



Minutes of 5th TeST Meeting

Date: 06.03.2020
Eastern Regional Power Committee
14, Golf Club Road, Tollygunge
Kolkata: 700 033

EASTERN REGIONAL POWER COMMITTEE

MINUTES OF 5TH TELECOMMUNICATION, SCADA AND TELEMETRY SUB-COMMITTEE MEETING HELD AT ERPC, KOLKATA ON 24.02.2020 (MONDAY) AT 11:00 HOURS

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

PART – A: CONFIRMATION OF MINUTES

ITEM NO. A.1: Confirmation of minutes of 4th TeST Sub-committee meeting held on 31.01.2020

The minutes of 4th TeST Sub-committee meeting held on 31.01.2020 circulated vide letter dated 14.02.2020.

Members may confirm the minutes of 4th TeST Sub-committee meeting.

Deliberation in the meeting

ERPC Secretariat has received a request from Powergrid for addendum against the item no. C1 (SI No. 4) - Permission for OPGW laying in TLDP-NJP OPGW link under Fibre Optic Expansion Project (Additional Requirement) of 4th TeST meeting minutes as follows:

“Powergrid informed that the work has been awarded under Fibre Optic Expansion Project (Additional Requirement). Powergrid requested to delete the scope of work from this project.”

After deliberation, TeST Committee accepted the addendum sort by Powergrid. Thereafter, TeST Committee accepted the minutes of the 4th TeST Meeting issued by ERPC Secretariat with the above addendum.

PART – B: ITEMS FOR DISCUSSION

ITEM NO. B.1: 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.

Members may update.

Deliberation in the meeting

*BSPTCL submitted the details for implementation of AMR which is enclosed at **Annexure-B1.1**.*

In the meeting, it was decided that Powergrid would implement the AMR integration for the state constituents and the cost shall be borne by the respective constituents. It was also decided that the maintenance of the state portion would be done by the respective state constituents.

TeST committee requested Powergrid to maintain the sufficient redundancy for reliable data transfer of AMR.

TeST committee requested Powergrid to submit the estimate for BSPTCL system as submitted by them.

*Powergrid submitted the estimate for the same which is enclosed at **Annexure-B1.2**.*

TeST committee referred the cost estimation to Commercial Committee for approval.

All other constituents, WBSETCL, DVC, JUSNL, OPTCL, Sikkim were requested to submit the details for implementation of AMR within two days.

ITEM NO. B.2: 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.

Powergrid is requested to share detailed report of the event and come up with remedies for prevention of such unwanted disruption in future.

Powergrid may explain.

Deliberation in the meeting

ERLDC informed that on 10th February at 20:20 hrs, entire data communication in Eastern Region got disrupted which leads to outage of SCADA data, URTDSM data and Voice communication. The reason for the communication failure is yet to be received from Powergrid.

Powergrid informed that they had identified the problem at Farakka where only Ethernet portion was disrupted. Powergrid added that the issue was not detected by NMS and no alarm was appeared.

Further, Powergrid informed that the issue is being taken up with the OEM and agree to submit the report to ERPC and ERLDC.

Member Secretary, ERPC advised Powergrid to give a brief presentation in the TCC meeting on this issue.

ITEM NO. B.3: 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

Deliberation in the meeting

OSI informed that modelling of TCSC and FSC was still in progress. They further informed that modelling of HVDC, STATCOM would be done after completion of TCSC and FSC modelling.

ERLDC informed that Chemtrols/OSI was not giving due importance to modelling related issues as these are long pending issue.

ERLDC further informed that there was no progress in STLF application and Integration with WAMS also.

TeST committee observed that these issues are being discussed since last one year and no significant improvement has been seen in the same. The committee advised OSI to complete the above modelling and integration at the earliest.

Further, OSI informed that they would have a meeting with ERLDC to discuss issues and would send the target dates by which above modelling and integration would be completed to ERPC.

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 4th TeST meeting, OSI informed that they had a Webex meeting with ERLDC and Chemtrols on 23rd December 2019 in which modeling related issues were discussed.

OSI further informed that they would complete one model each of TCSC and FSC in a week's time. Further, OSI informed that they would start modelling HVDC once TCSC and FSC modelling is done and the same would take around two weeks' time.

ERPC asked OSI to send the individual target dates by which all the software related works would be completed.

Chemtrols informed that they have sent the quotation for providing 3 nos. of SCADA licenses at ERLDC system. ERLDC raised concern about getting quote from Chemtrols instead of OSI.

