



AGENDA FOR 200th OCC MEETING

Date: 24.02.2023
Eastern Regional Power Committee
14, Golf Club Road, Tollygunge
Kolkata: 700033

EASTERN REGIONAL POWER COMMITTEE

AGENDA FOR 200TH OCC MEETING TO BE HELD ON 24.02.2023 (FRIDAY) AT 10:30 HRS

PART – A

ITEM NO. A.1: Confirmation of Minutes of 199th OCC Meeting held on 20th January 2023 through MS Teams online platform.

The minutes of 199th Operation Coordination sub-Committee meeting held on 20.01.2023 was circulated vide letter dated 20.02.2023.

Members may confirm the minutes of 199th OCC meeting.

PART B: ITEMS FOR DISCUSSION

ITEM NO. B.1: Summer Preparedness for Power System.

As the summer season approaches, the country is preparing for a surge in electricity demand due to the increased usage of air conditioning, fans, and other cooling devices. This is especially true in areas like Eastern Region with hot and humid climates, where electricity demand typically peaks during the summer months. The high electricity demand during summer can put a strain on power grids and may lead to power outages or brownouts if the supply is unable to keep up with demand.

To ensure that adequate power generation and transmission/distribution infrastructure is in place to meet the expected demand and minimize the risk of service disruptions, the following needs to be taken up by different utilities.

Resource Adequacy:

- All SLDCs and DISCOMs to Conduct a detailed analysis of projected demand and ensure resource adequacy to meet the demand.
- Prepare contingency plans in case of an unexpected surge in demand.
- Assess the status of power plants and their expected availability during the summer months.

Voltage Issues:

- Analyze the voltage profiles of the power system during summer months and identify potential voltage issues.
- Ensure all Capacitor banks are healthy and in service during the need of the hour.
- Ensure timely switching of Reactors to avoid high voltage deviation.
- Develop contingency plans to deal with any unexpected voltage issues.

Coal Reserves:

- All gencos to analyze the current coal reserves and ensure that they are sufficient to meet the increased demand during summer.
- Coordinate with coal mines and transport agencies to ensure timely delivery of coal.

Frequent Tripping of Identified Units:

- Identify the units that have a history of frequent tripping during the summer months.
- Develop contingency plans to deal with any unexpected tripping.

Line Tripping:

- All Transco to Identify the critical transmission lines that are prone to tripping during summer months.
- Conduct maintenance activities and upgrade the infrastructure to ensure the reliability of these lines.
- SLDCs to develop contingency plans to deal with any unexpected tripping of highly loaded lines.

Grid discipline and defence plan:

- Ensure deviation remains within the allowable limit
- Ensure the healthiness of UFR
- Ensure the healthiness of ADMS and early commissioning of same in Bihar
- Grid discipline and defence plan:

Prepare for Nor 'westers and Unit RSD

- Develop a contingency plan to address potential damage caused by Nor 'westers, keeping ERS ready to ensure minimum outage of transmission lines.
- During Nor 'westers demand falls sharply and it also recovers rapidly thus Implementation of proper Unit RSD strategy to ensure adequate power supply reserves are available during periods of high demand.

Members may discuss.

ITEM NO. B.2: Shifting of 132 KV Barhi-Rajgir & 132 KV Barhi-Nalanda transmission line from the premises of "Mahabodhi Cultural Centre, Bodhgaya".

- As per online meeting held on dated 09/01/2023 under the chairmanship of Member Secretary/ ERPC, the representative from DVC has agreed & given consent for diversion along with immediate dismantling of tower at loc no 227,228 & 229 from the premises of Mahabodhi Cultural Centre, Bodhgaya subject to submission of supervision charges.
- Supervision charges in this regard of Amounting Rs 2,90,59,884/-(Rupees Two Crore Ninety Lac Fifty Nine Thousand Eight Hundred Eighty four) only exclusive of Income TDS & GST TDS (10%) has been deposited to DVC & same has been informed to DVC vide Letter No 158 dated 03/02/2023 of Chief Engineer Project 2, BSPTCL(**Annexure-B.2**).
- Considering the international importance of Mahabodhi Cultural Centre & Safety of national/International tourists visiting the place en-masse, M/s DVC was requested for allowing immediate dismantling of three towers by MD, BSPTCL vide Letter No 217 dated 15/02/2023 in view of safety of people used to gather at this convention centre at Bodhgaya (**Annexure-B.2**)
- In view of safety of people in order to avoid any unfortunate incident of electrocution, M/s DVC may kindly be instructed for allowing immediate dismantling of tower at loc no 227,228 & 229 from the premises of Mahabodhi Cultural Centre, Bodhgaya without any prior condition for safeguarding human lives from any unfortunate electrocution.

Bihar may update. Members may discuss.

ITEM NO. B.3: Integration of VSAT Communication technology with AMR system.

Necessity of VSAT: Currently GPRS technology is used to retrieve data from locations inaccessible by fiber optic network. This is outdated and dependent on public IP for data transfer. In order to minimize risk of data intrusion and also increase reliability of data transfer VSAT technology is proposed. As per CEA/CERC guideline, IT and OT network should be completely isolated so removal of GPRS communication over public IP will ensure compliance.

POC Details: POC was conducted from 18th to 25th Jan'23 with Subhashgram PG as central hub and Rajarhat PG as remote SS. Activities performed during POC:

- 1.) Installation of VSAT hardware (Antenna with base, BUC and LNB units)
- 2.) Connect with VSAT modem (connected to DCU)
- 3.) Data was transmitted from Rajarhat PG and received at Subhashgram PG using VSAT network. Further the data was routed to existing PGCIL LAN network and sent to existing AMR servers.



Vsat Location Table:

Central

Hub:

PGCIL-Subhasgram

S.No	Utility	Vsat Count	Sub Stations (with vsat count)	
1	IPP	7	ADHUNIK(APNRL)	2
			CHUZACHEN(CZN)	1
			JITPL(Jindal)	1
			STERLITE(SEL)	2
			IND-BARATH(IBR)	1
2	DVC	1	TISCO(TIS)	1

3	GRIDCO	4	BALASORE(BLS)	1	
			BANGRIPOSHI	1	
			GMR(GMR)	1	
			JINDAL(JIN)	1	
4	JHARKHAND	8	DALTONGANJ	1	
			DEOGARH(DEO)	1	
			GARWA(GAR)	1	
			JAMTARA(JMT)	1	
			JAPLA(JAP)	1	
			KENDOPOS(KEN)	1	
			NAGARUNTARI	1	
			PATRATU(PTJ)	1	
5	NTPC	3	NABINAGAR	1	
			TALCHER SOLAR(TLS)	2	
6	SIKKIM	3	DIKCHU	2	
			RAVANGLA(RAV)	1	

Actual VSAT Count is 26 sharing one central hub.

Note: Here 4 locations (Adhunik, Sterlite, Solar TLS, Dikchu) require multiple VSAT setup as distance between DCUs are significantly more and cannot be connected to a single VSAT unit.

Timeline:

From date of placing order, 6 months for installation, 1 year warranty and 2 years AMC

VSAT Cost (tentative):

Item	Unit Price	Qty	Total Price
Site survey	9223	26	239798
VSAT HW Supply with 512 kbps bandwidth	449533	26	11687858
Inst Service	82205	26	2137330
2 years AMC, after installation and 1yr warranty	204488	26	5316688

Total Cost (without Tax): 1,93,81,674

Unit Cost / location for VSAT Implementation: 7,45,449

Utility wise VSAT cost breakup:

Utility	Vsat Count	Unit price	Price	Price Including POWERGRID O/H Charges @15%
IPP	7	745449	5218143	6000864/-
DVC	1	745449	745449	857266/-
GRIDCO	4	745449	2981796	3429065/-
JHARKHAND	8	745449	5963592	6858130/-
NTPC	3	745449	2236347	2571799/-
SIKKIM	3	745449	2236347	2571799/-

Tentative projection of timeline:



Terms & Conditions

1. Respective SS must provide basic infrastructure facilities & site readiness for VSAT I&C. VSAT antenna will be installed on rooftop and needs clear line of sight towards south south-east (155 degrees) for proper communication.
2. Civil works like flattening the surface, Platform creation at rooftop will be under SS scope of work.
3. Earthing for power source of VSAT electronics and VSAT Antenna (2 separate pits for Antenna) will be under Respective SS scope of work.
4. Respective SS would be responsible to arrange 230 V AC power, all earthing, Lightening arrestor, at every site.
5. Bandwidth proposed is on ExC band with double hop solution.
6. The complete network is in CUG network and will not be provided or can be accessed via Internet.
7. The complete network will be provided with a Private IP segment for each site in different subnet.
8. BUC and LNB units are main components of VSAT and are of significant cost. Therefore, it will be the responsibility of respective SS to ensure its security.

Recommendation / Cost Recovery Mechanism: -

1. Total cost including POWERGRID O/H charges are given in details, and billing will be done against individual entity (One time billing/NON-POC Billing).
2. Final rate shall be decided only after due negotiation with TCS & after placement of LOA to M/S.TCS on Single Tender basis.

Members may discuss please.

ITEM NO. B.4: Time extension for “AMR data center hardware and software application refreshment”

Regarding project for “AMR data center hardware and software application refreshment” which was approved in 191st OCC meeting and accordingly LOA placed to M/S TCS on 24th June’2022. The scope includes procurement and installation of Windows Servers, Network components and development of new AMR application.

As per the LOA timeline given, the above-mentioned scope was supposed to be completed by 23rd March’2023.

Due to recent unrest between Ukraine and Russia there has been a significant delay in hardware shipment globally. Unfortunately, this has impacted delivery of hardware as well as software licenses. The Microsoft licensed software delivery chain has been disrupted for several of their customers in various locations all over the world including TCS. This is completely beyond control of both TCS & POWERGRID as global effects influenced the delay.

Part of hardware supply has been completed so far. Also, one round of demonstration of new AMR application has been shown to PGCIL and ERLDC. Post the demonstration some new requirements were asked of M/S TCS which their development team has been working on.

Considering the above situation, it is requested for an extension of 3 months to complete the total scope of work as per the LOA to M/S, TCS. It is hereby requested to OCC committee to allow 3 months’ time extension i.e till 30th June’2023, without any imposition of LD.

Members may please discuss.

ITEM NO. B.5: Issue in replacement of B-type L&T meters in Eastern Region.

It was decided in 47th TCC & ERPC meeting that the time drifted L&T meters need to be replaced. The L&T make meters are of basically two types. i.e., A-type (1 amp) & B-type (5 amp) (Based on CT secondary current rating). In Eastern region, a total of 14 B-Type L&T meters need to be replaced. The existing spare meter stock in Eastern -region are of A - type (1 amp) meters.

Accordingly, forum may discuss the modality of replacement of B-Type meters. The list of B-Type meters is mentioned below

Sl. No.	Feeder Name	Meter Number
1	415 V SIDE OF 11/0.415 PUSAULI(PG) 63 KVA (ST LIGHT) T/F -1	NP-6016-B
2	132 KV SONENAGAR (BSPHCL)- JAPLA (JSEB)	NP-6015-B
3	132 KV KARMANASHA(BSPHCL) - CHANDAULI (UPSEB)	NP-6017-B
4	132 KV KARMANASHA(BSPHCL) - SAHUPURI(UPSEB)	NP-6018-B
5	132 KV SONENAGAR(BSPHCL) - NAGARUNTARI(JSEB)	NP-6013-B
6	132 KV PATRATU (JSEB) - PATRATU (DVC) -2	NP-6005-B
7	132 KV PATRATU (JSEB) - PATRATU (DVC) -1	NP-8610-B
8	132 KV PATRATU (JSEB)-RAMGARH (DVC)-TR.BUS	NP-6003-B
9	132 KV DEOGARH (JSEB) - SULTANGANJ (BSPHCL)[OLD BAY]	NP-6048-B

10	132 KV BARHI (DVC) - RAJGIR/BIHARSHARIFF (BSPHCL)	NP-6007-B
11	132 KV PATRATU (DVC)-PATRATU(JSEB)-1&2(SUM)	NP-6006-B
12	132 KV MANIQUE (DVC) - CHANDIL (JSEB)	NP-6011-B
13	132 KV MAITHON (DVC) - JAMTARA (JSEB)	NP-8092-B
14	132 KV KOLAGHAT(DVC) - KOLAGHAT (WBSETCL)	NP-6558-B

Members may discuss.

ITEM NO. B.6: Man-day rates to be charged to various utilities for installation of Interface Energy Meters by Powergrid on behalf of CTUIL.

This is in reference to the agreement signed between CTUIL and Powergrid on 09.02.2022 for Powergrid services to carry out the procurement and installation of IEMs and accessories on behalf of CTUIL. The relevant office order is attached at **Annexure-B.6.**

ITEM NO. B.7: Mismatch in respect of MVAR flow-Agenda by SLDC WB

Severe mismatch in respect of MVAR flow is observed between two circuits (circuit 1 and circuit 2) of same length, using the same conductor i.r.o 400 kV Sagardighi-Parulia and in case of 400 kV Bidhannagar-Parulia at Parulia (PG) end. As huge sum of money the state is paying as penalty amount for injection of MVAR at Parulia point, so in case of any inaccuracy of metering, matter needs to be addressed within shortest possible time. Power Grid, ERPC are getting the same mismatch every week while going through the billing process.

Members may discuss.

ITEM NO. B.8: Implementation of Secondary Reserve Ancillary Service (SRAS)/AGC.

In the Ancillary services regulation 2022, issued by Central Electricity Regulatory Commission emphasis has been given on increasing the ambit of reserves in Indian power system by enabling the participation of state entities in the form of SRAS. Same is articulated in DSM regulation dt. 06th February 2023

Clause no. 19 of said regulation says:

Quote "There is an urgent need for the system operator to estimate and procure adequate reserves and deploy them prudently, so as to avoid frequency fluctuations. System operators need to take all possible measures to enlarge the canvas of SRAS and RRAS/TRAS providers by enabling participation of State entities through necessary procedures. New and innovative technologies like energy storage systems and resources like aggregated demand response need be encouraged further for participation in SRAS and RRAS/TRAS. "Unquote.

Enabling SRAS /AGC within Intra state generators will result into automatic reduction of deviation based on the margin available at Intra state generators by connecting them with necessary infrastructure of AGC at SLDC. This will help in reducing the deviation charges and maintaining the grid discipline. This can be adopted by taking up with SERC for issuing order for intra state AGC - clarifying despatch, accounting, and settlement procedure.

Intra State generators can also get connected directly with NLDC and participate in SRAS by following the CERC Regulations after receiving NOC from SLDC. Generators will get incentive for both SRAS UP/Down. This will result into regional Area control error (ACE) minimization and frequency control.

ERLDC has made feasibility report for connecting intra state generators of West Bengal under AGC scheme.

Hence all Intra-state generators and State utilities are requested to explore the possibility of getting connected under the SRAS scheme as mentioned above, which will increase the reserve margin in the grid enabling the better system operation and tight frequency control.

ITEM NO. B.9: Preventive maintenance of line corridors to avoid repeated tripping of EHV lines.

With onset of summer, preventive maintenance of RoW corridors of all lines maybe taken up as a pre-emptive measure to avoid repeated tripping. A list of repeated tripping occurred last year is as below:

Sl No	Name of the element	Utility
1	132 kV Banka-Sultanganj D/c	BSPTCL
2	132 kV Deoghar-Sultanganj	BSPTCL/JUSNL
3	132 kV Kahalgaon (BSPTCL)-Lalmatia	BSPTCL/JUSNL
4	132 kV KhSTPP-Sabour	BSPTCL
5	132 kV Lakhisarai-Lakhisarai D/c	BSPTCL
6	132 kV Rihand-nagaruntari-Garhwa	BSPTCL/JUSNL
7	132 kV Sitamarhi-Runnisaidpur D/c	BSPTCL
8	132 kV Sonnagar-Nagaruntari	BSPTCL/JUSNL
9	220 kV Budhipadar-Korba D/c	OPTCL
10	220 kV Budhipadar-Raigarh	OPTCL
11	220 kV Daltonganj-Chatra D/c	JUSNL
12	220 kV Daltonganj-Garhwa D/c	JUSNL
13	220 kV Joda-Ramchandrapur	JUSNL/OPTCL
14	220 kV New Purnea-Khagaria D/c	BSPTCL
15	220 kV Tenughat-Biharsharif	BSPTCL/JUSNL
16	400 kV Koderma-Bokaro D/c	POWERGRID
17	400 kV Lapanga-OPGC D/c	OPTCL
18	400 kV Meramundali-Lapanga D/c	OPTCL
19	400 kV Meramundali-Mendhasal D/c	OPTCL
20	400 kV New PPSP-Arambag	WBSETCL
21	400 kV PPSP-Bidhannagar D/c	WBSETCL
22	400 kV TSTPP-Meramundali D/c	OPTCL

Utilities may update and discuss.

ITEM NO. B.10: Agenda by GRIDCO.

