Agenda
for
8th TeST Meeting

Date: 11.03.2021
Eastern Regional Power Committee
14, Golf Club Road, Tollygunge
Kolkata: 700 033

EASTERN REGIONAL POWER COMMITTEE

AGENDA FOR 8TH TELECOMMUNICATION, SCADA AND TELEMETRY SUB-COMMITTEE MEETING TO BE HELD ON 11.03.2021 AT 10:30 HRS

PART – A : CONFIRMATION OF MINUTES

ITEM NO. A.1: Confirmation of minutes of 7th TeST Sub-committee meeting held on 23.12.2020

The minutes of 7th TeST Sub-committee meeting held on 23.12.2020 circulated vide letter dated 28.01.2021..

Members may confirm the minutes of 7th TeST Sub-committee meeting.

PART – B: ITEMS FOR DISCUSSION

ITEM NO. B.1: Non availability of Standby Link for Central Sector RTU/SAS in Eastern Region--ERLDC

As per the designed RTU/SAS reporting architecture of Eastern Regional SCADA/EMS system, main as well as stand by link has to be provided by ULDC POWERGRID for Central Sector RTU/SAS reporting to RLDC. Main link has to be extended up to ERLDC MCC Kolkata and stand by link also to be extended up to ERLDC BCC (located at NLDC New Delhi). Accordingly, POWERGRID ULDC had provided main as well as stand by link for all RTU/SAS which reporting in IEC 104, and for old RTU/SAS, ULDC is working on replacement with new SAS/RTU with IEC 104 compatibility.

Presently, standby links provided for all RTU/SAS are not working since disruption of communication network in February 2020 and due to this redundancy, in data communication are getting affected in Eastern Region.

In 7th TeST Meeting, ERLDC informed that the standby link provided for central sector RTU/SAS was not working since disruption of communication network in February 2020. As per the philosophy of the real time SCADA data reporting of central sector stations to ERLDC, in case of disruption of main communication link to ERLDC Main Control Centre (MCC), real time SCADA data must report to ERLDC MCC via standby link through ERLDC BCC to maintain the redundancy. But in the instant case the standby link failed to transfer the data during the disruption of main link.

POWERGRID informed that the standby link is having bandwidth of 2 Mbps which is not sufficient to transmit the large volume of data. POWERGRID further informed that the bandwidth of standby link has been up-graded from 2 Mbps to 10 Mbps and the same would be migrated within a week.

ERLDC informed that RTU/SAS up-gradation work of dual reporting over IEC 104 would be done after the migration of new bandwidth link and requested Powergrid to complete the work at the earliest.

POWERGRID agreed for the same and assured to up-grade the link at the earliest.

Powergrid may update.

ITEM NO. B.2: Unavailability of Sequence of Events of Important Central Sector Grid elements--ERLDC

Sequence of events (SOE) is very important for analysis of tripping of generating units and transmission elements. But during recording of SOE at ERLDC SCADA system it has been observed that SOEs pertaining to the tripping of several central sector Grid elements has not been captured in SCADA. Unavailability of Sequence of event of the important grid elements are undesirable as far real time grid operation is concerned. Availability of SOEs corresponding the Outage /Tripping of important Grid elements has to be made available in the interest of reliable system operation.

Tripping and restoration of various elements are not being recorded in SOE.

SOE data not available during GD/GI and tripping of transmission elements is as given below.

Date	Name of the Grid Elements under Shutdown/Tripping	Nature of outage (OCC/Non OCC/Emergency/Tripping/Hand Tripped/Voltage/Power Regulation)	Opening Time	SOE Status(During Opening)	Closing Time	SOE Status(During Closing)
3/12/2020	400KV/220KV 315 MVA ICT 5 AT MALDA	OCC	7:15	Not Reported	16:32	Not Reported
3/12/2020	220KV BUS COUPLER BAY AT RENGALI(PG)	OCC	9:25	Not Reported	NA	NA
3/12/2020	220KV/132KV 160 MVA ICT 1 AT BIRPARA	OCC	7:10	Not Reported	NA	NA
4/12/2020	220KV MAIN BAY OF 315MVA ICT-II AT RANCHI	OCC	11:03	Not Reported	NA	NA
4/12/2020	400KV MAIN BAY OF BIHARSARIFF-II AT PUSAULI(PG)	OCC	9:37	Not Reported	18:24	Not Reported
7/12/2020	400KV-ROURKELA-CHAIBASA-1	OCC	9:28	Not Reported	19:15	Not Reported
8/12/2020	400KV/220KV 500 MVA ICT 4 AT BIHARSARIFF (PG)	OCC	10:11	Not Reported	NA	NA
8/12/2020	400KV-KODERMA-BIHARSARIFF(PG)-2	OCC	8:25	Not reported	NA	NA
9/12/2020	400KV-PUSAULI(PG)-ALLAHABAD-1	OCC	9:33	Not Reported	17:32	Not Reported
19/11/20	400KV-ALIPURDUAR (PG)-BINAGURI-4	OCC	7:35	Not Reported	18:17	Reported
23/11/20	765KV-NEW RANCHI-MEDINIPUR-1	outage	9:20	Not Reported	NA	NA
23/11/20	765KV-NEW RANCHI-MEDINIPUR-2	outage	9:21	Not Reported	NA	NA
26/11/20	400KV-BIHARSARIFF(PG)-PUSAULI-1	Emergency	12:26	Not Reported	NA	NA
30/11/20	400KV-JAMSHEDPUR-MEJIA-1	OCC	8:47	Not Reported	NA	NA

In 7th TeST Meeting, ERLDC informed that Sequence of Events (SOEs) of Important Central Sector Grid elements was not available at the control room. ERLDC added that SOE data is very important for real time grid operation and post-dispatch analysis.

The Committee advised POWERGRID to rectify the SOE related problem for the above stations at the earliest by conducting preventive maintenance on priority basis.

POWERGRID agreed to rectify the SOE related problem for SAS based station at the earliest. POWERGRID added that a schedule for the preventive maintenance on priority basis would be prepared for RTU based stations and the same would be forwarded to ERLDC in advance for

smooth validation of data. Powergrid requested ERLDC to give the confirmation of data validation over e-mail.

ERLDC agreed for the same.

TeST Committee advised ERLDC and Powergrid to validate the data and resolve the SOE related issues.

ERLDC and Powergrid may update.

