



भारत सरकार
Government of India
विद्युत मंत्रालय
Ministry of Power
पूर्वी क्षेत्रीय विद्युत समिति

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Azadi Ka
Amrit Mahotsav



Eastern Regional Power Committee

14, गोल्फ क्लब रोड, टॉलीगंज, कोलकाता-700033

Tel. No.: 033-24239651, 24239658 | FAX No.: 033-24239652, 24239653 | Web: www.erpc.gov.in

NO. ERPC/Op/SCADA/2022/ 192

DATE: 09.05.2022

To,

As per list enclosed.

Sub: Minutes of 11th Telecommunication, SCADA and Telemetry (TeST) Sub-Committee Meeting held on 08.04.2022 (Friday) through MS Teams Platform- reg.

Sir,

Please find the minutes of the 11th TeST meeting of ERPC held on 08.04.2022 (Friday) through MS Teams online meeting platform available at ERPC website (<http://www.erpc.gov.in/>).

Observations, if any, may please be forwarded to this office at the earliest.

Regards,

Yours faithfully,



(A.De)

Executive Engineer (Operation)

LIST OF ADDRESSES:

1. CHIEF ENGINEER (ULDC), BSPTCL, PATNA, (FAX NO. 0612-2504557/2504937)
2. DY. GENERAL MANAGER, (ULDC), JUSNL, RANCHI (FAX NO. -0651 -2490486/2490863)
3. CHIEF GENERAL MANAGER, (TELECOM), OPTCL, BHUBANESWAR (FAX NO.0674-2748509)
4. GENERAL MANAGER, TTPS, TALCHER, (FAX NO. 06760-243212)
5. CHIEF ENGINEER, CLD, WBSETCL, HOWRAH, (FAX NO. 033-26886232)
6. CHIEF ENGINEER, COMMUNICATION, WBSETCL, SALT LAKE (FAX NO.: 033-23591955)
7. CHIEF ENGINEER, SLDC, DVC, HOWRAH (FAX NO. 033-2688-5094)
8. ADDL.CHIEF ENGINEER, SLDC, POWER DEPT. , GOVT. OF SIKKIM, GANGTOK, (FAX NO. 03592-228186/201148/202284)
9. CHIEF ENGINEER, SLDC, DVC, MAITHON
10. EXECUTIVE DIRECTOR, ERLDC, POSOCO, KOLKATA, (FAX NO. 033-2423-5809)
11. GENERAL MANAGER, FSTPP, NTPC, FARAKKA, (FAX NO. 03512-224214/226085/226124)
12. GENERAL MANAGER, KhSTPP, NTPC, KAHALGAON (FAX NO.06429-226082)
13. GENERAL MANAGER, TSTPP, NTPC, TALCHER, (FAX NO. 06760-249053)
14. EXECUTIVE DIRECTOR, POWERGRID, ER-II, KOLKATA(Fax no: 033-23572827)
15. EXECUTIVE DIRECTOR, POWERGRID, ER-I, PATNA, (FAX NO.0612-2531192)
16. EXECUTIVE DIRECTOR, POWERGRID, ODISHA PROJECTS, SAHID NAGAR, BHUBANESWAR - 751 007
17. EXECUTIVE DIRECTOR (O&M), NHPC, FARIDABAD (FAX No.:0129-2272413)
18. GENERAL MANAGER, TEESTA -V POWER STATION, NHPC, SINGTAM, EAST SIKKIM (FAX 03592 · 247377)
19. CHIEF ENGINEER, RANGIT POWER STATION, NHPC, P.O. RANGIT NAGAR, SOUTH SIKKIM (FAX NO.03595-259268)
20. PLANT HEAD, ADHUNIK POWER & NATUARAL RESOURCES, JHARKHAND (FAX NO.: 0657-6628440)
21. AGM (OPERATION), MAITHON POWER LTD, DHANBAD (FAX: 08860004758)
22. GENERAL MANAGER (O&M), NHPC LTD, FARIDABAD, FAX: 0129-2272413
23. ASSOCIATE VICE PRESIDENT, GMR KEL, BHUBANESWAR-751007. (FAX NO: 0674-2572794)
24. SHRI D. P. BHAGAVA, CHIEF CONSULTANT (O&M), TEESTA URJA LIMITED, NEW DELHI -110 001(FAX:011 - 46529744)
25. SHRI BRAJESH KUMAR PANDE, PLANT HEAD, JITPL. (FAX:011 ·26139256-65)
26. CEO, SNEHA KINETIC POWER PROJECTS PVT. LTD. #31 – A, NATIONAL HIGHWAY, BEHIND SNOD BUILDING, DEORALI, GANGTOK, SIKKIM-737102.
27. PLANT HEAD, CHUZACHEN HYDRO ELECTRIC PROJECT, GATI INFRASTRUCTURE PVT LTD, LOWER BERING KARABARI, PAKYONG, EAST SIKKIM, 737106
28. ED, DANS ENERGY PVT. LTD, 5TH FLOOR, BUILDING NO.8, TOWER-C, DLF CYBER CITY, PHASE-II, GURGAON-122002.
29. GENERAL MANAGER, STPP, NTPC, BARH.
30. DY. GENERAL MANAGER (OS), NTPC, ER-LL, N-17/2, 3-5 FLOORS, OLIC BUILDING, NEAR UNION BANK, NAYAPALLI, BHUBANESWAR, ODISHA 751012.
31. ADDITIONAL GENERAL MANAGER (OS), NTPC OFFICE COMPLEX, ER1 HQ, SHASTRI NAGAR, PATNA, BIHAR 800029
32. CHIEF ENGINEER (COMMUNICATION), DVC TOWER, CIT SCHEME VII M, ULTADANGA, KOLKATA, WEST BENGAL 700067.
33. AGM (EEMG), NABINAGAR POWER GENERATING COMPANY LTD, SHIVANPUR, P.O.-ANKORHA DIST.-AURANGABAD, STATE – BIHAR PIN -824 303
34. GENERAL MANAGER, DARBHANGA-MOTIHARI TRANSMISSION COMPANY LTD.,A-26/03,MOHAN COOPERATIVE INDUSTRIAL ESTATE,MATHURA ROAD,NEW DELHI 110044.
35. AGM (EEMG) BHARTIYA RAIL BIJLEE COMPANY LIMITED, NABINAGAR, H-TYPE OFFICE PO-PIROUTA, P.S.-KHAIRA, DISTT-AURANGABAD, BIHAR-824 303,
36. DIRECTOR (OPERATION), ODISHA POWER GENERATION CORPORATION LTD. IB THERMAL POWER STATION, BANHARPALLI, DISTRICT- JHASUGUDA ODHISA—768234
37. SHRI THYAGARAJ RAMACHANDRAN, DIRECTOR (INTERNATIONAL OPERATIONS), M/S OPEN SYSTEMS INTERNATIONAL, INC. 4101 ARROWHEAD DR. MEDINA, MINNESOTA, USA 55340-9457
38. SHRI ANISH RAJGOPAL, DIRECTOR, M/S CHEMTROLS INDUSTRIES PRIVATE LIMITED, AMAR HILL, SAKI VIHAR ROAD, POWAI, MUMBAI – 400 072

14 गोल्फ क्लब रोड, टॉलीगंज, कोलकाता - 700 033 | 14 Golf Club Road, Tollygunge, Kolkata – 700 033.

Tele: 24239657, 24239651, 24239650. Fax: 24239652, 24239653. www.erpc.gov.in, Email: mserpc-power@nic.in



**MINUTES
OF
11th TeST MEETING**

Date: 09.05.2022

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

EASTERN REGIONAL POWER COMMITTEE

MINUTES OF 11th TeST MEETING HELD ON 08.04.2022(FRIDAY) AT 10:30 HRS

PART – A

ITEM NO. A.1: Confirmation of Minutes of 10th TeST Meeting held on 01st November 2021 through MS Teams online platform.

The minutes of 10th Telecommunication, SCADA and Telemetry Sub-Committee meeting held on 01.11.2021 circulated vide letter dated 28.12.2021.

Members may confirm the minutes of 10th TeST meeting.

Deliberation in the meeting

Members confirmed the minutes of 10th TeST Meeting.

PART B: ITEMS FOR DISCUSSION

ITEM NO. B.1: Implementation of Cyber Security Standards in OT/IT System as per guidance of MoP

All constituents are required to adhere to the recommendations and best practices issued from time to time by MoP/CERT-In/NCIIPC and other Authorities to protect their OT/IT system and related network from cyber threats.

The following are required to be implemented in all SLDCs at the earliest:

1. Availability of adequate security devices (e.g, Next generation Firewall for gateway, Endpoint security etc) for IT & OT Networks to be ensured.
2. Regular checking of logs of Firewall and other security devices is required and Logs should be retained for at least six month for analysis in case of any incident.
3. Adequate cyber security policy and procedures should be in place.
4. Cyber crisis management plan (CCMP) for all SLDCs should be prepared.
5. VAPT audit and compliance should be carried out in every six months.

SLDCs may update.

Deliberation in the meeting

TeST committee enquired each SLDC to give updates about the implementation of above-mentioned cyber security guidelines.

West Bengal SLDC/WBSETCL representative informed that they had already formed cyber security committee in order to take care of all cyber security issues. Regarding upgradation of firewall for IT and OT network, he informed that at present older version of firewall is installed in OT network and no firewall had been installed for IT network. Regarding VAPT audit, he informed that audit and compliance is carried out once in year at present.

TeST committee advised WB SLDC to carry out VAPT audit twice in a year and further advised them to update about installation of firewall in IT system to ERPC/ERLDC at the earliest.

SLDC Odisha representative informed that meeting with ERLDC was held recently regarding these guidelines. He added that firewall is installed for both IT and OT network. Regarding VAPT audit, he informed that audit and compliance is carried out once in year at present. However, they had already informed the concerned agency to conduct VAPT audit twice in a year. On enquiry from ERLDC regarding Cyber security policy and CCMP he informed that cyber security policy had been already submitted and CCMP is under preparation and would be prepared in one week and subsequently it would be shared.

SLDC DVC representative informed that upgradation of firewall for both IT and OT network had been completed. He further informed that CCMP and cyber security policy had already been submitted. Regarding VAPT audit, he informed that audit and compliance is carried out twice in a year as per cyber security standards and guidelines.

SLDC Bihar representative informed that adequate security devices and firewall are installed for both IT and OT network. He further added that logs of firewall and other security devices are regularly checked and logs are retained for at least six months for analysis in case of any incident. He further added that cyber security policy has already been made and implemented. He also informed that CCMP had been shared. Regarding VAPT audit, he informed that last audit was completed in March 2022 and agency had been informed to conduct VAPT audit twice in a year.

SLDC Jharkhand representative informed that adequate security devices and firewall are installed for both IT and OT network. She further added that VAPT audit and compliance is carried out once in year at present and it is planned to conduct VAPT audit and compliance twice in a year as per cyber security standards and guidelines.

ERLDC representative requested SLDC Jharkhand to share their network diagram so that study can be carried out and certain recommendations can be provided to SLDC Jharkhand in order to protect their IT network from cyber threat.

SLDC Sikkim representative was not present in the meeting.

ERLDC representative informed that as per the communication received from Sikkim, none of cyber security guideline has been followed by Sikkim.

TeST committee advised ERPC Secretariat to take updates regarding the said cyber security guidelines from Sikkim.

CTU representative informed that as per cyber security guidelines there should be hard isolation of OT systems from any internet facing IT system. He further added that perimeter security and substation security need to be checked. He also informed that hackers are trying to attack on SLDC and RLDCs website so proper security mechanisms need to be taken by SLDCs and ERLDC like migration to https from http, if not already done, in order to avoid cyber security incidents.

TeST committee opined that workshop on Cyber Security issues could be conducted so that it will be easier for the concerned utilities to understand and comply with the various guidelines.

TeST committee further advised all SLDCs to follow above mentioned guidelines in order to avoid cyber security issues in OT and IT networks.

ITEM NO. B.2: Optimum utilization of communication systems of Eastern Region: ERLDC

Following latest documents pertains to communication system of Eastern Region are requested to be provided by POWERGRID & Constituents

- BOQ of communication system at each node in Eastern Region
- Channel routing details / band width utilization details of each equipment at each communication node.
- Updated communication network of Eastern Region

The above documents will be utilized to know the congestion in the system and to study for optimum utilization of network /equipment improving reliability of system by forming ring/double rings links in the network (between SLDC /CS) by using existing logistics /adding the additional equipment /FO links if required.

Members may discuss.

Deliberation in the meeting

ERLDC representative informed that in order to improve redundancy of communication network and to know about congestion in the system, the following data are required:

- *BOQ of communication system at each node in Eastern Region*
- *Channel routing details / band width utilization details of each equipment at each communication node.*
- *Updated communication network of Eastern Region*

He further added that by use of these documents, study for optimum utilization of network /equipment improving reliability of system by forming ring/double rings links in the network (between SLDC /CS) by using existing logistics /adding the additional equipment /FO links can be done.