On dated 07.02.2023, Hon'ble Commission has published the CERC (Sharing of Inter-State Transmission Charges and Losses) (First Amendment) Regulations, 2023. Prior to this CERC (Connectivity and General Network Access to Inter-State Transmission System) Regulations, 2022 was published on 07.06.2022 which is implemented partly with effect from 15.10.2022. However, there is no clarity on the determination of Transmission Charges of DICs. In this context, GRIDCO

seeks for clarity on the following issues:

1. The Deemed GNA of all the States and other Entities has been provided in Annexure-I of GNA Regulations, 2022. Accordingly, the deemed GNA of Odisha State is 2157 MW. Further as per Clause 18 (e), SLDC has segregated the deemed GNA for each intra-state Entities. GRIDCO 1709 MW, Vedanta 390 MW, RSP 15 MW are major Intra State Entities. Total 36 Entities have been identified by SLDC and this has been intimated to CTU, NLDC and STU(OPTCL). This implies that the Transmission Charges of GRIDCO shall be determined basing on GNA quantum of 1709 MW. But whether the Bill #1 of GRIDCO & other intra-state entities of Odisha shall be computed individually or the Bill #1 of the State shall be apportioned among these entities including GRIDCO. This needs to be clarified.
2. The SoR to Sharing Regulation 2023 and SoR to GNA Regulations 2022 has not been uploaded by CERC in their Website.
3. The Deemed GNA has been calculated basing on the drawal figures for the three years, i.e., 2018-19, 2019-20 and 2020-21. How the LTA or GNA granted to a DIC after 2020-21 shall be dealt with, needs to be clarified.
4. How the Transmission Deviation of the State or the Intra-state entities shall be accounted for, whether individually or on apportionment basis.
5. Similarly, how the AC-UBC component shall be determined, whether individually or on apportionment basis, needs to be clarified.
6. Methodology of segregation of GNA and GNA_{RE} of a State is not available in the Regulations.

In view of the above it is proposed to conduct a workshop at ERPC level so that all the constituents can get a clarification on different issues prior to the implementation of these Regulations.

ITEM NO. B.11: Expansion of Telecom networks by utilizing Energy infrastructure and enhancing ease of doing business for the telecom sector.

1. India is the second largest and the fastest growing mobile telecom market in the world. This will expand further with the advent of 5G which will promulgate a range of new consumer, societal and industrial use cases.
2. It is acknowledged through platforms like FOIR1, that collaboration between the Power and Telecom Sectors can be mutually beneficial. This can help in achieving rapid network expansion, bring down deployment & maintenance costs and result in delivery of a common infrastructure backbone to achieve various objectives under Digital India viz. education, health, smart agriculture, small/ medium/ large-scale manufacturing and smart cities.
3. In light of the above, COAI and its members request the Ministry of Power to take cognizance of the following issues and recommendations to promote cross-sector collaboration and Ease of Doing Business for the Telecom sector:

A. Utilizing Power Sector infrastructure for Telecom Network Expansion

- i. The laying Optical Fibre Cable (OFC) has received a push through PM Gati Shakti.
- ii. However, there is inconsistency in execution across states due to which the Telecom Sector is not able to fully utilize power-sector assets. The following recommendations may be considered:
 - a. State Governments may align with Central & State Distribution Companies and Discoms for prioritizing deployment of OPGW fibre along electrical distribution routes.

- b. Since the power infrastructure is a public asset, most of the dark fibre capacity should be allocated for the purpose of public telecommunications.
- c. For Greenfield power infra deployments, Telecom companies should be consulted in advance so that present and future requirements are catered for, such as specialized ducting for telecom use with ability to enhance capacity over time.
- d. HT/LT towers can be used for laying telecom infrastructure, OFC cables and radio equipment. This can help increase mobile coverage density in small towns and rural areas.
- e. Telecom companies and Discoms can mutually agree on RoW requirement, permissions and O&M.
- f. In Aug'22, the Department of Telecom released an amendment to the Indian Telegraph Right of Way (RoW) Rules, 2016 which standardizes the fee and procedure for deployment of telecom equipment, small cells and fibre using street furniture. It is requested that the Ministry of Power may kindly issue specific direction to all SERCs and Discoms so that mapping, allocation and commercial arrangements with Telecom companies are expedited.

B. Enhancing Ease of Doing Business for the Telecom Sector

- i. The Telecom Sector is a significant consumer of energy, maintains a good track record of timely payments to Discoms and contributes to overall grid stability since telecom networks run 24x7 with 99.95% uptime requirement.
- ii. Given that reliable energy is critical for the country's digital infrastructure, it is important that specific initiatives are taken to enhance the Ease of Doing Business for telecom service providers:
 - a. Discoms may consolidate individual meters installed in towers to a single customer ID of an operator. This will provide a One Discom-One Bill-One Payment solution for the Telecom industry and will help in tracking and clearing payment of multiple tower locations.
 - b. The payment cycle under the above approach may also be harmonized across all tower locations so that a single-shot payment can be released.
 - c. Telecom operators maintain advance lump-sum deposits with Discoms thereby securitizing their dues. Discoms should not take ad-hoc action of disconnecting tower sites due to billing dispute, unrecorded meter, payment delays, etc. since it causes a major disruption of an essential service. A standardized system of escalation should be adopted in such cases, with disconnection as a last resort.
 - d. As the telecom sector expands its network in rural areas, power connections for new tower sites should be provided on a priority basis.
- 4. The above recommendations are of prime importance for the telecom industry since they have a direct impact on network deployments and sustaining digitization at Antodaya level.
- 5. We request the support of the Ministry to resolve the above issues with State Department, Regulators and Discoms. COAI and its members are available to hold joint consultations with all relevant stakeholders so that the issues are resolved urgently.

Members may discuss.

ITEM NO. B.12: Follow up Agenda

SL No	Issue/Agenda	Discussion in last OCC Meetings	Update/Status
1.	<p><u>Continuous s/d of 400 KV D/C Binaguri-Kishanganj TL (Ckt-1 & Ckt-2) and 400kV D/C Kishanganj-New Purnea TL (Ckt-1 & Ckt-2) for Carrying out Diversion of Loc No.-09(Anchor Tower-1) vulnerable due to Mahananda River Course Change near to Kishanganj S/s</u></p> <p>1. 400kV Binaguri-New Purnea TL (POWERLINK Line) LILO at Kishanganj (LILO Portion belongs to POWERGRID) Loc No.-09 (Anchor-1 Tower) have got vulnerable due to change in course of River Mahananda. The location is situated in the left bank of River Mahananda. The Location is 400kV Multi-circuit tower QD+9. Presently, the location is 65 mtr from the river bank. During last season monsoon heavy soil erosion has been observed from the river bank. Last year the location was saved by construction of boulder sausage protection wall but the Boulder sausage walls and two no. boulder spur provided got collapsed and badly damaged.</p> <p>2. Considering the vulnerability of the tower, as a permanent measure we are shifting the Anchor-1 Tower on Pile Foundation. Presently Pile Foundation work is U/P. Photos showing the condition of location and its present status is enclosed.</p> <p>3. However, after completion of pile, during tower erection (Top part and X-arm fixing) & stringing work we require continuous S/D of 400kV D/C Binaguri-Purnea LILO @ Kishanganj [400kV D/C Binaguri-Kishanganj TL(Ckt-1 & Ckt-2) and 400kV D/C Kishanganj-New Purnea TL (Ckt-1 & Ckt-2) for 21 days(3 weeks) tentatively wef 1st week of Feb-23 to End of Feb-23.</p>	<p>In 199th OCC Meeting, Powergrid representative submitted that they are facing several issues due to extreme foggy weather conditions. The tower erection work is expected to be completed by 26th January 2023. Shutdown for stringing activities would be taken from 1st February 2023 and would be completed by 15th February 2023.</p>	

2.	<p><u>Continuous Continuous S/D of 220kV D/C Siliguri-Kishanganj TL(Ckt-1 & Ckt-2) and 220kV D/C Dalkhola-Kishanganj TL (Ckt-1 & Ckt-2) for carrying out Diversion of tower location no.-29 of 20kV D/C Dalkhola - Kishanganj TL & Loc No.-30 of 220kV D/C Siliguri-Kishanganj TL vulnerable due to bank erosion on Mahananda River</u></p> <p>1. Location no.-29 of 220kV D/C Dalkhola-Kishanganj TL & Loc No.-30 of 220kV D/C Siliguri-Kishanganj TL have become vulnerable due to change in course of River Mahananda. The location is situated on the left bank of River Mahananda (Main channel). Further, after this season monsoon a secondary channel (approximately 20-30 m wide) have also been formed such that location no.-29 of 220kV D/C Dalkhola-Kishanganj TL & Loc No.-30 of 220kV D/C Siliguri-Kishanganj TL are now coming in-between the main river and new formed channel. Presently, location no.-29 & 30 are 30 mtr away from the main river bank and approx. 10 mtr away from secondary channel. During last season monsoon heavy soil erosion has been observed from the main river bank as well as newly developed channel.</p> <p>2. Last year the locations were somehow saved by temporary protection wall with sand bags and bamboo piling.</p> <p>3. However, considering the last year trend and present site condition, it has been felt prudent to shift the affected 2 Double Ckt towers on a single Multi-ckt Pile Foundation.</p> <p>4. However, during construction of Pile and during tower erection (Top part and X-arm fixing) & stringing work we require continuous S/D of 220kV D/C Siliguri-Kishanganj TL (Ckt-1 & Ckt-2) and 220kV D/C Dalkhola-Kishanganj TL (Ckt-1 & Ckt-2) for 14 days (2 weeks) tentatively w.e.f. 2nd week of Mar-23 to End of Mar-23.</p>	<p>In the 199th OCC meeting, Powergrid representative submitted that foundation work of 2 legs have already been completed and foundation work of remaining two legs would be completed by 23rd January 2023.</p> <p>The erection works are expected to start around 10th February 2023 after curing of foundation works. The line is expected to be restored by the end of 1st week of March 2023.</p>	
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3.	<p><u>Need Basis (ODB) Shut Down of 400 KV D/C Kishanganj-New Purnea TL (Ckt-1 & Ckt-2) for Carrying out Diversion of Loc No.-340(DD+0) & 366(DC+0) vulnerable due to Mahananda River & Parman River Course Change</u></p>	<p>In 199th OCC Meeting, Powerlinks representative delivered a brief presentation stating the situation & Plan for construction of Pile foundations at tower no 340 & 366 of the said line & desired the Outage on Need Basis as per following details:</p> <ol style="list-style-type: none"> 1. As & when required s/d of 400 KV D/C Kishanganj-New Purnea TL (Ckt-1 & Ckt-2) would be required for carrying out diversion of Loc No.-340 (DD+0) & Loc no 366(DC+0) 2. The said locations have become vulnerable due to change in course of river Mahananda & Parman near to Baisi-Purnea Bihar. 3. The s/d would be required tentatively from 1st week of Feb-23 to 28th Feb'23 on need basis ODB for 16 days approx. The period has been chosen as during this period Hydro generation would be minimum & Pre-monsoon dry weather. 4. Presently Survey work has been completed & after getting approval from Powerlinks BOD & other clearances, PO for pile foundation work has been placed & gangs for the same have been Mobilized and during the Pile Boring & Steel Reinforcement lowering, S/d would be required. 5. After Completion of Pile foundation during Feb'23, Agenda for Tower Erection & Stringing work will be submitted, in 200th OCC. 	
4.	<p><u>132 KV GIS Commissioning planning and shutdown requirement for Malda S/s</u></p>	<p>In the 199th OCC meeting, Powergrid representative submitted that the work would be completed by 15th February</p>	

	<p>As per ERSS-XXII, complete AIS portion of 132 KV system at Malda S/S will be converted to 132 KV GIS along with provision of additional 02 No's 132 KV Line Feeder (Malda-Manikchak-D/C). Earlier in October-2022 a detail work plan submitted considering phase wise segregation of ICT/Feeders such that GIS erection work and Feeders, both are in service and with calculated risk proportion the work could be completed.</p> <p>However, during actual execution it is observed that while going for erection in between Section-I & II, both section required S/D and only one feeder and one ICT (Namely ICT-4) will be in service.</p>	2023.	
5.	<p><u>De-stringing of overhead conductor in Power Line Crossing span of 220kV D/C Farakka-Lamatia Line in between span (Location No.-5 & Location No.-6) by JUSNL in order to protect underlying 400 kV S/C Farakka Sagardighi I & II TL (Loc No.- 3 & 4) of POWERGRID due to severe/repetitive theft incidents by miscreants near to Farakka Plant</u></p> <p>220kV Farakka-Lalmatia TL is under break-down condition due to tower collapse incidents since 21.04.2021. Since the line is under off condition for long, at several locations of the said line near to Farakka serious tower member theft/conductor theft incidents are occurring.</p> <p>During patrolling of 400 kV S/C Farakka Sagardighi I & II TL on dated 07.11.2022, huge no. of missing members has been observed in the Powerline crossing towers of 220 KV Farakka Lalmatia TL (owned by JUSNL) situated in village: Jorpukuria, Farakka crossing over Loc 03 & 04 of both 400 kV S/C Farakka Sagardighi I & II TL of POWERGRID.</p> <p>Considering the fact that any incident of collapse of towers of the mentioned</p>	<p>In the 199th OCC meeting, JUSNL representative submitted that the proposal for de-stringing of the portion of line between the tower location 5 & 6 was not approved by the higher authorities rather the watch and ward activities would be increased at these locations. Further, the work would be awarded in the month of February 2023.</p> <p>OCC advised JUSNL to deploy manpower for watch & ward activities at tower locations, subjected to theft, at the earliest.</p>	

	<p>crossing towers of Farakka Lalmatia line shall damage our existing 400 kV Farakka Sagardighi TL which is already more than 35 years old. Earlier also, an incident of Tower collapse of 220 kV Farakka Lalmatia line over POWERGRID 400 kV S/C Farakka Durgapur 1 & 2 TL had occurred in the year 2020 which had severely damaged the 400 kV S/C Farakka Durgapur 1 & 2 lines. Restoration of the lines were carried out under extreme ROW situations.</p> <p>Considering the seriousness of the issue JUSNL was requested to rectify the towers Loc No.-5 & 6 of 220kV Farakka-Lamatia Line on urgent basis. Vide mail dated 08.12.2022, JUSNL have informed that they have rectified the affected towers but considering the area being severe theft prone they will not able to save the towers in near future.</p> <p>In view of above considering the seriousness/repetitive theft incidents in towers near to Farakka Plant, M/s JUSNL is requested to remove the conductors in between Span Loc No.-5 & 6 of 220kV D/C Farakka-Lalmatia so that underlying POWERGRID lines 400kV Farakka-Sagardighi-I & II may be protected.</p>		
6.	<p><u>Islanding Schemes in Eastern Region</u></p> <p><u>6.1. Patna Islanding Scheme:</u> In the meeting held on 28th December 2020 and chaired by the Hon'ble Minister of State (IC) it was directed that islanding schemes should be implemented for all major cities of the country considering all the strategic and essential loads. Subsequently, in line with the direction given in the meeting, the subject matter was discussed in PCC meeting of ERPC, and it was finalized that new islanding scheme would be implemented for capital city of Patna & Ranchi.</p>	<p>In the 198th OCC Meeting, NTPC representative submitted that they had contacted with IIT Delhi, IIT BHU and IIT Bombay. Response has been received from IIT BHU and they are planning to schedule a meeting including all concerned stake holders.</p>	-

	<p><u>6.2. Chandrapura Islanding Scheme:</u></p> <p>The scheme detail in brief is as follows:</p> <ul style="list-style-type: none"> ➤ The CTPS-B islanding scheme is to be designed with two units of CTPS-B (2x250 MW) generating station as participating generator and connected loads at CTPS, Putki, Biada, Nimiaghata & Patherdih. The estimated off-peak and peak load in the proposed islanding system is 280 MW & 420 MW respectively. ➤ The islanding frequency for CTPS-B islanding system was decided as 48.4 Hz. 	<p>In the 196th OCC meeting, DVC representative submitted that the work is expected to be completed as per the given timeline.</p>	-
	<p><u>6.3. IB-TPS Islanding Scheme:</u></p> <p>The scheme was finalized in the special Meeting on Islanding Scheme of IB-TPS held at ERPC, Kolkata on 12th December 2018.</p> <p>In special meeting held on 06.08.2021, OPGC representative informed that work order had been placed on OEM (M/s BHEL) for implementation of the Islanding scheme at IB TPS units.</p> <p>OPGC was also advised to take up the issue with their highest authority as well as with the OEM for expediting the implementation of islanding scheme.</p>	<p>In the 197th OCC meeting, OPGC representative was not present during the discussion.</p> <p>OPTCL representative submitted that the details would be shared shortly.</p> <p>Representative of OPGC informed that during AOH in the month of March'2023 if the turbine vibration issue gets resolved then they would go ahead with the testing.</p>	-
7.	<p><u>Reliable Power Supply to Lalmatia/Godda/Dumka areas of JUSNL</u></p> <p><u>7.1. Restoration of 220kV Farraka-Lalmatia S/C line</u></p> <p>The 220 kV Farakka-Lalmatia S/C was out of service since April 2021 due to tower collapse. The 220/132/33 kV Lalmatia substation is relying on only 132 kV lines. At present the local load at 220 kV Dumka and Godda S/S were being radially fed from 400/220 kV Maithon S/S through 220 kV Maithon-Dumka D/C and 220 kV Dumka-Godda D/C.</p>	<p>In the 199th OCC meeting, JUSNL representative submitted that foundation works at 10 locations have already been completed and at remaining 3 locations are under progress.</p> <p>OCC advised JUSNL to submit the details of progress of work to ERPC at the earliest.</p>	

