MAHAVITARAN
Maharashtra State Electricity Distribution Co. Ltd.

(A Govt. of Maharashtra Undertaking)
CIN: U40109MH2005SGC153645

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CE/Testing/Insp & Testing /Reg.30-43/ 22974 **Date: 19/08/2019**

CIRCULAR

Sub : Inspection and testing of electrical installations upto notified voltage as per Reg.30 & Reg. 43 of CEA (Measures relating to Safety and Electric Supply) Regulations 2010, amended on 2015 and amended on 2018.

In exercise of the powers conferred by section 177 of the Electricity Act, 2003 (36 of 2003), the Central Electricity Authority has issued the regulations for Measures relating to Safety and Electric Supply regulations 2010 amended on 2015 & amended on 1st Mar 2018. In this connection, now GoM vide GR dt. 19.07.2019 has declared 11kV as a notified voltage in the state of Maharashtra.

As per Reg. 30(2) the periodical inspection and testing of installation of voltage equal to or below the notified voltage(i.e. up to & below11kV) and as per Reg. 43(1) (a) Every electrical installation of notified voltage and below(i.e. up to & below 11kV) shall be inspected, tested and self-certified by the owner or supplier or consumer, as the case may be, before commencement of supply or recommencement after shutdown for six months and above for ensuring observance of safety measures specified under these regulations and such owner or supplier or consumer, as the case may be, shall submit the report of self-certification to the Electrical Inspector in the formats(Form I (upto 250V), Form II (above 250V to 650V) & Form III(above 650V)) as framed and issued by the Authority. Above notified voltage (11kV) every installation shall be inspected and tested by Electrical Inspector for the purpose of said regulations.

In this regard it is to inform that the Board of Directors have accorded approval as follows:-

1) For the purpose of inspection & testing and self certification under regulation 30(Periodical Inspection- atleast once in five year) the designated Self-certifying officers for ensuring observance of safety measures specified under said CEA Safety regulations(amended up to date) shall be as follows:-

INSPECTION & TESTING OF	SELF-CERTIFYING OFFICER
LT Lines	Section Engineer
DTC & 11kV Lines	Sub-Divisional Officer (O&M)
Substations - 11kV part	Additional Executive Engineer (Maintenance)

2) For the purpose of inspection & testing and self certification under regulation 43 (Every Electrical Installation-before commencement of Supply & recommencement after shutdown for six months and above) the designated Self-certifying officers for ensuring observance of safety measures specified under these regulations(up to date) shall be as follows:-

INSPECTION & TESTNG OF	SELF-CERTIFYING OFFICER
LT Lines	Section Engineer
DTC & 11kV Lines	Additional Executive Engineer (Maintenance)
Substations - 11kV part	Executive Engineer (Testing)

3) Further, concerned Executive Engineer (O&M) shall check at least 5% of installations of LT Lines and DTCs for which, self certification has been done by concerned self certifying officer.

4) Moreover, concerned Superintending Engineer (O&M) shall check at least 5% of 11 kV installations for which, self certification has been done by concerned self certifying officer.

5) The inspection and testing procedure in the matter is attached herewith.

This is for your information and immediate implementation please.

Encl: Procedure & forms

(Dr. Manish Wath)
Chief Engineer (Testing)

<u>Procedure</u> to be followed for inspection and testing and Self Certification of Electrical Installation of Notified Voltage up to and below 11 KV as per CEA(Measures relating to Safety and Electric Supply) regulation 2010 amended on 2015 & amended on 2018 under <u>Regulation 30.</u>

<u>For Periodical Inspection (Regulation 30- atleast once in a five year)</u>:

A) LT Lines -The Designated Self Certifying Officer for LT line is **Section Engineer.**

1) The Section Engineer will visit the site. Check the work of existing LT line as per MSEDCL's Standard construction practices and as per time to time directives/circulars issued by higher offices about construction of LT lines.
2) He should check Line to line clearance, across and above ground clearance, and clearance from nearby house/building.
3) The safety measure like Earthing, use of stay insulator, guarding etc should be invariably checked.
4) If irregularity/abnormality found in LT Line Construction works, get it rectified and accordingly charge the LT line.
5) Section Engineer will prepare the report as per Form-I/II as the case may be (Formats enclosed), and send the copies along with the certificate to the Electrical Inspector, MSEDCL Sub-divisional officer and Executive Engineer.
6) If the Electrical Inspector is not satisfied with the compliance report, shall inspect the electrical installation within a period of one year (for reg-30) from the date of submission of self-certification report and intimate the Section Engineer the defects, if any, for rectification within fifteen days.
7) The Section Engineer will rectify/clear the discrepancies if any and re-submit the report to the Electrical Inspector.
8) The copies of each report should also be submitted to the SDO, Executive Engineer (O&M) of concerned division.
9) Concerned Executive Engineer shall check at least 5% of installations of LT Lines for which, self certification has been done by concerned self certifying officer.

