



Minutes
of
3rd TeST Meeting

Date: 14.01.2020
Eastern Regional Power Committee
14, Golf Club Road, Tollygunge
Kolkata: 700 033

EASTERN REGIONAL POWER COMMITTEE

MINUTES OF 3RD TELECOMMUNICATION, SCADA AND TELEMETRY SUB-COMMITTEE MEETING HELD AT ERPC, KOLKATA ON 20.12.2019 (FRIDAY) AT 11:00 HOURS

List of participants is enclosed at **Annexure-A**.

Member Secretary, ERPC, at the outset, welcomed all the participants in the meeting. He mentioned that agenda items for providing OPGW along with communication equipment in Important ISTS Lines (for strengthening of OPGW Network of ER-Grid and ER-NR & ER-WR Connectivity) was approved in the ERPC meeting held on 13th December 2019. He further mentioned that U-NMS implementation was also approved in principle.

ERPC further mentioned that agenda for providing OPGW link availability for the stations where AMR are installed is discussed in Commercial committee meeting as well as Operation Co-ordination Committee meeting and requested all constituents to share the details. ERLDC mentioned that it would be better if a consolidated list has to be shared to all constituents so that they could able to provide the detail. ERPC requested ERLDC to share the list. ERLDC agreed for the same.

Thereafter, all agenda were taken for discussion.

PART – A : CONFIRMATION OF MINUTES

ITEM NO. A.1: Confirmation of minutes of 2nd TeST Sub-committee meeting held on 26.11.2019

The minutes of 2nd TeST Sub-committee meeting held on 26.11.2019 circulated vide letter dated 17.12.2019.

Members may confirm the minutes of 2nd TeST Sub-committee meeting.

Deliberation in the meeting

Members confirmed the minutes of 2nd TeST Sub-committee meeting.

PART – B : ITEMS FOR DISCUSSION

ITEM NO. B.1: 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. Improper modeling of TCSC, FSC & HVDC
- II. Incorporation of STATCOM modeling
- III. Non-functionality of STLF application since 13th April 2018
- IV. Integration with WAMS

Chemtrols informed vide their letter ref no: UEX130005/SBU5/POSOCO/002/2019 dated 13.06.19 that these points could not be addressed properly due to lack of necessary support from OSI.

2. Software Licenses Related

Eastern Regional Utilities are in need of 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 24th SCADA O & M meeting, M/S OSI informed that they will come up with cost estimates for the listed additional requirements.

In 1st TeST meeting, Powergrid ERTS – 2 has been requested to call a separate meeting with OSI & Chemtrols higher authorities within 15 days so that these points could be taken up and resolved at the earliest.

In 2nd TeST meeting, the representative from OSI was not present in the meeting even after repeated information in successive TeST meeting. Further, Powergrid & M/s Chemtrols was advised to find a way to resolve the issue at the earliest.

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

Deliberation in the meeting

ERLDC mentioned that all these points are pending since long and hence, requested OSI to come forward to resolve the same.

OSI informed that they would have a conference call with ERLDC shortly so that software related issues could be resolved at the earliest.

They further informed that after resolving above issues they would provide necessary extensive training to ERLDC personnel to become self-dependent in the same.

Regarding Software license issues, OSI informed that they would give the quotation for

providing three (3) nos SCADA software licenses to ERLDC based on the discussion held in this meeting.

OSI further informed that for additional licenses in OPTCL SCADA system, they would submit the quotation by 31st December, 2019 along with documentary evidence which consists of the amount they are charging to other customers for the same type of licenses.

Moreover, regarding software license in the spare server, ERLDC intimated that they would give the hardware stream to OSI by 23rd Dec. 2019. OSI informed that they would give the above license without any cost implication by 31st Dec. 2019 after receiving the hardware stream from ERLDC.

ITEM NO. B.2: Provision of OPGW along with communication equipments in Important ISTS Lines (for strengthening of OPGW Network of ER-Grid and ER-NR & ER-WR Connectivity)

In 23rd SCADA O/M meeting held on 06.03.2019, ERLDC requested ERPC to form a committee who can ascertain the requirement of OPGW along with communication equipment after considering the route diversity to bring reliability in Power System operation as per requirement.

Accordingly, a Committee was formed. The committee met on 14.08.2019 and 24.10.2019, wherein the members discussed about the requirement of additional Inter-regional and Intra-regional OPGW links for strengthening of Eastern Regional OPGW network.

Followings are the list of additional OPGW link, which are envisaged by the committee for implementation along with communication equipment and DCPS: -

Sl No	Corridor	Selected lines for laying OPGW	Length (km)
1	ER- NR	765 kV S/C Gaya-Varanasi Line –I	265
2		400 kV D/C Patna – Balia Line –I	195
3	ER - WR	765 KV S/C Ranchi – Dharamjaygarh Line-1	305
4		765 KV S/C Jharsugada – Dharamjgarh Line-1	149
5	ER-SR	400 kV D/C Jeypore – Gazuwaka	221
6	ISTS network	400 kV D/c Nabinagar (BRBCL) Generating Station – Sasaram	82
7		400 kV Farakka –Purnea	160
8		400 kV Farakka-Sagardighi-Subhasgram	301
9		400kV Maithan (PG) – Durgapur (WB)	128
10		400KV Durgapur (PG) – Sagardighi (WB)	72
11	DVC network	220 KV KTPS – Giridih (Line # 251 , 252)	101
12		132 KV Jamuria – Ramkanali (Line # 90)	53
13		132 KV Ramkanali – CTPS (Line # 60)	70
14		132 KV Purulia – Jamshedpur (Line # 39,40)	87

15		132 KV CTPS – Gola (Line # 6,7)	67
16		Howrah (DVC) – Howrah(WB)	1
17	JUSNL	220 kV Daltonganj (JUSNL) – Latehar (JUSNL) LILOed at Daltanganj (PG)	90
18		220 kV Jodda (OPTCL)- Ramchandrapur (JH)	130
19		220 kV Chandil (JH)- Ranchi (PG) (up to LILO point)	90

In 42nd TCC/ERPC meeting, Powergrid was advised to re-ascertain the length of the individual transmission lines again.

