्रभावित क्षेत्र का नक्शा)



Figure 1: Network across the affected area

समय	नाम	उप केंद्र 1 रिले संकेत	उप केंद्र 2 रिले संकेत	पीएमयू पर्यवेक्षण
16:29	400 kV GMR-Meramundali B	GMR: B_N, Zone-1	Meramundali: B_N, 22 kA	68 kV dip in B_ph and 37 kV dip in Y_ph voltage at
	350 MW U#3 at GMR	Loss of ev	acuation path	failed after 1 second.
R Y B Phase Voltage Magnitude				

5. Relay indication and PMU observation (रिले संकेत और पीएमयू पर्यवेक्षण):



Figure 2: PMU Voltage snapshot of 400/220 kV Meramundali S/s

6. Restoration (पूर्वावस्था की प्रप्ति)

Transmission/Generation element name	Restoration time
400 kV GMR-Meramundali B	16:40 (01.08.23)
350 MW U#3 at GMR	19:11 (01.08.23)

7. Analysis of the event & Protection issue (घटना का विश्लेषण और सुरक्षा समस्या):

- 400 kV GMR-Mermundali B tripped due to persisting B_N fault. Power of 350 U#3 of GMR (STU unit) is evacuated through this line only.
- As reported, earth wire snapped b/w tower loc. 6 & 7 inside GMR plant.
- A/r attempt was unsuccessful from both ends after 1 second. Tripping of the line led to loss of evacuation path and consequently, U#3 tripped.

8. Status of Reporting (रिपोर्टिंग की स्थिति):

• DR/EL yet to be received from GMR.

Annexure 1: Sequence of events recorded at ERLDC SCADA data at the time of the event.

Sequence of Event not recorded at the time of event.

Annexure 2: DR recorded





शिड कंट्रोलर ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)स्रिड कंट्रोलर ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)GRID CONTROLLER OF INDIA LIMITED
(A Government of India Enterprise)[formerly Power System Operation Corporation Limited (POSOCO)]पूर्वी क्षेत्रीय भार प्रेषण केन्द्र / Eastern Regional Load Despatch Centreकार्यालय : 14, गोल्फ क्लब रोड, टालिगंज, कोलकाता - 700033
Office : 14, Golf Club Road, Tollygunge, Kolkata - 700033CIN : U40105DL2009GOI188682, Website : www.erdc.in, E-mail : erdcinfo@grid-india.in, Tel.: 033 23890060/0061

घटना संख्या: 15-08-2023/1

दिनांक: 24-08-2023

Report on the grid event in Eastern Region (पूर्वी क्षेत्र में ग्रिड घटना पर रिपोर्ट)

Summary of the event (घटना का सारांश):

At 14:31 Hrs, 220 kV Motipur-MTPS-2 tripped due to B-Earth fault, however, breaker at Motipur didn't open and LBB operated. As reported, isolator status of 220 kV Darbhanga (DMTCL)-Motipur-1 at Motipur end was showing connected to both buses. Consequently, both 220 kV Bus at Motipur tripped and Motipur S/s became dead. 121 MW load loss reported at Motipur, Muzaffarpur, Chakia.

- Date / Time of disturbance: 15-08-2023 at 14:31 hrs.
- Event type: GD 1
- Systems/ Subsystems affected: 220/132 kV Motipur S/s
- Load and Generation loss.
 - No generation loss occurred during the event.
 - 121 MW load loss reported during the event.

Important Transmission Line/element if out (महत्वपूर्ण संचरण लाइने जो बंद है):

Nil

Major elements tripped (प्रमुख ट्रिपिंग)

- 220 kV Motipur-MTPS D/c
- 220 kV Motipur-Darbhanga (DMTCL) D/c
- 220 kV Motipur-Mushari D/c
- 220 kV Motipur-Sitamarhi D/c

Network across the affected area (प्रभावित क्षेत्र का नक्शा)



Figure 2: Network across the affected area



Figure 3: SCADA snapshot of the affected area

Relay indication and PMU observation (रिले संकेत और पीएमयू पर्यवेक्षण):

समय	नाम	उप केंद्र 1 रिले संकेत	उप केंद्र 2 रिले संकेत	पीएमयू पर्यवेक्षण	
	220 kV Motipur-MTPS-1	Motipur: LBB operated			
	220 kV Motipur-MTPS-2	Motipur: B_N, 4.38 kA			
14.21	220 kV Motipur-Darbhanga (DMTCL)-1	Motipur: LBB operated		Around 22 kV dia in	
	220 kV Motipur-Darbhanga (DMTCL)-2	Motipur: LBB operated		B_ph voltage at	
14.31	220 kV Motipur-Mushari-1			recovered gradually	
	220 kV Motipur-Mushari-2	Motipur: LBB operated			
	220 kV Motipur-Sitamarhi-1	Motipur: LBB operated	Sitamarhi: DT received		
	220 kV Motipur-Sitamarhi-2	Motipur: LBB operated	Sitamarhi: DT received		



Figure 1: PMU Voltage snapshot of 400/220 kV Muzaffarpur S/s

Restoration (पूर्वावस्था की प्रप्ति)

Transmission/Generation element name	Restoration time
220 kV Motipur-MTPS D/c	14:55/- Hrs
220 kV Motipur-Darbhanga (DMTCL) D/c	18:04/18:05 Hrs
220 kV Motipur-Mushari D/c	-/14:46 Hrs
220 KV Motipur-Sitamarhi D/c	18:05/18:06 Hrs

Analysis of the event & Protection issue (घटना का विश्लेषण और सुरक्षा समस्या):

- There was a B-Earth fault in 220 kV Motipur-MTPS-2 line which was not cleared from Motipur end due to stuck breaker. LBB operated at Motipur but tripping command given to all elements connected to both bus as isolator status of 220 kV Darbhanga (DMTCL)-Motipur-1 was sensed as closed with both bus.
- Modification in the logic to be explored to avoid such instances so that when there is floating Isolator status or when it is showing connection with both buses last known status or current measurements may be used to ascertain just like Check zone to be used to ensure any Bus fault, etc.
- Triggering criteria for Breaker tripping may be included to get DR for al lines.

Status of Reporting (रिपोर्टिंग की स्थिति):

• DR/EL received for BUSBAR and MTPS Line only.

Annexure 1: Sequence of events recorded at ERLDC SCADA data at the time of the event.

Sequence of Event not recorded at the time of event.

Annexure 2: DR recorded

BUSBAR



शिड कंट्रोलर ऑफ इंडिया लिमिटेड
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(A Government of India Enterprise)
[formerly Power System Operation Corporation Limited (POSOCO)]ब्रिजीयपूर्वी क्षेत्रीय भार प्रेषण केन्द्र / Eastern Regional Load Despatch Centreकार्यालय : 14, गोल्फ क्लब रोड, टालिगंज, कोलकाता - 700033
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घटना संख्या: 17-08-2023/1

दिनांक: 23-08-2023

Report on the grid event in Eastern Region (पूर्वी क्षेत्र में ग्रिड घटना पर रिपोर्ट)

Summary of the event (घटना का सारांश):

At 12:18 Hrs on 17.08.2023, 2*270 MW U#1 & U#2 at APNRL tripped, leading to load loss of around 490 MW. As reported, GT of both units tripped on E/f. There was a resistive fault in 400 kV Chaibasa-Kharagpur line which persisted for around 2.5 seconds. Both units at APNRL tripped during this instance.

- Date / Time of disturbance: 17-08-2023 at 12:18 hrs.
- Event type: GI 2
- Systems/ Subsystems affected: 400 kV APNRL S/s
- Load and Generation loss.
 - 490 MW generation loss reported during the event.
 - No load loss occurred during the event.

Important Transmission Line/element if out (महत्वपूर्ण संचरण लाइने जो बंद है):

• Nil

Major elements tripped (प्रमुख ट्रिपिंग)

- 2*270 MW U#1 & U#2 at APNRL
- 400 kV Chaibasa-Kharagpur-1

Network across the affected area (प्रभावित क्षेत्र का नक्शा)





Figure 3: SCADA snapshot of the affected area

Relay indication and PMU observation (रिले संकेत और पीएमयू पर्यवेक्षण):

समय	नाम	उप केंद्र 1 रिले संकेत	उप केंद्र 2 रिले संकेत	पीएमयू पर्यवेक्षण
	2*270 MW U#1 & U#2 at APNRL	APNRL: Oc E/f of GT o	of both units operated	Around 7 kV dip in R_ph voltage at
12:18	400 kV Chaibasa-Kharagpur- 1	Chaibasa: DEF, lb: 1.6 kA	-	Jamshedpur S/s. Fault clearance time: 2.5 seconds.



Figure 1: PMU Voltage snapshot of 400/220 kV Jamshedpur S/s

Restoration (पूर्वावस्था की प्रप्ति)

Transmission/Generation element name	Restoration time
400 kV Chaibasa-Kharagpur-1	13:53
270 MW U#1 at APNRL	20:04
270 MW U#2 at APNRL	18:43

Analysis of the event & Protection issue (घटना का विश्लेषण और सुरक्षा समस्या):

- There was a resistive fault in 400 kV Kharagpur-Chaibasa-1 line which was cleared in around 2.5 seconds.
- GT of both units at APRNL which is connected with the grid through 400 kV APRNL-Jamshedpur D/c line, tripped due to improper GT earth fault protectionsetting at APNRL(Definite time setting with low pickup). **APNRL may explain and update the revised settings implemented**.
- In this case, 400 kV APNRL-Jamshedpur D/c should trip first before tripping of units if fault would not have been cleared in time by the faulty line.
- There is no provision for DEF protection in 400 kV APNRL-Jamshedpur D/c at APNRL end with differential protection being the primary protection for the D/c line. APNRL may explain. As with Differential protection it will not pickup for the adjacent line fault hence DEF to be enables with co-ordinated setting at APNRL end.

Status of Reporting (रिपोर्टिंग की स्थिति):

• DR/EL received from APNRL.

Annexure 1: Sequence of events recorded at ERLDC SCADA data at the time of the event.

Sequence of Event not recorded at the time of event.

Current IA, b/kA 5.0 2.5 0.0 0.2 0.3 0.4 0.5 0.0 0.7 0.8 0.9 1.0 0.1 Current IB.b/kA 6.0 2.5 0.0 0.2 0.3 0.7 1.0 0.5 0.0 0.8 0.9 0.4 0.1 Current IC.b/kA 8.0 2.5 0.0 0.Z 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0 0.1 Current IY.b/ A 300 200 100 0 0.1 0.2 0.3 0.6 0.7 0.8 0.9 1.0 0.5 0.4 DIFF : Starting t not ready 2 trigg. 3 trigg. 1 trigg. m block 2 trigg m block 2 trigg m block 3 trigg reiflux bl 1 trigg reiflux bl 2 trigg arflux bl 3 trigg system 1 trigg system 2 trigg DIFF : Meas DIFF : Meas 0.9 0.8 4.6 0.5 21 82 8.4 0.5 0.7 1.0 FF: Meas.system 3 trigg. DIFF: Enabled DIFF: Trip signal MAIN: Gen. trip signal N: Gen. trip signal 7 MAIN: Gen. trip signal 2 MAIN: Gen. trip signal 3 MAIN: Gen. trip signal 3 DIFF MAIN

1.1

1.1

1.1

Annexure 2: DR recorded

	Li	st of im	portant	transmi	ssion lines	in ER whicl	h tripped iı	ı Ju	ıly-	2023			
SI. No.	LINE NAME	TRIP DATE	PE TRIP TIME RESTORATI ON DATE RESTO RESTORATION 023 02:18 01-07-2023 01		RESTORATION TIME	Relay Indication LOCAL END	Relay Indication REMOTE END	R ea so n	Fau lt Cle ara nce tim e in mse c	Remarks	DR Co nfi gur ati on Dis cre pa ncy	DR/ELRECEIVEDFROMLOCALEND	DR/ EL REC EIV ED FRO M RE MO TE END
1	220 KV GAYA- DEHRI-1	01-07-2023	02:18	01-07-2023	03:12	Gaya: R_N, 78 km, 2.8 kA	Dehri: R_N, 13.53 km, 4.36 kA	R- Eart h	100	A/r successful from Gaya only. Other two phase at Dehri tripped after 1.8 seconds. BSPTCL may explain.		Y es	Yes
2	400 KV BIHARSHARIF- VARANASI-1	01-07-2023	02:21	01-07-2023	03:36	Biharsharif: Y_N, 123 km, 3.319 kA		Y- Eart h	100	A/r failed after 1 second		Y es	NA

												_	
3	400KV JAMSHEDPUR- MAITHON-1	01-07-2023	02:46	01-07-2023	14:12	Jamshedpur:Y_N, Zone- 1, 36 km, 7.8 kA	Maithion:Y_N, Zone- 1, 128.52 km, 3.01 kA	Y- Eart h	100	A/r failed after 1 second		Y es	No
4	400KV DURGAPUR- KHSTPP-1	01-07-2023	14:00	01-07-2023	14:49	Durgapur: B_N, Zone- 1, 168.5 km, 1.96 kA	Kahalgaon: B_N, Zone-1, 62.68 km, 6.86 kA	B- Eart h	100	A/r successful from Durgapur only. Three phase tripping at Kahalgaon.		No	Yes
5	400KV NEW PPSP- ARAMBAGH-1	01-07-2023	16:05	01-07-2023	16:38	New PPSP: B_N, Zone- 2, 225 km, 1.608 kA	Arambagh: B_N, Zone 1, 7.684 km, 14.25 kA	- B- Eart h	100	A/r successful from Arambag only		N o	Yes
6	220KV DARBHANGA(D MTCL)-LAUKAHI- 2	02-07-2023	06:58	02-07-2023	08:02	Darbhanga: R_N, Zone- 1, 60.8 km, 2.43 kA, A/r successful		R- Eart h	100	A/r successful from Darbhanga only		N o	Yes
7	220KV DEHRI- GAYA-1	02-07-2023	14:18	02-07-2023	15:13	Dehri: R_N, 6.44 kA	Gaya: R_N, 93.23 km, 2.56 kA	R- Eart h	100	A/r successful from Gaya only. Other two phase at Dehri tripped after 1.8 seconds. BSPTCL may explain.		Yes	Yes
8	220KV NEW PURNEA- MADHEPURA-1	02-07-2023	15:12	02-07-2023	16:09	New Purnea: R_N, 22.6 km, 6.14 kA	Madhepura: R_N, Zone-1, 72.5 km, 1.687 kA	R- Eart h	100	A/r not operated at both ends. Other two phase tripped on PD	DR lengt h less at Madh epura	Yes	Yes

9	400KV DURGAPUR- KHSTPP-1	02-07-2023	18:17	02-07-2023	19:57	Durgapur: Didn't trip	Kahalgaon: Tripped	No fault	NA	No fault in line. NTPC may explain the reason for tripping		N o	Yes
10	400KV MAITHON- KHSTPP-2	02-07-2023	18:17	02-07-2023	20:41	Maithon: B_N, 131.9 km, 2.09 kA	Kahalgaon: B_N, 37 kA	B- Eart h	100	Three phase tripping for single phase fault.	DR lengt h less at Kahal gaon	N o	Yes
11	400KV SAGARDIGHI- FSTPP-1	03-07-2023	09:03	04-07-2023	02:09		Farakka:R_N, Zone-2, 56.76 km, 4.155 kA	R- Eart h	350	Tripped in Zone- 2 time from Farakka. Carrier signal not sent from Sagardighi. WBPDCL may explain.		No	Yes
12	400KV NEW JEERAT- SUBHASGRAM(P G)-2	03-07-2023	11:15	03-07-2023	19:19	New Jeerat: R_N, 93.4 km, 3.456 kA	Subhasgram: R_N, 15.2 km, 11.2 kA	R- Eart h	100	A/r failed after 1 second		N o	No
13	220KV RENGALI(PH)- TSTPP-1	03-07-2023	12:53	03-07-2023	20:13	Rengali: R_N, 23 km	Talcher: R_N, Zone-1, 0.6 km, 17 kA	R- Eart h	350	Tripped in Zone- 2 time from Rengali (PH).		N o	No
14	400KV CHANDWA- NORTH KARANPURA-2	03-07-2023	15:45	03-07-2023	17:16	Chandawa: R_N, Zone- 1, 12 km, 9.74 kA		R- Eart h	100	A/r successful from North karnpura only. Other two phase at Chandwa tripped on PD later		Yes	No

15	400KV- BIHARSARIFF(PG)- BANKA(PG)-2	04-07-2023	14:11	04-07-2023	16:08	Biharsharif: R_Y_N, Ir: 3.75 kA, Iy: 3.14 kA	Banka: R_Y_N, 18.9 km, Ir= 12.64 kA, Iy= 10.09 kA	R-Y- Eart h	100	Phase to phase fault	Y es	Yes
16	765KV JHARSUGUDA- DHARAMJAIGARH- 2	04-07-2023	17:17	04-07-2023	18:16	Jharsuguda: B_N 7.37 km, 25.62 kA		B- Eart h	100	A/r failed after 1 second	Y es	NA
17	220KV RANCHI- MTPS(DVC)-1	04-07-2023	17:45	04-07-2023	19:42	Ranchi:R_E, 78.8 km, 2.09 kA	Mejia:R_N, Zone-1, 143 km, 1.2 kA	R- Eart h	100	A/r successful from Ranchi. A/r kept disabled at Mejia.	Y es	Yes
18	220KV NEW PURNEA- MADHEPURA-1	05-07-2023	11:33	05-07-2023	12:47	New purnea: R_Y, Zone- 1, 23 km, Ir= 7.59 kA, Iy= 7.51 kA	Madhepura: R_Y, Zone-1, 71.5 km, Ir= 2.28 kA, Iy= 2.37 kA	R-Y- Eart h	100	Phase to phase fault	Y es	No
19	765KV JHARSUGUDA- RAIPUR PS (DURG)- 2	06-07-2023	02:05	06-07-2023	04:43	Jharsuguda: Y_N, Zone- 1, 192 km, 3.59 kA	Raipur: Y_N, 97.85 km, 7.07 kA	Y- Eart h	100	A/r failed after 1 second	Y es	No
20	220KV JORETHANG- NEW MELLI-2	06-07-2023	11:31	06-07-2023	15:15	Jorethang: Y_N , Zone- 1, 2.312 km	New Melli: A/r successful	B- Eart h	100	Three phase tripping at Jorethang. A/r successful from New Melli	N o	No
	400KV SAGARDIGHI-						Farakka: DT received	No faul t		WBPDCL/NTPC /PG may update	N	
21	FSTPP-1	07-07-2023	07:40	07-07-2023	08:58				NA		0	Yes