ITEM NO. B.3: Replacement of GPRS communication with optical fibre for AMR

In ER, approximately 80% meters are connected through Automated Meter Reading (AMR). At present the communication system used for data transfer from each location is GPRS. It has been observed that many locations are not communicating with AMR system due to poor/no GPRS signal. Many substations have their own optical fibre which is also used for the LAN network of respective stations.

In 40th CCM, Powergrid requested all the constituents to share the available optical fibre network connectivity details for further configuration to Optical connectivity to avoid communication problems through GPRS and for much more reliable transmission of SEM data to ERLDC server.

In 4th TeST meeting, Powergrid informed that they require 2 Mbps Ethernet communication link from respective station to nearest Powergrid node. ERLDC informed that all the AMR data pertaining to geographical boundary of constituents has to be configured through a separate VLAN and the same would be extended up to ERLDC so that data from all AMR should be made available at ERLDC for further needful.

ERPC asked all constituents to make assessment of the works required i.e. distance of AMR meter from communication Mux for laying the LAN cable between them.

In 7th TeST Meeting, ERLDC informed that the necessary details have been received from JUSNL, BSPTCL, OPTCL and DVC. The details from West Bengal & Sikkim are still pending.

West Bengal informed that the necessary details would be shared within 7 days.

POWERGRID informed that the cost estimate for implementation of optical fiber in place of GPRS would be prepared and placed in the next Commercial committee meeting for necessary approval.

West Bengal may update.

ITEM NO. B.4: Disruption in real time SCADA, URTDSM, VoIP communication in Eastern Region

On 10th February at 08:20 PM entire data communication in Eastern region got disrupted which leads to outage of SCADA data, URTDSM data and Voice communication. The matter was informed to Powergrid ULDC team immediately after occurrence of the event.

Powergrid ULDC team has taken prompt action and deployed communication expert towards restoration of communication links in Eastern region. At present, few SCADA, URTDSM and VoIP communication links are yet to be restored. Since data and voice communication are the basic needs for smooth operation of the real time grid, root cause of such unwanted event needed to be identified and addressed with proper remedies.

In 6th TeST Meeting, POWERGRID informed that they have submitted the report to ERPC as well as ERLDC through mail on 07th July 2020 regarding analysis on data outage on 10.02.2020 and

25.02.2020 which depicted that broadcasting from LDMS at Mejia A site of DVC control area caused data traffic congestion in the OPGW network in whole Eastern Region resulted in partial real time SCADA & URTDSM data and voice failure.

After detailed deliberation, 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.

The following members were nominated for the technical committee:

- *Shri J. G. Rao, EE (Power System) ERPC,*
- *Shri Biswajit Mondal, Manager (SCADA) ERLDC,*
- *Shri Santanu Rudrapal, Manager (ULDC) POWERGRID ERTS-2,*
- *Shri Shambhu Das, EE (Communication) DVC,*
- *Shri Rakesh Kumar, EEE BSPTCL*
- *Shri Rimil Topno, EEE JUSNL*
- *One member from WBSETCL, OPTCL & Sikkim*

TeST Committee advised all the constituents to avoid the usage of internet in the LDMS installed computer at site. All constituents agreed for the same.

In 7th TeST Meeting, it was informed that draft report has been prepared and circulated to all the committee members. Recommendations of the technical committee report were presented to the members in the 7th TeST meeting.

TeST Committee advised the committee to conduct a separate meeting by 1st week of January 2021 for the finalization of the report.

Subsequently, Sh. Alikpantha De, EE(O) has been nominated in place of Sh. J.G.Rao, EE (PS), ERPC.

Committee may update.

ITEM NO. B.5: Guidelines regarding use of ULDC network for other purposes--Powergrid

Recently, disturbance of severe nature had occured for services (intermittant failure of PMU data, RTU/SAS data, VOIP etc.) leading to difficulty in smooth load-dispatching operation of the ER-Grid by ERLDC. Series of effort had been made during 18th and 19th September, 2020 to trace the root cause of the fault. Some of the services were stopped for checking the communication link healthiness. Though no issue was observed in the communication link, after inclusion of the services again, the system was found to be operating with high latency (delay) in some of the PMUs. Finally, it was observed that one particular machine was sending high amount of packets in the network leading to the caiuse of the latency in the network. The system was restored to normalcy when the particular machine was withdrawn.

Subsequently, as part of RCF analysis, ERLDC had been communicated to identify the user of that particular machine. However, the same could not be located in RLDC as well as SLDC system. This points towards the possibility of a non-authenicated system/ services being connected to the system for a short time.

In this regard, it is to intimate that certain services required only for the operation of the power system are to be used in the communication network (CEA Notification 27th February, 2020). The services identified for ISTS & State network are as follows:

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

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

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

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

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

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

Committee may update.

ITEM NO. B.6: Issues related to SCADA/EMS System Installed in Eastern Region:

1. Software Related

Eastern Regional Utilities are facing followings software related issue in their SCADA/EMS system installed in Eastern Region: -

I. Integration with WAMS

In 7th TeST Meeting ,ERLDC informed that software modelling related issues of TCSC, FSC and STATCOM has been resolved. ERLDC further informed that there is significant progress in HVDC related issue and the same is under observation. ERLDC again informed that issue related to STLF is also resolved.

M/s OSI informed that issues related to integration with WAMS would be completed by January 2021.

2. Software Licenses Related

Eastern Regional Utilities need getting the following licenses which are required to run the system smoothly: -

I. Cost implication of three (3) nos SCADA software licenses at ERLDC system
II. Cost implication of additional licenses of 8,000 analog & 12,000 status points in OPTCL SCADA system
III. Necessity of OSI software license (key) in spare server available at all Eastern Regional Control Centres at different locations: could not able to build the system in case of any hardware failure and / or the backup restoration testing could not be completed due to non-availability of necessary software license in the spare server.

In 7th TeST Meeting, M/s Chemtrols informed that they have sent the quote for three (3) nos SCADA software licenses to POWERGRID.

POWERGRID informed that the rate quoted for the licences are quite high.

TeST Committee advised Powergrid and Chemtrols to discuss and resolve the issue bilaterally.

OPTCL informed that the cost of the additional licenses for status and Analog points are quite high and the same is needed to be reduced further. M/s Chemtrols informed that the issue would be discussed with their management and decision would be communicated to OPTCL within 15 days.

OSI informed that they have already provided 1 (one) number of license for spare server available at ERLDC. ERLDC confirmed that they have received the required license and the same would be tested within 15 days.

