भारत सरकार
केंद्रीय विद्युत प्राधिकरण
सेवा भवन (उत्तरी खंड) कक्ष सं. 622, छठा तल,
आर.के.पुरम, नई दिल्ली-110066
टेली फैक्स – 26103246, ई-मेल – celegal-cea@gov.in
वेबसाइट – www.cea.nic.in

सार्वजनिक नोटिस

केंद्रीय विद्युत प्राधिकरण (के.वि.प्रा.), विद्युत अधिनियम, 2003 की धारा 177 के तहत प्रदत्त शक्तियों का प्रयोग करते हुए **केंद्रीय विद्युत प्राधिकरण (सुरक्षा और विद्युत आपूर्ति से संबंधित उपाय) (पहला संशोधन) विनियमों, 2025** के प्रारूप को अधिसूचित करने का प्रस्ताव करता है। हितधारकों से टिप्पणी हेतु विनियमों का उक्त प्रारूप के.वि.प्रा. की वेबसाइट www.cea.nic.in पर उपलब्ध हैं। प्रारूप विनियमों का निरीक्षण **20.07.2025** तक, किसी भी कार्य दिवस को, 11:00 बजे से 16:00 बजे के मध्य, मुख्य अभियंता (विधि), के.वि.प्रा, कमरा नं. 622, सेवा भवन (उत्तरी खंड), छठा तल, आर.के.पुरम, नई दिल्ली-110066 के कार्यालय में भी किया जा सकता है।

2. सभी हितधारकों एवं आम जनता से प्रारूप विनियमों पर अपनी टिप्पणियां ई-मेल **(celegal-cea@gov.in)** अथवा डाक के जरिए मुख्य अभियंता (विधि), कमरा नं. 622, सेवा भवन, (उत्तरी खंड), 6वां तल, आर.के.पुरम, नई दिल्ली-110066 को **20.07.2025** तक भेजने का अनुरोध किया जाता है।

(राकेश कुमार)
सचिव, के.वि.प्रा.

[To be published in the Gazette of India, Extraordinary, Part III, Section 4]

CENTRAL ELECTRICITY AUTHORITY
NOTIFICATION
New Delhi, the ……., 2025

F No. .....— In exercise of the powers conferred by clause (e) of sub-section (2) of section 177 of the Electricity Act, 2003 read with section 53 of the Electricity Act, 2003 (36 of 2003), the Central Electricity Authority hereby makes the following regulations, namely: -

1. Short Title and Commencement- (1) These regulations may be called the Central Electricity Authority (Measures relating to Safety and Electric Supply) (First Amendment) Regulations, 2025.
   (2) They shall come into force on the date of their publication in the Official Gazette.

2. The following definitions shall be added under Chapter I, Regulation 2 as follows:

(ea) "Battery Energy Storage Systems" or "BESS" means a system connected to the Power System which is used to store electric energy by means of electrochemical materials, typically includes batteries, power conversion system, and battery management system.

(eb) "Battery Management System" or "BMS": A system which implements controls on batteries in order to obtain safe operation, it also balances the energy of batteries and monitors the status thereof.

(ec) "Power Conversion System" or PCS in a BESS refers to the integrated system of inverters, rectifiers, controllers, and associated power electronics that convert DC power from the battery to AC power for the grid (discharging), and vice versa (charging).

3. The following Chapter X-A titled "**Additional safety requirements for Battery Energy Storage System (BESS)**" shall be added namely:-

122(A). Additional safety requirements for Battery Energy Storage System (BESS):

The regulations under this chapter shall be applicable to Battery Energy Storage System (BESS) which shall be in addition to the regulations provided from Chapter I to VII and XIV.

122(B). General Safety considerations

(1) The chargers used for charging the battery energy storage systems shall be designed for the chemistry of the battery to be charged.

(2) The battery system shall be designed with two-fault tolerance to prevent catastrophic failures under all conditions, including but not limited to overcharge, over-discharge, short circuit, and operation outside specified temperature limits. .

Explanation: Two-fault tolerance refers to the system's ability to continue to operate safely or shut down safely even after two independent faults have occurred

(3) Testing of BESS shall be carried out as per relevant standard

(4) Fire and explosion protection at Cell level, Module level, container level and site specific installation level shall be as per the relevant standard

(5) (a) BMS shall monitor and record voltage, temperature, current, and thermal runway at cell level and module level.

Provided that audio visual alarms shall be activated in case the monitored parameter exceeds the operating range as specified per OEM.