8.	<p style="text-align: center;"><u>Outage of Important Transmission System</u></p> <p><u>132kV Sagbari–Melli.</u></p> <p>Sikkim vide mail dated 09.06.2021 updated the following status:</p> <ol style="list-style-type: none"> 1) In loc 82,83 & 84 we have low ground clearance which need hill cutting but if needed TL can be charged after putting temporarily barbed wire fencing. 2) In loc 98-99 a house had been constructed just below the line and warning had been issued to the owner for not to do vertical extension of the house till any such arrangement is made. 3) In loc 116 &117 land owner demanding for intermediate tower and not allowing for us to clear the jungles. 4) Loc 128 is in dilapidated condition due to sinking effect posing threat to lives and properties. Local public are asking to shift the tower in safe place before restoration of supply in the TL. 5) 80% of jungle clearance has been completed and remaining 20% is in Forest area most of it is under west district and waiting for permission from Forest department. 6) The delay in obtaining permission for following trees in forest land is that it cannot be ascertained whether FCA clearance during construction of TL was obtained as the record is not available either in power department or in DFO Office. Regarding this it had been told by ERPC that once obtaining environment clearance at the time of construction there need not to take permission for further clearance of ROW from Forest dept and this matter is been conveyed to the Forest department but they informed us as per Forest Act of Sikkim state permission has to be obtained for fresh felling with payment of compensation. File for approval is being send to conservator of Forest from DFO on 10/6/2021. 	In In the 199 th OCC Meeting, Sikkim representative was not present during the discussion.	
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9.	<p><u>Status of North Karanpura NTPC Generating Station (3 X 660 MW) along with associated transmission elements.</u></p> <p>At the 188th OCC Meeting held on 10-03-2022, it was informed that the North Karanpura unit of NTPC is planned to be synchronized by March 2022 and the Patratu unit is scheduled to be commissioned in March 2024.</p> <p>All India's demand is increasing by leaps and bounds, and so does the Eastern Region's demand. The synchronization of North Karanpura will help a lot of all the beneficiaries, and Jharkhand in particular.</p> <p>Before synchronizing the North Karanpura unit, establishing ISTS connectivity is required. It seems the respective bays at Chandwa and North Karanpura owned by PGCIL and NTPC, respectively, are already ready to charge, but the lines owned by NKTL are not ready yet. As per communication with NKTL dated 09-09-2022, it was informed that the 400 kV North Karanpura (NTPC)-Chandwa (PGCIL) D/C is expected to be first time charged soon. The following status was received: the total scope was 115 towers. This line has had 100% of its foundation and erection activity completed, with 29 kilometres of stringing completed out of a total of 38 kilometres, leaving only nine kilometres to go. Owing to continuous rain and poor weather conditions, progress at the site is being impeded. NKTL is putting their best efforts against all odds and is targeting mechanical completion by September's end.</p> <p>Once ISTS connectivity is established, NTPC may provide an update on the drawal of start-up power for each unit and its duration. Further, after the unit synchronization, the infirm power injection duration and tentative date of COD may be updated. Furthermore, present drawing of start-up power and construction power from the DISCOM, as well as the status of all testing activities may also be updated.</p>	<p>In the 199th OCC meeting, NTPC representative submitted that the CoD of North Karanpura would be completed before 31st march 2023.</p> <p>NTPC representative submitted that issues pertaining to CHP and ash handling plant are still persisting and the CoD is expected to be completed before 31st March 2023.</p>	
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10.	<p><u>Ensuring N-1 reliability criteria at 400/220 KV Subhashgram (PG) S/s.</u></p> <p>The reliability issue of Subhashgram (PG) was discussed in the 46th TCC and ERPC meeting. In the meeting it was deliberated that there is an urgent requirement for installation of 6th 400/220kV, 500 MVA ICT at Subhashgram (Powergrid) S/s. On request of West Bengal, CESC agreed to bear the cost associated with the installation of the said ICT and its future maintenance. Further, CESC requested Powergrid to execute the project on deposit work basis. In the 194th OCC meeting, Powergrid representative submitted that decision in this regard would be taken by their corporate office and they would submit the details as and when it is received. ERLDC suggested Powergrid for applying requisition of shutdown regarding implementation of SPS scheme. However, no shutdown request has been received by ERLDC till date.</p>	<p>In the 199th OCC meeting, Powergrid representative submitted that the estimate has already been provided to CESC.</p> <p>CESC representative submitted that deliberations with Powergrid is under progress and approval would be given by the end of January 2023.</p>	
11.	<p><u>Integration of (Interface Energy Meter) IEMs into SCADA/EMS system for telemetry of meter data to SLDCs.</u></p> <p>The existing SEMs are having two communication ports, which can function independently for fetching the SEM data. The optical port is being used for fetching the weekly DSM data through Common Meter Reading Instrument (CMRI), for accounting purpose. The other RS 232 port available remains unused, the online real time data can be fetched from the existing SEM through the unused RS 232 port. This arrangement does not require additional meters or new communication facilities and therefore no additional cost is involved.</p>	<p>In the 198th OCC meeting, Powergrid representative submitted that they would submit the report by the end of February 2023</p>	-
12.	<p><u>Status of SAMAST, ABT implementation and certification of system operators in states.</u></p> <p>Implementation of SAMAST and ABT in all the states is a prerequisite for improving the reliability of grid considering</p>	<p>In the 199th OCC meeting, ERLDC representative submitted that physical meeting regarding status of SAMAST and ABT implementation is yet to be</p>	

the complexities involved in managing the large interconnected Indian grid. Further skilled, certified manpower is the key to operate the grid safely and securely. Various initiatives are being taken mutually by ERLDC and the states for successful implementation of the SAMAST/ABT in the states.

The status of SAMAST, ABT implementation and certification of system operator of various states of eastern region is given below:

Name of the state	Status of implementation of SAMAST	Number of Certified Operator
Bihar	Completed	4
Jharkhand		Nil
Odisha		11
DVC		Nil
West Bengal		2
Sikkim		1

hosted.

OCC advised ERLDC to schedule the meeting at the earliest.

13.

Erroneous reading in Rammam and Ravangla.

1. The meter sl. No. ER-1986-A at 132 KV RAMMAM (WBSETCL) - RANGIT (NHPC) at Rammam (WB) showing reverse polarity since the meter was replaced in Jun-22. Information was already intimated to the concern but the issue is not resolved.
2. The meter sl no ER-1983-A at 66 KV RAVANGLA (SIKKIM) - RANGIT (NHPC) at Ravangla (Sikkim) end is recording erroneous values with respect to the stand-by meter. This issue has been intimated to Sikkim vide mail dated 04.08.2022 but not resolved yet.

In the 199th OCC meeting, ERLDC representative submitted that West Bengal representatives went to the site but were not able to rectify the meters. Further, West Bengal was advised to seek for necessary help, by Powergrid, if required.

No update regarding the meter no ER-1983-A is available.

14.

Replacement of non-functioning/defective meters

In the 199th OCC meeting, it SLDC Bihar representative submitted that meters have already been taken from

	<p><u>Bihar</u></p> <p>The AMC vendor Ms TCS visited the Kahalgaon site to restore the AMR connectivity, but it was informed that the meter was not responding. Accordingly, the same was intimated to the concern to replace the meter.</p> <ol style="list-style-type: none"> 1. NP-6071-A 132 KV KAHALGAON(BSPHCL) - LALMATIA(JSEB) 2. NP-6076-A 132 KV KAHALGAON (BSPHCL) - KAHALGAON (NTPC) 	<p>Powergrid and would be installed before 25th January 2023.</p>	
15.	<p><u>Non-Receipt of SEM data from Various Locations</u></p> <p>It is difficult to validate the energy meter data due to absence of meter. some of the matters were discussed in previous OCC & ERLDC had intimated the same to respective concern via mail in reference to the agenda point but no such action has been taken till date.</p> <ol style="list-style-type: none"> a. There is no meter installed at SAGBARI for 132 KV RANGIT (NHPC) - SAGBARI (SIKKIM) line, which is causing difficulty in pair-checking. b. There is no meter installed at WB end of 132 KV KOLAGHAT(DVC) - KOLAGHAT (WBSETCL). (Mail dated 18.11.22, 24.11.22 ,08.12.22) c. There is no meter installed at Jharkhand end of 132 KV CHANDIL (JSEB) - MANIQUE (DVC). (Mail dated 08.12.22, 18.11.22) d. There is no check meter installed at Kahalgaon (NTPC) end for Kahalgaon (NTPC) – Durgapur (PG) D/C. Although matter was intimated to NTPC & Powergrid but no such action taken till date (Mail dated 17.11.2022 ,15.12.2022, 02.01.23) <p>Utilities may update the status.</p>	<p>In 199th OCC Meeting, Jharkhand representative submitted that the meters would be collected by the end of 1st Week of February 2023.</p> <p>NTPC Kahalgaon representative submitted that since the ownership of meter lies with Powergrid, installation and maintenance have to be carried out by Powergrid.</p> <p>Powergrid representative submitted that the meter would be provided by Powergrid but the installation has to be carried out by the respective constituent. Installation by Powergrid would be done on chargeable basis.</p> <p>OCC advised Powergrid to follow the similar methodology as carried out in other regions.</p>	
16.	<p><u>Replacement of Heavily time drifted L&T meters in Eastern Region</u></p> <p>In 47th TCC & ERPC meeting, it was</p>	<p>In the 199th OCC meeting, ERLDC representative submitted that a list of L&T meters to be replaced has</p>	

	<p>deliberated that in view of stringent provisions in new DSM regulations, the heavily time drifted L&T make SEMs need to be replaced on priority basis. Accordingly, PowerGrid was advised to replace the heavily time drifted meters on priority basis in co-ordination with ERLDC & concerned utilities.</p> <p>Accordingly, ERLDC has provided a phase-wise replacement list of L&T meters to Powergrid for further necessary action at their end.</p>	<p>been circulated among all the constituents and Powergrid.</p> <p>Powergrid representative submitted that in the 1st phase a total of 152 meters would be replaced. Out of the 152 meters, 60 meters are to be replaced in Bihar, 39 meters in Odisha, 51 meters in West Bengal and 2 meters in DVC. All the constituents were advised to collect the meters from Powergrid and get it installed by themselves. Installation by Powergrid would be on a chargeable basis.</p> <p>OCC advised all the constituents to collect the meters from Powergrid and get it installed at the earliest.</p>	
17.	<p><u>Correction of time-drift in SEM</u></p> <p>The following meters are being time drifted from actual time. Although ERLDC has intimated several times to the concern utility via mail to correct it, but no such action has been taken till date & the issue is pending since a long time.</p> <ol style="list-style-type: none"> 1. ER-1696-A 220 KV GAZOLE(WB)-MALDA(PG)-2 2. ER-1145-A 132 KV JAGDISHPUR(BSPHCL)-ARAH(PG)-2 	<p>In the 199th OCC meeting, SLDC Bihar representative submitted that they have already communicated with M/s Genus regarding time drifting in meter ER-1145-A and the issue would be resolved by the end of January 2023.</p> <p>West Bengal SLDC representative submitted that as per the verbal communication received by the testing department of WBSETCL & WBSEDCL, since the meter (ER-1696-A) was installed by Powergrid, therefore all the issues related to meter has to be resolved by Powergrid.</p> <p>Powergrid representative submitted that they would communicate with the testing department of West Bengal regarding the methodology to be followed regarding</p>	

				correction of meters installed at the ISTS points.	
18.	<u>Ensuring healthiness of ADMS</u>				

State	Criteria for ADMS operation	Number of instances for which ADMS criteria satisfied	Number of instances for which detail received	Discussion regarding previous month performance	Update in 199 th OCC meeting
West Bengal	1. System Frequency < 49.7 Hz 2. WB over-drawl > 150 MW 3. Delay = 4 min	Nil	Nil	Matter has been taken up by the respective communication department. In the 199 th OCC meeting, ERLDC representative submitted that the issues with West Bengal have been resolved.	
Jharkhand	1. System Frequency < 49.9 Hz 2. Jharkahnd over-drawl > 25 MW 3. Delay = 3 min	42	Nil	In the 199 th OCC meeting Communication issues are still persisting with Jharkhand.	
DVC	1. System Frequency < 49.9 Hz 2. DVC over-drawl > 150 MW 3. Delay = 3 min	48	Nil	In the 199 th OCC meeting, ERLDC representative submitted that the data has been received from DVC but the load relief was insufficient.	
Odisha	1. System Frequency < 49.9 Hz 2. Odisha over-drawl > 150 MW 3. Delay = 3 min	10	Nil	In the 199 th OCC meeting, ERLDC representative submitted that the data has been received from Odisha but the load relief was insufficient.	

19.	<u>Commissioning status of ADMS</u>		
Automatic demand management scheme (ADMS) is already commissioned in West Bengal, DVC and Jharkhand. However, for Bihar it is yet to be implemented, the last status as confirmed in the earlier meeting is as follows.		In the 198 th OCC meeting, Bihar representative submitted that some issues have been observed while testing from remote end. They have contacted with M/s Chemtrol for the resolution of the same and the meeting is scheduled by the end of December 2022.	

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		<p>In the 199th OCC meeting, SLDC Bihar representative submitted that they are not getting proper response from M/s Chemtrol.</p> <p>OCC advised Bihar to submit a detailed agenda related to issues with ADMS and Chemtrol to ERPC at the earliest.</p>	
20.	<p><u>Revised connectivity for Laxmikanthpur 400/132 KV S/s and split bus arrangement at Laxmikanthpur S/s</u></p> <p>In the 2nd meeting of ERSCT held on 05-07-2019, CTU informed that the scope of works for establishment of 400/132kV New Laxmikanthpur substation through LILO of Subhashgram (POWERGRID) – Haldia 400kV D/c line at New Laxmikanthpur S/s under intra-state has already been approved on technical grounds by all the stakeholders including HEL and CESC (also recorded in the minutes of the meeting). HEL was requested to provide go ahead on the said scope before the next CEMTS-ER as further delays in implementation of New Laxmikanthpur S/s may jeopardise reliability of power supply in Kolkata area.</p>	<p>In 47th TCC Meeting, TCC advised HEL to expedite the process in completing the study report and further consultation with the OEM for getting their feedback/consent. In the meantime, TCC suggested that the proposal of WBSETCL regarding an additional connectivity arrangement may be forwarded to CTU for their comment/consideration. TCC suggested that a committee may be formed under chairmanship of Director (Op) WBSETCL with members from the concerned wings of WBSETCL, HEL & ERLDC to fortnightly monitor & discuss the progress with regard to the above matter and submit to ERPC.</p>	-
21.	<p><u>Operational challenges in Jharkhand network due to multiple long outages/tripping</u></p> <p>In Jharkhand network, 400/220 kV 2 X 315 MVA Ranchi ICTs and 400/220 kV 2 X 315 MVA Patratu ICTs and 220 kV Tenughat-PTPS S/C were meeting the demand of Ranchi capital city.</p> <p>At present, 400/220 kV Patratu substation both ICTs are out of service. This led to shifting of loads being fed from this substation back to Ranchi substation's ICTs. In addition, due to the outage of 220 kV Patratu-Tenughat S/C, there is no</p>	<p><u>400 kV/220kV 315 MVA ICT2 AT PATRATU</u></p> <p>In 199th OCC Meeting, Powergrid representative submitted that the internal inspection of ICT-2 at Patratu is scheduled from 21st January 2023.</p> <p>Jharkhand representative submitted that the no further update on ICT-2 at Lalmatia is available.</p> <p><u>400kV/220kV 315MVA ICT-AT PATRATU</u></p>	

	<p>support from Tenughat (TTPS) power plant. This is leading to the entire Ranchi City demand being fed by 2X315 MVA ICTs Ranchi (PG). Presently Ranchi ICTs loading is to the tune of 160-190 MW/ICT. In this network configuration, Ranchi S/s one 315 MVA 400/220 kV ICT outage sensitivity on other ICT is more than 90%.</p> <p>Further degrading the overall situation is outage of 220 kV Ranchi-Hatia 2 on tower collapse. This is leading to n-1 loading violation for other two circuits i.e., 220 kV Ranchi-Hatia 1 and 3 which are loaded above more than 150 MW/ckt.</p> <p>A list of major elements outages in JUSNL are provided below:</p> <ul style="list-style-type: none"> • 400 KV/220KV 315 MVA ICT 2 AT PATRATU: 27-09-2022 (DGA violation) • 400 KV/220KV 315 MVA ICT 1 AT PATRATU: 01-08-2022 (Buchholz Relay) • 220 KV/132KV 100 MVA ICT 2 AT LALMATIA: 22-01-2019 (FAILURE OF HV SIDE BREAKER) • 220 KV/132KV 100 MVA ICT 3 AT CHANDIL: 30-04-2020 (ICT failed due to fire) • 220 kV Tenughat-Patratu S/C: Under long shutdown for shifting work • 220 KV-RANCHI-HATIA-2: 24-09-2022 (Tower collapse) • 220 KV-FSTPP-LALMATIA-1: 21-04-2021 (Tower collapse) 	<p>ICT-1 was dismantled for transportation to manufacturer site and transportation will commence by Nov'22.</p> <p><u>220kV/132 100 MVA ICT-2 AT LALMATIA (FAILURE OF HV SIDE BREAKER)</u></p> <p>In this regard estimate has been obtained from field, estimate is being scrutinized at Head Quarter level to get the work done with minimum cost. The expected date of completion is 31.03.2023.</p> <p><u>220kV/132kV 100 MVA ICT-3 AT CHANDIL</u></p> <p>In place of this ICT new ICT of 100 MVA will be procured soon. The tender is under technical evaluation stage and work order would be placed soon. The expected timeline of completion is July 2023.</p> <p><u>220kV FSTPP-LALMATIA-1</u></p> <p>Work order had already been placed to M/s ABN Tower on 08.09.2022. The delay in starting the work is due to very old transmission line and non-availability of drawing with BOM. Drawing has been made available by NTPC on 24.09.2022 without BOM. BOM is being prepared and breaking of foundation and stub strengthening work has been started. Tower erection and stringing work is likely to start by 15.01.2022 and may be completed by 31.03.2023.</p>	
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PART C: ITEMS FOR UPDATE

ITEM NO. C.1: ER Grid performance during January 2023.

