



Rajasthan Electricity Regulatory Commission

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PUBLIC NOTICE

In exercise of powers conferred under Section 86(1)(e) read with Section 181 of the Electricity Act, 2003, and all other powers enabling it in this behalf, the Rajasthan Electricity Regulatory Commission having framed the following Draft Regulations, invites suggestions/comments from the interested persons before finalizing them.

‘RERC [Battery Energy Storage Systems(BESS)] Regulations, 2025’

Notice is hereby issued inviting comments/suggestions on the above Draft Regulations from interested persons. The copy of the Draft Regulations may be obtained from the Receiving Officer of the Commission on payment of Rs. 100/-. The Draft Regulations are also available on Commission's website www.erc.rajasthan.gov.in.

The comments/suggestions if any should reach the Receiving Officer of the Commission in six copies on or before 14.11.2025.

Secretary

(Not to be published)

(B.L.Goyal)
IAS
Secretary



राजस्थान विद्युत विनियामक आयोग

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सार्वजनिक सूचना

विद्युत अधिनियम, 2003 की धारा 86 (1)(ई) सहपठित धारा 181 एवं अन्य सभी प्रावधान जो इस संदर्भ में इसे सामर्थ्य प्रदान करते हैं, के अंतर्गत राजस्थान विद्युत विनियामक आयोग द्वारा प्रारूप विनियम बनाये गये हैं। इनको अंतिम रूप देने से पूर्व आयोग द्वारा सभी इच्छुक व्यक्तियों से सुझाव/टिप्पणियां आमंत्रित की जाती हैं:

राजस्थान विद्युत विनियामक आयोग [बैटरी ऊर्जा भंडारण प्रणाली (BESS)] विनियम, 2025.

एतद्वारा उपरोक्त वर्णित प्रारूप विनियमों की सूचना जारी कर इच्छुक व्यक्तियों से सुझाव/टिप्पणियाँ आमन्त्रित किये जाते हैं। प्रारूप विनियम मय समर्थन विवरण की प्रतिलिपी आयोग के प्राप्तकर्ता अधिकारी के पास उपलब्ध है जिसे रु 100 का नकद भुगतान कर प्राप्त किया जा सकता है। प्रस्तावित विनियम मय समर्थक विवरण आयोग की वेबसाइट www.erc.rajasthan.gov.in पर भी उपलब्ध हैं।

यदि कोई व्यक्ति सुझाव/टिप्पणियाँ देना चाहे तो आयोग के प्राप्तकर्ता अधिकारी को दिनांक 14.11.2025 तक या इससे पूर्व छः प्रतियों में प्राप्त हो जानी चाहिए।

सचिव

(Not to be published)

(बी.एल.गोयल)

आईएस

सचिव

Draft RERC (Battery Energy Storage Systems) Regulations, 2025

Explanatory Memorandum

The Electricity Act, 2003, empowers the State Electricity Regulatory Commissions to promote efficiency, economy, and competition in the electricity sector and to regulate the purchase, distribution, supply, and utilisation of electricity within the State.

In exercise of these statutory functions, the Rajasthan Electricity Regulatory Commission (RERC) has framed the draft RERC (Battery Energy Storage Systems) Regulations, 2025, with the objective of establishing a comprehensive regulatory framework for the planning, procurement, deployment, and utilisation of Battery Energy Storage Systems (BESS) in the State of Rajasthan.

The Ministry of Power, Government of India, issued Guidelines on 11 March 2022 for the procurement, utilisation, and integration of Battery Energy Storage Systems as part of generation, transmission, and distribution assets and for providing ancillary services in the electricity grid. Subsequently, in August 2023, the Government of India notified the National Framework for Energy Storage Systems to support renewable energy integration, ensure grid stability, and enable market-based participation of storage technologies.

The Central Electricity Authority (CEA), in its National Electricity Plan (NEP), 2023, has also underscored the critical role of storage in achieving renewable energy targets, managing intermittency, maintaining reliability, and improving overall system flexibility. These national initiatives collectively aim to create an enabling environment for energy storage deployment and market development across the power sector.