B) DTC & 11 kV Lines -The Designated Self Certifying Officer for DTC & 11 kV Lines is **Sub-Divisional Officer.**

1) The Sub-Divisional Officer will visit the site. Check the work of existing DTC & 11 kV Lines as per MSEDCL's Standard construction practices and as per time to time directives/circulars issued by higher offices about construction of DTC & 11 kV Lines.
2) He should check Line to line clearance, across and above ground clearance, and clearance from nearby house/building.
3) The safety measure like Earthing, use of stay insulator, guarding etc should be invariably checked.
4) If irregularity/abnormality found in DTC & 11 kV Lines, get it rectified and accordingly charge the DTC & 11 kV Lines.
5) Sub-Divisional Officer will prepare the report as per Form-III (Format enclosed), and send the copies along with the certificate to the Electrical Inspector and Executive Engineer.
6) If the Electrical Inspector is not satisfied with the compliance report, shall inspect the electrical installation within a period of one year (for reg-30) from the date of submission of self-certification report and intimate the Sub-Divisional Officer the defects, if any, for rectification within fifteen days.

7) The Sub-Divisional Officer will rectify/clear the discrepancies if any and re-submit the report to the Electrical Inspector.
8) The copies of each report should also be submitted to the Executive Engineer (O&M) of concerned division and Superintending Engineer of concerned Circle.
9) Concerned Executive Engineer shall check at least 5% of installations of DTCs for which, self certification has been done by concerned self certifying officer.
10) Concerned Superintending Engineer shall check at least 5% of 11 kV installations for which, self certification has been done by concerned self certifying officer

C) Substation-11kV part -The Designated Self Certifying Officer for Substation-11kV part is **Additional Executive Engineer(Maintenance)**

1) Additional Executive Engineer (Maintenance) will visit the site. Check the work of existing Substation-11kV part as per MSEDCL's Standard construction practices and as per time to time directives/circulars issued by higher offices about construction of Substation-11kV part.
2) He should check Line to line clearance, across and above ground clearance.
3) The safety measure like Earthing should be invariably checked.
4) If irregularity/abnormality found in Substation-11kV part, get it rectified and accordingly charge the Substation-11kV part.
5) Additional Executive Engineer (Maintenance) will prepare the report as per Form-III(Format enclosed), and send the copies along-with the certificate to the Electrical Inspector and Executive Engineer.
6) If the Electrical Inspector is not satisfied with the compliance report, shall inspect the electrical installation within a period of one year (for reg-30) from the date of submission of self-certification report and intimate the Additional Executive Engineer (Maintenance) the defects, if any, for rectification within fifteen days.
7) The Additional Executive Engineer (Maintenance) will rectify/clear the discrepancies if any and re-submit the report to the Electrical Inspector.
8) The copies of each report should also be submitted to the Executive Engineer (O&M) of concerned division and Superintending Engineer of concerned Circle.
9) Concerned Superintending Engineer shall check at least 5% of 11 kV installations for which, self certification has been done by concerned self certifying officer.

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<u>Procedure</u> for Inspection and Testing of Every Installation as per <u>Regulation 43</u>- (i.e Every Electrical Installation-before commencement of Supply (New Installation) or recommencement after shutdown for six months and above):

A) LT Lines -The Designated Self Certifying Officer for LT line is **Section Engineer**.

1) After completion of erection of LT Line (Single phase and Three phase) under any scheme concerned agency/contractor will give intimation in writing to Section Engineer for charging the line.
2) The Section Engineer will visit the site within two days after intimation from the agency. Check the work of newly erected LT line as per MSEDCL's Standard construction practices and as per time to time directives/circulars issued by higher offices about construction of LT lines.
3) He should check Line to line clearance, across and above ground clearance, and clearance from nearby house/building as per CEA safety Regulations 2010(amended up to date).
4) The safety measure like Earthing, use of stay insulator, guarding etc should be invariably checked.
5) If irregularity/abnormality found in LT Line Construction works should be conveyed in writing (by email/ register post/ Electronic Media) to concerned agency/contractor on same day of inspection. The same is brought to the notice of SDO and Executive Engineer.
6) Agency should rectify irregularity/abnormality conveyed to him by the Section Engineer within 3 days and again submit the compliance to Section Engineer.
7) Section Engineer will visit immediately to the said location and inspect the rectified work.
8) After satisfactory report i.e as per MSEDCL's Standard construction practices, Section Engineer will charge / commission the LT line.
9) Section Engineer will prepare the report as per Form-I/II as the case may be (Format enclosed), and send the copies along with the certificate to the Electrical Inspector, MSEDCL Sub-divisional officer and Executive Engineer.
10) If the Electrical Inspector is not satisfied with the compliance report, shall inspect the electrical installation within a period of ninety days (for reg-43) from the date of submission of self-certification report and intimate the Section Engineer the defects, if any, for rectification within fifteen days.
11) The Section Engineer will get rectify/clear the discrepancies if any and re-submit the report to the Electrical Inspector.
12) The copies of each report should also be submitted to the SDO, Executive Engineer(O&M) of concerned division.
13) Concerned Executive Engineer shall check at least 5% of installations of LT Lines for which, self certification has been done by concerned self certifying officer.