Chemtrols submitted the quote of ₹ 2.48 Crores regarding additional 8000 analog and 12000 digital license points in OPTCL system. ERLDC informed that this price is quite high as compared with SCADA software license supplied under ER SCADA up-gradation package or NLDC up-gradation project. ERPC asked OSI to submit necessary justification to arrive at the cost of the same.

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

Deliberation in the meeting

TeST committee advised M/s Chemtrols to submit the justification for quote submitted regarding additional 8000 analog and 12000 digital license points in OPTCL system.

M/s Chemtrols informed that they would send the justification for the same at the earliest.

ITEM NO. B.4: Establishment of State-of-the-Art Unified Centralized Network

Management System U-NMS for ISTS and State Utility Communication Network in 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 and 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. In 3rd TeST meeting, ERPC advised all constituents to provide the data in the format given by Powergrid for implementation of UNMS System at respective constituents.

Powergrid has approached all constituents and presented & discussed the implementation of the UNMS in respective constituents.

In 4th TeST meeting, Powergrid submitted that cost of implementation of UNMS in state sector as per data provided by constituents estimated as below:

- 1) Regional U-NMS: ₹ 97.93 crores
- 2) State sector U-NMS: ₹ 2 crores with breakup as below:
 - a) DVC: ₹ 0.40 crores
 - b) BSPTCL: ₹ 0.40 crores
 - c) WBSETCL: ₹ 0.40 crores
 - d) OPTCL: ₹ 0.40 crores
 - e) JUSNL: ₹ 0.40 crores

The above cost is based on the data provided by constituents, the details of NMS & NEs to be integrated in each constituent.

Further, MS, ERPC advised Powergrid to provide the cost sharing for Central Sector portion.

Powergrid intimated that the total estimated cost for UNMS Project for Central sector portion is Rs. 97.93 Crs. which is proposed to be apportioned between the constituents in PoC mechanism. Tentative ratio is enclosed in Annexure.

All constituents are also requested to convey the implementation of the UNMS System in respective constituents for incorporation in the project along with Central Sector.

Members may discuss.

Deliberation in the meeting

*Powergrid intimated that the total estimated cost for UNMS Project for Central sector portion is **Rs. 97.93 Crs.** which was proposed to be apportioned between the constituents in PoC mechanism and tentative ratio for the same was given at **Annexure-B4**.*

All state constituents raised concern regarding integration of newly added elements or NMS in the existing UNMS while implementing the project.

Powergrid suggested all state constituents to foresee the requirements and send the details to Powergrid. Powergrid agreed to include the same in the project.

All constituents agreed to implement the UNMS system within the state along with the Central Sector UNMS project with a cost estimate as follows:

- 1) Regional U-NMS: ₹ 97.93 crores
- 2) State sector U-NMS: ₹ 2 crores

TeST committee noted the cost involvement by each constituent and referred to Commercial Committee Meeting for approval.

ITEM NO. B.5: 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:

SI No	Station	Communication link status	AGC system installation status at Site	Target
1	Farakka STPS - I & II	Link established		June 2020
2	Kahalgaon STPS - II	Link established		June 2020
3	Barh STPS	Link established	Installed	Running since August 2019
4	NPGC, Nabinagar	Not yet 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	June 2020

			providing the end equipment.	
5	Maithon Power Limited	Link established		February,2020
6	Talcher STPS - I	Link established		June 2020
7	Kahalgaon STPS - I	Link established	NTPC informed that they approaching CERC for exemption.	
8	Nabinagar Thermal Power Project - BRBCL	Sasaram Nabinagar OPGW installation is pending.		June 2020
9	Darlipalli STPS	Not yet established.		June 2020
10	Teesta - V	Link established		June 2020
11	Farakka STPS - III	Link established		June 2020
12	MTPS Stage - II	Link established		June 2020
13	Rangit HPS	Link established		June 2020

OPGW Installation status:

SI No	Communication link	Status	Target Date
1	400kV Sasaram – BRBCL Nabinagar	NTPC may update	
2	400kV Barh Gorakhpur	Powergrid informed that they have completed laying of OPGW up to 180 km length of line out of total 355 km length of line till now.	March, 2020

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.

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

Members may discuss.

