

भारत सरकार
केन्द्रीय विद्युत प्राधिकरण
(विद्युत मंत्रालय)
सेवा भवन (उत्तरी खंड) कक्ष सं. 622, छठा तल,
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सार्वजनिक नोटिस

विद्युत अधिनियम, 2003 की धारा 177 के तहत प्रदत्त शक्तियों का प्रयोग करते हुए केंद्रीय विद्युत प्राधिकरण* (के.वि.प्रा.) द्वारा (i) केन्द्रीय विद्युत प्राधिकरण (विद्युत संयंत्रों और विद्युत लाइनों के निर्माण के लिए तकनीकी मानक), विनियम 2010 को तारीख 07.09.2010 और 20.08.2010 (अंग्रेजी संस्करण) और (ii) केन्द्रीय विद्युत प्राधिकरण (विद्युत संयंत्रों और विद्युत लाइनों का निर्माण, प्रचालन और अनुरक्षण के लिए सुरक्षा आवश्यकताएँ), विनियम 2011 को तारीख 24.01.2011 को अधिसूचित किये गये थे।

अब एक नए विनियम द्वारा "केन्द्रीय विद्युत प्राधिकरण (विद्युत संयंत्रों और विद्युत लाइनों के निर्माण के लिए तकनीकी मानक), विनियम 2010" को प्रतिस्थापित करने का प्रस्ताव है। तदनुसार, नए विनियम का प्रारूप नामतः "प्रारूप केंद्रीय विद्युत प्राधिकरण (विद्युत संयंत्रों और विद्युत लाइनों के निर्माण के लिए तकनीकी मानक) विनियम, 2021" को टिप्पणियों/सुझावों/आपत्तियों के लिए प्रकाशित किया जा रहा है।

इसके अतिरिक्त "केंद्रीय विद्युत प्राधिकरण (विद्युत संयंत्रों और विद्युत लाइनों का निर्माण, संचालन और रखरखाव के लिए सुरक्षा आवश्यकताएँ) विनियम, 2011" के कुछ प्रावधानों में संशोधन करने का भी प्रस्ताव है। तदनुसार, नए विनियम का प्रारूप नामतः "प्रारूप केंद्रीय विद्युत प्राधिकरण (विद्युत संयंत्रों और विद्युत लाइनों का निर्माण, संचालन और रखरखाव के लिए सुरक्षा आवश्यकताएँ) विनियम (संशोधन), 2021" भी टिप्पणियों / सुझावों / आपत्तियों के लिए प्रकाशित किया जा रहा है।

प्रस्तावित उपरोक्त दोनों नामतः विनियम के.वि.प्रा की वेबसाइट www.cea.nic.in पर उपलब्ध हैं। उक्त प्रारूप विनियमों को 14.02.2022 तक 11:00 बजे से 16:00 बजे तक किसी भी कार्य दिवस को मुख्य अभियंता (विधि), कमरा नं. 622, सेवा भवन (उत्तरी खंड), छठा तल, आर.के.पुरम, नई दिल्ली-110066 के कार्यालय में भी देखा जा सकता है।

सभी हितधारकों एवं जनता से अनुरोध है कि वे उक्त प्रारूप विनियमों पर अपनी टिप्पणी/सुझाव/आपत्तियां डाक अथवा ई-मेल (celegal-cea@gov.in) के माध्यम से मुख्य अभियंता (विधि), कमरा नं. 622, सेवा भवन, (उत्तरी खंड), 6वां तल, आर.के.पुरम, नई दिल्ली-110066 को 14.02.2022 तक भेजने का अनुरोध किया जाता है।

(वी के मिश्रा)
सचिव, के.वि.प्रा.