CTU representative submitted that format had been given to Powergrid and SDLCs in order to share communication links/ equipment details to CTU in order to help in planning of communication network. However, they had not received any details till date from concerned utilities. He requested concerned utilities to share data to CTUs at earliest.

West Bengal representative informed that details would be shared at earliest.

Bihar representative informed that as per given format, data required by CTU is quite exhaustive and it would be better if revised format could be shared by CTU for information required on priority basis. CTU representative submitted that details like power map, optical map, number of links details, STM capacity of link etc can be given to CTU on priority.

TeST Committee advised ERLDC to prepare a format for requisite details and share it to concerned utilities.

TeST Committee further advised all concerned utilities to share details as per the format shared by ERLDC.

ITEM NO. B.3: Draft Procedure on Monthly Outage Planning for Communication Systems 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-B3.1**) and formats (**Annexure-B3.2**) 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.

In 9th TeST Meeting, ERLDC and Powergrid representatives informed that they would provide their observations on the draft procedure by 25.06.2021.

Test Committee advised all utilities to provide their observations to ERPC latest by 25.06.2021 so that the procedure can be finalized.

In 10th TeST Meeting, ERLDC representative submitted that it would be better if the constituents can provide list of all communication equipment/ link so that outage planning for communication equipment/links can be done in an efficient way.

TeST Committee advised ERLDC to share a format to all the concerned utilities so that requisite require details can be shared by them by the end of November'2021.

Powergrid representative submitted that as per the procedure on monthly outage planning for communication system, it is mentioned that RTU, CMU cards, Battery Bank, DTPC, DCPC, EPABX details are also required for outage planning, however, these are SCADA related equipment and may not be counted as communication equipment/link so their details need not be required for monthly outage planning.

ERPC advised Powergrid to provide their observations to ERPC at the earliest.

TeST Committee advised all concerned utilities to share requisite details to ERPC/ELDC in the format shared by ERLDC.

Members may update.

Deliberation in the meeting

ERLDC representative informed that requisite details had not been received till date from any constituents.

Powergrid representative submitted that as per the procedure on monthly outage planning for communication system, it is mentioned that RTU, CMU cards, Battery Bank, DTPC, DCPC, EPABX details are also required for outage planning, however, these are SCADA related equipment and may not be counted as communication equipment/link so their details need not be required for monthly outage planning.

On query, CTU representative clarified that if battery bank is linked with communication equipment and outage is resulted due to failure of battery bank then it may be considered for monthly outage planning. However, RTU, SAS etc are SCADA related equipment and these may not be considered for monthly communication outage planning. He further submitted that irrespective of outage of particular communication equipment, outage planning is to be considered if there is complete outage and data do

not report to SLDCs/RLDC as it may be possible that particular equipment like battery bank is down however data is responding to SLDCs/RLDC through alternate way.

ERPC representative informed that these details are required for monthly outage planning not for communication availability calculation. He further informed that meeting would be held on monthly basis to plan outage for communication system.

As no consensus could be arrived at, Powergrid representative requested TeST committee to refer this agenda to upcoming OCC Meeting.

TeST committee advised that this agenda may be discussed in upcoming OCC Meeting or separate meeting can be conducted among ERPC, ERLDC, Powergrid and other concerned utilities to resolve this issue.

ITEM NO. B.4: Renewal of expired license in internal and external firewalls in SCADA/ EMS at ERLDC MCC and BCC.

Firewalls, which are installed in SCADA/EMS system, are the key device to protect system from intrusion from cyber space.

Life of the external firewall i.e Check point 4200 is going to end by June 2022. So, the ERLDC SCADA system is going to be highly vulnerable to cyber security threat thereafter. ERLDC is in receipt of high cyber security alert form MHA, as well as recommendation for implementation of various policies from CERT-IN / NCIIPC to safeguard the system from cyber-attack.

On repeated persuasion from our end M/S Chemtrols had proposed PA 440 Firewall which is not meeting the approved DRS.

As per the guidelines of CEA (Cyber Security in Power Sector) Guidelines 2021, an Intrusion Detection System, and Intrusion Prevention System should be capable of identifying behavioral anomaly in both IT as well as OT Systems.

M/S Chemtrols may update.

Deliberation in the meeting

Test committee opined that this agenda would be discussed in a separate special meeting with ERPC, ERLDC, M/S Chemtrols and concerned utilities to be held on 26th April'2022 in physical mode.

ITEM NO. B.5: Failure of 40KVA UPS/Battery Back up at ERLDC

It is observed that the 40 KVA UPS & battery Banks installed at ERLDC (by M/s Chemtrols Industries Ltd.) had failed to provide Backup supply during raw power failure (CESE supply) at 11.56 hrs on 17.11.21 at ERLDC which had resulted in power supply failure in the VPS and other associated equipment installed in control room of ERLDC MCC.

An emergency meeting was held on 18.11.2021 between ERLDC & M/s Chemtrols. Representative of M/s Chemtrols informed that replacement of battery bank is required.

A review meeting with Director of M/s. Chemtrols was held on 25.11.2021 wherein M/s Chemtrols informed that purchased order will be placed for supply of 01 Set of Battery bank for ERLDC MCC and subsequently supply and installation commissioning of the replaced battery bank would be completed progressively by 31st January 2022 however, battery bank is yet to be supplied.

M/S Chemtrols may update.

Deliberation in the meeting

Test committee opined that this agenda would be discussed in a separate special meeting with ERPC, ERLDC, M/S Chemtrols and concerned utilities to be held on 26th April'2022 in physical mode.

ITEM NO. B.6: 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 extremely 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 (CI.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 exercise 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	Periodic audit must be carried out in all sub-stations,

	Communication system in line with CERC regulation	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. <ol style="list-style-type: none"> 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. <p>Note: Any of the above OT system LAN should not be having connection with IT network.</p>

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 utilization 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 concerned utilities to follow the guidelines for utilization of Inter-state OPGW network to prevent any interruption in the availability of services

In 9thTeST Meeting, TeST Committee advised ERLDC to share the formats to all the concerned utilities so that they can submit the requisite details for initiation of Phase –I of Audit i.e., scrutiny of information.

All utilities are advised to furnish the detailed information to ERPC and ERLDC at the earliest.

Also, ERPC Secretariat should constitute a Communication System Audit Sub-Group comprising one member each from ERPC, ERLDC, CEA and One of the Eastern Region SLDCs who will scrutinize all the information received and identify the nodes for physical inspection. TeST Committee advised SLDC Bihar (chosen alphabetically), ERLDC and ERPC to nominate one person each from their respective organizations for this Phase-I of Audit.

For Phase-II of Audit, ERPC Secretariat would constitute the Audit committees for various utilities based on the recommendations of the sub-group and the nodes for physical inspection. The audit should be carried out in a planned manner by a team of three auditors.

Further TeST Committee advised all the utilities to follow the guidelines for utilization of Inter-state OPGW network to prevent any interruption in the availability of services.

In 10th TeST Meeting, TeST Committee suggested that Powergrid may be included as a part of Communication System Audit Sub-Group for Phase-I of audit. TeST Committee further opined that consultation from CEA can be taken, if required. TeST Committee advised SLDC Bihar (chosen alphabetically), ERLDC, ERPC and Powergrid to nominate one person each from their respective organizations for this Phase-I of Audit.

Members may update.

Deliberation in the meeting

TeST committee advised concerned utilities to furnish the requisite details to ERPC and ERLDC as per given format by April 2022.

BSPTCL representative informed that details would be shared by April 2022.

Powergrid representative informed that details would be shared by April 2022.

DVC representative requested ERLDC to provide format for which ERLDC replied that they would share format to all utilities once again.

TeST committee informed that Phase-I of audit would be started once the details are received from all utilities.

ITEM NO. B.7: 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 6thTeST 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 8thTeST 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	LDMS network IP series different from LDCs SCADA RTU

	Substations	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.

In 9th TeST Meeting, Powergrid representative informed that regarding recommendation no 1, upgradation of RTU/SAS related to separate NIC card for each required Ethernet Port is in progress. Regarding recommendation no. 2, he informed that two different MUX for main and standby channel is in practice however in order to have two separate Ethernet cards for Main and Standby channels they need to take up this matter with their engineering wing. Regarding recommendation no. 3, Powergrid representative informed that it is not applicable for them. Lastly regarding the recommendation no. 4, he informed that unused Ethernet / LAN ports are always kept administratively down.

OPTCL representative informed that upgradation of 78 RTUs are already in progress and once upgradation work is completed separate NIC card for each required Ethernet Port would be upgraded in RTU/SAS.

ERLDC representative asked OPTCL to share the list of RTUs and SAS having multiple Ethernet ports availability for IEC 104 to ERLDC. He said that provision of separate Ethernet Cards in MUX needs to be checked and different IP series for LDMS network from LDCs SCADA RTU network also need to be checked by OPTCL. He further told OPTCL to follow the norms of cyber security as mentioned.

On query, OPTCL representative informed that they would share the requisite port details by 30th June 2021 and MAC address details within 1 month.

Jharkhand representative informed that related to RTU/SAS upgradation it would take around one month for completion of the same. He further informed that in order to check separate Ethernet card for main and standby link, it would take around 20 days. Related to LDMS connectivity issue, they would coordinate with M/S Chemtrols for checking IP series of old RTUs.

Bihar representative informed that 101 RTUs of M/S Chemtrols make, extra hardware need to be installed in order to have separate NIC card. He further informed that in rest of the RTUs, which are of Synergy make, provision of different IP series for LDMS network from LDCs SCADA RTU network has been kept in place.

M/S Chemtrols representative opined that extra router needs to be installed in order to have two separate NIC cards as well different IP series for LDMS network and RTU network.

TeST Committee advised ERLDC to make a uniform format regarding the above recommendations so that it can be shared among the concerned utilities to collect the requisite details.

ERLDC representative agreed to prepare a format for all recommendations and share it with all concerned utilities.

TeST Committee advised all the concerned utilities to share requisite details as per the format prepared by ERLDC as well as their issues, if any in implementing these recommendations to ERPC and ERLDC at the earliest.

In 10th TeST Meeting, ERLDC representative informed that format regarding recommendation was already sent to all constituents of Eastern Region and they had received requisite details from DVC and Jharkhand.

Bihar representative informed that they would share requisite details by one week.

Odisha representative informed that they had not received any format from ERLDC and further added that they would share requisite details in one week once the format is shared with them.

West Bengal representative informed that they had not received any format from ERLDC and further stated that they would share requisite details in 10 days once format is shared with them.

Sikkim representative informed that they would share requisite details by one week.

TeST Committee advised ERLDC to share format to West Bengal and Odisha and further advised all the concerned utilities to share requisite details as per the format to ERPC and ERLDC at the earliest.

Members may update the status.

Deliberation in the meeting

Bihar representative informed that they had already shared the requisite details.

Odisha representative informed that they would share the details at earliest.

West Bengal and Sikkim representative were not available during the discussion.

TeST committee advised all the concerned utilities to share requisite details as per the format to ERPC and ERLDC at the earliest.

ITEM NO. B.8: Implementation of ULDC SCADA Phase-III by Powergrid

The 1st and 2nd phase of ULDC SCADA Project has been executed and successfully commissioned by POWERGRID in the year 2005 and 2015 respectively. The up-gradation of SCADA/EMS systems will be due for ER Constituents in year 2022-23. It is proposed for unified implementation of the Upgradation of ULDC SCADA System (Phase-III) of Eastern Region considering optimum pricing due to economy of scale and seamless integration.

Following are the key points & major benefits of execution of the work through POWERGRID:

- Implementation of SCADA Up-gradation Project (Phase-III) in an integrated manner for getting economy of scale.

- POWERGRID has been successful in implementation and maintenance of ULDC Phase-I & Phase-II for last 20 years and would be willing to implement the ULDC Phase-III on similar lines as well. Since POWERGRID has implemented both the phase of SCADA Project earlier, more expertise with respect to any other entity which will enable smooth implementation
- No investment to be made by States/Constituents. POWERGRID will fund the project and the cost will be recovered through tariff as done in earlier ULDC scheme.
- Only two contracts (Supply and Service) shall be signed instead of 12 nos. (2 x 6 constituents).
- Since states/constituents have signed the maintenance contract themselves in ULDC phase-II and are facing lot of issues, POWERGRID is willing to cover the O&M part as well during ULDC Phase-III.

POWERGRID approached all the constituents with the above proposal. DVC, WBSETCL & JUSNL showed willingness and BSPTCL & OPTCL informed that they are also agreed for the unified implementation if all other constituent agrees.