Deliberation in the meeting

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	June 2020
2	Kahalgaon STPS - II	Both links established	Pending	June 2020
3	Barh STPS	Both links established	Installed	Running since August 2019
4	NPGC, Nabinagar	Links from Gaya and Patna has been established.	NPGC, Nabinagar informed that OPGW is available but end equipment need to be procured and installed to establish communication link from their station to NLDC. NTPC further informed that they have place order for providing the end equipment.	June 2020
5	Maithon Power Limited	One link established. Other link, Ranchi-Maithon(RB) would complete by March, 2020.	In progress	February,2020
6	Talcher STPS - I	Both links established.		June 2020
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.		June 2020

9	Darlipalli STPS	Communication established.	Integration is in progress	June 2020
10	Teesta - V	One link established		June 2020
11	Farakka STPS - III	Link established		June 2020
12	MTPS Stage – II (Kanti)	Link established		June 2020
13	Rangit HPS	One link established		June 2020

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

ITEM NO. B.6: ROW issues faced during OPGW Installation in Teesta III - Kishanganj link

Powergrid is implementing OPGW on Teesta III - Kishanganj TL under Fibre Optic Expansion Package (Additional Requirement). 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/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:

Location no	OPGW Drum No	Remarks
Location no-290A/0	Drum no-50	Work stopped on 19.10.2019 due to heavy ROW issue.
Location no 274	Drum no-43	Work stopped on 06.11.2019 due to heavy ROW issue.
Location no. 294B to 294D/1	Drum No. 51	Work stopped on 03.12.2019 due to heavy ROW issue.
Location no. 308 to 311/2	Drum no. 58	Work stopped on 09.01.2020 due to heavy ROW issue.
Location no. 272/3	Drum No-42	Work stopped on 11.02.2020 due to heavy ROW issue.

Members may discuss.

Deliberation in the meeting

TeST committee decided to discuss above issue in the next OCC meeting.

ITEM NO. B.7: 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	Powergrid informed that NIT would be floated by February, 2020.	
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 have taken remote support from M/s ABB to resolve the same.	
NTPC, Farakka (Stage I & II)	Pending	NTPC informed that they would complete the work by April, 2020.	April, 2020
Talcher STPS	RTU Upgraded	NTPC would further send the latest update to ERPC at the earliest.	
Kahalgaon STPS	Pending	NTPC Kahalgaon informed that they would complete the work by February, 2020.	February, 2020
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	January, 2021

		replacement / up-gradation of old RTUs (78Nos) would 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). WBSETCL informed that tender for RTU would be given by February, 2020 and tender for OPGW is already given.	
NHPC (Teesta – V & Rangit)	Pending	Teesta-V informed that they are in process to finalize LoA.	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.

Deliberation in the meeting

Powergrid informed that NIT for OPGW & DCPS works has been floated on 14th February 2020. Powergrid further informed that NIT for balance work would be floated by 1st week of March 2020.

TeST committee referred above agenda item to TCC meeting for updating latest status.

ITEM NO. B.8: 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.

S. No.	Link Path	Deliberation in the last TeST meeting	Latest Status
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. WBSETCL informed that they replied via letter to ERLDC that they are unable to provide necessary help.	
2.	WBSETCL MCC Andul road 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.	
3.	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.	Powergrid reiterated that OPGW in Rajarhat-Farakka link would be completed along with the Gokarna-Rajarhat transmission line.	
4.	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 expected to get completed by May, 2020.	
5.	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.	

Members may update the latest status.

Deliberation in the meeting

S. No.	Link Path	Deliberation in the last TeST meeting	Deliberation in the 5th 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.	<i>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.</i> <i>They suggested taking necessary approval from competent authority.</i> <i>TeST committee referred the issue to TCC meeting.</i>
2.	WBSETCL MCC Andul road to ERLDC BCC located	Powergrid requested ERLDC to provide space for installation of ULDC equipment at Backup	<i>Powergrid informed that necessary equipment has been installed and configured at backup ERLDC located at</i>

	at New Delhi	<p>ERLDC (NLDC) so that link may be configured in ULDC network.</p> <p>ERLDC informed that necessary space has been provided and installation work is in progress.</p>	<p>NLDC, New Delhi.</p> <p><i>ERLDC informed that they will carried out the testing for the same.</i></p>
3.	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.	Powergrid reiterated that OPGW in Rajarhat-Farakka link would be completed along with the Gokarna-Rajarhat transmission line.	--Status-quo--
4.	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.	<p>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.</p> <p>OPTCL informed that 17 Nos. of towers are being diverted and same would expected to get completed by May, 2020.</p>	--Status-quo--
5.	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	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	<i>JUSNL informed that they would explore some other project to provide the redundant path from Ranchi 400 kV (PG) to JUSNL SLDC (Kushai Colony) as Chandil to JUSNL SLDC (Kushai Colony) link could not be</i>

	available through Hatia 220 kV which doesn't have route diversity.	approval but could not proceed further due to model code of conduct due to state assembly elections in their state.	<i>completed.</i>
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ITEM NO. B.9: 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	Powergrid analytics application : Powergrid analytical application software, which was supposed to be installed under URTDSM project, is yet to be made functional at SLDCs.	ERLDC informed that one module is pending of the application and the rest is completed.	