Battery Energy Storage Systems have emerged as a vital enabler of the modern power system. They provide multiple grid-supporting functions such as enhancing grid flexibility and resilience, maintaining frequency and voltage stability, managing peak loads, reducing renewable energy

curtailment, supporting time-shifting of renewable generation, and providing ancillary and balancing services. By addressing the intermittency associated with renewable energy generation, BESS contributes significantly towards ensuring reliable supply, improving grid efficiency, and achieving national and State-level decarbonisation objectives.

Recognising the importance of energy storage, the Government of Rajasthan has notified the Rajasthan Integrated Clean Energy Policy, 2024, which seeks to promote decentralised renewable energy generation and to develop an enabling ecosystem for distributed solar generation and storage. The Policy envisages the creation of an energy storage market in the State to integrate larger volumes of renewable energy into the grid and to offer grid-support services such as peak reduction, curtailment management, contribution to reliability needs, transmission deferrals, and intraday as well as seasonal variation management. It also positions Rajasthan as a clean energy hub of the country and a preferred destination for innovative clean energy and storage projects.

In light of the evolving national policy framework, the provisions of the Rajasthan Integrated Clean Energy Policy, 2024, and the increasing need for flexible and resilient grid operation, the Commission found it necessary to establish a dedicated regulatory framework governing the planning, deployment, ownership, operation, registration, and market participation of BESS in the State. Accordingly, the draft RERC (Battery Energy Storage Systems) Regulations, 2025, were prepared and published through a Public Notice, inviting comments, suggestions, and objections from all stakeholders and interested parties.

DRAFT NOTIFICATION

RAJASTHAN ELECTRICITY REGULATORY COMMISSION NOTIFICATION, Jaipur

No. RERC/Secy/Reg. ----- -

In exercise of the powers conferred on it under Section 61, Section 86 read with Section 181 of the Electricity Act, 2003 (No. 36 of 2003), and all other powers enabling it in this behalf, the Rajasthan Electricity Regulatory Commission, after previous publication, hereby makes the following Regulations, namely:

1. Short Title, Commencement, and Applicability

1.1. These Regulations may be called the **Rajasthan Electricity Regulatory Commission [Battery Energy Storage Systems (BESS)] Regulations, 2025.**

1.2. These Regulations shall come into force from the date of publication of these Regulations in the official gazette.

1.3. These Regulations shall apply to all Licensees, Generating Companies, Renewable Energy Developers, Aggregators, Battery Energy Storage System (BESS) Service Providers, Consumers, and other entities involved in the Planning, Procurement, Deployment, Operation, or Utilization of Battery Energy Storage Systems within the State of Rajasthan.

1.4. Technology Neutrality: These regulations are intended to be technology-neutral and shall apply to all forms of battery energy storage systems that meet the required technical and performance standards, ensuring the framework remains relevant as technology evolves.

2. Definitions

(1) In these Regulations, unless the context otherwise requires:

- a) "**Act**" means the Electricity Act, 2003 (36 of 2003);
- b) "**Aggregator(s)**" or "**Distributed Energy Resources Aggregator or DERA**" means an entity registered/appointed with/by the distribution licensee to provide aggregation of one or more services like demand response services, Distributed Generation, Energy Storage, etc., within a license area.
- c) "**Ancillary Service (AS) capacity obligation**" is the capacity signalled for despatch by the Nodal Agency under SRAS or the capacity procured by the Nodal Agency under TRAS;
- d) "**Banking**" means a facility through which the unutilized portion of energy from any of the Green Energy Sources during a billing month is

kept in a separate account and treated in accordance with the conditions laid down in the relevant Regulations issued by the Commission.