	4001214									D1 received at		
	400KV					Biharshariff: DT				Biharsharif, PG		
	BIHARSARIFF(PG					received		No		FR-1 may	Y	
22)-VARANASI-2	07-07-2023	16:28	07-07-2023	18:04	received		fault	NA	ovelain	es	NA
23	400KV MALBASE- BINAGURI-1	07-07-2023	23:14	07-07-2023	23:43	Malabase: R_N, Zone- 1, 21.25 km, 6.877kA	Binaguri: R_N, 112.58 km, 4.032 kA	R- Eart h	100	A/r successful from Binaguri only	Yes	No
24	400KV MAITHON- DURGAPUR-2	08-07-2023	00:51	08-07-2023	01:18	Maithon: R_N, 2.4 km, 22.6 kA	Durgapur: R_N, 70 km, 5.41 kA	R- Eart h	100	Three phase tripping for single phase fault	N o	No
											-	
25	400KV SAGARDIGHI- FSTPP-1	09-07-2023	08:53	09-07-2023	12:14	Sagardighi: DT received and send	Farakka: DT received	No fault	NA	WBPDCL/NTPC /PG may update	N o	Yes
26	400KV SAGARDIGHI- FSTPP-1	09-07-2023	12:34	09-07-2023	14:24	Sagardighi: DT received		No fault	NA	WBPDCL/NTPC /PG may update	N o	Yes
27	400KV ALIPURDUAR (PG)-BINAGURI-3	10-07-2023	06:21			Alipurduar: Y_E, Zone- 2, 1.4 kA	Binaguri: Y_E, Zone- 1, 0.1 km, 26 kA	Y- Eart h	100	A/r failed after 1 second	N o	No
28	220KV BINAGURI- NJP-2	10-07-2023	06:21	10-07-2023	08:59		NJP: Y_N, 0.6 kA Chatra: Zone-1, 64,17	Y- Eart h	100	A/r failed after 1 second	N o	Yes
29	DALTONGANJ- CHATRA-1	10-07-2023	11.05	10-07-2023	12.26	Daltonganj: Y_B, 753 km, 2.04 kA	km, Iy= 0.654 kA, Ib=	Y-R	100	Phase to phase fault	Y es	No
	~~~~ · · · · · · ·	10 07 2023	11.00	10 07 2023	12.20		10 6797 kA	1.0	100	1		1.0

30	220KV TTPS- TSTPP-1	11-07-2023	16:07	11-07-2023	19:20	TTPS: B_N, 41.3 km, 5.15 kA, SOTF operated	TSTPP: B_N, Zone-1, 6.7 km, 11.25 kA	B- Eart h	100	Three phase tripping for single phase fault	N 0 ]	No
31	KISHANGANJ(PG)- 1	12-07-2023	01.34	12-07-2023	02:50	Siliguri: Y_B_N, 25 km, Iy= 7.5 kA, Ib= 7.9	Kishanganj: Y_B_N, 78 km, Iy= 3.13 kA,	Eart h	100	Phase to phase fault	N	Yes
32	400KV MALBASE- BINAGURI-1	13-07-2023	03:29	13-07-2023	04:23		Ih— 3 13 kA Binaguri: R_N, 104 km, 4.32 kA	R- Eart h	100	A/r successful from Binaguri only	Y es 1	No
33	400KV MUZAFFARPUR(P G)-DHALKEBAR- 1	13-07-2023	15:38	13-07-2023	16:54	Muzaffarpur: DEF operated		No faul t	NA	Y_ph current less than other two phase. DEF operated at Muzaffarpur. PG ER-1 may explain.	Y es 1	NA
34	400KV BINAGURI- NEW PURNEA-2	14-07-2023	04:00	14-07-2023	04:54	Binaguri: R_N, Zone-1, 73.88 km, 4.411 kA	New Purena: R_N, Zone-1, 79.1 km, 4.7 kA	R- Eart h	100	A/r failed after 1 second. However, after 2 second of the fault. Y_ph and B_ph of tie CB moemntarily closed at New Purnea. PG ER-1 may explain.	N o	Yes
35	400KV JHARSUGUDA- STERLITE-2	15-07-2023	10:01	15-07-2023	10:46	Jharsuguda: R_N, 8.56 kA	Sterlite: R_N, Zone-1, 8 km, 4.5 kA	R- Eart h	100	A/r successful from Jharsuguda only	Y es 1	No

36	220KV DALTONGANJ- CHATRA-1	15-07-2023	11:17	15-07-2023	12:33	Daltonganj: B_N, 110 km, 1.2 kA		B- Eart h	100	A/r successful from Daltonganj. Tripped again within reclaim time.	Yes	No
37	220KV DALTONGANJ- CHATRA-1	15-07-2023	12:39	15-07-2023	18:06	Daltonganj: B_N, Zone- 1, 122.452 km, 1.261 kA	Chatra: B_N, 55.75 km, 0.908 kA	B- Eart h	100	A/r failed after 1 second	Y es	No
38	220KV DALTONGANJ- LATEHAR(JUSNL)- 1	17-07-2023	13:03	17-07-2023	20:13	Daltonganj: R_Y, 29.5 km, 3.37 kA		R-Y- Eart h	100	Phase to phase fault	Y es	No
39	220KV BUDHIPADAR- RAIGARH-1	18-07-2023	05:56	18-07-2023	05:56	Budhipadar: R_N, Zone- 1, 65.5 km, 2.6 kA	Raigarh: R_N, 6.6 km, 13.07 kA	R- Eart h	100	Three phase A/r failed from Budhipadar after 1 second	Y es	NA
40	400KV KODERMA- BIHARSARIFF(PG )-2	18-07-2023	16:11	18-07-2023	19:26	Koderma: DT received	Biharsharif: O/V	No fault	NA	As per DR, B_ph voltage touched 670 kV. No such rise observed from PMU data. PG ER-1 may explain.	N A	Yes
41	400KV MALBASE- BINAGURI-1	21-07-2023	04:25	21-07-2023	04:46	Malabase:Y_N, Zone-1, 77.12 km, 4.599 kA	Binaguri:Y_N, 11.36 km, 4.172 kA	Y- Eart h	100	A/r successful from Binaguri only	Yes	No
42	220KV BIRPARA- MALBASE-1	21-07-2023	04:42	21-07-2023	05:11	Birpara:R_N, 9.46 km, 10.82 kA	Malabase: R_N, Zone- 2, 2.05 kA	Eart h	400	Tripped in Zone- 2 time from Malbase	N o	Yes

43	400KV MERAMUNDALI- LAPANGA-2	21-07-2023	12:27	21-07-2023	14:08	Meramundali: DT received	Lapanga: DEF operated	No fault	NA	Direcional earth fault operated at Lapanga due to high current in neutral. OPTCL may explain and share the findings.	Yes	Yes
44	220KV JODA- RAMCHANDRAP UR-1	24-07-2023	15:41	24-07-2023	16:28	Joda:R_Y, 21.6 km, Ir: 2.44 kA, Iy: 2.50 kA	Ramchandrapur: R_Y, 109 km	R-Y Eart h	100	Phase to phase fault	Yes	No
45	220KV DARBHANGA (DMTCL)- MOTIPUR-1	25-07-2023	14:58			Dharbhanga: R_N, Zone-1, 4.8 km, 13.6 kA		R- Eart h	100	A/r successful from Motipur and tripped again within reclaim time. Three phase tripping at Darbhanga	Yes	Yes

46	220 KV RANCHI- RAMGARH-1	26-07-2023	04:26	26-07-2023	05:14	Ranchi: R_N, 69 km, A/r successful	Ramgarh: R_N, 2.20 kA	R- Eart h	100	A/r successful from Ranchi only. Three phase tripping at Ramgarh	Yes	Yes
47	220KV CHANDIL- STPS(WBPDCL)-1	27-07-2023	17:33	27-07-2023	18:08	Chandil: A/r successful	STPS: R_N, Zone-1, 77 km, 1.80 kA	R- Eart h	100	A/r successful from Chandil only	N o	No
48	220KV BUDHIPADAR- KORBA-1	28-07-2023	12:39			Budhipadar:R_N, Zone- 2, 153 km, 1.1 kA		R- Eart h	900	Resistive fault. Tripped after 350 msec after fault was sensed by	Y es	NA
49	220KV BUDHIPADAR- KORBA-2	28-07-2023	12:39	29-07-2023	14:04	Budhipadar: R_N, Zone- 2, 196 km, 0.25 kA		R- Eart h	1600	Resistive fault. Tripped after 350 msec after fault was sensed by distance relay from Budhipadar.	Y es	NA
50	220KV SILIGURI- KISHANGANJ(PG)- 1	29-07-2023	02:20	29-07-2023	03:03	Siliguri:Y_N, 56.23 km, 2.91 kA	Kishanganj: Y_N, 3.66 kA	Y- Eart h	100	A/r successful from Kishanganj only.	N	Yes

51	400KV RANCHI- RAGHUNATHPUR- 1	29-07-2023	09:05	29-07-2023	09:48	Ranchi: Y_N, Zone-1, 132 km, 2.86 kA	Raghunatpur: Y_N, 31 km, 7.63 kA	Y- Eart h	100	A/r failed after 1 second	Y	Yes
51	1	27 07 2023	07.05	29 07 2023	09.10				100		0.5	105
52	400KV ROURKELA- JHARSUGUDA-4	29-07-2023	17:10	30-07-2023	00:44	Rourkela:R_N, Zone-1, 32.8 km, 7.4 kA	Jharsuguda:R_N, Zone 2, 110 km, 4.46 kA	R- Eart h	100	A/r failed after 1 second	N o	No
53	220KV BUDHIPADAR- RAIGARH-1	29-07-2023	23:03	30-07-2023	00:01	Budhuipadar:B_N, Zone-1, 27.5 km, 5.4 kA	Raigarh:B_N, 55 km, 3 kA	B- Eart h	100	Three phase A/r successful from Budhipadar	Y es	NA
54	220KV DALKHOLA (PG)- GAZOLE-2	30-07-2023	01:44	30-07-2023	02:21	Dalkhola:R_Y, 58 km, Ir =Iy= 6.1 kA	Gazole:R_Y, 58 km, Ir= 3.45 kA, Iy=3.35 kA,	R-Y- Eart h	100	Phase to phase fault	N o	Yes
55	220KV JAMSHEDPUR- JINDAL-1	30-07-2023	11:55	30-07-2023	13:15	Jamshedpur: B_N, Zone 1, 111 km, 1.2599 kA	-	B- Eart h	100	Three phase tripping for single phase fault. PLCC not available	N o	No
56	400KV TSTPP- ROURKELA-1	30-07-2023	16:40	30-07-2023	22:40	Talcher: B_N, Zone-1, 0.1 km	Rourkela: B_N, Zone- 2, 171 km, 2.66 kA	B- Eart h	100	A/r successful. Tripped again within reclaim time	N o	No
57	220 KV DARBHANGA (DMTCL)- MOTIPUR-1	31-07-2023	12:28	31-07-2023	13:57	Darbhanga: Y_B, 68.53 km, Iy=Ib= 2.8 kA	Motipur: Y_B, Iy=Ib=4.89 kA	Y-B	100	Phase to phase fault	Yes	Yes

	400 KV ROURKELA-					Rourkela: B_N, 178.8 km, 2.7 kA	Talcher: B_N, 0.1 km, 34.97 kA	B- Eart		A/r successful. Tripped again within reclaim time.	DR not time synch roniz ed	N	
58	TSTPP-1	31-07-2023	17:05	01-08-2023	18:35			h	100		and	0	Yes

	List of i	mportai	nt trans	smissior	ı line	s in ER w	hich tripp	ed i	n Aı	igust-2023			
Sl. No.	LINE NAME	TRIP DATE	TRIP TIME	RESTORA TION DATE	REST ORATI ON TIME	Relay Indication LOCAL END	Relay Indication REMOTE END	Rea	Faul t Clea ranc e time in mse c	Remarks	DR Con figu rati on Disc rep anc y	DR /E L RE CE IV ED FR O M LO CA L EN D	DR /EL RE CE IV ED FR O M RE M OT E EN D
1	765KV NEW RANCHI- MEDINIPUR-2	01-08-2023	00:01	01-08-2023	15:11	New Ranchi: Y_N, Zone-1, 34.83 km, 8.84 kA	Medinipur: Y_N, Zone-1, 174.1 km, 3.47 kA	Y- Earth					

2	220KV KHAGARIA- NEW PURNEA-2	01-08-2023	11:05	01-08-2023	11:56	Khagaria:B_N, Zone-1, 60.77 km, 1.964 kA	New Purena:B_N, 43.8 km, 2.79 kA	B- Earth	100	A/r successful. Y-B fault during reclaim time.		
3	400KV ALIPURDUAR (PG)-BINAGURI-4	01-08-2023	11:52	01-08-2023	16:22	Alipurduar: B_N, Zone-1, 44.46 km,4.5 kA	Binaguri: B_N, Zone 1, 76.15 km, 2.502 kA	B- Earth				
4	220KV DARBHANGA (DMTCL)-MOTIPUR-2	01-08-2023	12:01	01-08-2023	18:09	Darbhanga: Y_B, Zone-2, 90.27 km, Iy= 2.174 kA, Ib= 2.159 kA	Motipur: Y_B, 17.79 km, Iy= 7.60 kA, Ib= 7.76 kA	Y-B	100	Phase to phase fault		
5	400KV BIHARSARIFF(PG)- MUZAFFARPUR(PG)-2	01-08-2023	22:13	01-08-2023	23:03	Biharsariff:Y_N, Zone-1, 55.7 km, 5.384 kA	Muzaffarpur: Y_N, 70.9 km, 4.4 kA	Y- Earth	100	Single phase fault. DT sent from Muzaffarpur and three phase tripped. PG ER-1 may explain.		
6	220KV RENGALI(PH)- TSTPP-1	02-08-2023	03:24	03-08-2023	19:15	Rengali: R_N, Zone-2, 23.82 km, 4.398 kA	Talcher: R_N, Zone- 1, 0.9 km, 16.46 kA	R- Earth				
7	400KV ARAMBAGH- NEW CHANDITALA-1	02-08-2023	04:10	02-08-2023	04:46		New Chanditala: DT received	No fault	NA	No fault in line. WBSETCL may explain.		
8	400KV ALIPURDUAR (PG)-BINAGURI-4	02-08-2023	04:55	02-08-2023	06:34	Alipurduar: O/V St.1		No fault	NA	As per Alipurduar DR, Y_ph voltage was 10 kV higher than other two phase. PG ER-2 may explain.		

9	400KV ALIPURDUAR (PG)-BINAGURI-4	02-08-2023	07:00	02-08-2023	15:46	Alipurduar: O/V St.1		No fault	NA	As per Alipurduar DR, Y_ph voltage was 10 kV higher than other two phase. PG ER-2 may explain.		
10	400KV ARAMBAGH- BAKRESWAR-1	02-08-2023	07:25	02-08-2023	08:27	Arambag: Y_N, Zone-1, 87.21 km, 3.995 kA	Bakreswar: Y_N, Zone-2, 687.7 km, 3.28 kA	Y- Earth				
11	400KV ALIPURDUAR (PG)-BINAGURI-3	02-08-2023	15:08	02-08-2023	15:27	Alipurduar: DT received						
12	220KV BUDHIPADAR- KORBA-2	02-08-2023	23:46	03-08-2023	02:49	Budhipadar: CB PD operated with SF6 pressure low and CB AC/DC fail indications	Korba: Didn't trip					
13	220KV BUDHIPADAR- KORBA-2	03-08-2023	02:51	03-08-2023	08:06	Budhipadar: CB PD operated with SF6 pressure low and CB AC/DC fail indications	Korba: Didn't trip					
14	220KV JAYNAGAR- JEYPORE-1	03-08-2023	03:10	03-08-2023	03:46	Jaynagar: Tripped due to pole discrepancy						

15	220KV-TALCHER- MERAMUNDALI-1	05-08-2023	11:08	07-08-2023	18:13		Meramundali:R_N, Zone-2, 38.38 km, 4.314 kA	R- Earth	Seems A/R enabled for zone-2 from meramundali end , after z-2 time delay A/R attempted.		
16	220KV-RENGALI(PH)- TSTPP-1	05-08-2023	11:08	05-08-2023	20:40	Tripped due to tripping of 220 kV Bus-2 at TSTPP					
17	400KV-ROURKELA- CHAIBASA-1	06-08-2023	13:27	06-08-2023	14:03	Rourkela: DT received					
18	400KV-ALIPURDUAR (PG)-BINAGURI-4	07-08-2023	16:13	08-08-2023	21:24		Binaguri:Y_N, Zone- 1, 0.1 km	Y- Earth	Puncture Insulator was found in in Y phase suspension at dropper from Jack Bus to Main- Tie Insulator at Binaguri		
19	220KV-BINAGURI-NJP- 1	09-08-2023	13:33	09-08-2023	14:08		Tripped due to tripping of 220 kV Main Bus-I at NJP as During ongoing testing by Siliguri Testing Area Office, CB at PGCIL end i.r.o. above mentioned line has been tripped				
20	400KV-CHANDAUTI (PMTL)-NABINAGAR (NPGC)-1	09-08-2023	15:36	09-08-2023	16:49	Chandauti: DT received			DT RECEIVED AT CHANDAUTI END WHILE AVAILING S/D OF 400KV- CHANDAUTI (PMTL)- NABINAGAR (NPGC)-2		

21	220KV- DARBHANGA(DMTCL) LAUKAHI-2	09-08-2023	19:33	09-08-2023	20:22	Darbhanga: R_N, Zone-1, 27.2 km,4.57 kA, A/r successful	Laukahi: R_N, Zone- 1, 49.45 km, 2.183 kA	R- Earth			
22	220KV-DALTONGANJ- CHATRA-1	10-08-2023	14:40	10-08-2023	15:36	Daltonganj: DT received					
23	400KV-BAHARAMPUR BHERAMARA-3	- 10-08-2023	16:57	11-08-2023	02:28	Baharampur: DT received	Bheramara: R_N, Zone-1, 72 km, 3.02 kA	R- Earth			
24	400KV-ALIPURDUAR (PG)-BINAGURI-4	10-08-2023	23:02	11-08-2023	06:58	Alipuduar: R_B, 53.7 km, Ir = 6 kA, Ib = 3.7 kA	Binaguri: R_B, Zone 1, Ir = 9 kA, Ib= 6.3 kA				
25	220KV- KISHANGANJ(PG)- KISHANGANJ(BSPTCL) 2	11-08-2023	11:35	11-08-2023	14:57		malfunctioning of Main - 1 protection relay contact (distance protection-1) at BSPTCL end				

26	220KV- DARBHANGA(DMTCL)- LAUKAHI-2	12-08-2023	03:50	12-08-2023	04:30	Darbhanga:R_N, Zone-1, 7.5 km, 2.65 kA, A/r successful	Laukahi:R_N, Zone- 1, 30 km, 3.23 kA	R- Earth	Successful A/R from DMTCL but no A/R attempt from Laukahi and was in Lockout stage, Dead time at DMTCL is 700 ms. Whether it is tripping on PD from laukahi?		
27	400KV-MAITHON- KHSTPP-2	12-08-2023	07:02	12-08-2023	12:20	Maithon: DT received	Kahalgaon: DT received , over voltage				
28	220KV-KATAPALLI- BOLANGIR(PG)-1	12-08-2023	17:35	13-08-2023	12:12	Katapalli:R_Y, 40.08 km, Ir= 4.92 kA, Iy= 4.19 kA	Bolangir: R_Y, Zone 1, 71.4 km, ir= 1.37 kA, iy= 2.19 kA		Phase to phase fault		
29	220KV-KHAGARIA- NEW PURNEA-1	12-08-2023	19:19	12-08-2023	19:52	Khagaria: Didn't trip	New purnea: Y_N, 71.4 km, 2.9 kA	Y- Earth			
30	220KV- DARBHANGA(DMTCL)- LAUKAHI-2	13-08-2023	02:27	13-08-2023	03:01	Darbhanga: Y_N, Zone-1, 66.28 km, 2.463 kA, A/r successful	Laukahi: Y_N, Zone- 1, 22.95 km, 4.256 kA	Y- Earth			

31	220KV- DARBHANGA(DMTCL)- LAUKAHI-2	13-08-2023	18:19	13-08-2023	19:07	Darbhanga: R_N, Zone-1, 66 km, 2.20 kA, A/r successful	Laukahi: R_N, Zone- 1, 19.78 km, 4.485 kA	R- Earth	Successful A/R from DMTCL but no A/R attempt from Laukahi and was in Lockout stage, Dead time at DMTCL is 700 ms.	
32	220KV-DARBHANGA (DMTCL)-MOTIPUR-2	13-08-2023	19:38	13-08-2023	20:19	Darbhanga: R_N, Zone-1, 33.39 km, 3.90 kA	Motipur: A/r successful	R- Earth	A/R was successful from both ends wheter tripped in reclaim time?	
33	220KV- DARBHANGA(DMTCL)- LAUKAHI-2	14-08-2023	03:52	14-08-2023	20:08	Darbhanga: A/r successsful	Laukahi: R_N, 26.19 km, 4.026 kA	R- Earth	No A/R from Laukahi and 3 phase tripping occurred at the instance of single phase fault.	
34	400KV-RANCHI- ROURKELA-1	14-08-2023	08:27	14-08-2023	22:32	Ranchi: Y_B, 69.8 km, Iy= 7.4 kA, Ib= 6.9 kA	Rourkela: Y_B, 74.4 km, Iy= 6.49 kA, Ib= 1.06 kA			
35	400KV-ALIPURDUAR (PG)-JIGMELLING-1	15-08-2023	14:05	15-08-2023	14:42		Bhutan: DT received			
36	400KV-ALIPURDUAR (PG)-PUNASANGCHUN- JIGMELING-2	15-08-2023	14:05	15-08-2023	14:45		Bhutan: R_Y_B trip			

37	220KV-CHANDIL- RANCHI-1	15-08-2023	14:39	16-08-2023	16:50	Chandil: R_Y, Zone-1, Ir= 2.67 kA, Iy= 2.55 kA, Ib= 0.26 kA	Ranchi: R_Y, Zone- 1, 14.55 km, Ir= 13.54 kA, Iy= 12.07 kA				
38	220KV-KHAGARIA- NEW PURNEA-2	16-08-2023	10:40	16-08-2023	11:56	Khagaria: B_N, 27.1 km, 2.93 kA	New Purena: B_N, Zone-1, 26.64 km, 4.5 kA	B- Earth			
39	220KV-JODA- RAMCHANDRAPUR-1	16-08-2023	13:34	16-08-2023	14:03	Joda:Y_N, Zone-1, 72.17 km, 0.99 kA	Ramchandarpur: Y_N, Zone-1, 55.8 km, 1.92 kA		Tripping in reclaim time from Joda but from RCP end again A/R occurred seems no provision of recalim time at RCP may be checked?		
40	220KV-SAHARSA- BEGUSARAI-1	16-08-2023	15:59	16-08-2023	16:52	Saharsa: R_N, 25 km, 5.16 kA	Begusarai: R_N, Zone-1, 61.5 km, 2.38 kA	R- Earth			
41	220KV-BUDHIPADAR- RAIGARH-1	16-08-2023	16:53	16-08-2023	18:32	Budhipadar: 1.21 km, 20.31 kA, A/r successful	Raigarh: R_N	R- Earth	3 phase tripping from BudhipadAR AND No A/R		

42	220KV- DARBHANGA(DMTCL)- LAUKAHI-2	16-08-2023	19:53	16-08-2023	21:45	Darbhanga: R_N, 28 km, 4.751 kA	Laukahi: R_N, 57 km, 2.079 kA, A/r successful	R- Earth		Successful A/R from DMTCL but no A/R attempt from Laukahi and was in Lockout stage, Dead time at DMTCL is 700 ms.		
43	400KV-PPSP- BIDHANNAGAR-1	16-08-2023	22:09	16-08-2023	22:37	PPSP: R_N, Zone- 1, 65.4 km	Bidhanagar: R_N, Zone-1, 128 km, 2.471 kA	R- Earth				
44	400KV-KHARAGPUR- CHAIBASA-1	17-08-2023	12:19	17-08-2023	13:53		Chaibasa:Directional E/f, Ib= 1.6 kA					
45	400KV-BINAGURI- KISHANGANJ-1	17-08-2023	13:10	17-08-2023	16:35	Binaguri: R_N, Zone-1, 21.23 km, 9.304 kA	Kishanganj: R_N, 94.25 km, 4.8 kA	R- Earth				
46	400KV-PPSP- BIDHANNAGAR-1	17-08-2023	13:19	17-08-2023	13:47		Bidhannagar: DT received	No fault	NA	B_ph current suddenly increased to 770 A from 210 A. No fault was seen by distance relay. WBSEDCL may explain.		

47	400KV-NEW PPSP- NEW RANCHL1	17-08-2023	13-19	18-08-2023	00.53		New Ranchi: B_N, 89.3 km, 5.5 kA	B- Farth	100	DT received at New Ranchi just before A/r attempt. WBSETCL may explain		
48	220KV-PATNA- KHAGAUL-1	18-08-2023	11:14	18-08-2023	12:01	Patna: B_N, 10.25 km, 9.9 kA	Khagaul: B_N, 7.93 kA, A/r successful	B- Earth	100	A/r successful at Khagaul. Other two phase at Patna tripped on PD	not time synchr onized at Khaga	
49	400KV-NEW DUBURI- MEERAMUNDALI-2	18-08-2023	17:10	18-08-2023	19:46	New Duburi: R_Y, 49 km, Ir= 5.5 kA, Iy= 5.7 kA	Meeramundali: R_Y, 49 km, Ir=8.17 kA, Iy= 7.9 kA	R-Y	100	Phase to phase fault		
50	400KV-KHSTPP- BANKA (PG)-1	20-08-2023	10:17	20-08-2023	20:34		Banka: DT received	No fault	NA	No fault in line. NTPC may explain.		
51	220KV- DARBHANGA(DMTCL)- LAUKAHI-2	21-08-2023	21:01	21-08-2023	23:18	Darbhanga: Y_N ,Zone-1, 54.79 km	Laukahi: Y_N, 31.57 km, 3.34 kA	Y- Earth	100	A/r successful at Darbhanga. Three phase tripping at Laukahi		

52	220KV-DARBHANGA (DMTCL)-MOTIPUR-1	22-08-2023	05:22	22-08-2023	05:38	Darbhanga: R_N, Zone-1, 33km, 4.117 kA	Motipur: R_N, 2.27 kA, A/r successful	R- Earth	100	A/r sucessful at Motipur. Three phase tripping at Darbhanga		
53	400KV-JAMSHEDPUR- MEJIA-1	23-08-2023	00:28	23-08-2023	13:58	Jamshedpur: B_N, 63 km, 5.9 kA	Mejia: B_N, 92 km, 2.28 kA	B- Earth	100	A/r failed after 1 second		
54	220KV-MAITHON- DUMKA-1	23-08-2023	17:56	23-08-2023	18:22	Maithon: R_N, 7.55 kA, A/r successful	Dumka: R_N, Zone- 1, 37.9 km,	R- Earth	100	A/r successful from Maithon. Three phase tripping at Dumka.		
55	400KV MERAMUNDALI- MERAMUNDALI B-1	26-08-2023	11:05	26-08-2023	11:48		Meramundali B: Didn't trip	No fault	NA	Tripped from Meramundali end. OPTCL may explain.		
56	220KV MAITHON- DHANBAD-1	26-08-2023	12:44	26-08-2023	13:19	Maithon: B_N, 21 km, 1 kA	Dhanbad: B_N, A/r successful	B- Earth	350	Tripped in Zone-2 time from Maithon. A/r successful at Dhanbad.		

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57	400KV NEW DUBURI- TSL-1	26-08-2023	21:08	26-08-2023	22:02							
58	220KV KHAGARIA- NEW PURNEA-1	26-08-2023	21:48	27-08-2023	16:09	Khagaria: Y_B, 78.44 km, Iy-1.95 kA, Ib-2.00 kA		Y-B	100	Phase to phase fault		
59	220KV KHAGARIA- NEW PURNEA-2	27-08-2023	04:16	27-08-2023	05:16	Khagaria: R_N, 88.56 km, 1.38 kA		R- Earth	350	Tripped in Zone-2 time from Khagaria. A/r successful at New Purnea		
60	400KV ALIPURDUAR- BINAGURI-3	28-08-2023	02:09	28-08-2023	03:01	Alipurduar: O/V St.1	Binaguri: DT received	No fault	NA	As per DR, R_ph voltage at Alipurduar was showing 252 kV (around 436 kV line voltage). As per PMU, R_ph voltage was 235 kV only. PG ER-2 may explain.		
61	400KV TALA- BINAGURI-1	28-08-2023	02:15	28-08-2023	02:54	Tala: R_N	Binaguri: R_N, 140.3 km, 2.6 kA, DT received	R- Earth	100	A/r failed after 1 second		

	400KV RAJARHAT-	20.00.2022	11.10	20.00.2022	11.41	Rajarhat: R_N, 106.7 km, 3.13 kA	Gokarna: R_N, 142.5 km, 2.745 kA	R-			
62	GOKARNA-1	28-08-2023	11:12	28-08-2023	11:41	Patna: R. B.		Earth			 
63	400KV PATNA-BALIA- 2	28-08-2023	17:46	28-08-2023	20:22	Ir=Ib=9.2 kA, 57 km					
64	400KV PPSP- BIDHANNAGAR-1	30-08-2023	11:04	30-08-2023	11:30	PPSP: R_N, 46.79 km	Bidhannagar: R_N, 47.3 km, 2.64 kA	R- Earth			
01		50 00 2025	11.01	50 00 2025	11.50			Earth			
65	220KV JODA- RAMCHANDRAPUR-1	30-08-2023	11:31	30-08-2023	11:59	Joda: Didn't trip			220 kV Joda-JSPL tripped from Joda at the same time	,	
66	220KV KATAPALLI- BOLANGIR-1	30-08-2023	13:23			Katapalli: B_N, 93 km, 1.54 kA	Bolangir: B_N, 27 km, 3.16 kA	B- Earth	A/R succesful from Katapalli end only then after 500 ms again faul and line tripped.Reason for non A/R from Bolangir end may be explained		

#### **Standard Operating Procedure for Protection System Audit**

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A protection system audit is a review and evaluation of the protection systems of a substation with an objective to verify whether required protection systems have been put in place at station by the concerned utility, and to recommend suitable measures to provide for the same.

Ministry of Power, had constituted a Committee under the Chairmanship of Chairperson CEA to examine the grid disturbances on the 30th and the 31st July 2012. One of important recommendation of the committee was conducting of extensive audit of protection system. List of sub-stations where protection audit is to be undertaken on priority basis was prepared and audited across the country. This was the beginning of protection audit across the country and large number of important 400 and 220kV substations were audited.

