

**Additional Agenda for 13th meeting of Telecommunication, SCADA & Telemetry (TeST)
Sub- Committee**

Venue: NRPC conference hall , New Delhi

Date : 24.04.2018

3.5 UPPTCL SCADA issues (Agenda by UPPTCL):

3.5.1 Clarifications from Siemens

UPPTCL requested clarifications from Siemens on following points raised in 12th TeST meeting held on 22.12.17 regarding total failure of SCADA & EMS on 08.12.2017 are still awaited.

- (i) Standby Servers (Hot standby servers for some applications and backup Servers for some other applications) also failed. Is there any changed required in system architecture to avoid simultaneous failure of Main & standby servers.
- (ii) Why failure of Scada switch -1 resulted in non-reporting of data on consoles through Scada switch -2 ?
- (iii) Why time taken for normalization of Various system & application took more than 7 days.? Analysis report and details of sequence of actions taken for normalization of system are still awaited from Siemens.

3.5.2 Delay in implementation of various pending SCADA & EMS works by Siemens:

3.5.2.1 **OTS & PDS issues** : OTS issues raised during 12th TeST meeting are still pending unresolved from Siemens side. PDS issues have been resolved by Siemens by 10.04.17 and since then PDS is working.

3.5.2.2 **STLF issues:**

- (i) Weather adoptive function stops working frequently Moreover, Forecasted data of weather adoptive function get erased and is not available for comparison in future and time taken by Siemens for resolving the problem is too long. At present it is not working since last ten days and Siemens is yet to rectify the problem.

3.5.2.3 **EMS issues:** Number of issues have been attended /Clarified by Siemens before and during training but there form are still some modeling and database issues for which timely support from Siemens is required for resolving these issues. Moreover, need is felt for Write up /user manual describing modification procedure and also procedure for using various EMS applications in study as well as in real time mode. This issues has also been raised in 12th TeST meeting and during EMS training also. Full utilization of Training can be made only when manual is also provided.

- 3.5.2.4 Siemens Engineers deployed at SLDC are not conversant with EMS functionality and due to non-availability of timely support from Siemens back office, problems remain unresolved for long time.
- 3.5.3 **Networking Issues:** Issues raised during previous TeST meetings are still unresolved. Failure of data reporting from RTUs/SAS has been observed on 31.03.18 & 12.04.18 also. It is proposed that some external agency having expertise in providing networking solutions may be taken for resolving networking issues.
- 3.5.4 **Routine checking of Main & Backup Scheme:** The issues of testing of Back-up SLDC is still pending as modification work in networking by Siemens is not completed so far. Moreover, additional data comm. links from backup SLDC to Main SLDC and also from backup SLDC to Sub LDCs are required for operator Consoles (remote consoles) in event of running Scada/EMS system from backup SLDC. Additional operator consoles are also required for viewing of data at Sub LDCs for which no provision has been envisaged in existing scheme. Moreover, on running Scada /EMS from backup SLDC, data of RTUs /SAS reporting on 104 protocol at Main SLDC will not be available as data routes from these RTUs /SAS to backup SLDC is still not available.
- 3.5.5 Meeting of group formed for analyzing incidence of SCADA & EMS system failure at Main UPSLDC on 08.12.2017 is still not taken place. In 38th TCC & 41st NRPC meeting held on 27th & 28th Feb'2018 Powergrid agreed to nominate their representative for this group. Latest status and further action plan may be discussed.
- 3.6.0 PSTCL SCADA issues (Agenda by PSTCL)**
- 3.6.1 Multisite link issue:** Due to non functioning of multisite functionality between BBMB SLDC-Chandigarh & PSTCL SLDC-Patiala, data is being transferred through ICCP.The matter is already under the knowledge of M/s Siemens, therefore PGCIL is requested to take up the matter with M/s Siemens Ltd. for its early solution.
- 3.6.2 Regarding interruption of publishing of SCADA data on SCADA Web Server:** It has been observed that data publishing on web server gets interrupted many times which results into inconvenience to remote user/ Dispatcher, for which the matter was conveyed various times to the M/s Siemens Engineer at site; however it could not be resolved completely till date. So PGCIL is requested to take up the matter with firm to get it diagnosed and resolved completely, so that the kind of issue does not happen in future.
- 3.6.3 Detailed documentation regarding additional charges for work of integration in case of addition/extension of bays for Siemens RTUs, is required to be provided by M/s Siemens.**

