AGENDA
FOR
9th TeST MEETING

Date: 16.06.2021

Eastern Regional PowerCommittee
14, Golf Club Road, Tollygunge
Kolkata: 700033

EASTERN REGIONAL POWER COMMITTEE

AGENDA FOR 9th TeST MEETING TO BE HELD ON 16.06.2021(WEDNESDAY) AT 10:30 HRS

PART – A

ITEM NO. A.1: Confirmation of Minutes of 8th TeST Meeting held on 11th March 2021 through MS Teams online platform.

The minutes of 8th Telecommunication, SCADA and Telemetry Sub-Committee meeting held on 11.03.2021 circulated vide letter dated 16.04.2021.

Members may confirm the minutes of 8th TeST meeting.

PART B: ITEMS FOR DISCUSSION

ITEM NO. B.1: Major communication outage in Eastern Region

In line with ISTS Communication regulation 2017, the following are the major OPGW link outage in Eastern Region during April 2021 & May 2021:

1. Kahalgaon - Lakhisarai OPGW link was out due to signal degradation, as per information received from ULDC since 13th April 2021 to 16th May 2021 due to the non operation of stand by link of Bihar SLDC which was later diverted to alternate path manually by ULDC team.

2. Muzzaffarpur- Dharbanga (DMTCL) OPGW fiber was out of service from 3rd May 2021 to 19th May 2021. Due to unavailability of this link SCADA data of Darbhanga DMTCL was not updating at ERLDC.

Members may note/update.

ITEM NO. B.2: Draft Procedure on Monthly Outage Planning for Communication System of Eastern Region

As stated vide clause 10 of Central Electricity Authority (Technical Standards for Communication System in Power System Operations) Regulations, 2020, "*Monthly outage shall be planned and got approved by the owner of communication equipment in the concerned regional power committee, as per detailed procedure finalized by the respective regional power committee".*It is to ensure reliable speech and data communication systems on path diversified data links and data exchange / supervision / control of the grid by the NLDC, RLDC and SLDC in accordance with CERC (Communication System for Inter-State Transmission of Electricity) Regulations, 2017 and CEA (Technical Standards for Communication System in Power System Operations) Regulations, 2020.

In line with the above cited clause, ERPC has prepared a draft procedure on "Monthly Outage

Planning of Communication System of Eastern Region".

The Constituents / Owners / Users of the communication equipment/links are requested to go through the attached procedure **(Annexure-B2.1)** and formats**(Annexure-B2.2)** and to suggest for improvement / modification of the procedure and formats, if any, by 25.06.2021 so that the final procedure and formats can be circulated to all Constituents / Owners / Users of the communication equipments/links.

ITEM NO. B.3: Database and Display update related issues with OPTCL

It has been observed while validating ERLDC SCADA displays as a precautionary measure for "Yaas Cyclone" that few 220kV stations (Jaypatna, Kasipur etc.) have been charged in OPTCL without SCADA data, including display & Database, integration with ERLDC. Total 67 nos. of substations under OPTCL jurisdiction have been identified which are either not integrated in OPTCL SCADA or the updated database and display is not shared with ERLDC. List is attached at **Annexure B.3**. Due to poor SCADA data visualization in OPTCL area, ERLDC operators are facing difficulties in real time Grid operations.

OPTCL SCADA team is requested to please take necessary action towards integrating SCADA displays and database including real time data with ERLDC. OPTCL is also requested to integrate SCADA data prior to charging of any stations in line with IEGC clause 4.6.2.

OPTCL may explain.

ITEM NO. B.4: Complete failure of OPTCL MCC SCADA system and failure of restoring BCC as master during the event

On 27.05.2021 from 11:57 hrs to 21:00 hrs ERLDC was not getting any SCADA data from OPTCL area. As per the information received from OPTCL SCADA team ,due to power supply issue at OPTCL MCC locations complete failure of communication with MCC OPTCL occurred and at the same time OPTCL were unable to set BCC system as master CC.

OPTCL may explain.

ITEM NO. B.5: Non availability of PMU from Tenughat TPS

Two numbers of PMUs, installed at Tenughat, are not reporting due to communication failure since 14:49 Hrs of 15th April 2021. As per observation from ULDC POWERGRID team this is due to communication failure. JUSNL team was requested on several occasions to restore the communication. But the same is yet to be restored.

JUSNL may explain.

ITEM NO. B.6: Non availability of Farakka STPS data at ERLDC

Farakka STPS has upgraded their old RTU data to report it over IEC 104 protocol. After up-gradation, Farakka data was not updating at ERLDC.With the continuous effort from Farakka

STPS, most of the data has been restored but still around 50 nos. of digital and 25 nos. of Analog data are not updating at ERLDC.
It is learnt that there are some feeders like Rajarhat, New Purnea, Berhampur etc is owned and maintained by POWERGRID and ERLDC is not getting those feeder data as well.

NTPC and POWERGRID may update the current status and data restoration plan.

ITEM NO. B.7: Remote Display of ERLDC at POWERGRID

B 7.1 Provision for availability of Remote Display of ERLDC at POWERGRID ERTS-I in the upcoming SCADA/EMS Upgradation project of ERLDC

POSOCO/ERLDC will be upgrading its SCADA/EMS System in the next six months. ERLDC is requested to kindly keep provision to provide minimum 3 nos. of Remote Display Units/Licenses for ERTS-I, in order to provide POWERGRID with better Grid. Visibility and enable ULDC team to upkeep the Telemetry System is an organized

ERLDC may update.

B 7.2 Non-working of Remote Display provided for ER-II RTAMC

Remote display (licensed) of ERLDC was provided by ERLDC at ER-II RTAMC which helps in visualization of entire ER grid in a common network. The remote display has not been functioning since 14.03.2021. Matter has been informed to ERLDC several times but the issue is not yet resolved. ERLDC is kindly requested to make it operational.

ERLDC may explain.

B 7.3 Non-availability of Remote Display of ERLDC provided to RTAMC Patna (erstwhile CPCC)

Remote Display of ERLDC was provided to ER-I/RTAMC, which enables POWERGRID the visibility of all Central Sector Stations and ER-GRID. The remote display is not functioning since 14.03.2021. The matter has already been informed to ERLDC but the same is yet to be resolved.

ERLDC in turn has proposed to provide web-client to POWERGRID/ER-I to enable ER-Grid visibility. However, the same is very slow and doesn't give real time information.

ERLDC may explain.

ITEM NO. B.8: Replacement of UPS Battery bank installed at SLDC Ranchi

Replacement of UPS battery bank (Make-Delta) is needed because the SCADA server and VPSsystem is frequently getting shutdown for past few months. The shutdown is occurring due to non switching action of UPS battery bank to back up mode at the time of power cut.Several correspondence and discussion made with M/s Chemtrols in this regard but nopositive step has been taken yet. Moreover, M/s Chemtrols informed vide their letterno.UEX130005/SBU5/JUSNL/001/2021; dated 30.05.2021 that procurement of 1 set of

batterybank is under process but it will take 6 to 8 weeks and the delivery time may be extended further due to COVID pandemic.

M/S Chemtrols may update.

ITEM NO. B.9: Agenda by WBSETCL

B 9.1 Battery bank- II , make M/S HBL installed at Howrah SLDC has been out of order since 15.02.2021 but still no fruitful action has been taken by M/S Chemtrols , as a result only Battery bank – I make M/S Exide are now in working condition . Some abnormalities are noticed in battery bank – I. It is requested to depute Battery maintenance service engineer for thoroughly checking of all battery cell of battery bank – I.

B 9.2 Video controller at SLDC Howrah is out of service.

Members may discuss.

ITEM NO. B.10: Compliance of Cyber Security Audit of SCADA/EMS System for Main and Back up control centres of ERLDC located at ERLDC and New Delhi respectively

Cyber security audit and its compliance plays very crucial role in ensuring system security in cyber space. Cyber security audit was conducted during October 2020 but compliance of cyber security audit in Eastern Region, including ERLDC BCC, is yet to be implemented. ERLDC has informed the matter to M/s Chemtrols several times but the same is yet to be completed.

M/S Chemtrols may update.

ITEM NO. B.11: Disruption in real time SCADA, URTDSM, VoIP communication in Eastern Region.

On 10th February at 08:20 PM entire data communication in Eastern region got disrupted which leads to outage of SCADA data, URTDSM data and Voice communication. The matter was informed to Powergrid ULDC team immediately after occurrence of the event.
Powergrid ULDC team has taken prompt action and deployed communication expert towards restoration of communication links in Eastern region. At present, few SCADA, URTDSM and VoIP communication links are yet to be restored. Since data and voice communication are the basic needs for smooth operation of the real time grid, root cause of such unwanted event needed to be identified and addressed with proper remedies.