Keeping in view the importance of Protection System Audit, Standard Operating Procedure has been prepared in consultation with RPCs. It will provides a step-by-step guide for RPCs to follow during the audit process.

- **1.** All users shall conduct third party protection audit of each sub-station at 220 kV and above (132 kV and above in NER) once in five years or earlier as advised by the respective RPC.
- 2. After analysis of any event, each RPC shall identify a list of substations / and generating stations where third-party protection audit is required to be carried out and accordingly advise the respective users to complete third party audit within three months.
- **3.** The third-party protection audit report shall contain information sought in the format as per IEGC 2023 and its further amendments.
- **4.** Annual audit plan for the next financial year shall be submitted by the users to their respective RPC by 31st October. The users shall adhere to the annual audit plan and report compliance of the same to their respective RPC.

#### 5. <u>Criteria for choosing substations for third party protection audit:</u>

The following criteria are generally applied during choosing a substation for protection audit.

- i. Substations/ Generating (SS/ GS) stations with frequent grid incidences or frequent maloperations or any grid occurrence in any substation which affected supply to large number of substations and caused significant load loss. In this case, third-party protection audit may be carried out semi-annually.
- ii. Based on request received from utilities for arranging protection audit in certain stations (e.g. for availing PSDF funding for Renovation and Upgradation of Protection system). In this case, third-party protection audit may be carried out within three months.
- iii. Important 400kV and 765kV substations (SS) / Generating stations (GS) including newly commissioned SS/ GS. In this case, third-party protection audit may be carried out semiannually.

#### 6. <u>Protection audit Procedure:</u>

- i. After identification of stations for protection audit, the same is communicated to the owner utility seeking nomination of one nodal officer for each Station.
- ii. The nodal officer shall provide the details of substation for preparation of protection audit format (in accordance with IEGC and subsequent amendment).
- iii. Meanwhile nominations shall be sought from all utilities to form regional teams for audit. Regional teams comprising of engineers from various utilities of the region shall be formed based on the no. of SS to be audited. (Each team may consists of 3 or 4 engineers from utilities other than the host utility and at the maximum a team will be able to audit 3 to 4 stations in 5 days or so)
- iv. Once the team details and list of stations to be audited is finalised the details of nodal officers, team members, list of stations to be audited by each team is shared to all for further coordination regarding planning and conduction of audit.
- v. Based on the inputs received from nodal officer regarding the list of elements in the substation to be audited, protection audit formats shall be prepared by RPC (in accordance with IEGC and subsequent amendment) and circulated to nodal officer. The nodal officer along-with the substation engineers shall fill the audit format and furnish the same along-with various attachments sought as part of the audit format within a week or so. List of attachments shall be given in the covering page of audit format.
- vi. The filled in audit format along-with the received annexures shall then forwarded to the audit team and any further clarification regarding the format or attachments shall be taken up by the audit team with the nodal officer under intimation to RPC.
- vii. The SS/ GS shall be audited based on the data filled in audit format checking for compliance of Central Electricity Authority (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations, 2022, Central Electricity Authority (Technical Standards for Connectivity to the Grid) Regulations, 2007 & CEA (Measures relating to Safety and Electric Supply) Regulations, 2010, CERC regulations and amendments to the same, approved guidelines of RPC, best practices in industry etc.
- viii. After conduct of audit, the shortcomings observed in the audit shall be discussed in detail with the nodal officer and substation engineers and recommendations are finalised.
- ix. The filled in audit format along-with the recommendations and attachments shall be finalised and final protection audit report RPC (in accordance with IEGC and subsequent amendment) shall be compiled.
- x. Final protection audit report shall be discussed in Protection Coordination Committee and recommendations may be accepted/deleted/modified as per the scope of audit and compliance of various regulations/guidelines etc.
- xi. The recommendations of all SS audited shall be inserted into audit recommendations database and update regarding recommendations shall be sought from respective utilities.
- xii. Action plan for rectification of deficiencies detected, if any, shall be submitted to the respective RPC and RLDC and monthly progress will be submitted.
- xiii. The travel expense from place of duty to Substation/Generating Station to be audited shall be borne by respective Auditor (Parent Organisation). The expense for boarding, lodging any travel of the team during the audit period shall be borne by the organisation owning the Substation/Generating Station.

Annexure C.4



# AIDED DEF PROTECTION

An overview A.Gokulakrishnan 20.7.2023



- Introduction
- Overview
- Algorithm
- Settings

# Directional Earth Fault Protection (DEF) (B) GE VERNOVA

- P High resistance ground faults
- Instantaneous or time delayed
- **IEC and IEEE curves**
- Single or shared signalling channel



## Overview



DEF schemes are identical to Distance schemes

- DEF Forward replaces Zone 2, DEF Reverse replaces Zone 4 Reverse
- No equivalent to Zone 1 as the DEF elements can not have a defined reach, hence no schemes using Zone 1 can be replicated (Z1 ext, PUR)
- DEF More sensitive than Distance for Earth Faults

## Overview

#### Aided Directional Earth Fault (DEF)

DEF Protection Against High Resistance Earth Faults

Protection against high-resistance earth faults, also called DEF (Directional Earth Fault), is used to protect the network against highly resistive faults. High resistance faults may not be detected by distance protection. DEF Protection can be applied in one of the two following modes: faults using the following:

- The main operating mode, directional comparison protection uses the signalling channel and is a communication-aided scheme.
- In backup-operating mode SBEF (Stand-By Earth Fault), an inverse/definite time earth overcurrent element with 4 stages is selectable.

Both the main and backup mode can use different methods for fault detection and directional determination (negative or zero sequence polarisation, RCA angle settable for backup SBEF protection, etc.)

The use of Aided-Trip logic in conjunction with the DEF element allows faster trip times, and can facilitate single-phase tripping if single-phase tripping is applied to the breaker.

The DEF directional comparison protection may be applied on the same signal channel as the distance protection, or it may be applied on an independent channel (ability to use two different aided-trip logics for the distance and DEF elements).

When used on the same signalling channel (shared scheme selected by MiCOM S1 Agile) as the distance protection, if the distance protection picks up, it has priority (the output from the DEF element is blocked from asserting the Carrier Send common output).

The use of directional comparison protection with an independent signalling channel allows the distance functions and DEF function to operate in parallel. Each function is routed to its own Carrier Send output. If an earth fault is present where both the distance and DEF elements pick up, the faster of the two functions will perform the trip.



# Algorithm



#### High Resistance Earth Fault Detection

A high resistance fault is detected when residual or zero sequence voltage (3V0) and current thresholds are exceeded or using the high speed algorithms:

- ΔI ≥ 0.05 In
- ΔV ≥ 0.1 Vn (Ph-N)

A fault is confirmed if these thresholds are exceeded for more than 1 1/2 cycles.

#### Directional determination

The fault direction is determined by measuring the angle between the residual voltage and the residual current derivative. The fault is forward if the angle is between –14° and +166°. A negative or zero-sequence polarisation is selectable to determinate the earth fault direction.

#### Phase selection

The phase is selected in the same way as for distance protection except that the current threshold is reduced ( $\Delta I \ge 0.05 \text{ x}$  In and  $\Delta V \ge 0.1 \text{ x}$  Vn)

## Permissive scheme





## Shared scheme





Settings

Aided Directional Earth Fault (DEF) protection schemes ("Aided D.E.F" menu)

The relay has aided scheme settings as shown in the following table:

Menu text	Default setting	Setting Min	range Max	Step size			
GROUP 1 – AIDED D.E.F.							
Aided DEF Status Enabled Disabled, Enabled							
To enable (activate) or disable (turn off) the Directional Earth Fault Element that is used in an aided scheme.							
Polarisation	Zero Sequence	Zero Sequence	e, Negative Se	equence			
Setting that defines the meth voltage can be taken as the o The applications of zero sequi chapter P44x/EN AP, section	od of DEF polarisati directional reference uence and negative Directional Directio	ion. Either zero, s. sequence polar onal and non dire	or negative se isation are de ectional Earth	equence scribed in Fault			
Protection).		0.01		0.04.14			
V> Voltage Set	1 V	0.5 V	20 V	0.01 V			
The V> threshold defines the directional decision. A residu directional decision, and so t	<ul> <li>minimum residual y al voltage measured here would be no tri</li> </ul>	voltage required d below this sett pping from the s	to enable the ing would bloc scheme.	aided DEF sk the			
IN Forward	0.1 × In	0.05 × In	4 × In	0.01 × In			
Time Delay	0 s	0 s	10 s	0.1 s			
Scheme Logic	Shared	Shared, Blocking	ng, Permissive	8			
To select shared, blocking or	permissive scheme	e logic.					
Tripping	Three Phase	Three Phase, S	Single Phase				
Тр	2 ms	0 ms	1s	2 ms			
Aid Dist Delay (if blocking scheme not shared) Transmission time in blocking scheme. The Aided distribution time-delay (in the case of a blocking scheme covering the transmission time) settings will appear in the relay menu. Further customising of distance schemes can be achieved using the Programmable Scheme Logic to condition send and receive logic.							
IN Rev Factor	0,6	0	1	0.1			
'IN Rev Factor' enhances the instance to create a faster blo	sensitivity for the re ocking logic scheme	esidual current ir	n case of reve	rse fault (for			
Block. Time Add.	0	0	10s	0.15s			
"Block. Time Add." is an additional time-delay, set to extend a pole dead or convergence detection.							

# Settings need to be checked

bit	setting	DDB	k
Auto	reclose lockout	/ Block A/R	
00	At T2	T2	1
01	At T3	Т3	1
02	At Tzp	tZp	1
03	LoL Trip	Loss. Load Trip	1
04	I>1 Trip	I>1 Trip	1
05	I>2 Trip	I>2 Trip	1
06	V<1 Trip	V<1 Trip	1
07	V<2 Trip	V<2 Trip	1
08	V>1 Trip	V>1 Trip	1
09	V>2 trip	V>2 Trip	1
0A	IN>1 Trip	IN>1 Trip	1
0B	IN>2 Trip	IN>2 Trip	1
0C	Aided D.E.F	DEF Trip A C	1
		OR DEF Trip B	1
		OR DEF Trip C	1
0D	Zero. Seq.	ZSP Trip	0
	Power Trip		0
0E	IN>3 Trip	IN>3 Trip	0
0F	IN>4 Trip	IN>4 Trip	0
10	PAP Trip	PAP Trip A	0
		OR PAP Trip B	
		OR PAP Trip C	

bit	setting	DDB
11	Thermal Trip	Trip Therma
12	I2>1 Trip	l2> Trip
13	I2>2 Trip	l2>2 Trip
14	I2>3 Trip	l2>3 Trip
15	I2>4 Trip	l2>4 Trip
16	VN>1 Trip	VN>1 Trip
17	VN>2 Trip	VN>2 Trip
18	At Tzq	tZq
19	V<3 Trip	V<3 Trip
1A	V<4 Trip	V<4 Trip
1B	V>3 Trip	V>3 Trip
1C	V>4 trip	V>4 trip
1D	I<1 Trip	I<1 Block
1E	I<2 Trip	I<2 Block
Auto	reclose lockout /	Block A/R 2
00	F<1 Trip	F<1 Trip
01	F<2 Trip	F<2 Trip
02	F<3 Trip	F<3 Trip
03	F<4 Trip	F<4 Trip
05	F>2 Trip	F>2 Trip

Figure 119: Block autoreclose logic



#### OCC TRACK SHEET FROM NOVEMBER 2021 TO SEPTEMBER 2022

				30342	
`SL NO	MONTH	UTILITY	ELEMENT	DETAILS OF ELEMENT	REMARKS
1	OCC DEC 2021	JUSNL	ICT	220KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT	DATA NOT RECEIVED
2	OCC DEC 2021	JUSNI	T/L	400KV TIE BAY OF NEW RANCHI -2 AND FUTURE AT PATRATU	PDMS AND PSCT DONE AT PATRATU END
3	OCC_DEC_2021	IUSNI	T/I	400KV MAIN RUS - 1 AT PATRATU	PDMS AND PSCT DONE AT PATRATU END
4	OCC_DEC_2021		ICT	400kV MAIN BAY OF 400/220kV 315MVA ICT-2 AT PATRATI	PDMS AND PSCT DONE AT PATRATU END
5	OCC_DEC_2021		ICT		PDMS AND PSCT DONE AT PATRATU END
5	000_DEC_2021	JUSINE	T/1		
0	DEC2021	JUSINL	1/L	400KV-NEW KANCH-PATKATU-1	PDIVIS AND PSCT DONE AT PATRATU END
/	OCC_DEC_2021	JUSNL	1/L	AUUKV-NEW KANCHI- PAI KATU-2	PDMS AND PSCI DONE AT PATRATU END
8	OCC_DEC_2021	JUSNL	T/L	400KV MAIN BUS-2 AT PATRATU	PDMS AND PSCT DONE AT PATRATU END
9	OCC_DEC_2021	JUSNL	T/L	400KV MAIN BAY OF NEW RANCHI -2 AT PATRATU	PDMS AND PSCT DONE AT PATRATU END
10	OCC_JAN_2022	JUSNL	T/L	400KV TIE BAY OF NEW RANCHI -1 AND FUTURE AT PATRATU	PDMS AND PSCT DONE AT PATRATU END
11	OCC_FEB_2022	JUSNL	ICT	400KV MAIN BAY OF 400KV/220KV 315MVA ICT1 AT PATRATU	PDMS AND PSCT DONE AT PATRATU END
12	OCC_MAR_2022	JUSNL	ICT	400KV MAIN BAY OF 400KV/220KV 315 MVA ICT 1 AT PATRATU	PDMS AND PSCT DONE AT PATRATU END
				OPTCL	
SL NO	MONTH	UTILITY	ELEMENT	DETAILS OF ELEMENT	REMARKS
1	OCC JAN 2022	OPTCL	B/R	125MVAR 400KV B/R-1 AT MEERAMUNDALI	DATA NOT RECEIVED
2	OCC IAN 2022	OPTCI	T/I	220KV-BOLANGIR (PG)- KESINGA-1	DATA NOT RECEIVED
3	OCC IAN 2022		ICT	200KV MAIN BAY OF 400KV/220KV 500 MVA ICT 2 AT MERAMUNDALLB	PDMS AND PSCT DONE
4	OCC_MAY_2022	OPTCL	T/I		DATA NOT RECEIVED
4 r	OCC_WAT_2022	OFTEL	7/1		DATA NOT RECEIVED
5	OCC_MAY_2022	OPICL	1/L	2200V-PANDIABILI PRATAPSASAN-2	DATA NUT RECEIVED
0	OCC_JUNE_2022		1/L	AUDIX IMAIN DAT OF INEKAMUNDALI-A AT MEKAMUNDALI B	PUIVIS AND PSCT DUNE AT MERAMUNDALI B END
7	OCC_JUNE_2022	OPTCL	T/L	400KV MAIN BAY OF GMR1 AT MERAMUNDALI B	PDMS AND PSCT DONE AT MERAMUNDALI B END
8	OCC_JUNE_2022	OPTCL	T/L	400KV MAIN BAY OF NEW DUBURI- 2 AT MERAMUNDALI B	PDMS AND PSCT DONE AT MERAMUNDALI B END
9	OCC_JUNE_2022	OPTCL	T/L	400KV MAIN BAY OF NEW DUBURI- 1 AT MERAMUNDALI B	PDMS AND PSCT DONE AT MERAMUNDALI B END
5	OCC_JAN_2022	PGCIL	ICT	400/220KV 500MVA ICT-2 AT MERAMUNDALI B	DATA NOT RECEIVED
10	OCC_JUNE_2022	OPTCL	T/L	400KV MAIN BAY OF 400KV FUTURE LINE-7 AT MERAMUNDALI B	PDMS AND PSCT DONE AT MERAMUNDALI B END
11	OCC_AUGUST_2022	OPTCL	B/R	400 kV, 125 MVAr Bus Reactor 1 at New Dubri along with the associated bays (Bay No. 401)	DATA NOT RECEIVED
				SIKKIM	
SL NO	MONTH	UTILITY	ELEMENT	DETAILS OF ELEMENT	REMARKS
1	OCC MAR 2022	SIKKIM	T/L	220KVNEW MELLI-TASHIDING-2	DATA NOT RECEIVED
			-	WBSETCL	•
SL NO	MONTH	UTILITY	ELEMENT	DETAILS OF ELEMENT	REMARKS
<b>SL NO</b> 1	MONTH OCC MAY 2022	UTILITY WBSETCL	ELEMENT T/L	DETAILS OF ELEMENT 400KV-GOKARNA NEW CHANDITALA-1	REMARKS PDMS AND PSCT DONE AT GOKARNA END
SL NO 1 2	MONTH OCC_MAY_2022 OCC_MAY_2022	UTILITY WBSETCL WBSETCL	ELEMENT T/L T/L	DETAILS OF ELEMENT 400KV-GOKARNA NEW CHANDITALA-1 400KV-GOKARNA NEW CHANDITALA-2	REMARKS PDMS AND PSCT DONE AT GOKARNA END PDMS AND PSCT DONE AT GOKARNA END
SL NO 1 2 3	MONTH OCC_MAY_2022 OCC_MAY_2022 OCC_MAY_2022	UTILITY WBSETCL WBSETCL WBSETCL	ELEMENT T/L T/L	DETAILS OF ELEMENT           400KV-GOKARNA NEW CHANDITALA-1           400KV-GOKARNA NEW CHANDITALA-2           220 KV RAJARHAT (PGI-BARASAT (WB)-1	REMARKS PDMS AND PSCT DONE AT GOKARNA END PDMS AND PSCT DONE AT GOKARNA END PDMS AND PSCT DONE AT BARASAT END
SL NO 1 2 3 4	MONTH OCC_MAY_2022 OCC_MAY_2022 OCC_MAY_2022 OCC_MAY_2022	UTILITY WBSETCL WBSETCL WBSETCL WBSETCL	ELEMENT T/L T/L T/L	DETAILS OF ELEMENT           400KV-GOKARNA NEW CHANDITALA-1           400KV-GOKARNA NEW CHANDITALA-2           220 KV RAJARHAT (PG)-BARASAT (WB)-1           220 KV RAJARHAT (PG)-BARASAT (WB)-2	REMARKS PDMS AND PSCT DONE AT GOKARNA END PDMS AND PSCT DONE AT GOKARNA END PDMS AND PSCT DONE AT BARASAT END PDMS AND PSCT DONE AT BARASAT END
SL NO 1 2 3 4	MONTH OCC_MAY_2022 OCC_MAY_2022 OCC_MAY_2022 OCC_MAY_2022	UTILITY WBSETCL WBSETCL WBSETCL WBSETCL	ELEMENT T/L T/L T/L T/L T/NI	DETAILS OF ELEMENT 400KV-GOKARNA NEW CHANDITALA-1 400KV-GOKARNA NEW CHANDITALA-2 220 KV RAJARHAT (PG)-BARASAT (WB)-1 220 KV RAJARHAT (PG)-BARASAT (WB)-2	REMARKS PDMS AND PSCT DONE AT GOKARNA END PDMS AND PSCT DONE AT GOKARNA END PDMS AND PSCT DONE AT BARASAT END PDMS AND PSCT DONE AT BARASAT END
SL NO 1 2 3 4	MONTH OCC_MAY_2022 OCC_MAY_2022 OCC_MAY_2022 OCC_MAY_2022 OCC_MAY_2022 MONTH	UTILITY WBSETCL WBSETCL WBSETCL WBSETCL	ELEMENT T/L T/L T/L T/L TVNL ELEMENT	DETAILS OF ELEMENT 400KV-GOKARNA NEW CHANDITALA-1 400KV-GOKARNA NEW CHANDITALA-2 220 KV RAJARHAT (PG)-BARASAT (WB)-1 220 KV RAJARHAT (PG)-BARASAT (WB)-2 DETAILS OF ELEMENT	REMARKS PDMS AND PSCT DONE AT GOKARNA END PDMS AND PSCT DONE AT GOKARNA END PDMS AND PSCT DONE AT BARASAT END PDMS AND PSCT DONE AT BARASAT END PDMS AND PSCT DONE AT BARASAT END PEMARKS
SL NO 1 2 3 4 SL NO 1	MONTH           OCC_MAY_2022           OCC_MAY_2022           OCC_MAY_2022           OCC_MAY_2022           OCC_MAY_2022           OCC_MAY_2022           MONTH           OCC_DOC_MAY_2021	UTILITY WBSETCL WBSETCL WBSETCL WBSETCL	ELEMENT T/L T/L T/L T/L T/L T/L T/L ELEMENT UCT	DETAILS OF ELEMENT           400KV-GOKARNA NEW CHANDITALA-1           400KV-GOKARNA NEW CHANDITALA-2           220 KV RAJARHAT (PG)-BARASAT (WB)-1           220 KV RAJARHAT (PG)-BARASAT (WB)-2           DETAILS OF ELEMENT           400KV-GOKARNA DAV GAOKU/320KV 350 MVA (CT 1 AT TENLICHAT	REMARKS           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT BARASAT END
SL NO 1 2 3 4 SL NO 1 2	MONTH           OCC_MAY_2022           OCC_MAY_2022           OCC_MAY_2022           OCC_MAY_2022           MONTH           OCC_DEC_2021           OCC_DEC_2021	UTILITY WBSETCL WBSETCL WBSETCL WBSETCL UTILITY TVNL TVNL	ELEMENT           T/L           T/L           T/L           T/L           TVL           ELEMENT           ICT           ICT	DETAILS OF ELEMENT           400KV-GOKARNA NEW CHANDITALA-1           400KV-GOKARNA NEW CHANDITALA-2           220 KV RAJARHAT (PG)-BARASAT (WB)-1           220 KV RAJARHAT (PG)-BARASAT (WB)-1           220 KV RAJARHAT (PG)-BARASAT (WB)-2           DETAILS OF ELEMENT           400KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUICHAT           20KV MAIN BAY OF 400KV/230KV 350 MVA ICT 1 AT TENUICHAT	REMARKS           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT BARASAT END
SL NO 1 2 3 4 SL NO 1 2	MONTH           OCC MAY 2022           MONTH           OCC DEC 2021	UTILITY WBSETCL WBSETCL WBSETCL WBSETCL UTILITY TVNL TVNL	ELEMENT           T/L           T/L           T/L           T/L           TVNL           ELEMENT           ICT           ICT	DETAILS OF ELEMENT 400KV-GOKARNA NEW CHANDITALA-1 400KV-GOKARNA NEW CHANDITALA-2 220 KV RAJARHAT (PG)-BARASAT (WB)-1 220 KV RAJARHAT (PG)-BARASAT (WB)-2 DETAILS OF ELEMENT 400KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT 220KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT 220KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT	REMARKS           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT BARASAT END           PDMS AND PSCT DONE AT BARASAT END           PAMS AND PSCT DONE AT BARASAT END           REMARKS           DATA NOT RECEIVED
SL NO 1 2 3 4 SL NO 1 2 CL NO	MONTH           OCC_MAY_2022           OCC_MAY_2022           OCC_MAY_2022           OCC_MAY_2022           OCC_MAY_2022           MONTH           OCC_DEC_2021           OCC_DEC_2021	UTILITY WBSETCL WBSETCL WBSETCL WBSETCL UTILITY TVNL TVNL	ELEMENT           T/L           T/L           T/L           T/L           T/L           ICT           ICT	DETAILS OF ELEMENT 400KV-GOKARNA NEW CHANDITALA-1 400KV-GOKARNA NEW CHANDITALA-2 220 KV RAJARHAT (PG)-BARASAT (WB)-1 220 KV RAJARHAT (PG)-BARASAT (WB)-2 DETAILS OF ELEMENT 400KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT 220KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT 220KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT 20KV MAIN BAY OF 500KV/220KV 250 MVA ICT 1 AT TENUGHAT 20KV MAIN BAY OF 500KV/220KV 250 MVA ICT 1 AT TENUGHAT	REMARKS           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT BARASAT END           PDMS AND PSCT DONE AT BARASAT END           REMARKS           DATA NOT RECEIVED           DATA NOT RECEIVED