In Northern Region, the up-gradation project is being taken up by POWERGRID after deliberation in TeST committee and subsequent approval in NRPC meeting.

All Constituents of Eastern Region may kindly provide consent regarding implementation of the ULDC SCADA Phase-III by POWERGRID.

In 10th TeST Meeting, Powergrid representative briefly explained about ULDC SCADA Phase-III project including the major benefits. He further informed that as per deliberation and decision taken in 18th TeST Meeting and 49th NRPC Meeting, Powergrid is taking up the implementation of up gradation (Phase -III) via tariff mode in Northern region also.

POSOCO representative informed that MOU had already been signed between POSOCO and constituents of Eastern Region for implementation of SCADA up-gradation Project Phase-III and POSOCO is ready for implementing this project. He further stated that technical specifications are also ready and if constituents provide their confirmation regarding the same, then tender could be floated in the next 30-40 days.

On query from ERPC regarding the integration issue if the said project implementation has been done by different agencies, POSOCO representative submitted that it would be better to have common agency for all concerned utilities. He further informed that although there would not be any issue with integration due to similar IEC, however there could be issue in nomenclature and spare management in future.

TeST Committee opined that as there are two agencies (Powergrid and POSOCO) for implementation of the said project, utilities have the option to choose from any one of them as per their decisions. TeST Committee advised all concerned utilities to provide their respective choice/views regarding implementation of SCADA up-gradation project to ERPC within 10 days to finalise the agency under which SCADA up-gradation project would be done.

Accordingly, DVC vide letter dated 05.11.2021, OPTCL vide letter dated 06.11.21, Sikkim vide letter dated 25.11.21, WBSETCL vide letter dated 02.12.21 and BSPTCL vide letter dated 08.12.21 have approached ERPC to go with POWERGRID for implementation of ULDC SCADA Phase-III. Views received are attached at **Annexure B8**.

Members may discuss.

Deliberation in the meeting

ERPC representative informed that as per the deliberation of 45th TCC and ERPC Meeting, Jharkhand would go with POSOCO for implementation of third phase of ULDC SCADA phase III whereas BSPTCL,

WBSETCL, OPTCL DVC and Sikkim had decided to go with POWERGRID for implementation of the same.

Hence, Upgradation/Replacement of existing SCADA/EMS system (ULDC Phase III) for all SLDCs of Eastern Region except Jharkhand would be implemented by POWERGRID on Regulated Tariff Mode (RTM). The tariff for the same shall be recovered as per existing CERC regulations. The scheme shall become part of existing Commercial Agreement signed for ULDC projects.

ITEM NO. B.9: Non-Availability of Farakka STPS Data at ERLDC

Farakka STPS has upgraded their old RTU to report it over IEC 104 protocol during April-2021. On completion of upgradation of the said RTU, most of the data from Farakka STPS were not updating at ERLDC. Even after continuous persuasion with Farakka STPS, around 50 nos. of digital and 25 nos. of Analog data are yet to be reported at ERLDC. It is learnt that telemetry of 4 nos. line bays namely Rajarhat, New Purnea, Berhampur I & II (owned and maintained by POWERGRID) are reporting on temporary arrangements for MW value only, balance analog and digital data are not reporting.

Further the Real Time Telemetry for Farakka STPS is highly intermittent in nature. Average data availability per day is around 40-45% .

In 9th TeST Meeting, NTPC representative informed that generating units as well as feeders' data of Farakka STPS had already been updated with ERLDC; however, SCADA data is pending from Powergrid end which has to be configured and sent to ERLDC.

On enquiry, ERLDC confirmed that they are getting generating units as well as feeders' data from NTPC, however still around 50 nos. of digital and 25 nos. of analog data are not updating at ERLDC.

Powergrid representative informed that upgradation of RTU of Farakka STPS had been done over IEC 104 protocol however no physical changes like field side wiring had been changed at RTU so SCADA data is available at SAS which NTPC has to send to ERLDC.

NTPC representative updated that after upgrading from IEC 101 to IEC 104 protocol there were some issues with the database due to problem in analog card. He further told that Powergrid had sent another analog card however it was not compatible with M/s GE RTU at Farakka end. NTPC representative requested Powergrid to send SCADA engineer at the site to rectify the issue.

TeST Committee advised NTPC and Powergrid to coordinate with each other and resolve the issue at the earliest.

In 10th TeST Meeting, NTPC representative informed that upgradation of SCADA system from IEC 101 to IEC 104 had already been completed. However due to shortage of analog card, telemetry of 4 nos. line bays namely Rajarhat, New Purnea, Berhampur I & II are reporting on temporary arrangements for MW value only and balance analog and digital data are not reporting. Regarding remedial measure he submitted that procurement of analog cards is in progress and O&M M/S GE had informed that they would provide analog card at earliest after which this issue would be resolved.

Regarding disruption in availability of real time telemetry for Farraka STPS, NTPC representative informed that gateway PC is rebooting itself multiple times due to motherboard issue and as a result average data availability per day drops to around 40-45%. He further informed that communication had been sent to M/S GE about this issue and it is expected that reconfiguration of system for gateway PC would be done within 3-4 days.

NTPC and Powergrid may update.

Deliberation in the meeting

ERLDC representative informed that issue of rebooting of PC had been resolved.

He further informed that bus voltage data, reactive power etc and digital status of most of the circuit breakers and isolators are still not reporting. Multiple communications were sent to NTPC in this regard however no reply has been received from NTPC.

NTPC representative was not available in the meeting.

TeST committee opined that a separate meeting may be conducted with the concerned utilities to resolve this issue.

<p>ITEM NO. B.10: Requirement of Shutdown and Data Outage for RTU replacement/SAS Upgradation Package for Eastern Region under Upgradation of SCADA/RTUs/SAS in Central Sector Stations and strengthening of OPGW network in Eastern Region.</p>

The installation & Commissioning work under RTU Replacement/SAS Upgradation Package for Eastern Region is expected to start. Data outage & Shutdown of feeders during integration works is expected as detailed below.

RTU Data Outage:

- | | | |
|-----|---|--|
| i) | RTU Locations where separate place has been identified for placement of new RTU | |
| | a) Binaguri | No. of days for which RTU data outage is |
| | b) Dalkhola | expected for above stations for cabling |
| | c) Durgapur | termination works: 07 days |
| | d) Maithon | |
| | e) Subhasgram | |
| ii) | RTU locations where new RTU has to be placed in place of existing RTU due to space constraint and site conditions | |
| | a) Malda. | No. of days for which RTU data outage is |
| | b) Gangtok | expected for above stations for cabling |
| | | termination works: 15 days |

Requirement of Shutdown

For SAS Stations (Birpara, Siliguri, Behrampore, New Melli, Rangpo) : 3-4 hrs S/D is required for each bay

RTU based stations: On SOS basis

In 10th TeST Meeting, Powergrid representative informed that there are few RTU locations where separate space had been identified for placement of new RTUs. In these S/S, 7 days of RTU outage is expected for cable termination work. He further informed that at Malda and Gangtok S/S, new RTU has to be placed in place of existing RTU due to space constraint; so, 15 days of RTU outage is expected for cable termination work.

ERLDC representative informed that outage for such high duration would definitely affect drawl calculation required for commercial accounting aspects. He advised Powergrid to minimize the duration of outage and suggested Powergrid to explore the possibility for parallel reporting so that outage duration can be restricted to 6-8 hours which is manageable. He also advised Powergrid to give bay wise estimated shutdown schedule to ERPC/ERLDC.

Powergrid representative added that for SAS stations, 3-4 hours of shutdown for each bay is required for testing.

TeST Committee advised Powergrid to give bay wise estimated outage schedule of RTU to

ERPC/ERLDC so that outage schedule can be managed efficiently. TeST Committee further advised Powergrid to explore the possibility for parallel reporting of RTU/SAS stations wherever it is possible and to minimize the outage duration for RTUs as much as possible.

Powergrid may update.

Deliberation in the meeting

Powergrid representative informed that due to delay in engineering approvals, the shutdown has been planned to be taken in June – July 2022.

Upon query about possibility of parallel reporting of RTU/SAS stations, Powergrid representative submitted that in case of space constraints, parallel reporting of RTUs is not possible however in case of availability of space, parallel reporting can be done.

ERLDC representative informed that in Malda and Gangtok as there is space constraint, parallel reporting may not be possible. However, in case of Binaguri, Dalkhola, Durgapur, Maithon, Subhasgram there are no space constraints and tie lines are also available. So technically parallel reporting of these RTUs can be done by Powergrid.

Powergrid representative submitted that they would try to provide parallel reporting of these RTUs while availing shutdown by consulting with OEM M/S Siemens.

ITEM NO. B.11: Issuance of Gate Pass for taking out defective PMU material from NTPC Kahalgaon

PMUs and associated materials have been installed at NTPC Kahalgaon under the URTDSM package of ER. One No. PMU (Sl. 502894V) and RT-430 (Sl. No. 291321) unit has got defective at Kahalgaon in Feb' 2020. The same has been replaced with spares available with POWERGRID in Feb'2020 itself. However, the defective PMU & RT-430 unit could not be taken out from Kahalgaon due to non-issuance of Gate pass. It is worth to mention that non-issuance of defective units for repair will hinder maintenance of ample spares with the AMC agency which may cause problem in ensuring healthiness of URTDSM system.

In 10th TeST Meeting, Powergrid representative informed that One No. of PMU and RT-430 unit got defective at Kahalgaon in Feb'2020 and same had been replaced with spares available with Powergrid in Feb 2020 itself. However, the defective PMU & RT-430 unit could not be taken out from Kahalgaon due to non-issuance of Gate pass.

TeST Committee advised NTPC to coordinate with CISF and extend support to Powergrid in getting entry gate pass at NTPC Kahalgaon for taking out defective PMU and RT-430 unit.

NTPC and Powergrid may update.

Deliberation in the meeting

Powergrid representative informed that One No. of PMU and RT-430 unit got defective at Kahalgaon in Feb'2020 and same had been replaced with spares available with Powergrid in Feb 2020 itself. However, the defective PMU & RT-430 unit could not be taken out from Kahalgaon due to non-issuance of Gate pass.

NTPC representative was not available in the meeting.

TeST committee opined that a separate meeting may be conducted with ERPC, ERLDC, NTPC and concerned utilities to resolve all issues related to NTPC at earliest.

ITEM NO. B.12: ROW Issues encountered during the OPGW Stringing work in 400 k V Angul-JITPL D/c Transmission Line

Under Package-I: Communication System for Central Sector under North Eastern Region (Additional) & Eastern Region (Reliable Scheme), POWERGRID has been entrusted for the establishment of OPGW Link in Angul-GMR, Angul-JITPL & Angul-Srikakulam (up to Location No.- 319) as a part of ULDC Project requirement.

In this regard, POWERGRID has awarded the contract to M/s Shenzhen SDG Information Company Limited (SDGI) for the establishment of OPGW link in Angul-GMR (Link Length- 29.855 KM), Angul-JITPL ((Link Length- 75.186 KM) and Angul-Srikakulam (up to Location No.- 319) (Link Length- 121.19 KM).

The Commissioning of the PMUs at GMR and JITPL end are also linked with the commissioning of Angul-GMR link and Angul-JITPL Link respectively.

Due to active support and co-operation from GMR, the OPGW stringing work of Angul-GMR link (Link Length- 29.855 KM) had been successfully completed. The final commissioning of this Angul-GMR OPGW link and PMUs at GMR end have been planned for completion during this month.

However, repeated ROW issues have been encountered during the OPGW stringing work of Angul-JITPL Link. Till date only 23.923 KM OPGW stringing work has been completed out of total link length of 75.186 KM.

These ROW issues are mostly related to the construction of the line. Since the line belongs to JITPL, therefore it is not becoming feasible for POWERGRID to carry out the balance OPGW stringing work (around 51.263 KM) of Angul—JITPL link without active participation from JITPL to resolve these inherent issues linked with the construction of 400kV Angul-JITPL Line.

The executing agency (M/s SDGI) had de-mobilized its gang on 11.03.2022 due to repeated ROW issues in Angul-JITPL Line, since their gang were compelled to sit idle for a long period of time without any work.

In view of the above facts, full support from JITPL end with their active participation is highly essential for the completion of the balance OPGW stringing work in Angul-JITPL link to ensure an early and successful commissioning of Angul-JITPL link along with PMUs at JITPL end.

Powergrid may explain. JITPL may update.