The average and maximum consumption of Eastern Region and Max/Min Demand (MW), Energy Export for the month January-2023 were as follows:

Average Consumption (MU)	Maximum Consumption (MU)/ Date	Maximum Demand (MW) Date/Time	Minimum Demand (MW) Date/Time	Schedule Export (MU)	Actual Export (MU)
427 MU	447.8 MU 24-01-2023	22123 MW, 24-01-2023 at 18:28 Hrs.	14889 MW, 02-01-2023 at 05:27 Hrs.	5003	5247

ERLDC/ERPC may highlight the performance of the ER grid.

ITEM NO. C.2: Primary Frequency Response of generating units in ER.

The availability of sufficient primary frequency response is one of the fundamental requirements of power system operation not only from reliability point of view but also from regulatory compliance point of view. Based on the assessed FRC re-testing of primary frequency response can be recommended. Therefore, the accurate and high-resolution data from generator end is extremely important in absence of which assessment of FRC is done as per low resolution ERLDC SCADA data. The plant wise data submission statistic for frequency event flagged by ERLDC during July and August is given below:

Event	Frequency Change	ER FRC
Event 1: At 05:52 hrs ON 12.01.2023, 765kV Bara-Mainpuri line tripped on R-N fault, due to non-availability of evacuation path all three units at Bara TPS tripped . It caused generation loss of 1250 MW	Initial Frequency:49.91 Hz Nadir Frequency: 49.80 Hz Final Frequency : 49.87 Hz. Frequency change= 0.04 Hz	44.1 %
Event 2: On 14th Jan 2023, As reported At 12:06 hrs drop in RE generation of approx.1100MW observed in Rajasthan RE complex. As per PMU at 12:06hrs R-N phase to earth fault is observed and multiple elements tripping at 220kV Heerapura(Raj) observed from SCADA data.	Initial Frequency:50.03 Hz Nadir Frequency:49.92 Hz Final Frequency : 50.00Hz. Frequency change= 0.03Hz	40.2 %
Event 3: On 14th Jan 2023, As reported At 13:03 hrs due to Multiple tripping at Rajasthan RE complex,Generation loss of around 2340 MW resulted in Rajasthan RE generation loss in RE complex of Northern Region.	Initial Frequency: 50.13Hz Nadir Frequency: 49.92 Hz Final Frequency : 50.00 Hz. Frequency change= 0.11Hz	20.7 %
Event 4: On 14th Jan 2023, As reported at 14:55 hrs Due to multiple tripping in solar park led to	Initial Frequency: 50.01 Hz	24.9 %

tripping of evacuating lines at 765kV, 400 kV, 220kV and resulted in generation loss of around 3210 MW resulted in Rajasthan RE generation loss complex of Northern Region.	Nadir Frequency: 49.71 Hz Final Frequency : 49.82 Hz. Frequency change=0.19 Hz		
Event 5: On 14th Jan 2023, As reported At 15:18 hrs Due to multiple tripping in solar park lead to tripping of evacuating lines at 765kV, 400 kV, 220kV and resulted in generation loss of around 4780 MW resulted in Rajasthan RE generation loss complex of Northern Region.	Initial Frequency: 50.04 Hz Nadir Frequency:49.6 Hz Final Frequency : 49.7 Hz. Frequency change= 0.34Hz	14.2 %	
Event 6: On 17 th Jan, 2023 at 09:56 Hrs., there was an Auxiliary Bus fault which led to tripping of all potlines and 1900 Mw load tripping, and all Generation 1550 Mw started exporting to Grid. Subsequently due SPS action two generators tripped leading to 750 MW generation loss within 12 to 15 sec.	Initial Frequency: 50.04Hz Nadir Frequency: 50.17Hz Final Frequency : 50.08 Hz. Frequency change=0.04 Hz	38.5 %	

STATIONS	20.12.2022	12.01.2023	14.01.2023				17.01.2023
	06:48	05:52	12:06	13:03	14:55	15:18	09:56
ADHUNIK	Received	Received	Received	Received	Received	Received	Received
BARH	Pending	Received	Pending	Pending	Pending	Pending	Received
BRBCL	Received	Received	Pending	Pending	Pending	Pending	Pending
DARLIPALLI	Pending	Pending	Pending	Pending	Pending	Pending	Pending
DIKCHU	Pending	Received	Received	Received	Received	Received	Received
FARAKKA	Received	Pending	Pending	Pending	Pending	Pending	Pending
GMR	Received	Received	Pending	Pending	Pending	Pending	Received
JITPL	Pending	Pending	Pending	Pending	Pending	Pending	Received
KAHALGAON	Received	Received	Pending	Pending	Pending	Pending	Pending
MPL	Received	Received	Received	Received	Received	Received	Received
NLDC AND OTHER RLDC	Pending	Pending	Pending	Pending	Pending	Pending	Pending
NPGC	Received	Received	Pending	Pending	Pending	Pending	Pending
STATES	Pending	Pending	Pending	Pending	Pending	Pending	Pending
TALCHER	Received	Received	Received	Received	Received	Received	Pending
TEESTA III	Received	Pending	Pending	Pending	Pending	Pending	Pending
TEESTA V	Pending	Received	Received	Received	Received	Received	Received

In view of the same all utilities are once again requested to kindly look into the matter and take necessary action to ensure consistent data submission for every frequency event flagged by ERLDC.

ITEM NO. C.3: Review of implementation of PSDF approved projects of ER.

In 10th NPC meeting held on 09.04.2021, RPCs were advised take up the matter for improvement of the fund disbursement and expeditious implementation of the sanctioned projects under PSDF.

In view of the above, status review of the projects being executed under PSDF funding in Eastern Region would be carried out on regular basis for expediting the projects. All the constituents are requested to furnish/update the status of their respective project in every month.

Concerned utilities may update the present status of the project as given in the **Annexure-C.3**.

Respective utilities may update.

ITEM NO. C.4: Status of implementation of AGC as a pilot project in States.

In 42nd TCC, DVC intimated that AGC shall be implemented in unit 7 and 8 of Mejia as per the given schedule by 31st July 2020.

WBPDCL informed that they have already collected offer from Siemens for implementation of AGC and they are awaiting the concurrence from SLDC.

SLDC, WB informed that they are not in a position to implement AGC unless a clear direction is given by WBERC. Further, implementation of intra state DSM is a prerequisite for implementation of AGC in the states.

It was decided to request CERC to include this as an issue in the agenda for discussion in the meeting of Forum of Regulators.

OCC advised SLDC Odisha and OPGC to interact with Barh NTPC & ERLDC to get the technical specifications & the procedure for implementation of AGC.

In the 183rd OCC meeting, OPGC representative informed that work order has been issued to M/s Siemens for implementation of AGC. The work would be carried out during the unit shutdown which is scheduled from 18.10.2021.

State	Station/Unit	Deliberation in 184 th OCC Meeting
DVC	Mejia unit#7 &8	DVC representative informed that NIT is to be floated.
Odisha	Unit#3 of OPGC	OPGC vide email dated 25 th Oct'21 informed that some additional data is needed from SLDC Odisha and after getting the same AGC would be implemented.

In the 185th OCC meeting, DVC representative informed that the NIT for implementation of AGC will be floated by 9th December 2021.

OPGC representative was not present during the discussion.

In the 186th OCC meeting, DVC representative informed that the NIT would be floated by 31st December 2021.

In the 187th OCC meeting, OPGC and DVC representative were not present during the discussion.

In the 188th OCC meeting, DVC representative informed that NIT was floated on 29th December 2021 and the bid opening would be done on 19th February 2022.

OPGC representative was not present during the discussion.

In the 190th OCC meeting, DVC representative submitted that NIT would be re-floated due to some issues in the payment terms.

SLDC Odisha representative submitted that the order has been placed to M/s Siemens for AGC implementation and the feasibility test would be conducted on 3rd May 2022.

DVC and Odisha may update.

ITEM NO. C.5: Primary Frequency Response Testing of ISGS Generating Units

In the 180th OCC meeting, ERLDC representative informed that as per communication received from GMR and JITPL PFR testing has been scheduled by Siemens in August'21.

MPL representative submitted that they would carry out the PFR testing in the month of July'21.

In the 181st OCC meeting, ERLDC representative informed that PFR testing of MPL got postponed due to some technical issue. He further informed that PFR testing is going on in APNRL and that of NPGC and BRBCL is scheduled in the last week of July'21 and 1st week of August'21 respectively.

In the 182nd OCC meeting, ERLDC representative submitted that During July – August 2021, PFR testing has been conducted at the following generating units:

1. Adhunik TPS Unit 1 & 2
2. BRBCL TPS Unit 2 & 3
3. Nabinagar STPS Unit 1
4. Kahalgaon STPS Unit 1

In the 183rd OCC meeting, ERLDC representative updated that PFR testing for Unit# 1 & 2 of GMR had been completed.

In the 185th OCC meeting, ERLDC representative informed that PFR testing of Dikchu is being carried out.

In the 187th OCC Meeting, OCC advised all the members to provide the updated status of PFR testing, if any, to ERPC and ERLDC.

In the 188th OCC meeting, ERLDC representative informed that updated status of PFR testing was received from MPL.

The updated status is enclosed at **Annexure-C.5**.

Members may update.

ITEM NO. C.6: Testing of Primary Frequency Response of State Generating units by third party agency.

In the 171st OCC Meeting, OCC advised all the SLDC's to prepare the action plan for their state generators and submit the details to ERPC and ERLDC at the earliest.

DVC vide-mail dated 6th Oct 2020 informed that the Primary Frequency Response Testing may be carried out for the following generating units:

Sl. No.	Name of the Units	Capacity (MW)
1	BTPS-A	500
2	CTPS Unit #7&8	2X250
3	DSTPS Unit#1&2	2X500
4	KTPS Unit # 1&2	2X500
5	MTPS Unit # 3 to 8	2 X 210 +2 X 250 + 2X 500
6	RTPS Unit # 1 & 2	2 X 600

In the 185th OCC meeting, OHPC representative informed that testing of Primary Frequency Response of all the units of Rengali and Indravati will be done by the end of December 2021.

WBPDCCL representative informed that they will place the order in the month of December 2021.

In the 186th OCC Meeting, OHPC representative informed that the testing of Primary Frequency Response of all the units of Rengali and Indravati would be done by the 2nd week of January 2022.

DVC representative informed that the bid opening had been done on 22nd December 2021.

In the 187th OCC meeting, OHPC and DVC representatives were not present during the discussion.

In the 188th OCC meeting, it was informed that PFR testing of all the 3 units of Budge-Budge are scheduled from 26th Feb 2022 to 3rd March 2022.

OHPC representative submitted that PFR testing of all the units of Rengali (5 units) and Indravati (4 units) would be carried out by M/s Solvina from 20th March 2022 onwards.

DVC representative informed that the work order for PFR testing has been placed.

Generating units may update.

ITEM NO. C.7: PSS tuning of Generators in Eastern Region

The PSS tuning activity is mandatory in line with IEGC and CEA regulations. The Procedure of PSS tuning for helping utilities in getting this activity carried out has been approved in 171st OCC Meeting and shared with all concerned utilities.

In 198th OCC Meeting, West Bengal SLDC was advised to communicate with WBPDCCL regarding PSS Tuning status of PPSP units. JITPL representative was not present during the discussion. ERLDC representative submitted that PSS Tuning as well as PFR testing status of units of JITPL is pending. NTPC representative submitted that they would send the PSS Tuning status of Barh units shortly. DVC representative submitted that PSS Tuning of both units of RTPS would be completed

by the end of December 2022. OPGC representative submitted that PSS Tuning of IB TPS unit-1 would be carried out in the month of March 2023 during the Annual Overhauling. ERLDC representative advised OPGC to carry the PSS Tuning of both the units during the Annual Overhauling of unit-1. OHPC representative submitted that the PSS Tuning of Upper Kolab units would be carried out by the end of March 2023. PSS Tuning of Balimela units could not be carried out due to ongoing renovation works. Further, they are in talks with M/s Hitachi, as the same is charging a huge amount for PSS Tuning of Indravati units. ERLDC representative advised OHPC to explore the possibilities of identifying other suitable vendors for PSS Tuning from the list available with them. OCC advised ERLDC to share the list of vendors for PSS Tuning and PFR Testing with the generators. ERLDC representative submitted that they have communicated with Bhutan regarding updating of PSS Tuning status of units. Power System Stabilizer (PSS) tuning is an ongoing exercise in Eastern regional grid after observation of various low frequency oscillation from time to time in the grid. In line with this, OCC has decided that all generating plants in eastern region will submit their PSS tuning plan to ERLDC/ERPC and the test reports for validation. The list of units whose tuning is pending is attached in **Annexure C.7**.

Hence all generators are requested to update the latest status.

ITEM NO. C.8: Status of UFRs healthiness installed in Eastern Region.

Members may update the status of UFR healthiness installed in Eastern Region.

Members may update.

ITEM NO. C.9: Status of Islanding Schemes healthiness installed in Eastern Region.

As per the decision taken in the meeting held on 8th July 2021 and chaired by member (GO&D), CEA, data in prescribed formats may be submitted by concerned utilities to RPCs on monthly basis to certify the healthiness of the Islanding Schemes.

a. Format - I for RLDC/SLDCs

S.NO	Name of Islanding Scheme	Healthiness of Communication channel

b. Format - II for Generating Station

S.NO	Name of Islanding Scheme	Healthiness of Islanding Relay	Healthiness of Communication channel

c. Format - III for Transmission Utility/DISCOMs

S.NO	Name of Islanding	Elements considered for tripping to	For communication-based tripping logic Of feeders	For UFR based tripping logic of feeders

	Scheme	from Island			
			Healthiness of Communication channel	Healthiness of PT Fuse and status of DC supply to UFR relay*	Healthiness of Relay#

* Where dedicated UFR relay have been installed for tripping of the feeders under Islanding scheme

Where UFR functions have been enabled within backup protection relay of the line.

d. Format - IV for collecting Relay details of the Islanding scheme.

The following format may be used to get Relay details of the Islanding scheme:

S.NO	Description	UFRs-for load relief (A)	df/dt -for load relief (B)	Relay for Island creation(C)
1	Relay location (S/s name)			
2	Relay make & model			
3	Frequency setting of the relay (at which load shedding is envisaged)			
4	Feeder name (voltage level and source-destination name) signaled by the Islanding Relay for separation /load shedding/separation from outside grid			
5	Quantum of load relief due to tripping of feeder (as per state's peak of previous year)			
6	Quantum of load (Min, Avg, Max in MW) on the feeder (as per state's peak of previous year)			

e. Format - V for Contact details of all Nodal Officer

Utility Name & Location	Name	Designation	Organization	Email ID	Mobile No.

Members may update.

ITEM NO. C.10: Latest Status of States ATC/TTC declared by States for the month of March-2023.

To harmonize the ATC/TTC calculation methodology and timeline One to one meeting and hands on training with each SLDC was conducted in the month of Sep-21 and Oct-21. As per the common agreed procedure and timeline ATC/TTC calculation in three-month advance and reconciliation of the TTC/ATC figure for the upcoming month between RLDC and SLDC has started from month Dec-21. Reconciled ATC/TTC figures for **March-2023** are as follows:

As per the agreed philosophy the status of month wise ATC/TTC submission is as follows:

Sl No	State/Utility	TTC (MW)		RM(MW)		ATC Import (MW)		Remark
		Import	Export	Import	Export	Import	Export	
1	BSPTCL	5735	--	115	--	5620	--	Mar-23
2	JUSNL	1594	--	39	--	1555	--	Mar-22
3	DVC	2080	3443	68	54	2012	3389	Mar-22
4	OPTCL	3999	1700	133	60	2866	1640	Mar-22
5	WBSETCL	6419	--	450	--	5969	--	Mar-22
6	Sikkim	167.81	--	2.66	--	165.15	--	Nov-22

As per the agreed philosophy the status of month wise ATC/TTC submission is as follows:

State	Bihar	Jharkhand	DVC	Odisha	West Bengal	Sikkim
Month						
Feb-23	Submitted	Submitted	Submitted	Submitted	Submitted	Pending
March-23	Submitted	Submitted	Submitted	Submitted	Submitted	Pending
April-23	Pending	Pending	Pending	Submitted	Submitted	Pending
May-23	Pending	Pending	Pending	Submitted	Pending	Submitted
June-23	Pending	Pending	Pending	Submitted	Pending	Pending

Declaration of TTC/ATC on SLDC Website

Sl No	SLDC	Declared on Website	Website Link	Constraint Available on Website	Type of Website Link
1	BSPTCL	Yes	http://www.bsptcl.in/ViewATCTTCWeb.aspx?GL=12&PL=10	Yes	Static Link-Table
2	JUSNL	Yes	http://www.jusnl.in/pdf/download/ttc_atc_nov_20_20.pdf	Yes	Static link – pdf file
3	DVC	Yes	https://application.dvc.gov.in/CLD/atcttcmenu.jsp#	Yes	Static Link-Word file
4	OPTCL	Yes	https://www.sldcorissa.org.in/TTC_ATC.aspx	Yes	Static Link-pdf file
5	WBSETCL	Yes	http://www.wbsldc.in/atc-ttc	No (Not updating)	Static Link-Table
6	Sikkim	No	https://power.sikkim.gov.in/atc-and-ttc	No (Not updating)	Static Link-Excel file

All the states having net export schedule should declare their export TTC. In view of the same West Bengal is once again requested to share export TTC. Jharkhand and Sikkim are requested to share the ATC/TTC on regular basis.