* केन्द्रीय विद्युत प्राधिकरण पूर्ववर्ती विद्युत (आपूर्ति) अधिनियम, 1948 के तहत गठित एक सांविधिक निकाय है, जिसे बाद में विद्युत अधिनियम, 2003 की धारा 70 द्वारा प्रतिस्थापित किया गया। के.वि.प्रा के प्रमुख कार्य हैं (i) बिजली क्षेत्र से संबंधित तकनीकी मामलों पर केंद्र/राज्य सरकारों, लाइसेंसधारियों, उत्पादन कंपनियों आदि को सलाह, (ii) उपभोक्ताओं के लिए विश्वसनीय, सस्ती बिजली प्रदान करने के लिए संसाधनों के इष्टतम उपयोग के लिए योजना एजेंसियों के बीच गतिविधियों का समन्वय,, (iii) संयंत्रों और बिजली लाइनों के निर्माण, संचालन और रखरखाव, ग्रिड मानकों, मीटरों की स्थापना, सुरक्षा आवश्यकता आदि से संबंधित नियम/तकनीकी मानक बनाना इत्यादि।

GOVERNMENT OF INDIA
CENTRAL ELECTRICITY AUTHORITY
(MINISTRY OF POWER)
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PUBLIC NOTICE

In exercise of the powers conferred under section 177 of the Electricity Act, 2003, the Central Electricity Authority (CEA)* had notified (i) “Central Electricity Authority (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations, 2010” on 20.08.2010 & 07.09.2010 (Hindi version) and (ii) “Central Electricity Authority (Safety Requirements for Construction, Operation and Maintenance of Electrical Plants and Electric Lines) Regulations, 2011” on 24.01.2011.

It is now proposed to **replace** the “Central Electricity Authority (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations, 2010” by a new regulation. Accordingly, the draft new regulation *namely* “**draft Central Electricity Authority (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations, 2021**” are being published for comments/ suggestions/ objections.

It is also proposed to **amend** some provisions of “Central Electricity Authority (Safety Requirements for Construction, Operation and Maintenance of Electrical Plants and Electric Lines) Regulations, 2011”. Accordingly, the draft regulation *namely* “**draft Central Electricity Authority (Safety Requirements for Construction, Operation and Maintenance of Electrical Plants and Electric Lines) Regulations (Amendment), 2021**”, are also being published for comments/ suggestions/ objections.

The proposed aforementioned both draft regulations are available on the CEA Website www.cea.nic.in. The said draft regulations can also be inspected in the office of Chief Engineer (Legal), Sewa Bhawan (North Wing), Room No. 622, 6th Floor, R. K. Puram, New Delhi 110066 on any working day till **14.02.2022** between 1100 hrs to 1600 hrs.

All the Stakeholders and members of public are requested to send their comments/ suggestions/ objections on aforementioned draft regulations to Chief Engineer (Legal), Sewa Bhawan (North Wing), Room No. 622, 6th Floor, R. K. Puram, New Delhi-110066 by post or through e-mail (celegal-cea@gov.in) latest by **14.02.2022**.

(V K Mishra)
Secretary, CEA

* CEA is a Statutory Body constituted under the erstwhile Electricity (Supply) Act, 1948, subsequently replaced by Section 70 of the Electricity Act, 2003. The major functions of CEA include (i) advices to the Union/State Governments, Licensees, Generating Companies etc. on the technical matters pertaining to power sector, (ii) coordination of activities amongst the planning agencies for optimal utilization of resources to provide reliable, affordable electricity for consumers, (iii) to make regulations/technical standards pertaining to construction, operation and maintenance of power of plants and electric lines, grid standards, installation of meters , safety requirement etc

**Government of India
Ministry of Power
Central Electricity Authority**

New Delhi, dated the 2021

Notification

No. CEA/TETD/MP/R/02/2010 - In exercise of the powers conferred by Section 177 read with Clause (c) of Section 73 of the Electricity Act, 2003 (36 of 2003), the Central Electricity Authority, hereby makes the following Regulations to amend the Central Electricity Authority (Safety Requirements for Construction, Operation and Maintenance of Electrical Plants and Electric Lines) Regulations, 2011, namely:-

1. Short title and commencement. (1) These Regulations may be called the Central Electricity Authority (Safety Requirements for Construction, Operation and Maintenance of Electrical Plants and Electric Lines) Amendment Regulations, 2021.

(2) These Regulations shall come into force on the date of their publication in the Official Gazette.