Deliberation in the meeting

Powergrid representative informed that they had been entrusted for the establishment of OPGW link in Angul-GMR, Angul-JITPL & Angul-Srikakulam (up to Location No.- 319) as a part of ULDC Project requirement. Regarding 400kV Angul-JITPL line, he informed that due to repeated ROW issues, only 23.923 KM OPGW stringing work had been completed out of total link length of 75.186 KM. He further informed that local villagers are demanding compensation and creating obstruction in OPGW installation work. He added that joint meeting was held between JITPL and Powergrid but ROW issues could not be resolved resolved by JITPL till date. Consequently, executing agency (M/s SDGI) had de-mobilized its gang on 11.03.2022 due to repeated ROW issues in Angul-JITPL Line, since their gang were compelled to sit idle for a long period of time without any work.

JITPL representative was not available in the meeting.

MS, ERPC submitted that communication would be sent to JITPL from ERPC Secretariat related to ROW issues during OPGW stringing work in 400kV Angul-JITPL Line so that by full support from JITPL, ROW issues can be resolved.

ITEM NO. B.13: Delay in completion of OPGW Installation work under ER- Additional Project

Eastern Region Fibre 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	336.5	10.17
2	400 kV Barh- Motihari & 400 kV Motihari- Gorkahpur Ckt-2	353.02	353.02	274.7	78.32
3	Ranchi- Maithon RB Ckt-2	187.94	187.94	187.94	0.00
	Grand- Total	887.63	887.63	799.14	88.49

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

- 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.
- 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.
- 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.
- 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.
- Delay due to flooding of Ganga and Gandak rivers and other tributary rivers namely Parman, Kankai, etc. causing fresh water logging and non-workable conditions in Patna- Kishanganj (now Patna- Saharsa- Kishanganj) and Barh- Motihari links.
- Outbreak of COVID-19 (3rd Wave) in Jan'22 to Feb'22 resulting implementation of fresh restrictions by the Government and causing delay in resumption of the balance works.

However, subsequent to reduction in COVID cases in Feb'22 end and improvement in the water logging conditions of Barh- Motihari Link, the agency has deputed its team to carry out the balance OPGW work in Barh- Motihari Link.

The team deputation in Patna- Saharsa link (erstwhile Patna- Kishanganj) is getting delayed due to standing crop & Ganga River Crossing, in the section pending for OPGW Installation (i.e. between Loc. No. 459 to 475, 10 kms approx, including Ganga River Crossing). The team in the said link will be deputed by the end of April 2022.

Members may note.

Deliberation in the meeting

Members noted.

ITEM NO. B.14: Delay in completion of OPGW Installation work by agency M/S PPCL under execution by PGCIL

Installation work of OPGW had been taken up M/S PPCL under execution by Powergrid for 132 KV Kahalgaon(BH)-Kahalgaon(NTPC) T/L and 132 KV Hathidah-Lakhisarai T/L – but had not completed yet.

Powergrid may update.

Deliberation in the meeting

Regarding 132 KV Kahalgaon(BH)-Kahalgaon(NTPC) T/L, Powergrid representative informed that work related to one span of the said line is remaining which is required to be completed in NTPC Kahalgaon premises. But they are facing problems related to entry permission in NTPC Kahalgaon. He further informed that OPGW work would be completed soon if entry permission is provided by NTPC at earliest.

NTPC representative was not available in the meeting.

TeST committee opined that a separate meeting would be conducted among ERPC, ERLDC, NTPC and concerned utilities to resolve all issues related to NTPC at earliest.

Regarding 132 KV Hathidah-Lakhisarai T/L, Powergrid representative informed that installation work of OPGW would be completed by April 2022.

ITEM NO. B.15: Permission for OPGW Installation in 220 k V Khagaul – Ara transmission line

PGCIL has the ownership of 220KV Arrah(PG)- Khagaul D/C T/L. BSPTCL intends to install OPGW (24F) in 220KV Khagaul- Arrah (PG) T/L for redundancy of ULDC network for connectivity of South Bihar region.

So, permission for installation of OPGW in 220KV Arrah(PG)- Khagaul D/C may be granted.

Powergrid may update.

Deliberation in the meeting

BSPTCL representative informed that Powergrid has the ownership of 220KV Arrah(PG)- Khagaul D/C T/L and for present connectivity of South Bihar region with Arrah, real time data need to be diverted for more than 200 km which is serious concern for redundancy of ULDC network. So he requested Powergrid to provide permission for installation of OPGW in 220KV Arrah(PG)- Khagaul D/C in order to improve reliability of ULDC network.

Powergrid representative informed that BSPTCL had requested for installation of five links out of which permission for four links had already been given to BSPTCL. He further added that 18 km OPGW is already installed by Powergrid for main path of RTMC and if they provide permission to BSPTCL for OPGW installation then it may disrupt this RTMC path. He submitted that since Powergrid has ownership

of the line, issue of maintenance may arise in future. He suggested an alternative arrangement stating that OPGW can be installed by Powergrid for complete line and required number of fibre can be provided to BSPTCL.

BSPTCL representative agreed for the same.

TeST Committee advised Powergrid and BSPTCL to resolve the issue bilaterally.

ITEM NO. B.16: Improper Support from M/S OSI , OEM OF SCADA Application

ERLDC SCADA/EMS system was installed in Eastern Region and OSI Monarch application is being used as core SCADA/EMS applications.

In ERLDC SCADA/EMS system, several functionalities of SCADA/EMS system are not functioning in SCADA/EMS system, for which support is required from OEM i.e. OSI.

Followings are the few lists of such critical functions:

1. BMR (bare metal recovery) on Spare server: license is required from OSI.
2. Denial of support from OSI support team when it is required to resolve OSI application related issues.
3. Restoration of Data archival in HRS application for the period w.e.f 00:00 Hrs dated 01-04-2021 to 03:00 Hrs dated 02-04-2021.

M/S OSI may update.

Deliberation in the meeting

M/S OSI representative was not available the meeting.

Test committee opined that this agenda would be discussed in a separate special meeting with ERPC, ERLDC, M/S Chemtrols, M/s OSI and concerned utilities to be held on 26th April'2022 in physical mode.

ITEM NO. B.17: Malfunctioning of RGU: ERLDC

The Report Generation Utility plays a crucial when it comes to historical data extraction and preparation of important reports pertaining to ERLDC System Operation.

The RGU excel add-in provided in the SCADA Consoles of ERLDC Control Room is malfunctioning since last few months which is affecting the post-dispatch report preparation.

The matter has been intimated to the concerned Chemtrols but the issue yet to be resolved.

M/S Chemtrols may update.

Deliberation in the meeting

Test committee opined that this agenda would be discussed in a separate special meeting with ERPC, ERLDC, M/S Chemtrols and concerned utilities to be held on 26th April'2022 in physical mode.

ITEM NO. B.18: Nonfunctioning of Deep Security: ERLDC

Trend micro deep security solution is very critical for SCADA system for security in Cyber Space as this is designed to protect External DMZ and Internal DMZ zone. However, Trend Micro Deep security application is not working in ER SCADA/EMS and the matter was taken up with M/S Chemtrols on several

occasions but the matter is yet to be resolved.

M/S Chemtrols may update.

Deliberation in the meeting

Test committee opined that this agenda would be discussed in a separate special meeting with ERPC, ERLDC, M/S Chemtrols and concerned utilities to be held on 26th April'2022 in physical mode.

ITEM NO. B.19: Nonfunctioning of Kiwi Syslog Server Application (for centralized log monitoring)

In ERLDC SCADA project, Kiwi Syslog Sever was installed in the system for centralized monitoring of system logs. However, this application is not currently working, and the matter was taken up with M/S Chemtrols on several occasions however this matter is yet to be resolved.

M/S Chemtrols may update.

Deliberation in the meeting

Test committee opined that this agenda would be discussed in a separate special meeting with ERPC, ERLDC, M/S Chemtrols and concerned utilities to be held on 26th April'2022 in physical mode.

ITEM NO. B.20: Issues related to M/S Chemtrols - DVC

- As per Cyber security guide lines, biannual cyber audit should be conducted at each SLDC, one by respective SCADA AMC vendor i.e Chemtrols and another by own arrangement of DVC. However due to delayed processing of audit procedures and thereafter delayed compliance of report, the schedule to conduct the second audit could not be finalized. It is hereby informed that last audit was completed on 11/03/22 but till today the audit report had not been submitted by M/S Chemtrols.
- No spares are available for day-to-day maintenance work with M/s Chemtrols. One SMPS for VPS and one SMPS for RVDU at Howrah SLDC are urgently required for which several communications had been made but no fruitful action had been taken by M/S Chemtrols.

M/S Chemtrols may update.

Deliberation in the meeting

Test committee opined that this agenda would be discussed in a separate special meeting with ERPC, ERLDC, M/S Chemtrols and concerned utilities to be held on 26th April'2022 in physical mode.

ITEM NO. B.21: Rectification of faulty UPS: JUSNL

Due to fault in UPS at SLDC, SCADA/ EMS system got severely interrupted on several occasions. At present only one UPS (UPS-1) is in working condition and the other UPS (UPS-2) had become faulty and is not in working condition. Several requests have been made to M/s Chemtrols for its rectification however, neither the issues have been rectified nor any response is being received from M/s Chemtrols.

In 10th TeST Meeting, M/S Chemtrols representative informed that a meeting was held between

Managing Director, Chemtrols and Chief Engineer, JUSNL on 28th October 2021 and it was deliberated that faulty UPS would be rectified by December 2021.

JUSNL representative informed that several issues are being faced with SCADA/EMS system due to faulty UPS at SLDC. She requested M/S Chemtrols to rectify faulty UPS by 15th Nov 2021.

TeST Committee advised M/S Chemtrols to expedite the rectification work.

M/S Chemtrols may update.

Deliberation in the meeting

Test committee opined that this agenda would be discussed in a separate special meeting with ERPC, ERLDC, M/S Chemtrols and concerned utilities to be held on 26th April'2022 in physical mode.

ITEM NO. B.22: Replacement of Battery Bank.

JUSNL has already given approval to M/s Chemtrols for replacements of battery bank at SLDC vide letter no. 89 SLDC, Ranchi; dated 11.06.2021. In the 9th TeST meeting, M/s Chemtrols assured to replace the battery bank by the end of September 2021. However, replacement has not been done yet. Further, even after several correspondences made vide letters and e-mails for getting status of replacement work, M/s Chemtrols has not reverted back.

In 10th TeST Meeting, M/S Chemtrols representative informed that the issue got delayed due to insufficient fund, however, it is expected that fund would be received by Nov'2021 and the battery bank would be replaced by Dec 2021.

M/s Chemtrols may update.

Deliberation in the meeting

Test committee opined that this agenda would be discussed in a separate special meeting with ERPC, ERLDC, M/S Chemtrols and concerned utilities to be held on 26th April'2022 in physical mode.

ITEM NO. B.23: Faulty 2x12 Volt 400 kVA DG Battery Starter

Out of two numbers of 24 Volt DG starter battery set, one of the batteries set of 400 kVA DG installed at ERLDC, POSOCO is not working for last 6 weeks due to its lower battery voltage. M/S Chemtrols has been intimated about the issue but issue yet to be attended by the concerned.

In 10th TeST Meeting, M/S Chemtrols representative informed that the issue got delayed due to insufficient fund, however, it is expected that fund would be received by Nov'2021 and the Faulty DG Battery starter would be replaced by Dec 2021.

M/S Chemtrols may update.

Deliberation in the meeting

ERLDC representative informed that the issue had been resolved.

ITEM NO. B.24: Non-availability of Spare Materials.

Spare materials required for attending faults at GSS and at SLDC are unavailable with M/s Chemtrols personnel deputed at SLDC Ranchi. In this regard request has been made to M/s Chemtrols vide e-mail dated 28.09.2021 enlisting details pertaining to material requirements at different GSS and at SLDC Ranchi. However, arrangement for making available these materials had not been done yet.

In 10th TeST Meeting, M/S Chemtrols representative informed that the issue got delayed due to insufficient fund, however, it is expected that fund would be received by Nov'2021 and spare materials would be provided by Dec 2021.

M/s Chemtrols may update.

Deliberation in the meeting

Test committee opined that this agenda would be discussed in a separate special meeting with ERPC, ERLDC, M/S Chemtrols and concerned utilities to be held on 26th April'2022 in physical mode.

ITEM NO. B.25: Preventive Maintenance of DG Set.

Preventive maintenance of DG set had not been carried on since the previous quarter. B-check had also been not done since more than one and half year.

In 10th TeST Meeting, M/S Chemtrols representative informed that the issue got delayed due to insufficient fund, however, it is expected that fund would be received by Nov'2021 and the issue would be resolved by Dec 2021.

M/s Chemtrols may update.

Deliberation in the meeting

M/S Chemtrols representative informed that issue had been resolved.