ITEM NO. C.11: Mock Black start exercises in Eastern Region

As per IEGC Clause 5.8(b), Mock trial runs of the procedure for different subsystems shall be carried out by the Users/CTU/STU at least once every six months under intimation to the RLDC. Accordingly, the Black Start Schedule of different hydro stations for 2022-23 are given below:

Sl No	Name of Hydro Station	Schedule of Mock Black Start	Actual Date of Test	Schedule of Mock Black Start	Actual Date of Test
		Test-1		Test-2	
1	U. Kolab	June-2022	21 st July-2022	Jan-2023	
2	Balimela	July-2022	09 th Sep-2022	Feb-2023	
3	Rengali	June-2022	27- June-2022	Dec-2022	
4	Burla	July-2022	23-June-2022	Jan-2023	

5	U. Indravati	May-2022	25-May-2022	Feb-2023	
6	Maithon	DVC representative submitted that upgradation work is under progress due to issues in the governing system. Detailed timeline would be submitted to ERPC and ERLDC. Detail timeline yet to be received from DVC SLDC		Dec-2022	
7	TLDP-III	Oct-2022		Jan-2023	
8	TLDP-IV	Oct-2022		Feb-2023	
9	Subarnarekha	Sep-2022		Dec-2022	
10	Teesta-V	Oct-2022		Jan-2023	
11	Chuzachen	Oct-2022		Feb-2023	
12	Teesta-III	April-2022	08-April-2022	Dec-2022	
13	Jorethang	Oct-2022		Jan-2023	
14	Tasheding	Oct-2022		Feb-2023	
15	Dikchu	Oct-2022		Dec-2022	
16	Rongnichu	Oct-2022		Jan-2023	

• Note:

*DVC representative submitted that upgradation work is under progress due to issues in the governing system. Detailed timeline would be submitted to ERPC and ERLDC. Detail timeline yet to be received from DVC SLDC.

**Jorethang intimated that Black Start provision is not incorporated in Jorethang HEP System

It is proposed that in case Mock black start is not feasible at Maithon HEP and Jorethang HEP, they may be deleted from this list for tracking.

Further all the generators are requested to express their readiness and provide the tentative date of mock black start exercise for the year 2022-23.

In the 197th OCC meeting OCC advised all the utilities to update the status of Mock Black Start exercise, if any, to ERPC and ERLDC. Jharkhand SLDC has intimated that mock black start exercise of Subarnarekha HEP is scheduled on 13.12.2022. However, no detail has been received from others yet.

Members may update.

ITEM NO. C.12: Requirement of cold spares for ICTs in Eastern Region to meet any exigency.

As per CEA guidelines for availability of spares and inventories for power transmission system (transmission lines & substation/switchyard) assets, adequate cold spare for ICTs has to be maintained at regional as well as state level. Key guidelines for determining spare as per the

guidelines are provided below:

- At present PGCIL along with multiple ISTS licensee is operating and maintaining most of the Inter-State Transmission System (ISTS) assets. The transmission lines of above power utilities are spread across more than one states in the country.
- Regional level spare: For regional power utilities (PGCIL & Transmission licensees), the spare at regional level would be required for these assets. These spares should be increased, optimized and limited to double the quantities mentioned for State Level based on transmission line assets in that region in order to avoid unnecessary storage of inventories.
- State level spare: The spares at 'State level' can be maintained at a centralized location which could be conveniently accessed to meet the emergency requirement of various substations/switchyards spread across the State.
- Requirement of state level: ICT and Shunt Reactor: One number single phase/three-phase unit of each rating, as applicable
- Utility for State level spare: If there are five or more substations/switchyards (of same voltage class) of a utility in a State, the 'State Level' spares shall be maintained by the utility.
- Spare at state level by utility having spread in different states: If any utility has five or more substations/switchyards (of same voltage class) spread across different States, spare recommended for 'State Level' shall be maintained for these cluster of substations/switchyards at one or more appropriate locations in any of these States.
- Higher spare for areas having higher probability of damage with natural disaster events: The quantities of spares specified shall be applicable to transmission lines and substations / switchyards in all areas including cyclone / whirlwind / tornado prone areas. However, higher quantity of spares (for some spare items) shall be kept for cyclone / whirlwind / tornado prone areas as indicated in guideline.
- Support between utilities for sharing of spare and associated commercial mechanism: There may be cases, where the extent of damage is so much that specified minimum quantum of spares/inventories may be inadequate in meeting the eventuality. In such cases, support from central power utilities (PGCIL/NTPC/DVC etc.)/transmission licensees/neighboring State utilities may be requested. The financial modalities for providing spares to other utility shall be mutually decided between the utilities.
- Replenishment of Consumed spare: Replenishment of the consumed mandatory spares shall be made at the earliest but in any case, not later than six months from the date of its consumption depending on the criticality of equipment component/material.

With a significant rise in state demands and regional demand along with the number of ICTs, it would be desirable to have an adequate spare to improve reliability and resilience in case of any exigency. Recently, a substantial delay in restoration of damaged ICTs in eastern region has been observed.

Thus, maintaining adequate regional and state level cold spare is important. Table 1-4 provides various details for deciding the requirement of regional and state level cold spare in Eastern region

Table 1: State wise ICTs at various voltages in ER

State Wise ICT	315 MVA 400/220 kV	500 MVA 400/220 kV	315 MVA 400/132 kV	200 MVA 400/132 kV	270 MVA 400/132 kV	250 MVA 400/220 kV	1500 MVA 765/400 kV	255 MVA 765/132 kV	Cold Spare Availability
Bihar	6	27	3	15			5		
Jharkhand	15	6				1	2		
Sikkim	5				1				
Odisha	30	5					8	2	
West Bengal	38	5					4		

Table 2: Utility wise ICTs detail at various voltage level in ER

Utility	315 MVA 400/2 20 kV	500 MVA 400/2 20 kV	315 MVA 400/1 32 kV	200 MVA 400/1 32 kV	270 MVA 400/1 32 kV	250 MVA 400/2 20 kV	1500 MVA 765/4 00 kV	255 MVA 765/1 32 kV	Cold Spare Availabilit y
PGCIL	47	27	3				15		
Other ISTS (NKTL, PMJTL, PMTL, DMTCL)		8		2			4		
IPP (Dikchu)					1				
NTPC/NPGC/BRBCL	4			9				2	
WBSETCL/WBPDCL/CESC	22			4					
OPTCL/SEL	11	2							
DVC	10								
BGCL		4							
JUSNL/TTPS		2				1			

Table 3: Utility wise number of substations with ICTs in ER

Utility Substation with ICTs	Number of Substation
PGCIL ERTS 1	15
PGCIL ERST 2	8
PGCIL Odisha	10
WBSETCL	5
WBPDCL	2
OPTCL	5
BGCL	2
DVC	5
JUSNL	1
ISTS (NKTL/DMTCL/PMTL/PMJTL)	7
NTPC	7

Table 4: Spread of substations of various utilities in different states

State	PGCIL ERTS 1	PGCIL ERTS 2	PGCIL Odisha	DVC	WBSETCL	OPTCL	Other ISTS	BGCL	JUSNL	NTPC	Others
Bihar	9						4	2		4	
Jharkhand	6			3			1		1		
Sikkim		1									
Odisha			10			5				2	1
West Bengal		6		2 + 1 (MTPS)	5		2			1	2

In the 192nd OCC meeting, ERLDC representative submitted that as per the CEA guidelines, maintenance of adequate spares at State level as well as at regional level had to be ensured.

ERPC representative submitted that as per the CEA guidelines, the inventory of spares should be digitized and reports of the same should be submitted to CEA on half-yearly basis.

OCC advised all the states to digitize the inventory of spares and submit the report to CEA with a copy to ERPC on half yearly basis.

Further, ERLDC was advised to make a standard format mentioning the date of procurement of ICTs, date of COD of ICTs, declared age of ICTs, remaining life etc and circulate among the concerned utilities.

OCC advised all the concerned utilities to follow the guidelines and submit the report on availability of spares ERPC and ERLDC at the earliest.

Further, Powergrid representative raised a concern regarding diverting the spares from ISTS pool to the states which may pose reliability issues and thereby requested the states to maintain a pool for cold spare ICTs.

MS, ERPC was of the view that the pool of cold spare ICTs may be maintained by a central agency like Powergrid. In case of any requirement of spare ICT on emergency basis by any utility, the same may be provided and the commercial modalities may be decided mutually. Further, to avoid any reliability issues arising out of insufficient spares for the existing ISTS systems, the required optimum number of cold spare ICTs to be maintained by Powergrid may be enhanced which may be put up for approval subsequently.

In the 193rd OCC meeting, Powergrid Odisha representative submitted that 500 MVA and 160 MVA ICT are under procurement which would be placed at Pandiabili and Baripada S/s respectively and cater to the requirement of Odisha. A 315 MVA ICT was recently used in Jeypore S/s. After detailed cost benefit analysis, decision regarding procurement of 315 MVA ICT would be approved.

Powergrid ER-II representative submitted that a 500 MVA ICT is under procurement which would be located at Maithon or Subhashgram. 315 MVA spare ICT (released after augmentation) is available at Durgapur and Malda S/s. one 160 MVA spare ICT is available at Siliguri and one 50MVA ICT was available at Gangtok which was used recently.

Powergrid ER-I representative submitted that regional spare is available at Jamshedpur and Biharsharif S/s. The spare available at Jamshedpur was utilized at Chaibasa. One 315 MVA spare is available at Mujaffarpur S/s. one 160 MVA spare ICT of 220/132 KV is available at Purnea. Further, approval has been taken regarding procurement of one 500 MVA and one 160 MVA spare ICT at Pusauli and Daltonganj respectively.

OPTCL representative submitted that a 315 MVA spare ICT was available at Duburi S/s which was utilized in Meramundali S/s. Procurement of one 500 MVA spare ICT is under progress which would be located at new Duburi S/s. One 500 MVA ICT is available at Meramundali B. Regarding 315 MVA spare ICT, discussions are going on for procuring the same. SLDC DVC representative submitted that one 315 MVA ICT would be replaced by 500 MVA ICT which would be kept as spare and will be located at Ramkanali S/s.

OCC was of the view that a detailed representation highlighting the ICTs under procurement and ICTs available at present would be prepared by ERLDC, based on which decision regarding maintaining pool of spares and procurement of spares would be anticipated.

Present Situation of spare ICTS as per update in 193rd OCC Meeting

Utility	500 MVA 400/220 kV	315 MVA 400/220 kV	160 MVA 220/132 kV
PGCIL ERTS 1	1: Under procurement; will be put at Sasaram	1: Muzaffarpur (released with ICT upgradation) 1: Bihar Sharif 1 : Under Procurement	1: Purnea 1: Daltonganj
PGCIL ERTS 2	1 : Under procurement will be put at either Malda or Shubhasgram	1 : Malda (released with ICT upgradation) 1: Durgapur (released with ICT upgradation)	1 : Silliguri
PGCIL Odisha	1: Under procurement and will be put at Pandiabili	1: Will be procured	1 : Baripada
OPTCL	1: Under procurement	Under discussion with management	Not available
DVC	Not available	1 will be spare in future as per new approved plan	Not available
WBSETCL	No detail	No detail	Not available

- **For 43 numbers of 400/220 kV 500 MVA ICTs:** 3 regional and 1 state spare are under procurement
- **For 94 numbers of 400/220 kV 315 MVA ICTs:** 3 old and 1 new is available and 2 are under procurement
- **For 220/132 kV 160 MVA ICTs:** 4 regional spares are available.

Members are requested to update the status regularly.

ITEM NO. C.13: Availability of ERS in the Eastern Region and update on the status by various utilities including inter-state and intra-state transmission licensees

In line with CEA guidelines for the availability of spares and inventories for power transmission system (transmission lines & substation/switchyard) assets 2020 and the CEA disaster management plan for power sector 2021, adequate ERS is required to be maintained in ER grid for early restoration of transmission line due to any tower collapse. The Eastern region is prone to cyclones, Norwester/Kalbaisakhi localized storms, hilly terrain with landslides, floods, changes in river course, substation flooding, etc. due to which each year tower collapse occurs causing forced outages of transmission lines. This necessitates adequate ERS maintenance by various utilities in the eastern region for early restoration.

Present status available at ERLDC on ERS as collected during cyclone Yaas in 2021 is provided in the attached table. All transmission utilities are requested to kindly update the ERS availability and any ERS which are already engaged.

Status Update by: PGCIL ERTS 1, PGCIL ERST 2, PGCIL Odisha, WBSETCL and OPTCL (if any ERS is already engaged then same may be put as remarks)

Utility to provide details of available ERS in the attached format:

- State-level: BSPTCL, BGCL, DVC, JUSNL, Sikkim power department (SPD)
- ISTS: Indigrid (OGPTL, PKTCL, ENICL), PGCIL Subsidiaries (CBPTCL, PMTL, PMJTL), Powerlink Transmission limited (PTL), DMTCL, Adani transmission (ATL, NKTL), TPTL

In the 192nd OCC meeting, TPTL representative submitted that they would provide the details by the end of June 2022.

DVC representative submitted that procurement of 7 nos. (Combination of suspension and tension) of ERS is under progress. Further, pile and structures (2 nos.) at Putki and Maithon are available as immediate remedial measures up to 220 KV level.

West Bengal representative submitted that 10 nos. of ERS towers which can be used at all levels are available out of which 6 nos. have been used. Of the remaining, 3 nos. are tension towers and 1 is suspension tower.

JUSNL representative submitted that 8 nos. of ERS are available which could be used for up to 220 KV levels.

Bihar representative submitted that 36 nos. of ERS (for 220 KV and 132 KV level) are available and all are engaged at present.

The details have been received from OPTCL, PGCIL ERTS-1, ATL, PGCIL Odisha, PGCIL ERTS-2, PTL, ENICL, OGPTL, PKTCL. The details are awaited from WBSETCL, TPTL, BSPTCL, JUSNL and Sikkim Power Department. The utilities are requested to share the details at the earliest.

Present status available at ERLDC on ERS as collected during July 2022 is provided in the attached table.

SI	Utility	voltage levels	Number of ERS towers available	Location of ERS situated	Type of ERS (Suspension/ Tension/ any other)
1	OPTCL	400 kV	14	Mancheswar Grid - 4 nos. (Hitech)	Can be used for both suspension and Tension
				Mancheswar store - 8 nos. (Hitech)	
				Mancheswar store - 2 nos. (Lindsey)	
			18 (Newly procured)	Mancheswar store - 18 nos. (Hitech)	
		220 kV	42	Budhipadar - 14 nos.	

SI	Utility	voltage levels	Number of ERS towers available	Location of ERS situated	Type of ERS (Suspension/ Tension/ any other)
				(Lindsey)	
				Mancheswar grid – 14 Nos. (Lindsey)	
				Chatrapur - 14 nos. (Lindsey)	
2	PGCIL	765 kV -24 sets	24 Sets	GAYA	15 Suspension & 9 Tension tower
	ERTS 1	400 KV -30 sets	30 Sets	Jamshedpur, Purnea, Lakhisarai	Total 20 nos. Suspension & 10 nos. Tension ERS towers
3	Adani transmission limited (ATL)	400 KV	1 set (12 Column). Nos of ERS towers shall depend on line configuration, type of tower and extension of towers. Approximate 6 suspension towers/ set for 400kV D/C twin conductor.	Central India (Koradi, Maharashtra)- 48 Hours	Modular aluminum guyed towers- Suspension tower
4	PGCIL (Odisha)	400 KV ERS - 3	3	Rourkela	Suspension - 2 & Tension-1
		765 KV ERS - 24	24	Rengali	Suspension - 15 & Tension-9
5	PGCIL ERTS 2	400 KV	1 Set (consisting of 10 towers) - 400 KV Voltage level	Durgapur	7 Set-Suspension 03 Set-Tension

SI	Utility	voltage levels	Number of ERS towers available	Location of ERS situated	Type of ERS (Suspension/ Tension/ any other)
6	WBSETCL	400, 220, 132 kV	05+05set (can be used with 400/220/132 kV level) 6 used for Durgapur - asansol line diversion. 4 available	at Arambagh & Gokarno	Can be used for both suspension and Tension
7	TPTL		MoU with PGCIL Tie up with Supreme Industry in progress	-	-
8	CBPTCL		No ERS	PTC does not own any ERS, however, in case of any such requirement for deployment of ERS, CPTC has an existing agreement with POWERGRID for deployment of ERS.	-
9	PMTL	-	No ERS	-	-
10	PMJTL	765 kV	NO ERS	-	-
11	PTL	400 kV	07 towers set ERS structures suitable for Twin Moose Configuration 400 or 220 kV.	Siliguri (W.B.)	Lindsey Manufacturing Company Ltd USA Model 600
			07 towers set ERS structures suitable for Twin Moose Configuration 400	Muzaffarpur (Bihar)ER1	

SI	Utility	voltage levels	Number of ERS towers available	Location of ERS situated	Type of ERS (Suspension/ Tension/ any other)
			or 220 kV.		
12	Indigrid (ENICL, OGPTL & PKTCL)	400 KV & 765 KV Line	765 KV- 6 Sets / 400 KV- 8 Sets	Siliguri, WB.	For 765 KV- 4 Suspension & 2 Tension. For 400 KV- 6 Suspension & 2 Tension.
13	DMTCL	400 kV Lines	Arrangement of ERS with M/s Supreme Engineering at Kolkata.	Can be Dispatched in 2–3-weeks periods	-
14	BSPTCL	220 kV & 132 kV	38 ERS which can be used for 220 and 132 kV	18 Towers in use for 132 kV Kishanganj-Barsoi ckt 4 towers for 220 kv BTPS-Hazipur ckt 4 towers for 220 kV Bodhgaya- Chandauti Purnea : 1 Dehri on sone: 2 Sultanganj: 2 Fatuah: 2 Muzaffarpur : 4	Can be used for both suspension and Tension
15	BGCL	-	No ERS	No ERS	-
16	JUSNL	220 kV	Total 8 ERS	Hatia: 3 Jamshedpur: 2 Dumka: 3	Details awaited

SI	Utility	voltage levels	Number of ERS towers available	Location of ERS situated	Type of ERS (Suspension/Tension/any other)
17	DVC	400 kV and 220 kV	400 kV: 7 (under procurement) 220 kV: 2 set Pylon structure	400 kV: Under procurement 220 kV: 1 at putki and 1 at Maithon	-
18	Sikkim Power Department		Details awaited	Details awaited	Details awaited

In the 193rd OCC meeting, TPTL representative submitted that they do not have any ERS towers of their own. In this regard, a MoU with PGCIL is there.