M/s Chemtrols, M/s OSI & Powergrid may update.

ITEM NO. B.7: 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 upgradation.

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.

NLDC further informed that requirement for AGC implementation like list of signals, bandwidth requirement, hardware, software & cable requirement etc. are made available at POSOCO website (https://posoco.in/spinning-reserves/).

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 7th TeST Meeting members updated the status as follows:

Sl No	***Station***	***Status of Communication link from plant substation to PGCIL node***	***Status of communication system integration from unit to plant substation***	***Target date for implementation of AGC at plant***
1	*Farakka STPS - I & II*	*Both links established*	*Pending*	
2	*Kahalgaon STPS – II*	*Both links established*	*Pending*	
3	*Barh STPS*	*Both links established*	*Installed*	*Running since August 2019*
4	*NPGC, Nabinagar*	*Links from Gaya and Patna has been established.*	*NPGC, Nabinagar informed that OPGW is available but end equipment need to be procured and installed to establish communication link from their station to NLDC. NTPC further informed that they have place order for providing the end equipment.*	
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.*		
7	*Kahalgaon STPS – I*	*Both links established.*	*NTPC informed that they approaching CERC for exemption.*	
8	*Nabinagar Thermal Power Project – BRBCL*	*Only one link Sasaram-Nabinagar OPGW installation is pending. It would take two years for completion.*		
9	*Darlipalli STPS*	*Communication established.*	*Integration is in progress*	
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*		

****** OPGW from Barh to Gorakhpur is redundant path for all NR-ER connectivity which would be completed by March, 2020.

In 7th TeST Meeting , ERLDC informed that AGC has been implemented at MPL.

POWERGRID informed that the work of laying OPGW from Barh to Gorakhpur was getting delayed due to Covid-19 pandemic and water logging issues. POWERGRID further informed that the matter will be taken up with the vendor and the work would be completed by February 2021.

Members may update.

ITEM NO. B.8: Implementation of AGC at BRBCL : NTPC

For implementation of AGC at BRBCL , OPGW is required to be provided on the transmission line connecting to BRBCL Switchyard i.e on 400 KV BRBCL - Sasaram Ckt on priority basis to establish the connectivity between BRBCL and NLDC.

Members may discuss.

ITEM NO. B.9: Issues related to OPGW Installation in Teesta III-Kishanganj line-Powergrid

POWERGRID is implementing OPGW on Teesta III-Kishanganj TL under Fiber Optic Expansion Package (Additional Requirement). Out of total 215 Km, 90 Km work has been completed. But following issues are causing hindrance towards completion of the work.

A. Non-availability of A/R in non-auto mode: A/R permission not issued by ERLDC on 18.01.2021 & 21.01.2021 due to shutdown availed by TPTL. Such non-availability of work permit result in idling of approx. 70 manpower working in this link and adverse commercial impact to the executing agency. It is requested to allow OPGW work in case of such scenario in future as both work can go concurrently.

B. ROW issues / Old compensation issues: Severe ROW issues are being faced during execution of the work hampering the work and causing delay to the work. During erection of OPGW, work has been stopped at various locations due to ROW issues/Old compensation issues. In all locations, local villagers are demanding payment of old pending compensation from TPTL. ROW issues occurred till date is detailed as under:

Sr	RoW Location/Drum no	ROW Since	Contact Person, site
I)	272/3 (Drum No: 42; T No. 270 to 273)	11.02.2020	Ganesh Kumar Roy Hatidoba, Kharibari, Ragali
II)	T No. 274 (Drum No: 43; T No 274/5 to 273)	06.11.2019	Appu Datta Buraganj, Darjeeling
III)	T No 290A/0 (Drum No 50- T No 290/3 to 294B)	19.10.2019	Tejabpur, Kishanganj
IV)	T No. 294B/1,294B/4,294B/5 (Drum No 51: T. No 294B to 294D/1)	03.12.2019	Md Ezaz Pothiya, Kishanganj
v)	T No 308,311/2 (Drum No 58; T No 305/1 to 311/5)	09.01.2020	Nur Ishlam, Umar Ali, Bhola Lahara, Kishanganj
vi)	316/1 (Drum No 59; T No 311/5,316/1)	27.02.2020	*Mansur Ali, Zamuruddin Rahaman, Afroj Alam* (Marwa Toli, Khirdoho), Kishanganj

vii)	AP321N,AP319N,AP320 Drum-60	15.12.2020	*Kamal Kumar Ghosh, Hazi Mubarak Hussain at Kochadhaman*
viii)	AP 56, AP56/1 & AP57 Drum-9	07.02.2021	*Phal Bahadur (Vill-Tumin & Kokaley)*
ix)	AP72 to AP73 Drum-11	08.02.2021	*Vill-Singbel, PS-Singtam, East Sikkim*
x)	AP77 Drum-12	09.02.2021	*Vill-Ralap, PS-Singtam, East Sikkim*

Meeting has been done with district administration for resolving this issue.

Being owner of the line, TPTL is requested to provide necessary support for resolving the ROW issue

Members may discuss.

ITEM NO. B.10: Replacement of old RTU in Eastern Region for reporting of RTU / SAS to back-up Control Centre

Present status of RTU/SAS replacement / up-gradation: -

Utility	Status	Deliberation in last TeST meeting	Target
POWERGRID	Pending	*In 7th TeST Meeting , POWERGRID intimated that LOA for the old RTUs replacement project would be floated by Dec'2020.* *POWERGRID agreed to replace the old S-900 RTUs on priority basis as per the list submitted by ERLDC.*	
Maithon Right bank (MPL)	RTU/SAS Upgraded		
NTPC, Farakka (Stage I & II)	Pending		April, 2020
Talcher STPS	RTU Upgraded		
Kahalgaon STPS	Pending		February, 2020
Chuzachen HEP	Pending	*ERLDC informed that Chuzachen up - graded their RTUs for reporting it to IEC 104 but the same could not be operationalized due to non-availability of last mile fibre connectivity and in absence of standby link to ERLDC BCC.*	With the availability of OPGW between Chuzachen - Rangpo.
JITPL	Pending	*POWERGRID informed that OPGW related work at JITPL will be completed by April 2021.*	December 2020
GMR	Pending	*POWERGRID informed that OPGW related work at GMR will be completed by*	December 2020

		April 2021.	
JUSNL	Pending	*JUSNL informed that they have already replaced the RTUs of Hatia new and Sikidri. JUSNL added that remaining RTUs would be replaced by Jan, 2021.*	October 2020
OPTCL	Pending	*OPTCL informed that out of 78 nos. of RTUs to be replaced, despatch instruction for 52 nos of RTUs has already been placed. OPTCL added that RTU replacement work would be completed by June, 2021.*	March 2021
WBSETCL	Pending	*WBSETCL informed that the project has been approved by PSDF. NIT would be floated by Feb 2021. WBSETCL further informed that RTUs of WBPDCL stations have already been replaced.*	
NHPC (Teesta – V & Rangit)	Pending	*ERLDC informed that Teesta – V up-graded their RTUs for reporting it to IEC 104 but the same could not be operationalized due to non-availability of last mile fibre connectivity and in absence of standby link to ERLDC BCC.*	June, 2020
DMTCL Motihari	Pending		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.