Powergrid may update.

Deliberation in the meeting

Powergrid informed that the above module of analytics application is under development stage and the same would be completed by June, 2020.

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

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.

Further, 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.

In 4th TeST meeting, Powergrid informed that validation is pending for one PMU at Tenughat and installation in progress for the second PMU at Tenughat.

S. No.	PMU Issue	Deliberation in the last TeST meeting	Latest status
1.	Sterlite	OPTCL informed that they have assigned M/s GE to establish communication link and they have configured Sterlite-Lapanga-Merumundali link. Further, OPTCL informed that above work would be completed by February, 2020.	
2.	Redundant communication link - Considering the importance of PMUs data, Powergrid agreed to implement redundant communication link in URTDSM project in order to prevent PMUs data intermittency and repetitive failure between PDC-PDC communication between ERLDC and SLDCs.	Powergrid informed that the redundant communication link in URTDSM project has been provided with all constituents except DVC. Powergrid informed that no alternate path is there to provide redundant communication link for DVC system. ERLDC informed that alternate communication link may be provided using PowerTel network. Powergrid informed that they would discuss this issue separately with ERLDC.	

Powergrid and OPTCL may update.

Deliberation in the meeting

ERLDC requested to make provision of ticket raising facility for reporting of problems in URTDSM system. Powergrid agreed for the same.

3. SCADA Data Summary: -

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

AOR	Station	Overall Status	Deliberation in last TeST meeting	Latest Status
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WBSETCL	TLDP 220kV 4	Not Available	WBSETCL informed that they would write a letter to NHPC for providing the port.	
	Dharampur 220kV	Not Available	WBSETCL informed that they have awarded the work to M/s Schneider.	
	Egra 220	Yet to be integrated	WBSETCL informed that they have given this work to M/s Chemtrols.	
	Bantala 220kV	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.	
	Alipurduar 220kV	Not Available	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.	
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 commissioned at 220kV without data telemetry		

Members may update.

Deliberation in the meeting

Members updated the latest status as follows: -

AOR	Station	Overall Status	Deliberation in last TeST meeting	Latest Status
WBSETCL	TLDP 4 220kV	Not Available	WBSETCL informed that they would write a letter to NHPC for providing the port.	<i>WBSETCL informed that data is available at SLDC.</i>
	Dharampur 220kV	Not Available	WBSETCL informed that they have awarded the work to M/s Schneider.	
	Egra 220	Yet to be integrated	WBSETCL informed that they have given this work to M/s Chemtrols.	
	Bantala 220kV	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.	<i>M/s Chemtrols informed that data is not available due to breakdown of their equipment.</i>
	Alipurduar 220kV	Not Available	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.	
JUSNL	Hatia New 220	Not Available	JUNSL informed that by March, 2020 they will make available all the data in their jurisdiction.	--Status-quo--
	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.	--Status-quo--
	Nalco 220kV	Most of the data not available		
	Narsingpur 220kV	Station commissioned at 220kV without data telemetry		
	Bargarh 220	Station commissioned at 220kV without data telemetry		

ITEM NO. B.10: Backup NLDC under URTDSM Project: Readiness of UPS Room

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 and 3rd Test Meeting, Powergrid proposed for short-closing of the contract considering non-availability of space for UPS and Battery after long wait time and repeated request.

In 3rd and 4th TeST meeting, ERLDC intimated that they site will be ready by March-2020.

Based on discussion with ERLDC, an alternate temporary space may be provisioned for setting up UPS and Battery system and commissioning of the system. After readiness of permanent allotted space, the UPS & Battery system will be re-commissioned. Due to non-provisioning of space by ERLDC, commissioning of Backup NLDC URTDSM system is held up and getting delayed.

ERLDC may explain.

Deliberation in the meeting

ERLDC agreed to provide the temporary space at ERLDC for placing the battery till the permanent arrangement. ERLDC requested Powergrid to ensure safety and security while shifting and charging the battery.

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.

Members may update the latest status.

Deliberation in the meeting

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

ITEM NO. C.2: Issues related to M/s Chemtrols

List of issues faced by various constituents related to M/s Chemtrols in Eastern Region are given at Annexure.

M/s Chemtrols may update the latest status.

Deliberation in the meeting

Members updated the latest status which was given at **Annexure-C2**.