ITEM NO. B.26: Issues of M/S Chemtrols by BSPTCL

1. Issues Related to M/s Chemtrols

➤ PENDING CRITICAL ISSUES

- a) Compliance Report of Cyber Security Audit of 2020 is pending.
- b) VCS is not working February 2020.
- c) Battery bank- 2 and display unit of UPS -2 is defective since 24th May 2021.
- d) Both Phase sequence corrector is defective since 19th May 2021 and 4th April 2022.
- e) Charger of battery (150 AH) of DG Set is defective since 15th May 2021.
- f) Both graphic card of controllers of VPS is Defective since 20th April 2021.
- g) One No. of External Firewall SMPS Defective since 15th January 2021.
- h) GPS Antenna is defective since December 2020.
- i) Fifteen no. of Server Fan is defective since August 2020.

➤ **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 – 20 pcs
- Node –30 Pcs
- Decode Modem- 10 pcs
- DI Card- 10 Pcs
- DO Card- 03 Pcs
- Ethernet Card- 02 Pcs
- Mini DP to DVI Cable – 04 Pcs
- Two No. of Dell Monitor is faulty at GSS Lakhisarai and Masaudhi and handed over to M/s Chemtrols since last one year.

c) One no. of SCADA Workstation and one no. of DTS Workstation are defective since 05.11.2020.

d) SCADA Data explorer showing error: “Not connected to Data Explorer Adaptor” since May 2020.

e) MP 2355 RICOH printer is defective since November 2020.

LDMS– 41 no. of LDMS is not working due to various issues which is attached at **Annexure B26**.

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
- CPU at GSS Sheikhpura handed over to your representative.

M/S Chemtrols may update.

Deliberation in the meeting

Test committee opined that this agenda would be discussed in a separate special meeting with ERPC, ERLDC, M/S Chemtrols and concerned utilities to be held on 26th April'2022 in physical mode.

ITEM NO. B.27: Additional Agenda

1. Updating of Link Length of Alipurduar - Salakati Link:

In the 34th TCC & ERPC Meeting and subsequently in 36th TCC & ERPC Meeting, Fiber Optic Connectivity along with Communication Equipment and associated items was required to be established on Alipurduar – Salakati-I TL (Central Sector) to provide redundancy in system for connectivity with NER. In the approved scheme Length of Link was mentioned as 42 km considering only ER Part. However the actual executed length of Fiber Optic comes to 109.264 km (including both ER & NER Part). Therefore, it is proposed to bring in necessary corrections as tabulated below.

Sl. No.	Name of Line	Voltage Level	Voltage Level (To be updated)	Length in KM as per 34 th & 36 th TCC & ERPC Meeting	Actual Executed Length in Km
1.	Alipurduar – Salakati-I	400	220	42	109.264

Deliberation in the meeting

Powergrid representative informed that in the approved scheme, as per deliberation of 34th and 36th TCC & ERPC Meetings, length of the Alipurduar – Salakati-I Link was mentioned as 42 km.

He also informed that the link was commissioned on 23.02.2022. The total link length as per test reports come to 109.264 KMs and not 42 KMs. He added that the mentioned part in 34th and 36th TCC & ERPC Meetings was only for ER Part. Presently, ICCP protection link between NLDC (main and Back-up)-NERLDC (backup, located at Guwahati) has been routed under this link.

On query from MS, ERPC Powergrid representative informed that additional cost needed for installation of OPGW for remaining length of the line would be around 1.5 crore (2.5 lacs /km).

TeST Committee agreed for rectification of the OPGW link length of Alipurduar – Salakati to 109.264 KM.

2. Integration of 60 No's of VOIP with existing exchange of BSPTCL

- License for 131 No's of IP Phone of M/s Orange Business Services has been provided to BSPTCL in consultancy of M/s POWERGRID under "Establishment of Fiber Optic System for Central Sector Station in NR,ER&SR" scheme.
- BSPTCL requires additional 60 No's of License with M/s Orange Business Services for VOIP Phones that has to be supplied at different GSS under " Supply, Erection, Testing & Commissioning of Reliable communication & Data Acquisition for implementation of Integrated Communication system" in Bihar. Therefore, M/s POWERGRID has been requested vide BSPTCL office letter no. 14 dated- 06.01.2021, 1092 dated- 08.09.2021 and 04 dated- 03.01.2022 respectively to extend the support for License of M/s Orange Business Services for additional 60 No. of VOIP Phones and it was also mentioned that if it includes any financial implications, the EPC contractor (M/s Sterlite shall borne t.
- In response to the above, POWERGRID has informed that M/S orange has expressed its inability to provide additional Licenses in the said package due to following reasons:-
 - The present system (Hardware & Software) is not capable to handle expansion of new licenses, owing to scalability issues and requires up gradation of entire Hardware & Software Licenses of the Orange Exchange supplied at BSPTCL.
 - Further, any up gradation of system (Hardware & Software) at BSPTCL's end may adversely affect the services of Pan-India VOIP Communication established by POWERGRID under the Hotline Communication Package.
- M/s Orange has informed that the existing system is not scalable with our requirement as the current hardware/release version is not supported in doing some integration work with existing system. Also, their AMC is valid upto 2023 for major sites and 2024 for some. So, within this short time they will be unable to drive any new procurements related to our upgradation plan. However, to support our program, their deputed operation manager (underlying team) will guide on your product selection which can be compatible with existing system or upgradation dependencies/limitations etc. And, if any kind of changes will be planned by PGCIL that must be initiated by Change Request process where M/s Orange (OBS) will put comments on system impact and support provisions. Also if any centralized approach/plan will receive from PGCIL head quarter for entire PGCIL sites upgradation & integration that will definitely forwarded to competent authority for further validation.
- In view of above, the concerned 60 No's of VOIP has to be installed and commissioned by M/s Sterlite. Therefore, POWERGRID may intervene by extending the License to 60 No's of VOIP.

Deliberations in the meeting

BSPTCL representative informed that additional 60 nos. of Licenses with M/s Orange Business Services for VOIP Phones are required by them for which communication was given to Powergrid to extend the support for License of M/s Orange Business Services for additional 60 No. of VOIP Phones. He added that it was also mentioned that if it includes any financial implications, the same shall be borne by EPC contractor M/s Sterlite. However, Powergrid has informed that M/S Orange had expressed its inability to provide additional Licenses in the said package due to following reasons:

- Incapability of present system (Hardware & Software) to handle expansion of new licenses due to scalability issues for which up gradation of entire Hardware & Software Licenses of the Orange Exchange is required.*
- Up gradation of system (Hardware & Software) at BSPTCL's end may adversely affect the services of Pan-India VOIP Communication established by Powergrid under the Hotline Communication Package.*

Powergrid representative submitted that as per M/S Orange representative if contract is provided directly to M/s Orange instead of through third-party M/S Sterlite then the issue would be resolved. He further informed that user id and password details for BSPTCL network need to be provided by BSPTCL to M/S Orange for software deployment.

TeST committee advised BSPTCL to take up matter directly with M/S Orange. TeST Committee further advised Powergrid to coordinate with BSPTCL and M/s Orange in resolving the issue.

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 9th TeST Meeting members updated the status is as follows:

SI 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	NTPC representative informed that material has been received at Farakka. However, due to Covid-19 pandemic, ABB Engineers are unable to visit the site and therefore the commissioning of AGC is pending.	
2	Kahalgaon STPS – II	Both links established	Installed	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 representative informed that the material has been received but due to Covid-19 pandemic, ABB Engineers are unable to visit the site. Hence commissioning of AGC is pending. He further told that NTPC OPGW link is ready for testing. ERLDC representative informed that contact details of concerned person would be shared with NTPC to do testing of OPGW link.	
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.	Talcher STPS-I representative informed that material has been received and erection is also completed, however commissioning of AGC is pending due to difficulties faced by ABB Engineers to visit the site due to Covid-19 pandemic.	

7	Kahalgaon STPS – I	Both links established.	NTPC representative informed that they had already applied CERC for exemption. He further submitted that hydraulic units are present in Kahalgaon stage 1, so it is quite difficult to implement AGC at Kahalgaon stage – 1
8	Nabinagar Thermal Power Project – BRBCL	Only one link Sasaram-Nabinagar OPGW installation is pending. It would take two years for completion.	Powergrid representative informed that for OPGW installation, NIT had been floated and two packages are under technical evaluation right now. In 10 th TeST Meeting, Powergrid representative informed that package would be awarded by Nov 2021
9	Darlipalli STPS	Communication established.	Darlipalli representative informed that material has been received however due to Covid-19 pandemic, ABB Engineers are unable to visit S/S and hence commissioning of AGC is pending.
10	Teesta – V	One link established	
11	Farakka STPS – III	Link established	
12	MTPS Stage – II (Kanti)	Link established	
13	Rangit HPS	One link established	

In 10th TeST Meeting, NTPC representative was not available in the meeting.

Regarding BRBCL, Powergrid representative informed that package would be awarded by Nov 2021.

CTU representative submitted that some data are required from the utilities as per the deliberations of First Standing Committee Meeting held on 09.03.2021 which is attached at **Annexure C1**. He requested all concerned utilities to provide requisite data to CTU/CEA at earliest.

TeST Committee advised all concerned utilities to provide requisite data to CTU/CEA.

Members may update.

Deliberation in the meeting

NTPC representative was not available in the meeting.

TeST Committee advised ERLDC to collect status from concerned utilities and share updated status to ERPC.

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

As per deliberations in 10thTeST Meeting, updated status is as follows-

Utility	Status	Deliberation in 10 th TeST meeting	Target
POWERGRID	Pending	Powergrid representative informed that LOA had been awarded to Siemens on 31 st Dec 2020 He further added that supply work had been completed for SAS stations and installation work had been started at few locations for these SAS stations and for RTU stations supply work would be completed by end of Jan 2022.	
Maithon Right bank (MPL)	RTU/SAS Upgraded		
NTPC, Farakka (Stage I & II)	Pending	Upgraded	
Talcher STPS	RTU Upgraded		
Kahalgaon STPS	Pending	NTPC representative informed that erection work had been completed and commissioning would be done once SCADA engineers visit the site after lockdown restriction eases.	
Chuzachen HEP	Pending	ERLDC representative 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 representative informed that team had been mobilised and work would be started by 17.06.2021 and it would take around 4 months to complete the work.	October 2021
GMR	Pending	Powergrid representative informed that team had been mobilised and work would be started by 17.06.2021 and it would take around 4 months to complete the work.	October 2021
JUSNL	Pending	JUSNL representative informed that repairing work had been completed however there are certain communication issues and fibre loss issues at certain locations like Garhwa, Chandil etc due to which they are facing difficulty in reporting. She further informed that issue would be resolved by Jan 2022. TeST committee advised JUSNL to resolve issue by Jan 2022.	
OPTCL	Pending	.	March 2022

		OPTCL representative informed that supply for cables was delayed due to covid pandemic. He further informed that commissioning got further delayed due to delay in third party contract for erection.	
WBSETCL	Pending	WBSETCL representative informed that quotation received from vendor is thrice the budget available from PSDF fund so they are revising budget hence NIT would be delayed.	
NHPC (Teesta – V & Rangit)	Pending	ERLDC representative informed that RTU upgradation had been done for Teesta – V, however they are yet to receive any information regarding the same from Rangit. NHPC representative was not present in the meeting.	
DMTCL Motihari	Pending	DMTCL representative informed that RTU upgradation work had been completed at Motihari.	OPGW not available
BRBCL Nabinagar	Pending		OPGW not available
Teesta – III	Pending		OPGW not available
Dikchu	Pending		OPGW not available
Jorethang	Pending		OPGW not available
New Farakka (Stage III)	Completed	---	---
APNRL	Completed	---	---
Barh	Completed	---	---

Members may update the latest status.

Deliberation in the meeting

As per deliberations in 11th TeST Meeting, updated status is as follows-

Utility	Status	Deliberation in 11th TeST meeting	Target
POWERGRID	Pending	Powergrid representative informed that RTUs would be arrived at site by June-July 2022. He further added that work would be completed by May- June 2023. On enquiry from Powergrid regarding RTU failure , ERLDC representative informed that except Biharsharif RTU, which had failed recently and redundancy was affected, the general availability of central sector RTUs, even though older, is quite satisfactory.	May-June 2023

		POWERGRID representative assured to the committee that strict follow-up in respect to maintenance and spare-availability of RTU have been ensured for achieving nil-outage till the new RTU commissioning.	
Maithon Right bank (MPL)	RTU/SAS Upgraded		
NTPC, Farakka (Stage I & II)	Pending	Upgraded	
Talcher STPS	RTU Upgraded		
Kahalgaon STPS	Pending	NTPC representative was not available.	
Chuzachen HEP	Pending	Powergrid representative informed that Chuzachen –Rangpo line is under ownership of Sikkim government. He further added that while installing OPGW in said line, villagers are asking for high compensation from government as per new policy of Sikkim government 2016-17. Local police authority was also consulted regarding this matter however being sensitive area, it is taking time to resolve the issue.	June 2022
JITPL	Pending	Powergrid representative informed that team had been mobilised and work would be started by 17.06.2021 and it would take around 4 months to complete the work.	October 2021
GMR	Pending	Powergrid representative informed that team had been mobilised and work would be started by 17.06.2021 and it would take around 4 months to complete the work.	October 2021
JUSNL	Pending	JUSNL representative informed that site work had been completed, however they are facing issue with communication network at certain locations. TeST committee advised JUSNL to share updated status to ERPC/ERLDC.	
OPTCL	Pending	OPTCL representative informed that out of 78 RTUs upgradation work, 16 RTUs had been upgraded. He further added that M/S ABB had stopped commissioning work due to safety issue however it is expected that work would be started again on 11 th April 2022. TeST committee advised OPTCL to share updated status to ERPC/ERLDC.	Aug 2022
WBSETCL	Pending	WBSETCL representative was not available during the discussion.	