ITEM NO. B.11: Redundancy of communication links for ICCP between control centres

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

In 7th TeST Meeting the updated status was as follows:.

S. No.	Link Path	Issue	Deliberation in the 7th TeST meeting
1.	**DVC MCC located at Andul Road to ERLDC BCC at New Delhi -** DVC requested to include underground OFC in Howrah (WB) to Howrah (DVC) under the scope of upcoming project – 'Strengthening of Inter-regional & Intra-regional OPGW Communication Links for Strengthening of Eastern Region' and also requested WBSETCL to provide necessary permission & space for laying of Underground OFC and terminal equipment.	Powergrid informed that provision for laying of OPGW communication link between DVC, Howrah and WBSETCL, Howrah is being created in upcoming project. Powergrid further informed that they require necessary help from WBSETCL to make provision of OPGW communication link up to WBSETCL, Abhikshan Bhawan. In 5th TeST Meeting, SLDC West Bengal informed that the space may be available at the Ground Floor for installation of necessary equipment for providing the communication link between DVC, Howrah and WBSETCL, Howrah.	*POWERGRID informed that ERLDC has sent a letter to WBSETCL with all the details.* *WBSETCL informed that space is now available. WBSETCL requested POWERGRID for joint site visit.* *POWERGRID agreed for the same.*
2.	**WBSETCL BCC Abhikshan Bhawan to ERLDC BCC located at New Delhi**	Powergrid requested ERLDC to provide space for installation of ULDC equipment at Backup ERLDC (NLDC) so that link may be configured in ULDC network. ERLDC informed that necessary space has been provided and installation work is in progress. In 5th TeST Meeting, Powergrid informed that necessary equipment has been installed and configured at backup ERLDC located at NLDC, New Delhi.	*ERLDC informed that the port details shared by POWERGRID has been already occupied for other communication and hence, requested POWERGRID to provide new port details at the earliest.* *POWERGRID agreed to provide the new port details by 31st December 2020.*

3.	**Rourkela to Bhubaneswar SLDC -** Powergrid informed that presently, FO link connectivity between Rourkela to Bhubaneswar SLDC is available through TSTPS, Meeramundali & Mendhasal which doesn't have route diversity.	OPTCL informed that Jagatsinghpur to Paradeep OPGW is pending due to Tower shifting work, which is the requirement of Indian Railways. Once the tower shifting work will be completed by Indian Railways, OPTCL will start their work. OPTCL informed that 17 Nos. of towers are being diverted and same would be expected to get completed by May, 2020.	*OPTCL informed that the OPGW work is not yet completed due to ongoing Covid-19 restriction. OPTCL informed that the same will be completed by February 2021.*
4.	**Ranchi 400 kV (PG) to JUSNL SLDC (Kushai Colony)** - Powergrid informed that presently, FO link connectivity between Ranchi 400 kV (PG) to JUSNL SLDC is available through Hatia 220 kV which doesn't have route diversity.	JUSNL informed that they have received approval for PSDF funding for providing protection channel for redundancy between Chandil to JUSNL SLDC (Kushai Colony) and have received the cabinet approval but could not proceed further due to model code of conduct due to state assembly elections in their state.	*JUSNL informed that they are planning to take leased fibre for the said path and the same is under discussion stage with BSNL and it would be completed by January 2021.*

Members may update the latest status.

ITEM NO. B.12: URTDSM Project installed in Eastern Region

1. Issues related to analytics application:---ERLDC

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

S. No.	Issue	Deliberation in last TeST meeting	Latest Status
1	**Powergrid analytics application** : Powergrid analytical application software, which was supposed to be installed under URTDSM project, is yet to be made functional at SLDCs.	*In 7th TeST Meeting, POWERGRID informed that the said module has already been developed by IIT Mumbai but field testing for the same is pending due to ongoing Covid-19 restrictions. POWERGRID further informed that IIT Mumbai campus is closed and hence, they couldn't procced further.*	

		POWERGRID added that they are in continuous interaction with IIT Mumbai and the module would be supplied by March 2021.	

Powergrid may update.

2. Non availability of PMUs data in URTDSM project and related Matters--ERLDC

URTDSM phase I project is already implemented in Eastern Region and presently, the same is under warranty. There are around 285 PMUs installed in Eastern Region but real time PMUs data from 26 nos of PMUs are not reporting to ERLDC since long. Since PMU data is of utmost important for real time operation as well as post facto analysis, POWERGRID may please take up these matters with M/S GE for expeditious rectification. Apart from these few discrepancies, which have been observed during analysis of events using PMU data is tabulated below:

S no	Station Name	Observation
01	Ranchi	Discrepancies in PMU measurement at Ranchi during fault of 400 kV Ranchi Sipat – 2 on 15-06-2020 at 07:56 hrs PMU observation: • As per voltage plot at Ranchi: B Phase to earth fault • **As per current plot at Ranchi: Y and B phase to earth fault** • As per voltage plot at Rourkela: B phase to Earth fault DR recorded at Ranchi: • B phase to earth fault.
02	Barh STPS	Discrepancies in PMU measurement at Barh during fault of 400 kV Barh – Motihari – 2 on 20-05-2020 at 13:23 hrs PMU observation: • **As per line voltage plot at Barh of 400 kV Barh Kahalgaon - 2: B Phase to earth fault** • As per line voltage plot at Barh of 400 kV Barh Motihari - 2: R phase to earth fault DR recorded at Barh: • R phase to earth fault.

In 7th TeST Meeting, POWERGRID informed that M/s GE Engineer is available at Ranchi and the issues related to Ranchi would be resolved at site. Issues of Barh PMU would be solved by taking remote support of GE and with the help of NTPC Barh Engineer.