Further, TCC/ERPC has given final approval for the same.

Members may note. Powergrid may update.

Deliberation in the meeting

Powergrid informed that they would confirm line length of above transmission lines by 23rd December, 2019.

ITEM NO. B.3: Establishment of State-of-the-Art Unified Centralized Network Management System U-NMS for ISTS and State Utility Communication Network in Eastern Region

CERC notified Communication Regulation which envisages Centralized Supervision System for ISTS Communication.

As per the regulation clause no 7.2 (vii):

“CTU shall be the Nodal Agency for supervision of communication system in respect of inter-State communication system and will implement centralized supervision for quick fault detection and restoration.”

The issue was discussed in 24th SCADA O&M Meeting held at ERLDC on 14th August 2019, wherein Member Secretary, ERPC informed that a Committee is required to form for the assessment of technical requirements to facilitate monitoring of ISTS communication network in line with CERC regulation.

Accordingly, a Committee was formed and the Committee was met on 24th October 2019 at ERLDC, wherein POWERGRID made a detailed presentation on Unified Network Management System (U-NMS) Project to be implemented for managing Project for ISTS & State utilities communication network at State, Regional & National level.

Members discussed the technical aspects of U-NMS proposal and generally found it is feasible technically for the U-NMS proposal. All Constituents have given their consent for implementation of U-NMS Project for Central Sector as well as for the State Sector/Constituents.

Powergrid informed that the estimated cost for Eastern Region ISTS and state network U-NMS is **Rs. 99.93 Crs excluding AMC cost which is estimated as Rs. 2.6 Crs for 6 years after Warrantee period.** U-NMS Project implementation Schedule is considered as 24 months. Investment made by POWERGRID is proposed to be recovered through tariff as notified by CERC. Also it has been deliberated and agreed upon that AMC for U-NMS shall be carried out by POWERGRID itself for Central as well as State sector.

In 42nd TCC/ERPC meeting, ERPC gave in principle approval for go-ahead to Powergrid to undertake the U-NMS project for Eastern region subject to the following:

1. PGCIL shall hold separate discussion with each state of ER to understand the NMS system in the respective states if any already existing within the state and to assess the integration requirement including the cost thereof for each state.
2. The details are to be placed by PGCIL in the TeST meeting scheduled to be held in January 2020.
3. After finalization of the scheme the revised cost shall be placed by PGCIL in the next TCC meeting.

Powergrid may update.

Deliberation in the meeting

*Powergrid asked members to furnish details regarding their NMS in the given format (as attached at **Annexure-B15**) and sent the same to uldc2@powergrid.co.in latest by 31st December, 2019. Members agreed for the same.*

ERPC asked Powergrid to collect above information and assess the cost implications of the same including the detailed cost breakup among different constituents. ERPC advised Powergrid to discuss the U-NMS project with each constituent in detail individually. Powergrid agreed for the same.

ITEM NO. B.4: Status of implementation of AGC for ISGS stations

The list of plants identified for AGC operation by NLDC in Eastern Region are as given below:

S. No.	Power Plant	Status	Target
1	Farakka STPS – I & II		
2	Kahalgaon STPS – II		
3	Barh STPS		
4	NPGC, Nabinagar		
5	Maithon Power Limited		
6	Talcher STPS – I		
7	Kahalgaon STPS – I		
8	Nabinagar Thermal Power Project		
9	Darlipalli STPS		
10	Teesta – V		
11	Farakka STPS – III		

12	MTPS Stage - II		
13	Rangit		

In 2nd Test Meeting, MS, ERPC raised concerns about the present reporting of AGC data signal from generating stations to NLDC and concerned RLDC is getting data through NLDC over ICCP protocol.

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.

NTPC raised the concern about the bandwidth requirement, list of signals and cable requirement for implementation of AGC.

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.

ERLDC raised concern about AGC implementation of Nabinagar (BRBCL) as OPGW communication link from generating station to nearest POWERGRID S/S i.e. 400 kV Sasaram is not available.

ERPC advised NLDC to add NPGC, Nabinagar (2x660 MW) in AGC implementation list as this station is commissioned in November 2019. NLDC agreed for the same.

It was decided to take the above issue to the next TCC/ERPC meeting for further deliberation.

In 42nd TCC/ERPC meeting, NTPC and NHPC informed that they would place the order by March 2020 and implement the AGC by June 2020.

MPL informed that AGC would be implemented by February 2020.

Powergrid informed that only single communication connectivity is available at MPL, Teesta V and Rangit. Other generating stations are having dual communication connectivity.

TCC advised all generating stations to make arrangement for extending the AGC data signals to the nearest Powergrid node.

Members may note for compliance.

Deliberation in the meeting

ERPC asked Powergrid to submit the communication route along with one redundant path from each of the above generating stations to NLDC latest by 31st December, 2019. Powergrid agreed for the same.

ITEM NO. B.5: Restoration of frequent failure of Sagardighi STPS data

ERLDC has witnessed frequent failure of real time SCADA data of Sagardighi TPS since 12th August 2019. The matter has been observed and reported to WB SLDC on several occasions verbally, through e-mail & letter dated 04.09.2019.

Frequent unavailability of real time data of such an important generating station of WBSETCL is causing difficulties not only in real time grid operation, post-dispatch analysis but also in demand calculation of WBSETCL.

WBSETCL may update.

Deliberation in the meeting

WBSETCL informed that they would identify the issue and rectify the same at the earliest. 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 & Powergrid agreed for the same.

