

Comparison of Indian Electricity Rules, 1956 Vs CEA (Measures relating to Safety and Electric Supply) Regulations, 2010

Rule	Subject	Regulation	Change/Comments
2	Definitions	2	Not seen the definition for Inspector. But with, - Qualifications, Powers and Functions of Chief Electrical Inspector and Electrical Inspectors Rules, 2006 - the "Inspector" is already defined as Chief Electrical Inspector or Electrical Inspector as the case may be.
3	Authorised person to look after the installation	3	❖ 3(2) A register is to be kept with the plant wherein the names of the designated persons and the purpose for which they are engaged. ❖ 3.3(1) The person engaged need to have certificate of competency or electrical work permit, issued by the appropriate Govt.
Nil		4	Register of the designated persons appointed under regulation (3) shall be checked by the Electrical Inspectors. If he find the qualification is not adequate, he can recommend to remove the person. <i>(But, the base of the qualification is not clear. It might be depending upon the nature of the plant, etc. which is followed at present.)</i>
5	Entry and Inspection	Nil	Nothing specified with new regulation. But with rule-7 of Qualifications, Powers and Functions of Chief Electrical Inspector and Electrical Inspectors Rules, 2006 it is already defined.
3(6)	Electrical Safety Officer	5	(a) Suppliers of Electricity (including generating, transmitting & distributing companies) & (b) Every factory registered under factory act, 1948 having connected load > 250kW shall appoint Electrical Safety Officers , who need to conduct periodical inspection of the installation, get them tested and keep record. These records are to be made available to the Electrical Inspector, if and when required.
Nil	Safety measures for operation & maintenance of electric plants	6	(New addition)
Nil	Safety measures for operation & maintenance of transmission & distribution systems	7	(New addition)
Nil	Keeping of reports & inspection there of	8	Electrical Inspector has to supply to the generating company or the licensee, a report format to record maps, plans & sections relating to supply or transmission of electricity. Electrical Inspector has to conduct random checking of such records.
21	Deposit of maps	9	No change
22	Deposit of printed copies	10	No reasonable change
Nil	Plan for area of supply to be made and kept for inspection	11	The map of the licensee shall be checked by Electrical Inspector as per regulation 11(1).
29	General safety requirements pertaining to construction, installation, protection, operation and maintenance of electric supply lines and apparatus	12	A sub-regulation 4(4) regarding the installation of the electrical equipment above MSL.
30	Service lines and apparatus on consumer's premises	13	No change
31	Switchgear on consumer's premises	14	The word cut-out is replaced with switch gear
32	Identification of earthed and earthed neutral conductors and position of switches and cut-outs therein	15	No change
33	Earthed terminal on consumer's premises	16	The word cut-out is replaced with switch gear in the definition of the 'point of commencement of supply of electricity'.
34	Accessibility of bare conductors:	17	Change is there with the sub-regulation (c) that the safety measures specified with relevant Indian Standards are to be considered.
35	Danger Notices	18	
36	Handling of electric supply lines and apparatus	19	Two sub-regulations (5) & (6) are seen added newly mentioning about earthing, painting & identification of the panels/switch gears.

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37	Supply to vehicles, cranes, etc.	20	No change
38	Cables for portable or transportable apparatus	21	No change
39	Cables protected by bituminous materials	22	No change
40	Street boxes	23	No change
41	Distinction of different circuits	24	No change
41A	A Distinction of the installations having more than one feed	25	No change
42	Accidental Charging	26	No change
43	Provisions applicable to protective equipment	27	No change
44	Instructions for restoration of persons suffering from electric shock	28	No change
44A	Intimation of Accidents	Nil	Section-161 of Electricity Act, 2003 & Intimation of Accidents (Form and Time of service of Notice) Rules, 2004
45	Precautions to be adopted by consumers, Owners, occupiers, electrical contractors, electrical workmen and suppliers	29	No change (every electrical works to be carried out by a licensed electrical contractor)
46	Periodical inspection and testing of installation-	30	❖ Sub-rules 2(a) & (b) regarding the steps to be taken for the non-remittance of inspection fee are seen removed. ❖ Sub-rule (3) fixing the responsibility of the consumer in maintaining the installation free of danger is seen deleted.
47	Testing of consumer's installation	31	To the existing content a point is stressed that the test report furnished by a consumer which is duly signed by a licensed electrical contractor could be accepted without further testing by the supplier.
47A	Installation and Testing of Generating Units	32	The capacity above which to be inspected by the Electrical Inspector before commissioning will be notified by the appropriate Govt. as per the provisions of sub-section (1) of 162 & clause (x) of subsection (2) of 176. (In short, the powers to be exercised and the functions to be performed by the Inspectors are yet to be notified by the State Government.)
48	Precautions against leakage before connection	33	No change
49	Leakage on consumer's premises	34	No change
50	Supply & use of electricity	35	Some minor changes. The word energy is replaced with electricity. New word 'inverted' added.
50A	Additional provisions for supply and use of energy in multi-storied building(more than 15 metres in height	36	With the following important additions. All the other sub-clauses remain unchanged. ❖ The connected load & voltage above which Electrical Inspector is to be inspected will be notified by the Appropriate Govt. ❖ The height of the emergency push button is now not more than 1.7m, but with IER, this limit was 2.75m.
51	Conditions applicable to installations of voltage exceeding 250V	37	No change
52	Appeal to Inspector in regard to defects	38	the sub-rule(3) to endorse with the certain notices is seen deleted.
53 54 & 55	Rule-53 regarding the cost of inspection & test, Rule-54 about the declared voltage & Rule-55 about the declared frequency are not seen defined with the CEA Safety Regulations, 2010.		
56 & 57	Rules 56 & 57 related with meters has seen removed, due to the exclusive regulations under CEA (Installation and Operation of meters) Regulations,2006.		