ITEM NO. C.3: Additional Agenda

M/s Chemtrols requested Chair to discuss following agenda points at TeST meeting: -

- i) Abnormal Delay [More than 2 – 3 months, in some case almost 6 months] from almost all Utilities in clearing AMC payment to Chemtrols
- ii) Approval for replacing HBL make 2 v 160 AH VRLA battery with 2v 150AH for WBSETCL. This is since HBL has stopped manufacturing model with 2v 160 AH specification.
- iii) In spite of repeated reminders, main Power source issue at WBSETCL Backup CC, [Abhikshan Bhaban, Saltlake] has not been rectified. As a result our CC equipment's installed therein are running under serious threat.

Deliberation in the meeting

- i. *BSPTCL informed that the AMC payment would be cleared within a week. All other state constituents agreed to clear the AMC payments at the earliest.*
- ii. *M/s Chemtrols informed that they need approval for replacing 2V 160 AH VRLA battery with 2V 150 AH. This is since HBL has stopped the manufacturing model with 2V 160 AH specification. All state constituents agree to approve the same subject to confirmation letter from OEM.*
- iii. *M/s Chemtrols informed that there is no automatic power restoration procedure at WBSETCL Backup Control Centre. Therefore, in long absence of person at WBSETCL Backup CC, generally happens during night time, if any power failure occurred it would shut down all the equipment at the Control Centre after utilising the back up provided by the UPS.*

Further, M/s Chemtrols intimated that Air Conditioning system installed at WBSETCL Backup Control Centre is also having some problem which is a serious threat to the system.

WBSETCL informed that they would resolve the issue at the earliest.

Meeting ended with vote of thanks to the Chair

Participants in 5th Telecommunication, SCADA and Telemetry (TeST) Meeting of ERPC

Venue: ERPC Conference Hall, Kolkata

Time: 11:00 hrs

Date: 24.02.2020 (Monday)

Sl No	Name	Designation/ Organization	Contact Number	Email	Signature
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3	P. N. Sarkar	SE, ERPC	9830027529	pn_sarkar@rediffmail.com	
4	S. P. BARNWAL	GM (SCADA) ERLDC	9433041812	spbarnwal@posoco.in	
5	B. Mondal	Dy. Manager ERLDC	9908329271	biswajit.mondal@posoco.in	
6	S. Rudrapal	MR, ULDC	9434735848	santanu.rudrapal@powergridindia.com	
7	K. K. Pruthi	Sr. GM POWERGRID	8393882717	KKPR...@india.com	
8	S. K. SAHU	DGM / POWERGRID	9078883643	SKSahu@powergridindia.com	
9	MITHUN CHOWDHURY	MGR / POWERGRID	9431815651	MITHUN@POWERGRIDINDIA.COM	
10	SHAMBAU DAS	DVC, SLDC	9432854870	shambhu.das@dvce.gov.in	
11	M. K. Mallik	MGR, ERLDC	9668478899	mkmallik@posoco.in	
12	Bibek Agrawal	Ch. Engineer	9903041910	bibek@posoco.in	
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14	Shivam Asati	AD-II, ERPC	8253035332	shivamasati78@gmail.com	
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16	Rakesh Kumar	EEE / BSPTCL	9431470795	rakesh2k7.mit@gmail.com	
17	Rimil Topno	EEE / JUSNL	9835715518	rimiltopno@gmail.com	
18	C. K. Halder	ACE, WB SLDC	94349 10379	chinmay.halder62@gmail.com	
19	Pranab Kumar Nayak	DGM, Telecom BBSR	9438907502	pranab94@gncccl.com	
20	K. T. R. Achary	Sr. GM Telecom OPTCL, BBSR	9438908037	cgmtel@optcl.co.in	
21	Lingaraj Patra	Manager, OPTCL	826060119	lingaraj.patrac@optcl.co.in	

"Coming together is a beginning, staying together is progress, and working together is success." –Henry Ford

Participants in 5th Telecommunication, SCADA and Telemetry (TeST) Meeting of ERPC

Venue: ERPC Conference Hall, Kolkata

Time: 11:00 hrs

Date: 24.02.2020 ~~(Friday)~~ ^{Monday}

Sl No	Name	Designation/ Organization	Contact Number	Email	Signature
22	SHIVAJI DEWANJEE	AVP CONTROLS	9748704685	shivaji.dewanjee@controls.com	SL Dewanjee
23	ANIRUDHYA SAHA	Deputy Manager	9674507547	anirudhya.saha@controls.com	anirudh
24	SRIHARSHA CHIKKARS	GM - CUSTOMER RELATIONS	9860777779	SRIHARSHA.CHIKKARS@OSII.COM	Sriharsha
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"Coming together is a beginning, staying together is progress, and working together is success." –Henry Ford