ITEM NO. B.6: Replacement of faulty BCU (seven nos) at Kishanganj Site

Real time SCADA data of Kishanganj SAS, associated with various network element (like 400kV Binaguri D/C, 220kV Siliguri 1, 400kV Patna D/C and CB of Dharbanga L/R) of 400/220 KV Kishanganj Sub-station of Powergrid ERTS – 1, are not available since 6th October 2019.

The matter is informed to Powergrid on several occasions verbally & through letter dated 04th December 2019 vide ref no ERLDC/SCADA/2019-20/3435. It is learned that seven (07) nos BCUs are faulty at site which is causing real time SCADA data outage to ERLDC.

Powergrid may update.

Deliberation in the meeting

Powergrid informed that they have already taken the matter with their OEM (M/s Siemens) and would be resolved by January, 2020.

Powergrid requested ERPC & ERLDC for providing necessary shutdown as a special case as date is not yet known in advance. ERPC & ERLDC assured to extend their help for the same.

ITEM NO. B.7: Losses in Rourkela – Budipadar – Nayagarh - Bhubaneswar

communication path

PDC, installed in Odisha SLDC under URTDSM project, are connected with ERLDC PDC through Rourkela-Budipadar-Nayagarh-Bhubaneshwar communication path. Since 28th November 2019, it is observed that due to loss in this path, Odisha sector PMU data became highly intermittent at ERLDC under URTDSM project. Thereafter, diverting the path via Rourkela – Talcher – Meramandali - Bhubaneshwar communication path has resolved the data loss in URTDSM project. Hence, ULDC requested OPTCL vide email dated 12th December 2019 to resolve the loss related matter with the Rourkela – Budipadar – Nayagarh - Bhubaneshwar fiber link.

OPTCL may update.

Deliberation in the meeting

OPTCL informed that they need shutdown of the 220 kV Tarkera – Budipadar line for rectification of the losses observed in OPGW link.

OPTCL further informed that they would resolve the above issue by 5th January, 2020.

ITEM NO. B.8: Issues related to M/s Chemtrols -- BSPTCL

1. Critical issues

- a) Cyber Security Audit: Cyber Security Audit of 2019 is pending.
- b) Compliance of Cyber Security Audit conducted in year-2018 not completed.
- c) One No. of UPS faulty since 16/10/2019 and yet not rectified.
- d) One SMPS of VPS is defective since 29/11/2019 and yet not rectified.
- e) One AVR of 125 KV is defective since 03/10/2019 and not yet rectified.

2. Non-Critical Issues

a) **LDMS** – 20 no. of LDMS are not functioning either of issue of inverter or CPU. No step for correction is being taken. List is enclosed here:-

Sr. No.	Site Name	Description of Problem
1	Darbhangra	LDMS not getting ON
2	Fatuha	Display issue
3	Hatidah	LDMS Not Working due to load will be shifting From old(Faulty) to New Charger
4	Ekgangarsarai	SMPS Faulty
5	Dehri	SMPS Faulty
6	Bikramganj	Invertor+SMPS Faulty
7	Karmanasa	Invertor Tripping Issue
8	Kudra	Invertor Tripping due Input DC Voltage < 48V

9	Sasaram	Invertor + SMPS Faulty
10	Banjari	Invertor Tripping Issue & Meerkat Soft. Cruppted
11	Bodhgaya	Invertor Tripping Issue
12	Ataula (Karpi)	Invertor Tripping due Input DC Voltage < 48V
13	Tekari	Invertor Tripping due Input DC Voltage < 48V
14	Belaganj	Meerket software Corrupted
15	Goh	LDMS not getting ON
16	Aurangabad	Display is faint.
17	Rafiganj	Power Issue
18	Ramnagar	Invertor Tripping Issue & Meerket Soft. Corrupted
19	Katiya	Mother Board Faulty
20	Samastipur old	Meerket software Corrupted

b) **Integration of new bay:-** As per AMC contracts Chemtrols has to integrate 50 nos. of new bays in to RTU. We have requested several times to get it done. As per information they are not interested in said work due to financial crisis.

c) The following materials are faulty which are required to be replaced at the earliest:

- MFT – 9 pcs
- Decode – 2 pcs
- Node – 6 Pcs

d) One No. of MP 2553 RICOH Printer is defective.

M/s Chemtrols may explain.

Deliberation in the meeting

M/s Chemtrols gave the following timeline for critical issues to be resolved-

S. No.	Critical Issue	Timeline
1	Cyber Security Audit of 2019.	31/12/2019
2	Compliance of Cyber Security Audit conducted in year-2018	31/12/2019
3	One No. of UPS faulty since 16/10/2019	20/12/2019
4	One SMPS of VPS is defective since 29/11/2019	15/01/2020
5	One AVR of 125 KV is defective since 03/10/2019	15/01/2020

M/s Chemtrols gave the following timeline for non-critical issues to be resolved:

- a. LDMS related issue would be resolved by 15th January 2020.
- b. Procurement of requisite materials at their end is under process. Chemtrols requested BSPTCL to share the feeder details again so that the same could be completed by 29 Feb 2020. BSPTCL agreed for the same.
- c. Faulty materials (MFT, Decode & Node) need to be sent to Chemtrols, Goa for necessary repair work and the same would be completed by 31st March 2020.
- d. The cost implication for procurement of damaged parts of MP 2553 RICOH Printer should be borne by BSPTCL. Chemtrols again informed that quotation has already

been shared with BSPTCL.

ITEM NO. B.9: Issues Related to M/s FIBCOM make SDH --BSPTCL

a) 48 Volt DCPS is not working because of following issues.