5.4 URTDSM Issues: (Agenda by UPPTCL)

UPPTCL informed the following URTDSM issues

- (i) Backup data communication routes from PMUs to control centre are not available.
- (ii) Out of 16 PMU locations, data is available from 13 locations only. Commissioning of PMUs at Harduaganj is still pending & data from khara is not available due to communication problem. Data of Moradabad is not available since 02.04.16 due to power card failure (problem still unidentified)
- (iii) From some PMUs data in accuracy /mismatch issues are also pending unresolved.(Anpara, Sultanpur, Unnao, Sahupuri)

6.11 Draft Communication Audit Procedure

CERC had issued Central Electricity Regulatory Commission (Communication System for inter-State transmission of electricity) Regulations, 2017. These regulations had come into force w.e.f. 1.7.2017.

As per Regulation 10 of these Regulations, the RPC Secretariat has to conduct performance audit of communication system annually as per the procedure finalized in the forum of the concerned RPC.

The draft procedure for audit of communication system is enclosed at **Annexure-A1**.

Members may discuss.

Draft Communication Audit Procedure

1. Introduction

- 1.1 This procedure has been prepared in compliance to Central Electricity Regulatory Commission (Communication System for inter-State transmission of electricity) Regulations, 2017. As per Regulation 10 of these Regulations, RPC shall conduct annual audit of the communication system annually as per the procedure finalized in the forum of the concerned RPC. It also mandates that RPC Secretariat shall issue necessary instructions to all stakeholders to comply with the audit requirements within the time stipulated by the RPC Secretariat based on the audit report. An Annual Report on the audit carried out by respective RPC is to be submitted to the Commission within one month of closing of the financial year.
- 1.2 This procedure shall be applicable to all Users of the communication infrastructure to be used for data & voice communication and tele -protection for the power system in Northern Region at Regional, inter-State and State level.
- 1.3 All Users, Control Centers and other concerned agencies shall abide by the procedures as applicable to them.
- 1.4 “User” means a person such as a Generating Company including Captive Generating Plant, RE Generator, Transmission Licensee [other than the Central Transmission Utility (CTU) and State Transmission Utility (STU)] , Distribution Licensee, a Bulk Consumer, whose electrical system is connected to the ISTS or the intra-State transmission system.
- 1.5 "Control Centre" means NLDC or RLDC or REMC or SLDC or Area LDC or Sub-LDC or DISCOM LDC including main and backup as applicable.
- 1.6 Words and expressions used in this procedure shall have the meanings assigned to them in the Act or Regulations by CERC.

2. Communication System Sub-group and Audit Committee

- 2.1 A Communication System Audit Sub-Group comprising one member each from NRPC Secretariat, NRLDC, CEA and One of the Northern Region SLDCs.

- 2.2 Audit Committee (s) shall be formed on regional basis. Audit shall be carried out in a planned manner as included in this document by a team of three auditors. The audit committee shall comprise of one representative from the NRPC Secretariat, one representatives from NRLDCs and one representative from any of the Utilities or SLDCs of Northern Region. The Audit team shall be formed excluding the member for the Organization/Utility who's system is to be Audited.
- 2.3 NRPC Secretariat may also engage a third party for carrying out Audit Activities.

3. Scope of Audit

- 3.1 The Scope of the Audit includes but not limited to the following:
- i. Available communication Network for its redundancy
 - ii. Availability of channel redundancy for all the functions for which it is configured
 - iii. Communication equipment (hardware and software configuration) of all the nodes including repeater stations for its recommended performance.
 - iv. Documentation of the configuration of the respective site and its updation.
 - v. Fibre layout / usage of fibre / Availability of dark fibre and its healthiness
 - vi. Cable Schedule and identification / tagging
 - vii. Healthiness of Auxiliary supply including the healthiness of Battery backup
 - viii. Healthiness of Earthing / Earth protection for communication system.
 - ix. Availability of sufficient cooling equipment at the User's premises to maintain the stipulated temperature for the communication equipments.

4. Audit Procedure

- 4.1 Each User shall submit the detailed report to NRPC Secretariat, as per **Annex-I** on half yearly basis. The detailed report shall be submitted by 15th October for the period April-September and by 15th April for the period October-March of the respective year. This report shall be considered as self-certificate regarding availability and healthiness of the Communication system of respective user.
- 4.2 The Network Management System (NMS) report shall be submitted by the Users/ NRLDC/SLDCs , monthly, by 15th day of next month to NRPC Secretariat.

