

Draft Regulations

Haryana Electricity Regulatory Commission Bays No. 33-36, Sector-4, Panchkula - 134113

Notification

Regulation No. HERC/

/2019

Dated:

STATEMENT OF OBJECT

Section 86(1)(c) of the E.A, 2003 cast statutory obligation on the State Electricity Regulatory Commissions to facilitate Intra-State transmission and wheeling of electricity. Further, Section 86(1)(h) of the said Act provide that the State Commission specify State Grid Code consistent with Grid Code specified by the Central Electricity Regulatory Commission under clause (c) and (h) of sub-section (1) of Section 86 of the Electricity Act, 2003. In efficiently managing the intra-state transmission system, robust communication system is the most essential requirement for all the participating constituents in the power system. Hence, such system is the backbone of the power system for its smooth operation and Intra-State transmission of electricity and it's smooth integration with the Inter-state system. In order to have a seem less integration of the transmission system of different State, it is essential that all of them are integrated.

In view of the importance of the communication system in a vast meshed network at the State level there is a need to specify the regulations with regard to Communication System for intra-State transmission of electricity in line with the Regulation notified by the Central Electricity Regulatory Commission.

The purpose of these regulations is to lay down the rules, guidelines and standards to be followed by various participants in the intra-state transmission system the objective is to ensure continuous availability of data for system operation and control including market operations. Further, the regulations also provides for planning, implementation, operation and maintenance and up- gradation of reliable communication system for all communication requirements including exchange of data for integrated operation of State and the Regional Grid.

These regulations provide for planning, implementation, operation and maintenance and up-gradation of reliable communication system for all communication requirements including exchange of data for State Grid integrated operation with the Regional Grid.

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In exercise of the powers conferred under Section 181 sub-section 2(Zp) of the Electricity Act, 2003 (36 of 2003), read with clause (c) and (h) of sub-section (1) of Section 86 and all other powers enabling it in this behalf, the Haryana Electricity Regulatory Commission makes the following regulations, namely:

1. SHORT TITLE AND COMMENCEMENT:

- (i) These regulations may be called the Haryana Electricity Regulatory Commission (Communication System for intra-State transmission of electricity) Regulations, 2019.
- (ii) These regulations shall come into force w.e.f. the date of its publication in the Haryana Govt. Gazette

2. DEFINITIONS

- (i) In these regulations, unless the context otherwise requires:-
 - a) "Ancillary Services" means in relation to power system (or grid) operation, the services necessary to support the power system (or grid) operation in maintaining power quality, reliability and security of the grid e.g. active power support for load following, reactive power support, black start, etc.;
 - b) "Associated communication system" means a communication system associated with a project set up for exchange of voice/video data with load dispatch centre as per Grid Code HGC/IEGC.
 - c) "Commission" means the Haryana Electricity Regulatory Commission.
 - d) "Communication Channel" means a dedicated virtual path configured from one users' node to another user's node, either directly or through intermediary node(s) to facilitate voice, video and data communication and tele-protection system.
 - e) "Communication network" means an interconnection of communication nodes through a combination of media, either directly or through intermediary node(s);
 - f) "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 Intra/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;
- g) "data" means a set of values of analogue or digital signal including text, voice, video, tele -protection, alarm, control signal, phasor, weather parameter, parameter of a machine or the power system.
 - h) "Forecasting Service Provider (FSP)" means a service provider who provides forecast related to weather/Renewable Energy Resources and Demand for use of Users.
 - i) "PMU (Phasor Measurement Unit)" means a device which provides phasor information (both magnitude and phase angle) for one or more phases of AC voltage or current waveforms in real time.
 - j) "Real time operation" means action to be taken at a given time at which information about the electricity system is made available to the Load Despatch Centre concerned;
 - k) "Real time data" denotes information relating to current operating state of power system in accordance with system operation and control requirements.
 - l) "Remote Terminal Units" (RTU) means a device suitable for measuring, recording and storing the consumption of electricity or any other quantity related with electrical system and status of the equipment in real time basis and exchanging such information with the data acquisition system for display and control and shall include, wherever applicable, other equipments such as transducers, relays with necessary wiring and accessories.
 - m) "Renewable Energy Management Centres" means the centres being established in India to enable forecasting, scheduling and monitoring of renewable energy generation.
 - n) "STU" (State Transmission Utility) means the board or the Government Company as specified by the State Government under sub -section (1) of Section 39 of the Act;
 - o) "Supervisory/system control and data acquisition (SCADA)" means a system of remote control and telemetry used to monitor and control the transmission system;
 - p) "system operation function" includes monitoring of grid operations, supervision and control over the Intra-State Transmission System, real time operations for grid control and dispatch, system restoration following grid disturbances, compiling and furnishing data pertaining to system operation, congestion management, black start coordination and any other function(s) assigned to the SLDC under the Act or any regulations and orders of the Commission;
 - aa) "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.

- ab) “Wide band Node” means wide bandwidth data transmission data with an ability to simultaneously transport multiple signals and traffic types.