S.No	Site Name	Description With Date
1	Kishanganj Old	Issues in rectifier and contactor since 04/11/2019
2	Karmanasa	Issue in contactor since May/2019
3	Banjari	Issue in contactor since May/2019

b) SAT of DCPS and SDH are still incomplete at many sites.

c) Upgradation of software to facilitate integration of SFP is still pending at Saharsa Purnea & Ara(PG)

d) Shifting of DCPS from Purnea(PG) to Darbhanga is pending since long.

e) Half duplex observed at Arrah, Sabour and Sonenagar Old GSS etc since long time. Even in running condition Full duplex is converted to half duplex without any external interference.

f) VOIP is not working at following GSS: Ara, Khagaul, Sonenagar, Sipara, Sonebarsa, Dalsinghsarai, Sultanganj, Jahanabad, Darbhanga and Madhubani.

g) Incompetent of manpower deployed at BSPTCL HQ.

Members may discuss.

Deliberation in the meeting

Powergrid informed that the issues related to M/s FIBCOM has already been discussed in a meeting held on 21.11.2019 at Vidyut Bhavan, BSPTCL, wherein M/s FIBCOM has assured to resolve the outstanding issues by 15th Jan 2020.

ITEM NO. B.10: OPGW installation being executed by PGCIL through agency M/S PPCL --BSPTCL

a) ROW in 220 KV MTPS-Gopalganj transmission line- A letter has been received from field office which states that ROW at the said location is persisting since construction of 220 KV MTPS-Gopalganj lines taken up by PGCIL. Intervention of PGCIL is required to resolve the issue of ROW.

b) SAT of OPGW - M/S PPCL has given the program of SAT nine months back. They have carried out SAT of 132 KV MTPS-Motihari & Motihari-Betia line. Losses found in said lines which are yet to be corrected as SAT of future line are pending since long.

c) Installation work of OPGW taken up for 132 KV Kahalgaon(BH)-Kahalgaon(NTPC) T/L- not completed yet.

d) Clearance of railway required for OPGW installation at railway crossing of 132 KV Hathidah-Lakhisarai T/L- BSPTCL has written letter to Railway. However, it is well aware to all that-no such clearance is sought by any agency for the work of live line installation of OPGW.

Members may discuss.

Deliberation in the meeting

Powergrid gave the following details –

S. No.	OPGW issue	Deliberation in the meeting
1	ROW in 220 KV MTPS-Gopalganj transmission line	<i>Powergrid informed that the OPGW installation of the two lines may be foreclosed as the ROW is prevailing for more than two years and is yet to be resolved by BSPTCL. BSPTCL informed that a separate meeting may be called between Powergrid & BSPTCL and the agency may be then offloaded. Further, BSPTCL informed that the balance work shall be carried out by BSPTCL's agency under Reliable Communication Package.</i>
2	SAT program of OPGW	<i>Powergrid informed that the agency has already deputed its team to carry out Pre-SAT testing & rectification, if any. The OPGW links shall be offered for SAT w.e.f 23.12.2019. Powergrid requested BSPTCL to depute their officials for witnessing the SAT and subsequent Sign-off. BSPTCL agreed for the same.</i>
3	Installation work of OPGW taken up for 132 KV Kahalgaon(BH)-Kahalgaon(NTPC) T/L	<i>Powergrid informed that M/s PPCL shall be submitting the details of its manpower which would be forwarded to NTPC Kahalgaon, for subsequent issuance of Gate Pass. Powergrid informed that the work would be completed subsequently.</i>
4	Clearance of railway required for OPGW installation at railway crossing of 132 KV Hathidah-Lakhisarai T/L	<i>Powergrid informed that the Railway permission is to be arranged by BSPTCL. M/s PPCL shall complete the balance work subsequently.</i>

ITEM NO. B.11: 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 the 2nd TeST meeting	Target
POWERGRID	Pending	Powergrid intimated that process for placement of LoA has already been started and informed that NIT would be	

		floated by December, 2019	
Maithon Right bank (MPL)	RTU/SAS Upgraded	ERLDC informed that SAS system at MPL is upgraded but reporting to ERLDC BCC is yet to be done and hence, requested MPL to call their vendor so that configuration at their end could be done properly for its dual reporting. MPL informed that they would consult M/s ABB and try to resolve the issue in consultation with ERLDC.	
New Farakka (Stage III)	Completed	Dual reporting has been completed at their end but testing is pending which will be done shortly.	
NTPC, Farakka (Stage I & II)	Pending	LoA for replacement of RTU would be placed by December, 2019.	
Talcher STPS	RTU Upgraded	NTPC Talcher informed that they have placed the LoA and the same would be completed within 3 months.	
Kahalgaon STPS	Pending	NTPC Kahalgaon informed that LoA have been placed to M/s GE and panels already installed. They have started configuring the signal cards and the same would be completed by December, 2019.	---
Chuzachen HEP	Pending	Chuzachen HEP informed that they have installed the panels and they would complete the work by February, 2020 but reporting of data over IEC 104 protocol would not be possible because of non-availability of OPGW network. Powergrid informed that OPGW between Chuzachen-Rangpo would take 6-7 months more to complete.	With the availability of OPGW between Chuzachen - Rangpo.
JITPL	Pending	Powergrid informed that OPGW communication links from JITPL to nearest Powergrid S/s would be completed by May 2020.	May-2020
GMR	Pending	Powergrid informed that OPGW communication links from GMR to nearest Powergrid S/s would be completed by May 2020.	May-2020
JUSNL	Pending	JUSNL informed that their RTU replacement of 21 Nos. of RTU would be completed by March 2020.	March, 2020
OPTCL	Pending	OPTCL informed that LOA for	November,2020

		replacement / up-gradation of old RTUs (78Nos) will be awarded by December, 2019.	
WBSETCL	Pending	WBSETCL informed that they are going to place the order shortly with an implementation schedule of 2 years (1809 km OPGW laying works & 35 Nos. of RTU replacement works).	
NHPC (Teesta – V & Rangit)	Pending	Teesta-V informed via email that the technical bids for the above work have been opened and the bids are under evaluation stage. The Letter of Award for the work is likely to be placed in the month of December, 2019 and the work is likely to be completed by June, 2020.	June, 2020
DMTCL Motihari	Pending	DMTCL representative was absent during the discussion.	OPGW not available
BRBCL Nabinagar	Pending	DMTCL representative was absent during the discussion.	OPGW not available
Teesta – III	Pending	Teesta III representative was absent during the discussion.	OPGW not available
Dikchu	Pending	Dikchu representative was absent during the discussion.	OPGW not available
Jorethang	Pending	Jorethang representative was absent during the discussion.	OPGW not available
APNRL	Completed	---	---
Barh	Completed	---	---

Members may update the latest status.