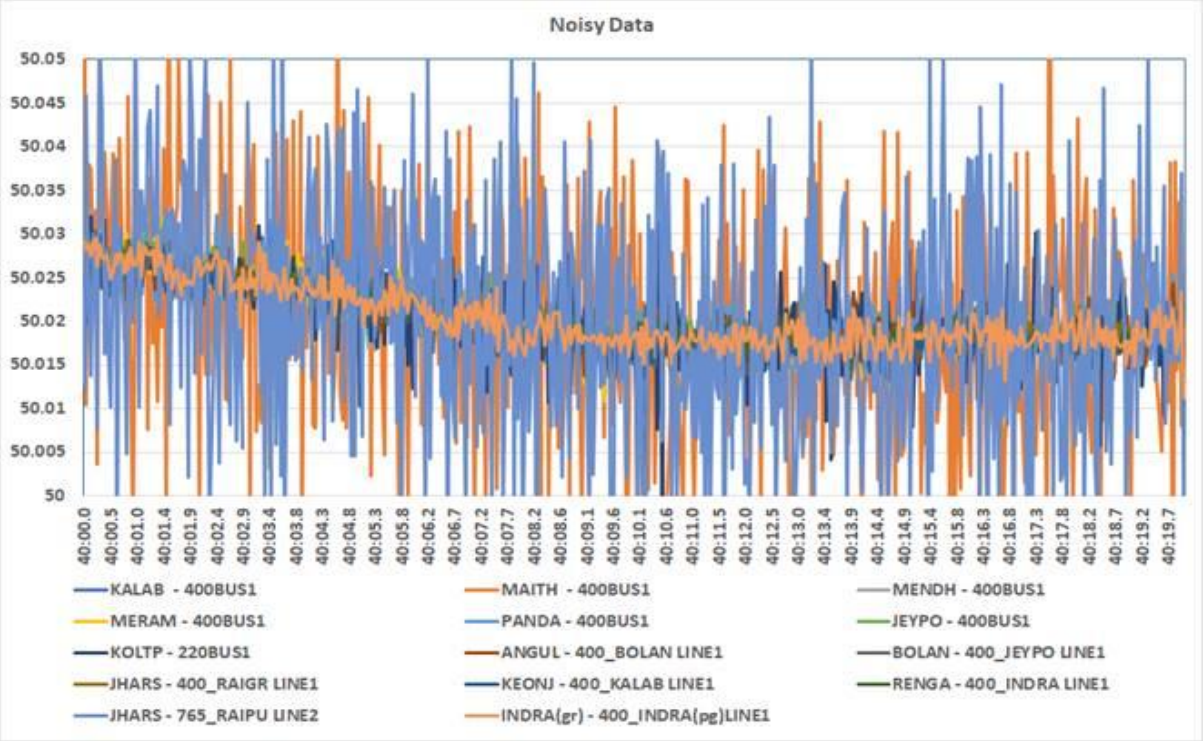
TeST Committee advised Powergrid to give prior intimation to NTPC Barh for necessary support.

Powergrid may update.

3. Severe Noise in PMU Data in Eastern Region---ERLDC

Eastern Region PMUs are facing the issue of Noise since the beginning. The issue of Noisy data in PMUs has been flagged earlier to GE. The severity of noise is quite high in data. Such noisy data will result in bad Analytics and poor performance and utilization and confidence in the system.

Frequency data for 25th June 2020 is shown below to showcase the issue of high noise in PMU.



From above plot it can be seen that very high noise is observed in PMU data of Kalbadia, Maithon, Mendhasal, Meramundali, Pandiabali, Jeypore, Kolaghat, Angul, Keonjhar, Bolangir, Jhasurguda, Indrawati substations.

In 7th TeST Meeting, M/s GE informed that more details are required to identify the issue and the analysis done so far would be submitted to ERLDC within 15 days.

ERLDC and POWERGRID agreed to extend all the necessary support.

Powergrid may explain.

4. Mal-functioning of VADR (Detection of Vulnerable Distance Protection Relays)--ERLDC

VADR (Detection of Vulnerable Distance Protection Relays) has been commissioned at ERLDC under URTDSM project but while using this application in real time operator observed that some of the relays incorrectly appearing in the zone 3. However, when investigated it is found that there was no fault or abnormality in the nearby area.

In 7th TeST Meeting, POWERGRID informed that VADR module has been updated with the latest patch in August, 2020.

ERLDC informed that it would be checked and confirmed accordingly.

5. ***URTDSM Project Summary:*** *-*

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

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

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

c. Substation not ready : 3 PMU at Patratu

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

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

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

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

In 7th TeST Meeting, POWERGRID informed that PMU installation work at Tenughat would be completed by 1st week of January 2021.

OPTCL informed that they are facing difficulties in co-ordinating with M/s GE in resolving the issues related to PMU commissioning at Sterlite and requested POWERGRID to take up the matter with M/s GE to resolve the issue.

POWERGRID agreed to extend necessary support.

Powergrid and OPTCL may update.

ITEM NO. B.13: 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.

Details of stations, which are not reporting or yet to be integrated at SLDC is shown below:

Table: list of important 220kV and above station without data telemetry as on 10-03-2021

AOR	Station level (In kV)	Current Status	Deliberation in last TeSTmeeting	Comments
WBSETCL	Dharampur 220 Kv	Yet to be integrated.	WBSETCL informed that they have awarded the work to M/s Schneider.	
	Egra 220 kV	Yet to be integrated	WBSETCL informed that they have given this work to M/s Chemtrols.	
	Bantala 220kV	Not Available	WBSETCL informed that work related to Bantala 220 kV to be done by M/s Chemtrols. WBSETCL informed that the work related to M/s Chemtrols has been completed.	M/s Commtel informed that data is not available due to breakdown of their equipment.
	Alipurduar 220kV	Yet to be integrated	WBSETCL informed that Alipurduar 220 kV RTU data would be available by January, 2020. WBSETCL informed that the work is getting delayed to ROW issue.	
	Rishra 220kV	Not Available since July 2020		
	DPL TPS_WB 220 kV	Not Available since Jan 2021		
JUSNL	Hatia New 220 kV	Not Available	In 7th TeST Meeting, *JUSNL intimated that issues pertaining to RTU unavailability to be resolved by January, 2021.*	
	Patratu 220 kV	Not available since Feb 2020		
	Tenughat 220kV	Not available since Feb 2020		
	Chandil 220 kV	Not available since Sept 2019		
	Jamtara 132kV	Not Available		
	Garwa 132kV	Yet to be integrated		
	Deoghar 132kV	Not Available		
	Kendposi 132 kV	Not Available		
	Lalmatia 220 kV	Not Available		
	Giridih 220 kV	Not Available		
	Godda 220 kV	Not available		