NHPC (Teesta – V & Rangit)	Pending	ERLDC representative informed that RTU upgradation had been done for Teesta – V, however they are yet to receive any information regarding the same from Rangit. NHPC representative was not present in the meeting.	
DMTCL Motihari	Pending	DMTCL representative informed that RTU upgradation work had been completed at Motihari.	OPGW not available
BRBCL Nabinagar	Pending	Test committee advised Powergrid to share status of OPGW work to ERPC/ERLDC.	OPGW not available
Teesta – III	Pending	Test committee advised Powergrid to share status of OPGW work to ERPC/ERLDC.	OPGW not available
Dikchu	Pending	Test committee advised Powergrid to share status of OPGW work to ERPC/ERLDC.	OPGW not available
Jorethang	Pending		OPGW not available
New Farakka (Stage III)	Completed	---	---
APNRL	Completed	---	---
Barh	Completed	---	---

ITEM NO. C.3: Database and Display 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. 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.

In 9th TeST Meeting, OPTCL representative informed that database has been updated for 8 nos. of S/S. He further informed that some of stations are coming under railway stations where RTU is not available so SCADA data including display and database of those substations are not maintained by OPTCL.

On query, he told that in case of around 20 nos. of substations, new feeders have been integrated so updation of database for such substations are in process and the same would be completed within 15 days.

He submitted that some substations had been charged without SCADA integration due to delay in commissioning of ABB RTUs. OEM is having issue to visit S/S due to Covid pandemic. The issues of SCADA integration of such substations are expected to be resolved in 4 to 5 months of time.

ERLDC stated that they had not received any updated database of the 8 nos. of substations as mentioned by OPTCL.

OPTCL informed that they would share the updated database of the 8 nos. of substations within 2-3 days

to ERLDC.

ED, ERLDC expressed that the onus of coordination with RTS stations in order to install RTUs lies upon SLDC Odisha so that data integration can be done for such stations too.

OPTCL representative submitted that for 50 nos. of S/S database is already available and 9 out of remaining 17 nos. of S/S have issue with OPGW link and 8 out of remaining 17 nos. of S/S do not have RTUs.

ERLDC asked OPTCL to synchronize data base of those 50 nos. of substations with ERLDC at the earliest.

TeST Committee advised OPTCL to share the updated database of 50 nos. of S/S with ERLDC within two weeks and share target plan of integrating remaining 17 S/S with ERLDC at the earliest.

OPTCL may update.

In 10th TeST Meeting, ERLDC representative informed that database of 35 nos. of S/S from OPTCL had been received and it would take 3-4 weeks to complete integration work and after its validation final report would be published.

TeST Committee advised ERLDC to share list of these 35 nos. of S/S to ERPC.

OPTCL representative informed that updated status regarding 17 S/S would be shared to ERLDC and ERPC.

OPTCL may update.

Deliberation in the meeting

ERLDC representative informed that out of 67 nos. of RTUs, 14 nos. of RTUs are yet to be integrated.

TeST Committee advised ERLDC to share updated list RTUs to ERPC after taking requisite updates from OPTCL for remaining 14 nos. of RTUs.

*Updated list of RTUs as received from ERLDC is attached at **Annexure C3**.*

ITEM NO. C.4: Mapping of Feeders of Automatic under Frequency Load Shedding (AUFLS) Scheme

In 8th NPC held on 30th November 2018, it was decided that each RPC would submit the details / progress of feeder mapping to NPC secretariat on a regular basis (quarterly).

In 154th OCC, DVC informed that mapping of the UFR feeders had already been implemented in DVC system.

In 40th TCC, Bihar and Jharkhand have confirmed that mapping of the UFR feeders has been implemented.

In 155th OCC Meeting, ERLDC informed that acquiring the UFR feeder data from SLDCs to ERLDC is in process.

In 10th NPC Meeting held on 09.04.2021, it was decided that each RPC would submit the present status/progress of feeder mapping to NPC secretariat.

In 9thTeST Meeting following deliberations took place

The present status of mapping of UFR feeders as available with ERLDC is given at **Annexure C4**.

TeST Committee advised West Bengal, Odisha, DVC and Jharkhand to send the status of mapping of pending UFR feeders to ERPC and ERLDC at the earliest

In 10th TeST Meeting, DVC representative informed that status of mapping of pending UFR feeders along with issue and plan of execution would be shared to ERPC/ERLDC.

West Bengal representative informed that status of mapping of pending UFR feeders would be shared to ERPC/ERLDC at the earliest.

Jharkhand representative informed that status of mapping of pending UFR feeders as per the Annexure is not updated. The updated status would be shared with ERPC/ERLDC at the earliest.

TeST Committee advised West Bengal, Odisha, DVC and Jharkhand to send the status of mapping of pending UFR feeders to ERPC and ERLDC at the earliest.

Members may update.

Deliberation in the meeting

TeST Committee advised West Bengal, Odisha, DVC and Jharkhand to send the status of mapping of pending UFR feeders to ERPC and ERLDC at the earliest.

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.

In 9thTeST Meeting, members updated status as follows:

AOR	Station level (In kV)	Current Status	Deliberation in 9 th TeST meeting	Comments
WBSETCL	Dharampur 220 Kv	Yet to be integrated.	WBSETCL representative informed that M/s Schneider engineers are unable to come to Dharampur due to Covid-19 pandemic.	
	Egra 220 kV	Yet to be integrated	WBSETCL representative informed that discussion related to cost estimate is in progress with M/S Chemtrols.	
	Bantala 220kV	Not Available	WBSETCL representative informed that some technical	M/s Commtel informed that data

			issues of SDH are observed at Bantala.	is not available due to breakdown of their equipment.
	Alipurduar 220kV	Yet to be integrated	WBSETCL representative informed that ROW issues had been resolved and communication link has been established. He further informed that commissioning work would be completed once M/S Siemens Engineer would visit the site after lockdown restriction eases.	
	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 representative informed that issue at Hatia has been resolved.	
	Patratu 220 kV	Not available since Feb 2020	JUSNL representative informed that control room issue present at Patratu would be rectified soon.	
	Tenughat 220kV	Not available since Feb 2020	JUSNL representative informed that the work had been completed on 31 st March 2021.	
	Chandil 220 kV	Not available since Sept 2019	JUSNL representative informed that PLCC installation is under progress at Chandil, Jamtara, Garwa, Deoghar and Kendposi and the issue would be rectified by July'2021	30 th 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 representative informed that issue at Lalmatia would be rectified by June'2021.	June 2021
	Giridih 220 kV	Not Available	JUSNL representative informed that link issue is present at Giridih and would be rectified soon.	June 2021
Godda 220 kV	Not available since Jan 2021	JUSNL representative informed that issue at Godda would be rectified by June '2021.	June 2021	
Jasidih 220 kV	Not available since August 2020	JUSNL representative informed that issue at Jasidih has already been solved.		
OPTCL	Malkangiri 220 kV	Data integration and database creation not yet done.	OPTCL representative informed that data base creation has been completed for Malkangiri, Jeypatna and Kashipur substations.	
	Jaypatna 220			
	Kasipur 220			
	Damanjodi 220		OPTCL representative informed that the issues would be resolved by Sep' 2021.	
	Cuttack 220			
Utkal AI 220				

	Narsingpur 220kV	Station commissioned at 220kV without data telemetry	OPTCL representative informed that pending issues at Narsingpur S/S would be resolved by May' 2021	
	Bargarh 220	Station commissioned at 220kV without data telemetry	OPTCL representative 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 representative informed that issue at Gopalganj has already been solved.	
	Samastipur New 220	Not available since 22-02-2021	BSPTCL representative informed that they had already informed M/S GE regarding issues at Samastipur.	
	Khagaul 220 kV	No available since Jan 2021	BSPTCL representative informed that issue at Khagaul has already been solved.	
	Motipur 220 kV	No available since 05-03-2021	BSPTCL representative informed that they had already informed M/S GE regarding issues at Motipur.	
	Laukhai 220 kV	No available since 13-02-2021	BSPTCL representative informed that they had already informed M/S GE regarding issues at at Laukhai.	
	Dumraon 220 kV	No available since 22-01-2021	BSPTCL representative informed that M/S ABB was also informed regarding issue at Dumraon and issues would be solved at the earliest.	
DMTCL	Motihari 400 kV	Not available since Sept 2019	ERLDC representative informed that work had been completed.	

In 10th TeST Meeting, ERLDC representative informed that Dharampur, Egra and Alipurduar S/S were commissioned long back however SCADA system had not been integrated at these S/S till date due to which their data are not reporting to respective state SLDCs and hence ERLDC is also not getting data through ICCP.

Regarding Alipurduar, it was informed that the work would be delayed as M/S Siemens' quotation is quite high and negotiation is under process. It was further informed that earlier RTU was commissioned however communication link was absent and after approval of communication link new order for integrating SCADA system would be placed.

Regarding Bantala, West Bengal representative informed that due to high pollution level SDH breakdown is frequently observed at Bantala because of which it is quite difficult to integrate SCADA system.

TeST Committee opined that West Bengal could try to integrate SCADA system at Bantala S/S by exploring some alternative ways, and if required, the issue can be discussed at higher level.

Members may update the latest status.

Deliberation in the meeting

TeST committee advised concerned utilities to share updated status along with target date to ERPC/ERLDC at earliest.

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 ERPC 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/Cordina ting 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

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/Cordinating 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



DAMODAR VALLEY CORPORATION
(Established by Act XIV of 1948)
Electricity Department, SPE Section, Communication Wing
9th Floor, DVC Towers, VIP Road, Kolkata - 700 054
www.dvc.gov.in (033) 6607 2944 / 2937

No. EDCON/SPE/ERPC/376

dated 05.11.2021

To,
The Member Secretary
Eastern Regional Power Committee
14, Golf Club Road, Tollygunge, Kolkata-700033

Sub: Implementation of ULDC SCADA Phase-III in Eastern Region

Dear Sir,

This has reference regarding agenda item no. B.2 of 10th TeST Meeting held on 01.11.2021.

In the meeting, POWERGRID has detailed key benefits of execution of the SCADA Phase-III Project which includes expertise in this field, investment by them and recovery through tariff, O&M of the system, etc. Considering the same, we would like to go with POWERGRID towards implementation of SCADA Phase-III in DVC Sector.

We request to kindly nullify the MOU dated 2nd June, 2021 signed with POSOCO for implementation of SCADA Phase-III in DVC Sector.

Thanking you.

Yours faithfully

A K Tiwary

Chief Engineer-I(Commn.) & I/C (IT)
DVC Towers, Kolkata.

Copy to :

1. Chief General Manager (I/C), POSOCO, ERLDC, Kolkata – **With a request to kindly consider the Agreement as cancelled.**
2. Executive Director, ER-II, Power Grid Corporation of India Ltd., Kolkata – **For kind information please.**



ଓଡିଶା ବିଦ୍ୟୁତ୍ ଶକ୍ତି ସଂଚାରଣ ନିଗମ ଲିଡି.

ODISHA POWER TRANSMISSION CORPORATION LIMITED

(A Government of Odisha Undertaking)

OFFICE OF THE CHIEF GENERAL MANAGER, TELECOM.

TECHNICAL WING, OPTCLHQRS, JANAPATH, BHUBANESWAR -751022

Ph - 0674 - 2542403, FAX - 2540875. Email id : cgm.tel@optcl.co.in

CIN-U401020R2004SGC007553

No. CGM(Tel)/POSOCO/Tech-

429(4)

Date: 06/11/2021

To

The Member Secretary
Eastern Regional Power Committee
14, Golf Club Road, Tollygunge, Kolkata- 700033

Sub: Implementation of ULDC SCADA phase-III in Eastern Region

Sir,

This has reference regarding agenda item no-B.2 of 10TH TeST Meeting held on 01.11.2021

In the meeting , POWERGRID has detailed key benefits of execution of the SCADA Phase-III Project which includes expertise in the field, investment by them and recovery through tariff, O&M of the system, etc. Considering the same , we would like to go with POWERGRID towards implementation of SCADA Phase-III in OPTCL Sector.