2. In the Central Electricity Authority (Safety Requirements for Construction, Operation and Maintenance of Electrical Plants and Electric Lines) Regulations, 2011 (hereinafter referred to as the said Regulations),

(a) Regulation 3 shall be substituted as under:-

(1) Applicability. - These regulations shall apply to generating companies, transmission licensees, distribution licensees, Central Transmission Utility, State Transmission Utilities.

(2) Regulations not in derogation of any other law.-The provisions of these regulations shall be in addition to and not in derogation of the provisions of any other law for the time being in force.

(b) Regulation 4(2) shall be substituted as under:-

"The Owner shall obtain accreditation of electric plants with latest certification as applicable"

(c) Regulation 4(4)(a) shall be substituted as under:-

"Formulation of written statement of policy in respect of safety and health of employees, duly signed by owner, shall be displayed at conspicuous places at the premises."

(d) Regulation 4(4)(d) shall be substituted as under:-

“(i) establishing procedures to identify hazards that could give rise to the potential of injury, health impairment or death and measures to control impact of such hazards.

(ii) setting up an Early Warning System to deal with hazardous events such as Glacial Lake and Landslide Outburst Floods, Earthquakes, cloudburst, Flash Floods, Avalanches, Dam Break event, etc. in case of all large hydro projects under operation as well as under implementation.

(iii) establishing Standard Operating Procedure to deal with these hazardous events. ”

(e) Regulation 4(4)(j) shall be substituted as under:-

“establishing system for proper communication, documentation and record management either in certified soft copy or hard copy form in relation to occupational safety and health”;

(f) Regulation 4(4)(l) shall be substituted as under:-

“establishing methodology for internal and external audit of safety management system as per relevant Indian standard”;

(g) Regulation 7(5) shall be substituted as under:-

“In case of any accident, the contractor shall immediately submit a statement of the same to the Owner and the safety officer, containing the details of the accident, any injury or casualties, extent of property damage and remedial action taken to prevent recurrence.”

(h) Regulation 10(4) shall be substituted as under:-

“The Owner shall ensure that a fully equipped ambulance van is provided at the site for transportation of serious cases of accident or sickness to the hospital promptly and said ambulance van is maintained in good condition and equipped with necessary facilities.

Provided that where number of employees including contract workers is less than two hundred, the Owner may make arrangements for procuring such facility at short notice from a nearby hospital or other place, to meet any emergency”;

(i) Regulation 10(5)(d) shall be substituted as under:-

“Tests for respiratory disorder for employees exposed to dusty environment in power generating stations once every six months;

(j) After Regulation 10(5)(d), the following Regulation 10(5)(e) shall be inserted:-

“(e) Vertigo Test for all personnel involved in height work”;

(k) After Regulation 11(3), the following Regulation 11(4) and 11(5) shall be inserted:-

“(4) Owner shall ensure availability of adequate infrastructure for imparting effective audio-visual safety training at the plant/ premises”;

“(5) Safety precautions including imparting specialized training shall be ensured in critical activities like scaffolding, electrical works, hot works, working in confined spaces.”

(l) In Schedule-I, Clause (A) (12) shall be substituted as under:-

“(12) Hazard identification and risk assessment including job safety analytical framework & safe working procedure”;

(m) In Schedule-I, after Clause (A) (17) (g), following Clause (A) (17) (h) shall be inserted:-

“(h) man lifter”;

(n) In Schedule-I, after Clause (A) (18) (f), following Clause (A) (18) (g) and (A) (18) (h) shall be inserted:-

“(g) Radioactive Radiation;

(h) Drainage facility for excess water”;

(o) In Schedule-I, after Clause (A) (51), following Clause (A) (52) to (A) (54) shall be inserted:-

“(52) Working in night and foggy atmosphere;

(53) Safety in surface cleaning/ preparation work;

(54) Permit to work system”;

(p) In Schedule-III, Clause 1 (A) (b) shall be substituted as under:-

“(b) Major fire in transformer yard/ switchyard”;

(q) In Schedule-III, after Clause 1 (A) (b), following Clause 1 (A) (c) shall be inserted:-

“(c) Major fire in battery room/ switchgear room/ control room”;

(r) In Schedule-III, Clause 1 (B) (b) shall be substituted as under:-

"Toxic gas dispersion caused by uncontrolled chlorine toner leakage and ammonia leakage;"

(s) After Regulation 11, following new Regulation 12 and 13 shall be inserted:-

“12 Safety Check/ Audit – Safety checks/ audits shall be periodically carried out after every two years by third party. Safety checks shall be site specific and shall include the minimum safety checks as identified in **Schedule-IV** annexed to these regulations.