Deliberation in the meeting

Powergrid informed that NIT would be floated by 31st December 2019.

ITEM NO. B.12: 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.

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. WBSETCL agreed for the same.

Powergrid intimated that for further DVC data transmission from WBSETCL, Howrah to New Delhi, bandwidth provision either through POWERTEL or combination of WBSETCL and Powergrid may be explored and finalized by DVC. DVC agreed for the same.

In 2nd TeST meeting, 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.

ERLDC, WBSETCL, DVC may update.

Deliberation in the meeting

ERPC advised ERLDC to write a letter to WBSETCL mentioning about the requirement of the same. ERLDC agreed for the same.

2. WBSETCL MCC Andul road to ERLDC BCC located at New Delhi

In 1st TeST meeting, Powergrid requested ERLDC to provide space for installation of ULDC equipment at Backup ERLDC (NLDC) so that link may be configured in ULDC network.

In 2nd TeST meeting, ERLDC informed that the suitable space at ERLDC BCC located at NLDC, New Delhi would be ready within 2-3 months.

Powergrid, ERLDC may update.

Deliberation in the meeting

ERLDC informed that the suitable space at ERLDC BCC located at NLDC, New Delhi would be ready by March, 2020.

3. Fiber redundancy in Central Sector OPGW link

There are few paths (especially last mile) where there is no fiber redundancy. Following are the sections where fiber laying is to be done/under implementation:

Farakka to Jeerat

Powergrid informed that presently, FO link connectivity is available between Farakka to Jeerat through Behrampur which doesn't have route diversity. POWERGRID further informed that route diversity for redundancy would be available after commissioning of OPGW link from Farakka to Jeerat through Gokarna, Rajarhat & Subhashgram.

In the 22nd SCADA O&M meeting held on 30th October 2018 at ERLDC, Powergrid informed that ROW issue of 400kV Rajarhat-Gokarna line is yet to be resolved, OPGW link along with communication equipment is expected to be commissioned by July-2019.

Powergrid may also update about pending 10 km OPGW work of Gokarna- Rajarhat line, which is delayed due to the ROW issue.

In 2nd TeST meeting, Powergrid reiterated that OPGW in Rajarhat-Farakka link would be completed along with the Gokarna-Rajarhat transmission line.

Powergrid may update.

Deliberation in the meeting

Powergrid reiterated that OPGW in Rajarhat-Farakka link would be completed along with the Gokarna-Rajarhat transmission line.

4. Fiber redundancy in OPTCL Sector

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.

In 24th SCADA O & Meeting, 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.

In 1st TeST meeting, OPTCL informed that 17 Nos. of towers are being diverted and same would expected to get completed by May, 2020.

In 2nd TeST meeting, OPTCL informed that it would be completed by May, 2020. OPTCL further mentioned that an alternate path is already available from Rourkela to Bhubaneswar through Tarkera-Budhipadar.

OPTCL may update.

Deliberation in the meeting

OPTCL informed that it would be completed by May, 2020.

5. Fiber redundancy in JUSNL Sector

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.

POWERGRID further informed that route diversity for redundancy between Ranchi 400 kV (PG) to JUSNL SLDC (Kushai Colony) could not be achieved until unless OPGW connectivity from Chandil to JUSNL SLDC through Namkum (132 kV) i.e. 95 Km could be

completed. POWERGRID further informed redundant fiber route is to be explored and implemented by JUSNL.

In 24th SCADA O & Meeting, JUSNL informed that they have received approval for PSDF funding for providing protection channel for redundancy between Chandil to JUSNL SLDC (Kushai Colony) but their Cabinet approval is pending.

In 1st TeST meeting, JUSNL informed that they are yet to receive their cabinet approval (50:50 basis).

In 2nd TeST meeting, JUSNL informed that they 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 may update.

Deliberation in the meeting

JUSNL informed that they have received the cabinet approval but could not proceed further due to model code of conduct due to state assembly elections in their state.

ITEM NO. B.13: URTDSM Project installed in Eastern Region

1. Issues of 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	Negative latency: It has been observed several times that time synchronization problem with single PMU causes outage of all PMUs data at ERLDC	Powergrid informed that M/s GE has provided the solution. ERLDC informed that it could not be checked as this is related to advancing of GPS so the same is under observation.	
2	Powergrid analytics application: Powergrid analytical application software, which was supposed to be installed under URTDSM project, is yet to be made functional at SLDCs.	Powergrid further informed that it would be resolved by December, 2019.	
3	Integration with SCADA over	Powergrid further informed that it would be resolved by December,	

<p>IEC 104: Data export to SCADA from URTDSM system is not working properly.</p>	<p>2019.</p>	
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Powergrid may update.

Deliberation in the meeting

ERLDC informed that Negative latency issue has not been observed so far so the issue may be closed.

Powergrid informed that M/s GE has completed the work at state sector as well.

ERLDC informed that Powergrid analytics application has been installed in only one server and requested to install in second server also to maintain redundancy. Powergrid agreed for the same.

Powergrid informed that they have configured the 1 second data export to SCADA from URTDSM as per data frame requirement and requested ERLDC to test for the same. ERLDC agreed for the same.

2. URTDSM Data 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

Short closing of URTDSM project:- Powergrid requested to consider for short-closing of the contract with as-is-where-is basis (excluding erection cost, wherever applicable) With regard to non-commissioning of PMUs at various IPPs and locations which are not ready. ERPC advised Powergrid to discuss the issue at next OCC meeting for a concrete decision in this regard.