Rule	Subject	Regulation	Change/Comments
58	Point of commencement of supply	Nil	It is already defined through regulation-16
59	Precautions against failure of supply, Notice of failures	39	No change
60	Test for resistance of insulation	40	No change
61	Connection with earth	41	No change
61A	Earth leakage protective device	42	No change
62	Systems at medium voltage	Nil	Seen deleted
63	Approval by Electrical Inspector	43	<ul style="list-style-type: none"> ❖ the voltage above which Electrical Installations need to be inspected by the Electrical Inspector will be notified by the Appropriate Govt. ❖ With rule the period of recommencement of supply after an installation was disconnected, after which permission from Electrical Inspector is needed was one year. But, with the regulation this period is reduced to six months.
64	Use of energy at voltage exceeding 650V	44	<ul style="list-style-type: none"> ❖ As in the case of regulation-43 the period specified for recommencement of supply after disconnection is six months. ❖ The minimum safety working clearances which shall be maintained for the bare conductors or live parts of any apparatus in outdoor sub-stations excluding over head lines of installations of voltage exceeding 650V is explained with Schedule-VII of CEA Safety Regulations, 2010. ❖ The fire fighting system for transformers explained with sub-rule 2(f)(ii)(c) is now redesigned through sub-regulation 44(2)(ix) ❖ 44(2)(x)(f) – Use of Fire Retardant Low Smoke (FRLS) is newly added. ❖ 44(5) is explaining minimum safety working clearances which shall be maintained for the bare conductors or live parts of any apparatus in outdoor sub-stations excluding OH lines HVDC installations. The Schedule-VIII gives the clearance details. ❖ 44(6) - there shall not be tapping of another transmission line from the main line for 66kV and above class of lines.
64A	Interlocks and protection for use of electricity at voltage exceeding 650V	45	<ul style="list-style-type: none"> ❖ 45(2)(vii) – Busbar and LBB protection for 132kV and above. In IER, it is 220kV & above. ❖ 45(2)(viii) - for generating station & substations connected to the grid at 200kV & above, disturbance recorder need to be provided. ❖ 45(2)(ix) - Distance protection and carrier communication shall be provided for all lines connecting to 400/220kV substation.
65	Testing, Operation and Maintenance.	46	A major change is there that; the failures of transformers and reactors above 20MVA or MVAR need not be reported to the Electrical Inspector as mentioned with the repealing sub-rule 65(8)
66	Metal sheathed electric supply lines. Precautions against excess leakage.	47	Not any reasonable change.
67	Connection with earth for apparatus exceeding 650V.	48	Not any reasonable change.
68	General conditions as to transformation and control of energy	49	Not any reasonable change.
69	Pole type sub-stations	50	No change
70	Condensers	51	No change
71	Supply to tube sign installations of voltage exceeding 650volts but not exceeding 33kV	52	Only one change that the height of the emergency fire switch shall be 1.7m instead of 2.75m as in the case of regulation-36.
72	Additional provisions for supply to high voltage boilers	53	No change
73	Supply to X-ray & high frequency installations	54	No change
74	Material and strength	55	No change
75	Joints	56	Here a modification is that with in a span, only one joint can be permitted [56(1)], where as with rule it is 2.
76	Maximum stresses: Factors of safety	57	Not any reasonable change.
77	Clearance above ground of the lowest conductor	58	<ul style="list-style-type: none"> ❖ Sub-regulation-58(5) is added for HVDC Line clearances and ❖ Sub-regulation-58(6) gives a diagram with schedule-X for Ground clearances.