- 4.3 The Communication System Audit Sub-group shall scrutinize these reports to find out deficiencies in the communication system of the users and shall recommend remedial measures. The sub-group shall also identify the nodes for physical inspection.
- 4.4 Based on the recommendations of the sub-group Audit committee shall be constituted and the physical inspection Audit plan shall be prepared by NRPC Secretariat.
- 4.5 Once the plan is finalised, 3 days advanced notice will be served to the concerned Auditee intimating the detailed plan so that availability of required testing equipment and the required documents is ensured by Auditee and is made available to the Audit committee during the site visit.
- 4.6 Member Secretary, NRPC may decide on any additional nodes/locations for physical inspection if a location is very critical in view of performance of the communication network at any time of the year.
- 4.7 Audit of all newly commissioned communication equipment shall be carried out within six month of its commissioning.

5. Audit Report and Recommendations

- 5.1 The Communication System Audit Sub-group shall submit report including recommendations for remedial measures and the nodes/locations for physical inspection, on half yearly basis to Member Secretary, NRPC.
- 5.2 Audit Committee (s) shall submit a report including recommendations for action on efficiencies, if any, found during the inspection, 15 days from the date of inspection to Member Secretary, NRPC. A copy of the report shall also be submitted to convener of Communication System Audit Sub-group.

6. Approval and Review of the Procedure

- 6.1 This procedure shall be made effective after approval of TCC and NRPC.
- 6.2 This procedure shall be reviewed based on the feedback received by NRPC Secretariat.
- 6.3 Any amendment in the procedure shall be made effective only after approval of TCC and NRPC.

Name of User ---
 Name of Node/ Location ---
 Period ---

Communication System Details								
A SDH Equipment								
1	Ip Address							
2	Cards Installed	Slot	Card Details	Healthly / Faulty	Action plan for faulty Cards	Spare Slot	No. of Spare Cards Available	Other Information
2a)								
2b)								
2c)								
2d)								
2e)								
3	Cards Redundancy	Available(Yes/No)						
	Power Supply							
	Optical Card							
	Whether MSP Configured							
4	Whether equipment is time synchronized (Yes/No)							
5	No of failures of Card in last three months							
6	No of failures of power supply during last three months							
7	Measures taken for ensuring Power supply							
8	Configuration of the node							
8a)	Number of links configured							
8b)	Number of links showing down							
9	Preventive maintenance schedule and its compliance							
9a)	Date of Last Preventive maintenance							
9b)	Whether all the defects have been attended							
B PDH Equipment								
1	Ip Address							
2	Cards Installed	Slot	Card Details	Healthly / Faulty	Action plan for faulty Cards	Spare Slot	No. of Spare Cards Available	Other Information
2a)								
2b)								
2c)								
2d)								
2e)								
3	Cards Redundancy	Available(Yes/No)						
	Power Supply							
	Optical Card							
	Whether MSP Configured							
4	Whether equipment is time synchronized (Yes/No)							
5	No of failures of Card in last three months							
6	No of failures of power supply during last three months							
7	Measures taken for ensuring Power supply							
8	Configuration of the node							
8a)	Number of links configured							
8b)	Number of links showing down							
9	Preventive maintenance schedule and its compliance							
9a)	Date of Last Preventive maintenance							
9b)	Whether all the defects have been attended							
C OPGW/Optical fibre								
1	No of fibres							
2	Power received							
2a)	Pair1							
2b)	Pair2							
2c)	Pair3							
2d)	Pair4							
2e)	Pair5							
2f)	Pair6							
3	Conformation to Compliance of CEA Standards							
D Healthiness of Auxillary System								
1	Battery Backup / Healthiness of battery							
2	Details of 2 independent power source							
	Source 1							
	Source 2							
3	Conformation to Compliance of CEA Standards							
E Healthiness of Earthing of each equipment								
F Details of Voice communication available between Sub-station and Control Centre								
G Healthiness of Voice communication available between Sub-station and Control Centre								
H Healthiness of air-conditioning of communication room as per OEM recommendation								
I PLCC								
1	No. of panels							
2	Make and Model							
3	Healthiness							
4	Last preventive maintenance date							
5	Whether defects have been attended							
6	Status of Availability of Spares							
7	Conformation to Compliance of CEA Standards							
J Radio Communication								
1	No. of Equipments							
2	Make and Model							
3	Healthiness							
4	Conformation to Compliance of CEA Standards							
K Any other information								