SL NO 1 2 3 4 SL NO 1 2 SL NO 1 2 SL NO	MONTH           OCC_MAY_2022           OCC_MAY_2022           OCC_MAY_2022           OCC_MAY_2022           MONTH           OCC_DEC_2021           OCC_DEC_2021	UTILITY WBSETCL WBSETCL WBSETCL WBSETCL UTILITY TVNL TVNL TVNL TVNL	ELEMENT           T/L           T/L           T/L           T/L           TVNL           ELEMENT           ICT           ICT           ICT	DETAILS OF ELEMENT 400KV-GOKARNA NEW CHANDITALA-1 400KV-GOKARNA NEW CHANDITALA-2 220 KV RAJARHAT (PG)-BARASAT (WB)-1 220 KV RAJARHAT (PG)-BARASAT (WB)-2 DETAILS OF ELEMENT 400KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT 220KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT POWERGRID DETAILS OF ELEMENT POWERGRID DETAILS OF ELEMENT POWERGRID	REMARKS           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT BARASAT END           REMARKS           DATA NOT RECEIVED           REMARKS           DATA NOT RECEIVED
SL NO 1 2 3 4 SL NO 1 2 SL NO 1 2 - -	MONTH           OCC_MAY_2022           OCC_MAY_2022           OCC_MAY_2022           OCC_MAY_2022           MONTH           OCC_DEC_2021           OCC_DEC_2021           MONTH           OCC_OCT_2021	UTILITY WBSETCL WBSETCL WBSETCL UTILITY TVNL TVNL UTILITY PGCIL	ELEMENT           T/L           T/L           T/L           T/L           ELEMENT           ICT           ICT           ELEMENT           ICT           ELEMENT	DETAILS OF ELEMENT 400KV-GOKARNA NEW CHANDITALA-1 400KV-GOKARNA NEW CHANDITALA-2 220 KV RAJARHAT (PG)-BARASAT (WB)-1 220 KV RAJARHAT (PG)-BARASAT (WB)-2 DETAILS OF ELEMENT 400KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT 220KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT 20KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT 20KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT 20KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT 400KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT 20KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT 400KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT 400KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT 400KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT 400KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT 400KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT 400KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT 400KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT 400KV 315MVA ICT-4 AT JEYPORE	REMARKS           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT BARASAT END           REMARKS           DATA NOT RECEIVED           REMARKS           DATA NOT RECEIVED
SL NO           1           2           3           4           SL NO           1           2           SL NO           1           2	MONTH           OCC_MAY_2022           OCC_MAY_2022           OCC_MAY_2022           OCC_MAY_2022           MONTH           OCC_DEC_2021           MONTH           OCC_DEC_2021           OCC_OCT_2021           OCC_OCT_2021	UTILITY WBSETCL WBSETCL WBSETCL WBSETCL UTILITY TVNL UTILITY PGCIL PGCIL	ELEMENT           T/L           T/L           T/L           T/L           TVIL           ELEMENT           ICT           ICT           ELEMENT           ICT           T/L	DETAILS OF ELEMENT 400KV-GOKARNA NEW CHANDITALA-1 400KV-GOKARNA NEW CHANDITALA-2 220 KV RAJARHAT (PG)-BARASAT (WB)-1 220 KV RAJARHAT (PG)-BARASAT (WB)-1 220 KV RAJARHAT (PG)-BARASAT (WB)-2 DETAILS OF ELEMENT 400KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT 220KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT 200KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT 200KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT 400/220KV 315MVA ICT-4 AT JEYPORE 400KV DURGAPUR KAHALGAON 2	REMARKS           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT BARASAT END           PDMS AND PSCT DONE AT BARASAT END           REMARKS           DATA NOT RECEIVED
SL NO           1           2           3           4           SL NO           1           2           SL NO           1           2           3           3           3	MONTH           OCC_MAY_2022           OCC_MAY_2022           OCC_MAY_2022           OCC_MAY_2022           MONTH           OCC_DEC_2021           MONTH           OCC_OCT_2021           OCC_DEC_2021	UTILITY WBSETCL WBSETCL WBSETCL UTILITY TVNL TVNL UTILITY PGCIL PGCIL PGCIL	ELEMENT           T/L           T/L           T/L           T/L           TVIL           ELEMENT           ICT           ICT           ICT           T/L	DETAILS OF ELEMENT 400KV-GOKARNA NEW CHANDITALA-1 400KV-GOKARNA NEW CHANDITALA-2 220 KV RAJARHAT (PG)-BARASAT (WB)-1 220 KV RAJARHAT (PG)-BARASAT (WB)-2  DETAILS OF ELEMENT 400KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT 220KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT 20KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT 20KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT 400/220KV 315MVA ICT-4 AT JEYPORE 400/220KV 315MVA ICT-4 AT JEYPORE 400KV DURGAPUR KAHALGAON 2 400KV DURGAPUR KAHALGAON 1	REMARKS           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT BARASAT END           PDMS AND PSCT DONE AT BARASAT END           PDMS AND PSCT DONE AT BARASAT END           REMARKS           DATA NOT RECEIVED           DATA NOT RECEIVED           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS DONE AT DURGAPUR END           PDMS DONE AT DURGAPUR END
SL NO           1           2           3           4           SL NO           1           2           SL NO           1           2           SL NO           1           2           3           4	MONTH           OCC_MAY_2022           OCC_MAY_2022           OCC_MAY_2022           OCC_MAY_2022           MONTH           OCC_DEC_2021	UTILITY           WBSETCL           WBSETCL           WBSETCL           UTILITY           TVNL           TVNL           UTILITY           PGCIL           PGCIL           PGCIL           PGCIL           PGCIL	ELEMENT           T/L           T/L           T/L           T/L           TVNL           ELEMENT           ICT           ICT           ICT           T/L           T/L           T/L           T/L           T/L           T/L	DETAILS OF ELEMENT 400KV-GOKARNA NEW CHANDITALA-1 400KV-GOKARNA NEW CHANDITALA-2 220 KV RAJARHAT (PG)-BARASAT (WB)-1 220 KV RAJARHAT (PG)-BARASAT (WB)-2 DETAILS OF ELEMENT 400KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT 220KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT 220KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT POWERGRID DETAILS OF ELEMENT 400KV 20LVGAPUR KAHALGAON 2 400KV DURGAPUR KAHALGAON 1 LILO of 400 kV Teesta III Kishanganj S/C at Rangpo SS (400KV-RANGPO-TEESTA- III 1)	REMARKS           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT BARASAT END           PDMS AND PSCT DONE AT BARASAT END           PDMS AND PSCT DONE AT BARASAT END           REMARKS           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS AND PSCT DONE AT BARASAT END           PDMS DONE AT DURGAPUR END           PDMS DONE AT DURGAPUR END           PDMS AND PSCT DONE AT RANGPO END
SL NO           1           2           3           4           5L NO           1           2           3           4           1           2           3           4           6	MONTH           OCC_MAY_2022           OCC_MAY_2022           OCC_MAY_2022           OCC_DEC_2021           OCC_DEC_2021           OCC_OCT_2021           OCC_DEC_2021	UTILITY           WBSETCL           WBSETCL           WBSETCL           WBSETCL           UTILITY           TVNL           TVNL           UTILITY           PGCIL           PGCIL           PGCIL           PGCIL           PGCIL	ELEMENT           T/L           T/L           T/L           T/L           TVNL           ELEMENT           ICT           ICT           ICT           T/L           T/L           T/L           ICT           ICT           ICT           ICT           T/L	DETAILS OF ELEMENT           400KV-GOKARNA NEW CHANDITALA-1           400KV-GOKARNA NEW CHANDITALA-2           220 KV RAJARHAT (PG)-BARASAT (WB)-1           220 KV RAJARHAT (PG)-BARASAT (WB)-1           220 KV RAJARHAT (PG)-BARASAT (WB)-2           DETAILS OF ELEMENT           400KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT           220 KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT           200KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT           200KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT           400KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT           400KV MAIN BAY OF 400KV/20KV 250 MVA ICT 1 AT TENUGHAT           400KV MURGAPUR KAHALGAON 2           400KV DURGAPUR KAHALGAON 1           1LIC of 400 KV DERSAII III Sishanganj S/C at Rangpo SS (400KV-RANGPO-TEESTA- III 1)           400KV MAIN BAY OF 400KV/220KV 315 MVA ICT 3 AT BINAGURI	REMARKS           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT BARASAT END           PDMS AND PSCT DONE AT BARASAT END           REMARKS           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS DONE AT DURGAPUR END           PDMS DONE
SL NO           1           2           3           4           5L NO           1           2           SL NO           1           2           3           4           6	MONTH           OCC_MAY_2022           OCC_MAY_2022           OCC_MAY_2022           OCC_MAY_2022           MONTH           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_FEE_2022	UTILITY           WBSETCL           WBSETCL           WBSETCL           WBSETCL           UTILITY           TVNL           TVNL           TVNL           VTILITY           PGCIL           PGCIL           PGCIL           PGCIL	ELEMENT           T/L           T/L           T/L           T/L           TVIL           ELEMENT           ICT           ICT           ICT           T/L           T/L           T/L           T/L           T/L           T/L           T/L           ICT	DETAILS OF ELEMENT 400KV-GOKARNA NEW CHANDITALA-1 400KV-GOKARNA NEW CHANDITALA-2 220 KV RAJARHAT (PG)-BARASAT (WB)-1 220 KV RAJARHAT (PG)-BARASAT (WB)-1 220 KV RAJARHAT (PG)-BARASAT (WB)-2  DETAILS OF ELEMENT 400KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT 220KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT 220KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT 200Z20KV 315MVA ICT-4 AT JEYPORE 400KV DURGAPUR KAHALGAON 2 400KV DURGAPUR KAHALGAON 1 LILO of 400 KV Teesta III Kishanganj S/C at Rangpo SS (400KV-RANGPO-TEESTA- III 1) 400KV MAIN BAY OF 400KV/220KV 315 MVA ICT 3 AT BINAGURI	REMARKS           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT BARASAT END           PDMS AND PSCT DONE AT BARASAT END           REMARKS           DATA NOT RECEIVED           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS DONE AT DURGAPUR END           PDMS DONE AT DURGAPUR END           PDMS AND PSCT DONE AT RANGPO END
SL NO           1           2           3           4           5L NO           1           2           SL NO           1           2           3           4           6           7	MONTH           OCC_MAY_2022           OCC_MAY_2022           OCC_MAY_2022           OCC_MAY_2022           MONTH           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_FEB_2022           OCC_FEB_2022	UTILITY           WBSETCL           WBSETCL           WBSETCL           UMILITY           TVNL           TVNL           UTILITY           PGCIL           PGCIL           PGCIL           PGCIL           PGCIL           PGCIL           PGCIL	ELEMENT           T/L           T/L           T/L           T/L           TVNL           ELEMENT           ICT           ICT           T/L           T/L           T/L           ICT           ICT           T/L           T/L           T/L           ICT           ICT           T/L           T/L           ICT           ICT	DETAILS OF ELEMENT 400KV-GOKARNA NEW CHANDITALA-1 400KV-GOKARNA NEW CHANDITALA-2 220 KV RAJARHAT (PG)-BARASAT (WB)-1 220 KV RAJARHAT (PG)-BARASAT (WB)-2 DETAILS OF ELEMENT 400KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT 220KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT 220KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT 400/220KV 315MVA ICT-4 AT JEYPORE 400KV DURGAPUR KAHALGAON 2 400KV DURGAPUR KAHALGAON 1 LILO of 400 kV Teesta III Kishanganj 5/C at Rangpo SS (400KV-RANGPO-TEESTA- III 1) 400KV MAIN BAY OF 400KV/220KV 315 MVA ICT 3 AT BINAGURI 220KV MAIN BAY OF 400KV/220KV 315 MVA ICT 3 AT BINAGURI	REMARKS           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT BARASAT END           PDMS AND PSCT DONE AT BARASAT END           REMARKS           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS DONE AT DURGAPUR END           PDMS DONE AT DURGAPUR END           PDMS DONE AT DURGAPUR END           PDMS DONE           PDMS DONE
SL NO           1           2           3           4           5L NO           1           2           3           4           5           3           4           6           7           0	MONTH           OCC_MAY_2022           OCC_MAY_2022           OCC_MAY_2022           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_FEB_2022           OCC_FEB_2022           OCC_FEB_2022	UTILITY           WBSETCL           WBSETCL           WBSETCL           WBSETCL           UTILITY           TVNL           TVNL           UTILITY           PGCIL           PGCIL           PGCIL           PGCIL           PGCIL           PGCIL           PGCIL	ELEMENT           T/L           T/L           T/L           T/L           TVNL           ELEMENT           ICT           ICT           ICT           T/L           T/L           T/L           T/L           T/L           T/L           T/L           ICT           ICT           ICT	DETAILS OF ELEMENT           400KV-GOKARNA NEW CHANDITALA-1           400KV-GOKARNA NEW CHANDITALA-2           220 KV RAJARHAT (PG)-BARASAT (WB)-1           220 KV RAJARHAT (PG)-BARASAT (WB)-1           220 KV RAJARHAT (PG)-BARASAT (WB)-2           DETAILS OF ELEMENT           400KV-MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT           20KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT           20KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT           400KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT           400KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT           400KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT           400KV DURGAPUR KAHALGAON 2           400KV DURGAPUR KAHALGAON 1           LLIC of 400 KV Teesta III Kishanganj S/C at Rangpo SS (400KV-RANGPO-TEESTA- III 1)           400KV MAIN BAY OF 400KV/220KV 315 MVA ICT 3 AT BINAGURI           220KV MAIN BAY OF 400KV/220KV 315 MVA ICT 3 AT BINAGURI	REMARKS           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT BARASAT END           PDMS AND PSCT DONE AT BARASAT END           PDMS AND PSCT DONE AT BARASAT END           REMARKS           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS DONE AT DURGAPUR END           PDMS DONE AT DURGAPUR END           PDMS DONE AT DURGAPUR END           PDMS DONE           PDMS DONE           PDMS DONE           PDMS DONE           PDMS DONE
SL NO           1           2           3           4           5L NO           1           2           SL NO           1           2           3           6           7           8	MONTH           OCC_MAY_2022           OCC_MAY_2022           OCC_MAY_2022           OCC_DEC_2021           MONTH           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_FEB_2022           OCC_FEB_2022	UTILITY           WBSETCL           WBSETCL           WBSETCL           WBSETCL           UBSETCL           UTILITY           TVNL           TVNL           UTILITY           PGCIL           PGCIL           PGCIL           PGCIL           PGCIL           PGCIL           PGCIL	ELEMENT           T/L           T/L           T/L           T/L           TVNL           ELEMENT           ICT           ICT           T/L           T/L           ICT           ICT           ICT           T/L           T/L           ICT           ICT           ICT           ICT	DETAILS OF ELEMENT         400KV-GOKARNA NEW CHANDITALA-1         400KV-GOKARNA NEW CHANDITALA-2         220 KV RAJARHAT (PG)-BARASAT (WB)-1         220 KV RAJARHAT (PG)-BARASAT (WB)-1         220 KV RAJARHAT (PG)-BARASAT (WB)-2         DETAILS OF ELEMENT         400KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT         220KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT         20KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT         20KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT         400/220kV 315MVA ICT-4 AT JEYPORE         400KV DURGAPUR KAHALGAON 2         400KV DURGAPUR KAHALGAON 1         LILO of 400 kV Teesta III Kishanganj S/C at Rangpo SS (400KV-RANGPO-TEESTA- III 1)         400KV MAIN BAY OF 400KV/220KV 315 MVA ICT 3 AT BINAGURI         220KV MAIN BAY OF 400KV/220KV 315 MVA ICT 3 AT BINAGURI         220KV MAIN BAY OF 400KV/220KV 500MVA ICTS AT MALDA (PG)	REMARKS           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT BARASAT END           PDMS AND PSCT DONE AT BARASAT END           REMARKS           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS DONE AT DURGAPUR END           PDMS DONE AT DURGAPUR END           PDMS DONE AT DURGAPUR END           PDMS DONE           PDMS DONE           PDMS DONE
SL NO           1           2           3           4           5L NO           1           2           SL NO           1           2           3           4           6           7           8           9	MONTH           OCC_MAY_2022           OCC_MAY_2022           OCC_MAY_2022           OCC_MAY_2022           MONTH           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_FEB_2022           OCC_FEB_2022           OCC_FEB_2022           OCC_FEB_2022           OCC_FEB_2022	UTILITY           WBSETCL           WBSETCL           WBSETCL           WBSETCL           UBSETCL           UTILITY           TVNL           TVNL           TVNL           PGCIL	ELEMENT           T/L           T/L           T/L           T/L           TVIL           ELEMENT           ICT           ICT           T/L           T/L           ICT           ICT           T/L           T/L           T/L           ICT           ICT           ICT	DETAILS OF ELEMENT 400KV-GOKARNA NEW CHANDITALA-1 400KV-GOKARNA NEW CHANDITALA-2 220 KV RAJARHAT (PG)-BARASAT (WB)-1 220 KV RAJARHAT (PG)-BARASAT (WB)-1 220 KV RAJARHAT (PG)-BARASAT (WB)-2  DETAILS OF ELEMENT 400KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT 220KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT 200KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT 400/220KV 315MVA ICT-4 AT JEYPORE 400KV DURGAPUR KAHALGAON 1 LILO OF 400 KV Teesta III Kishanganj S/C at Rangpo SS (400KV-RANGPO-TEESTA- III 1) 400KV MAIN BAY OF 400KV/220KV 315 MVA ICT 3 AT BINAGURI 220KV MAIN BAY OF 400KV/220KV 315 MVA ICT 3 AT BINAGURI 220KV MAIN BAY OF 400KV/220KV 315 MVA ICT 3 AT BINAGURI 220KV MAIN BAY OF 400KV/220KV 500MVA ICTS AT MALDA (PG)	REMARKS           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT BARASAT END           PDMS AND PSCT DONE AT BARASAT END           REMARKS           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS DONE AT DURGAPUR END           PDMS ONE AT DURGAPUR END           PDMS ONE           PDMS DONE           PDMS DONE           PDMS DONE           PDMS DONE
SL NO           1           2           3           4           5L NO           1           2           SL NO           1           2           3           4           6           7           8           9	MONTH           OCC_MAY_2022           OCC_MAY_2022           OCC_MAY_2022           OCC_MAY_2022           MONTH           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_FEB_2022           OCC_FEB_2022           OCC_FEB_2022	UTILITY           WBSETCL           WBSETCL           WBSETCL           UTILITY           TVNL           TVNL           UTILITY           PGCIL	ELEMENT           T/L           T/L           T/L           T/L           TVNL           ELEMENT           ICT           ICT           T/L           TVNL           ELEMENT           ICT           T/L           T/L           T/L           T/L           ICT           ICT           ICT           ICT           ICT           ICT           ICT	DETAILS OF ELEMENT 400KV-GOKARNA NEW CHANDITALA-1 400KV-GOKARNA NEW CHANDITALA-2 220 KV RAJARHAT (PG)-BARASAT (WB)-1 220 KV RAJARHAT (PG)-BARASAT (WB)-1 220 KV RAJARHAT (PG)-BARASAT (WB)-2 DETAILS OF ELEMENT 400KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT 220KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT POWERGRID 0ETAILS OF ELEMENT 400/220KV 315MVA ICT-4 AT JEYPORE 400KV DURGAPUR KAHALGAON 1 LILO of 400 KV DERSAPUR KAHALGAON 1 LILO of 400 KV ZORKV 315 MVA ICT 3 AT BINAGURI 220KV MAIN BAY OF 400KV/220KV 315 MVA ICT 3 AT BINAGURI 220KV MAIN BAY OF 400KV/220KV 315 MVA ICT 3 AT BINAGURI 220KV MAIN BAY OF 400KV/220KV 315 MVA ICT 3 AT BINAGURI 220KV MAIN BAY OF 400KV/220KV 500MVA ICT5 AT MALDA (PG) 400KV MAIN BAY OF 400KV/220KV 500MVA ICT5 AT MALDA (PG)	REMARKS           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT BARASAT END           PDMS AND PSCT DONE AT BARASAT END           PDMS AND PSCT DONE AT BARASAT END           REMARKS           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS DONE AT DURGAPUR END           PDMS DONE AT DURGAPUR END           PDMS DONE AT DURGAPUR END           PDMS DONE