In 6th TeST Meeting, it was decided that a technical committee comprising of the members from POWERGRID, ERPC, ERLDC, DVC, OPTCL, JUSNL, BSPTCL and Sikkim analyse the event and submit a detailed report in next TeST meeting.

In the 8th TeST meeting, the Technical Committee submitted the detailed report. The recommendations were discussed in detail and TeST Committee felt that the following recommendations maybe implemented on priority basis so as to avoid such further disturbances:

SL No	Recommendation	Details
01	*RTU/SAS specification regarding NIC and Ethernet Port.	RTUs/SAS gateway should be having separate NIC for each required Ethernet port
02	Interfacing of Main and Standby channel in MUX	Main and stand by channel interfacing at each site is to be done in separate Ethernet card in MUX
03	Connectivity of LDMS at Substations	LDMS network IP series different from LDCs SCADA RTU network and to be connected to RTU/SAS gateway in dedicated Ethernet port.
04	Unused Ethernet/LAN ports shall be kept administratively down.	Cyber Security norm also mandates that to keep IT/OT system secure in cyber space all unused Ethernet/LAN ports shall be kept administratively down. Authorized log in to all the devices connected to the communication network is also mandatory to safeguard OT/IT system.

Regarding recommendation No.1, a detailed deliberation took place and the committee advised the utilities to prepare a list of RTU/SAS with the facility of dual network interface cards and a list of the same without the facility of dual network interface cards. All the utilities were advised to implement the recommendation no. 1 wherein the provision for dual network interface cards is available and also to initiate necessary implementation action plan for the RTU/SAS wherein the provision of dual network interface cards is not available.
The committee also advised all the utilities to prepare an action plan for implementation of recommendations no 2, 3 and 4.

Further, the TeST Committee opined that the recommendations no. 5, 6 9 & 10 may be implemented after receiving necessary approval from Standing Committee on communication system planning.

In 43rd TCC Meeting, TCC accepted all the recommendations and advised all the utilities to implement the recommendations nos. 1, 2, 3 and 4 on priority basis.

Members may update the status.

ITEM NO. B.12: Guidelines regarding use of ULDC network for other purposes.

The services identified as per the communication network (CEA Notification 27th February, 2020)for ISTS & State network are as follows:

1. SCADA (RTU/SAS Data)
2. Inter-Control Centre Communication Protocol(ICCP)
3. Phase Measurement Unit
4. Digital Protection used by Substation
5. Travelling Wave Fault Locator
6. Voce Over Intranet Phone
7. EPAX
8. Automatic (Energy) Meter Reading
9. Automatic Gain Control (of Gen. Stations)
10. Video Conferencing (between users)

Any services other than the above need permission of ERPC. Further, usage of the network for the purpose of internetting, which is a public network, will have a extremly high security threat to the power operation.

As the ISTS communication network of Central Sector is integrated with that of State Network, this type of breach of going beyond the envisaged usage of services by any one user may jeopardise the operation and security of entire national grid. Going by the sensitive nature of this issue, guideline may please be issued at earliest regarding the restricted usage of this network.

Further as per draft communication regulation, 2017 (Cl.10), ERPC is required to frame the procedure to conduct audit of communication system on annual basis. Pending finalisation of the regulation, it is requested to carry out this execise of identifying the services being used by all users (Including MAC ID and IPs) as a first step towards audit. Guideline to be used in this regard shall help in improving the uninterrupted availability of services.

In 7th TeST Meeting, POWERGRID informed that the dedicated communication link which is important for transfer of SCADA data and PMU data was being used for internet access. Powergrid added that it would be high security threat to the power system operation therefore standard operating procedure is needed to be prepared for the utilization of the communication network. The same has to be followed by all the constituents.

TeST Committee opined that since the issue is also related to disruption of real time data, TeST Committee advised to include the issue in the scope of work of the Committee formed for Disruption in real time SCADA, URTDSM, VoIP communication in Eastern Region.

In the 8th TeST Meeting, the Technical Committee submitted the recommendations regarding Periodic Audit for Communication system in line with CERC regulation and Guidelines for utilization of Inter-state OPGW network which are as follows:

SL No	Recommendation	Details
07	Periodic Audit for Communication system in line with CERC regulation	Periodic audit must be carried out in all sub-stations, generating stations, SLDCs, RLDC, RTAMCs etc. in line with CERC Communication regulation-2017. Cyber security audit shall also be conducted out periodically for the Communication System as decided by RPC in line with CERC Communication regulation-2017. The audit shall be conducted by CERT-In certified third-party auditors.
08	Guidelines for utilization of Inter-state OPGW network.	Any services, other than the listed OT applications, needs permission of ERPC. Further, usage of the Inter-state OPGW network for the purpose of internet access, which is a public network, will have an extremely high security threat to the power operation. 1. SCADA 2. Inter-Control Centre Communication Protocol (ICCP) 3. Phase Measurement Unit 4. Digital Protection used by Substation 5. Travelling Wave Fault Locator 6. Voce Over Intranet Phone 7. EPAX 8. Automatic (Energy) Meter Reading 9. Automatic Gain Control (of Gen. Stations) 10. Video Conferencing (between users)

		11. Security Constrained Economic Dispatch 12. Disturbance Recorder relay data for centralize acquisition. 13. ADMS 14. SAMAST 15. UNMS 16. Centralize monitoring of Firewall in all site locations. Note: Any of the above OT system LAN should not be having connection with IT network.

TeST Committee accepted the procedure for periodic audit for communication system as well as guidelines for utilization of Inter-state OPGW network. Further, TeST Committee advised all the utilities to follow the guidelines for utilisation of Inter-state OPGW network to prevent any interruption in the availability of services.

In 43rd TCC Meeting, TCC accepted the procedure for periodic audit for communication system as well as guidelines for utilization of Inter-state OPGW network. Further, TCC advised all the utilities to follow the guidelines for utilisation of Inter-state OPGW network to prevent any interruption in the availability of services

Members may update.

ITEM NO. B.13: OPGW Installation in Eastern Region

B 13.1 Issues related to OPGW Installation in Teesta III –Kishanganj line

POWERGRID is implementing OPGW on Teesta III-Kishanganj TL under Fiber Optic Expansion Package (Additional Requirement). Out of total 215 Km, 151 Km work has been completed. But following issues are causing hindrance towards completion of the work.

A. ROW issues / Old compensation issues:

POWERGRID is implementing OPGW on Teesta III- Kishanganj TL under Fiber Optic Expansion Package (Additional Requirement). Out of total 215 Km, 151 Km work has been completed. But severe ROW issues are being faced at site due to old compensation issues causing hindrance towards completion of the work.

The status of ROW issues occurred till date is detailed as under:

Sl. No.	RoW Location/Drum no	ROW Since	Contact Person, site	Status
I)	272/3 (Drum No: 42; T No. 270 to 273)	11.02.2020	Ganesh Kumar Roy Hatidoba,Kharibari, Ragali	Pending due to old compensation demand during TL Construction by villager.
II)	T No. 274 (Drum No: 43; T No 274/5 to 273)	06.11.2019	Appu Datta Buraganj, Darjeeling	Resolved. Issue resolved on 18.04.2021 with help of Administration. Work completed 20.04.2021.
III)	T No 290A/0 (Drum No 50- T No 290/3 to 294B)	19.10.2019	Tejabpur,Kishanganj	Resolved. Issue resolved on 05.04.2021 with help of Administration. Work completed 12.04.2021.

IV)	T No. 294B/1,294B/4,294B/5 (Drum No 51: T. No 294B to 294D/1)	03.12.2019	MdEzazPothiya, Kishanganj	Resolved. Issue resolved on 05.04.2021 with help of Administration. Work completed 12.04.2021.
v)	T No 308,311/2 (Drum No 58; T No 305/1 to 311/5)	09.01.2020	NurIshlam, Umar Ali, BholaLahara, Kishanganj	Resolved. Issue resolved on 16.03.2021 with help of Administration. Work completed 19.03.2021.
vi)	316/1 (Drum No 59; T No 311/5,316/1)	27.02.2020	Mansur Ali, ZamuruddinRahaman, AfrojAlam (MarwaToli, Khirdoho), Kishanganj	Resolved. Issue resolved on 21.03.2021 with help of Administration. Work completed 26.03.2021.
vii)	AP321N,AP319N,AP320 Drum-60	15.12.2020	Kamal Kumar Ghosh, Hazi Mubarak Hussain at Kochadhaman	Resolved. Issue resolved on 01.04.2021 with help of Administration. Work completed 03.04.2021.
viii)	AP 56, AP56/1 & AP57 Drum-9	07.02.2021	PhalBahadur (Vill-Tumin&Kokaley)	Pending due to old compensation demand during TL Construction by villager.
ix)	AP72 to AP73 Drum-11	08.02.2021	Vill-Singbel, PS-Singtam, East Sikkim	Pending due to old compensation demand during TL Construction by villager.
x)	AP77 Drum-12	09.02.2021	Vill-Ralap, PS-Singtam, East Sikkim	Pending due to old compensation demand during TL Construction by villager.
xi)	Location number AP 195 to AP 197/1 (Drum-27B, 28 & 29)	11.03.2021	Satish Pokhrun Vill,PS&PO:Relling Dist.: Darjelling Pin: 734201	Pending due to old compensation demand during TL Construction by villager.

