

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 “Communication system” is a collection of individual communication networks, communication media, relaying stations, tributary stations, terminal equipment usually capable of inter-connection and inter-operation to form an integrated communication backbone for power sector. It also includes existing communication system of Inter State Transmission System, Satellite and Radio Communication System and their auxiliary power supply system, etc. used for regulation of inter-State and intra-State transmission of electricity.
- 1.3 “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.
- 1.4 "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.
- 1.5 Words and expressions used in this procedure shall have the meanings assigned to them in the Act or Regulations by CERC.

2. Scope

- 2.1 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.
- 2.2 All Users, Control Centers and other concerned agencies shall abide by the procedures as applicable to them. The Procedure shall be applicable to the entities enumerated in Regulation 5 (ii) of the Central Electricity Regulatory Commission (Communication System for inter-State transmission of electricity) Regulations, 2017 as applicable to them.
- 2.3 The Audit for the communication infrastructure to be used for data communication and tele -protection for the power system at Regional, inter-State and intra-state level incidental to inter-state transmission of electricity shall be carried out by NRPC secretariat.
- 2.4 NRPC Secretariat shall issue necessary instructions to all stakeholders to comply with the audit requirements, as per relevant CERC and CEA Regulations, within the stipulated time.
- 2.5 The Audit for the communication infrastructure at intra-state level in line with this Procedure shall be carried out by respective SLDC. SLDC may seek assistance of other stake holders or any other third party for the audit. SLDC shall issue necessary instructions to all stakeholders to comply with the audit requirements as per relevant CERC and CEA Regulations, within the stipulated time.
- 2.6 SLDC shall submit half yearly reports for the Audit of the respective intra-state system, to NRPC Secretariat and NRLDC, by 15th October for the period April-September and by 15th April for the period October-March of the respective year.

3. Audit Procedure

- 3.1 The Audit would be conducted in two phases. In first phase scrutiny of the reports, documents etc. In the second phase physical verification shall be carried out.
- 3.2 Each User, using inter-state transmission or the intra-state transmission incidental to inter-state, shall submit the detailed report to NRPC Secretariat and

NRLDC, 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.

- 3.3 Each concerned User shall submit Report by 15th October for the period April-September and by 15th April for the period October-March of the FY Completion of periodic testing of the communication system in accordance with procedure for maintenance and testing prepared by CTU. The detailed.
- 3.4 In respect of intra-state users SLDC shall submit half yearly reports, to NRPC Secretariat and NRLDC, by 15th October for the period April-September and by 15th April for the period October-March of the respective year.
- 3.5 The Network Management System (NMS) report for a month shall be submitted by the Users to NRLDC and respective SLDCs, on monthly basis, by 7th day of the next month. NRLDC and SLDCs after verifying the NMS data shall submit report to NRPC Secretariat by 15th day.
- 3.6 All users and Control Canters shall get the third party cyber security audits done once in a financial year from a Cert-in certified vendor in compliance to Regulation 13 (iii) of Central Electricity Regulatory Commission (Communication System for inter-State transmission of electricity) Regulations, 2017. The detailed report of the Cyber Security Audit shall be submitted by 15th April for the previous financial Year.
- 3.7 NRPC Secretariat may ask any other information required for Audit of the Communication system in addition to these periodic reports.

4. Phase-I Audit : Scrutiny of the Information

- 4.1 A Communication System Audit Sub-Group comprising one member each from NRPC Secretariat, NRLDC, CEA and One of the Northern Region SLDCs shall be constituted by NRPC Secretariat with the approval of Member Secretary, NRPC. The sub-group may co-opt any other member from any organisation for facilitating the activities of the sub-group.
- 4.2 NRPC Secretariat may also engage a third party for carrying out Audit Activities.

- 4.3 The Communication System Audit Sub-group shall scrutinize the information received in NRPC Secretariat as mentioned in Clause 3 of this procedure. The Sub-group may also ask any additional information necessary for its activities. All the users , NRLDC, SLDCs shall provide the information to the sub-group on priority with the stipulated time period.
- 4.4 The sub-group shall also identify the nodes for physical inspection based on the scrutiny of the information.
- 4.5 The Audit would include but not limited following aspects:
- a) Availability of communication channels. The outage reason needs to be clearly specified whether it is on account of the concerned entity or on account of any other entity, force majeure etc. The list of communication channels would be finalized by Communication System Sub Group in consultation with other stakeholders.
 - b) Availability of terminal equipment. The outage reason needs to be clearly specified whether it is on account of the concerned entity or on account of any other entity, force majeure etc. The list of terminal equipment would be finalized by Communication System Sub Group. Part outage like failure of specific cards etc. would also be furnished along-with reasons.
 - c) Availability of Auxiliary System e.g. Battery Charger, Battery bank, sufficient cooling equipment etc.
 - d) Compliance of CERC and CEA Regulations and the procedures under these Regulations.
 - e) Completion of periodic testing of the communication system in accordance with procedure for maintenance and testing prepared by CTU.
 - f) Audit of all newly commissioned communication equipment within six month of its commissioning.

5. Phase-II Audit : Physical Verification

- 5.1 Based on the recommendations of the sub-group Audit committee (s) shall be constituted and the physical inspection Audit plan shall be prepared by NRPC Secretariat.
- 5.2 Audit Committee (s) shall be formed on regional basis.
- 5.3 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.
- 5.4 Once the plan is finalised, 3 days advance notice shall 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.
- 5.5 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.
- 5.6 The Scope of the physical verification shall include but not limited to the following:
 - a) Available communication Network for its redundancy
 - b) Availability of channel redundancy for all the functions for which it is configured
 - c) Communication equipment (hardware and software configuration) of all the nodes including repeater stations for its recommended performance.
 - d) Documentation of the configuration of the respective site and its up-dation.
 - e) Fibre layout / usage of fibre / Availability of dark fibre and its healthiness
 - f) Cable Schedule and identification / tagging
 - g) Healthiness of Auxiliary supply including the healthiness of Battery backup
 - h) Healthiness of Earthing / Earth protection for communication system.
 - i) Availability of sufficient cooling equipment at the User's premises to maintain the stipulated temperature for the communication equipment.

5.7 Audit Committee (s) shall submit report including recommendations for action on deficiencies, if any, found during the inspection, within 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 and NRLDC.

6. Audit Compliance Monitoring

SRPC secretariat, Communication Sub Group , NRLDC and SLDC would monitor the compliance of audit observations as applicable. The Audit outcome and the compliance of Audit recommendations shall be put up to TeST Sub-committee, TCC and NRPC for deliberations.

7. Approval and Review of the Procedure

7.1 This procedure shall be made effective after approval of TCC and NRPC.

7.2 This procedure shall be reviewed based on the feedback received by NRPC Secretariat.

7.3 Any amendment in the procedure shall be made effective only after approval of TCC and NRPC.