B) DTC & 11 kV Lines -The Designated Self Certifying Officer for DTC & 11 kV Lines is **Additional Executive Engineer (Maintenance).**

1) The Additional Executive Engineer (Maintenance) will visit the site within two days after intimation from the agency. Check the work of existing DTC & 11 kV Lines as per MSEDCL's Standard construction practices and as per time to time directives/circulars issued by higher offices about construction of DTC & 11 kV Lines.
2) He should check Line to line clearance, across and above ground clearance, and clearance from nearby house/building.

3) The safety measure like Earthing, use of stay insulator, guarding etc should be invariably checked.
4) If irregularity/abnormality found in DTC & 11 kV Lines Construction works should be conveyed in writing (by email/ register post/ Electronic Media) to concerned agency/contractor on same day of inspection and get it rectified.
5) After satisfactory report i.e as per MSEDCL's Standard construction practices, Additional Executive Engineer (Maintenance) will charge the DTC & 11 kV Lines
6) Additional Executive Engineer (Maintenance) will prepare the report as per Form-III(Format enclosed), and send the copies along with the certificate to the Electrical Inspector and Executive Engineer.
7) If the Electrical Inspector is not satisfied with the compliance report, shall inspect the electrical installation within a period of ninety days (for reg-43) from the date of submission of self-certification report and intimate the Additional Executive Engineer (Maintenance) the defects, if any, for rectification within fifteen days.
8) The Additional Executive Engineer (Maintenance) will get rectify/clear the discrepancies if any and re-submit the report to the Electrical Inspector.
9) The copies of each report should also be submitted to the Executive Engineer (O&M) of concerned division and Superintending Engineer of concerned Circle.
10) Concerned Executive Engineer shall check at least 5% of installations of DTCs for which, self certification has been done by concerned self certifying officer.
11) Concerned Superintending Engineer shall check at least 5% of 11 kV installations for which, self certification has been done by concerned self certifying officer

C) Substation-11kV part -The Designated Self Certifying Officer for Substation-11kV part is **Executive Engineer(Testing)**

1) Executive Engineer (Testing) will visit the site within two days after intimation from the agency. Check the new work of Substation-11kV part as per MSEDCL's Standard construction practices and as per time to time directives/circulars issued by higher offices about construction of Substation-11kV part (New).
2) He should check Line to line clearance, across and above ground clearance.
3) The safety measure like Earthing should be invariably checked.
4) If irregularity/abnormality found in Substation-11kV part Construction works should be conveyed in writing (by email/ register post/ Electronic Media) to concerned agency/contractor on same day of inspection and get it rectified.
5) After satisfactory report i.e as per MSEDCL's Standard construction practices, Executive Engineer (Testing) will charge the Substation-11kV part.
6) Executive Engineer (Testing) will prepare the report as per Form-III(Format enclosed), and send the copies along-with the certificate to the Electrical Inspector and Executive Engineer.
7) If the Electrical Inspector is not satisfied with the compliance report, shall inspect the electrical installation within a period of ninety days (for reg-43) from the date of submission of self-certification report and intimate the Executive Engineer (Testing)the defects, if any, for rectification within fifteen days.
8) The Executive Engineer (Testing) will get rectify/clear the discrepancies if any and re-submit the report to the Electrical Inspector.
9) The copies of each report should also be submitted to the Executive Engineer (O&M) of concerned division and Superintending Engineer of concerned Circle.
10) Concerned Superintending Engineer shall check at least 5% of 11 kV installations for which, self certification has been done by concerned self certifying officer.

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Schedule-IV

Forms for Inspection Report / Self Certification under Regulation 30 / 43

FORM I

(Installations of voltage up to and including 250V)

Report No. _____

Date of Inspection by Electrical Inspector

or self-certification by supplier/owner/Chartered Electrical Safety Engineer _____

Date of Last inspection or self certification _____

1. Consumer No. _____
2. Voltage and system of supply:
   - (i) Volts _____
   - (ii) No. of Phases _____
   - (iii) AC/DC _____
3. Type of wiring
4. Name of the consumer or owner _____
5. Address of the consumer or owner _____
6. Location of the premises _____
7. Particulars of the installations: _____

			Number	Connected Load in KW
(a)	(i)	Light Points	_____	_____
	(ii)	Fan Points	_____	_____
	(iii)	Plug Points	_____	_____

State type of wiring whether casing capping, lead covered of teak wood batten, concealed conduit, Tough Rubber Sheathed and any other type.