		since Jan 2021		
	Jasidih 220 kV	Not available since August 2020		
OPTCL	Malkangiri 220 kV	Data integration and database creation not yet done.		
	Jaypatna 220			
	Kasipur 220			
	Damanjodi 220			
	Cuttack 220			
	Utkal Al 220			
	Narsingpur 220kV	Station commissioned at 220kV without data telemetry	In 7th TeST Meeting, *OPTCL intimated that they will share the latest status pertaining to the unavailability of the SCADA data of the stations within seven days i.e. 30-12-2020.*	
	Bargarh 220	Station commissioned at 220kV without data telemetry		
	Paradeep 220 kV	Not available		
	Vedanta 220 kV	Not available since Nov. 2020		
BSPTCL	Gopalganj 220	No available since July 2019		
	Samastipur New 220	Not available since 22-02-2021		
	Khagaul 220 kV	No available since Jan 2021		
	Motipur 220 kV	No available since 05-03-2021		
	Laukhai 220 kV	No available since 13-02-2021		
	Dumraon 220 kV	No available since 22-01-2021		
DMTCL	Motihari 400 kV	Not available since Sept 2019	PLCC link between Barh and Motihari is not healthy. In 7th TeST Meeting, *ERPC intimated that telemetry restoration of DMTCL is being taken up in OCC forum where they have shared their action plan for data restoration.*	

JUSNL, OPTCL, WBSETCL, BSPTCL and DMTCL may update.

ITEM NO. B.14: Integration of new bays in existing RTU & SCADA (JUSNL)

New bays have been constructed in the GSS of JUSNL already integrated with RTU supplied by M/s Chemtrols Industries Limited. These new bays need to be integrated with the RTU so that real time monitoring of these bay could be done at SLDC, Ranchi through SCADA.

M/s Chemtrols has been requested vide Letter No. 08 SLDC'Ranchi; dated 11.06.2020 of GM (SLDC), Ranchi to make necessary arrangement for integration of new bays (30 nos.) in RTU and SCADA in light of Contract Agreement No. CC-CS/326-ER2/EMS-1767/3/G4/CA-III/4637; dated 03.06.2016. However, integration process from M/s Chemtrols end has not been initiated.

In 7th TeST Meeting, M/s Chemtrols agreed to complete the work at the earliest.

M/S Chemtrols may update.

ITEM NO. B.15: Replacement/repairing of 01 no. of faulty 12V battery charger of 125kVA DG set at ERLDC,POSOCO. --ERLDC

Work related to replacement / repairing of single faulty 12 V Battery charger of 125 kVA DG Set at ERLDC has been taken by M/s Chemtrol for repairing/replacement purpose since 7th October-2020 and till date material has not been received at ERLDC site after repeated communication from our end.

In 7th TeST Meeting, M/s Chemtrols informed that the procurement of faulty battery is under process and the same would be delivered by January 2021.

M/S Chemtrols may update.

ITEM NO. B.16: Provisioning of space at ERLDC for Communication Equipment for ongoing/upcoming projects: Powergrid

The Communication room at ground floor of ERLDC Complex is already full and congested with various communication equipments and SCADA & URTDSM equipments. Space is required at ERLDC for placing 01 no. NMS of SDH & PDH of ECI make under Fiber Optic Expansion Project (Additional Requirement) in Eastern Region which is expected to reach by end of March-2021. Similarly space will be required for placing communication equipment under upcoming projects. Provisioning of space at ERLDC for housing communication equipments may be considered by ERLDC.

Members may discuss.

ITEM NO. B.17: Bandwidth Charges/Dark Fiber lease charges of Telecom booked under ULDC- Powergrid

Bandwidth is hired from POWERTEL as per system requirement and mostly for ICCP links. However the bandwidth hiring charges are not received in tariff. This being a common expenditure of ERLDC, it should be shared by all constituents of Eastern Region as part of RLDC charges.

Members may discuss.

ITEM NO. B.18: Methodology for reporting of telemetry of Central Sector bays at State Substation and vice-versa- Powergrid

Under ULDC Project, RTUs are being placed at Central Sector Stations for reporting of the telemetry of all the bays present in the station (including bays owned by state/constituents) to ERLDC. Similarly the telemetry of all the bays incl. Central Sector bays present in the State stations are reporting to respective SLDC.

The example of such cases are as follows:

Asset Owner	Station	Data Report to	No of Bays	Bay Description	Asset Owner	Station	Data Report to	No of Bays	Bay Description
POWERGRID	WBSETCL	SLDC (WB)	3	400 kV Rajarhat (Subhasgram) & Sagardighi (Berhampur) Bays and Reactor Bay at Jeerat	WBSETCL	POWERGRID	ERLDC	3	400 kV Bidhannagar Bays at Durgapur (Parulia)
POWERGRID	WBSETCL	SLDC (WB)	2	400 kV Chaibasa Bays at Kharagpur	WBSETCL	POWERGRID	ERLDC	2	220 kV Dalkhola Bays at Dalkhola (PG)
POWERGRID	WBSETCL	SLDC (WB)	3	400 kV Ranchi Bays at New PPSP	WBPDCL	POWERGRID	ERLDC	4	400kV D/C SGTPP-Durgapur Bays
POWERGRID	WBSETCL	SLDC (WB)	3	400 kV Purnea & Rajarhat (now Farakka) & Reactor Bays at Gokarna	CESC	POWERGRID	ERLDC	4	400KV CESC Bays at Subhasgram
POWERGRID	WBPDCL	SLDC (WB)	7	400 kV D/C BHP-SGTPP Bays,Jeerat-SGTPP, Farakka-SGTPP at Sagardighi	CESC	POWERGRID	ERLDC	4	220KV CESC Bays at Subhasgram
					CESC	POWERGRID	ERLDC	2 ICT	315MVA, 400/220KV ICT-I&II at Subhasgram

During first time charging clearance of elements recently, ERLDC sought reporting of telemetry of the bays at State Station to ERLDC.
Following additional infrastructures will be required for reporting of such bays at ERLDC or vice-versa:
a) Additional RTU/SAS
b) Additional Communication Equipment under Central Sector/State Head
c) Provisioning of Fiber for connectivity with nearest POWERGRID/State Node.