WBSETCL representative submitted that 10 nos. of ERS towers are available which could be used at all the voltage levels. Out of 10 nos., 6 nos. are used for Durgapur-Asansol line and 4 nos. are available. Procurement of additional 6 nos. of ERS towers (which could be used both under suspension and tension) is under planning stage.

Bihar representative submitted the status of ERS towers which is mentioned below.

Location	Status	Usage	Type	Quantity
Kishanganj-Barsoi Line	engaged	220/132 KV	Suspension/Tension	18
BTPS-Hajipur Line	engaged	220/132 KV	Suspension/Tension	4
Bodh Gaya-Chandauti	to be engaged	220/132 KV	Suspension/Tension	4
Purnea	Spare	220/132 KV	Suspension/Tension	1
Dehri	Spare	220/132 KV	Suspension/Tension	2
Fatuha	Spare	220/132 KV	Suspension/Tension	3
Mujaffarpur	Spare	220/132 KV	Suspension/Tension	4
Sultanganj	Spare	220/132 KV	Suspension/Tension	2
Total				38

OCC was of the view that many lines of BGCL and other new sub-stations like Mokama, Hajipur, etc. in Bihar fall under the coverage of river corridor and advised Bihar to keep provisions of ERS towers for those lines.

Members may update.

ITEM NO. C.14: List of lines of Eastern Region violating N-1 security criteria.

The list of such lines for which necessary planning needs to be done to make the system N-1 secure are given below:

Sl. No	Name of Element	Short Term Measures	Long term Measures	The target date for long term measures
Transmission Constraint in Odisha Network				
1	i. 220 kV Budhipadar-Lapanga D/C, ii. 220 kV Budhipadar Vedanta D/C iii. 220 kV Rourkela-Tarkera D/C	SPS available only for 220 kV Rourkela-Tarkera D/C. However, even with SPS N-1 criteria is not satisfied for all the conditions. Action Required:- Load trimming scheme needs to be planned	1. Reconductoring of 220 kV Rourkela-Tarkera D/C with HTLS. 2. 220 kV Rourkela-Tarkera second D/C 3. Shifting of Vedanta from 220 kV to 400 kV	OPTCL to provide a target date for Long term measures
2	i. 220 kV Lapanga-Katapalli D/C , ii. 220 kV Katapali-New Bargarh-Sadepalli (New Bolangir) S/C iii. 220 kV Katapali-Bolangir (PG)- S/C	No SPS Available. Action Required:- SPS/Load trimming scheme needs to be planned	Odisha to share long-term remedial action to make the system N-1 secure.	OPTCL to provide a target date for Long term measures
Transmission Constraint in West Bengal Network				
3	i. 220 kV Waria-Bidhan Nagar D/C ii. 220 kV Waria-Mejia D/C	Opening of 220 kV Waria-Bidhan Nagar D/C as and when required	400/220kV, 315MVA (3 rd) ICT at Bidhannagar	Target Date 2022-23. WBSETCL may update the present Status

Sl. No	Name of Element	Short Term Measures	Long term Measures	The target date for long term measures
Transmission Constraint in DVC Network				
4	i. 220 kV DSTPS-Waria D/C*	No SPS is Available. Action Required:- SOP/SPS/Load trimming scheme needs to be planned for the time being	i. 220 kV Connectivity at 400 kV Mejia-B ii. LILO of 220 kV Mejia-A and Barjora at Mejia-B	DVC may update the target date
5	ii. 220 kV Maithon-Dhanbad D/C, iii. 220 kV Maithon-Kalyaneshwari D/C	No SPS is Available. Action Required:- SOP/SPS/Load trimming scheme needs to be planned for the time being	iii. 220 kV Connectivity at 400 kV Mejia-B iv. 220 kV Connectivity at 400 kV RTPS	DVC may update the target date
* The N-1 violation of 220 kV DSTPS- Waria D/C or DSTPS ICT 1&2 may result in large-scale disturbance, impacting an area between Durgapur and Maithon. To avoid any such mishap DVC needs to plan and implement an SPS on an urgent basis. Further, the long term measure also needs to be implemented in time bound manner.				
Transmission Constraint in Jharkhand Network				
6	220 kV Maithon Dumka D/C	No SPS Available. Action Required:- SPS/Load trimming scheme needs to be planned	i. LILO of 1st circuit of 220kV Dumka – Govindpur D/c line at Dhanbad	Target Date 2023. Jharkhand may update the target date
Transmission Constraint in West Bengal Network				
6	i. 220 kV Rajarhat-Newtown AA3 D/C, ii. 220 kV Subhasgram-EMSS D/C	SPS is Available for both the Ckts	1. 220 kV Rajarhat-Newtown AA3 D/C line with HTLS. 2. No Strengthening planned for 220 kV Subhasgram-EMSS D/C	1. Target Date November 2022 for reconductoring WBSETCL may update the present Status

Sl. No	Name of Element	Short Term Measures	Long term Measures	The target date for long term measures
7	i. 220 kV Subhasgram (PG) – Subhasgram (WB) D/C ii. 220 kV Subhasgram (WB)-Lakshmikanthpur D/C	SPS Available for 220 kV Subhasgram (PG) – Subhasgram (WB) D/C	i. 220 kV Subshagram – Baruipur D/C ii. 400/132 kV Substation at Lakshmikanthpur.	i. Line antitheft charged from Subhasgram end ii. Lakshmikanthpur target date is December 2024 WBSETCL may update the present Status
Transmission Constraint in Bihar Network				
8.	220 kV Darbhanga-Darbhanga(BH) D/C	No SPS Available. Action Required:- SPS/Load trimming scheme needs to be planned	Bihar to share long-term remedial action to make the system N-1 secure.	Bihar to provide a target date for Long term measures
9.	220 kV Muzzafarpur-Hazipur D/C	No SPS Available. Action Required:- SPS/Load trimming scheme needs to be planned	1. 220 kV Muzzafarpur-Amnour D/C	Bihar to provide a target date for Long term measures
10.	220 kV Gaya Bodhgaya D/C	No SPS Available. Action Required:- SPS/Load trimming scheme needs to be planned	1. 220 kV Gaya Bodhgaya Second D/C	Bihar to provide a target date for Long term measures

In the 193rd OCC meeting, ERLDC representative submitted that outage of DSTPC ICTs or DSTPS Waria D/C line may create a large scale disturbance.

DVC representative submitted that the contracts for connectivity between MTPS 220 KV to 400 KV and RTPS connectivity have already been awarded and the work is expected to be completed by December 2023. The 400 KV bus connectivity would extend some relief in case of evacuation problem from 220 KV bus due to MTPS generation.

Under long-term measures, programs for augmentation of DSTPS ICT and DSTPS-DTPS HTLS is under progress. Necessary approval from ERPC and CTU has already been taken in this regard.

Moreover, Parulia (PG)-Parulia (DVC) line has already been given to Powergrid for HTLS connectivity. After the HTLS connectivity, possibilities of switching-off of DSTPS ICT may be explored. Further, possibilities of bus-splitting at MTPS may also be worked out.

ERLDC representative requested DVC to maintain some minimum generation in Mejia. DVC representative submitted that Mejia unit-6 would be synchronized by 21st July 2022.

ERLDC representative was of the view that as per the study undergone by them, closing of

Bidhannagar-Waria circuit would not cater to the generation loss issues and advised DVC to explore the possibilities of bus splitting and connectivity to 400 KV of MTPS and RTPS.

Members may update.

ITEM NO. C.15: ICT Constraints violating N-1 security criteria.

The list of ICTs which are not N-1 complaint are given below:

Sl. No	Name of ICT	Short Term Measures	Long term Measures	The target date for long term measures
ICT Constraint in West Bengal Network				
1	i. 400/220 kV 2 X 315 MVA ICTs at Gokarna & ii. 400/220 kV Sagardighi 1 X 315 MVA ICTs	SPS Available for Gokarno ICTs Action Required:- Load trimming scheme needs to be planned for Sagardighi	i. 3 rd ICT at Gokarno	Target Date Dec-22 WBSETCL may update the present Status
2	i. 400/220 kV ICT-1 & 2 at Bidhannagar	No SPS Available Action Required:- SPS needs to be planned	i. 400/220kV 315MVA (3rd) ICT at Bidhannagar	Target Date 2022-23 WBSETCL may update the present Status
ICT Constraint in ISTS Network				
3	i. 400/220 kV Ranchi 2 X 315 MVA ICTs	SPS Available	i. 3 rd 500 MVA ICT at Ranchi	POWERGRID may update the target date
ICT Constraint in DVC Network				
4	i. 400/220 kV Bokaro A 2 X 315 MVA ICTs	No SPS Available Action Required:- SPS needs to be planned	i. Upgradation with 500 MVA ICTs	DVC may update target date
5	i.400/220 kV ICT-1 & 2 at DSTPS *	No SPS Available Action Required:- SPS needs to be planned	i. Upgradation with 500 MVA ICTs	DVC may update target date

Sl. No	Name of ICT	Short Term Measures	Long term Measures	The target date for long term measures
ICT Constraint in Odisha Network				
6	i. 400/220 kV New Duburi 2 X 315 MVA ICTs	No SPS Available Action Required: - SPS needs to be planned	i) 3 rd ICT at New Duburi	Odisha may update the target date

In the 193rd OCC meeting, ERLDC representative submitted that outage of DSTPC ICTs or DSTPS Waria D/C line may create a large-scale disturbance.

DVC representative submitted that under long-term measures, programs for augmentation of DSTPS ICT is under progress. Necessary approval from ERPC and CTU has already been taken in this regard.

Moreover, Parulia (PG)-Parulia (DVC) line has already been given to Powergrid for HTLS connectivity. After the HTLS connectivity, possibilities of switching-off of DSTPS ICT may be explored.

Members may update.

PART D: OPERATIONAL PLANNING

ITEM NO. D.1: Anticipated power supply position during March 2023.

The abstract of peak demand (MW) vis-à-vis availability and energy requirement vis-à-vis availability (MU) for the month of March 2023 were prepared by ERPC Secretariat (**Annexure D.1**) on the basis of LGBR for 2022-23 and feedback of constituents, keeping in view that the units are available for generation and expected load growth etc.

Members may update.

ITEM NO. D.2: Shutdown proposal of generating units for the month of March 2023.

Proposed Maintenance Schedule of Thermal Generating Units of ER in the month of Mar' 2023

System	Station	Unit No.	Capacity (MW)	Period (as per LGBR 2022-23)		No. of Days	Reason	Remarks
				From	To			
NTPC	KhSTPS	5	500	01.03.2023	14.04.2023	45	Boiler+Generator+Combustion Modification	

Members may update.

ITEM NO. D.3: Major Generating Units/Transmission Element outages/shutdown in ER Grid (as on 12.02.2023)

a) Thermal Generating Stations outage report:

SL No	STATION	STATE	AGENCY	UNIT NO	CAPACITY (MW)	REASON(S)	OUTAGE DATE
1	MPL	JHARKHAND	MPL	1	525	Annual Overhauling	15-Jan-2023
2	KHSTPP	BIHAR	NTPC	3	210	Annual overhauling	01-Feb-2022
3	NABINAGAR(BRBCL)	BIHAR	NTPC	2	250	Annual Overhauling	04-Feb-2022
4	Sterlite	ODISHA	SEL	4	600	Capital overhauling purpose for 45 days.	20-Jan-2023
5	KOLAGHAT	WEST BENGAL	WBPDC	5	210	Overhauling for Boiler License renewal	30-Jan-2023
6	BARAUNI TPS	BIHAR	NTPC	6	110	Initially unit tripped on flame failure but later, problem found in condenser.	14-Jul-2022
7	BARAUNI TPS	BIHAR	NTPC	7	110	Excessive chemical deposits on Turbine blades (turbines need to be opened for assessment of the extent of deposits and the repairs	19-Feb-2022

						required to address the issue of High First Stage pressure in HP Turbine)	
8	CHANDRAPURA TPS	DVC	DVC	7	250	Stator Earth Fault	07-Feb-2023
9	DPL	WEST BENGAL	WBPDCCL	7	300	Poor coal stock	08-Feb-2023
10	HEL HIRANMAYEE	WEST BENGAL	WBPDCCL	1	150	Coal Shortage	05-Feb-2023

All Generating stations are requested to update expected restoration time and reason outage to ERLDC/ERPC on weekly basis in case of any change at their end.

Generators/ constituents are requested to update the expected date of revival of the units.

b) Major Generating stations Out on Reserve Shutdown due to low system demand:

S. NO	STATION	STATE	AGENCY	UNIT NO	CAPACITY (MW)	REASON(S)	OUTAGE DATE
1	MEJIA TPS	DVC	DVC	2	210	Initially unit was out due to problem in feeder to bunker and from 1000Hrs of 02.02.2023 it is under RSD due to low system demand	01-Feb-2023

c) Hydro Unit Outage Report:

S. NO	STATION	STATE	AGENCY	UNIT NO	CAPACITY (MW)	REASON(S)	OUTAGE DATE
1	BALIMELA HPS	ODISHA	OHPC	3	60	The unit taken out under R & M for 18 months.	08-Jul-2022
2	BALIMELA HPS	ODISHA	OHPC	4	60	The unit taken out under R & M for 18 months.	08-Jul-2022
3	BURLA HPS/HIRAKUD I	ODISHA	OHPC	3	32	Annual maintenance (For 1 month)	01.Feb.2023
4	INDRAVATI	ODISHA	OHPC	4	150	Capital maintenance for 6 Months	09-Dec-2022
5	RENGALI HPS	ODISHA	OHPC	2	50	Annual Maintenance	12-Nov-2022
6	U. KOLAB	ODISHA	OHPC	3	80	Annual Maintenance	02.Feb.2023
7	BALIMELA HPS	ODISHA	OHPC	2	60	Water leakage from expansion guard.	08-Feb-2023
8	CHUZACHEN	SIKKIM	GATI	1	55	Annual Maintenance	27.Feb.2023
9	CHUZACHEN	SIKKIM	GATI	2	55		
10	RANGIT HPS	SIKKIM	NHPC	1	20	Repair work of appurtenant structures and replacement of damaged HM components of Dam	14.Feb.2023
11	RANGIT HPS	SIKKIM	NHPC	2	20		
12	RANGIT HPS	SIKKIM	NHPC	3	20		

d) Long outage report of transmission lines (As on 12.02.2023):

Transmission Element / ICT	Outage From	Reasons for Outage
400 KV IBEUL JHARSUGUDA D/C	29.04.2018	TOWER COLLAPSE AT LOC 44,45
220 KV PANDIABILI - SAMANGARA D/C	03.05.2019	TOTAL 60 NOS OF TOWER IN BETWEEN 220KV PANDIABILI – SAMANGARA LINE IN WHICH 48 NOS TOWERS FULLY DAMAGED AND 12 NOS TOWERS PARTIALLY DAMAGED. WORK UNDER PROGRESS. PRESENTLY CHARGED FROM PANDIABILLI END (LOC 156) TO LOC 58
220/132 KV 100 MVA ICT II AT LALMATIA	22.01.2019	FAILURE OF HV SIDE BREAKER
220/132 KV 100 MVA ICT 3 AT CHANDIL	30.04.2020	DUE TO FIRE HAZARD ICT DAMAGED AND BURNT
400KV/220KV 315 MVA ICT 4 AT JEERAT	09.04.2021	DUE TO FIRE HAZARD ICT DAMAGED AND BURNT. NEW TRANSFORMER PROCUREMENT UNDER PIPELINE AND SHALL BE REPLACED IN THE NEAR FUTURE.
220KV-FSTPP-LALMATIA	21.04.2021	THREE TOWER COLLAPSED NEAR LALMATIA
400KV MAIN BUS - 2 AT DIKCHU	05.05.2021	PROBLEM IN MAIN BAY UNIT
220KV-GAYA-CHANDAUTI (PMTL)-DC	22.05.2021	FOR DISMANTLING OF TOWER NO 51 UNDER LILO WORK AT BODHGAYA.
400KV/220KV 315 MVA ICT 1 AT INDRAVATI (PH)	24.02.2022	CONTROL & RELAY PANEL OF ICT BURNT. REPLACEMENT FOR THE SAME IS UNDER PROCESS.
220KV-WARIA-BIDHANNAGAR-1	08.06.2022	TO CONTROL OVERLOADING OF 220 KV WARIA-DSTPS (ANDAL) D/C LINE
220KV-WARIA-BIDHANNAGAR-2	08.06.2022	TO CONTROL OVERLOADING OF 220 KV WARIA-DSTPS (ANDAL) D/C LINE
220KV-ALIPURDUAR (PG)-ALIPURDUAR(WB)-1	14.07.2022	S/D TAKEN FOR RELAY TESTING PURPOSES, COULD NOT BE RETURNED DUE TO B-PH CB LOCKOUT
400KV/220KV 315 MVA ICT 1 AT PATRATU	01.08.2022	ICT TRIPPED ON A FEW OCCASIONS DUE TO OPERATION OF BUCHOLZ RELAY LATER DGA VIOLATION FOUND, INTERNAL FAULT IN TRANSFORMER TO BE RECTIFIED
400KV/220KV 315 MVA ICT 2 AT PATRATU	27.09.2022	ICT TRIPPED ON A FEW OCCASIONS DUE TO OPERATION OF BUCHOLZ RELAY LATER DGA VIOLATION FOUND, INTERNAL FAULT IN TRANSFORMER TO BE RECTIFIED
220KV-ALIPURDUAR (PG)-SALAKATI-1	01.12.2022	FOR RECONDUCTORING WORK OF LINE WITH HTLS CONDUCTOR
220KV/132KV 160 MVA ICT 1 AT	04.01.2023	FOR 132 KV GIS COMMISSIONING WORK (GIB

MALDA		ERECTION OF ICT-I)
400KV-CHANDWA-LATEHAR(JUSNL)-1	27.01.2023	TRIPPED DUE TO INTERNAL FLASHOVER OF 400KV MAIN BAY OF LATEHAR-1 AT CHANDWA
220KV-BUDHIPADAR-KORBA-2	27.01.2023	ERECTION OF 03 NO. TOWER
400KV-BINAGURI-BONGAIGAON-1	02.02.2023	FOR RECONDUCTORING WORK OF LINE WITH HTLS CONDUCTOR
400KV-BINAGURI-TALA-1	06.02.2023	TO CARRY OUT THE ANNUAL MAINTENANCE PLAN WORK
400KV-ALIPURDUAR (PG)-PUNASANGCHUN-JIGMELING-1&2	08.02.2023	FOR RECTIFICATION OF DAMAGED TOWER
400KV-BINAGURI-KISHANGANJ-1&2	08.02.2023	FACILITATING DE-STRINGING WORKS AT ANCHOR-1, EXISTING TOWER NO. 09 AND STRINGING WORKS AT NEW ANCHOR

Transmission licensees/ Utilities are requested to update expected restoration date & work progress regarding restoration regularly to ERLDC/ERPC on monthly basis by 5th of each month so that status of restoration can be reviewed in OCC. Utilities are also requested to update outage of any elements within their substation premises like isolator/breaker to ERLDC/ERPC regularly. (Reported as per Clause 5.2(e) of IEGC)

Members may note.