SL NO           1           2           3           4           0           1           2           3           4           0           1           2           3           4           6           7           8           9           10	MONTH           OCC_MAY_2022           OCC_MAY_2022           OCC_MAY_2022           OCC_DEC_2021           MONTH           OCC_OCT_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_FEB_2022           OCC_FEB_2022           OCC_FEB_2022           OCC_FEB_2022           OCC_FEB_2022           OCC_FEB_2022           OCC_FEB_2022           OCC_FEB_2022	UTILITY           WBSETCL           WBSETCL           WBSETCL           WBSETCL           UTILITY           TVNL           TVNL           UTILITY           PGCIL	ELEMENT           T/L           T/L           T/L           T/L           TVNL           ELEMENT           ICT	DETAILS OF ELEMENT         400KV-GOKARNA NEW CHANDITALA-1         400KV-GOKARNA NEW CHANDITALA-2         220 KV RAJARHAT (PG)-BARASAT (WB)-1         220 KV RAJARHAT (PG)-BARASAT (WB)-1         220 KV RAJARHAT (PG)-BARASAT (WB)-2         DETAILS OF ELEMENT         400KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT         220KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT         20KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT         00Z20KV 315MVA ICT-4 AT JEYPORE         400KV DURGAPUR KAHALGAON 2         400KV DURGAPUR KAHALGAON 1         LLO of 400 kV Teesta III Kishanganj 5/C at Rangpo SS (400KV-RANGPO-TEESTA- III 1)         400KV MAIN BAY OF 400KV/220KV 315 MVA ICT 3 AT BINAGURI         220KV MAIN BAY OF 400KV/220KV 315 MVA ICT 3 AT BINAGURI         220KV MAIN BAY OF 400KV/220KV 500MVA ICT5 AT MALDA (PG)         400KV MAIN BAY OF 220KV/132KV 100MVA ICT4 AT RANGPO	REMARKS           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT BARASAT END           PDMS AND PSCT DONE AT BARASAT END           REMARKS           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS DONE AT DURGAPUR END           PDMS DONE AT DURGAPUR END           PDMS DONE AT DURGAPUR END           PDMS DONE
SL NO           1           2           3           4           5L NO           1           2           SL NO           1           2           3           4           6           7           8           9           10	MONTH           OCC_MAY_2022           OCC_MAY_2022           OCC_MAY_2022           OCC_MAY_2022           MONTH           OCC_DEC_2021           MONTH           OCC_OCT_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_FEB_2022           OCC_FEB_2022           OCC_FEB_2022           OCC_FEB_2022           OCC_FEB_2022	UTILITY WBSETCL WBSETCL WBSETCL UBSETCL UBSETCL UTILITY PGCIL	ELEMENT           T/L           T/L           T/L           T/L           TVNL           ELEMENT           ICT           ICT           T/L           T/L           ICT           ICT           ICT           T/L           T/L           T/L           ICT           ICT           ICT           ICT           ICT           ICT           ICT           ICT           ICT	DETAILS OF ELEMENT         400KV-GOKARNA NEW CHANDITALA-1         400KV-GOKARNA NEW CHANDITALA-2         220 KV RAJARHAT (PG)-BARASAT (WB)-1         220 KV RAJARHAT (PG)-BARASAT (WB)-1         220 KV RAJARHAT (PG)-BARASAT (WB)-2         DETAILS OF ELEMENT         400KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT         220KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT         20KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT         20KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT         400/220kV 315MVA ICT-4 AT JEYPORE         400KV DURGAPUR KAHALGAON 2         400KV DURGAPUR KAHALGAON 1         LILO of 400 kV Teesta III Kishanganj S/C at Rangpo SS (400KV-RANGPO-TEESTA- III 1)         400KV MAIN BAY OF 400KV/220KV 315 MVA ICT 3 AT BINAGURI         220KV MAIN BAY OF 400KV/220KV 315 MVA ICT 3 AT BINAGURI         220KV MAIN BAY OF 400KV/220KV 500MVA ICTS AT MALDA (PG)         220KV MAIN BAY OF 400KV/220KV 500MVA ICTS AT MALDA (PG)         220KV MAIN BAY OF 220KV/132KV 100MVA ICT4 AT RANGPO	REMARKS           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT BARASAT END           PDMS AND PSCT DONE AT BARASAT END           REMARKS           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS DONE AT DURGAPUR END           PDMS DONE AT DURGAPUR END           PDMS DONE AT DURGAPUR END           PDMS DONE
SL NO           1           2           3           4           5L NO           1           2           SL NO           1           2           SL NO           1           2           3           4           6           7           8           9           10           11	MONTH           OCC_MAY_2022           OCC_MAY_2022           OCC_MAY_2022           OCC_MAY_2022           MONTH           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_FEB_2022	UTILITY           WBSETCL           WBSETCL           WBSETCL           WBSETCL           UTILITY           TVNL           TVNL           UTILITY           PGCIL	ELEMENT           T/L           T/L           T/L           T/L           TVIL           ELEMENT           ICT           ICT           T/L           T/L           ICT           ICT           T/L           T/L           T/L           T/L           ICT           ICT           ICT           ICT           ICT           ICT           ICT           ICT	DETAILS OF ELEMENT         400KV-GOKARNA NEW CHANDITALA-1         400KV-GOKARNA NEW CHANDITALA-2         220 KV RAJARHAT (PG)-BARASAT (WB)-1         220 KV RAJARHAT (PG)-BARASAT (WB)-1         220 KV RAJARHAT (PG)-BARASAT (WB)-2         DETAILS OF ELEMENT         400KV-MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT         220KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT         POWERGRID         DETAILS OF ELEMENT         400/220KV 315MVA ICT-4 AT JEYPORE         400KV DURGAPUR KAHALGAON 2         400KV DURGAPUR KAHALGAON 1         LILO of 400 KV Teesta III Kishanganj S/C at Rangpo SS (400KV-RANGPO-TEESTA- III 1)         400KV MAIN BAY OF 400KV/220KV 315 MVA ICT 3 AT BINAGURI         220KV MAIN BAY OF 400KV/220KV 315 MVA ICT 3 AT BINAGURI         220KV MAIN BAY OF 400KV/220KV 500MVA ICTS AT MALDA (PG)         220KV MAIN BAY OF 220KV/132KV 100MVA ICT4 AT RANGPO         132KV MAIN BAY OF 220KV/132KV 100MVA ICT4 AT RANGPO	REMARKS           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT BARASAT END           PDMS AND PSCT DONE AT BARASAT END           REMARKS           DATA NOT RECEIVED           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS AND PSCT DONE AT BARASAT END           PDMS DONE AT DURGAPUR END           PDMS DONE AT DURGAPUR END           PDMS DONE AT DURGAPUR END           PDMS DONE
SL NO           1           2           3           4           0           1           2           SL NO           1           2           SL NO           1           2           3           4           6           7           8           9           10           11	MONTH           OCC_MAY_2022           OCC_MAY_2022           OCC_MAY_2022           OCC_MAY_2022           MONTH           OCC_DEC_2021           MONTH           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_FEB_2022	UTILITY           WBSETCL           WBSETCL           WBSETCL           WBSETCL           UTILITY           TVNL           TVNL           PGCIL	ELEMENT           T/L           T/L           T/L           T/L           TVNL           ELEMENT           ICT           ICT           T/L           TVNL           ELEMENT           ICT           T/L           T/L           T/L           T/L           ICT           ICT           ICT           ICT           ICT           ICT           ICT	DETAILS OF ELEMENT         400KV-GOKARNA NEW CHANDITALA-1         400KV-GOKARNA NEW CHANDITALA-2         220 KV RAJARHAT (PG)-BARASAT (WB)-1         220 KV RAJARHAT (PG)-BARASAT (WB)-1         220 KV RAJARHAT (PG)-BARASAT (WB)-2         DETAILS OF ELEMENT         400KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT         20KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT         20KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT         00KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT         400KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT         400KV DURGAPUR KAHALGAON 2         400KV DURGAPUR KAHALGAON 1         LLO of 400 KV Teesta III Kishanganj S/C at Rangpo SS (400KV-RANGPO-TEESTA- III 1)         400KV MAIN BAY OF 400KV/220KV 315 MVA ICT 3 AT BINAGURI         220KV MAIN BAY OF 400KV/220KV 315 MVA ICT 3 AT BINAGURI         220KV MAIN BAY OF 400KV/220KV 500MVA ICT5 AT MALDA (PG)         220KV MAIN BAY OF 220KV/132KV 100MVA ICT4 AT RANGPO         132KV MAIN BAY OF 220KV/132KV 100MVA ICT4 AT RANGPO	REMARKS           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT BARASAT END           PDMS AND PSCT DONE AT BARASAT END           REMARKS           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS DONE AT DURGAPUR END           PDMS DONE AT DURGAPUR END           PDMS DONE AT DURGAPUR END           PDMS DONE
SL NO           1           2           3           4           0           1           2           3           4           0           1           2           3           4           6           7           8           9           10           11           12	MONTH           OCC_MAY_2022           OCC_MAY_2022           OCC_MAY_2022           OCC_DEC_2021           MONTH           OCC_OCT_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_FEB_2022	UTILITY           WBSETCL           WBSETCL           WBSETCL           WBSETCL           UTILITY           TVNL           TVNL           UTILITY           PGCIL	ELEMENT           T/L           T/L           T/L           T/L           TVNL           ELEMENT           ICT           ICT           T/L           TVNL           ELEMENT           ICT           ICT           T/L           T/L           T/L           T/L           ICT	DETAILS OF ELEMENT           400KV-GOKARNA NEW CHANDITALA-1           400KV-GOKARNA NEW CHANDITALA-2           220 KV RAJARHAT (PG)-BARASAT (WB)-1           220 KV RAJARHAT (PG)-BARASAT (WB)-1           220 KV RAJARHAT (PG)-BARASAT (WB)-2           PETAILS OF ELEMENT           400KV-GUKAWAN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT           220 KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT           200 KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT           200 KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT           400 KV DURGAPUR KAHALGAON 2           400 KV DURGAPUR KAHALGAON 1           LILO of 400 kV Teesta III Kishanganj S/C at Rangpo SS (400 kV-RANGPO-TEESTA- III 1)           400 KV MAIN BAY OF 400 kV/220 kV 315 MVA ICT 3 AT BINAGURI           220 kV MAIN BAY OF 400 kV/220 kV 315 MVA ICT 3 AT BINAGURI           220 kV MAIN BAY OF 400 kV/220 kV 500 MVA ICT 5 AT MALDA (PG)           400 kV MAIN BAY OF 220 kV/132 kV 100 MVA ICT 4 AT RANGPO           132 kV MAIN BAY OF 220 kV/132 kV 100 MVA ICT 4 AT RANGPO           110 OF 400 kV TEESTA III-KISHANGANJ S/C AT RANGPO SS(400 kV KISHANGANJ(PG)-RANGPO-2)	REMARKS           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT BARASAT END           PDMS AND PSCT DONE AT BARASAT END           REMARKS           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS DONE AT DURGAPUR END           PDMS DONE AT DURGAPUR END           PDMS DONE           PDMS DONE AT RANGPO END
SL NO           1           2           3           4           5L NO           1           2           SL NO           1           2           3           4           6           7           8           9           10           11           12	MONTH           OCC_MAY_2022           OCC_MAY_2022           OCC_MAY_2022           OCC_MAY_2022           MONTH           OCC_DEC_2021           MONTH           OCC_OCT_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_FEB_2022           OCC_FEB_2022           OCC_FEB_2022           OCC_FEB_2022           OCC_FEB_2022           OCC_FEB_2022           OCC_FEB_2022           OCC_FEB_2022	UTILITY WBSETCL WBSETCL WBSETCL UTILITY UTILITY PGCIL	ELEMENT           T/L           T/L           T/L           T/L           TVIL           ELEMENT           ICT           ICT           T/L           T/L           T/L           T/L           T/L           T/L           ICT           ICT           ICT           ICT           ICT           ICT           ICT           ICT           ICT	DETAILS OF ELEMENT         400KV-GOKARNA NEW CHANDITALA-1         400KV-GOKARNA NEW CHANDITALA-2         220 KV RAJARHAT (PG)-BARASAT (WB)-1         220 KV RAJARHAT (PG)-BARASAT (WB)-1         220 KV RAJARHAT (PG)-BARASAT (WB)-2         DETAILS OF ELEMENT         400KV-MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT         220KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT         POWERGRID         DETAILS OF ELEMENT         400KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT         20KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT         OWERGRID         DETAILS OF ELEMENT         400KV J01KGAPUR KAHALGAON 2         400KV DURGAPUR KAHALGAON 1         LILD OF 400 KV Teesta III Kishanganj S/C at Rangpo SS (400KV-RANGPO-TEESTA- III 1)         400KV MAIN BAY OF 400KV/220KV 315 MVA ICT 3 AT BINAGURI         220KV MAIN BAY OF 400KV/220KV 315 MVA ICT 3 AT BINAGURI         220KV MAIN BAY OF 400KV/220KV 500MVA ICT5 AT MALDA (PG)         220KV MAIN BAY OF 220KV/132KV 100MVA ICT4 AT RANGPO         1120 F 400 KV TEESTA III-KISHANGANJ S/C AT RANGPO SS(400KV KISHANGANJ/PG)-RANGPO-2)	REMARKS           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT BARASAT END           PDMS AND PSCT DONE AT BARASAT END           REMARKS           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS DONE AT DURGAPUR END           PDMS DONE AT DURGAPUR END           PDMS DONE AT DURGAPUR END           PDMS DONE           PDMS DONE AT RANGPO END
SL NO           1           2           3           4           0           1           2           SL NO           1           2           SL NO           1           2           3           4           6           7           8           9           10           11           12           13	MONTH           OCC_MAY_2022           OCC_MAY_2022           OCC_MAY_2022           OCC_MAY_2022           MONTH           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_FEB_2022	UTILITY           WBSETCL           WBSETCL           WBSETCL           WBSETCL           UTILITY           TVNL           TVNL           PGCIL	ELEMENT           T/L           T/L           T/L           T/L           TVNL           ELEMENT           ICT           ICT           T/L           T/L           T/L           T/L           T/L           ICT	DETAILS OF ELEMENT 400KV-GOKARNA NEW CHANDITALA-1 400KV-GOKARNA NEW CHANDITALA-2 220 KV RAJARHAT (PG)-BARASAT (WB)-1 220 KV RAJARHAT (PG)-BARASAT (WB)-1 220 KV RAJARHAT (PG)-BARASAT (WB)-2 DETAILS OF ELEMENT 400KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT 220KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT 400KV JURGAPUR KAHALGAON 2 400KV DURGAPUR KAHALGAON 2 400KV DURGAPUR KAHALGAON 1 LILO of 400 KV/Eesta III Kishanganj S/C at Rangpo SS (400KV-RANGPO-TEESTA- III 1) 400KV MAIN BAY OF 400KV/220KV 315 MVA ICT 3 AT BINAGURI 220KV MAIN BAY OF 400KV/220KV 500MVA ICTS AT MALDA (PG) 400KV MAIN BAY OF 400KV/220KV 500MVA ICTS AT MALDA (PG) 220KV MAIN BAY OF 220KV/132KV 100MVA ICT4 AT RANGPO 132KV MAIN BAY OF 220KV/132KV 100MVA ICT4 AT RANGPO 220KV MAIN BAY OF 220KV/132KV 100MVA ICT4 AT RANGPO 220KV MAIN BAY OF 220KV/132KV 100MVA ICT4 AT RANGPO 220KV MAIN BAY OF 220KV/132KV 100MVA ICT4 AT RANGPO 220KV MAIN BAY OF 220KV/132KV 100MVA ICT4 AT RANGPO 220KV MAIN BAY OF 400KV/220KV 315 MVA ICT 1 AT PATRATU	REMARKS           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT BARASAT END           PDMS AND PSCT DONE AT BARASAT END           PDMS AND PSCT DONE AT BARASAT END           REMARKS           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS DONE AT DURGAPUR END           PDMS DONE AT DURGAPUR END           PDMS DONE AT DURGAPUR END           PDMS DONE           PDMS DONE AT RANGPO END           PDMS DONE           PDMS DONE           PDMS DONE           PDMS DONE
SL NO           1           2           3           4           0           1           2           3           4           0           1           2           3           4           6           7           8           9           10           11           12           13	MONTH           OCC_MAY_2022           OCC_MAY_2022           OCC_MAY_2022           OCC_DEC_2021           OCC_FEB_2022           OCC_MAR_2022	UTILITY           WBSETCL           WBSETCL           WBSETCL           WBSETCL           UTILITY           TVNL           TVNL           PGCIL           PGCIL	ELEMENT           T/L           T/L           T/L           T/L           TVNL           ELEMENT           ICT	DETAILS OF ELEMENT 400KV-GOKARNA NEW CHANDITALA-1 400KV-GOKARNA NEW CHANDITALA-2 220 KV RAJARHAT (PG)-BARASAT (WB)-1 220 KV RAJARHAT (PG)-BARASAT (WB)-1 220 KV RAJARHAT (PG)-BARASAT (WB)-2 DETAILS OF ELEMENT 400KV DAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT 220KV MAIN BAY OF 400KV/220KV 250 MVA ICT 1 AT TENUGHAT 400KV DURGAPUR KAHALGAON 2 400KV DURGAPUR KAHALGAON 1 LILO OF 400 KV Teesta III KIShanganj S/C at Rangpo SS (400KV-RANGPO-TEESTA- III 1) 400KV MAIN BAY OF 400KV/220KV 315 MVA ICT 3 AT BINAGURI 220KV MAIN BAY OF 400KV/220KV 315 MVA ICT 3 AT BINAGURI 220KV MAIN BAY OF 400KV/220KV 500MVA ICTS AT MALDA (PG) 220KV MAIN BAY OF 20KV/132KV 100MVA ICTS AT MALDA (PG) 132KV MAIN BAY OF 220KV/132KV 100MVA ICT4 AT RANGPO LILO OF 400 KV TEESTA III-KISHANGANJ S/C AT RANGPO SS(400KV KISHANGANJ(PG)-RANGPO-2) 220KV MAIN BAY OF 20KV/220KV 315 MVA ICT 1 AT PATRATU	REMARKS           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT BARASAT END           PDMS AND PSCT DONE AT BARASAT END           REMARKS           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS DONE AT DURGAPUR END           PDMS DONE AT DURGAPUR END           PDMS DONE AT DURGAPUR END           PDMS DONE           PDMS DONE AT RANGPO END           PDMS DONE
SL NO           1           2           3           4           5L NO           1           2           3           4           6           7           8           9           10           11           12           13           14	MONTH           OCC_MAY_2022           OCC_MAY_2022           OCC_MAY_2022           OCC_MAY_2022           MONTH           OCC_DEC_2021           MONTH           OCC_OCT_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_DEC_2021           OCC_FEB_2022	UTILITY           WBSETCL           WBSETCL           WBSETCL           WBSETCL           WBSETCL           WBSETCL           WBSETCL           TVNL           TVNL           TVNL           PGCIL           PGCIL	ELEMENT           T/L           T/L           T/L           T/L           TVNL           ELEMENT           ICT           ICT           T/L           T/L           ICT           ICT           ICT           T/L           ICT           ICT	DETAILS OF ELEMENT           400KV-GOKARNA NEW CHANDITALA-1           220 KV RAJARHAT (PG)-BARASAT (WB)-1           220 KV RAJARHAT (PG)-BARASAT (WB)-1           220 KV RAJARHAT (PG)-BARASAT (WB)-2           DETAILS OF ELEMENT           400kV-GOKARNA NEW CHANDITALA-2           220 KV RAJARHAT (PG)-BARASAT (WB)-2           DETAILS OF ELEMENT           400kV MAIN BAY OF 400kV/220kV 250 MVA ICT 1 AT TENUGHAT           220kV MAIN BAY OF 400kV/220kV 250 MVA ICT 1 AT TENUGHAT           POWERGRID           POWERGRID           400kV JURGAPUR KAHALGAON 1           LILO of 400 kV Teesta III Kishanganj S/C at Rangpo SS (400KV-RANGPO-TEESTA- III 1)           400kV MAIN BAY OF 400kV/220kV 315 MVA ICT 3 AT BINAGURI           220kV MAIN BAY OF 400kV/220kV 315 MVA ICT 3 AT BINAGURI           220kV MAIN BAY OF 400kV/220kV 500MVA ICTS AT MALDA (PG)           220kV MAIN BAY OF 400kV/220kV 500MVA ICTS AT MALDA (PG)           220kV MAIN BAY OF 220kV/132kV 100MVA ICT4 AT RANGPO           112 OF 400 kV TEESTA III-KISHANGANJ S/C AT RANGPO SS(400kV KISHANGANJ(PG)-RANGPO-2)           220kV MAIN BAY OF 400kV/220kV 315 MVA ICT 1 AT PATRATU           400kV MAIN BAY OF 400kV/220kV 315 MVA ICT 2 AT FARAKKA(NTPC)	REMARKS           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT GOKARNA END           PDMS AND PSCT DONE AT BARASAT END           PDMS AND PSCT DONE AT BARASAT END           REMARKS           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS DONE AT DURGAPUR END           PDMS DONE AT DURGAPUR END           PDMS DONE AT DURGAPUR END           PDMS DONE