- e) **"Battery Energy Storage Systems"** or **"BESS"** shall mean the system(s)/projects utilizing electrochemical batteries or any other technology as per the guidelines issued by the Ministry of New and Renewable Energy (MNRE) from time to time, providing a facility that can store chemical energy and deliver it as electricity.
- f) **"Battery Energy Storage System Developer"** or **"BESSD"** or **"Developer"** shall mean the entity owning/operating the BESS facility for the supply of power under this regulation.
- g) **"Commission"** means the **Rajasthan Electricity Regulatory Commission**.
- h) **"Distribution Licensee"**, **"Transmission Licensee"**, **"Generating Company"**, and **"SLDC"** shall have the meanings assigned to them under the Act.
- i) **"Firm and Dispatchable RE Power"** means the power profile configuration that is defined in the RfS that is sought to be met by RE power sources and will include configurations like assured peak power, Round the clock RE with firm delivery of power at rated capacity at any hour of the day as per demand or load following power delivery as specified by Discoms, Clean energy project with firm delivery of power for fixed hours of requirement by Discoms etc. .
- j) **"Fuel Cell"** means an electrochemical cell that converts the chemical energy of a fuel and an oxidizing agent into electricity.
- k) **"Nodal Agency"** means the **State Load Despatch Centre (SLDC)**, which shall be responsible for the implementation of the Ancillary Services at the intra-state level.
- l) **"Standalone BESS"** means a BESS operating independently as a merchant unit that has the capability to engage in energy or capacity trading in power markets or AS.
- m) **"Round-Trip Efficiency"** means the ratio of the total electrical energy discharged from the BESS to the total electrical energy supplied to charge the BESS, expressed as a percentage.
- n) **"Un-Requisitioned Surplus" or "URS"** means the capacity in a generating station that has not been requisitioned and is available for dispatch, and is computed as the difference between the declared capacity or maximum possible generation, as the case may be, of the generating station and its total schedule.

(2) 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 regulation of the Commission/CERC shall have the meaning assigned to them respectively in the Act or the Grid Code or such other regulation as amended time to time.

3. Objectives

The primary objectives of these Regulations are:

- (a) To enable deployment and utilization of BESS as part of generation, transmission, and distribution assets;
- (b) To facilitate the participation of BESS in ancillary services and energy markets;
- (c) To promote cost-effective energy storage solutions that support grid stability, frequency management, and renewable energy integration;
- (d) To establish a framework for Aggregators and third-party BESS developers to participate in the electricity market.

4. Ownership and Business Models

4.1. BESS may be developed and owned by Distribution Licensees, Transmission Licensees, GENCOS, Independent Power Producers (IPPs), Consumers, SLDC, Standalone BESS, Renewable Energy Developers, Aggregators, or any other third-party investors.

4.2. BESS may be deployed as co-located with RE & Conventional generators, grid-connected standalone storage, embedded in distribution or transmission networks, behind the meter (Consumer level), or integrated with Electric Vehicle (EV) infrastructure for Vehicle-to-Grid (V2G) services.

4.3. The Battery Energy Storage System shall be utilised either as an independent battery energy storage system or as part of the generation, transmission, or distribution system or integrating the consumer's load independently or with RE sources co-located behind the meter.

4.4. The Battery Energy Storage System can be developed, owned, leased, or operated by a generating company, a transmission licensee, a distribution licensee, a consumer, a system operator, or an independent battery energy storage service provider.

4.5. The Battery Energy Storage System shall have the same legal status as that of the owner:

Provided that if such a Battery Energy Storage System is not co-located with, but owned and operated by, the generating station or licensee or consumer, the legal status shall still be that of the owner, but for the purpose of scheduling and dispatch and other matters, it shall be treated at par with a separate storage element.

5. Planning and Procurement

5.1. The holistic system requirements, including but not limited to, managing reverse power flow from lower to higher voltage at various substations, addressing transmission or distribution network congestion, mitigating high renewable energy penetration challenges, and resolving voltage or frequency stability issues, shall be the criterion for finalizing the BESS locations in the Distribution System or Transmission System by Distribution/Transmission licensees.

5.2. The Distribution Licensees and the State Transmission Utility (STU) shall plan the requirement of energy storage capacity within their respective areas of operation, keeping in view the technical considerations, system reliability, and load requirements.

Provided that in the process of such planning, both the Distribution Licensees and the STU shall consult the State Load Despatch Centre (SLDC).

Provided further that the proposed storage plan shall be submitted for approval to the Commission along with ARR/Investment Plan.

Provided also that in their respective plans, the licensees shall specifically indicate whether they intend to install and operate their own Battery Energy Storage System (BESS) along with its proposed location, or procure energy storage capacity or services from third-party providers, specifying the proposed injection point, justifying the location.

5.3. The minimum individual project size shall have a power rating of 1MW and above, with a suitable energy rating of at least two hours, connected at 11 kV or above.