13 Relaxation of Regulations. The Authority may, by order and for reasons to be recorded in writing, relax any of provisions of these regulations in respect of the matters referred to the Authority on case to case basis.”

(t) After Schedule-III, following new Schedule-IV shall be inserted:-

**“ Schedule- IV
[See Regulation 12]**

Elements of safety checks for electrical plants

1. Emergency Management Plan
 - A. Fully tested Siren of approx. 110dB to 120dB level shall be available.
 - B. Adequate numbers of Wind Socks/ Cones shall be available at strategic locations.
 - C. Emergency exit as per standard shall be available.

2. A. General Aspects of Safety

- a. Factory inspectorate/ directorate officials should visit at least once in a year.
- b. Safety Policies shall be reviewed once in a year.
- c. Safety Committee shall be constituted under Plant Head/ Dy. Plant Head.
- d. At least one no. advanced life support ambulance shall be available.

B. Safety training and awareness

Safety training and awareness programmes shall be conducted at least one in a year.

C. Safety Promotional Activities

Safety promotional activities such as Signages and posters awards for safety shall be done once in a year.

D. Safety Metrics & Incident Control Measures

Special safety measures shall be taken to check/ avoid vulnerable accidents viz. fall from height, confined space entry, fall of materials, lack of supervision & knowledge, Bottom ash area.

E. Hazard Identification and Control

Hazard Identification Study (HazID) shall be done for identifying hazards in order to prevent and reduce any adverse impact that could cause injury to personnel, damage or loss of property, environment and production, or become a liability.

3. Boilers Act 1923

All the provisions of Boilers Act 1923 shall be complied with and get assessed from Boiler Inspector.

4. Compliance w.r.t. Environmental Provisions/ Regulations

Adequate Environment Protection measures especially for waste water, chemicals and dust suppression system shall be provided in line with Air and water Act and provisions of CPCB/ SPCB.

5. Maintenance Safety Management System

Periodic health check up of workers shall be done as per hazardous industries.

6. Internal Safety Audit

The executives shall get trained through external safety auditors to conduct Internal Safety Audit.

7. External Safety Audit (ESA)

External Safety Audit (ESA) course shall be conducted by DG FASLI or recognized by state govt. accreditation.

8. ISO 45001: SAFETY AUDIT

Plant shall be audited and certified as per ISO 45001 at least once in a year.

9. Fire Detection, Protection and Maintenance System

A. Minimum two (2) Electric & Diesel driven pumps each with a jockey pump shall be installed.

B. Fire hydrant pumps shall be tested weekly and fire hydrant jockey pumps shall be tested daily in each shift.

C. Fire tenders shall be inspected daily in each shift and adequate manpower for each shift shall be employed.

D. All external fire detection shall be checked quarterly and all heat and smoke detectors annually tested.

10. Safety Aspects of Boiler

A. General/ Statutory Requirements

Boiler shall be externally inspected every time after annual maintenance or during hydro test.

B. Superheaters & Reheaters

a. Superheaters & Reheaters tubes shall be inspected once a year during annual overhaul.

b. Safety valves shall be tested once a year during annual overhaul.

C. Economiser

Economiser tubes shall be inspected once a year during annual overhaul.

D. Drum/ Separator & Steam Headers

- a. Drum instrumentations shall be calibrated once in year.
- b. Drum internals shall be inspected once in a year.

E. Air Preheaters & Steam Coil Air Preheaters (SCAPH)

- a. APH water washing shall be done once in a week.
- b. APH instrumentations shall be calibrated once in a year.

F. Steam Generator Integral Piping, Valves, Fittings and Mountings

Calibration of instruments such as pressure gauges, Thermocouple, RTDs, Flow sensors etc. shall be done during annual overhaul.