Save as aforesaid and unless repugnant to the context or the subject-matter otherwise requires, words and expressions used in these regulations and not defined, but defined in the Act, or the Grid Code or any other regulations of this Commission shall have the meanings assigned to them respectively in the Act or the Grid Code or any other regulations.

GENERAL

3. SCOPE and APPLICABILITY:

- (i) These regulations shall apply to the constituent/participants in the State transmission system for installation of the communication infrastructure to be used for data communication and tele -protection for the power system at Intra-State level to work in perfect coordination with the Regional Communication system.
- (ii) All Users, SLDC, STU and intra-state Power Exchanges shall abide by the principles and procedure provided in these regulations as may be applicable to them.

4. NODAL AGENCY:

The nodal agency for planning, and coordination for development of communication system for intra - State transmission system users shall be the State Transmission Utility.

Provided that SLDC shall be the nodal agency for ensuring integration of communication system at Intra-State level with SCADA, WAMS, Video Conferencing Systems(VCS), Automatic Meter Reading(AMR), EPABX, Tele-protection system shall and the communication system with State Generating Stations, distribution companies, Intra-State entities, intra-State transmission system, etc.

5. RESPONSIBILITIES OF VARIOUS ORGANIZATIONS

5.1 Role of State Government

- i) The State shall constitute and notify a Standing Committee for Communication System in the State Power Sector. The Standing Committee shall be responsible to:
 - a) Prepare a perspective plan for communication duly considering optimal utilization of transmission assets for communication purposes having regards to the transmission planning carried out by the STU in line with the communication planning criterion and guide lines of CEA as well as technical standards, cyber security requirements in accordance with the cyber security policy of Govt. of India from time to time, protocol for the communication system for power sector with in the country.
 - b) carry out periodic review of the perspective plan.
 - c) monitor and facilitate timely completion of schemes and projects for improving and augmenting the associated communication system along with transmission system in the power sector.

5.2 Role of STU

- i) The STU shall be responsible for planning, coordination and development of reliable communication system for data communication within the State. This shall include appropriate protection path among State Load Despatch Centre, Area LDC, Sub-LDC and DISCOM LDC including Main and backup as applicable along with STU Sub-Stations, intra-State Generating Stations and intra-state entities, IPPs, renewable energy sources connected to the State Transmission system, Intra-State entities, STU, State distribution companies, Centralized Coordination or Control Centres for generation and transmission. Provided while carrying out planning process from time to time, STU shall, in addition to the data collected from and in consultation with the users, consider operational feedback from RLDC and SLDC.
- ii) The STU shall plan the communication system comprehensively and prospectively for users taking into consideration the requirement of the expected nodes in consultation with Standing Committee to be constituted for the purpose.
- iii) The STU shall integrate communication planning with transmission and generation projects planning in the State in a comprehensive manner.
- iv) The STU shall discharge the above function in consultation with the, State Transmission Utilities, SLDC, State Generating Stations, Distribution licensees intra-state entities and intra-state transmission licensees.
- v) The STU, shall provide access to its communication node to interface the wideband network being implemented by State Transmission

Utilities to have a single interconnected network and shall coordinate with Intra-State Utilities for the interface requirement.

- vi) STU shall be the Nodal Agency for supervision of communication system in respect of intra-State communication system and will implement centralized supervision for quick fault detection and restoration. STU shall prepare Procedure for same and submit to Commission for approval within 120 days of notification of these Regulations.
- vii) The STU in consultation with Inter-state transmission licensee(s), distribution licensees, State generating stations and other intra-State entities shall carry out the integrated planning for development of backbone communication systems providing interfaces to wideband communication network of these entities at interface nodes.
- viii) The STU shall provide access to its wideband network for grid management and asset management by all users.
- ix) The STU shall extend the required support to Control Centres for integration of communication system at respective ends.

5.3 ROLE OF State Load Despatch Centre.

SLDC shall issue guidelines with the approval of Commission on “Availability of Communication System” in consultation with intra-state transmission licensees, distribution licensees, State generators, STU and other stakeholders within a period of two months from the date of notification of these regulations.

- i) The SLDC shall certify availability of communication equipment for STU, intra-state generators, SLDCs based on the data furnished by the intra-state entities.
- ii) The SLDC shall monitor instances of non-compliance of these regulations, as amended from time to time, and make endeavour to sort out the issues in the respective area in such a manner that cases of non-compliance are prevented in future.
Provided that the unresolved issues and non-compliance of any of the provisions of these regulations shall be reported by the SLDC to the Commission.
- iii) The SLDC shall be responsible for outage planning for communication system in its State and shall process outage planning such that uninterrupted communication system is ensured.
- iv) SLDC shall be nodal agency for integration of Communication System in the intra-State network, distribution system and generating stations at SLDC end for monitoring, supervision and control of Power System and adequate data availability in real time.