15	OCC_APR_2022	PGCIL	ICT	200KV MAIN BAY OF 400KV/220KV 315 MVA ICT 2 AT FARAKKA(NTPC)	DATA NOT RECEIVED
16	OCC_APR_2022	PGCIL	ICT	400KV MAIN BAY OF 400KV/220KV500 MVA ICT 4 AT MUZAFFARPUR	DATA NOT RECEIVED
17	OCC ADD 2022	DCCII	ICT		
17	OCC_APR_2022	FOCIL			DATA NOT RECEIVED
18	OCC_APR_2022	PGCIL	ICT	400KV MAIN BAY OF 400KV/220KV500 MVA ICT 1 AT JAKKANPUR	DATA NOT RECEIVED
19	OCC_APR_2022	PGCIL	T/L	LILO of 400 KV KISHANGANJ- DARBHANGA(DMTCL)-1 AT SAHARSA(PMTL) (400KV-SAHARSA-DARBHANGA (DMTCL)-1)	DATA NOT RECEIVED
20	OCC_APR_2022	PGCIL	T/L	LILO of 400 KV KISHANGANJ-DARBHANGA(DMTCL)-1 AT SAHARSA (PMTL) 400KV-SAHARSA-KISHANGANJ-3)	DATA NOT RECEIVED
21	OCC_APR_2022	PGCIL	T/L	LILO of 400 KV KISHANGANJ- DARBHANGA(DMTCL)-1 AT SAHARSA(PMTL) (400KV-SAHARSA-DARBHANGA (DMTCL)-1)	DATA NOT RECEIVED
22	OCC_APR_2022	PGCIL	T/L	LILO of 400 KV KISHANGANJ- DARBHANGA(DMTCL)-2AT SAHARSA(PMTL) (400KV-SAHARSA-DARBHANGA (DMTCL)-2)	DATA NOT RECEIVED
23	OCC_APR_2022	PGCIL	T/L	220KV-RANGPO-NEW MELLI-2	PDMS DONE
CI NO.	MONTH				DEMA DVC
SL NO				DETAILS OF ELEMENT	
1		DVC	ICI T/I	400KV MAIN BAY OF 400KV/220KV 315 MVA ICI 2 AT MIPS-B	
2	OCC_JOINE_2022	DVC	1/L		PDIMS AND PSCT DONE AT KANCHI END
SI NO	MONTH		FLEMENT	FMILS OF FLEMENT	REMARKS
1	OCC OCT 2021	PMTI	T/I	400 KV-SAHARSA KISHANGANI-1 (IIIO OF 400 kV Patna-Kishangani-1 at Saharsa )	PDMS AND PSCT DONE AT SAHARSA END
2	OCC OCT 2021	PMTL	T/L	400KV-PATNA SAHARSA-1 (LILO OF 400 KV Patna Kishangani-1 at Saharsa )	PDMS AND PSCT DONE AT SAHARSA END
3	OCC OCT 2021	PMTL	ICT	220KV MAIN BAY OF 400KV/220KV 500 MVA ICT 1 AT SAHARSA	PDMS AND PSCT DONE AT SAHARSA END
4	OCC_OCT_2021	PMTL	T/L	220KV MAIN BAY OF KHAGARIA-1 AT SAHARSA	PDMS AND PSCT DONE AT SAHARSA END
5	OCC OCT 2021	PMTL	T/L	220KV MAIN BAY OF KHAGARIA-2 AT SAHARSA	PDMS AND PSCT DONE AT SAHARSA END
6	OCC OCT 2021	PMTL	T/L	220KV MAIN BAY OF BEGUSARAI-1 AT SAHARSA	PDMS AND PSCT DONE AT SAHARSA END
7	OCC OCT 2021	PMTL	T/L	220KV MAIN BAY OF BEGUSARAI-2 AT SAHARSA	PDMS AND PSCT DONE AT SAHARSA END
8	OCC OCT 2021	PMTL	T/L	132KV MAIN BAY OF SONEBARSA (BH) -1 AT SAHARSA	PDMS AND PSCT DONE AT SAHARSA END
9	OCC OCT 2021	PMTL	T/L	132KV MAIN BAY OF MADHEPURA (BH) -1 AT SAHARSA	PDMS AND PSCT DONE AT SAHARSA END
10	OCC DEC 2021	PMTL	T/L	400KV MAIN BAY OF PATNA -1 AT SAHARSA	PDMS AND PSCT DONE AT SAHARSA END
11	OCC JUNE 2022	PMTL	ICT	400KV MAIN BAY OF 400KV/132kV 315MVA ICT1 AT MOTIHARI(DMTCL)	PDMS DONE AT LV SIDE AND PSCT DONE BOTH SIDE
		-	•	BSPTCL	•
-					
`SL NO	MONTH	UTILITY	ELEMENT	DETAILS OF ELEMENT	REMARKS
<b>`SL NO</b> 1	MONTH OCC_OCT_2021	UTILITY BSPTCL	ELEMENT T/L	DETAILS OF ELEMENT 220KV-BEGUSARAI KHAGARIA-1	REMARKS DATA NOT RECEIVED
` <b>SL NO</b> 1 2	MONTH OCC_OCT_2021 OCC_OCT_2021	UTILITY BSPTCL BSPTCL	ELEMENT T/L T/L	DETAILS OF ELEMENT 220KV-BEGUSARAI KHAGARIA-1 220KV-KHAGARIA NEW PURNEA	REMARKS DATA NOT RECEIVED DATA NOT RECEIVED
`SL NO 1 2 3	MONTH           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021	UTILITY BSPTCL BSPTCL BSPTCL	ELEMENT T/L T/L T/L	DETAILS OF ELEMENT 220KV-BEGUSARAI KHAGARIA-1 220KV-KHAGARIA NEW PURNEA 132KV MADHEPURA (BH)- SAHARSA(PMTL)-1	REMARKS DATA NOT RECEIVED DATA NOT RECEIVED PDMS ANS PSCT DONE AT SAHARSA END
`SL NO 1 2 3 4	MONTH           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021	UTILITY BSPTCL BSPTCL BSPTCL BSPTCL	ELEMENT T/L T/L T/L T/L	DETAILS OF ELEMENT 220KV-BEGUSARAI KHAGARIA-1 220KV-KHAGARIA NEW PURNEA 132KV MADHEPURA (BH)- SAHARSA(PMTL)-1 132KV SONEBARSA (BH)- SAHARSA(PMTL)-1	REMARKS           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SAHARSA END
`SL NO 1 2 3 4 5	MONTH           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021	UTILITY BSPTCL BSPTCL BSPTCL BSPTCL BSPTCL	ELEMENT T/L T/L T/L T/L T/L	DETAILS OF ELEMENT 220KV-BEGUSARAI KHAGARIA-1 220KV-KHAGARIA NEW PURNEA 132KV MADHEPURA (BH)- SAHARSA(PMTL)-1 132KV SONEBARSA (BH)- SAHARSA(PMTL)-1 220KV-RAXAUL-SITAMARHI-1	REMARKS DATA NOT RECEIVED DATA NOT RECEIVED PDMS ANS PSCT DONE AT SAHARSA END PDMS ANS PSCT DONE AT SAHARSA END PDMS ANS PSCT DONE AT SITAMARHI END
['] SL NO 1 2 3 4 5 6	MONTH           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_JAN_2022           OCC_JAN_2022	UTILITY BSPTCL BSPTCL BSPTCL BSPTCL BSPTCL BSPTCL	ELEMENT T/L T/L T/L T/L T/L T/L T/L	DETAILS OF ELEMENT 220KV-BEGUSARAI KHAGARIA-1 220KV-KHAGARIA NEW PURNEA 132KV MADHEPURA (BH)- SAHARSA(PMTL)-1 132KV SONEBARSA (BH)- SAHARSA(PMTL)-1 220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-2	REMARKS           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT SITAMARHI END
['] SL NO 1 2 3 4 5 6 7 7	MONTH           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022	UTILITY BSPTCL BSPTCL BSPTCL BSPTCL BSPTCL BSPTCL BSPTCL	ELEMENT T/L T/L T/L T/L T/L T/L T/L T/	DETAILS OF ELEMENT 220KV-KHAGARIA NEW PURNEA 132KV MADHEPURA (BH)- SAHARSA(PMTL)-1 132KV SONEBARSA (BH)- SAHARSA(PMTL)-1 220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-2 CI-I AT KARAMNASHA(NEW) (220KV KARAMNASHA (NEW)- SAHUPURI-1)	REMARKS DATA NOT RECEIVED DATA NOT RECEIVED PDMS ANS PSCT DONE AT SAHARSA END PDMS ANS PSCT DONE AT SAHARSA END PDMS ANS PSCT DONE AT SITAMARHI END PDMS ANS PSCT DONE AT SITAMARHI END PDMS ANS PSCT DONE AT KARAMNASA END PDMS ANS PSCT DONE AT KARAMNASA END
`SLNO 1 2 3 4 5 6 7 8 8	MONTH           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022	UTILITY BSPTCL BSPTCL BSPTCL BSPTCL BSPTCL BSPTCL BSPTCL BSPTCL	ELEMENT           T/L	DETAILS OF ELEMENT 220KV-BEGUSARAI KHAGARIA-1 220KV-KHAGARIA NEW PURNEA 132KV MADHEPURA (BH)- SAHARSA(PMTL)-1 132KV SONEBARSA (BH)- SAHARSA(PMTL)-1 220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-2 CI-I AT KARAMNASHA(NEW) (220KV KARAMNASHA (NEW)- SAHUPURI-1) ULLO OF 220 KV PUSAULI SAHUPURI-I AT KARAMNASHA(NEW) (220KV KARAMNASHA (NEW)- PUSAULI-1)	REMARKS           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT KARAMINASA END           PDMS ANS PSCT DONE AT KARAMINASA END
*SL NO 1 2 3 4 5 6 7 8 9 9 10 10 10 10 10 10 10 10 10 10	MONTH           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022	UTILITY BSPTCL BSPTCL BSPTCL BSPTCL BSPTCL BSPTCL BSPTCL BSPTCL BSPTCL BSPTCL BSPTCL	ELEMENT           T/L	DETAILS OF ELEMENT 220KV-BEGUSARAI KHAGARIA-1 220KV-KHAGARIA NEW PURNEA 1220KV-KHAGARIA NEW PURNEA 132KV XONEBARSA (BH)- SAHARSA(PMTL)-1 132KV SONEBARSA (BH)- SAHARSA(PMTL)-1 1220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-2 CI-I AT KARAMNASHA(NEW) (220KV KARAMNASHA (NEW)- PUSAULI-1) LILO of 220 KV PUSAULI SAHUPURI-I AT KARAMNASHA(NEW) (220KV KARAMNASHA (NEW)- PUSAULI-1) LILO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-1) LILO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-1)	REMARKS           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT KARAMINASA END           PDMS ANS PSCT DONE AT KARAMINASA END           DATA NOT RECEIVED
SL NO           1           2           3           4           5           6           7           8           9           10           14	MONTH           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_JAN_2022	UTILITY BSPTCL BSPTCL BSPTCL BSPTCL BSPTCL BSPTCL BSPTCL BSPTCL BSPTCL BSPTCL BSPTCL	ELEMENT           T/L	DETAILS OF ELEMENT 220KV-EHAGARIA-1 220KV-EHAGARIA-NEW PURNEA 132KV KADAFEPURA (BH)- SAHARSA(PMTL)-1 132KV SONEBARSA (BH)- SAHARSA(PMTL)-1 132KV SONEBARSA (BH)- SAHARSA(PMTL)-1 220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-1 CI-I AT KARAMNASHA(NEW) SAHUPURI-1) LILO of 220 KV PUSAULI SAHUPURI-I AT KARAMNASHA (NEW)- SAHUPURI-1) LILO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-2) LILO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-2) LILO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-2) LILO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-2) LILO of 220 KV GAYA CHANDAUTI (PMTL)-DUTL/DUTL/DUTL/DUTL/DUTL/DUTL/DUTL/DUTL/	REMARKS           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT KARAMNASA END           PDMS ANS PSCT DONE AT KARAMNASA END           PDMS ANS PSCT DONE AT KARAMNASA END           DATA NOT RECEIVED           DATA NOT RECEIVED
SL NO           1           2           3           4           5           6           7           8           9           10           11           42	MONTH           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_JAN_2022           OCC_FEB_2022           OCC_FEB_2022	UTILITY BSPTCL BSPTCL BSPTCL BSPTCL BSPTCL BSPTCL BSPTCL BSPTCL BSPTCL BSPTCL BSPTCL BSPTCL	ELEMENT           T/L	DETAILS OF ELEMENT 220KV-BEGUSARAI KHAGARIA-1 220KV-KHAGARIA NEW PURNEA 132KV MADHEPURA (BH)- SAHARSA(PMTL)-1 132KV SONEBARSA (BH)- SAHARSA(PMTL)-1 220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-2 CI-I AT KARAMNASHA(NEW) (220KV KARAMNASHA (NEW)- SAHUPURI-1) ILLO of 220 KV PUSAULI SAHUPURI-I AT KARAMNASHA (NEW) SAHUPURI-1) ILLO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-1) 'LLO of 132 KV RAFIGUNI CHANDAUTI(BH)-I AT CHANDAUTI(PMTL) (123KV-CHANDAUTI (PMTL)-CHANDAUTI (BH)-2) ILLO of 132 KV RAFIGUNI CHANDAUTI(BH)-I AT CHANDAUTI(PMTL) (123KV-CHANDAUTI (PMTL)-CHANDAUTI (BH)-2)	REMARKS           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT KARAMNASA END           PDMS ANS PSCT DONE AT KARAMNASA END           PDMS ANS PSCT DONE AT KARAMNASA END           DATA NOT RECEIVED
SL NO           1           2           3           4           5           6           7           8           9           10           11           12           13	MONTH           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_JAN_2022           OCC_FEB_2022	UTILITY           BSPTCL	ELEMENT           T/L	DETAILS OF ELEMENT 220KV-KHAGARIA-1 220KV-KHAGARIA NEW PURNEA 122KV-KHAGARIA NEW PURNEA 132KV MADHEPURA (BH)- SAHARSA(PMTL)-1 132KV SONEBARSA (BH)- SAHARSA(PMTL)-1 132KV SONEBARSA (BH)- SAHARSA(PMTL)-1 220KV-RAXAUL-SITAMARHI-2 220KV-RAXAUL-SITAMARHI-2 220KV-RAXAUL-SITAMARHI-2 20KV-RAXAUL-SITAMARHI-2 1LICO of 220 KV PUSAULI SAHUPURI-IAT KARAMNASHA (NEW) SAHUPURI-1) 1LICO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-1) 1LICO of 132 KV GAYa Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-2) 1LICO of 132 KV RAFIGUNJ CHANDAUTI(BH)-I AT CHANDAUTI(PMTL) (132KV-CHANDAUTI (PMTL)-CHANDAUTI (BH)-2) 1LICO of 132 KV RAFIGUNJ CHANDAUTI(BH)-I AT CHANDAUTI(PMTL) (132KV-CHANDAUTI (PMTL)-RAFIGANJ (BH)-1) 20 HV SAFUGUNJ CHANDAUTI(BH)-I AT CHANDAUTI(PMTL) (132KV-CHANDAUTI (PMTL)-RAFIGANJ (BH)-1)	REMARKS           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT KARAMINASA END           PDMS ANS PSCT DONE AT KARAMINASA END           DATA NOT RECEIVED
SL NO           1           2           3           4           5           6           7           8           9           10           11           12           13	MONTH           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_FAR_2022           OCC_FEB_2022           OCC_FEB_2022           OCC_FEB_2022	UTILITY           BSPTCL	ELEMENT           T/L	DETAILS OF ELEMENT 220KV-KHAGARIA-1 220KV-KHAGARIA-NEW PURNEA 1220KV-KHAGARIA NEW PURNEA 132KV MADHEPURA (BH)- SAHARSA(PMTL)-1 132KV SONEBARSA (BH)- SAHARSA(PMTL)-1 1220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-2 CI-I AT KARAMNASHA(NEW) (220KV KARAMNASHA (NEW)- SAHUPURI-1) LILO of 220 KV PUSAULI SAHUPURI-I AT KARAMNASHA(NEW) (220KV KARAMNASHA (NEW)- PUSAULI-1) LILO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-1) LILO of 132 KV RAFIGUNJ CHANDAUTI(BH)-I AT CHANDAUTI(PMTL) (132KV-CHANDAUTI (PMTL)-CHANDAUTI (BH)-2) LILO of 132 KV RAFIGUNJ CHANDAUTI(BH)-I AT CHANDAUTI(PMTL) (132KV-CHANDAUTI (PMTL)-RAFIGANJ (BH)-1) 220 KV-Saharsa(PMTL)-Begusarai (BSPTCL) D/C	REMARKS           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT KIRAMINASA END           PDMS ANS PSCT DONE AT KARAMINASA END           DATA NOT RECEIVED
SL NO           1           2           3           4           5           6           7           8           9           10           11           12           13	MONTH           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_JAN_2022           OCC_FEB_2022           OCC_FEB_2022           OCC_JULY_2022	UTILITY           BSPTCL	ELEMENT           T/L	DETAILS OF ELEMENT 220KV-BEGUSARAI KHAGARIA-1 220KV-KHAGARIA NEW PURNEA 132KV MADHEPURA (BH)- SAHARSA(PMTL)-1 132KV SONEBARSA (BH)- SAHARSA(PMTL)-1 132KV SONEBARSA (BH)- SAHARSA(PMTL)-1 220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-2 CI-I AT KARAMNASHA(NEW) (220KV KARAMNASHA (NEW)- SAHUPURI-1) LILO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-1) 'LILO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-2) LILO of 132 KV RAFIGUNJ CHANDAUTI(BH)-I AT CHANDAUTI (PMTL) (132KV-CHANDAUTI (PMTL)- CHANDAUTI (BH)-2) LILO of 132 KV RAFIGUNJ CHANDAUTI(BH)-I AT CHANDAUTI (PMTL) (132KV-CHANDAUTI (PMTL)-CHANDAUTI (BH)-1) 220 kV-Saharsa(PMTL)-Begusarai (BSPTCL) D/C ADANI	REMARKS           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT KARAMNASA END           PDMS ANS PSCT DONE AT KARAMNASA END           DATA NOT RECEIVED           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS ANS PSCT DONE
SL NO           1           2           3           4           5           6           7           8           9           10           11           12           13           *           1	MONTH           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_JAN_2022           OCC_FEB_2022           OCC_FEB_2022           OCC_FEB_2022           OCC_MON_H           OCC_NOV_2021	UTILITY           BSPTCL           B	ELEMENT           T/L	DETAILS OF ELEMENT 220KV-BEGUSARAI KHAGARIA-1 220KV-KHAGARIA NEW PURNEA 132KV MADHEPURA (BH)- SAHARSA(PMTL)-1 132KV SONEBARSA (BH)- SAHARSA(PMTL)-1 132KV SONEBARSA (BH)- SAHARSA(PMTL)-1 220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-1 10LO of 220 KV DISAULI SAHUPURI-1 AT KARAMNASHA (NEW)- SAHUPURI-1) 11LO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-1) 11LO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-2) 11LO of 132 KV RAFIGUNI CHANDAUTI(BH)-I AT CHANDAUTI(PMTL) (132KV-CHANDAUTI (PMTL)-CHANDAUTI (BH)-2) 11LO of 132 KV RAFIGUNI CHANDAUTI(BH)-I AT CHANDAUTI(PMTL) (132KV-CHANDAUTI (PMTL)-CHANDAUTI (BH)-2) 11LO of 132 KV RAFIGUNI CHANDAUTI(BH)-I AT CHANDAUTI(PMTL) (132KV-CHANDAUTI (PMTL)-CHANDAUTI (BH)-2) 120 KV-Saharsa(PMTL)-Begusarai (BSPTCL) D/C ADANI DETAILS OF ELEMENT 220KV MAIN BAX OF GOVINDPUR-1 AT AT DHANBAD (NKTL)	REMARKS           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT KARAMNASA END           PDMS ANS PSCT DONE AT KARAMNASA END           DATA NOT RECEIVED           DATA NOT RECEIVED           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS ANS PSCT DONE
SL NO           1           2           3           4           5           6           7           8           9           10           11           12           13           SL NO           1           2	MONTH           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_FEB_2022           OCC_FEB_2022           OCC_FEB_2022           OCC_JULY_2022           MONTH           OCC_NOV_2021           OCC_NOV_2021	UTILITY           BSPTCL	ELEMENT           T/L	DETAILS OF ELEMENT 220KV-KHAGARIA-1 220KV-KHAGARIA NEW PURNEA 132KV MADHEPURA (BH)- SAHARSA(PMTL)-1 132KV SONEBARSA (BH)- SAHARSA(PMTL)-1 132KV SONEBARSA (BH)- SAHARSA(PMTL)-1 132KV SONEBARSA (BH)- SAHARSA(PMTL)-1 220KV-RAXAUL-SITAMARHI-2 220KV-RAXAUL-SITAMARHI-2 220KV-RAXAUL-SITAMARHI-2 20KV-RAXAUL-SITAMARHI-2 20KV-RAXAUL-SITAMARHI-2 20KV AGAYA CHANDAVI (CANDAVI (CANDAVI) (CANDAVI (CANDAVI) (CANDAVI (CANDAVI)) 1LIC of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAVI (PMTL)-BODHGAYA-1) 1LIC of 132 KV GAya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAVI (PMTL)-BODHGAYA-2) 1LIC of 132 KV RAFIGUNJ CHANDAUTI(BH)-I AT CHANDAUTI(PMTL) (132KV-CHANDAUTI (PMTL)-CHANDAUTI (BH)-2) 1LIC of 132 KV RAFIGUNJ CHANDAUTI(BH)-I AT CHANDAUTI(PMTL) (132KV-CHANDAUTI (PMTL)-RAFIGANJ (BH)-1) 220 KV-Saharsa(PMTL)-Begusarai (BSPTCL) D/C DETAILS OF ELEMENT 220KV MAIN BAY OF GOVINDPUR -1 AT DHANBAD (NKTL) 220KV MAIN BAY OF GOVINDPUR -2 AT DHANBAD (NKTL)	REMARKS           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT KARAMINASA END           PDMS ANS PSCT DONE AT KARAMINASA END           DATA NOT RECEIVED           DATA NOT RECEIVED           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS ANS PSCT DONE           REMARKS           PDMS ANS PSCT DONE
SL NO           1           2           3           4           5           6           7           8           9           10           11           12           13           'SL NO           1           2           3	MONTH           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_FEB_2022           OCC_FEB_2022           OCC_FEB_2022           OCC_FEB_2022           OCC_FEB_2022           OCC_FEB_2022           OCC_VET_B_2022           OCC_OCT_JULY_2022           MONTH           OCC_NOV_2021           OCC_NOV_2021           OCC_NOV_2021           OCC_NOV_2021	UTILITY           BSPTCL           ADANI           ADANI	ELEMENT           T/L	DETAILS OF ELEMENT 220KV-BEGUSARAI KHAGARIA-1 220KV-KHAGARIA NEW PURNEA 132KV MADHEPURA (BH)- SAHARSA(PMTL)-1 132KV SONEBARSA (BH)- SAHARSA(PMTL)-1 132KV SONEBARSA (BH)- SAHARSA(PMTL)-1 220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-2 CI-I AT KARAMNASHA(NEW) (220KV KARAMNASHA (NEW)- SAHUPURI-1) LILO of 220 KV PUSAULI SAHUPURI-I AT KARAMNASHA (NEW) (220KV KARAMNASHA (NEW)- PUSAULI-1) LILO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-1) LILO of 132 KV RAFIGUNI CHANDAUTI(BH)-I AT CHANDAUTI(PMTL) (132KV-CHANDAUTI (PMTL)-CHANDAUTI (BH)-2) LILO of 132 KV RAFIGUNI CHANDAUTI(BH)-I AT CHANDAUTI(PMTL) (132KV-CHANDAUTI (PMTL)-RAFIGANJ (BH)-1) 220 KV-Saharsa(PMTL)-Begusarai (BSPTCL) D/C ADANI DETAILS OF ELEMENT 220KV MAIN BAY OF GOVINDPUR -1 AT DHANBAD (NKTL) 220KV MAIN BAY OF GOVINDPUR -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF GOVINDPUR -2 AT DHANBAD (NKTL)	REMARKS           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT KARAMNASA END           PDMS ANS PSCT DONE AT KARAMNASA END           DATA NOT RECEIVED           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS ANS PSCT DONE           REMARKS           PDMS ANS PSCT DONE           PDMS ANS PSCT DONE           PDMS ANS PSCT DONE           PDMS ANS PSCT DONE
SL NO           1           2           3           4           5           6           7           8           9           10           11           12           13           `SL NO           1           2           3           4	MONTH           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_FEB_2022           OCC_FEB_2022           OCC_FEB_2022           OCC_FEB_2022           OCC_VEY_2021           OCC_NOV_2021           OCC_NOV_2021           OCC_NOV_2021           OCC_NOV_2021	UTILITY           BSPTCL           BADANI           ADANI	ELEMENT           T/L	DETAILS OF ELEMENT 220KV-BEGUSARAI KHAGARIA-1 220KV-KHAGARIA NEW PURNEA 132KV MADHEPURA (BH)- SAHARSA(PMTL)-1 132KV SONEBARSA (BH)- SAHARSA(PMTL)-1 132KV SONEBARSA (BH)- SAHARSA(PMTL)-1 220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-2 (-1)-AT KARAMNASHA(NEW) (220KV KARAMNASHA (NEW)- SAHUPURI-1) LILO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-1) 'LILO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-1) 'LILO of 132 KV RAFIGUNI CHANDAUTI(BH)-I AT CHANDAUTI(PMTL) (132KV-CHANDAUTI (PMTL)-CHANDAUTI (BH)-2) LILO of 132 KV RAFIGUNI CHANDAUTI(BH)-I AT CHANDAUTI(PMTL) (132KV-CHANDAUTI (PMTL)-CHANDAUTI (BH)-2) LILO of 132 KV RAFIGUNI CHANDAUTI(BH)-I AT CHANDAUTI(PMTL) (132KV-CHANDAUTI (PMTL)-CHANDAUTI (BH)-1) 220 KV-Saharsa(PMTL)-Begusarai (BSPTCL) D/C ADANI DETAILS OF ELEMENT 220KV MAIN BAY OF GOVINDPUR -1 AT DHANBAD (NKTL) 220KV MAIN BAY OF GOVINDPUR -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -2 AT DHANBAD (NKTL)	REMARKS           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SITAMARH END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT KARAMNASA END           PDMS ANS PSCT DONE AT KARAMNASA END           DATA NOT RECEIVED           DATA NOT RECEIVED           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS ANS PSCT DONE           REMARKS           PDMS ANS PSCT DONE