Moreover, methodology shall be similar in case of POWERGRID bays at States as well as State Bays at POWERGRID Stations. Methodology may be finalized for smooth commissioning of the elements.

Members may discuss.

ITEM NO. B.19: Reporting of 400 KV Jeerat (GIS) at ERLDC MCC & BCC directly- ERLDC

The ownership of 400kV Jeerat GIS S/S is with POWERGRID therefore Real Time SCADA data & Voice (VOIP) must report directly to ERLDC MCC as well as its BCC. Instead the Real Time SCADA data & Voice (VOIP) have been integrated with West Bengal SLDC. Presently, ERLDC is getting the real time SCADA data over ICCP protocol.

Members may discuss.

ITEM NO. B.20: Networking infrastructure under System Energy Measurement (Accounting & Audit) phase–II to set up a C& I Control Centre at DVC HQ for monitoring live generation data & implementation of Web based Energy Scheduling (WBES) Software in DVC System (Agenda from DVC)

DVC intends to implement MPLS based network of latest & proven technology utilising one pair from existing DVC OPGW Network spread throughout the valley area for creation of a service for System Energy Data Acquisition of Central Data Centre (CDC) at Howrah from DVC different Power Houses & Sub-stations, to set up a C& I Control Centre at DVC HQ for monitoring live generation data & implementation of Web based Energy Scheduling (WBES)Software in DVC System.

a)DVC has conceived the Projects related with design, engineering, supply, erection, testing and commissioning works related to the development of a composite and comprehensive state-of-the art energy metering system with all associated networking infrastructure at 400/220/132KV level (including 33KV side of Transformers) at different substations / power stations of DVC in the States of West Bengal & Jharkhand, establishment of a Central Data Centre (CDC) at Howrah and all other project related activities under System Energy Measurement (Accounting & Audit) phase–II of DVC system.

b)DVC also conceived the Project to set up a C&I control Centre at DVC HQ related with establishment of remote live generation data of different Power houses to DVC HQ, Kolkata exclusively for Operation Services & Upgradation department, Kolkata.

c) DVC is going to implement web base energy scheduling (WBES) software which will enable us seamless data migration as the same make WBES software is being used in ERLDC w.e.f. 1st April, 2017,as the scheduling job of DVC SLDC is of the same nature as those of the RLDCs. The objective of the proposed DVC-WBES module is to implement a web-based online interactive scheduling platform as per CERC regulations and grid code (IEGC).

To accommodate all the three above projects and considering projects to come in future, Multi-Protocol Label Switching (MPLS) technology may be suitable for transport networks and services.

Detailed report is attached at **Annexure B20**.

Members may discuss.

ITEM NO. B.21: Agenda from DVC

1. DVC informed that Problem due to insufficient spares with M/s Chemtrols is not solved till today. Mostly in current situation VPS spares (lances) and accessories for workstation like keyboard, mouse, display cable etc. are always not available with the AMC support team.

2. DVC informed that Report of Cyber security audit yet not submitted.

Members may discuss.

ITEM NO. B.22: Issues Related to M/s Chemtrols (BSPTCL)

PENDING CRITICAL ISSUES

a) Report of Cyber Security Audit of 2019 is pending since 30th December 2020.

b) One no. of battery (150 AH) of DG set is required to be replaced since three years. DG Set is vital for Power Backup of SLDC, early replacement of battery is required.

c) One no. of SMPS of VCS is defective since 23.03.2020 is required to be replaced. As discussed in previous meetings, M/s Chemtrols agreed to replace the SMPS in August 2020 but the issue is yet not closed.

NEW CRITICAL ISSUES

a) Three no. of SAN (900 GB) of SCADA is defective since 13.01.2020 is required to be replaced.
b) Nine no. of Server Fan is defective since August 2020.
c) One No. of External Firewall SMPS Defective since 15 Jan 2021.
d) Six no. of Server Rack Fan is defective since December 2020.
e) GPS Antenna is defective since December 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 – 06 pcs
- Node –23 Pcs
- Decode Modem- 10 pcs
- DI Card- 10 Pcs
- DO Card- 03 Pcs
- Ethernet Card- 02 Pcs
- Two No. of Dell Moniter is faulty at GSS Lakhisarai and Masaudhi since last one year.
- Cell No. 66 (2 volts) of battery Bank-2 is faulty since 25 January 2021.

c. One no. of SCADA Workstation and one no. of DTS Workstation are defective since 05.11.2020.
d. KVM Monitor and switch of both servers is out of service since 3 years.
e. SCADA Data explorer showing error: “Not connected to Data Explorer Adaptor”.

RTU

RTU of Kishanganj Old and Samastipur is not working.

LDMS

40 no. of LDMS is not working due to various issues. The list is attached at **Annexure B22.**

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

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

M/S Chemtrols may update

PART – C: ANY OTHER ITEMS

ITEM NO. C.1: FOLLOW-UP OF DECISIONS OF THE PREVIOUS Telecommunication SCADA & Telemetry (TeST) SUB-COMMITTEE MEETING(S)

The deliberations of previous TeST meetings which are to be updated are given at **Annexure C1**.

Members may update the latest status.

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Electricity
DVC

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Annexure B20

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Agenda For DVC

Sub: Request for inclusion in the agenda issue related with networking infrastructure under System Energy Measurement (Accounting & Audit) phase–II,to set up a C& I Control Centre at DVC HQ for monitoring live generation data & implementation of Web based Energy Scheduling (WBES) Software in DVC System in the upcoming 8thTeST Meeting of ERPC.

Agenda:DVC intends to implement MPLS based network of latest & proven technology utilising one pair from existing DVC OPGW Network spread throughout the valley area for creation of a service for System Energy Data Acquisition of Central Data Centre (CDC) at Howrah from DVC different Power Houses & Sub-stations, to set up a C& I Control Centre at DVC HQ for monitoring live generation data & implementation of Web based Energy Scheduling (WBES)Software in DVC System.

