

Submitted to Rajasthan Electricity Regulatory Commission

SUGGESTIONS/COMMENTS ON THE DRAFT RAJASTHAN ELECTRICITY REGULATORY COMMISSION (RAJASTHAN ELECTRICITY GRID CODE) REGULATIONS, 2023

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CENTRE FOR ENERGY, ENVIRONMENT & PEOPLE

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Rajasthan Electricity Regulatory Commission (RERC) has issued a public notice inviting objections/suggestions on the draft Regulations, namely 'Rajasthan Electricity Regulatory Commission (Rajasthan Electricity Grid Code) Regulations, 2023, before finalizing the Regulations. The present submission is in response to the notice, and we request the Commission to accept this submission on record.

Section 7: State Power Committee (SPC)

The role of the State Power Committee (SPC) is critical to ensure the smooth operation of the state grid and the implementation of the Rajasthan Electricity Grid Code (REGC). With increasing RE power in the state grid, grid balancing will be increasingly arduous, and SPC can serve as a platform for coordination and communication among all parties and stakeholders. However, it has been observed that the meetings of the committee need to be conducted regularly and the meeting discussions need to focus on its core functions as followed from the minutes of meetings. The agenda, minutes, and documents prepared by the committee are also not publicly available. In order to ensure the proper functioning of the committee, the following suggestions are proposed:

- The meetings of SPC shall be held at least once in three months.
- The minutes of the meetings, agenda and compliance reports shall be made available publicly on its website.
- SPC shall prepare the guidelines for implementation of REGC, REGC review reports, operations planning study reports, analysis reports of major grid disturbances, and load shedding guidelines, which shall be made publicly available on its website.
- SPC may also collaborate with research and civil society organizations to enhance their research and capacity building for supporting its functions.
- Sub-committees for technical and operational coordination, metering, communication and transmission planning shall be formed with representation from relevant grid users. Provisions for a timeframe for their meetings and a record of proceedings, including agenda and minutes of the meetings, may also be included in the regulations.

Section 11.2: Demand Forecasting' and 'Generation Resource Adequacy planning

Demand Forecasting and Resource Adequacy planning is critical to ensure a 24/7 supply of reliable and quality power. The state's electricity consumers have witnessed power cuts recently, particularly during summer, which highlights the importance of adequate planning and forecasting. The shortage of adequate generation tie-ups and PPA forced the Discoms to purchase power through spot markets and short-term bilateral transactions at high rates,

leading to an undue burden on the consumers. The same can be avoided through prudent forecasting practices and planning in advance. The draft regulations state that the provisions related to Demand Forecasting and Generation Resource Adequacy Planning shall be governed by the provisions of RERC (Power Purchase & procurement process of distribution licensee) Regulations, 2004, IEGC and CEA Regulations/ Guidelines. However, it may be noted that the RERC (Power Purchase & Procurement Process of Distribution Licensee) Regulations, 2004, do not provide specific provisions for forecasting methodologies, periodicity of forecasting, roles and responsibilities, and timeframe of these planning activities. Therefore, the following suggestions are made to address the above gaps:

- The time horizon for demand forecasting should be provided in the regulations with specific responsibilities to Discoms and SLDC.
- SLDC could be mandated for short-term load forecasting (daily, weekly and monthly) in consultations with the Discoms. The Discoms can be mandated for long-term demand forecasting (1 year, 3 year and 5 year) using any methods deemed suitable by the Discoms.
- The forecasting accuracy should be analysed regularly to improve and update the demand forecasts.
- The forecasts and planning should include estimations of captive generation, open access, energy efficiency measures, DSM measures, and policies like e-mobility, and industrial development.
- The regulations for demand forecasting could be finalised by the Commission (RERC) in line with "Guidelines for Resource Adequacy Planning Framework for India", 2022, published by CEA.
- Long-term Demand forecasting plans should also be shared with the commission for approval. The same should also be made available for public comments and suggestions.
- Based on analysis of past events, SPC may mandate the Discoms or SLDC to prepare mitigation plans for power shortages.

Section 11.3.2: Transmission system planning

Following suggestions are proposed under this clause:

- The transmission system planning should be done in coordination with Discoms to ensure it is based on latest demand forecasts. The planning for augmentation or upgradation may also be included in the transmission planning.
- The 5-year, 10-year and 15-years transmission plans prepared by STU shall be submitted to the commission for approval. The plans shall be made available for public comments and suggestions.
- STU shall consider the inputs from Discoms and load flow patterns including congestion assessment for its network augmentation planning. The augmentation plan can be included in the short term period plan and should be at least for 3 years.

- The corresponding augmentation plan can be included in the investment plans of STU and submitted to commission for approval.
- STU shall also make the details of infrastructure and its assets available in public domain and shall update it periodically.