SL NO           1           2           3           4           5           6           7           8           9           10           11           12           13           1           2           3           4	MONTH           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_JAN_2022           OCC_FEB_2022           OCC_FEB_2022           OCC_JULY_2022           MONTH           OCC_NOV_2021           OCC_NOV_2021           OCC_NOV_2021	UTILITY           BSPTCL           ADANI           ADANI           ADANI	ELEMENT           T/L	DETAILS OF ELEMENT 220KV-KHAGARIA-1 220KV-KHAGARIA NEW PURNEA 132KV MADHEPURA (BH)- SAHARSA(PMTL)-1 132KV SONEBARSA (BH)- SAHARSA(PMTL)-1 122KV SONEBARSA (BH)- SAHARSA(PMTL)-1 220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-1 21KD of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-1) 11LO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-2) 11LO of 132 KV RAFIGUNI CHANDAUTI(BH)-I AT CHANDAUTI(PMTL) (132KV-CHANDAUTI (PMTL)-CHANDAUTI (BH)-2) 11LO of 132 KV RAFIGUNI CHANDAUTI(BH)-I AT CHANDAUTI(PMTL) (132KV-CHANDAUTI (PMTL)-RAFIGANJ (BH)-1) 220 KV-Saharsa(PMTL)-Begusarai (BSPTCL) D/C ADANI DETAILS OF ELEMENT 220KV MAIN BAY OF GOVINDPUR -1 AT DHANBAD (NKTL) 220KV MAIN BAY OF GOVINDPUR -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL)	REMARKS           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT KARAMNASA END           PDMS ANS PSCT DONE AT KARAMNASA END           DATA NOT RECEIVED           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS ANS PSCT DONE           REMARKS           PDMS ANS PSCT DONE
SL NO           1           2           3           4           5           6           7           8           9           10           11           12           13           SL NO           1           2           3           4	MONTH           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_FEB_2022           OCC_FEB_2022           OCC_JULY_2022           MONTH           OCC_NOV_2021           OCC_NOV_2021           OCC_NOV_2021           MONTH	UTILITY           BSPTCL           ADANI           ADANI           ADANI           ADANI           ADANI           ADANI           ADANI	ELEMENT           T/L	DETAILS OF ELEMENT 220KV-KHAGARIA-1 220KV-KHAGARIA-NEPURNEA 122KV-KHAGARIA NEW PURNEA 132KV MADHEPURA (BH)- SAHARSA(PMTL)-1 132KV SONEBARSA (BH)- SAHARSA(PMTL)-1 132KV SONEBARSA (BH)- SAHARSA(PMTL)-1 220KV-RAXAUL-SITAMARHI-2 220KV-RAXAUL-SITAMARHI-2 220KV-RAXAUL-SITAMARHI-2 20KV-RAXAUL-SITAMARHI-2 1LIC of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-1) 1LILO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-2) 1LILO of 132 KV RAFIGUNJ CHANDAUTI(BH)-I AT CHANDAUTI(PMTL) (132KV-CHANDAUTI (PMTL)-CHANDAUTI (BH)-2) 1LIC of 132 KV RAFIGUNJ CHANDAUTI(BH)-I AT CHANDAUTI(PMTL) (132KV-CHANDAUTI (PMTL)-CHANDAUTI (BH)-2) 1LIC of 132 KV RAFIGUNJ CHANDAUTI(BH)-I AT CHANDAUTI(PMTL) (132KV-CHANDAUTI (PMTL)-RAFIGANJ (BH)-1) 220 KV-Saharsa(PMTL)-Begusarai (BSPTCL) D/C ADANI DETAILS OF ELEMENT 220KV MAIN BAY OF GOVINDPUR -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL)	REMARKS           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT KARAMINASA END           PDMS ANS PSCT DONE AT KARAMINASA END           DATA NOT RECEIVED           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS ANS PSCT DONE           <
SL NO           1           2           3           4           5           6           7           8           9           10           11           12           13           *SL NO           1           2           3           4           SL NO           1	MONTH           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2022           OCC_JAN_2022           OCC_FEB_2022           OCC_FEB_2022           OCC_FEB_2022           OCC_VOV_2021           OCC_NOV_2021           OCC_NOV_2021           OCC_NOV_2021           OCC_NOV_2021           OCC_MONTH           OCC_MONTH           OCC_NOV_2021	UTILITY           BSPTCL           ADANI           ADANI           ADANI           ADANI           MDANI           MDANI	ELEMENT           T/L	DETAILS OF ELEMENT 220KV-BEGUSARAI KHAGARIA-1 220KV-KHAGARIA NEW PURNEA 132KV MADHEPURA (BH)- SAHARSA(PMTL)-1 132KV SONEBARSA (BH)- SAHARSA(PMTL)-1 132KV SONEBARSA (BH)- SAHARSA(PMTL)-1 132KV SONEBARSA (BH)- SAHARSA(PMTL)-1 220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-2 CI-1 AT KARAMNASHA(NEW) (220KV KARAMNASHA (NEW)- SAHUPURI-1) LILO of 220 KV PUSAULI SAHUPURI-1 AT KARAMNASHA (NEW) (220KV KARAMNASHA (NEW)- PUSAULI-1) LILO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-1) LILO of 132 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-2) LILO of 132 KV RAFIGUNI CHANDAUTI(BH)-1 AT CHANDAUTI(PMTL) (132KV-CHANDAUTI (PMTL)- CHANDAUTI (BH)-2) LILO of 132 KV RAFIGUNI CHANDAUTI(BH)-1 AT CHANDAUTI(PMTL) (132KV-CHANDAUTI (PMTL)-RAFIGANJ (BH)-1) 220 KV MAIN BAY OF GOVINDPUR -1 AT DHANBAD (NKTL) 220KV MAIN BAY OF GOVINDPUR -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 20KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 20KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 20KV MAIN BAY OF JAINAM	REMARKS           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT KARAMINASA END           PDMS ANS PSCT DONE AT KARAMINASA END           DATA NOT RECEIVED           DATA NOT RECEIVED           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS ANS PSCT DONE           REMARKS           PDMS ANS PSCT DONE           PDMS ANS PSCT DONE           REMARKS           PDMS ANS PSCT DONE           PDMS ANS PSCT DONE </td
SL NO           1           2           3           4           5           6           7           8           9           10           11           12           13           'SL NO           1           2           3           4           SL NO           1           2           3           4	MONTH           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_FEB_2022           OCC_FEB_2022           OCC_FEB_2022           OCC_FEB_2022           OCC_V2021           OCC_NOV_2021	UTILITY           BSPTCL           BANI           ADANI           ADANI           ADANI           BGCL           BGCL	ELEMENT           T/L	DETAILS OF ELEMENT 220KV-BEGUSARAI KHAGARIA-1 220KV-KHAGARIA NEW PURNEA 132KV MADHEPURA (BH)- SAHARSA(PMTL)-1 132KV SONEBARSA (BH)- SAHARSA(PMTL)-1 132KV SONEBARSA (BH)- SAHARSA(PMTL)-1 220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-2 CI-I AT KARAMNASHA(NEW) (220KV KARAMNASHA (NEW)- SAHUPURI-1) LILO of 220 KV Gaya Chandauti D/C LLO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-1) LILO of 220 KV Gaya Chandauti D/C LLO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-1) LILO of 132 KV RAFIGUNI CHANDAUTI(BH)-I AT CHANDAUTI(PMTL) (132KV-CHANDAUTI (PMTL)-CHANDAUTI (BH)-2) LILO of 132 KV RAFIGUNI CHANDAUTI(BH)-I AT CHANDAUTI(PMTL) (132KV-CHANDAUTI (PMTL)-CHANDAUTI (BH)-2) LILO of 132 KV RAFIGUNI CHANDAUTI(BH)-I AT CHANDAUTI(PMTL) (132KV-CHANDAUTI (PMTL)-RAFIGANJ (BH)-1) 220 KV-Saharsa(PMTL)-Begusarai (BSPTCL) D/C DETAILS OF ELEMENT 220KV MAIN BAY OF GOVINDPUR -1 AT DHANBAD (NKTL) 220KV MAIN BAY OF GOVINDPUR -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) LILO of 400 KV PATNA BALIA-3 AT NAUBATPUR(BGCL) (400KV PATNA NAUBATPUR(BH)-1 LILO OF 400 KV PATNA BALIA-3 AT NAUBATPUR(BGCL) (400KV PATNA NAUBATPUR(BH)-1	REMARKS           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT KARAMINASA END           PDMS ANS PSCT DONE AT KARAMINASA END           DATA NOT RECEIVED           DATA NOT RECEIVED           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS ANS PSCT DONE           PDMS ANS PSCT DONE           PDMS ANS PSCT DONE           PDMS ANS PSCT DONE           REMARKS           PDMS ANS PSCT DONE           PDMS ANS
SL NO           1           2           3           4           5           6           7           8           9           10           11           12           13           2           3           4           SL NO           1           2           3           4	MONTH           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_JAN_2022           OCC_FEB_2022           OCC_FEB_2022           OCC_JULY_2022           MONTH           OCC_NOV_2021           OCC_NOV_2021           OCC_NOV_2021           OCC_MAR_2022           OCC_MAR_2022           OCC_MAR_2022           OCC_MAR_2022	UTILITY           BSPTCL           ADANI           ADANI           ADANI           ADANI           BGCL           BGCL           BGCL	ELEMENT           T/L	DETAILS OF ELEMENT 220KV-KHAGARIA-1 220KV-KHAGARIA NEW PURNEA 132KV MADHEPURA (BH)- SAHARSA(PMTL)-1 132KV MADHEPURA (BH)- SAHARSA(PMTL)-1 122KV SONEBARSA (BH)- SAHARSA(PMTL)-1 220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-1 21KD of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-1) 11LO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-2) 11LO of 132 KV RAFIGUNI CHANDAUTI(BH)-I AT CHANDAUTI(PMTL) (132KV-CHANDAUTI (PMTL)-CHANDAUTI (BH)-2) 11LO of 132 KV RAFIGUNI CHANDAUTI(BH)-I AT CHANDAUTI(PMTL) (132KV-CHANDAUTI (PMTL)-CHANDAUTI (BH)-2) 11LO of 132 KV RAFIGUNI CHANDAUTI(BH)-I AT CHANDAUTI(PMTL) (132KV-CHANDAUTI (PMTL)-CHANDAUTI (BH)-2) 11LO of 132 KV RAFIGUNI CHANDAUTI(BH)-I AT CHANDAUTI(PMTL) (132KV-CHANDAUTI (PMTL)-CHANDAUTI (BH)-2) 11LO of 132 KV RAFIGUNI CHANDAUTI(BH)-I AT CHANDAUTI(PMTL) (132KV-CHANDAUTI (PMTL)-CHANDAUTI (BH)-1) 220 KV-Saharsa(PMTL)-Begusarai (BSPTCL) D/C ADANI DETAILS OF ELEMENT 220KV MAIN BAY OF GOVINDPUR -1 AT DHANBAD (NKTL) 220KV MAIN BAY OF GOVINDPUR -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF GOVINDPUR -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 210KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 210KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 210KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 210KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 210KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 210KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 210KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 210KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 210KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 210KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 210KV MAIN BAY OF JAINAMARE -1 AT DHANBAD (NKTL) 210KV MAIN BAY OF JAINAMARE -1 AT DHANBAD (NKTL) 210KV MAIN BAY OF JAINAMARE -1 AT DHANBAD (NKTL) 210KV MAIN BAY OF JA	REMARKS           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT KARAMNASA END           PDMS ANS PSCT DONE AT KARAMNASA END           DATA NOT RECEIVED           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS ANS PSCT DONE           REMARKS           PDMS ANS PSCT DONE           PDMS ANS PSCT DONE           REMARKS           PDMS ANS PSCT DONE           REMARKS           PDMS ANS PSCT DONE           PDMS ANS PSCT DONE AT NAUBATPUR END
SL NO           1           2           3           4           5           6           7           8           9           10           11           12           13           SL NO           1           2           3           4           SL NO           1           2           3           4	MONTH           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_JAN_2022           OCC_FEB_2022           OCC_FEB_2022           OCC_JULY_2022           MONTH           OCC_NOV_2021           MONTH           OCC_NOV_2021           MONTH           OCC_MAR_2022           OCC_MAR_2022           OCC_MAR_2022           OCC_MAR_2022           OCC_MAR_2022           OCC_MAR_2022	UTILITY           BSPTCL           BADANI           ADANI           ADANI           ADANI           BGCL           BGCL           BGCL           BGCL	ELEMENT           T/L           T/L      T/L      <	DETAILS OF ELEMENT 220KV-KHAGARIA NEW PURNEA 220KV-KHAGARIA NEW PURNEA 132KV MADHEPURA (BH)- SAHARSA(PMTL)-1 132KV MADHEPURA (BH)- SAHARSA(PMTL)-1 220KV-RAXAUL-SITAMARHI-2 220KV-RAXAUL-SITAMARHI-2 220KV-RAXAUL-SITAMARHI-2 220KV-RAXAUL-SITAMARHI-2 220KV-RAXAUL-SITAMARHI-2 220KV-RAXAUL-SITAMARHI-2 220KV-RAXAUL-SITAMARHI-2 1LIC of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-1) 1LLO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-2) 1LLO of 132 KV RAFIGUNJ CHANDAUTI(BH)-I AT CHANDAUTI(PMTL) (132KV-CHANDAUTI (PMTL)-CHANDAUTI (BH)-2) 1LLO of 132 KV RAFIGUNJ CHANDAUTI(BH)-I AT CHANDAUTI(PMTL) (132KV-CHANDAUTI (PMTL)-RAFIGANJ (BH)-1) 220 kV-Saharsa(PMTL)-Begusarai (BSPTCL) D/C 220 KV MAIN BAY OF GOVINDPUR -1 AT DHANBAD (NKTL) 220 KV MAIN BAY OF GOVINDPUR -2 AT DHANBAD (NKTL) 220 KV MAIN BAY OF JAINAMORE -2 AT DHANBAD (NKTL) 220 KV MAIN BAY OF JAINAMORE -2 AT DHANBAD (NKTL) 220 KV MAIN BAY OF JAINAMORE -2 AT DHANBAD (NKTL) 220 KV MAIN BAY OF JAINAMORE -2 AT DHANBAD (NKTL) 220 KV MAIN BAY OF JAINAMORE -2 AT DHANBAD (NKTL) 220 KV MAIN BAY OF JAINAMORE -2 AT DHANBAD (NKTL) 220 KV MAIN BAY OF JAINAMORE -2 AT DHANBAD (NKTL) 220 KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 220 KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 220 KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 210 OF 400 KV PATNA BALIA-3 AT NAUBATPUR(BGCL) (400KV NAUBATPUR(BH)-1 BALIA-1) 1LIO of 400 KV PATNA BALIA-3 AT NAUBATPUR(BGCL) (400KV PATNA NAUBATPUR(BH)-1 1LIO OF 400 KV PATNA BALIA-4 AT NAUBATPUR(BGCL) (400KV PATNA NAUBATPUR(BH)-12) 1LIO of 400 KV PATNA BALIA-4 AT NAUBATPUR(BGCL) (400KV NAUBATPUR(BH)-2) 1LIO OF 400 KV PATNA BALIA-4 AT NAUBATPUR(BGCL) (400KV PATNA NAUBATPUR(BH)-2) 1LIO OF 400 KV PATNA BALIA-4 AT NAUBATPUR(BGCL) (400KV PATNA NAUBATPUR(BH)-2) 1LIO OF 400 KV PATNA BALIA-4 AT NAUBATPUR(BGCL) (400KV PATNA NAUBATPUR(BH)-2) 1LIO OF 400 KV PATNA BALIA-4 AT NAUBATPUR(BGCL) (400KV PATNA NAUBATPUR(BH)-2) 1LIO OF 400 KV PATNA BALIA-4 AT NAUBATPUR(BGCL) (400KV PATNA NAUBATPUR(BH)-2) 1LIO OF 40	REMARKS           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT KARAMNASA END           PDMS ANS PSCT DONE AT KARAMNASA END           DATA NOT RECEIVED           DATA NOT RECEIVED           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS ANS PSCT DONE           PDMS ANS PSCT DONE AT NAUBATPUR END           PDMS ANS PSCT DONE AT NAU
SL NO           1           2           3           4           5           6           7           8           9           10           11           12           13           *SL NO           1           2           3           4           SL NO           1           2           3           4           5	MONTH           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2022           OCC_JAN_2022           OCC_FEB_2022           OCC_FEB_2022           OCC_VOV_2021           OCC_NOV_2021           OCC_NOV_2021           OCC_MAR_2022           OCC_MAR_2022           OCC_MAR_2022           OCC_MAR_2022           OCC_MAR_2022           OCC_MAR_2022           OCC_MAR_2022	UTILITY           BSPTCL           BANNI           ADANI           ADANI           MDANI           MDANI           BGCL           BGCL           BGCL           BGCL           BGCL	ELEMENT           T/L           T/L      T/L      <	DETAILS OF ELEMENT 220KV-BEGUSARAI KHAGARIA-1 220KV-KHAGARIA NEW PURNEA 132KV MADHEPURA (BH)- SAHARSA(PMTL)-1 132KV SONEBARSA (BH)- SAHARSA(PMTL)-1 132KV SONEBARSA (BH)- SAHARSA(PMTL)-1 132KV SONEBARSA (BH)- SAHARSA(PMTL)-1 220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-2 CI-1 AT KARAMNASHA(NEW) (220KV KARAMNASHA (NEW)- SAHUPURI-1) ILIC Of 220 KV PUSAULI SAHUPURI-1 AT KARAMNASHA (NEW) (220KV KARAMNASHA (NEW)- PUSAULI-1) ILIC Of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-1) ILIC Of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-2) ILIC Of 132 KV RAFIGUNI CHANDAUTI(BH)-1 AT CHANDAUTI (PMTL) (132KV-CHANDAUTI (PMTL)- CHANDAUTI (BH)-2) ILIC Of 132 KV RAFIGUNI CHANDAUTI(BH)-1 AT CHANDAUTI(PMTL) (132KV-CHANDAUTI (PMTL)-CHANDAUTI (BH)-2) ILIC Of 132 KV RAFIGUNI CHANDAUTI(BH)-1 AT CHANDAUTI(PMTL) (132KV-CHANDAUTI (PMTL)-RAFIGANJ (BH)-1) 220 KV MAIN BAY OF GOVINDPUR -1 AT DHANBAD (NKTL) 220 KV MAIN BAY OF GOVINDPUR -1 AT DHANBAD (NKTL) 220 KV MAIN BAY OF GOVINDPUR -2 AT DHANBAD (NKTL) 220 KV MAIN BAY OF JAINAMORE -2 AT DHANBAD (NKTL) 220 KV MAIN BAY OF JAINAMORE -2 AT DHANBAD (NKTL) 220 KV MAIN BAY OF JAINAMORE -2 AT DHANBAD (NKTL) 220 KV MAIN BAY OF JAINAMORE -2 AT DHANBAD (NKTL) 220 KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 220 KV MAIN BAY OF JAINAMORE -2 AT DHANBAD (NKTL) 220 KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 220 KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 220 KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 210 KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 210 KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 210 KV PATNA BALIA-3 AT NAUBATPUR(BGCL) (400KV NAUBATPUR(BH)-8 ALIA-1) 110 Of 400 KV PATNA BALIA-3 T NAUBATPUR(BGCL) (400KV NAUBATPUR(BH)-8 ALIA-2) 110 Of 400 KV PATNA BALIA-4 AT NAUBATPUR(BGCL) (400KV NAUBATPUR(BH)-8 ALIA-2) 110 Of 400 KV PATNA BALIA-4 AT NAUBATPUR(BH) H 110 OF 400 KV PATNA BALIA-4 AT NAUBATPUR(BH)	REMARKS           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT KARAMINASA END           PDMS ANS PSCT DONE AT KARAMINASA END           DATA NOT RECEIVED           DATA NOT RECEIVED           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS ANS PSCT DONE           REMARKS           PDMS ANS PSCT DONE           REMARKS           PDMS ANS PSCT DONE           PDMS ANS PSCT DONE           REMARKS           PDMS ANS PSCT DONE           PDMS ANS PSCT DONE AT NAUBATPUR END
SL NO           1           2           3           4           5           6           7           8           9           10           11           12           13           'SL NO           1           2           3           4           SL NO           1           2           3           4           5           6	MONTH           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_FEB_2022           OCC_FEB_2022           OCC_FEB_2022           OCC_VEB_2021           OCC_NOV_2021           OCC_NOV_2021           OCC_NOV_2021           OCC_NOV_2021           OCC_MAR_2022           OCC_MAR_2022           OCC_MAR_2022           OCC_MAR_2022           OCC_MAR_2022           OCC_MAR_2022           OCC_MAR_2022           OCC_MAR_2022	UTILITY BSPTCL B	ELEMENT           T/L           T/L      T/L	DETAILS OF ELEMENT 220KV-REGUSARAI KHAGARIA-1 220KV-KHAGARIA NEW PURNEA 132KV MADHEPURA (BH)- SAHARSA(PMTL)-1 132KV SONEBARSA (BH)- SAHARSA(PMTL)-1 132KV SONEBARSA (BH)- SAHARSA(PMTL)-1 220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-2 CI-I AT KARAMNASHA(NEW) (220KV KARAMNASHA (NEW)- SAHUPURI-1) LILO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-1) LILO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-2) LILO of 132 KV RAFIGUNI CHANDAUTI(BH)-I AT CHANDAUTI (PMTL) (12XKV-CHANDAUTI (PMTL)- CHANDAUTI (BH)-2) LILO of 132 KV RAFIGUNI CHANDAUTI(BH)-I AT CHANDAUTI(PMTL) (12XKV-CHANDAUTI (PMTL)-CHANDAUTI (BH)-2) LILO of 132 KV RAFIGUNI CHANDAUTI(BH)-I AT CHANDAUTI(PMTL) (13XKV-CHANDAUTI (PMTL)-RAFIGANJ (BH)-1) 220 KV-Saharsa(PMTL)-Begusarai (BSPTCL) D/C ADANI DETAILS OF ELEMENT 220KV MAIN BAY OF GOVINDPUR -1 AT DHANBAD (NKTL) 220KV MAIN BAY OF GOVINDPUR -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF GOVINDPUR -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF GOVINDPUR -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 210KV MAIN BAY OF PATNA -1 AT NAUBATPUR(BGCL) (400KV NAUBATPUR(BH)- BALIA-1) LILO of 400 KV PATNA BALIA-3 AT NAUBATPUR(BGCL) (400KV NAUBATPUR(BH)-1 LILO of 400 KV PATNA BALIA-4 AT NAUBATPUR(BGCL) (400KV NAUBATPUR(BH)-1 LILO of 400 KV PATNA BALIA-4 AT NAUBATPUR(BGCL) (400KV NAUBATPUR(BH)-2 400KV MAIN BAY OF PATNA -1 AT NAUBATPUR(BH)	REMARKS           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT KARAMINASA END           PDMS ANS PSCT DONE AT KARAMINASA END           DATA NOT RECEIVED           PDMS ANS PSCT DONE           REMARKS           PDMS ANS PSCT DONE           PDMS ANS PSCT DONE AT NAUBATPUR END           P