LIST OF STATIONS HAVING FIBRE CONNECTIVITY FOR AMR DATA TRANSFER AS ON 06-JANUARY-2020

SNO	Utility Name	Substation Name	DCU No.	Fibre connectivity (Yes/No)
1	BIHAR	ARAH (ARB)	pgarctic00037	Yes
2	BIHAR	BANKA (BAN)	pgarctic00145	Yes
3	BIHAR	BIHARSHARIF (BIH)	pgarctic00039	Yes
4	BIHAR	BODHGAYA (BOD)	pgarctic00122	Yes
5	BIHAR	DEHRI (DEH)	pgarctic00078	Yes
6	BIHAR	DUMRAON (DUM)	pgarctic00036	No
7	BIHAR	FATUA (FAT)	pgarctic00131	Yes
8	BIHAR	HAJIPUR (HAJ)	pgarctic00132	Yes
9	BIHAR	JAGDISHPUR (JAG)	pgarctic00133	No
10	BIHAR	JAMUI (BSPHCL)	pgarctic00171	No
11	BIHAR	KAHALGAON (KAH)	pgarctic00068	No
12	BIHAR	KANTI (KAN)	pgarctic00074	Yes
13	BIHAR	KARMANASHA (KMN)	pgarctic00077	No
14	BIHAR	KHAGAIL (KHA)	pgarctic00073	Yes
15	BIHAR	KISHANGANJ (KSN)	pgarctic00070	Yes
16	BIHAR	KUDRA (KUD)	pgarctic00176	No
17	BIHAR	LAKHISARAI (LKK)	pgarctic00172	Yes
18	BIHAR	MADHEPURA (MAD)	pgarctic00120	Yes
19	BIHAR	SIPARA (SIP)	pgarctic00130	Yes
20	BIHAR	SONENAGAR (SON)	pgarctic00075	Yes
21	BIHAR	SONNAGAR NEW	pgarctic00175	Yes
22	BIHAR	SULTANGANJ (SUL)	pgarctic00094	Yes
23	BIHAR	SABOUR (SBR)	pgarctic00093	Yes
24	BIHAR	MOHANIA (MOH)	pgarctic00076	No
25	BIHAR	NALANDA (NLN)	pgarctic00177	Yes
26	GRIDCO	BALASORE (BLS)	pgarctic00121	Yes
27	GRIDCO	BANGRIPOSHI	pgarctic00195	No
28	GRIDCO	BARIPADA (BAR)	pgarctic00063	Yes
29	GRIDCO	BUDHIPADAR (BUD)	pgarctic00048	Yes
30	GRIDCO	GMR (GMR)	pgarctic00142	No
31	GRIDCO	INDRAVATI (IND)	pgarctic00101	Yes
32	GRIDCO	JEYNAGAR (JYN)	pgarctic00103	Yes
33	GRIDCO	JINDAL (JIN)	pgarctic00043	No
34	GRIDCO	JODA (JOD)	pgarctic00042	Yes
35	GRIDCO	KATAPALLI (KTP)	pgarctic00184	Yes
36	GRIDCO	MENDHASAL (MEN)	pgarctic00062	Yes
37	GRIDCO	MIRMUNDALI (MML)	pgarctic00061	Yes
38	GRIDCO	RENGALI (REG)	pgarctic00060	No
39	GRIDCO	ROURKELA (ROU)	pgarctic00045	No
40	GRIDCO	SADEIPALI	pgarctic00196	Yes
41	GRIDCO	TARKERA	pgarctic00047	Yes
42	WEST BENGAL	BIDHANNAGAR (BDN)	pgarctic00029	Yes
43	WEST BENGAL	BIDHANNAGAR (BDN)	pgarctic00113	Yes
44	WEST BENGAL	BIRPARA (BIR)	pgarctic00021	Yes

