TECA:2023-24:CIR/33

July 6, 2023

**CIRCULAR**

To,

All Members

Sub: Measures relating to Safety and Electric Supply

Ref: CEA Notification dated 8th June 2023

Dear Members,

Please find below CEA Regulations 2023, Measures relating to Safety and Electric Supply. These regulations are regarding Electrical Inspectorate (CEIG).

HT Electrical Installations below 1000 kVA demand currently are using AB switches, which may require change to Circuit Breaker/ Vacuum Circuit Breakers (VCB) depending upon to the contracted load. According to this regulations all HT consumers irrespective of their demand need to install ‘Circuit Breakers’. Electrical installations may require to increase distance between pole & transformer, which is a major change in HT side and may require stoppage of supply for construction, curing and changeover.

Also members may note the changes in regulations and Salient Features of these CEA Regulations are New/ amendment in the following areas are:

3. Designated person to operate and carry out the work on electrical lines and apparatus.

4. Inspection of record of designated person.

5. Electrical Safety Officer.

6. Chartered Electrical Safety Engineer.

7. Safety measures for operation and maintenance of generating station.

8. Safety measures for operation and maintenance of transmission and distribution systems.

9. Training and Certification of personnel engaged for operation and maintenance at Load Despatch Centres.

10. Keeping of records and inspection thereof.

11. Deposit of maps

12. Deposit of printed copies.

13. Plan for area of supply to be made and kept open for inspection

14. General safety requirements pertaining to construction, installation, protection, operation and maintenance of electric supply lines and apparatus.