SL NO           1           2           3           4           5           6           7           8           9           10           11           12           13           'SL NO           1           2           3           4           5           6           7	MONTH           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_FEB_2022           OCC_FEB_2022           OCC_VULY_2022           MONTH           OCC_NOV_2021           OCC_NOV_2021           OCC_NOV_2021           OCC_MAR_2022	UTILITY           BSPTCL           BSCL           BGCL           BGCL           BGCL           BGCL           BGCL           BGCL	ELEMENT           T/L           T/L      T/L	DETAILS OF ELEMENT 220KV-KHAGARIA NEW PURNEA 220KV-KHAGARIA NEW PURNEA 132KV MADHEPURA (BH)- SAHARSA(PMTL)-1 132KV SONEBARSA (BH)- SAHARSA(PMTL)-1 122KV SONEBARSA (BH)- SAHARSA(PMTL)-1 220KV-RAXAUL-SITAMARH-1 220KV-RAXAUL-SITAMARH-2 CI-I AT KARAMNASHA(NEW) (220KV KARAMNASHA (NEW)- SAHUPURI-1) LILO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-1) LILO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-2) LILO of 132 KV RAFIGUNI CHANDAUTI(BH)-I AT CHANDAUTI(PMTL) (132KV-CHANDAUTI (PMTL)-CHANDAUTI (BH)-2) LILO of 132 KV RAFIGUNI CHANDAUTI(BH)-I AT CHANDAUTI(PMTL) (132KV-CHANDAUTI (PMTL)-CHANDAUTI (BH)-2) LILO of 132 KV RAFIGUNI CHANDAUTI(BH)-I AT CHANDAUTI(PMTL) (132KV-CHANDAUTI (PMTL)-RAFIGANI (BH)-1) 220 KV-Saharsa(PMTL)-Begusarai (BSPTCL) D/C ADANI DETAILS OF ELEMENT 220KV MAIN BAY OF GOVINDPUR -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF GOVINDPUR -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 210KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 210KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMARE -1 AT NAUBATPUR(BCL) (400KV-PATNA NAUBATPUR(BH)-BALIA-1) LILO of 400 KV PATNA BALIA-4 AT NAUBATPUR(BCL) (400KV-PATNA NAUBATPUR(BH)-BALIA-2) LILO OF 400 KV PATNA BALIA-4 AT NAUBATPUR(BCL) (400KV-PATNA NAUBATPUR(BH)-BALIA-2) LILO of 400 KV PATNA BALIA-4 AT NAUBATPUR(BH) 400KV MAIN BAY OF PATNA -1 AT NAUBATPUR(BH) 400KV MAIN BAY OF PATNA -1 AT NAUBATPUR(BH) 400KV MAIN BAY OF PATNA -1 AT NAUBATPUR(	REMARKS           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT KARAMNASA END           PDMS ANS PSCT DONE AT KARAMNASA END           DATA NOT RECEIVED           DATA NOT RECEIVED           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS ANS PSCT DONE           PDMS ANS PSCT DONE AT NAUBATPUR END
SL NO           1           2           3           4           5           6           7           8           9           10           11           12           13           SL NO           1           2           3           4           5           6           7           8	MONTH           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_JAN_2022           OCC_FEB_2022           OCC_FEB_2022           OCC_JULY_2022           MONTH           OCC_NOV_2021           OCC_NOV_2021           OCC_NOV_2021           OCC_MAR_2022	UTILITY           BSPTCL           BGCL           BGCL           BGCL           BGCL           BGCL	ELEMENT           T/L           T/L      T/L   <	DETAILS OF ELEMENT 220KV-BEGUSARAI KHAGARIA-1 220KV-BEGUSARAI KHAGARIA-1 220KV-KHAGARIA NEW PURNEA 132KV MADHEPURA (BH)- SAHARSA(PMTL)-1 132KV SONEBARSA (BH)- SAHARSA(PMTL)-1 132KV SONEBARSA (BH)- SAHARSA(PMTL)-1 220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-2 220KV-RAXAUL-SITAMARHI-2 21KV-RAXAUL-SITAMARHI-2 21KV-RAXAUL-SITAMARHI-2 1LIC of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-1) 1LILO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-2) 1LILO of 132 KV RAFIGUNJ CHANDAUTI(BH)-I AT CHANDAUTI(PMTL) (132KV-CHANDAUTI (PMTL)-BODHGAYA-2) 1LILO of 132 KV RAFIGUNJ CHANDAUTI(BH)-I AT CHANDAUTI(PMTL) (132KV-CHANDAUTI (PMTL)-RAFIGANJ (BH)-1) 220 kV-Saharsa(PMTL)-Begusarai (BSPTCL) D/C 20KV MAIN BAY OF GOVINDPUR -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF GOVINDPUR -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -2 AT DHANBAD (NKTL) 1LIC of 400 KV PATNA BALIA-3 AT NAUBATPUR(BGCL) (400KV NAUBATPUR(BH)-BALIA-1) 1LIC of 400 KV PATNA BALIA-3 AT NAUBATPUR(BGCL) (400KV NAUBATPUR(BH)-1 1LIC of 400 KV PATNA BALIA-4 AT NAUBATPUR(BGCL) (400KV-PATNA NAUBATPUR(BH)-1 1LIC of 400 KV PATNA BALIA-4 AT NAUBATPUR(BGCL) (400KV-PATNA NAUBATPUR(BH)-2 400KV MAIN BAY OF PATNA -2 AT NAUBATPUR(BH)	REMARKS           DATA NOT RECEIVED           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT KARAMNASA END           DATA NOT RECEIVED           PDMS ANS PSCT DONE           PDMS ANS PSCT DONE AT NAUBATPUR END
SL NO           1           2           3           4           5           6           7           8           9           10           11           12           13           *SL NO           1           2           3           4           SL NO           1           2           3           4           5           6           7           8           9	MONTH           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_DCT_2022           OCC_JAN_2022           OCC_FEB_2022           OCC_FEB_2022           OCC_VOV_2021           OCC_NOV_2021           OCC_NOV_2021           OCC_MAR_2022	UTILITY           BSPTCL           BSCL           BGCL           BGCL<	ELEMENT           T/L	DETAILS OF ELEMENT 220KV-RHAGARIA -1 220KV-RHAGARIA NEW PURNEA 132KV MADHEPURA (BH)- SAHARSA(PMTL)-1 132KV MADHEPURA (BH)- SAHARSA(PMTL)-1 122KV SONEBARSA (BH)- SAHARSA(PMTL)-1 220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-2 CI-I AT KARAMNASHA(NEW) (220KV KARAMNASHA (NEW)- SAHUPURI-1) LILO of 220 KV PUSAULI SAHUPURI-I AT KARAMNASHA (NEW) (220KV KARAMNASHA (NEW)- PUSAULI-1) 'LILO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-1) 'LILO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-2) LILO of 132 KV RAFIGUNJ CHANDAUTI(BH)-I AT CHANDAUTI(PMTL) (132KV-CHANDAUTI (PMTL)- CHANDAUTI (BH)-2) LILO of 132 KV RAFIGUNJ CHANDAUTI(BH)-I AT CHANDAUTI(PMTL) (132KV-CHANDAUTI (PMTL)-RAFIGANJ (BH)-1) 220 KV-Saharsa(PMTL)-Begusarai (BSPTCL) D/C ADANI DETAILS OF ELEMENT 220KV MAIN BAY OF GOVINDPUR -1 AT DHANBAD (NKTL) 220KV MAIN BAY OF GOVINDPUR -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 20KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 20KV MAIN BAY OF JAINAMORE -1 AT DHANBAD (NKTL) 20KV MAIN BAY OF JAINAMORE -1 AT NAUBATPUR(BGCL) (400KV NAUBATPUR(BH)-BALIA-1) LILO of 400 KV PATNA BALIA-3 AT NAUBATPUR(BGCL) (400KV NAUBATPUR(BH)-1 LILO of 400 KV PATNA BALIA-3 AT NAUBATPUR(BGCL) (400KV NAUBATPUR(BH)-BALIA-2) LILO of 400 KV PATNA BALIA-4 AT NAUBATPUR(BGCL) (400KV-PATNA NAUBATPUR(BH)-1 LILO of 400 KV PATNA BALIA-4 AT NAUBATPUR(BGCL) (400KV-PATNA NAUBATPUR(BH)-1 400KV MAIN BAY OF PALIA-1 AT NAUBATPUR(BH) 400KV MAIN BAY OF PALIA-1 AT NAUBATPUR(BH) 400KV MAIN BAY OF BALIA-1 AT NAUBATPUR(BH) 400KV MAIN BAY OF BALIA-1 AT NAUBATPUR(BH)	REMARKS           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT KARAMINASA END           PDMS ANS PSCT DONE AT KARAMINASA END           DATA NOT RECEIVED           DATA NOT RECEIVED           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS ANS PSCT DONE           REMARKS           PDMS ANS PSCT DONE           REMARKS           PDMS ANS PSCT DONE           REMARKS           PDMS ANS PSCT DONE           PDMS ANS PSCT DONE AT NAUBATPUR END           PDMS
SL NO           1           2           3           4           5           6           7           8           9           10           11           12           13           'SL NO           1           2           3           4           5           6           7           8           9           10           1           2           3           4           5           6           7           8           9           10	MONTH           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_OCT_2021           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_JAN_2022           OCC_FEB_2022           OCC_FEB_2022           OCC_FEB_2022           OCC_FEB_2022           OCC_VOV_2021           OCC_NOV_2021           OCC_NOV_2021           OCC_NOV_2021           OCC_MAR_2022	UTILITY BSPTCL B	ELEMENT           T/L           T/L      T/L <tr tbody<="" td=""><td>DETAILS OF ELEMENT 220KV-RAGARIA KHAGARIA-1 220KV-KHAGARIA NEW PURNEA 132KV MADHEPURA (BH)- SAHARSA(PMTL)-1 132KV SONEBARSA (BH)- SAHARSA(PMTL)-1 220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-1 21LLO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-1) LILO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-2) LILO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-2) LILO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-2) LILO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-2) LILO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-2) LILO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-2) LILO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-2) LILO of 220 KV GAYA CHANDAUTI(BH)-I AT CHANDAUTI(PMTL) (132KV-CHANDAUTI (PMTL)-CHANDAUTI (BH)-2) LILO of 220 KV GAYA CHANDAUTI (BH)-I AT CHANDAUTI(PMTL) (132KV-CHANDAUTI (PMTL)-CHANDAUTI (BH)-2) 20 KV-Saharsa(PMTL)-Begusarai (BSPTCL) D/C ADANI DETAILS OF ELEMENT 220KV MAIN BAY OF GOVINDPUR -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF GOVINDPUR -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF GOVINDPUR -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -2 AT DHANBAD (NKTL) BGCL DETAILS OF ELEMENT LILO of 400 KV PATNA BALIA-3 AT NAUBATPUR(BGCL) (400KV NAUBATPUR(BH)-BALIA-1) LILO of 400 KV PATNA BALIA-3 AT NAUBATPUR(BGCL) (400KV NAUBATPUR(BH)-BALIA-2) LILO of 400 KV PATNA BALIA-4 AT NAUBATPUR(BGCL) (400KV-PATNA NAUBATPUR(BH)-1 LILO of 400 KV PATNA BALIA-4 AT NAUBATPUR(BGCL) (400KV-PATNA NAUBATPUR(BH)-2) 400KV MAIN BAY OF PATNA-2 AT NAUBATPUR(BH) 400KV MAIN BAY OF PATNA -2 AT NAUBATPUR(BH)</td><td>REMARKS           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT KARAMINASA END           PDMS ANS PSCT DONE AT KARAMINASA END           DATA NOT RECEIVED           PDMS ANS PSCT DONE           PDMS ANS PSCT DONE AT NAUBATPUR END           PDMS ANS PS</td></tr>	DETAILS OF ELEMENT 220KV-RAGARIA KHAGARIA-1 220KV-KHAGARIA NEW PURNEA 132KV MADHEPURA (BH)- SAHARSA(PMTL)-1 132KV SONEBARSA (BH)- SAHARSA(PMTL)-1 220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-1 21LLO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-1) LILO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-2) LILO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-2) LILO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-2) LILO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-2) LILO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-2) LILO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-2) LILO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-2) LILO of 220 KV GAYA CHANDAUTI(BH)-I AT CHANDAUTI(PMTL) (132KV-CHANDAUTI (PMTL)-CHANDAUTI (BH)-2) LILO of 220 KV GAYA CHANDAUTI (BH)-I AT CHANDAUTI(PMTL) (132KV-CHANDAUTI (PMTL)-CHANDAUTI (BH)-2) 20 KV-Saharsa(PMTL)-Begusarai (BSPTCL) D/C ADANI DETAILS OF ELEMENT 220KV MAIN BAY OF GOVINDPUR -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF GOVINDPUR -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF GOVINDPUR -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -2 AT DHANBAD (NKTL) BGCL DETAILS OF 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DETAILS OF ELEMENT 220KV-RAGARIA KHAGARIA-1 220KV-KHAGARIA NEW PURNEA 132KV MADHEPURA (BH)- SAHARSA(PMTL)-1 132KV SONEBARSA (BH)- SAHARSA(PMTL)-1 220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-1 220KV-RAXAUL-SITAMARHI-1 21LLO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-1) LILO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-2) LILO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-2) LILO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-2) LILO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-2) LILO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-2) LILO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-2) LILO of 220 KV Gaya Chandauti D/C LILO at Bodhgaya(220KV-CHANDAUTI (PMTL)-BODHGAYA-2) LILO of 220 KV GAYA CHANDAUTI(BH)-I AT CHANDAUTI(PMTL) (132KV-CHANDAUTI (PMTL)-CHANDAUTI (BH)-2) LILO of 220 KV GAYA CHANDAUTI (BH)-I AT CHANDAUTI(PMTL) (132KV-CHANDAUTI (PMTL)-CHANDAUTI (BH)-2) 20 KV-Saharsa(PMTL)-Begusarai (BSPTCL) D/C ADANI DETAILS OF ELEMENT 220KV MAIN BAY OF GOVINDPUR -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF GOVINDPUR -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF GOVINDPUR -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -2 AT DHANBAD (NKTL) 220KV MAIN BAY OF JAINAMORE -2 AT DHANBAD (NKTL) BGCL DETAILS OF ELEMENT LILO of 400 KV PATNA BALIA-3 AT NAUBATPUR(BGCL) (400KV NAUBATPUR(BH)-BALIA-1) LILO of 400 KV PATNA BALIA-3 AT NAUBATPUR(BGCL) (400KV NAUBATPUR(BH)-BALIA-2) LILO of 400 KV PATNA BALIA-4 AT NAUBATPUR(BGCL) (400KV-PATNA NAUBATPUR(BH)-1 LILO of 400 KV PATNA BALIA-4 AT NAUBATPUR(BGCL) (400KV-PATNA NAUBATPUR(BH)-2) 400KV MAIN BAY OF PATNA-2 AT NAUBATPUR(BH) 400KV MAIN BAY OF PATNA -2 AT NAUBATPUR(BH)	REMARKS           DATA NOT RECEIVED           DATA NOT RECEIVED           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SAHARSA END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT SITAMARHI END           PDMS ANS PSCT DONE AT KARAMINASA END           PDMS ANS PSCT DONE AT KARAMINASA END           DATA NOT RECEIVED           PDMS ANS PSCT DONE           PDMS ANS PSCT DONE AT NAUBATPUR END           PDMS ANS PS				

12	OCC_MAR_2022	BGCL	T/L	400KV MAIN BUS - 2 AT NAUBATPUR(BH)	PDMS ANS PSCT DONE AT NAUBATPUR END	
13	OCC_MAR_2022	BGCL	T/L	400KV MAIN BUS - 1 AT NAUBATPUR(BH)	PDMS ANS PSCT DONE AT NAUBATPUR END	
14	OCC_APR_2022	BGCL	T/L	220KV-ARRAH (PG)-NAUBATPUR(BH)-2	PDMS ANS PSCT DONE	
15	OCC_APR_2022	BGCL	T/L	LILO of 400 KV PATNA- NABINAGAR(NPGC)-1 AT JAKKANPUR(BGCL)400KV-JAKKANPUR(BH)-PATNA-1)	PDMS ANS PSCT DONE	
16	OCC_APR_2022	BGCL	T/L	LILO of 400 KV PATNA -NABINAGAR(NPGC)-1 AT JAKKANPUR(BGCL) (400KV-NABINAGAR(NPGC)-JAKKANPUR(BH)-1	PDMS ANS PSCT DONE	
17	OCC_APR_2022	BGCL	T/L	LILO of 400 KV PATNA- NABINAGAR(NPGC)-2 AT JAKKANPUR(BGCL) (400KV-JAKKANPUR(BH)-PATNA-2)	PDMS ANS PSCT DONE	
10	18 OCC_APR_2022 BGCL T/L	D.C.C.	-CCI	LILO of 400 KV PATNA -NABINAGAR(NPGC)-2 AT JAKKANPUR(BGCL)	DDMC AND DCCT DONE	
10		(400KV-JAKKANPUR(BH)-PATNA-2) JAKKANPUR(BGCL)(400KV-NABINAGAR(NPGC)-JAKKANPUR(BH)-2)	PDMS ANS PSCT DONE			
19	OCC_MAY_2022	BGCL	T/L	220KV-ARRAH (PG)- NAUBATPUR(BH)-1	PDMS ANS PSCT DONE AT NAUBATPUR END	
	PMJTL					
SL NO	MONTH	UTILITY	ELEMENT	DETAILS OF ELEMENT	REMARKS	
1	OCC_AUGUST_2022	PMJTL	T/L	400 kV Subhashgram-New Jeerat Transmission Line-1	PDMS ANS PSCT DONE AT NEW JEERAT END	
2	OCC_AUGUST_2022	PMJTL	T/L	400 kV Subhashgram-New Jeerat Transmission Line-2	PDMS ANS PSCT DONE AT NEW JEERAT END	

SI	Name of the incidence	ne of the incidence PCC Recommendation			
NO.					
128 th PCC Meeting					
1.	Disturbance at 400 kV Lapanga (OPTCL) S/s and 400 kV OPGC S/s on 10.06.2023 at 17:27 Hrs	<ul> <li>PCC advised OPTCL following:</li> <li>to test auto-reclose and CB at Lapanga end for 400 kV Meramundali- Lapanga-1 the earliest.</li> <li>to test both main-1 &amp; main-2 relay at Lapanga end for Meramundali line.</li> <li>the carried aided tripping scheme of 400 kV Meramundali-Lapanga -2 at Lapanga end may be checked.</li> <li>to review O/C and DEF protection settings of ICTs at Lapanga end.</li> </ul>			
		PCC advised OPGC to review DEF settings and it need to be coordinated with Jharsuguda (Powergrid) as well as Lapanga end. OPGC was also to review SEF settings at unit 4. OPGC vide email dated 12 th Aug 2023 had shared proposed settings for neutral earth fault protection which is attached at <b>Annexure C.6.1</b> .			
2.	Total Power Failure at 220 kV Narendrapur (OPTCL) S/s and 220 kV Atri (OPTCL) S/s on 16.06.2023 at 10:40 Hrs.	<ul> <li>PCC advised OPTCL representative to test the relay at Therubali end for its healthiness.</li> <li>PCC advised to test the Overcurrent Protection at Therubali end as well.</li> <li>Further PCC recommended that two main protection (main-1 &amp; main-2) shall be implemented in 220 kV lines as per the CEA standard.</li> </ul>			
3.	Total Power failure at 220 kV Chandil (JUSNL) S/s on 10.06.2023 at 17:00 Hrs	PCC expressed serious concern in this regard and advised JUSNL to take appropriate measures for reporting and analysis of the grid events as per the IEGC. PCC further advised JUSNL to check healthiness of DC system earthing at Chandil S/s and to check the LBB			

4.	Disturbance at 400 kV Teesta III S/s and 400 kV Dikchu S/s on 28.06.2023 at 02:28 Hrs	<ul> <li>scheme as well as wiring in the relay. DR/EL configuration shall be done as per the guidelines of PCC.</li> <li>PCC recommended for replacement of electromechanical protection relay with numerical relay for both main 1 and main 2 protection.</li> <li>After detailed deliberation, the following was decided;</li> <li>Dikchu HEP to coordinate relay time settings of 400/132 kV ICT with IDMT time settings of line in consultation with ERPC/ERLDC so that in case of any fault in line, ICT and units should not trip before line.</li> <li>SUL to disable overcurrent protection in outgoing lines at Teesta-III end.</li> <li>PRDC to review settings for DEF relay in Sikkim complex with reduced pick-up settings of 300 A or any suitable value and the report need to be pubmitted before and point.</li> </ul>	
		meeting	
126th	PCC Meeting		
5.	Repeated Tripping of 400 kV Teesta III-Dikchu line	Teesta III representative informed that as per their internal discussion held after these incidents, proposed O/V settings(stage-2) is 125% with delay of 100 ms which will be implemented after confirmation from ERPC/ERLDC. He further intimated that distance protection settings had also been also reviewed and proposed settings will be shared to ERPC/ERLDC shortly.	Teesta III representative informed that O/V settings( stage-2) for unit is 120% with delay of 100 ms and OEM is not allowing to increase settings further so implementation of proposed O/V settings of 125% for line is not possible due to coordination issue of settings with unit. PCC advised Teesta III to implement O/V settings(

			stage-2) for line to 120% with delay of 100 ms.
125 th	PCC Meeting		
6.	Repeated Line tripping of 220 kV Ramchandrapur - Joda in April 2023	Regarding status of commissioning of DTPC in the line, PCC advised the matter may be taken with their telecom wing for early commissioning of the same.	JUSNL representative informed that work order for commissioning of DTPC in the line will be issued shortly and it is expected that work will be completed by July 2023.

#### Short circuit study for Single line to earth fault



Neutral Earth fault setting of Line feeder based on fault contribution to remote end SLG fault case

1 OPGC Lapanga Feeder

Maximum fault current contribution by OPGC feeder is 5.63 KA for SLG fault at Lapanga Bus TMS of Neutral earth fault setting should be selected such that operating time will be more then Zone-3 time + 100ms PMS =0.1 Operating time 1.1 sec Operating Charactersitic -SI Fault current = 5.63 KA

Calculated TMS =0.5424

2 OPGC Sundergarh Feeder

Maximum fault current contribution by OPGC feeder is 4.8 KA for SLG fault at Sundergarh PGCIL Bus TMS of Neutral earth fault setting should be selected such that operating time will be more then Zone-3 time + 100ms PMS =0.1 Operating time 1.1 sec Operating Charactersitic -SI Fault current = 4.80 KA Calculated TMS = 0.5157

3 Lapanga OPGC Feeder

Maximum fault current contribution by Lapanga feeder is 7.26 KA for SLG fault at OPGC Bus TMS of Neutral earth fault setting should be selected such that operating time will be more then Zone-3 time + 100ms PMS =0.1 Operating time 1.1 sec Operating Charactersitic -SI Fault current = 7.26 KA Calculated TMS = 0.5854

4 Sundergarh PGCIL OPGC Feeder

Maximum fault current contribution by OPGC feeder is 7.21 KA for SLG fault at OPGC Bus TMS of Neutral earth fault setting should be selected such that operating time will be more then Zone-3 time + 100ms PMS =0.1 Operating time 1.1 sec Operating Characteristic -SI Fault current = 7.21 KA Calculated TMS = 0.5841

Present Setting	PMS	TMS	Curve	CTR	
OPGC Lapanga feeder	0.2	0.25	SI	2000/1	
OPGC PGCIL feeder	0.2	0.25	SI	2000/1	
PGCIL End	0.1	0.51	SI	2000/1	
Lapanga End	0.2	0.38	SI	2000/1	
GT Standby EF	0.1	7	Def	1250/1	
Proposed Setting	PMS	TMS	Curve	CTR	
OPGC Lapanga feeder	0.1	0.54	SI	2000/1	
OPGC PGCIL feeder	0.1	0.51	SI	2000/1	
PGCIL End	0.1	0.58	SI	2000/1	
Lapanga End	0.1	0.58	SI	2000/1	