45	WEST BENGAL	DALKHOLA (DAL)	pgarctic00082	Yes
46	WEST BENGAL	JEERAT (JRT)	pgarctic00023	Yes
47	WEST BENGAL	KALIMPONG (KLM)	pgarctic00031	Yes
48	WEST BENGAL	KHARAGPUR (KSG)	pgarctic00127	Yes
49	WEST BENGAL	KURSEONG (KSG)	pgarctic00124	Yes
50	WEST BENGAL	MALDA (MAL)	pgarctic00007	Yes
51	WEST BENGAL	SAGARDIGHI (SAG)	pgarctic00006	No
52	WEST BENGAL	SANTALDIH (SNT)	pgarctic00058	Yes
53	JHARKHAND	CHAIBASA (CHA)	pgarctic00198	Yes
54	JHARKHAND	CHANDIL (CHN)	pgarctic00016	Yes
55	JHARKHAND	DEOGHAR (DEO)	pgarctic00055	No
56	JHARKHAND	DUMKA (DUM)	pgarctic00173	Yes
57	JHARKHAND	GARHWA (GAR)	pgarctic00051	No
58	JHARKHAND	GOELKERA (GOL)	pgarctic00100	At present, No Tie with JUSNL
59	JHARKHAND	HATIA (HAT)	pgarctic00081	Yes
60	JHARKHAND	JAMTARA (JMT)	pgarctic00054	No
61	JHARKHAND	JAPLA (JAP)	pgarctic00050	No
62	JHARKHAND	KENDPOSI (KEN)	pgarctic00098	No
63	JHARKHAND	LALMATIA (LLM)	pgarctic00099	No
64	JHARKHAND	TENUGHAT (TGT)	pgarctic00040	Yes
65	JHARKHAND	RAMCHANDRAPUR (RCP)		Yes
66	JHARKHAND	PATRATU (PTR)		Yes
67	JHARKHAND	MANIQUE (MNQ)		No
68	JHARKHAND	DALTONGANJ (DLT)		No
69	SIKKIM	DIKCHU	pgarctic00181	No
70	SIKKIM	DIKCHU	pgarctic00182	No
71	SIKKIM	JORTHANG	pgarctic00183	No
72	SIKKIM	MELLI (MEL)	pgarctic00017	Yes
73	SIKKIM	MELLI (MEL)	pgarctic00032	Yes
74	DVC	DSTPP (AND)	pgarctic00004	Yes
75	DVC	JAMSHEDPUR (JAM)	pgarctic00011	Yes
76	DVC	KALNESHWARI (KAR)	pgarctic00026	Yes
77	DVC	KODERMA (KOD)	pgarctic00125	Yes
78	DVC	KOLAGHAT (KGT) DVC	pgarctic00008	Yes
79	DVC	MAITHON (MAI)	pgarctic00024	Yes
80	DVC	MANIQUE (MNQ)	pgarctic00018	Yes
81	DVC	MEJIA (MEJ)	pgarctic00025	Yes
82	DVC	RTPS (RTP)	pgarctic00137	Yes
83	DVC	TISCO (TIS)	pgarctic00138	Yes
84	DVC	BARHI (BAR)	pgarctic00052	Yes
85	DVC	DHANBAD (DHN)	pgarctic00053	Yes
86	DVC	WARIA (WAR)	pgarctic00005	Yes

Annexure-B1.2

Based on the current PoC Slab Rate (CERC order No. L-1/44/2010-CERC dtd 04.02.2020), the tentative ratio and approximate cost involvement in PoC mechanism is calculated as below:

Total Investment Central Sector (Crore)	Constituent	PoC Slab Rate (Rs/MW/Month)	Tentative Ratio	Share of Each Constituent (Crore)
97.93	Odisha	449682	Odisha:DVC:Bihar: Jharkhand:WB:Sikkim	33.89
	DVC	281847		21.24
	Bihar	169957		12.81
	Jharkhand	169957	35:22:13:13:13:4	12.81
	West Bengal	169957		12.81
	Sikkim	58067		4.38

Sl No.	Agenda point	Deliberation in the last TeST meeting	Deliberation in the 5 th TeST meeting
3rd TeST Meeting			
1.	Restoration of frequent failure of Sagardighi STPS data	<p>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.</p> <p>WBSETCL informed that they would consult WBPDCCL to come up with the same.</p>	--status-quo--
2.	Replacement of faulty BCU (seven nos) at Kishanganj Site	<p>Powergrid informed that they have already taken the matter with their OEM (M/s Siemens) and would be resolved by January, 2020.</p> <p>Powergrid informed that 4 nos. of BCU have been replaced</p>	<i>Powergrid informed that the OEM would visit the site in next two weeks and the work would be completed by 15th March, 2020.</i>