We request to kindly nullify the MOU dated 8th June,2021 signed with POSOCO for implementation of SCADA Phase-III in OPTCL .

Thanking you.

Yours faithfully,

Soumya Ananta Ray
6/11/2021
CHIEF GENERAL MANAGER (I/C)
TELECOMMUNICATION

Copy to -

1. Chief General Manager (I/C), POSOCO, ERLDC, Kolkata- with a request to kindly consider the Agreement as cancelled
2. Executive Director, ER-II, Power Grid Corporation of India Ltd, Kolkata- For kind information please
3. Director SLDC, OPTCL, Bhubaneswar, -For kind information please.



WBSETCL

West Bengal State Electricity Transmission Co. Ltd.
(A Government of West Bengal Enterprise)
Office of the Chief Engineer, Communication Department
Abhikshan Building, BN Block, Sector - V, Salt Lake, Kolkata - 700 091
☎ 033-2367-1235: 📠 Fax: 033-2367-2685
✉ cmnabhikshan@rediffmail.com

Memo No: CMN/ULDC-III/SCADA/24/252

Date: 02/12/2021

To,
Member Secretary
Eastern Regional Power Committee
14, Golf Club Road, Tollygunge, Kolkata-700033

Sub: Implementation of ULDC SCADA Phase-III in Eastern Region

Dear Sir,

This is regarding agenda item no. B.2 of 10th TEST Meeting held on 01.11.2021.

In the meeting, POWERGRID has detailed key benefits of execution of the SCADA Phase-III Project which includes expertise in this field, investment by them and recovery through tariff, O&M of the system, etc. Considering the same, we would like to go with POWERGRID towards implementation of SCADA Phase-III in WBSETCL Sector.

We request to kindly nullify the AGREEMENT dtd 20th July,2021 signed with POSOCO for implementation of SCADA Phase-III in WBSETCL Sector.

Thanking you.


Yours faithfully,

Sd/-
(D.Sinha)
Chief Engineer
Communication Dept.
WBSETCL

Memo No: CMN/ULDC-III/SCADA/

Copy to :

1. Chief General Manager (I/C), POSOCO, ERLDC, Kolkata - With a request to kindly consider the AGREEMENT as cancelled.
2. Executive Director, ER-II, Power Grid Corporation Of India Ltd., Kolkata - For kind info. pl.
3. P.S. to The Director(Operations), WBSETCL, Vidyut Bhavan


(D.Sinha)
Chief Engineer
Communication Dept.
WBSETCL

Fax: 03592 202927



Phones: 202706
PBX: 222908
222916

**GOVERNMENT OF SIKKIM
POWER DEPARTMENT**

No. 04/SLDC/PD/2021-22/432

Dated 25/11/2021

To
The Member Secretary
Eastern Regional Power Committee
14 Golf Club Road, Tollygunge,
Kolkata-700033

Subject: Implementation of ULDC SCADA Phase-III in Eastern Region

Sir,

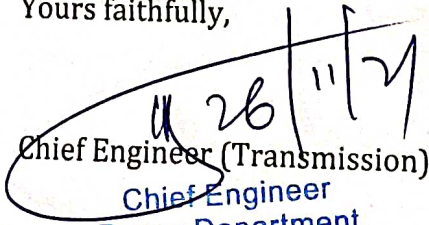
This has reference regarding Agenda Item No B-2 of 10th TeST Meeting held on 01.11.2021.

In the meeting, POWERGRID has detailed key benefits of execution of the SCADA Phase-III Project which includes expertise in the field, investment by them and recovery through tariff, O&M of the system, etc. Considering the same, we would like to go with POWERGRID towards implementation of SCADA Phase-III in SLDC, Power Department, Government of Sikkim.

We request to kindly nullify the MoU dated 20th July 2021 signed with POSOCO for implementation of SCADA Phase-III in SLDC Sikkim.

Thanking you,

Yours faithfully,


Chief Engineer (Transmission)
Chief Engineer
Power Department
Govt. of Sikkim, Gangtok



Bihar State Power Transmission Company Ltd., Patna

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

CIN - U40102BR20125GC018889

[SAVE ENERGY FOR BENEFIT OF SELF AND NATION]

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

Telephone No. 0612-2504655, Email address - uldc.bsptcl@gmail.com

Fax No. 0612-2504655 Website - www.bsptcl.in

Letter no. ULDC/EMS-SCADA-UPGRADATION/103/2020/

Dated: _____

From,

A.K. Chaudhary
Chief Engineer (System Operation)

To,

The Member Secretary
Eastern Regional Power Committee
14, Golf Club Road, Tollygunge, Kolkata-700033

Sub: Regarding Implementation of ULDC SCADA Phase-III in BSPTCL.

Sir,

With reference to the item no.- B.2 of agenda of 10th TeST Meeting held on 01/11/2021, POWERGRID has detailed key benefits of execution of the SCADA Phase-III Project which includes investment by them, recovery through tariff, covers O&M part and no consultancy charges. Considering the same, we would like to go with POWERGRID towards implementation of SCADA Phase-III in BSPTCL.

We request to kindly nullify the MOU dated 2nd June 2021 signed with POSOCO for implementation of SCADA Phase-III in BSPTCL.

Yours faithfully

Sd/-

(A.K. Chaudhary)

Chief Engineer (System operation)

Memo No. _____

Dated: _____

Copy forwarded to Chief General Manager(I/C), POSOCO, ERLDC, Kolkata for kind information and necessary action.

Sd/-

(A.K. Chaudhary)

Chief Engineer (System operation)

Memo No. 322

Dated: 08-12-21

Copy forwarded to Executive Director, ER-I, Power Grid Corporation of India Ltd., Rajbansi Nagar, Patna for kind information.

[Handwritten Signature]
08/12/21

(A.K. Chaudhary)

Chief Engineer (System operation)

[Handwritten Signature]
12/12/21

[Handwritten Signature]
Pl. discuss

[Handwritten Signature]
14/12

[Handwritten Signature]
CGM (AM)

[Handwritten Signature]

Annexure B26

Issue of LDMS, Inverter in BSPTCL

S.No.	SITE NAME	ISSUE	REMARKS
1	Aurangabad	LDMS not getting ON	Inverter and SMPS issue
2	Banjari	Inverter of LDMS Issue	Inverter Faulty
3	Banka	LDMS displaying mismatched data.	Meerkat Software Issue
4	Begusarai	Inverter Issue	
5	Bettiah	Inverter Issue	Inverter faulty
6	Chapra	Inverter Issue	Inverter faulty
7	Dalsinghsarai	CPU Issue	inverter and SMPS issue
8	Dhaka	Meerkat software Issue	Meerkat software Issue
9	Goh	Meerkat Software Issue. Data is not displaying on SLD	Inverter faulty
10	Jagdishpur	Power Supply of Inverter not working	Inverter faulty
11	Jahanabad	Inverter Issue	Inverter faulty
12	Jainagar	CPU Issue.	
13	Jandaha	LDMS and Inverter issue.	Inverter faulty
14	Kahalgaon	LDMS and Inverter issue.	Inverter and SMPS issue
15	Karmanasa	Keyboard and Mouse of LDMS Faulty.. Modbus faulty only data of 33 KV is reporting.	Node Unhealthy and inverter issue
16	Kataiya (kosi)	LDMS Monitor Issue	inverter and SMPS issue
17	Katihar	Inverter faulty, UPS faulty	inverter and SMPS issue
18	Kishanganj Old	RTU & SMPS issue	SMPS issue
19	Kochas (Dinara)	LDMS not getting ON	
20	Kusheshwar Asthan	Inverter Issue	
21	Madhepura	LDMS Issue	
22	Madhubani	Inverter Issue	Inverter Issue
23	Masaudhi	Meerkat software Issue	Meerkat software Issue
24	Motihari	Battery Charger Issue	Battery Charger Issue
25	Pandaul	LDMS software issue	Meerkat corrupted
26	Phulparas	LDMS and Inverter issue	inverter and SMPS issue
27	Purnea	System restart with Blue Screen Error	
28	Rafiganj	LDMS monitor not getting ON	
29	Raxaul	Inverter & LDMS Issue	inverter and SMPS issue

30	Saharsa	Invertor Issue	Invertor Faulty
31	Samastipur	Meerket software Corrupted and Inverter Issue	Meerkat Software and Inverter Issue
32	Sheikhpura	HDD faulty, Front panel faulty	CPU handed over to M/s Chemtrols Representative
33	Sipara	Meerkat software Issue	Meerkat software Issue
34	Sitamarhi	LDMS CPU and Inverter Issue	Inverter and SMPS issue
35	Siwan	Inverter & LDMS Issue	Inverter and SMPS issue
36	Sonebarsa	CPU Issue	Inverter and SMPS issue
37	Sonenagar	Software not updated	Meerkat Software issue
38	Supaul	Meerkat software Issue	Meerkat software Issue
39	Tekari	CPU issue	Inverter and VGA Cable
40	Valmikinagar	CPU issue	Inverter issue
41	Wazirganj	LDMS CPU Issue	LDMS not Starting (SMPS issue)

Data to be provided to CEA/CTU as per First Standing Committee of Communication held on 09.03.2021

Sr. No.	Meeting Agenda Item no.	Data required as Recommended by Standing Communication Committee
1.	B.1.3 Wideband network of the communication infrastructure	State utilities shall submit Wideband network of their communication infrastructure at the earliest
2.	B.2.1 OPGW for Existing System	Central and State Sector utilities should provide the status of implementation of the OPGW laying. Transmission utilities should provide OPGW installation data, namely; name of the line, voltage level (kV), whether S/C, D/C or M/C, No. of earthwire/OPGW, length of the line (km), fibre count in the OPGW and scheme under which implementation is done/being carried out.
3.	B.2.2 Upgradation of Equipment capacity	Transmission utilities (ISTS & States) should furnish details of link bandwidth and its utilization to identify the congested links for communication equipment upgradation and better utilization of resources.
4.	B.2.3 OPGW links in intervening lines	Details of intervening lines which needs to provide 100% redundancy with route diversity should be identified.
5.	B.2.4 Dual path for Radial Nodes	LDCs/RPCs shall provide details of Central Sector and State Sector nodes with radial connectivity

RTU INTEGRATION STATUS OF ODISHA			Annexure-C3
SL NO	STATION	REMARKS BY OPTCL	REMARKS BY ERLDC
1	JAYPATNA 220	DB NOT PREPARED BY OPTCL	
2	KASIPUR 220	DB NOT PREPARED BY OPTCL	
3	BALASORE 220	ALREADY SENT	Received by ERLDC
4	CUTTACK 220	ALREADY SENT	Received by ERLDC
5	BASUNDARA 220	DB NOT PREPARED BY OPTCL	
6	BUDHIPADAR 220	ALREADY SENT	Received by ERLDC
7	BIDANASI 220	ALREADY SENT	ICCP Database yet to be sent.
8	CHANDAKA B 220	ALREADY SENT	Received by ERLDC
9	ESSAR STEEL 220	ALREADY SENT	Received by ERLDC
10	IOCL 220	ALREADY SENT	Received by ERLDC
11	TATA GOPALPUR 220	DB NOT PREPARED BY OPTCL	
12	BALASORE ALLOYS 220	ALREADY SENT	Received by ERLDC
13	SAMANGARA 220	ALREADY SENT	Received by ERLDC
14	ROHIT 220	ALREADY SENT	Received by ERLDC
15	DAMANJODI 220	DB NOT PREPARED BY OPTCL	
16	MALKANGIRI 220	NOT INTEGRATED	
17	NARSINGHPUR 220	ALREADY SENT	Not yet received.
18	THERUVALI 220	ALREADY SENT	Received by ERLDC
19	BOGRAI 132	ALREADY SENT	Received by ERLDC
20	BRAJABIHARIPUR 132	DB NOT PREPARED BY OPTCL	
21	B C MOHANTY COLONY 132	ALREADY SENT	Received by ERLDC
22	CHANDBALI 132	DB NOT PREPARED BY OPTCL	
23	CHANDPUR 132	ALREADY SENT	Received by ERLDC
24	CHIKITI 132	DB NOT PREPARED BY OPTCL	
25	BETANATI 132	DB NOT PREPARED BY OPTCL	
26	DABUGAON 132	DB NOT PREPARED BY OPTCL	
27	DPCL 132	ALREADY SENT	Received by ERLDC
28	DPCL PORT 132	ALREADY SENT	Received by ERLDC
29	BIRLA TYRES 132	ALREADY SENT	Received by ERLDC
30	EMAMI 132	ALREADY SENT	Received by ERLDC
31	FACOR 132	ALREADY SENT	Received by ERLDC
32	GANJAM 132	NO NEED TO SENT	Received by ERLDC
33	GORAKHNATH 132	NO OPTCL STATION IN THIS NAME	
34	JABAMAYEE 132	ALREADY SENT	Received by ERLDC
35	JAGANATHPUR 132	NO OPTCL STATION IN THIS NAME	
36	JAGATSINGHPUR 132	ALREADY SENT	Received by ERLDC
37	KENDAPARA TSS 132	ALREADY SENT	Received by ERLDC
38	KIPADRA TR. 132	NO OPTCL STATION IN THIS NAME	
39	KONARK 132	ALREADY SENT	Received by ERLDC