In 42nd TCC/ERPC meeting, Powergrid informed that integration of PMUs at Tenughat would be completed by December, 2019 and the same for GMR and JITPL would be completed by June 2020.

Further, 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 1st and 2nd TeST meeting , following deliberations has taken place

Kahalgaon STPS:- Powergrid intimated that the visit of GE engineer has been scheduled to various sites for rectification of PMUs which are not reporting at ERLDC. NTPC and Powergrid agreed to resolve site issues mutually for facilitating the rectification of PMUs at Kahalgaon STPS.

Sterlite:- OPTCL intimated that they have informed the requirement to their construction wing and would revert back to Powergrid shortly.

Talcher STPS:- Powergrid informed that PMU integration at Tacher STPS would be completed by November, 2019 once the status point integration by NTPC is completed. Powergrid agreed to provide the drawing so that NTPC would complete their work.

Redundant communication link in URTDSM project:- Powergrid agreed to provide redundant communication links between control centres in URTDSM project by 30th November, 2019.

Powergrid informed that they have already provided the necessary port details required for the communication links from PDCs (OPTCL-Bhubneswar, DVC-Howrah & WBSETCL-Howrah) to ERLDC PDC. ERLDC requested Powergrid to advise GE for necessary changes in their system so that these links could be utilized properly. Powergrid agreed for the same.

Powergrid, NTPC and OPTCL may update.

Deliberation in the meeting

The short closing of URTDSM project shall be done in compliance with the decision of 42nd TCC/ERPC meetings held on 12th & 13th December 2019.

Powergrid informed that M/s GE shall be deputing their team at NTPC Kahalgaon by 26.12.2019.

OPTCL informed that the issue related with Sterlite is pending with their construction wing and the communication link would be provided after getting the confirmation from them.

Powergrid informed that the redundant communication link in URTDSM project has been provided with all constituents except DVC. The same would be completed at the earliest.

3. SCADA Data Summary :-

State Sector: Following are the deliberations regarding data non availability of state sector stations:-

AOR	Station	Overall Status	Deliberation in last TeST meeting	Latest Status
WBSETCL	TLDP 4 220kV	Not Available		
	Dharampur 220kV	Not Available	WBSETCL informed that they have placed the order for Dharampur 220 kV RTU integration.	
	Egra 220	Yet to be integrated	WBSETCL informed that they are getting Egra 220 kV data and hence requested ERLDC to configure it at their end.	
	Bantala 220kV	Not Available	WBSETCL informed that work related to Bantala 220 kV to be done by M/s Chemtrols	
	Alipurduar 220kV	Not Available	WBSETCL informed that Alipurduar 220 kV RTU data would be available by December 2019.	
BSPTCL	Motipur 220kV	Not available	BSPTCL informed that they have integrated the Motipur 220 kV data but data is intermittent	
JUSNL	Hatia New 220	Not Available	JUNSL informed that by March, 2020 they will make available all the data in their jurisdiction.	
	Jamtara 132kV	Not Available		
	Garwa 132kV	Yet to be integrated		
	Deoghar 132kV	Not Available		
	Kendposi 132 kV	Not Available		
OPTCL	JSPL 400kV	Most of the data not available	OPTCL informed that by June, 2020 they will make available all the data in their jurisdiction.	
	Nalco 220kV	Most of the data not available		
	Narsingpur 220kV	Station commissioned at 220kV without data		

		telemetry	
	Bargarh 220	Station commissio ned at 220kV without data telemetry	

Members may update.

Deliberation in the meeting

The latest status as updated in 3rd TeST meeting is as given below:

AOR	Station	Overall Status	Deliberation in last TeST meeting	Latest Status
WBSETCL	TLDP 4 220kV	Not Available		<i>WBSETCL informed that they would write a letter to NHPC for providing the port.</i>
	Dharampur 220kV	Not Available	WBSETCL informed that they have placed the order for Dharampur 220 kV RTU integration.	<i>It would be available soon.</i>
	Egra 220	Yet to be integrated	WBSETCL informed that they are getting Egra 220 kV data and hence requested ERLDC to configure it at their end.	<i>WBSETCL informed that they have given this work to M/s Chemtrols.</i>
	Bantala 220kV	Not Available	WBSETCL informed that work related to Bantala 220 kV to be done by M/s Chemtrols	<i>WBSETCL informed that it would be completed by Dec'19.</i>
	Alipurduar 220kV	Not Available	WBSETCL informed that Alipurduar 220 kV RTU data would be available by December 2019.	<i>WBSETCL informed that Alipurduar 220 kV RTU data would be available by January, 2020.</i>
BSPTCL	Motipur 220kV	Not available	BSPTCL informed that they have integrated the Motipur 220 kV data but data is intermittent	<i>BSPTCL informed that Data is available and was needed to integrate over ICCP with ERLDC.</i>
JUSNL	Hatia New 220	Not Available	JUNSL informed that by March, 2020 they will make available all the	<i>JUSNL informed that</i>
	Jamtara 132kV	Not Available		

	Garwa 132kV	Yet to be integrated	data in their jurisdiction.	<i>it Would be provided by March 2020.</i>
	Deoghar 132kV	Not Available		
	Kendposi 132 kV	Not Available		
OPTCL	JSPL 400kV	Most of the data not available	OPTCL informed that by June, 2020 they will make available all the data in their jurisdiction.	<i>OPTCL informed that it would be provided by June 2020.</i>
	Nalco 220kV	Most of the data not available		
	Narsingpur 220kV	Station commissio ned at 220kV without data telemetry		
	Bargarh 220	Station commissio ned at 220kV without data telemetry		

Additional Agenda Items:

ITEM NO. B.14: Short-closing of the contract (Backup NLDC part) under URTDSM Project

Backup NLDC Control Center under URTDSM Project could not be commissioned due to non-readiness of UPS room at ERLDC.