In 8th TeST Meeting, TeST Committee advised Powergrid to expedite the work and complete it at the earliest as it would be difficult to allow shutdown during the rainy season. TeST Committee further advised TPTL to coordinate with Powergrid to resolve ROW issue.

TPTL & Powergrid may update

B 13.2 Status of OPGW of Motihari- Gorakhpur T/L under DMTCL jurisdiction

OPGW Installation has been completed in Motihari- Gorakhpur Ckt-2 (153 km), under POWERGRID jurisdiction in Jan'21. Post permanent restoration of 400 kV D/C Motihari-Gorakhpur T/L in Gandak river by DMTCL, POWERGRID intends to commission of the said OPGW link on immediate basis and deputation of communication vendor has already been tied up.

DMTCL is requested to confirm the readiness of the OPGW & Approach Cable in its own jurisdiction, so that mobilization of Communication Engineer for commissioning of the Motihari-Gorakhpur OPGW link may be carried out on immediate basis.

DMTCL may update.

B 13.3 Issuance of Commissioning Certificate for Purnea- Saharsa link by BSPTCL

Request for issuance of Trail Operation Certificate of ten (10) nos. links including 132 kV Purnea-Saharsa link (103.605 km) was made to BSPTCL vide letter dtd. 21.01.2021. BSPTCL has issued Commissioning Certificate for all the links except Purnea- Saharsa link.

It is worth to mention that the OPGW Installation has been completed in the said link along with installation of Approach Cable and FODP at both ends, installation & commissioning of Communication Equipments at both ends, in May'2019 itself. It is learnt that BSPCTL has diverted the Purnea- Saharsa T/L, near its Purnea S/s. POWERGRID is yet to get the Commissioning Certificate for the said link despite completion of scope. End- to – End commissioning of the link is pending due to diversion of T/L by BSPTCL.

BSPTCL may update.

B 13.4 Entry permission at NTPC Kahalgaon for completion of balance OPGW installation in Kahalgaon (NTPC) - Kahalgaon (BH) link of BSPTCL

Entry permission for completion of balance work of BSPTCL's OPGW link between Kahalgaon NTPC - Kahalgaon (BH) has been requested vide email dtd. 27.04.2021. However, the issuance of permission is still pending.

It is pertinent to mention that OPGW erection of only 1 span (175 m) and installation of HDPE Duct, Approach Cable and FODP and Commissioning of the link is pending for want of the entry permission.

NTPC may update.

B 13.5 Provisioning of STM-16 Channel between Darbhanga (ATL-Coriant) - Darbhanga (PMTL-ECI)- Muzaffarpur (PG-Coraint) Equipments

A redundant path of Malda- Farakka was provisioned by POWERGRID as per advice of the forum, in the form of Kishanganj (PG-Coriant) - Darbhanga (ATL- Coriant) STM-16 link and Darbhanga (ATL- Coriant) - Muzaffarpur (PG-Coriant) STM-4 link. An SLD of OPGW Connectivity is attached at **Annexure-13.5.1.**

The capacity of STM-4 provisioned between Darbhanga (ATL- Coriant) - Muzaffarpur (PG-Coriant) & Kishanganj (PG-Coriant)- Dalkhola (PG-Coraint) is becoming a bottleneck in utilization of optimum capacity of Kishanganj (PG-Coriant)- Darbhanga (ATL- Coriant) STM-16 link and providing redundancy with optimum capacity.

It is proposed to provision a new STM-16 Connectivity between Darbhanga (ATL-Coriant)-Darbhanga (PMTL-ECI) - Muzaffarpur (PG-Coraint) Equipments & Kishanganj (PG-Coriant)-Dalkhola (PG-Coraint) STM-4 link may be upgraded to STM-16, which will enable use of the network for redundancy purpose at optimum capacity i.e.STM-16. A revised schematic of the proposed Upgradation is shown at **Annexure-13.5.2**. The tentative cost of the proposed Upgradation will be 3.5 Lacs approx.

Members may discuss.

B 13.6 Commissioning of Ranchi- Maithon RB OPGW link

OPGW Installation has been completed in the 400 kV Ranchi- Maithon RB Ckt-2 in Feb'21. However, commissioning of the same couldn't be done due to non-mobilization of vendor citing resurgence of CODIV-19 infections.

The mobilization of Communication Engineer has been tied up and the said link is expected to be commissioned by 20th June 2021.

This is for kind information.

B 13.7 Delay in completion of OPGW Installation work Under ER-Additional Project link

Eastern Region Fiber Optic Expansion Project (Additional Requirement) has been awarded on M/s ZTT vide for Supply, Installation & Commissioning of OPGW in three (03) links of ER-I namely 400 kV Kishanganj- Patna, 400 kV Barh- Motihari- Gorakhpur & 400 kV Ranchi- Maithon RB, with a scheduled completion of 26.03.2020.

The status of OPGW Supply & Installation is mentioned hereunder:

Sl. No.	Link Name/Name of Trans. Line (with 24 F OPGW)	Approved Route Length (km)	Material Available (km)	Erection Completed (km)	Erection Balance (km)
1	400 kV Kishanganj- Patna Ckt-2	346.67	346.67	315.37	31.31
2	400 kV Barh- Motihari & 400 kV Motihari- Gorkahpur Ckt-2	353.02	353.02	270.19	82.83
3	Ranchi- Maithon RB Ckt-2	187.94	187.94	187.94	0.00
	Grand- Total	887.62	887.62	773.50	114.13

It is pertinent to mention that supply of all OPGW Cable & hardware fittings and associated communication equipments have been completed with the scheduled completion period. However, the OPGW Installation has got delayed due to the following reasons:

a. Delay due to out-break of COVID-19 pandemic and imposition of Nation-wide Lockdown (Mar'20- Sep'20). All the aforementioned 3 links got affected.

b. Delay due flooding of Bihar post monsoon between Jun'20- Nov'20. Both Kishanganj- Patna and Barh-Motihari link got affected due to the flood and water logging.

c. Delay due to stoppage of OPGW Installation work in Barh- Motihari section of Barh-Gorakhpur link, owing to outage of Barh- Motihari- I and Motihari- Gorakhpur I & II (DMTCL section- Gandak river tower collapse) and DMTCL Motihari operating on single source i.e. Barh-Motihari Ckt-2. The work was stopped w.e.f 16.01.2021- 31.03.2021 as per advice of the forum in 176th OCC.

d. Delay due to resurgence of COVID-19 cases w.e.f 01.04.2021 and ongoing Lockdown in Bihar/Jharkhand. The agency is yet to mobilize its team to take up balance OPGW installation activity in Kishanganj- Patna and Barh-Motihari links as its manpower is afraid of getting COVID-19 infected.

This is for kind information.

ITEM NO. B.14: Agenda by BSPTCL

B14. 1 Pending Critical Issues:

a. Compliance Report of Cyber Security Audit of 2019 is pending since 30th December 2020.
b. One no. of SMPS of VCS is defective since 23.03.2020 is required to be replaced. As discussed in previous meetings, M/s Chemtrols agreed to replace the SMPS in August 2020 but the issue is yet not closed.

B14. 2 New Critical Issues:

a. Battery bank- 2 and display of UPS -2 is defective since 24th May 2021.
b. Phase sequence corrector is defective since 19th May 2021.
c. Charger of battery (150 AH) of DG Set is defective since 15th May 2021.
d. Controllers of VPS is Defective since 20th April 2021.
e. One No. of External Firewall SMPS Defective since 15th January 2021.
f. Three no. of SAN (900 GB) of SCADA is defective since 13th January 2020 is required to be replaced.
g. Six no. of Server Rack Fan is defective since December 2020.
h. GPS Antenna is defective since December 2020.
i. Nine no. of Server Fan is defective since August 2020.

B14. 3 General/Other Issues:

a. Integration of new bay:-
   As per AMC contracts Chemtrols has to integrate 50 nos. of new bays in to RTU and the work is still pending since long.
b. The following materials are faulty which are required to be replaced at the earliest:
   - MFT – 06 pcs
   - Node –23 Pcs
   - Decode Modem- 10 pcs
   - DI Card- 10 Pcs
   - DO Card- 03 Pcs
   - Ethernet Card- 02 Pcs
   - Two nos. of Dell Monitorsare faulty at GSS Lakhisarai and Masaudhi since last one year.
c. One no. of SCADA Workstation and one no. of DTS Workstation are defective since 05.11.2020.
d. KVM Monitor and switch of one server is out of service since 3 years.
e. SCADA Data explorer showing error: “Not connected to Data Explorer Adaptor”since May 2020.
f. MP 2355 RICOH printer is defective since November 2020.
g. Ethernet port of Laptop is not working.