ITEM NO. D.4: Commissioning of new units and transmission elements in Eastern Grid in the month of January-2023

The details of new units/transmission elements commissioned in the month of January -2023 based on the inputs received from beneficiaries:

ERLDC_LIST OF NEW ELEMENTS CHARGED DURING JANUARY, 2023							
GENERATING UNITS							
SL. NO.	Location	OWNER/UNIT NAME	Unit No/Source	Capacity added (MW)	Total/Installed Capacity (MW)	DATE	Remarks
NIL							
ICTs/ GTs / STs							
SL. NO.	Agency/Owner	SUB-STATION	ICT NO	Voltage Level (kV)	CAPACITY (MVA)	DATE	Remarks
NIL							
TRANSMISSION LINES							
SL. NO.	Agency/Owner	LINE NAME		Length (KM)	Conductor Type	DATE	Remarks

1	DFCCIL-IR	220 kV Pusauli (PG) - Durgauti (IR) D/C Line	17.249	ACSR Zebra	21-01-2023	Line 1 & 2 was anti-theft charged from Pusauli end along with associated bays 209 & 210 respectively upto length 17.24 kms on 22.01.2023 at 13:26 & 13:44 hours.
LILO/RE-ARRANGEMENT OF TRANSMISSION LINES						
SL. NO.	Agency/Owner	Line Name/LILO at	Length (KM)	Conductor Type	DATE	Remarks
NIL						
BUS/LINE REACTORS						
SL. NO.	Agency/Owner	Element Name	SUB-STATION	Voltage Level (kV)	DATE	Remarks
NIL						
HVDC /AC Filter bank / FACTS DEVICE associated System						
SL. NO.	Agency/Owner	Element Name	SUB-STATION	Voltage Level (kV)	DATE	Remarks
NIL						
BAYS						
SL. NO.	Agency/Owner	Element Name	SUB-STATION	Voltage Level (kV)	DATE	Remarks
NIL						

Odisha:

Elements charged for first time in January-2023			
Sl No.	Name of the element charged first time	Date	Time
1	132/33kV 20MVA Power TRF-II at 220/132/33KV GSS, Aska New	6/1/2023	14:45HRS
2	132kV Barbil-Kamanda line from location no-119 to Kamanda end.	15/1/2023	14:46HRS
3	132kV Switching Station Kutra along with 132kV LILO from 132kV Kuchinda-Rajgangpur SC line to Kutra.	16/1/2023	14:52HRS
4	132kV Kutra-M/S Shiva Cement SC line	16/1/2023	15:23HRS
5	132/33kV 20MVA Power TRF-II at 132/33KV GSS, Chandipur	18/1/2023	14:28HRS
6	132kV LILO Sw. Station near M/S Ultratech Cements Ltd at Khamarnuagaon, Khuntuni with 132kV LILO arrangement from 132kV Arati steel-T.S.Alloys line.	18/1/2023	17:53HRS
7	12.5MW Solar Power Plant at 33kV level in 132/33kV witchyard of M/S ABREL having connectivity at 132kV with LILO switching station Saintala	23/1/2023	09:31HRS
8	220kV witchyard at 220/132/33kV GSS, Bamra having LILO connectivity with 220kV Budhipadar-Tarkera Ckt-II.	24/1/2023	18:17HRS
9	220/132kV 160MVA Auto TRF No-I at 220/132/33kV GSS, Bamra	24/1/2023	18:45HRS
10	220/132/33kV GSS, Kuarmunda having LILO connectivity with 220kV Budhipadar-Tarkera Ckt-I.	25/1/2023	16:44HRS
11	220/132kV 160MVA Auto TRF No-II at 220/132/33kV GSS, Kuarmunda	25/1/2023	16:54HRS
12	132/33kV 40MVA Power TRF-I at 220/132/33KV GSS, Kuarmunda	25/1/2023	18:04HRS
13	Synchronization(re-energization) of 19.5MW TG-I of CGP of M/S NINL, Duburi with OPTCL network of 220/132/33KV GSS,Duburi(old) through 220kV Duburi(old)-NINL feeder.	27/1/2023	14:11HRS

Members may note.

ITEM NO. D.5: UFR operation during the month of January 2023.

Frequency profile for the month as follows:

Month	Max	Min	Less IEGC Band (%)	Within IEGC Band (%)	More IEGC Band (%)
	(Date/Time)	(Date/Time)			
January, 2023	50.49 Hz on 23.01.2023 at 17:03 Hrs.	49.42 Hz on 09.01.2023 at 14:45 Hrs.	13.30	58.71	27.99

Hence, no report of operation of UFR has been received from any of the constituents.

Members may note.

**BIHAR STATE POWER TRANSMISSION COMPANY LTD., PATNA**

A subsidiary company of Bihar State Power (Holding) Company Ltd., Patna

CIN – U74110BR2012SGC018889

[SAVE ENERGY FOR BENEFIT OF SELF AND NATION]

Head Office, Vidyut Bhawan., Nehru Path, Patna – 800021

E-mail address – project.2@bsptcl.bihar.gov.in,Website - www.bsptcl.in

Letter No...../

Patna, Dated

Trans/P-II/76/2021

From,

Shankar Kumar,
Chief Engineer (Project-II)

To,

Dy. Chief Engineer (Commercial),
Commercial Department, DVC Towers
VIP Road, Kolkata-700054 Email Id. - vikas@dvc.gov.in, vikasdvc@gmail.com

Sub: - Dismantling of towers of 132 KV Barhi - Bihar Sharif Transmission line crossing the premises of Mahabodhi Cultural Centre, Bodhgaya, Gaya.

Ref: - (i) Tourism Deptt. Bihar letter No.-859, dated 24.05.2021
(ii) MoM held dated 20.06.2022
(iii) DVC E-mail dated 06.09.2022
(iv) This office letter No.-123, dated 27.01.2023

Sir,

With reference to the above this is to inform that payment amounting Rs. 2,90,59,884/- (Rupees Two Crore Ninety Lac Fifty Nine Thousand Eight Hundred Eighty Four) only exclusive of Income TDS and GST TDS (12%) to DVC towards Supervision Charges for re-routing of 132 KV Barhi - Bihar Sharif Transmission line has been made so that the re-routing work could be taken-up and dismantling of three (03) towers (Tower Location Nos.-227, 228 & 228) lying in the campus of Mahabodhi Cultural Centre, Bodhgaya could be taken-up on urgent basis immediately considering the safety of public in Convention/Mahotsava mass crowding.

BSPTCL agrees to accept terms and conditions of DVC/ERLDC for re-routing of the part of 132 KV Barhi - Bihar Sharif Transmission line and will try to complete the work within timeframe.

Delay in submission of Supervision Charges to DVC is due to time taken as process of sanctioning requisite amount for re-routing work of subject line from Govt. of Bihar to Tourism department of Bihar.

Hence, it is requested to provide engineering details/drawings and clearance for dismantling of towers of 132 KV Barhi - Bihar Sharif Transmission line crossing the premises of Mahabodhi Cultural Centre, Bodhgaya, Gaya at the earliest.

Yours' faithfully,

Sd/-

(Shankar Kumar)
Chief Engineer (Project-II)

P.T.O.

Memo No.....

Patna, Dated.....

Copy forwarded to The Member Secretary, ERPC, 14, Golf Club Rd, Golf Gardens, Tollygunge, Kolkata, West Bengal 700033 Email.- mserpc-power@nic.in for information and it is requested to provide assistance for clearance for dismantling of towers of 132 KV Barhi - Biharsharif Transmission line crossing the premises of Mahabodhi Cultural Centre, Bodhgaya consider the criticality of matter discussed in online meeting held on 09.01.2023 by ERPC.

Sd/-

(Shankar Kumar)
Chief Engineer (Project-II)

Memo No.....

Patna, Dated.....

Copy forwarded to Executive Director, ERLDC, 14, Golf Club Rd, Golf Gardens, Tollygunge, Kolkata, West Bengal 700033 Email.-dk.jain@posoco.in for information and it is requested to provide assistance for clearance for dismantling of towers of 132 KV Barhi - Biharsharif Transmission line crossing the premises of Mahabodhi Cultural Centre, Bodhgaya consider the criticality of matter discussed in online meeting held on 09.01.2023 by ERPC.

Sd/-

(Shankar Kumar)
Chief Engineer (Project-II)

Memo No.....

Patna, Dated.....

Copy forwarded to Executive Engineer, Construction Division No.1, Building Construction Department, South Bailey Road, Patna-800002 for information and needful action.

Sd/-

(Shankar Kumar)
Chief Engineer (Project-II)

Memo No.....

Patna, Dated.....

Copy forwarded to Director, Bihar State Tourism Department Corporation, Bir Chand Patel Path, Patna Bihar PIN.-800001 for information and needful action.

Sd/-

(Shankar Kumar)
Chief Engineer (Project-II)

Memo No.....158.....

Patna, Dated.....03/02/2023

Copy forwarded to Resident Engineer Kolkata, BSPHCL, Camac Street, Kolkata-700016 for kind information and necessary action.

Sd/-
03/02/23

(Shankar Kumar)
Chief Engineer (Project-II)

6

**BIHAR STATE POWER TRANSMISSION COMPANY LTD., PATNA**

A subsidiary company of Bihar State Power (Holding) Company Ltd., Patna

CIN – U74110BR2012SGC018889

[SAVE ENERGY FOR BENEFIT OF SELF AND NATION]

Head Office, Vidyut Bhawan, Bailey Road, Patna – 800021

E-mail address – project.2@bsptcl.bihar.gov.in,Website - www.bsptcl.inLetter No...../
Trans/P-II/76/2021

Patna, dated

From,**Prabhakar, IAS
Managing Director****To,****Chairman, DVC,
DVC Towers, VIP Road,
Kolkata-700054 Email Id:- chairman@dvc.gov.in****Sub: -** Regarding dismantling/removal of towers of 132 KV Barhi - Bihar Sharif Transmission (which is under jurisdiction of DVC) from premises of “Mahabodhi Cultural Centre, Bodhgaya Gaya”**Ref: -** (i) Tourism Deptt. Bihar letter No.-859, dated 24.05.2021
(ii) MoM held dated 20.06.2022
(iii) DVC E-mail dated 06.09.2022
(iv) This office letter No.-123, dated 27.01.2023
(v) This office letter No.-158, dated 03.02.2023
(vi) Your mail dated 14.02.2023**Sir,**

With reference to the above this is to inform that BSPTCL had requested DVC for allowing diversion of 132 KV Barhi - Bihar Sharif Transmission line in view of growth of population along the existing corridor of 132 KV Barhi - Bihar Sharif Transmission line in Gaya Town and considering Public Safety at large.

It is reiterated that route diversion of the above line is required urgently with permission to dismantle tower Nos.-227, 228 & 229 with immediate effect, considering the international importance of Mahabodhi Convention Hall & Safety of national / international tourists visiting the place en-masse.

DVC has allowed and provided technically sanctioned estimate for the diversion of line vide its e-mail dated 06.09.2022 but dismantling has been allowed only after construction of diverted transmission line. This will result in compromise with safety for the period of construction of diverted line for about one year.

As such, it is once again requested to kindly permit the dismantling of the towers Nos.-227, 228 & 229 on immediate basis considering safety & importance.

Request for an early reply.

Yours' faithfully,**Sd/-****(Prabhakar)****Managing Director****Memo No.....****Patna Dated.....**

Copy forwarded to The Member Secretary, ERPC, 14, Golf Club Rd, Golf Gardens, Tollygunge, Kolkata, West Bengal 700033 Email:- mserpc-power@nic.in, for information.

Sd/-**(Prabhakar)****Managing Director****Memo No.....****Patna Dated.....**

Copy forwarded to Executive Director, ERLDC, 14, Golf Club Rd, Golf Gardens, Tollygunge, Kolkata, West Bengal 700033 Email:- dk.jain@posoco.in, for kind information.

Sd/-**(Prabhakar)****Managing Director**

Memo No.....

Patna Dated.....

Copy forwarded to Ashok Kumar Rajput, Member (PS), Central Electricity Authority, Sewa Bhawan, R.K. Puram, Sector-I, New Delhi-110066 Email:- memberpscea@nic.in, for kind information.

Sd/-

(Prabhakar)

Managing Director

Memo No.....

Patna Dated.....

Copy forwarded to Secretary, Building Construction Department, South Bailey Road, Patna-800002 Email:-secy-bcd-bih@nic.in for kind information and needful action.

Sd/-

(Prabhakar)

Managing Director

Memo No.....

Patna Dated.....

Copy forwarded to Secretary, Bihar State Tourism Department Corporation, Bir Chand Patel Path, Patna-800001 Email:-secy-tourism-bih@nic.in for kind information and needful action.

Sd/-

(Prabhakar)

Managing Director

Memo No.....

Patna Dated.....

Copy forwarded to CMD, BSP(H)CL for favor of kind information.



(Prabhakar)

Managing Director



सेंट्रल ट्रांसमिशन यूटिलिटी ऑफ इंडिया लिमिटेड

(पावर ग्रिड कॉर्पोरेशन ऑफ इंडिया लिमिटेड के स्वामित्व में)

(भारत सरकार का उदयम)

CENTRAL TRANSMISSION UTILITY OF INDIA LTD.

(A wholly owned subsidiary of Power Grid Corporation of India Limited)

(A Government of India Enterprise)

Ref: C/CTU/Metering/2022/32

Dated: 18/08/2022

To,

ED (Asset management),
POWERGRID Corporation of India Ltd,
Plot No#2, Sector-29, Gurgaon-122001
Kind Attn: Sh. A P Gangadharan

Sub: Revision of Man-day Rates to be charges to various utilities for installation of Interface Energy meters by POWERGRID on behalf of CTUIL.

Dear Sir,

This is in reference to the agreement signed between POWERGRID and CTUIL on 09.02.2022 for POWERGRID services to carry out the procurement and installation of IEMs & accessories on behalf of CTUIL (Copy attached). As per the agreement (clause no 2.1),

“2.1 WORK TO BE PERFORMED BY POWERGRID:

I. Supply / Installation of IEMs and Accessories:

Supply & installation of Interface Energy Meters (IEMs), along with accessories and hardware/software/AMR facility, to be carried out, for ISTS points for the purpose of energy accounting/billing as per requirement communicated by CTUIL.

The methodology for booking of supply/installation cost & recovery shall be followed uniformly across all regions. The cost covering supply & installation including overheads shall be recovered from all generators & ISTS licensees. In case of POWERGRID ISTS points, the cost for installation shall not be recovered from POWERGRID, as the said installation work is being carried out by POWERGRID itself. The amount shall be recovered from utilities, excluding POWERGRID, as per following.

Price to be recovered per IEM/DCDs (X) = IEMs & DCD per unit price as per LOA (A) + Manday Charges for installation of IEMs (B) + Inventory carrying cost including insurances (C) @ 5 % on (A) + Overhead Charges (D) @ 15 % on (A+C) + all taxes/duties at actuals.

The amount shall be recovered from POWERGRID as per following.

Price to be recovered per IEM/DCDs (X) = IEMs & DCD per unit price as per LOA (A) + Inventory carrying cost including insurances (C) @ 5 % on (A) + Overhead Charges (D) @ 15 % on (A+C) + all taxes/duties at actuals.