40	KSURA 132	THIS IS NOW CONVERTED INTO SAS.SOME DIGITAL STATUS HAS BEEN MODIFIED.TO BE SHARED SOON SEND YOU SOON.	
41	MASHAGHAI 132	DB NOT PREPARED BY OPTCL	
42	MESCO 132	ALREADY SENT	Received by ERLDC
43	IFFCO 132	ALREADY SENT	Received by ERLDC
44	NEW ASKA 220	ALREADY SENT	Not Received
45	OVALAR 132	DB NOT PREPARED BY OPTCL	
46	PARADEEP 220	ALREADY SENT	Received by ERLDC
47	PATTAMUNDAI 132	ALREADY SENT	Display missing
48	PPL 132	NOT REPORTING SINCE LONG STILL WE WILL SEND TO YOU SOON.	
49	PPT 132	ALREADY SENT	Received by ERLDC
50	PRATAPASAN 132	ALREADY SENT	Received by ERLDC
51	PURI 132	ALREADY SENT	Received by ERLDC
52	PURUSHOTTAMPUR 132	ALREADY SENT	Received by ERLDC
53	RAIRANGPUR 132	ALREADY SENT	Received by ERLDC
54	R.S. PUR 132	IT IS ALREADY IN ICCP POINT BUT NOT UPDATING SINCE LONG. RTU WILL BE UPGRADED VERY SOON.	
55	RTSS 132	NO OPTCL STATION IN THIS NAME	
56	SATASANKHA2 132	DB NOT PREPARED BY OPTCL	
57	S F ALLOYS 132(TSALOY)	ALREADY SENT	Not Received
58	SHAMUKA 132	ALREADY SENT	Received by ERLDC
59	SOLARI 132	NO OPTCL STATION IN THIS NAME	
60	SOMNATHPUR 132	DB NOT PREPARED BY OPTCL	
61	T KHUNTI 132	ALREADY SENT	Received by ERLDC
62	TOMKA 132	NO OPTCL STATION IN THIS NAME	
63	ARGUL 132	ALREADY SENT	Received by ERLDC
64	BALIMUNDA 132	NO OPTCL STATION IN THIS NAME	
65	UDALA 132	DB NOT PREPARED BY OPTCL	
66	UMERKOTE 132	DB NOT PREPARED BY OPTCL	
67	BAMUPAL 132	ALREADY SENT	Incomplete Database

UFR MONITORING DISPLAY_OPTCL

UFR_BIHAR

UFR_JH

FREQ 49.94

UFR_DVC

UFR_WB

STAGE-1 U/F RELAY SETTING :49.2HZ			STAGE-2 U/F RELAY SETTING :49.0HZ			STAGE-3 U/F RELAY SETTING :48.8HZ			STAGE-4 U/F RELAY SETTING :48.6HZ		
FEEDER'S NAME	MW	STATUS	FEEDER'S NAME	MW	STATUS	FEEDER'S NAME	MW	STATUS	FEEDER'S NAME	MW	STATUS
KESINGA - 33KV NARIA	0.0	N	JAYANAGAR - 33KV BORIQUOMA	0.0	N	BHADRAK - 33KV CHANDBALI	0.0	N	KHARIAR - 33KV KHARIAR FEEDER-2	0.0	N
JUNAGARH - 33KV CHATRAHAL	0.0	N	SUNABEDA - 33KV LAXMIPUR(NANDPUR)	0.0	N	DHENKANAL - 33KV GONDA	0.1	N	SUNABEDA - 33KV NANDAKUMAR FEEDER	0.0	N
BHANJANAGAR - 33 KV KBPUR	0.0	N	THERUBALI - 33KV BISAM KATAK	0.0	N	SAMBALPUR - 33KV RENGALI	0.0	N	BARKOTE - 33KV MAHULDHIA	0.0	N
ASKA - 33KV BUGUDA	0.0	N	PHULBANI - 33KV KALINGA	0.4	N	BARAGARH - 33KV TURUNG	0.0	N	POLAPONJA - 33KV KEONJHAR	0.4	N
BERHAMPUR - 33KV CHILTI	0.0	N	KENDRAPARA - 33KV LUNA	0.0	N	NAYAGARH - 33KV BINDOPARA	0.0	N	ASKA - 33KV KABISURYANAGAR	0.0	N
BALUGAON - 33KV TANGI	0.0	N	PATTAMUNDAL - 33KV RAJNAGAR	0.0	N	BAJRAJNAGAR - 33KV SARGIPALLI	0.0	N	SUNDERGARH - 33KV SABDEGA	0.3	N
KHURDA - 33KV BANKI	0.0	N	CHATRAPUR - 33KV TARATARIN(RAMBHA)	0.0	N	PATNAGARH - 33KV KHAPRAKHOL	0.0	N	BHANJANAGAR - 33KV PHULBANI	0.0	N
NAYAGARH - 33KV KHEMDAPADA	0.7	N	CHANDIKHOLE - 33KV KABALABANDHA	0.0	N	PALASPONGA - 33KV REMULI	0.0	N	KENDRAPARA - 33KV PATAMUND	0.0	N
BOINDA - 33KV JHARPADA	0.0	N	NIMAPARA - 33KV KAKATPUR	0.2	N	BOINDA - 33KV ATHMALIK	0.0	N	JAIPUR ROAD - 33KV ANANDAPUR	0.0	N
BHADRAK - 33KV DHAMNAGAR	0.0	N	KHURDA - 33KV DELANGA	0.0	N	CHAINPAL - 33KV PALGANJ	0.0	N	BOLANGIR NEW - 33KV PATNAGARH	0.0	N
BALASORE - 33KV SRIJANG	0.0	N	DHENKANAL - 33KV HINDOL RD	0.13	N	KALARANGI - 33KV GODA	0.0	N	JAYANAGAR - 33KV TENTULIKHU	0.0	N
BOLANGIR - 33KV DUMERBAHAL	0.0	N	CHAINPAL - 33KV BANARPAL	0.15	N	KESINGA - 33KV TITLAGARH	0.0	N			
BARAGARH - 33KV DUNGURI	0.0	N	JAIPUR ROAD - 33KV PANNIKOLI	0.6	N	NIMAPARA - 33KV KONERK	0.1	N			
ROURKELA - 33KV LATHIKATA	0.0	N	BHANJANAGAR - 33KV BELAGUNTH	0.0	N	ASKA - 33KV NUAGAON	0.0	N			
KHARIAR - 33KV KHARIAR RE	0.0	N	SUNDERGARH - 33KV BARGOAN	0.0	N	JAIPUR ROAD - 33KV KUAKHA	0.8	N			
JAGATSIHPUR - 33KV BALLKUNDA	0.0	N	ASKA - 33KV BUDAMBA	0.0	N						

DETAILS REQUIRED FOR PMU-1

Annexure-1

SIGNALS REQUIRED FOR CONFIGURATION OF PMU & SWITCH	DETAILS REQUIRED FOR PMU INTEGRATION WITH LDC	REMARK	
SUBSTATION NAME		Name of substaion, example: for Kankroli it is KNKRL_PG, for Rihand it is RIHND_NT	
REPORTING LDC		Name of control station where PMU data is require to report	
NO OF PMU		No. of PMU as per architecture, considering 1 PMU can accomodate 2 no. of line data	
VLAN ID			
PMU IP		This IP is to be provided by PGCIL considering no conflict from all other PMU's reporting to RLDC	
SUBNET MASK			
SWITCH IP		Switch IP will be in same series as PMU IP, it is same for all PMU's	
GATEWAY IP		Gateway IP will be in same series as PMU IP, it is same for all PMU's	
PDC-1 IP		PDC at control center-1	
PDC-2 IP		PDC at control center-2 if pmu reporting to 2 LDC's	
VT-1 Ratio		VT/CT ratio of Bay-1 connected in PMU-1	
CT-1 Ratio			
VT-2 Ratio		VT/CT ratio of Bay-2 connected in PMU-2	
CT-2 Ratio			
STREAM 1 ID CODE		PMU id code	
PMU 1 ID CODE		Virtual PMU-1 id code for bay -1	
PMU 2 ID CODE		Virtual PMU-2 id code for bay-2	
PORT DETAIL OF SDH PANEL		port available in SDH panel where PMU switch is required to connect for sending data to LDC	
CHANNEL NAMING			
SUBSTATION NAME		CHANNEL NAMING OF ALL ANALOG SIGNALS OF BAY-1 IN PMU, ALL MUST BE OF 16 CHARACTER	
V1A			
V1B			
V1C			
V1 POS			
I1A			
I1B			
I1C			
I1 POS			
WATT			
VAR			
DIGITAL 1			CHANNEL NAMING OF ALL DIGITAL SIGNALS OF BAY-1 & BAY-2 REQUIRED IN PMU-1, ALL MUST BE OF 16 CHARACTER
DIGITAL 2			
DIGITAL 3			
DIGITAL 4			
DIGITAL 5			
DIGITAL 6			
DIGITAL 7			
DIGITAL 8			
DIGITAL 9			
DIGITAL 10			
DIGITAL 11			
DIGITAL 12			
DIGITAL 13			
DIGITAL 14			
DIGITAL 15			
DIGITAL 16			
V2A		CHANNEL NAMING OF ALL ANALOG SIGNALS OF BAY-2 IN PMU, ALL MUST BE OF 16 CHARACTER	
V2B			
V2C			
V2 POS			
I2A			
I2B			
I2C			
I2 POS			
WATT			
VAR			

DETAILS REQUIRED FOR PMU-2

SIGNALS REQUIRED FOR CONFIGURATION OF PMU & SWITCH	DETAILS REQUIRED FOR PMU INTEGRATION WITH LDC	REMARK	
SUBSTATION NAME		Name of substaion, example: for Kankroli it is KNKRL_PG, for Rihand it is RIHND_NT	
REPORTING LDC		Name of control station where PMU data is require to report	
NO OF PMU		No. of PMU as per architecture, considering 1 PMU can accomodate 2 no. of line data	
VLAN ID			
PMU IP		This IP is to be provided by PGCIL considering no conflict from all other PMU's reporting to RLDC	
SUBNET MASK			
SWITCH IP		Switch IP will be in same series as PMU IP, it is same for all PMU's	
GATEWAY IP		Gateway IP will be in same series as PMU IP, it is same for all PMU's	
PDC-1 IP		PDC at control center-1	
PDC-2 IP		PDC at control center-2 if pmu reporting to 2 LDC's	
VT-1 Ratio		VT/CT ratio of Bay-1 connected in PMU-2	
CT-1 Ratio			
VT-2 Ratio		VT/CT ratio of Bay-2 connected in PMU-2	
CT-2 Ratio			
STREAM 1 ID CODE		PMU id code	
PMU 1 ID CODE		Virtual PMU-1 id code for bay -1	
PMU 2 ID CODE		Virtual PMU-2 id code for bay-2	
PORT DETAIL OF SDH PANEL		port available in SDH panel where PMU switch is required to connect for sending data to LDC	
CHANNEL NAMING			
SUBSTATION NAME		CHANNEL NAMING OF ALL ANALOG SIGNALS OF BAY-1 IN PMU, ALL MUST BE OF 16 CHARACTER	
V1A			
V1B			
V1C			
V1 POS			
I1A			
I1B			
I1C			
I1 POS			
WATT			
VAR			
DIGITAL 1			CHANNEL NAMING OF ALL DIGITAL SIGNALS OF BAY-1 & BAY-2 REQUIRED IN PMU-1, ALL MUST BE OF 16 CHARACTER
DIGITAL 2			
DIGITAL 3			
DIGITAL 4			
DIGITAL 5			
DIGITAL 6			
DIGITAL 7			
DIGITAL 8			
DIGITAL 9			
DIGITAL 10			
DIGITAL 11			
DIGITAL 12			
DIGITAL 13			
DIGITAL 14			
DIGITAL 15			
DIGITAL 16			
V2A		CHANNEL NAMING OF ALL ANALOG SIGNALS OF BAY-2 IN PMU, ALL MUST BE OF 16 CHARACTER	
V2B			
V2C			
V2 POS			
I2A			
I2B			
I2C			
I2 POS			
WATT			
VAR			