Rule	Subject	Regulation	Change/Comments
78	Clearance between conductors and trolley wires	59	No change
79	Clearance from buildings of lines of voltage and service lines not exceeding 650Volts	60	<ul style="list-style-type: none"> ❖ An important sub-regulation 60(1) added that an OH line shall not cross an existing building as far as possible and no building shall be constructed under an existing overhead line. ❖ The vertical and horizontal clearances are explained through a diagram under schedule-X through sub-regulation 60(5). (All the other clauses remain the same.)
80	Clearances from buildings of lines of voltage exceeding 650Volts	61	<ul style="list-style-type: none"> ❖ 61(1) - OH line shall not cross an existing building as far as possible and no building shall be constructed under an existing overhead line. ❖ 61(4)- for HVDC Line clearances. ❖ 61(5) - The vertical and horizontal clearances are explained through a diagram under schedule-X. (All the other clauses remain the same.)
81	Conductors at different voltages on same supports	62	Same content of the rule with an addition direction to comply with regulation-69.
82	Erection of or alteration to buildings, structures, flood banks and elevation of roads	63	63(7) – Time period to carry out the alteration extended to 2 months from one month.
82A	Transporting and Storing of material near overhead lines	64	<ul style="list-style-type: none"> ❖ 64(4)- No flammable material shall be stored under the electric supply line, ❖ 64(5)- No fire shall be allowed above underground cables, ❖ 64(6)- Firing of any material below electric lines shall be prohibited. (All the other clauses remain the same.)
83	Clearances: General	65	Totally new. <ul style="list-style-type: none"> ❖ 65(3) – No cutting of soil within 10 meters from the tower structures of 132kV and above is permitted without the permission of the owner of the structure. ❖ 65(4) Construction of air polluting units within 500m of lines of 220kV and above is prohibited.
84	Routes: Proximity to aerodromes	66	Not any reasonable change.
85	Maximum interval between supports	67	Not any reasonable change.
86	Conditions to apply where telecommunication lines and power lines are carried on same supports	68	Not any reasonable change.
87	Lines crossing or approaching each other	69	<ul style="list-style-type: none"> ❖ 69(iv) HVDC clearances ❖ 69(ii) Guarding is made mandatory for lines of voltage not exceeding 33kV when cross a road or street. (All the other clauses remain the same.)
88	Guarding	70	Not any reasonable change.
89	Service-lines from Overhead lines	71	No Change
90	Earthing	72	No Change
91	Safety and protective devices	73	73(1) – OH line shall be protected with earth guarding itself. In rule it is 'a device approved by Inspector'
92	Protection against lightning	74	With rule-92, it was directed to connect a vertical ground electrode to the junction of the earth mat. With regulation-74 connection to a separate vertical ground electrode or junction of the earth mat is enough.
93	Unused overhead lines-	75	The time limit for removal of the unused overhead line is enhanced to 30 days from 15 days.
Nil	Laying of cables	76	<ul style="list-style-type: none"> ❖ 76(1) – No underground power cable of voltage exceeding 33kV shall be laid without a minimum underground depth of 1.2m. ❖ 76(2) – No underground telecommunication cable shall be laid without a minimum separation distance of 0.6m to the underground power cable of voltage exceeding 33kV.
Nil	Protection against electromagnetic interference	77	The owner of every over head power line of voltage level 11kV or higher shall submit proposal for obtaining Power Telecommunication Co-ordination Committee clearance to ensure safety of the personnel and telecom equipment.
94	Additional rules for electric traction	78	If the voltage exceeds 650V permission from Electrical Inspector is required before commissioning.

Rule	Subject	Regulation	Change/Comments
95	Voltage of supply to vehicle	79	No Change
96	Insulation of lines	80	No Change
97	Insulation of returns	81	No Change
98	Proximity to metallic pipes, etc.	82	Two new clauses added with the existing clauses of the rule.
99	Difference of potential on return	83	No Change
100	Leakage on conduit system.	84	No Change
101	Leakage on system other than conduit system	85	No Change
102	Passengers not to have access to electric circuit	86	No Change
103	Current density In rails	Nil	Seen deleted
104	Isolation of sections.	87	No Change
105	Minimum size and strength of trolley-wire	88	No Change
106	Height of trolley-wire and length of span.	89	No Change
107	Earthing of guard wires.	90	No Change
107A	Proximity to magnetic observatories and laboratories	91	No Change
108	Records	92	No Change
109 to 116	Safety requirements of mines & oil fields	93 to 100	No Change
Nil	Earthing metal	101	Newly added
118	Voltage limits	102	No Change
119	Transformers	103	No Change
120	Switch gear & terminals	104	No change
121	Disconnection of supply	105	No change
122	Cables	106	No change
123	Flexible cables	107	No change
124	Portable and transportable machines	108	No change
125	Sundry precautions	109	No change
126	Precautions where gas exists.	110	No change
127	Short firing	111	No change
128	Signalling	112	No change
129	Haulage	113	No change
130	Earthing of neutral points	114	No change
131	Supervision	115	No change
132	Exemptions	Nil	Seen deleted
133	Deviations	116	(1) The Central Government or State Government, as the case may be, by order in writing, allow deviations in respect of matters referred in these regulations except regulation 30. (2) The Electrical Inspector or the inspector of mines may, by order in writing, allow deviations in respect of matters referred in regulations 12 to 17, 28, 35(2)(3)and(5), 36(3), 37(i)to(iv), 41(xii), 43, 44(2), 46, 52 to 54, 57 to 61, 65, 72, 74, 78 to 91, 102, 107(6), (8) and (10) and 114. <i>Explanation:-</i> Every order allowing the deviations by the Electrical Inspector or the Inspector of Mines under sub-regulation (2) shall be placed before the Central or State Government which may disallow or revise such deviations.