SL No	POSOCO / Constituent	Deliberation in the last TeST meeting	Latest Status
ERLDC			
1	One charging battery set of 125 kVA DG is faulty and need to be replaced urgently.	Chemtrols informed that they have taken quote for this and the same will be completed soon.	<i>M/s Chemtrols informed that it would be procured by 02.03.2020.</i>
2	Implementation of Automatic Demand Management Scheme (ADMS) in Bihar	M/s Chemtrols informed that is having BSPTCL having communication issue with field.	<i>BSPTCL informed that they are having all other data transferred correctly from the same communication link through which ADMS signal is transferred. M/s Chemtrols informed that they would further perform testing to ascertain the reason for failure to send the ADMS signal correctly to the field site from Control centre.</i>
3	PM for VPS installed at ERLDC is not being carried out by OEM. Presently, brightness of almost all cubes is very dimmed causing difficulties in real time grid operation. This was intimated to M/s Chemtrols through mail and letter dated 13.02.2020 also.		<i>M/s Chemtrols informed that they have found damaged lens in VPS. They are procuring the same and would be replaced by March, 2020</i>
4	Schedule for conducting Cyber Security Audit for ERLDC Main and its backup is yet to be submitted by M/s Chemtrols.	M/s Chemtrols agreed to submit the date by 15th February 2020.	<i>M/s Chemtrols informed that they have shared the schedule.</i>
5	Configuration of domain controller (DC) installed at ERLDC and its backup is not proper. Rule and policy being imposed in one controller is not being synched	---	<i>M/s Chemtrols informed that that it would be resolved by 02.03.2020</i>
DVC			

1	01 (One) External Firewall (Checkpoint) taken for repair for last 01 month.	M/s Chemtrols informed that already spare is available at side. For faulty item repairing activity is in under process and will be completed by 29.02.2020	<i>M/s Chemtrols informed that that it would be resolved by 02.03.2020</i>
2	Spare Power Supply for RTU (DC to DC) converter should be made available for maintenance purpose.	Procurement is in under process and spare material would be available by 29.02.2020	<i>M/s Chemtrols informed that that it would be resolved by 15.03.2020</i>
3	LDMS at Kolaghat S/stn and BTPS S/stn not functioning	Issue would be resolved by 15-02-2020.	<i>M/s Chemtrols informed that that it is installed and resolved and only testing is need to be done.</i>
4	1 (One) No of Cell (2V,160AH) of UPS-1 battery Bank is faulty.	M/s Chemtrols have taken up this issue with HBL for procurement of Battery Cell.	<i>M/s Chemtrols informed that they need approval for replacing 2V 160 AH VRLA battery with 2V 150 AH. This is since HBL has stopped the manufacturing model with 2V 160 AH specification. All constituents agree to approve the same subject to confirmation letter from OEM.</i>
5	Three (3) nos. faulty Terminal Servers to be repaired	But due to the very small quantity, HBL has delay in the manufacturing.	
<u>BSPTCL Portion</u>			

1	Compliance of Cyber Security Audit conducted in year-2018 not completed.	M/s Chemtrols informed that Compliance report was submitted previously. But ERLDC requested for further modification at ERLDC site and requested to implement that to other SLDCs also. They have completed the same and found some technical difficulties during the execution. Finally, they have done that in 1 st week of January and observed the system functions. Its working fine and final report would be shared by 3 rd Feb 2020.	<i>Completed</i>
2	One SMPS of VPS is defective since 29/11/2019	M/s Chemtrols informed that procurement is under progress and it would be completed by 29.02.2020	<i>M/s Chemtrols informed that that it would be resolved by February, 2020.</i>
3	One AVR of 125 KV is defective since 03/10/2019	M/s Chemtrols informed that the AVR card is an additional card used by Powerica for DG start. After getting that faulty, they run that DG by its default governor card provided by Cummins. DG is working fine without this card. However, they were asking Powerica to provide that card. Due to non-availability of stock it is taking the time.	<i>M/s Chemtrols informed that that it would be resolved by February, 2020.</i>
4	20 no. of LDMS are not functioning either of issue of inverter or CPU.	M/s Chemtrols informed that work is in Progress.	<i>M/s Chemtrols informed that work is in Progress.</i>
5	Integration of new bay:- As per AMC contracts Chemtrols has to integrate 50 nos. of new bays in to RTU.	M/s Chemtrols informed that procurement of requisite materials at their end is under process. Further, BSPTCL has been requested to share the new bay list.	<i>BSPTCL informed that they would share the list at the earliest.</i>

6	<p>The following materials are faulty which are required to be replaced at the earliest:</p> <ul style="list-style-type: none"> • MFT – 9 pcs • Decode – 2 pcs • Node – 6 Pcs 	<p>M/s Chemtrols informed that MFT would be delivered to BSPTCL by 15/02/2020 and Decode Modem has been replaced.</p> <p>M/s Chemtrols informed that they need 1 month more for repairing RTU nodes</p>	<p><i>M/s Chemtrols informed that they have replaced MFT and Decode Modem. They would repair RTU nodes by March, 2020.</i></p>
WBSETCL Portion			
1	<p>Chemtrols RTU is not integrated through IEC-104 protocol though communication link is ready</p>	<p>M/s Chemtrols informed that work is in progress.</p>	