SLDC shall prepare and issue guidelines with the approval of the Commission on the “Interfacing Requirements” in respect of terminal equipment, RTUs, SCADA, PMUs, Automatic Generation Control (AGC),

Automatic Meter Reading (AMR) Advanced Metering Infrastructure (AMI), etc. and for data communication from the User's point to the respective control centre(s) based on technical standards issued by Central Electricity Authority within 60 days of issuance of technical standards.

- v) SLDC shall provide operational feedback to STU.

5.4 Role of Users:

The Users as defined in these regulation shall be responsible for provision of compatible equipment along with appropriate interface for un-interrupted communication with the concerned control centres and shall be responsible for successful integration with the communication system provided by CTU or STU for data communication as per guidelines issued by NLDC/RLDC/SLDC.

Provided that the users may utilize the available transmission infrastructure for establishing communication up to nearest wideband node for meeting communication requirements from their stations to concerned control centres.

Provided that the Users shall also be responsible for expansion /up-gradation as well as operation and maintenance of communication equipment owned by them.

6 Boundary of the communication system

6.1 Intra-State Communication System:

- (i) SLDC (State Inter-connection)
- (ii) STU
- (iii) Distribution Companies
- (iv) State Generating Stations including renewable generators connected to State network.
- (v) Sub-stations of STU and State Transmission licensees

7. PERIODIC TESTING OF THE COMMUNICATION SYSTEM:

- (i) All users that have provided the communication systems shall facilitate periodic testing of the communication system in accordance with procedure for maintenance and testing to be prepared by STU in consultation with CTU within 120 days of notification of these Regulations and approved by the Commission.

- (ii) Testing process for communication network security should also be included even for third party system if exists in accordance with procedure for maintenance and testing to be prepared by STU in consultation with CTU and approved by Commission.

8. Periodic Auditing of Communication System:

The SLDC shall conduct performance audit of communication system annually as per the procedure laid down for the purpose. Based on the audit report SLDC shall issue necessary instructions to all stakeholders to comply with the audit requirements within the stipulated time. An Annual Report on the audit carried out by the SLDC shall be submitted to the Commission within one month of closing of the financial year.

9. FAULT REPORTING:

- (i) SLDC, in case of outage of telemeter data or communication failure, shall inform the respective user so that the user shall ensure healthiness of its communication system. In case outage pertains to fault in communication system of other user, the user shall lodge complaints for failure of the communication to the communication system owner for quick rectification of the same.
- (ii) The communication provider shall explore the possibility for route diversion on the existing facility in close co-ordination with concerned provider in case the fault restoration is prolonged. No separate charges shall be paid for such route diversion or channel re-allocation. However, such re-routing shall be discontinued forthwith once the original channel is restored.

10. COMMUNICATION SYSTEM AVAILABILITY:

All users of SLDCs, STUs shall maintain the communication channel availability at 99.9% annually.

Provided that with back up communication system, the availability of communication system should be 100%.

11. Cyber Security:

- (i) Communication infrastructure shall be planned, designed and executed to address the network security needs as per standard specified by CEA and shall be in conformity with the Cyber Security Policy of the Govt. of India, issued from time to time.
- (ii) SLDC, shall monitor case of cyber security incidences and discuss them with stake holders level and take necessary action as deemed appropriate.
- (iii) SLDC shall ensure that third party cyber security audits shall be conducted periodically (period to be decided at SLDC) and appropriate measures shall be implemented to comply with the findings of the audits. The audits shall be conducted by certified third party auditors.

12. Guidelines/Procedures to be issued by different entities under these Regulations

12.1 The following entities shall be responsible for preparation, consultation and finalization of the Guidelines / Procedure required under these Regulations:

- (i) SLDC shall prepare Guidelines on "Interfacing Requirements" in terms of Regulation 7.3 of these Regulations
- (ii) SLDC shall prepare Procedure on "Centralized supervision for quick fault detection and restoration" in consultation with STU and on Maintenance and testing of communication system.
- (iii) SLDC shall prepare Guidelines on "Availability of Communication system" in terms of Regulation 7.3 of these Regulations.

12.2 All the entities shall post the draft Guidelines/ Procedure on its website and invite comments from the general public and stakeholders and finalise the guidelines after considering the comments received from them. The entities, while seeking approval of the Commission, shall submit a statement indicating its views on the comments received from the general public and stakeholders.

13. Dispute resolution:

In case of any dispute in giving effect to these regulations, the affected party may approach the Commission with a proper application in accordance with Haryana State Electricity Regulatory Commission (Conduct of Business) Regulations, 2004 as amended from time to time.

14. Power to Relax:

The Commission may by general or special order, for reasons to be recorded in writing, and after giving an opportunity of hearing to the parties likely to be affected by grant of relaxation, may relax any of the provisions of these regulations on its own motion or on an application made before it by an interested person.

15. Power to Remove Difficulty:

If any difficulty arises in giving effect to the provisions of these regulations, the Commission may, by order, make such provision not inconsistent with the provisions of the Act or provisions of other regulations specified by the Commission, as may appear to be necessary for removing the difficulty in giving effect to the objectives of these regulations.