G. Duct Work, Dampers & Insulation

Metallic and Non-Metallic expansion joints shall be replaced once in three (3) years and for CFBC boilers once in six (6) months.

H. Soot Blowing System

Soot blower operation shall be done daily.

I. Electrostatic Precipitator (ESP)

- a. MoEF&CC Norms i.r.o. Suspended Particulate Matter (SPM) level shall be maintained.
- b. Dust collection efficiency shall be tested daily by opacity monitor.

J. Operation and Maintenance Aspects

- a. Boiler Overhauling shall be done every year.
- b. Safe shutdown of unit shall be done strictly as per OEM O&M Manual.

11. Safety Aspects of Turbine Generator

A. General Aspects

Safety awareness programs shall be conducted on safety for Turbine manpower.

B. Steam Turbine Protection

- a. Main turbine over speed protection checking shall be done once in a month as per OEM Manual.
- b. ATT (Automatic Turbine Tester) checking shall be done once in a month as per OEM Manual.

C. Turbine Vibrations

Main Turbine Vibration readings shall be maintained as mentioned in the unit specific O&M Manual.

D. TG Foundation & Civil works

TG deck NDT test shall be carried out through only competent agency viz. CSIR-SERC.

E. Valves & NRVs

Valves required for smooth operation shall be checked after every major shutdown as mentioned in the unit specific O&M Manual.

F. Turbine lubricating oil & jacking oil system

- a. Hydro test of lube oil system carried out as mentioned in the unit specific O&M Manual.
- b. Oil pipe line shall be inspected daily as mentioned in the unit specific O&M Manual.

G. Turbine Bearings and Turning Gear

- a. Lubrication and maintenance of turbine bearings and turning gear done continuously as mentioned in the unit specific O&M Manual.

12. Safety Aspects of Balance of Plant

A. COAL HANDLING PLANT AND ASSOCIATED SUB-SYSTEM

a. Railway Siding & Track Hopper

- i. Signalling system of the track shall be kept in healthy condition and in auto mode.
- ii. While working at Wagon Tiplers Ultrasonic sensor, signalling system should be proper, Loco speed less than 5 km in tippler area, brake should be applied gently, all wagon doors should remain closed, decoupling and coupling should be done from outside handle. All limit switches shall be properly checked to keep in healthy condition.
- iii. Maintenance of wagons shall be carried out weekly as per maintenance schedule
- iv. Maintenance of locos carried out every 100 hrs of running as per maintenance schedule

b. Coal Yard and Stacker & Reclaimer

Water pressure shall be at least 3.5 kg/cm² in hydrant line at the farthest end.

B. ASH HANDLING PLANT AND ASSOCIATED SUB-SYSTEM

a. Bottom Ash System

Bottom Ash handling system, after burning grate, Slag bath, submerged conveyor, elevated conveyor, bin/ silo shall be properly maintained.

b. Ash Bund/ Dyke

Maintenance inspection of Ash Dyke shall be carried out every alternate day.

C. Fuel Oil Unloading System

Electrostatic charges accumulated in the Bowser Lorry during movements/ transportation has to be discharged by the drivers before unloading using a discharge rod to prevent Explosions.

D. D M Plant

External inspection of the acid and alkali storage tanks shall be done once in six months.

E. Cooling Tower

Cooling Tower concrete structure shall be inspected during annual maintenance by a designated Civil Engineers.

F. Compressor House

Receiver tanks shall be hydraulically tested periodically at least once in a year.

G. Transformers, Switchyard and Sub stations

Environment friendly Clean Agent System shall be provided in Control Rooms viz Main Control Room, CHP Control Room, Switchyard Control Room, Ash Handling Room.

H. Diesel Generator

DG system shall be checked daily.

I. Lift and Hoist

Testing of Lift and hoist shall be done every year by a competent person.

13. Electrical and control & instrumentation system and associated sub-system:

A. Electrical panels/ Relays/ interlocks/ Lights shall be maintained and inspected under regular maintenance programme in every shift.

B. Electrical panel rooms shall be segregated. Also, the Air Handling Unit (AHU) room shall be segregated from the remaining facilities. For ACs which involves circulation shall be provided with automatically closing damper to prevent the circulation of smoke in case of any fire. ”