Details Write-up:

a)DVC has conceived the Projects related with design, engineering, supply, erection, testing and commissioning works related to the development of a composite and comprehensive state-of-the art energy metering system with all associated networking infrastructure at 400/220/132KV level (including 33KV side of Transformers) at different substations / power stations of DVC in the States of West Bengal & Jharkhand, establishment of a Central Data Centre (CDC) at Howrah and all other project related activities under System Energy Measurement (Accounting & Audit) phase–II of DVC system.

b)DVC also conceived the Project to set up a C&I control Centre at DVC HQ related with establishment of remote live generation data of different Power houses to DVC HQ, Kolkata exclusively for Operation Services & Upgradation department,Kolkata.

c) DVC is going to implement web base energy scheduling (WBES) software which will enable us seamless data migration as the same make WBES software is being used in ERLDC w.e.f. 1st April, 2017,as the scheduling job of DVC SLDC is of the same nature as those of the RLDCs.The objective of the proposed DVC-WBES module is to implement a web-based online interactive scheduling platform as per CERC regulations and grid code (IEGC).

In the present SDH network various services like ICCP (Inter Control Centre Protocol), Orange Exchange, IP telephony, SLDC data, RTU/SAS data, EBA application, URTDSM data etc. are running through OPGW Fibre network of DVC. It will be very difficult to implement above three schemes already conceived and any scheme to be conceived in future for DVC systems due to bandwidth congestion at SDH network at present.

To accommodate all the three above projects and considering projects to come in future,Multi-Protocol Label Switching (MPLS) technologymay be suitable for transport networks and services. MPLS-TP will enable the deployment of packet-based transport networks that will efficiently scale to support packet services in a simple and cost-effective way. SDH has major drawbacks like inefficient handling of new services & higher maintenance cost, R &D innovation constraints&outdated technology.

We, therefore,propose to include the above projects in the agenda for the upcoming meeting in Eastern Region Power Committee, towards its acceptance and approval

Chief Engineer(Commn.)
DVC, Kolkata

Issue of LDMS, Inverter and RTU in BSPTCL

S.No.	SITE NAME	ISSUE	REMARKS
1	Kishanganj Old	RTU & SMPS issue	SMPS issue
2	Madhepura	LDMS Issue	
3	Kusheshwar Asthan	Inverter Issue	
4	Aurangabad	LDMS not getting ON	inverter and SMPS issue
5	Banjari	Inverter of LDMS Faulty	Invertor And Extension board Faulty
6	Banka	LDMS displaying mismatched data.	Meerkat Software Issue
7	Begusarai	Inverter Issue	
8	Bettiah	Inverter faulty	Inverter faulty
9	Chapra	LDMS Issue	Inverter faulty
10	Dalsinghsarai	CPU of LDMS is defective	inverter and SMPS issue
11	Goh	Software Issue. Data is not displaying on SLD	Inverter faulty
12	Gopalganj	Inverter & CPU Issue	inverter and SMPS issue
13	Jagdishpur	Power Supply of Inverter not working	Inverter faulty
14	Jahanabad	Inverter Faulty	Inverter faulty
15	Jainagar	LDMS Issue.	
16	Jandaha	LDMS and Inverter issue.	Inverter faulty
17	Kahalgaon	LDMS and Inverter issue.	inverter and SMPS issue
18	Karmanasa	Keyboard and Mouse of LDMS Faulty.. Modbus damaged only data of 33 KV is reporting.	Node Unhealthy and inverter isssue
19	Kataiya (kosi)	LDMS Monitor Issue	inverter and SMPS issue (For Monitor issue need to check)
20	Katihar	Inverter faulty, UPS faulty	inverter and SMPS issue
21	Khagaria	RTU Faulty	
22	Kochas (Dinara)	LDMS not getting ON	
23	Mithapur	Hard Disk, RAM. Processor Faulty	Hard Disk, RAM. Processor Faulty
24	Pandaul	LDMS software issue	Meerkat corrupted
25	Phulparas	LDMS and Inverter issue	inverter and SMPS issue
26	Purnea	System restart with Blue Screen Error	
27	Rafiganj	LDMS monitor not getting ON	
28	Raxaul	Inverter & LDMS Issue	inverter and SMPS issue
29	Saharsa	Invertor Faulty	LDMS System Not installed (Kept in Grid Store) Invertor Faulty
30	Samastipur	RTU issue, ethernet port of Laptop is not working and Meerket software Corrupted and Inverter Faulty	RM work carried out
31	Sheikhpura	HDD faulty, Front panel faulty	CPU handed over to M/s Chemtrols Representative
32	Shetalpur	Inverter Issue	Inverter Issue
33	Sipara	Meerkat S/W Issue	Meerkat S/W Issue
34	Sitamarhi	LDMS and Inverter defective	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	Tekari	CPU issue	Inverter and VGA Cable
39	Valmikinagar	LDMS not getting ON	Inverter issue
40	Wazirganj	LDMS CPU Issue	LDMS not Starting (SMPS issue)

ANNEXURE-C1

Sl No.	Agenda point	Deliberation in the last TeST meeting	Deliberation in the 7th TeSTmeeting
3rd TeST Meeting			
1.	Restoration of frequent failure of Sagardighi STPS data	ERPC advised WBSETCL & Powergrid to co-ordinate for early restoration of the same. ERPC further advised WBSETCL & Powergrid to come up with a redundant path for providing the Sagardighi STPS data. WBSETCL informed that they would consult WBPDCL to come up with the same. *In 6th TeST Meeting, WBSETCL informed that they have informed this matter to WBPDCL to come up with solution for SAS related problem and are yet to get any action plan from WBPDCL regarding restoration of data from Sagardighi STPS. WBSETCL further informed that they are continuously pursuing the matter with WBSPDCL for restoration of Sagardighi SCADA data. ERLDC informed that this is long pending issue and hence requested WBSETCL to resolve the issue at the earliest otherwise, request ERPC to include this agenda point in next TCC/ERPC meeting for further deliberation and guidance. WBSETCL & ERPC agreed for the same.*	
2.	Replacement of faulty BCU (seven nos) at	Powergrid informed that they have already taken the matter	

	Kishanganj Site	with their OEM (M/s Siemens) and would be resolved by January, 2020. Powergrid informed that 4 nos. of BCU have been replaced *In 5th TeST Meeting Powergrid informed that the OEM would visit the site in next two weeks and the work would be completed by 15th March, 2020.* *In 6th TeST Meeting , POWERGRID informed that they are taking up these matters with OEM. POWERGRID further informed that particular BCU Model, installed at Kishanganj, is having certain issues and OEM is replacing these faulty BCUs by next month end.*	