B14. 4 RTU:

RTU of Kishanganj, Madhubani, Chandauti, Khagaria, Banjari, Runisaidpur and Samastipur is not working.

B14. 5 LDMS:

36 no. of LDMS is not working due to various issues. The list is attached at **Annexure B.14.5**.

B14. 6 List of defective materials sent to M/s Chemtrols but yet not handed over to BSPTCL:

- Node –17 Pcs
- DI Card- 10 Pcs
- DO Card- 03 Pcs
- Ethernet Card- 02 Pcs
- KVM Monitor and switch- 01 Pcs
- CPU at GSS Sheikhpura handed over to your representative.
- Codec of VCS handed over on dated 09.04.2021.

M/S Chemtrols may update.

PART C: ITEMS FOR UPDATE

ITEM NO. C.1: Status of implementation of AGC for ISGS stations

In 2nd Test Meeting, NLDC informed that, as a part of pilot project of AGC, all generating stations' AGC data would be directly reporting to NLDC for first 3 years and the same would be diverted to respective RLDCs after SCADA up gradation.

NLDC informed that all generating stations must make arrangement for extending the AGC data signals to the nearest Powergrid node and Powergrid shall make available two Ethernet ports (main & its redundant) so that AGC signal from generating stations should reach to NLDC.

ERLDC suggested that firewalls should be available at both end i.e. at Generator end as well as NLDC end. NLDC informed that they have a firewall at their end in their system.

All generating stations agreed to install adequate level of firewall at their end for extending the AGC signals.

In 8thTeST Meeting members updated the status as follows:

Sl No	Station	Status of Communication link from plant substation to PGCIL node	Status of communication system integration from unit to plant substation	Target date for implementation of AGC at plant
1	Farakka STPS - I & II	Both links established	Pending	May 2021
2	Kahalgaon STPS – II	Both links established	Pending	Completed and running since Dec 2020
3	Barh STPS	Both links established	Installed	Running since August 2019
4	NPGC, Nabinagar	Links from Gaya and Patna has been established.	NPGC, Nabinagar informed that OPGW is available but end equipment need to be procured and installed to establish communication link from their station to NLDC. NTPC further informed that they have place order for providing the end equipment.	May 2021
5	Maithon Power Limited	One link established. Other link, Ranchi-Maithon(RB) would complete by March, 2020.	Completed	
6	Talcher STPS – I	Both links established.	Contract awarded to ABB and mobilization of team is under progress	May 2021
7	Kahalgaon	Both links	NTPC informed that they	

	STPS – I	established.	approaching CERC for exemption. NTPC informed that issue is being taken up with O&M for maintenance of old equipments.	
8	Nabinagar Thermal Power Project – BRBCL	Only one link Sasaram-Nabinagar OPGW installation is pending. It would take two years for completion.		May 2021
9	Darlipalli STPS	Communication established.	Integration is in progress	May 2021
10	Teesta – V	One link established		
11	Farakka STPS – III	Link established		May 2021
12	MTPS Stage – II (Kanti)	Link established		May 2021
13	Rangit HPS	One link established		

Members may update.

ITEM NO. C.2: Replacement of old RTU in Eastern Region for reporting of RTU / SAS to back-up Control Centre.

Present status, as updated in the 8th TeST Meeting, of RTU/SAS replacement / up-gradation:

Utility	Status	Deliberation in 8th TeST meeting	Target
POWERGRID	Pending	In 8th TeST Meeting, Powergrid told that LOA for replacement of the old RTUs was awarded on 31st Dec 2020 with 21 months time frame and the time frame for completion of first phase is of 1 year. TeST Committee advised Powergrid to send the list of RTUs which would be replaced on priority basis for first phase to ERPC and ERLDC.	
Maithon Right bank (MPL)	RTU/SAS Upgraded		
NTPC, Farakka (Stage I & II)	Pending		April, 2021
Talcher STPS	RTU Upgraded		
Kahalgaon	Pending		March 2021

STPS			
Chuzachen HEP	Pending	ERLDC informed that Chuzachen upgraded their RTUs for reporting it to IEC 104 but the same could not be operationalized due to non-availability of last mile fibre connectivity and in absence of standby link to ERLDC BCC.	With the availability of OPGW between Chuzachen – Rangpo by April 2021
JITPL	Pending	POWERGRID informed that OPGW related work at JITPL would be completed by April 2021.	April 2021
GMR	Pending	POWERGRID informed that OPGW related work at GMR would be completed by April 2021.	April 2021
JUSNL	Pending	In 8thTeST Meeting, JUSNL informed that pending work would be completed by end of March 2021. TeST Committee asked JUSNL to share the updated list of RTUs to ERPC and ERLDC.	March 2021
OPTCL	Pending	OPTCL informed that out of 78 nos. of RTUs to be replaced, despatch instruction for 52 nos of RTUs had already been placed. OPTCL added that RTU replacement work would be completed by June, 2021.	September 2021
WBSETCL	Pending	In 8thTeST Meeting, WBSETCL informed that NIT would be floated after election.	
NHPC (Teesta – V &Rangit)	Pending	ERLDC informed that Teesta-V up-graded their RTUs for reporting it to IEC 104 but the same could not be operationalized due to non-availability of last mile fibre connectivity and in absence of standby link to ERLDC BCC.	
DMTCL Motihari	Pending		OPGW not available
BRBCL Nabinagar	Pending		OPGW not available
Teesta – III	Pending		OPGW not available April 2021
Dikchu	Pending		OPGW not available April 2021
Jorethang	Pending		OPGW not available April 2021
New Farakka (Stage III)	Completed	---	---
APNRL	Completed	---	---
Barh	Completed	---	---

Members may update the latest status.

ITEM NO. C.3: Redundancy of communication links for ICCP between control centers.

Redundancy of ICCP communication links from all state control centre including their back-up to Main ERLDC are already implemented. Redundancy of ICCP communication links from all state control centers except DVC-MCC (Andul Road) & WBSETCL-BCC (Abhikshan Bhawan) to back-up ERLDC located at NLDC, New Delhi is yet to be provided.

In the 8th TeST Meeting, the members updated the status as follows:

Sl. No.	Link Path	Issue	Deliberation in the 8th TeST meeting
1.	**DVC MCC located at Andul Road to ERLDC BCC at New Delhi -** DVC requested to include underground OFC in Howrah (WB) to Howrah (DVC) under the scope of upcoming project – 'Strengthening of Inter-regional & Intra-regional OPGW Communication Links for Strengthening of Eastern Region' and also requested WBSETCL to provide necessary permission & space for laying of Underground OFC and terminal equipment.	Powergrid informed that provision for laying of OPGW communication link between DVC, Howrah and WBSETCL, Howrah is being created in upcoming project. Powergrid further informed that they require necessary help from WBSETCL to make provision of OPGW communication link up to WBSETCL, Abhikshan Bhawan. In 5thTeST Meeting, SLDC West Bengal informed that the space may be available at the Ground Floor for installation of necessary equipment for providing the communication link between DVC, Howrah and WBSETCL, Howrah.	WBSETCL informed that the joint site visit is scheduled on 18th March 2021.
2.	**WBSETCL BCC Abhikshan Bhawan to ERLDC BCC located at New Delhi**	Powergrid requested ERLDC to provide space for installation of ULDC equipment at Backup ERLDC (NLDC) so that link may be configured in ULDC network. ERLDC informed that necessary space has been provided and installation work is in progress. In 5thTeST Meeting, Powergrid informed that necessary equipment has been installed and configured at backup ERLDC located at NLDC, New Delhi.	ERLDC informed that Powergrid had already shared the necessary port details.
3.	**Rourkela to**	OPTCL informed that Jagatsinghpur to	

	Bhubaneswar SLDC - Powergrid informed that presently, FO link connectivity between Rourkela to Bhubaneswar SLDC is available through TSTPS, Meeramundali&Mendhasal which doesn't have route diversity.	Paradeep OPGW is pending due to Tower shifting work, which is the requirement of Indian Railways. Once the tower shifting work will be completed by Indian Railways, OPTCL will start their work. OPTCL informed that 17 Nos. of towers are being diverted and same would be expected to get completed by May, 2020.	OPTCL informed that OPGW work would be completed by April 2021.
4.	**Ranchi 400 kV (PG) to JUSNL SLDC (Kushai Colony)** - Powergrid informed that presently, FO link connectivity between Ranchi 400 kV (PG) to JUSNL SLDC is available through Hatia 220 kV which doesn't have route diversity.	JUSNL informed that they have received approval for PSDF funding for providing protection channel for redundancy between Chandil to JUSNL SLDC (Kushai Colony) and have received the cabinet approval but could not proceed further due to model code of conduct due to state assembly elections in their state.	JUSNL informed that work would be completed by June 2021. They further told that work got delayed due to issue in tendering.