15. Service lines and apparatus on consumer’s premises.

16. Switchgear on consumer’s premises.

17. Identification of earthed and earthed neutral conductors and position of switches and switchgear therein.

18. Earthed terminal on consumer’s premises.

19. Accessibility to bare conductors

20. Danger Notices

21. Handling of electric supply lines and apparatus

22. Supply to vehicles and cranes

23. Cables for portable or transportable apparatus.

24. Cables protected by bituminous materials

25. Street boxes

26. Distinction of different circuits

27. Distinction of the installations having more than one feed

28. Accidental charging

29. Provisions applicable to protective equipment

30. Display of instructions for resuscitation of persons suffering from electric shock

31. Precautions to be adopted by consumers, owners, occupiers, electrical contractors, electrical workmen and suppliers

32. Periodic inspection and testing of installations

33. Testing of consumer’s installation

34. Generating units required to be inspected by Electrical Inspector

35. Precautions against leakage before connection

36. Leakage on consumer’s premises

37. Supply and use of electricity

38. Provisions for supply and use of electricity in multi-storeyed building more than fifteen metre in height

39. Conditions applicable to installations of voltage exceeding 250 Volts.

40. Appeal to Electrical Inspector in regard to defects

41. Precautions against failure of supply and notice of failures.

42. Test of insulation resistance.

43. Connection with earth

44. Residual Current Device

45. Approval by the Electrical Inspector and self-certification

46. Use of electricity at voltage exceeding 650 V.

47. Inter-locks and protection for use of electricity at voltage exceeding 650 V.

48. Testing, Operation and Maintenance

49. Precautions to be taken against excess leakage in case of metal sheathed electric supply lines

50. Connection with earth for apparatus exceeding 650 V.

51. General conditions for transformation and control of electricity

52. Pole type substations

53. Condensers

54. Supply to luminous tube sign installations of voltage exceeding 650 V but not exceeding 33 kV

55. Supply to electrode boilers of voltage exceeding 650 V but not exceeding 33 kV

56. Supply to X-ray and high frequency installations

57. Material and strength

58. Joints

59. Maximum stresses and factors of safety.

60. Clearance in air of the lowest conductor of overhead lines

61. Clearance between conductors and trolley wires

62. Clearance from buildings of lines of voltage and service lines not exceeding 650 V.

63. Clearances from buildings of lines of voltage exceeding 650 V

64. Conductors at different voltages on same supports

65. Erection or alteration of buildings, structures, flood banks and elevation of roads

66. Transporting and storing of material near electric lines.

67. General clearances

68. Routes in proximity to airport or aerodromes

69. Maximum interval between supports

70. Conditions to apply where telecommunication lines and power lines are carried on same supports

71. Lines crossing or approaching each other and lines Crossing Street and road

72. Guarding

73. Service lines from overhead lines

74. Earthing

75. Anti-climbing devices

76. Safety and protective devices

77. Protection against lightning

78. Unused overhead lines

79. Laying of cables

80. Protection against electromagnetic interference

82. Voltage of supply to vehicle

83. Insulation of lines

84. Insulation of returns

85. Proximity to metallic pipes

86. Difference of potential on return

87. Leakage on conduit system

88. Leakage on system other than conduit system

89. Passengers not to have access to electric circuit

90. Isolation of sections

91. Minimum size and strength of trolley wire

92. Height of trolley wire and length of span

93. Earthing of guard wires

94. Proximity to magnetic observatories and laboratories

95. Records

97. Responsibility for observance

98. Notices

99. Plans

100. Lighting, overhead lines, communication and fire precautions

101. Isolation and fixing of transformer and switchgear

102. Method of earthing

103. Protective equipment

104. Voltage limits

105. Transformers

106. Switchgear and terminals

107. Disconnection of supply

108. Cables.

109. Flexible cables

110. Portable and transportable mac

111. Sundry precautions

112. Precautions where gas exists.

113. Shot-firing

114. Signalling.

115. Haulage

116. Earthing of neutral points

117. Supervision.

118. Training of personnel engaged for operation and maintenance of electrical installations in mines and oilfields

119. Additional safety requirements for renewable generating stations.

120. Safety requirements for biomass and waste to energy installations.

121. Safety requirements for solar installations.

121 (4) Requirement to prevent fire for solar installations.

122. Safety requirements for wind energy installations

123. Additional safety requirements for electric vehicle charging station

124. General safety requirements for electric vehicle charging station

125. Earth protection system for the charging stations

126. Requirement to prevent fire for electric vehicle charging station

127. Testing of charging station.

128. Maintenance of records

129. Additional safety requirements for high voltage direct current.

130. General safety requirements

131. Fencing of filter banks

132. Earthing requirements

133. Additional safety requirements for gas insulated substation.

136. Deviations

**Under Schedule I**

* Handling of electric supply lines and apparatus
* Handling high voltage direct current apparatus for carrying out shutdown work or testing
* Handling Gas Insulated Switchgear (GIS) apparatus for carrying out shutdown work or testing

**Under Schedule II**

Forms of Inspection Report

Certificate

**Under Schedule III**

Form for obtaining test results by supplier at each supply point to consumer

**Under Schedule IV**

Form for notice in respect of failure of supply

**Under Schedule V**

Minimum safety working clearances where electricity at voltage exceeding 650 V is supplied, converted, transformed or used

**Under Schedule VI**

Minimum safety clearances to be maintained for bare conductors or live parts of any apparatus in outdoor HVDC substations, excluding overhead lines of HVDC installations

**Under Schedule VII**

Form for reporting failure of transformer & reactor of 220 kV and above voltage class

**Under Schedule VIII A**

Minimum clearance in air above ground and across road surface of Highways or roads or railway corridors or navigational or non-navigational rivers for lowest conductor of an alternating current overhead lines, including service lines of nominal voltage system.

**Under Schedule VIII B**

The minimum clearance in air above ground and across road surface of Highways, or Minimum clearance between conductor and Rail Level or navigational or non-navigational rivers for lowest conductor of high voltage direct current overhead line of nominal voltage system

**Under Schedule VIII C**

Ground, Vertical and Horizontal clearances

Members are requested to go through the Regulation thoroughly and send your suggestion if any to TECA through e-mail.

With Warm Regards

N. Pradeep

President

Encl: 1.       Soft Copy of CEA Regulations

          2.       VCB Distance

 