Section 24.6: Drawl of Start-up Power and Injection of Infirm Power

The draft regulations state that SLDC shall be responsible for segregating firm power from generating units that have achieved COD from generating units that have not attained COD through appropriate energy accounting. The segregation of power in such cases is a tedious task of ensuring monitoring and installing metering equipment. The installation and monitoring of metering equipment should be in the developer's scope, while STU can provide its certification for metering equipment. Therefore, it suggested that the segregation of power in such cases should be the responsibility of STU.

Section 25: Data to be furnished prior to Notice of trial run

The data to be furnished before the trial run is crucial to understand the approved parameters, performance and capabilities of the plant. Based on fuel type and technologies, specific formats can be developed to demand relevant information from each plant type along with deviations from initially approved parameters, if any. The notice of the trial run shall also be published for public information, along with relevant information. In addition, storage systems should also be included as an applicable entity under this clause.

Section 29.7.2: Documents and Tests Required for Energy Storage Systems

Energy Storage Systems serve as providers of ancillary services and frequency response for these systems may not be applicable for all storage systems. Therefore, necessary amendments in the draft regulations can be included.

Section 32: Declaration of Commercial Operation (DOCO) and Commercial Operation Date (COD)

The draft regulations state that the COD of the last unit shall be considered as the COD of the generating station. A generating station has multiple units installed over many years and it is requested to provide clarity on the purpose of COD of generating station in this case.

Section 34: System Security

The draft regulations provide that except in an emergency, or when it becomes necessary to prevent imminent damage to critical equipment, no user shall suddenly reduce its generating unit output by more than 50 (Fifty) MW without prior permission of the SLDC. It would be

pertinent to provide specific limits for reducing outputs based on capacities, output capability, and the threshold time limit.

Clause 34.6 specifies that if a generating unit with a capacity higher than 50 (Fifty) MW is required to be operated without its AVR or voltage controller in service, the generating station shall immediately inform the SLDC of the reasons thereof and the likely duration of such operation and obtain its permission. However, it does not specify the time limit for resuming operation with AVR and the liability of damages caused by the same. The same can be provided in the regulations with appropriate limits on the damages.

Clause 34.8 provides for protection, and relay settings shall be coordinated periodically throughout the State grid, as per the plan finalized by the SPC. The same may be mandated from 1 year of notification of these regulations.

Section 37: Operational Planning

The draft regulations provide for operational planning by SLDC in coordination with STU. It is suggested to include the Discoms in operational planning to give inputs on demand, and the necessary amendments can be made to the regulations. It is also recommended that SLDC monitor past events, recent policy decisions, and updates that may impact grid operations.

Clause 32.2.2 requires Discoms to maintain a historical database of demand. The relevant data practices, frequency, granularity and formats may also be prescribed as part of the process in the regulations.

Section 43: Post Despatch Analysis

Clause 43.1.1 provides for analysis of various factors after despatch of power such as pattern of demand met, over draws and under draws, generation mix etc. It is suggested to also analyse the protection and metering systems as well to assess their status and functioning.

Section 46: Periodic Testing

The draft regulations provide for periodic tests to be carried out on power system elements for ascertaining correctness of mathematical models and ensuring desired performance during an event in the system once in every five (5) years or whenever major retrofitting is done. It is hereby recommended that such test be carried out at least once in 2 to evaluate performance considering equipment ageing and maintenance.

Section 47: Capacity Building and Certification

The draft regulations provide for Capacity Building, skill upgradation, and certification of the personnel deployed in SLDC shall be done periodically under an institutional framework through accredited certifying agencies. It is suggested that SLDC should collaborate with research and academic organizations to assess the needs of SLDC personnel, learn from other states and enhance their research capabilities to support its functions.

Section 69: Monitoring of Compliance

The draft regulations provide two methodologies for ensuring compliance with REGC by users: self-audit and compliance audit. It is suggested that the self-audit reports of STU and SLDC should be published on the commission's website within 30 days of the report submission.

In addition, the regulations provide for compliance audits but fail to prescribe mechanisms for implementation. It is, therefore, recommended that independent third-party audits be mandatory for all users. The commission may specify the timelines from the notification of these regulations at which the first such audit shall occur and the frequency of such audits afterwards. The commission may further specify and categorize the users of the Grid as per fuel type, capacity, etc., to provide specific mandates for conducting compliance audits. All such audit reports shall be submitted to the commission. The commission should also prepare an annual compliance report based on self-audits and compliance audits, which shall be made available on its website.

Section 70: Non Compliance

In case of non-compliance with REGC provisions by any user, the regulations provide for taking Suo-moto action by the commission or filing of a petition by SLDC, SPC, or any other person. However, it does not specify adequate penal provisions. Such provisions not only ensure enforcement but also serve as a deterrent to the parties involved. It is therefore recommended to include suitable changes and provisions in the regulations.

Consolidation of all documents

We suggest the establishment of a document repository by the commission, housing all pertinent documents related to grid operation and security. This repository should be accessible to the public through the RERC website.