Members may update the latest status.

ITEM NO. C.4: URTDSM Project installed in Eastern Region

C4.1 Issues related to analytics application

The URTDSM project is installed and being used by ERLDC RTSD operators since January 2019. Few observations need to be attended for better utilization of the system.

Sl. No.	Issue	Deliberation in last TeST meeting	Latest Status
1	**Powergrid analytics application** :Powergrid analytical application software, which was supposed to be installed under URTDSM project, is yet to be made functional at SLDCs.	In 8thTeSTMeeting, POWERGRID informed that the said module had already been developed by IIT Mumbai but field testing for the same is pending due to ongoing Covid-19 restrictions. POWERGRID further informed that since IIT Mumbai campus is closed, they couldn't proceed further with the issue. They told that once the restriction is removed, they would take up the issue with IIT Mumbai and complete the work within one month.	

Powergrid may update.

C4.2 URTDSM Project Summary

Under URTDSM project, 12 nos. PMUs could not be commissioned due to various reason as mentioned below:

a. Bankruptcy/admin. issue : 2 PMUs (IPPs - Monnet & IndBharat)

b. Non-availability of Communication link : 8 PMUs (GMR IPP & JITPL IPP)
: 2 PMUs at Tenughat

c. Substation not ready: 3 PMU at Patratu

Powergrid requested to consider for short-closing of the contract with as-is-where-is basis (excluding erection cost, wherever applicable).

In 42nd TCC/ERPC meeting, followings were decided-

- Short closing of URTDSM project shall be allowed only after integration of PMUs including its data transfer at GMR, JITPL &Tenughat.
- Since Patratu substation is not yet ready, 3 nos. of PMUs at Patratu station shall be kept as spare.
- 2 nos. of PMUs meant for Monnet and IND Bharat can't be commissioned due to bankruptcy issue.

In 6th TeST Meeting, Powergrid informed that integration of PMUs at GMR and JITPL would be completed by December 2020. The same at Tenughat would be completed by July 2020.

GMR, JITPL &Tenughat may update.

ITEM NO. C.5: Non availability of SCADA in Eastern Region

SCADA/EMS system has been installed at SLDC and RLDC and real time operator are performing grid management activity based on real time data available with this SCADA system. But, it is observed that several important stations under state SLDC jurisdiction in Eastern Region are not reporting to respective state SLDC (as shown in table below) and hence ERLDC is also not getting data through ICCP.

Area of Responsibility	No of station without data telemetry	No of station commissioned without data integration
OPTCL	10	08
WBSETCL	06	01
JUSNL	12	00
BSPTCL	06	00

Table: Area wise no of station without data telemetry as on 10-03-2021.

Members updated the following in the 8th TeST Meeting:

AOR	Station level (In kV)	Current Status	Deliberation in 8th TeST meeting	Comments
WBSETCL	Dharampur 220 Kv	Yet to be integrated.	WBSETCL informed that M/s Schneider engineers are not coming to Dharampur due to covid-	

			19 pandemic.	
	Egra 220 kV	Yet to be integrated	WBSETCL informed that discussion related to cost estimate is in progress with M/S Chemtrols.	
	Bantala 220kV	Not Available	WBSETCL informed that technical issues of SDH are observed at Bantala.	M/s Commtel informed that data is not available due to breakdown of their equipment.
	Alipurduar 220kV	Yet to be integrated	WBSETCL informed that the work is getting delayed due to ROW issue.	
	Rishra 220kV	Not Available since July 2020		
	DPL TPS_WB 220 kV	Not Available since Jan 2021		
JUSNL	Hatia New 220 kV	Not Available	JUSNL informed that issue at Hatia is already resolved.	
	Patratu 220 kV	Not available since Feb 2020	JUSNL informed that control room issue present at Patratu would be rectified soon.	
	Tenughat 220kV	Not available since Feb 2020	JUSNL informed that issue at Tenughat would be rectified by March 2021	
	Chandil 220 kV	Not available since Sept 2019	JUSNL that PLCC installation is under progress at Chandil, Jamtara ,Garwa, Deoghar and Kendposi and issue would be rectified by July 2021	
	Jamtara 132kV	Not Available		
	Garwa 132kV	Yet to be integrated		
	Deoghar 132kV	Not Available		
	Kendposi 132 kV	Not Available		
	Lalmatia 220 kV	Not Available	JUSNL informed that issue at Lalmatia would be rectified by March 2021.	
	Giridih 220 kV	Not Available	JUSNL informed that link issue is present at Giridih and would be rectified soon.	
	Godda 220 kV	Not available since Jan 2021	JUSNL informed that issue at Godda would be rectified by March 2021	
	Jasidih 220 kV	Not available since August 2020	JUSNL informed that issue at Jasidih is already solved.	
OPTCL	Malkangiri 220 kV	Data integration and database creation not yet done.	OPTCL informed that data base creation is completed for Malkangiri, Jeypatna and Kashipur substations.	
	Jaypatna 220			
	Kasipur 220			
	Damanjodi 220		OPTCL informed that the	

	Cuttack 220		issues would be resolved by Sep 2021.	
	Utkal Al 220			
	Narsingpur 220kV	Station commissioned at 220kV without data telemetry	OPTCL informed that pending issues at Narsingpur S/S would be resolved by May 2021	
	Bargarh 220	Station commissioned at 220kV without data telemetry	OPTCL informed that the issues would be resolved by Sep 2021.	
	Paradeep 220 kV	Not available		
	Vedanta 220 kV	Not available since Nov. 2020		
BSPTCL	Gopalganj 220	No available since July 2019	BSPTCL informed that issue at Gopalganj is already solved.	
	Samastipur New 220	Not available since 22-02-2021	BSPTCL informed that M/S GE was already informed for issues at Samastipur.	
	Khagaul 220 kV	No available since Jan 2021	BSPTCL informed that issue at Khagaul is already solved.	
	Motipur 220 kV	No available since 05-03-2021	BSPTCL informed that M/S GE was already informed for issues at Motipur.	
	Laukhai 220 kV	No available since 13-02-2021	BSPTCL informed that M/S GE was already informed for issues at Laukhai.	
	Dumraon 220 kV	No available since 22-01-2021	M/S ABB was also informed for issue at Dumraon and issues would be solved at earliest.	
DMTCL	Motihari 400 kV	Not available since Sept 2019	---	

Members may update the latest status.

****

Annexure-B2.1

Eastern Regional Power Committee, Kolkata

Draft Procedure on Monthly Outage Planning for Communication System–ER

1. Introduction:

The communication needs of the power sector have amplified significantly with the increase in the size and complexity of the grid. Communication is also a key pre-requisite for efficient monitoring, operation and control of power system. For integrated operation of the Grid, uninterrupted availability of the real time data of various Power System elements assumes utmost importance. Hence, Communication systems plays vital role to facilitate secure, reliable and economic operation of the grid.

To facilitate the above, Central Electricity Regulatory Commission (CERC) had notified Communication System for Inter-State Transmission of Electricity, Regulations, 2017 which came in force w.e.f. 01.07.2017.

2. Regulatory Provisions with respect to Outage Planning for Communication System:

2.1 The following provisions of Central Electricity Regulatory Commission (Communication System for inter-State transmission of electricity) Regulations, 2017 merit attention:

…….

2(i) (f) "Communication Channel" means a dedicated virtual path configured from one users' node to another user's node, either directly or through intermediary node(s) to facilitate voice, video and data communication and tele-protection system.

2(i) (g) "Communication network" means an interconnection of communication nodes through a combination of media, either directly or through intermediary node(s);

2(i) (h) "Communication system" is a collection of individual communication networks, communication media, relaying stations, tributary stations, terminal equipment usually capable of inter-connection and inter-operation to form an integrated communication backbone for power sector. It also includes existing communication system of Inter State Transmission System, Satellite and Radio Communication System and their auxiliary power supply system, etc. used for regulation of inter State and intra-State transmission of electricity;

…….

9. Periodic Testing of the Communication System:

(i) All users that have provided the communication systems shall facilitate for periodic testing of the communication system in accordance with procedure for maintenance and testing to be prepared by C'[U within 60 days of notification of Regulations and approved by Commission.

(ii)Testing process for communication network security should also be included even for third party system if exists in accordance with procedure for maintenance and testing to be

prepared by CTU and approved by Commission.