Provided that this minimum size does not apply to BESS at the Distribution Transformer (DTR) level or for behind-the-meter applications by consumers.

Provided further that the Commission may, from time to time, review and revise the minimum project size through separate order to adapt to technological advancements and market conditions.

6. Utilization for Ancillary Services

BESS shall be eligible to provide services such as frequency regulation, spinning reserves, voltage support, black start services, and demand response services or any other services defined in IEGC/REGC amended time to time.

7. Role of Aggregators

Aggregators may aggregate BESS resources from multiple sites to provide services to the SLDC/TRANSCO/DISCOM/GENCO or other market participants and shall follow the protocols issued by SLDC.

Provided that the SLDC in consultation with licensees, shall specify the minimum technical and financial eligibility criteria, online registration formats, applicable fees, and any other terms and conditions for an entity to register as an Aggregator.

8. Commercial Agreements

Eligible entities may enter into commercial agreements with Licensees or other market participants for the provision of BESS services.

9. Tariff and Market Participation

9.1. All procurement of BESS capacity and services by the Licensees shall be undertaken only through tariff-based competitive bidding.

9.2. Battery Energy Storage Systems (BESS) owned or operated by *consumers* shall be permitted to participate in energy arbitrage by purchasing electricity from the grid during off-peak hours and selling it back to the grid during peak hours.

Provided that the settlement mechanism for such transactions shall be as specified by the Commission through a separate order either Suo-motu or based on application filed before it.

Provided further that consumers may install the Battery Energy Storage System either as a standalone system or in conjunction with a solar power plant.

Provided also that consumers shall be allowed to operate the BESS in such a manner that the energy stored in the system, installed behind the consumer's meter, may be utilized for self-consumption or supplied to the Distribution Licensee during peak hours for which Commission may specify incentivize tariff.

9.3. For the procurement of ancillary services, the Commission may approve a single part or multi-part tariff structure, which may include a fixed capacity

charge for availability, a variable energy charge for dispatch, and performance-based incentives to ensure reliability.

9.4. Renewable energy procured and used for charging BESS shall retain its renewable character upon discharge and consumption. Accordingly, obligated entities or consumers shall be eligible to claim the RPO/RCO benefit for such consumption.

10. Technical Standards

BESS installations shall conform to technical standards specified by the Central Electricity Authority (CEA), MNRE, and other relevant authorities. BESS providers shall submit real-time data to SLDC as prescribed.

11. Safety, Cybersecurity, and Environmental Norms

11.1. BESS systems shall comply with applicable regulations, standards and codes issued by the Central Electricity Authority (CEA) regarding safety.

11.2. Cybersecurity and communication protocols shall adhere to the guidelines of the Ministry of Electronics and Information Technology (MeitY), the Central Electricity Authority (CEA), and the Ministry of Power (MOP).

11.3. Environmental management and end-of-life disposal of batteries shall be in accordance with the guidelines/regulations of the Government of India/GoR. The responsibility of disposal shall lie with the owner of the BESS.

12. Role of Licensees

12.1. Distribution Licensees shall publish on their websites potential sites at the 11 kV voltage level in their 33/11 kV substations for establishing BESS of the required capacities based on feeder level solarization.

12.2. Distribution licensees shall register AS providers and Aggregators in accordance with these Regulations.

12.3. Expenditure on BESS shall be recoverable through the Annual Revenue Requirement (ARR) under specified heads for power purchase or capital expenditure, as applicable, subject to Commission approval for which Distribution Licensee shall file suitable proposals.

12.4. The Transmission Licensee shall include BESS in its planning and investment plan and file proposals for Commission approval. Approved expenditure shall be recoverable through the Transmission Business ARR.

12.5. Except for the Battery Energy Storage Systems (BESS) installed and owned by the licensees, the procurement of BESS capacity or services shall be undertaken only through a transparent competitive bidding process conducted in accordance with the guidelines issued by the Government of India, indicating the applicable case as specified in such guidelines.

12.6. The Transmission Licensee shall prepare a standard agreement format for procuring ancillary services and obtain the Commission's approval before entering into agreements.

14. Role of Nodal Agency (SLDC)

14.1. SLDC shall verify governor settings of thermal generators and assess the requirement of Primary, Secondary, and Tertiary Reserve Ancillary Services (PRAS, SRAS, TRAS) from BESS. The report shall be published and updated annually.