Provided further that BMS shall automatically stop charging and discharging of the battery when the temperature readings exceeds manufacturer's recommended values.

(b) PCS shall be capable of fully automatic and unattended operation, including synchronizing with the grid or electric power system, seamless paralleling and disconnecting from the grid or electric power system. It shall include self-protective and diagnostic features to protect itself from damage in the event of component failure and abnormal operating parameters.

(6) Coolant lines shall be routed and secured to mitigate leakage on live electrical parts. A failure of the dielectric fluid cooling system, including any fault in the cooling lines shall not result in a leakage that can cause short circuiting of the cells inside the battery pack or lead to a hazardous condition.

122(C). Battery Container:

(1) The battery container shall be explosion-proof, with a forced ventilation system and automated louvers for safe release of the flammable gas and maintain internal pressure within safe limits.

(2) Ingress Protection shall be provided as per the relevant standards.

(3) Walk-in System, including Entrances & Exit, of BESS shall be as per the relevant standard.

122(D). Equipment Location

(1) All Battery containers shall be positioned so as to ensure a distance of 7.5 meters from the nearest exterior wall or roof overhang.

Provided that where prescribed distance cannot be maintained, Large Scale Fire Testing (LSFT) shall be conducted as per relevant standard to validate the safety of the installation.

Provided further that adequate measure shall be taken for noise reduction in the area where BESS is installed within densely populated urban area or critical building.

(2) A distance of 3 meters shall be maintained between two Battery containers.

Provided that where prescribed distance cannot be maintained, LSFT shall be conducted as per relevant standard to validate the safety of the installation.

Provided further that the external wall of container shall have a minimum fire resistance rating of 2 hours.

122(E). Ventilation:

(1) Adequate ventilation and cooling systems for BESS container shall be installed to prevent overheating.

(2) A suitable mechanism shall be provided to limit the concentration of flammable materials inside the enclosure of BESS, in compliance to relevant Indian Standard.

Provided that in the event of the mechanical ventilation system failure, the system shall initiate a shuts down to maintain the concentration of flammable materials in the battery container within safe limits.

122(F). Hazard Detection and Suppression System:

(1) BESS shall have hazard detection systems for smoke, gas, heat and flame as per relevant standard and the same shall be monitored.

(2) Every battery container of 200 kWh and above rating shall be provided with water based automatic fire suppression system as per relevant standard.

(3) The components of the installed fire suppression system shall be protected from ambient weather conditions and unauthorized access while ensuring ease of accessibility for inspection and maintenance.

122 (G) Electrolyte spill: In case of batteries having acidic/basic aqueous electrolytes in liquid form, the electrolyte spills shall be contained as per relevant standards.

122(H). Lighting and Signage:

(1) A separate emergency source of lighting with automatic initiation shall be provided in enclosed working spaces as per relevant standard.

(2) Location and specification of lighting and signage shall support safe access and navigation to the site

122(I). Security Systems:

(1) BESS installations shall be protected by fencing not less than 1.8 m in height so as to prevent unauthorized entry.

(2) The installation of CCTV, motion or break glass sensors, and alarm sets connected to a monitoring and response system shall be provided at appropriate locations.

122(J). Emergency Stops:

(1) In case a safety issue or battery anomaly is detected, the affected section of BESS shall shut down within pre-set period.

(2) Manual emergency stop buttons or switches or mechanisms shall be placed at easily accessible and visible locations.

122(K) Earthing: BESS equipment earthing shall be as per the relevant standard.

122(L) Other Requirement:

(1) An independent third party fire safety audit of the BESS shall be conducted, as provided in the Standard Operating Procedure (SOP) to be issued by the Authority within a period of three months from the date of notification of these Regulations.
(2) BESS owner shall submit the above fire safety audit report to the Electrical Inspector at the time of inspection.
(3) The appropriate government shall ensure that Fire Safety officials are trained to address fire risks specific to BESS.
Provided that the Directorate General of Fire Safety (DGFS) shall issue guidelines for such training within a period of three months from the date of notification of these Regulations.

4. New **Regulation 137** shall be added in Chapter XIV, after Regulation 136 of the Principal Regulations as under:

137. **List of Relevant Standards-** The Authority through a separate order shall issue a list of relevant standards applicable in these regulations, within three month of publication of the amendment in these regulation ;

(Rakesh Kumar)
Secretary

Note: The principal regulations were published in the Gazette of India, Extraordinary, Part III, Section 4, vide notification No. CEA-PS-16/1/2021-CEI Division, dated the 8th June 2023.