2.2 The following provisions of Central Electricity Authority (Technical Standards for Communication System in Power System Operations) Regulations, 2020 notified on 27.02.2020 merit attention:

…….

7. Reliability:

(1) Total outage period shall be less than sixteen hours on monthly basis each for interface node, wideband node and communication network.

(2) The total outages in a rolling twelve months assessment period shall be less than forty-eight hours.

(3) The communication system shall be designed to ensure adequate redundancy.

…….

8. Design and planning :

…….

(5) User shall ensure centralized monitoring or management of its communication network and shall provide necessary facilities for configuration, identification of fault and generation of various reports on availability of the communication system.

(6) User shall be responsible for planning, design, implementation, secured operation and maintenance of its own communication infrastructure to be interfaced with the communication system.

…….

21. Training :

(1) Specialized training shall be provided to the persons manning the centralized monitoring center and to the field support staff to ensure quick fault detection and restoration of the communication system.

(2) Training shall be provided to the maintenance persons on all communication equipment for its operation and maintenance.

3. Objective :

3.1 Regulation 7.3 of Central Electricity Regulatory Commission (Communication System for inter-State transmission of electricity) Regulations, 2017 states

7.3 Role of National Power Committee (NPC) and Regional Power Committee (RPC):

…….

(iv) The RPC Secretariat shall be responsible for outage planning for communication system in its region. RPC Secretariat shall process outage planning such that uninterrupted communication system is ensured.

…….

3.2 Regulation 10 Central Electricity Authority (Technical Standards for Communication System in Power System Operations) Regulations, 2020 notified on 27.02.2020 states

10. Outage planning: Monthly outage shall be planned and got approved by the owner of communication equipment in the concerned regional power committee, as per detailed procedure finalized by the respective regional power committee.

3.3 The objective of this Procedure on Outage Planning of communication System is to carry out outage planning for communication system in ER such that uninterrupted communication system is ensured. Monthly outage of Communication Equipment/system shall be planned by the owner of communication equipment / link in coordination with ERPC/ERLDC/SLDCs and placed in the forum of ERPC and shall be discussed for approval as per the procedure.

4. Scope and applicability:

4.1 The scope and applicability as per Central Electricity Regulatory Commission (Communication System for inter-State transmission of electricity) Regulations, 2017 is given below:

…….

5. Scope and Applicability:

(i) These regulations shall apply to the communication infrastructure to be used for data communication and tele-protection for the power system at National, Regional and inter-State level and shall also include the power system at the State level till appropriate regulation on Communication is framed by the respective State Electricity Regulatory Commissions.

(ii) All Users, SLDCs, RLDCs, NLDC, CEA, CTU, STUs, RPCs, REMC, FSP and Power Exchanges shall abide by the principles and procedure as applicable to them in accordance with these regulations.

…….

4.2 The applicability as given in Central Electricity Authority (Technical Standards for Communication System in Power System Operations) Regulations, 2020 notified on 27.02.2020 is given below:

…….

3.Application:These regulations shall apply to all the users; National Load Despatch Centre, Regional Load Despatch Centres, State Load Despatch Centres, Load Despatch Centres of distribution licensee, Central Transmission Utility, State Transmission Utilities, Regional Power Committees, Renewable Energy Management Centres, forecasting service provider and power exchanges.

…….

4.3 All concerned entities stated above would coordinate with ERPC / ERLDC for outage planning of Communication System.

4.4 Communication System Outage Planning will be limited to the following system:

(i) ISTS Communication System including ISGS
(ii) Intra-state Communication System being utilized for ISTS Communication
(iii) ICCP links between Main & Backup RLDCs, Main & Backup SLDCs &Main & Backup NLDCs
(iv) VC links between LDCs
(v) Inter regional AGC links
(vi) Any other system agreed by the forum

4.5 Communication Equipment/link within the scope of the Procedure would include:

(i) Optic Fibre links
(ii) Any other link being used for ISTS communication
(iii) ICCP links between Main & Backup RLDCs, Main & Backup SLDCs & Main& Backup NLDCs
(iv) SDH & PDH
(v) DCPC
(vi) RTU& its CMU cards
(vii) DTPCs
(viii) Battery Banks and Charging Equipment
(ix) EPABX
(x) Any other equipment/link agreed by the forum

Note: PLCC would not be included, if the link is not used for SCADA Data.

5. Procedure on Monthly Outage Planning of Communication System-ER:

5.1 Each concerned Entity would nominate a Nodal Officer/ Alternate Nodal Officer along-with details to the ERPC/ERLDC along-with designation, mobile number; email ID etc. Nodal Officer/ Alternate Nodal Officer would interact internally and would be single point contact for outage planning with ERPC/ERLDC.

5.2 The outage proposal of the communication equipment/links for the succeeding month shall be submitted in the prescribed format (attached as Annexure: COF-I & COF-II) to ERPC Secretariat via mail (erpcscada@gmail.com) only.

The type of services (viz. data, voice, protection etc.) being affected/ not affected may be mentioned in the format. If there is no interruption to any service, the precautions and actions (like redundant path) being taken to ensure data, voice etc availability may also be mentioned, which facilitates to avoid simultaneous outage for the same service(s). Any other communication system related issues would be addressed to this mail (erpcscada@gmail.com) only.

5.3 The proposed list of communication outages for the succeeding month shall be submitted to ERPC latest by 8th day of the current month.

5.4 Users / Owners of the communication equipments/links need to furnish their monthly outage proposal in respect of their equipments/links in the prescribed (in excel) format only. Modification of this format is not allowed. However, suggestion for improving the format is solicited. Outage proposals not in the format or through Fax/PDF etc may liable to be rejected.

5.5 RPC will consolidate the list of outage proposals received from various Users/ Owners of the communication equipments/links and publish the list by 11th of every month.

5.6 Communication outages affecting other regions would be coordinated by ERLDC through NLDC.

5.7 A meeting will be conducted every month during 2nd/3rd week of the month through VC to discuss and approve / dispose the proposed list of outages pertaining to communication links/

equipments. The date of VC will be informed during the 1st week of the month.

5.8 The VC for approving the communication outage will be termed as "Communication System Outage Planning Meeting for Eastern Region (COMER)" prefixed with the no of meeting and suffixed with the name of month for which the outages are proposed.
For example, for availing outage of communication equipments for the month of June 2021, COMER-June 2021 (1st COMER for June 2021) will be held on the middle of May, 2021.

5.9 In the VC, the system constraints pertaining to the outage of communication equipments/links, if any, shall be discussed and the outage proposals will be approved/ revised/ disposed based on the outcome arrived in the VC. Therefore, all the Users/Owners of the communication equipments/links shall attend the VC without fail including ERLDC. It is requested that the Nodal Officers who do not have VC facility may join in the nearby VC available with State SLDC / PGCIL.

5.10 The final approved list of communication equipments will be published by ERPC after 3 days from the date of VC.

5.11 In case of any emergency outage requirement of communication equipments, Users/ Owners may directly apply on D-1 basis to ERLDC via mail ID erldcscada@posoco.in.

5.12 For the outages of communication equipments/links which are approved in the VC, concerned entities shall confirm availing of approved outages of communication equipments on D-2 day to ERLDC at erldcscada@posoco.in or intimate the dropping of approved outages, if any.

5.13 The concerned entity shall give intimation to ERLDC Control room/ERLDC SCADA team before start of the work & after completion of the work.

5.14 ERLDC shall coordinate with the concerned entities that are likely to be affected by the outage of communication equipments/links.

5.15 All Users / Owners of the communication equipments/links will submit their deviation report by 10th of the month in respect of the outages of communication links/ equipments availed during the previous month as per the format attached at Annexure: DCOA-I & DCOA-II.