In 23rd SCADA O&M ERLDC intimated that the renovation work will be completed by July-2019. Further, ERLDC vide letter dated 30.05.2019 and in 24th SCADA O&M meeting held on 14.08.2019, intimated that the renovation work will be completed by November, 2019.

In 1st Test Meeting, ERLDC intimated that the renovation work will take more time and expected to be completed by February, 2020 and Powergrid also requested for space at ERLDC/ERPC for charging of the battery bank without which their performance may be degraded. However, the space could not be allotted by ERLDC/ERPC.

In 2nd Test Meeting, Powergrid proposed for short-closing of the contract considering non-availability of space for UPS & Battery after long wait time and repeated request.

It is proposed to short-close the contract (Backup NLDC part) considering non-availability of space for UPS and Battery after repeated request and long wait time.

ERLDC may update. Members may discuss.

Deliberation in the meeting

ERLDC informed that renovation of UPS room would be completed by end of March, 2020.

ITEM NO. B.15: Implementation of U-NMS System in State Sector of Eastern Region

In 24th SCADA O&M Meeting held at ERLDC on 14th August 2019, Powergrid proposed for implementation of Unified Network Management System (U-NMS) in Eastern Region and presented the overview along with the technical aspects and its necessity.

Member Secretary, ERPC informed that a Committee with members from ERLDC, ERPC, all the states and Powergrid is required to be formed for the assessment of technical requirements to facilitate monitoring of ISTS communication network in line with CERC regulation.

Accordingly, a Committee was constituted and the Committee met on 24th October, 2019 at ERLDC, wherein Powergrid made a detailed presentation on Unified Network Management System (U-NMS) Project to be implemented for managing Project for ISTS & State utilities communication network at State, Regional & National level. The technical feasibility report has been issued subsequently.

In 42nd ERPC meeting, the implementation of UNMS System is approved for Central Sector subject to state portion.

All constituents may kindly intimate the requirement of implementation of UNMS System at respective constituents. In case of agreeability, the data format (enclosed in **Annexure-B15**) may kindly be furnished to Powergrid at the earliest.

Members may discuss.

Deliberation in the meeting

Above agenda item was discussed along with the Agenda Item No. B.3.

ITEM NO. B.16: Permission for OPGW laying in TLDP-NJP OPGW link under Fiber Optic Expansion Project (Additional Requirement)

In 27th ERPC meeting, OPGW laying on TLDP-NJP was approved based on advice of NLDC. Accordingly, tendering has been carried out and work order has been placed on party by Powergrid. Tower schedule of 220KV TLDP-NJP TL has been provided by WBSETCL. However, permission of laying OPGW on 220KV TLDP-NJP TL & nomination of WBSETCL representative to issue the PTW is pending from WBSETCL end (Letter dated 10.01.2019, 18.02.2019, 22.02.2019, 02.08.2019, 17.09.2019)

The matter was also repeatedly discussed in 24th SCADA O&M held on 14.08.2019 and 1st Test meeting held on 24.10.2019 wherein WBSETCL intimated that they will look into the matter. Vide letter dated 26.10.2019, WBSETCL intimated that they will implement OPGW in this line. Accordingly, Powergrid may be advised for further course of action in this regard. (Correspondence is given in **Annexure-B16**)

Members may discuss.

Deliberation in the meeting

ERPC asked WBSETCL to send the details to ERPC at the earliest.

ITEM NO. B.17: OPGW Installation in Teesta-III - Kishanganj link

Powergrid is implementing OPGW on Teesta-III - Kishanganj TL under Fiber Optic Expansion Package (Additional Requirement). Total OPGW route length is 215 Km out of which only 56 Km could be completed in last 2 months with engagement of 02 teams.

The slow pace of erection is due to non-availability of permission of A/R in non-auto mode by ERLDC. Matter has been taken up with ERLDC several times (Letter dtd 28.11.2019) but the timing of permission for A/R in non-auto mode could not be increased resulting in very slow progress in work. ERLDC also acknowledged the restricted issuance of A/R in non-auto permission due to Grid Constraints (Letter dtd. 03.12.2019).

The executing agency also intimated regarding gang idling and commercial implication. The status of permission of A/R in non-auto mode is enclosed in Annexure-III.

Further, ROW/Old Compensation issues is also emerging during OPGW erection work. ROW issues occurred till date is as under:

Drum no-50 (Location no-290A/0): Old compensation pending from TPTL. Work stopped on 19.10.2019.

Drum no-43 (Location no 274): Heavy ROW issue. Work stopped on 06.11.2019.

The work has been interrupted at those locations and team further moved to other locations. Since TPTL is owner of the TL, TPTL has been intimated regarding the issue vide letter dated 18.12.2019. TPTL shall take necessary action for resolving the issue. (Correspondence is given in **Annexure-B17**)

ERLDC and TPTL may update.

Deliberation in the meeting

ERLDC requested Powergrid to increase the number of teams deployed and also assurance that they would extend their help in resolving the timing issue for A/R shutdown. Powergrid agreed for the same.

PART – C : ANY OTHER ITEMS

ITEM NO. C.1: FOLLOW-UP OF DECISIONS OF THE PREVIOUS TeST MEETING(S)

The decisions of previous TeST Meetings are given at Annexure.

Members may update the latest status.

Deliberation in the meeting

*Members updated the latest status which is given at **Annexure-C1**.*

ITEM NO. C.2: Status of various projects undertaken by M/s Chemtrols in Eastern Region

Latest status of various projects undertaken by M/s Chemtrols in Eastern Region are given at Annexure.

M/s Chemtrols may update the latest status.