14.2. The SLDC shall specify eligibility criteria for BESS resources to provide ancillary services, based on technical criteria and operational performance, and publish on its website _within three months_ from the date of notification of this Regulation.

14.3. The SLDC, in consultation with STU and licensees, shall prepare and publish on its website the eligibility criteria for the registration of AS providers within three months_ from the date of notification of this Regulation.

14.4. The SLDC shall prepare a procedure for Scheduling, Metering, Accounting, Settlement, and Commercial mechanisms for the operationalization of ancillary services through BESS, for approval by the Commission, within six months_ from the date of publication of this Regulation.

14.5. The SLDC shall monitor the performance of BESS, including State of Charge (SoC), Round-Trip Efficiency, and availability.

15. Role of GENCOS/PPs/CPPs/BESS Developers

GENCOS, PPs, CPPs, and BESS Developers may establish BESS at any point in the system, after obtaining due approvals, and participate in the ancillary services market and may register with the relevant licensee to provide such services.

16. Consumers/Prosumers

16.1 All consumers shall be permitted to establish behind-the-meter Battery Energy Storage Systems (BESS) up to their contract demand, with or without solar power plants.

Provided that such consumers shall be required to register their BESS installations with the Distribution Licensees through the online portal developed and maintained by the Distribution Licensees Nodal Agency, however, no prior permission or formal connection agreement with the Distribution Licensee shall be required for installation of the BESS.

Provided also that such systems shall comply with the technical standards and safety requirements specified by the Central Electricity Authority (CEA).

16.2 In case the Battery Energy Storage System (BESS) is installed in hybrid mode along with a solar power plant that is either already installed or proposed to be installed under the Net Metering, Net Billing, Group Net Metering, or Virtual Net Metering framework, the entire hybrid system shall be governed by the respective provisions applicable to the framework under which the solar plant is registered, i.e., Net Metering, Net Billing, Group Net Metering, or Virtual Net Metering, as specified under the Rajasthan Electricity Regulatory Commission (Grid Interactive Distributed Renewable Energy Generating Systems) Regulations, 2021, as amended from time to time.

Provided that in such cases, the energy injected into the Distribution Licensee's network during non-solar peak hours shall be payable to the consumer at the incentivized tariff, as may be specified by the Commission through a separate order issued either *suo motu* or upon an application filed before it.

16.3 Consumers or prosumers having eligible behind-the-meter BESS shall be permitted to participate in the demand response and such similar programmes, either directly or through an Aggregator, subject to compliance with applicable regulations. The Discoms shall also develop programmes for Vehicle to Grid/Grid to Vehicle concept through smart chargers.

Provided that participation in such services shall require the installation of a smart meter and communication infrastructure capable of real-time data acquisition and transmission, as may be specified by the Distribution Licensee.

17. Open Access to BESS

The RERC Green Energy Open Access Regulations, as amended from time to time, shall govern the open access and related charges. The Commissions based on a petition filed by the licensees, Generators or SLDC, may also

issue a separate order for waiver or method of charging for BESS in case any such need arises.

18. Dispute Resolution

18.1 Consumer-related disputes shall be dealt with as per the RERC (Consumer Grievance Redressal Forum, Electricity Ombudsman and Consumer Advocacy) Regulations, 2021.

18.2 All other disputes arising under this regulation shall be referred to the State Power Committee constituted under the State Grid Code which shall endeavor to resolve the grievance within 30 days and where State Power Committee is unable to resolve the grievance, it shall be referred to the Commission and Commission's decision in this regard shall be final and binding.

19. Power to give directions

The Commission may, from time to time, issue such directions and orders as it considers appropriate for the implementation of these Regulations.

20. Power to remove difficulties

If any difficulty arises in giving effect to the provisions of these Regulations, the Commission may, by an order, make such provisions as may be necessary for removing the difficulty.

21. Power to relax

The Commission may, for reasons to be recorded in writing, relax any of the provisions of these Regulations on an application made before it.

22. Power to amend

The Commission may, from time to time, add, vary, alter, suspend, modify, amend, or repeal any provision of these Regulations.

By Order of the Commission

(Secretary)