****

Annexure -COF I

List of outages of Communication Links, proposed to avail during the month of June, 2021

Dated :
COMER VC Date :

A Details of Communication Links (Point to Point) proposed :

SL	Name of Requesting Agency	Description of Link	Source	Destination	Channel Routing/Alternate channel status	Ownership/Coordinating agencies	Reason for availing outage & Precautions / actions being taken to ensure communication system availability	Outage proposed from	Outage proposed upto	Total hours of outage proposed now	Approved ? (Y/N)	RPC Remarks
1	2	3	4	5	6	7	8	9	10	11	12	13
1	**Example**	Data/Voice, PLCC - OFC	Thirubuvanai	Pondy SCC	Thirubuvanai – Villianur 230 – Pondy SCC	PED, Puducherry	Preventive Maintenance. 110KV Thirubuvanai power flow data would be available from Villianur 230KV RTU	07-Jan-21, 10:00	07-Jan-21, 13:00	**03:00**		

Name of Communication links/channels
1. OF links
2. Any other link being used for ISTS communication
3. ICCP links
4. Any other link

Format

Annexure - COF II

List of outages of Communication Equipment, proposed to avail during the month of June, 2021

Dated :

Communication VC Date :

B Details of Communication Equipment proposed :

SL	Name of Requesting Agency	Name of the communication equipment	Location of the Equipment / Name of Station	Name of the Channel / Path / directions affected	Alternate Channel / Path available (Furnish details)	Ownership/Coordinating agencies	Reason for availing outage and precautions / actions being taken to ensure communication system availability	Outage proposed from	Outage proposed upto	Total hours of outage proposed now	Approved ? (Y/N)	RPC Remarks
1	2	3	4	5	6	7	8	9	10	11	12	13
	Example	PLCC, ABB, ETL41, TK1 SPS protection trip	Thingalore 230 kV SS	Ingur 230 kV SS	No	TANTRANSCO	Maintenance work	20-Jan-21, 10:00	20-Jan-21, 14:00	**04:00**		

Name of Communication links/channels

1. SDH & PDH

2. DCPC

3. RTU & its CMU Cards

4. DCPCs

5. Battery banks and Charging equipment

6. EPBAX

7. Any other equipment

Annexure: DCOA-I

Outage Deviation Report : List of outages of Communication Links, availed / deviated during the month of June, 2021

Dated :

A Details of Communication Links (Point to Point) availed :

SL	Name of Requesting Agency	Description of Link	Source	Destination	Channel Routing	Ownership	Reason for availing outage with the details of equipment attended	Approved Start Date : Time [dd-mm-yy<><>hh:mm]	Approved End Date : Time [dd-mm-yy<><>hh:mm]	Approved Outage Hours	Outage availed Start Date : Time [dd-mm-yy<><>hh:mm]	Outage availed End Date : Time [dd-mm-yy<><>hh:mm]	Total hours of outage availed now	Deviation ? (Y/N)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	**Example**	Back up Control Center (BCC) : Data	KAYATHAR 230 kV SS	MADURAI LDC	Data will be availble throu	TANTRANSCO	Shifting of FODB panel at Kayathar 230 KV SS	10-Mar-2021 09:00	10-Mar-2021 18:00	**09:00**	10-Mar-2021 14:07	10-Mar-2021 17:30	**03:23**	**N**

Annexure: DCOA-II

Outage Deviation Report : List of outages of Communication Equipment availed / deviated during the month of June, 2021

Dated : **00:00**

B Details of Communication Equipment availed :

SL	Name of Requesting Agency	Name of the communication equipment	Location of the Equipment / Name of Station	Name of the Link/Channel/Path / directions affected	Alternate Channel/Path available ? (Furnish details)	Ownership	Reason for availing outage with the details of faults	Approved Start Date : Time [dd-mm-yy<><>hh:mm]	Approved End Date : Time [dd-mm-yy<><>hh:mm]	Approved Outage Hours	Outage availed Start Date : Time [dd-mm-yy<><>hh:mm]	Outage availed End Date : Time[dd-mm-yy<><>hh:mm]	Total hours of outage availed now	Deviation ? (Y/N)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	**Example**	DC Charger -2, Amararaja, 48v,	Edamon	Nil	Nil	KSEBL	Monthly maintenance. No interruption as alternate chargers	16-Mar-21, 11:00	16-Mar-21, 16:00	**05:00**	16-Mar-21, 10:30	16-Mar-21, 16:00	**05:30**	**Y**