Deliberation in the meeting

*M/s Chemtrols updated the latest status which is given at **Annexure-C2**.*

Sl No.	Agenda point	Deliberation in the meeting	Latest status
2nd TeST Meeting			
1.	Non-Functioning of UPS-1 at SLDC, DVC, Howrah since 04.11.2019	M/s Chemtrols informed that they are having comprehensive AMC with Delta of UPS system but the required part is presently not available with Delta. The same would be rectified within a week once part received by Delta person.	<i>M/s Chemtrols informed that the issue would be resolved by 15th January, 2020..</i>
1st TeST Meeting			
1.	OPGW related matters of BSPTCL <ul style="list-style-type: none"> • Losses found in 132 KV MTPS-Motihari & Motihari-Betia line which is yet to be corrected as SAT of future line are pending since long. • Installation work of OPGW taken up for 132 KV Kahalgaon(BH)-Kahalgaon(NTPC) T/L but not completed yet. 	Powergrid informed that they would depute the team by first week of December, 2019.	<i>This issue has already been discussed in Item no: B10.</i>
2.	Instability of Data – BSPTCL <ul style="list-style-type: none"> • SDH- The improper maintenance of communication equipments and lack of manpower for communication equipments like SDH (Fibcom) and frequent failure of cards (E1/Ethernet) at different GSSs. • PDH- Even after issuance of TOC of PDH (Tejas) provided under scheme of SCADA Upgradation, PDH system is leading to untimely hanging and intermittent data to SLDC and failure of 64 Kbps data cards at different GSSs. 	Powergrid informed that they would check at their end and revert back to BSPTCL.	<i>This issue has already been discussed in Item no: B9.</i>
4.	Readiness of UPS Room for Backup NLDC Control Center under URTDSM Project	ERLDC informed that the contract for finalization of the work of renovation of UPS room will be completed by February, 2020.	<i>This issue has already been discussed in Item no: B14.</i>

Annexure-C2				
SL No	POSOCO / Constituent	Deliberation in the last TeST meeting	Proposed completion date	Latest Status
ERLDC Portion				
1	PM not being carried out by M/s Chemtrols through OEM	M/s Chemtrols informed that they have already procured server FANs for all sites. They further informed that server HDD procurement is under process and the same is expected to be completed by 15th September 2019. UPS, DG will be done by OEM. Rest PM is carried out by Chemtrols engineers.	15.09.19	Chemtrols informed that problem of Fuel injector coil at ERLDC would be solved by 31st December 2019.
2	Implementation of Automatic Demand Management Scheme (ADMS) in Bihar & Jharkhand	<i>BSPTCL informed that they are receiving only few stations data and hence, requested Chemtrols to take necessary action in this regard. Chemtrols agreed for the same.</i>		ADMS in Jharkhand has been implemented successfully. Testing clearance is due from BSPTCL side.
3	Preventive Maintenance of DG Sets: Scheduled Preventive Maintenance of both DG Sets for Quarter II of 2019 (April-June 2019) are yet to be conducted. The Q1 AMC were conducted during March 2019 (against initial schedule of Jan 2019). Several correspondences have been made with the party	<i>Chemtrols informed that they have already placed order to OEM for procurement and the same would be delivered by December, 2019.</i>		Issue has been resolved and PM will be conducted in regular interval.
DVC				
1	Cyber security audit report is not submitted by M/s Chemtrols even for the last year conducted on 23.02.2018.	<i>Chemtrols informed that schedule for next cyber security audit will be submitted by December 2019.</i>		Would be completed by Dec'19.

2	19 nos MFM and 01 (one) Node are faulty – to be rectified.	Chemtrols agreed to return the faulty MFM.		01 node already handed over to DVC. Faulty MFM will be handed over shortly
3	Analog and Digital Data from Jamshedpur S/S for 33 KV JUSCO line is not available.	Chemtrols confirmed that they would resolve the issue at the earliest.	December , 2019	would be completed by 15th January 2020.
4	Data Reporting Issues:			
4.1	(i) Mosaboni S/S – Analog and Digital Data from all 33 KV Bays.	Chemtrols informed that they would be visiting DVC, Maithon to resolve the issue.		
4.2	(ii) Kolaghat S/S - Analog Data for 132 KV Howrah Bay, Kharagpur Bay, Kolaghat (WB) bay			
	(iii) Nimiaghat S/S - Both Analog and Digital Data from all 33 KV Bays			
4.3	(iv) Putki S/S - Analog and Digital Data for Line # 47 (132 KV Putki - Nimiaghat line)			
4.4	(iv) CTPS B: Analog data of LV side from Gen # 7 & 8.			
4.5	(v) MTPS A: Analog data of LV side from Generator # 6.			
4.6	(vi) Biada S/S: Both Analog and Digital Data for all 33 KV Bays and Digital for all 132 KV bays.			
5	PM of DG is never carried out since installation	M/S Chemtrols informed that they will conduct the Preventive Maintenance for DG Sets once they are able to renew the contract with M/s Garuda Power		
6	Three (3) nos. faulty Terminal Servers to be repaired	Would be resolved by November 2019.		Would be resolved by December 2019.
<u>JUSNL Portion</u>				
1	CPU of LDMS of Japla, Latehar, Daltonganj and Kanke are not working	M/s Chemtrols informed that it would be delivered shortly.		would be resolved by 15th January 2020.
<u>BSPTCL Portion</u>				

1	Isolation Transformer breakdown since 18.08.18	Procurement Done. By 30.11.19 ISO TRF will be supplied at site. M/s Chemtrols informed that completion is in transit		Completed.
2	MP 2553 RICOH Printer defective	BSPTCL requested Chemtrols to raised the bill separately so that the same could be processed at BSPTCL end for processing & release of payment. Quotation submitted to BSPTCL for Damaged parts		Already discussed in Item-B.8.
3	Integration of new bay	M/s Chemtrols informed that work is in progress		
WBSETCL Portion				
1	Chemtrols RTU is not integrated through IEC-104 protocol though communication link is ready	M/s Chemtrols informed that it would be taken up once communication link is ready at site.		M/s Chemtrols informed that work in progress.