Manday Charges for installation (B): (Applicable for utilities other than POWERGRID)

½ Manday charges for installation of up to 2 no. IEMs per location and 01 Manday charges for Installation of 3 to 5 nos IEMs per location + Travel/transportation expenses per location round trip.

Present rate is as follows:

01 Manday Charge = Rs.36800 (Manday Charges & other expenses for outstation work), Travel/transportation expenses per location =Rs.15000/- per round trip.

These rates shall be revised from time to time based on the prevailing guidelines.”

In this matter, it may be noted that POWERGRID man-day charges have been revised vide IOM dtd. 23rd May 2022 (copy attached) and the revised rates are as below-

Level	Man-day rates	
	In-House	Out Station
E7	18,200	26,000
E5	11,900	17,900
S3	7,750	10,700

However, it has been observed that Invoice are still being generated based on previous man day charges. (A copy of letter dtd 16.08.2022 issued by WR-II to M/s Adani Wind Energy Kutchh One limited is attached for your reference).

You are aware that RPCs had raised concerns regarding installation charges mentioned in the agreement and after due discussion it has been conveyed in RPC Meetings that installation charges shall be according to revised man day rates of POWERGRID considering services of E-5 level for IEM installation.

Accordingly, you are requested to instruct all concerned regional offices to consider the new man day rates of E5 level for installation of IEMs for various agencies.

Thanking you,

Yours faithfully,

Ashok Pal.
(Ashok Pal)

Dy Chief Operating Officer

Copy to:

- (i) **Direction (Operations), POWERGRID Gurgaon.**
- (ii) **ED (BDD), POWERGRID, Gurgaon.**

Annexure-C.3

POWER SYSTEM DEVELOPMENT FUND												
Status of the Projects in Eastern Region												
Sl No	State	Entity	Name of the scheme	Grant Approved	Grant sanctioned on	1st Installment grant released on	Completion Schedule	Completion schedule w.r.t date of 1st instalment	Grant aviled so far	Under process of release	Total awards amount of placed of till date	Latest status
1	Bihar	BSPTCL	Renovation and Upgradation of protection system of substations. (18)	64.22			24		56.04		69.195	90% grant availed on award cost.
2			Installation of Capacitor bank in 20 Nos of Grid Sub Station. (74)	19.40			24		18.62		21.55	
			Total	83.10					73.03		90.745	
5	Jharkhand	JUSNL	Renovation & Upgradation of protection system of Jharkhnad. (161)	138.13	15-Nov-17	28-Mar-19	16	28-Jul-20	114.68	1.01	145.674	Project Completed.
6			Reliable Communication & data acquisition system upto 132kV Substations ER. (177)	22.36	24-May-19		24					Price bid has been opened. Tender on awarding stage.
			Total	160.49					114.68		145.674	
7	Odisha	OPTCL	Renovation and Upgradation of protection system of substaions. (08)	162.50	11-May-15	22-Mar-16	24	22-Mar-18	46.04		63.31	Project Completed on Dec-20. Request for release of final 10 % fund has been placed.
8			Implementation of OPGW based reliable communication at 132 kv and above substations. (128)	25.61	15-Nov-17	29-Mar-19	36	29-Mar-22	23.04		51.22	90% grant availed on award cost. Work In Progress
9			Installation of 125 MVAR Bus Reactor along with construction of associated by each at 400kV Grid S/S of Mendhasal, Meramundali & New Duburi for VAR control & stabilisation of system voltage. (179)	27.23	27-Jul-18	1-Apr-19	18	1-Oct-20	8.17		24.5	90% grant availed . Rest work in progress
10			Implementation of Automatic Demand Management System (ADMS) in SLDC, Odisha. (196)	2.93	24-May-19	19-Feb-20	10	19-Dec-20	0.713		0.713	30% grant availed. Work in Progress.
11			Protection Upgradation and installation os Substation Automatic System (SAS) for seven nos of 220/132/33kV Substations (Balasore, Bidanasi, Budhipadar, Katapali, Narendrapur, New-Bolangir & Paradeep). (209)	29.56	24-May-19	13-Feb-20	18	13-Aug-21	8.87		32.85	30% grant availed. Work in Progress..
12		OHPCL	Renovation and Upgradation of protection and control system of OHPC. (109)	22.35	22-May-17	25-May-18	24	25-May-20	14.94		21.25	90% grant availed on award cost.
			Total	270.18					101.35		193.42	
14	West Bengal	WBSETCL	Installation of switchable reactor & shunt capacitor for voltage improvement. (88)	43.37	22-May-17	22-Jun-18	19	22-Jan-20	33.07		40.83	90% grant availed on award cost. Will get completed by Oct'21
15			Renovation & Modernisation of Transmission System. (87)	70.13	22-May-17	25-Jun-18	25	25-Jul-20	63.12		96.44	90% grant availed on award cost. Will get completed by Mar'22
16			Installation of Bus Reactors at different 400kV Substation within the state of West Bengal for reactive power management of the Grid. (210)	71.74	24-May-19	23-Oct-19	19	23-May-21	39.3		45.62	30% grant availed on award cost. 04 Nos. of Reactors will be commissioned by December 2021. LoA of the 5th Reactor is yet to be placed.
17			Project for establishment of reliable communication and data acquisition at different substation at WBSWTCL. (222)	31.19	24-May-19	23-Oct-19	25	23-Nov-21	3.12			The tender has been been cancelled for OPGW. Re-tendering has to be done.
18			Implementation of Integrated system for Scheduling, Accounting, Metering and Settlement of Transactions (SAMAST) system in West Bengal. (197)	10.08	43910		12					10% grant not yet requested
19		WBPDC	Renovation and Modernization of 220/ 132 kV STPS switch yard and implementation of Substaion Automation System. (72)	23.48	5-Sep-16	18-May-17	18	18-Nov-18	21.13		32.09	Project Completed
21			Renovation and Modernization of switchyard and related protection system of different power stations (BTPS, BKTPS and KTPS) of WBPDC (155)	45.16	27-Jul-18	27-Mar-19	12	27-Mar-20	34.52		41.68	Project Completed.
			Total	295.15					194.26		256.661	

POWER SYSTEM DEVELOPMENT FUND												
Status of the Projects in Eastern Region												
Sl No	State	Entity	Name of the scheme	Grant Approved	Grant sanctioned on	1st Installment grant released on	Completion Schedule	Completion schedule w.r.t date of 1st instalment	Grant aviled so far	Under process of release	Total awards amount of placed of till date	Latest status
22	DVC	DVC	Renovation and Upgradatn of the protection and control system of Ramgarh Sub Station. (81)	25.96	2-Jan-17	31-May-17	24	31-May-19	22.95	2.57	28.603	Project Completed.
23			Renovation and Modernization of control and protection system and replcement of equipment at Parulia, Durgapur, Kalyanewari, Giridhi Jamsedpur, Barjora, Burnpur, Dhanbad and Bundwan substation. (106)	140.50	16-May-17	14-Dec-17	24	14-Dec-19	102.43	0.98	127.684	
			Total	166.46					125.38		156.287	
24	Sikkim	ENPD, Sikkim	Drawing of optical ground wire (OPGW) cables on existing 132kV & 66kV transmission lines and integration of leftover substations with State Load Despatch Centre, Sikkim. (173)	10.00	24-May-19		18		3.00		20	30% grant availed on award cost
				10.00					3.00		20.00	
26	ERPC	ERPC	Creation and Maintenance of web based protection database management. (67)	20.00	17-Mar-16	28-Jun-16	18	28-Dec-17	14.83		16.48	Project Completed
27			Study Programme on power trading at NORD POOL Academy for Power System Engineers of Eastern Region. (122)	5.46	27-Jul-18	27-Mar-19	13	27-Apr-20	4.61		5.37	
28			Traning Program for Power system Engineers of various constituents of Eastern Region. (117)	0.61	27-Jul-18	11-Apr-19	24	11-Apr-21	0.54		0.60888	90% grant availed on award cost.
			Total	26.07					19.98		22.45888	
			GrandTotal	1,011.46					631.68		885.25	

Annexure-C.5
Date of PFR testing scheduled /completed for generating stations in ER

Sr. No	Station	Generating Unit	Test schedule	Remarks
1	TALCHER STAGE 2	3	Unit 3 - 5: 23-11-2020 to 28-11-2020	Testing for unit 6 yet to be conducted
2		4		
3		5		
4		6		
5	Farakka	2	01-02-2021 to 10-01-2021	Testing completed
6		3		
7		4		
8		5		
9		6		
10	Kahalgaon	1	August'21	Testing completed for Unit 1
11		5		
12		6		
13		7		
14	Barh	4	18-02-2021 to 21-02-2021	Scheduled
15		5		
16	Teesta V	1	07-01-2021 - 08-01-2021	Testing completed
17	Teesta III	1	30-01-2021 - 10-02-2021	Testing completed
18		2		
19		3		
20		4		
21		5		
22		6		
23	Dikchu	1	Unit#1: 6th & 7th April' 21 Unit#2: 8th & 9th April' 21	Scheduled
24		2		
25	MPL	1	-	Postponed due to some technical issue
26		2		
27	GMR	1	August'21	Testing Completed
28		2		
29		3		
30	JITPL	1	August'21	Scheduled
31		2		
32		3		
33	NPGCL	1	August'21	Testing Completed

34	BRBCL		1 st Week of August'21	Testing Completed
35	APNRL	1&2	July'21-August-21	Testing Completed
36	BBGS	1,2&3	26th Feb 22 - 3rd Mar 22	Scheduled

Power Plant	Unit No	PSS tuned (Yes/No)	PSS in Service (Yes/No)	Last PSS Tuning Date	Whether Done in Last 3 Years	Whether Next to be planned	Planned Next PSS Tuning
West Bengal							
Kolaghat-WBPDCL	3	No	Yes	Long Back	No	Yes	To be done within Jan./Feb. 2022 after DAVR replacement.
PPSP	1	No	Yes	2009	No	Yes	Dec-21
PPSP	2	No	Yes	2009	No	Yes	Dec-21
PPSP	3	No	Yes	2009	No	Yes	Dec-21
PPSP	4	No	Yes	2009	No	Yes	Dec-21
DVC							
Raghunathpur-DVC	1	No	No		No Detail	Yes	Dec-22
Raghunathpur-DVC	2	No	No		No Detail	Yes	Dec-22
Waria	4	Yes	Yes	2008	No	Yes	Unit Is out of Service
ISGS							
Kahalgaon NTPC	1	Yes	Yes	2017	Yes	Yes	Apr-21
Kahalgaon NTPC	3	Yes	Yes	2016	Yes	Yes	Jul-21
Kahalgaon NTPC	4	Yes	Yes	2015	No	Yes	Mar-21
Kahalgaon NTPC	6	Yes	Yes	2009	No	Yes	Mar-21
Barh NTPC	1		Yes				
Barh NTPC	4		Yes	2015		Yes	In Next AOH
BRBCL	2	Yes	Yes	2019	Yes	Yes	Jun-21
KBUNL	1	Yes	Yes	2014	No	Yes	2021-22
KBUNL	2	Yes	Yes	2014	No	Yes	2021-22
IPP							
Maithon Power Limited	2	Yes	Yes	2020	Yes	Yes	Last report not satisfactory
JITPL	1	Yes	Yes	2016	Yes	Yes	Jul-21
JITPL	2	Yes	Yes	2016	Yes	Yes	Jul-21
Orissa							
IB TPS	1	Yes	Yes	2011	No	Yes	Mar'2021
IB TPS	2	Yes	Yes	2012	No	Yes	Mar'2021
Upper Indravati	1	Yes	No	2015	No	Yes	To be updated by OHPC
Upper Indravati	2	Yes	No	2015	No	Yes	To be updated by OHPC
Upper Indravati	3	Yes	No	2000	No	Yes	To be updated by OHPC
Upper Indravati	4	Yes	No	2001	No	Yes	To be updated by OHPC
Balimela	1 (60 MW)			No detail		Yes	To be updated by OHPC
Balimela	2 (60 MW)			No detail		Yes	To be updated by OHPC
Balimela	3 (60 MW)	No	No	Not tuned	No	Yes	To be updated by OHPC
Balimela	4 (60 MW)	No	No	Not tuned	No	Yes	To be updated by OHPC
Balimela	5 (60 MW)	No	No	Not tuned	No	Yes	To be updated by OHPC
Balimela	6 (60 MW)	No	No	Not tuned	No	Yes	To be updated by OHPC
Balimela	7 (75 MW)	No	No	Not tuned	No	Yes	To be updated by OHPC
Balimela	8 (75 MW)	No	No	Not tuned	No	Yes	To be updated by OHPC
Upper Kolab	1	Yes	Yes	2007	No	Yes	March'2023
Upper Kolab	2	Yes	Yes	2007	No	Yes	March'2023
Upper Kolab	3	Yes	Yes	2007	No	Yes	March'2023
Upper Kolab	4	Yes	Yes	2007	No	Yes	March'2023
Sterlite	4 X 600			No detail		Yes	To be updated by SLDC
Jharkhand							
Tenughat	1	Yes	Yes	2017	Yes	Yes	Dec-21
Tenughat	2	Yes	Yes	2017	Yes	Yes	Dec-21
Bhutan							
Tala	1	No	Yes			Yes	To be updated by BPC
Tala	2	No	Yes			Yes	To be updated by BPC
Tala	3	No	Yes			Yes	To be updated by BPC
Tala	4	No	Yes			Yes	To be updated by BPC
Tala	5	No	Yes			Yes	To be updated by BPC
Tala	6	No	Yes			Yes	To be updated by BPC
Chukha	1	No	Yes	2005	No	Yes	To be updated by BPC
Chukha	2	No	Yes	2005	No	Yes	To be updated by BPC
Chukha	3	No	Yes	2005	No	Yes	To be updated by BPC
Chukha	4	No	Yes	2005	No	Yes	To be updated by BPC
Mangdechu	1	No	Yes			Yes	Sep-21
Mangdechu	2	No	Yes			Yes	Sep-21

Annexure D.1

Anticipated Peak Demand (in MW) of ER & its constituents for March 2023

1	BIHAR	Demand (MW)	Energy Requirement (MU)
	NET MAX DEMAND	5780	3098
	NET POWER AVAILABILITY- Own Sources	606	266
	Central Sector+Bi-Lateral	7078	3785
	SURPLUS(+)/DEFICIT(-)	1904	953
2	JHARKHAND		
	NET MAXIMUM DEMAND	1860	1050
	NET POWER AVAILABILITY- Own Source	462	199
	Central Sector+Bi-Lateral+IPP	1050	670
	SURPLUS(+)/DEFICIT(-)	-348	-181
3	DVC		
	NET MAXIMUM DEMAND	3260	2100
	NET POWER AVAILABILITY- Own Source	5311	3618
	Central Sector+MPL	251	148
	Bi-lateral export by DVC	2001	1489
	SURPLUS(+)/DEFICIT(-) AFTER EXPORT	301	177
4	ODISHA		
	NET MAXIMUM DEMAND (OWN)	4500	2753
	NET MAXIMUM DEMAND (In Case of CPP Drawal)	5900	3400
	NET POWER AVAILABILITY- Own Source	3411	2053
	Central Sector	1493	996
	SURPLUS(+)/DEFICIT(-) (OWN)	404	296
	SURPLUS(+)/DEFICIT(-) (In Case, 600 MW CPP Drawal)	-996	-351
5	WEST BENGAL		
5.1	WBSEDCL		
	NET MAXIMUM DEMAND	7835	4080
	NET MAXIMUM DEMAND (Incl. Sikkim)	7840	4084
	NET POWER AVAILABILITY- Own Source (Incl. DPL)	5330	2853
	Central Sector+Bi-lateral+IPP&CPP+TLDP	2108	1133
	EXPORT (To SIKKIM)	5	4
	SURPLUS(+)/DEFICIT(-) AFTER EXPORT	-402	-98
5.2	CESC		
	NET MAXIMUM DEMAND	1870	940
	NET POWER AVAILABILITY- Own Source	700	476
	IMPORT FROM HEL	540	358
	TOTAL AVAILABILITY OF CESC	1240	834
	DEFICIT(-) for Import	-630	-106
	WEST BENGAL (WBSEDCL+CESC+IPCL)		
	(excluding DVC's supply to WBSEDCL's command area)		
	NET MAXIMUM DEMAND	9705	5020
	NET POWER AVAILABILITY- Own Source	6030	3329
	CS SHARE+BILATERAL+IPP/CPP+TLDP+HEL	2648	1491
	SURPLUS(+)/DEFICIT(-) BEFORE WBSEDCL'S EXPORT	-1027	-200
	SURPLUS(+)/DEFICIT(-) AFTER WBSEDCL'S EXPORT	-1032	-204
6	SIKKIM		
	NET MAXIMUM DEMAND	117	59
	NET POWER AVAILABILITY- Own Source	2	2
	Central Sector	176	89
	SURPLUS(+)/DEFICIT(-)	61	32
	EASTERN REGION		
	NET MAXIMUM DEMAND	24727	14080
	NET MAXIMUM DEMAND (In Case of CPP Drawal of Odisha)	26100	14727
	BILATERAL EXPORT BY DVC (Incl. Bangladesh)	2001	1489
	EXPORT BY WBSEDCL TO SIKKIM	5	4
	EXPORT TO B'DESH & NEPAL OTHER THAN DVC	642	431
	NET TOTAL POWER AVAILABILITY OF ER	26517	15157
	(INCLUDING CS ALLOCATION +BILATERAL+IPP/CPP+HEL)		
	SURPLUS(+)/DEFICIT(-)	1785	1073
	SURPLUS(+)/DEFICIT(-) (In Case, 600 MW CPP Drawal of Odisha)	412	426