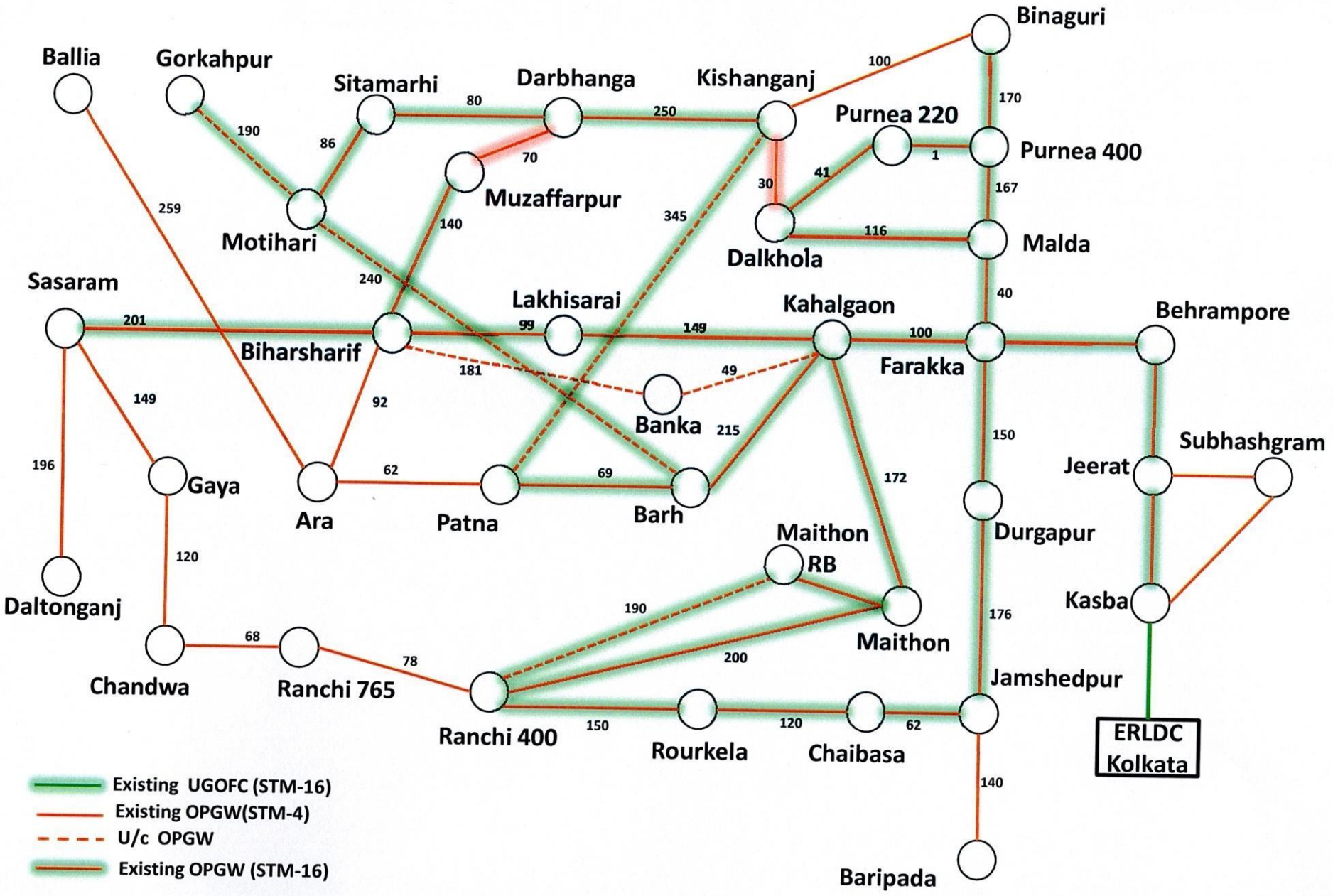
Annexure-B.3

LIST OF THE SUBSTATIONS UNDER OPTCL JURISDICTION WHOSE UPDATED DISPLAY & DATABSE ARE NOT PRESENT WITH ERLDC

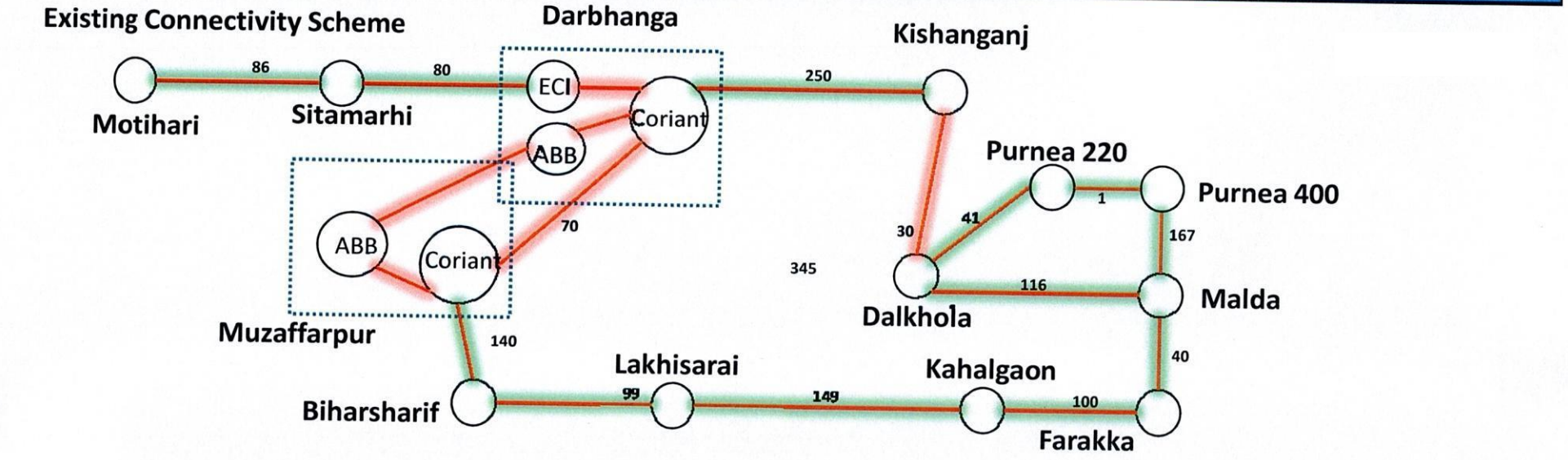
S No	SUBSTATION NAME	VOLTAGE LEVEL
1	JAYPATNA	220
2	KASIPUR	220
3	BALASORE	220
4	CUTTACK	220
5	BASUNDARA	220
6	BUDHIPADAR	220
7	BIDANASI	220
8	CHANDAKA B	220
9	ESSAR STEEL	220
10	IOCL	220
11	TATA GOPALPUR	220
12	IRE	220
13	ISPAAT ALLOYS	220
14	SAMANGARA	220
15	ROHIT	220
16	NARENDRAPUR	220
17	THERUVALI	220
18	BOGRAI	132
19	BRAJABIHARIPUR	132
20	B C MOHANTY COLONY	132
21	CHANDBALI	132
22	CHANDPUR	132
23	CHIKITI	132
24	BETANATI	132
25	DABUGAON	132
26	DIGAPAHANDI	132
27	DPCL	132
28	DPCL PORT	132
29	BIRLA TYRES	132
30	EMAMI	132
31	FACOR	132
32	GANJAM	132
33	GORAKHNATH	132
34	JABAMAYEE	132
35	JAGANATHPUR	132
36	JAGATSINGHPUR	132
37	KENDAPARA TSS	132
38	KIPADRA TR.	132
39	KONARK	132
40	KSURA	132

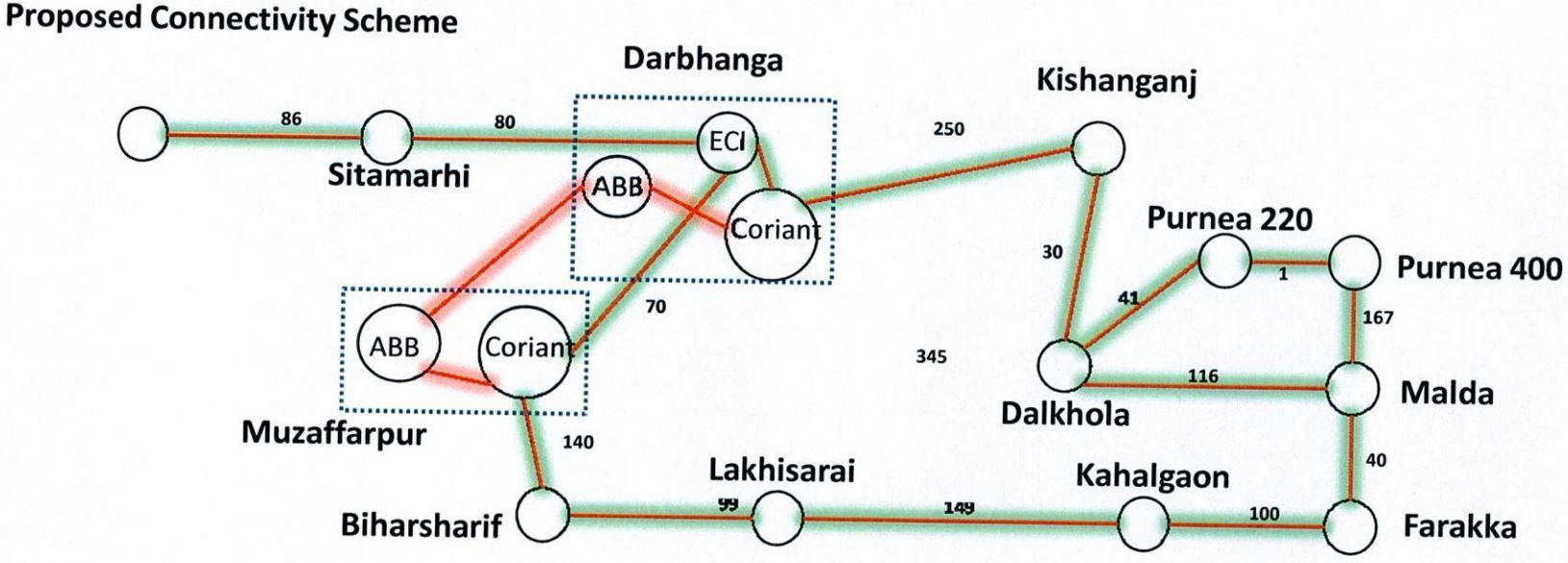
41	MASHAGHAI	132
42	MESCO	132
43	IFFCO	132
44	NEW ASKA	132
45	OVALAR	132
46	PARADEEP	132
47	PATTAMUNDAI	132
48	PPL	132
49	PPT	132
50	PRATAPASA	132
51	PURI	132
52	PURUSHOTTAMPUR	132
53	RAIRANGPUR	132
54	R.S. PUR	132
55	RTSS	132
56	SATASANKHA2	132
57	S F ALLOYS	132
58	SHAMUKA	132
59	SOLARI	132
60	SOMNATHPUR	132
61	T KHUNTI	132
62	TOMKA	132
63	ARGUL	132
64	BALIMUNDA	132
65	UDALA	132
66	UMERKOTE	132
67	BAMUPAL	132

SLD of OPGW Connectivity of ERTS-I Stations



Proposed Provisioning/Upgradation





Issue of LDMS, Inverter in BSPTCL

Annexure-B14.5

S.No.	SITE NAME	ISSUE	REMARKS
1	Kishanganj Old	RTU & SMPS issue	SMPS issue
2	Madhepura	LDMS Issue	
3	Kusheshwar Asthan	Inverter Issue	
4	Aurangabad	LDMS not getting ON	Inverter and SMPS issue
5	Banjari	Inverter of LDMS Issue	Invertor Faulty
6	Banka	LDMS displaying mismatched data.	Meerkat Software Issue
7	Begusarai	Inverter Issue	
8	Bettiah	Inverter Issue	Inverter faulty
9	Chapra	Inverter Issue	Inverter faulty
10	Dalsinghsarai	CPU Issue	inverter and SMPS issue
11	Goh	Meerkat Software Issue. Data is not displaying on SLD	Inverter faulty
12	Jagdishpur	Power Supply of Inverter not working	Inverter faulty
13	Jahanabad	Inverter Issue	Inverter faulty
14	Jainagar	CPU Issue.	
15	Jandaha	LDMS and Inverter issue.	Inverter faulty
16	Kahalgaon	LDMS and Inverter issue.	Inverter and SMPS issue
17	Karmanasa	Keyboard and Mouse of LDMS Faulty.. Modbus faulty only data of 33 KV is	Node Unhealthy and inverter isssue
18	Kataiya (kosi)	LDMS Monitor Issue	inverter and SMPS issue
19	Katihar	Inverter faulty, UPS faulty	inverter and SMPS issue
20	Kochas (Dinara)	LDMS not getting ON	
21	Pandaul	LDMS software issue	Meerkat corrupted
22	Phulparas	LDMS and Inverter issue	inverter and SMPS issue
23	Purnea	System restart with Blue Screen Error	
24	Rafiganj	LDMS monitor not getting ON	
25	Raxaul	Inverter & LDMS Issue	inverter and SMPS issue
26	Saharsa	Invertor Issue	Invertor Faulty
27	Samastipur	Meerket software Corrupted and Inverter Issue	Meerkat Software and Inverter Issue
28	Sheikhpura	HDD faulty, Front panel faulty	CPU handed over to M/s Chemtrols Representative
29	Sipara	Meerkat software Issue	Meerkat sofware Issue
30	Sitamarhi	LDMS CPU and Inverter Issue	Inverter and SMPS issue
31	Siwan	Inverter & LDMS Issue	Inverter and SMPS issue
32	Sonebarsa	CPU Issue	Inverter and SMPS issue
33	Sonenagar	Software not updated	Meerkat Software issue
34	Tekari	CPU issue	Inverter and VGA Cable
35	Valmikinagar	CPU issue	Inverter issue
36	Wazirganj	LDMS CPU Issue	LDMS not Starting (SMPS issue)