(b) Other equipments (complete details to be furnished):

(i) _____

(ii) _____

Total connected load in KW _____

Maximum current demand in Amps _____

(on the basis of total connected load)

(c) Generators details i.e. Make, S. No, KVA rating and Voltage:

(i) _____

(ii) _____

General conditions of the installation:

Sl. No.	Regulation Nos.	Requirements	Report
8.	Regulation-12	(i) Is/Are there any visible sign(s) of overloading in respect of any apparatus wiring? (ii) Condition of flexible cords, sockets, switches, plug-pins, cut-outs and lamp holders and such other fittings. (iii) General condition of wiring. (iv) Whether any unauthorised temporary installation exist? (v) State if sockets are controlled by individual switches. (vi) Whether separate boards / conduits have been provided for power supply and communication purpose? (vii) Any other defect or condition which may be a source of danger. If yes give details.	Yes/No Satisfactory/Not Satisfactory Satisfactory/Not Satisfactory Yes/No Yes/No Yes/No Yes/No
9.	Regulation-13	Give report on condition of service lines, cables, wires, apparatus and such other fittings placed by the supplier or owner of the premises. If not satisfactory give details.	Satisfactory/Not Satisfactory
10.	Regulation-14	Whether suitable cut-outs / MCBs provided by the supplier at the consumer's premises are within enclosed fire proof / resistant receptacle?	Yes/No
11.	Regulation-15	(i) State if switches are provided on live conductors. (ii) State if indication of a permanent nature is provided as per Regulation so as to distinguish neutral conductor from the live conductor as per IS color code? (iii) Whether a direct line is provided on the neutral in the case of single phase double pole iron clad switches/Isolators/MCBs instead of fuse ?	Yes/No Yes/No Yes/No
12.	Regulation-16	(i) State if earthed terminal is provided by the supplier. (ii) Have three pin plugs been provided for plug points ? (iii) General visible condition of the earthing arrangement. (iv) Whether Green wire is provided at switchboard for earthing?	Yes/No Yes/No Satisfactory/Not Satisfactory Yes/No

13.	Regulation-17	Are the live parts in accessible position?	Yes/No
14.	Regulation-34	Leakage on premises: State insulation resistance between conductors and earth in Mega Ohms.	 ----- M Ohms
15.	Regulation-35	(i) State if linked switches of requisite capacity are provided near the point of commencement of supply. (ii) State if the wiring is divided in suitable number of circuits and each such circuit is protected by suitable cut-out / MCBs. a). No. of Power Circuits b). No. of Lighting Circuits (iii) State if supply to each motor or apparatus is controlled by suitable linked switch.	Yes/No Yes/No -----Nos. -----Nos. Yes/No
16.	Regulation-41	(i) Have the frames of every generator, stationary motor and so far as practicable portable motor and the metallic parts (not intended as conductors) of all other apparatus used for regulating or controlling electricity been earthed by two separate and distinct connections with earth ? (ii) Is the earth wire free from mechanical damage ? (iii) In the case of conduit, or lead covered wiring, has the conduit or lead-cover been efficiently earthed ? (iv) If the consumer has his own earth-electrode, state if it is properly executed and has been tested. If yes give value of earth resistance.	Yes/No Yes/No Yes/No ------- Ohms.
17.	Overhead Lines	(i) State if the consumer has any overhead lines. (ii) Does the overhead line near the premises of consumer meets the requirement of regulation 58, 60 and 61? If not, give details. (iii) Is guarding provided for overhead lines at road crossings? (iv) Any other remarks.	Yes/No Yes/No Yes/No
18.	Regulation 42	Whether earth leakage protective device (ELCB/RCCB) of appropriate capacity as defined in Regulation have been provided in each circuit?	Yes/No

Date :

Signature of the Inspecting Officer

Name _____

Designation _____

File No. _____

(For Self Certification by Owner or Supplier or Chartered Electrical Safety Engineer)

CERTIFICATE

(Under Regulation 30 / Regulation 43 of CEA (Measures relating to Safety & Electricity Supply) Regulation,2010)

This is to certify that the electrical installation has been completed in all respects and the work has been carried out conforming to the CEA (Measures relating to Safety & Electricity Supply) Regulation,2010 and relevant Standards of IS/NEC/IEC. The site tests done are found to be in order and it is electrically safe to operate the apparatus free from any danger.

Encl: Test reports

(Signature)

Self certifying supplier or owner

Name _____

(Signature)

Chartered Electrical Safety Engineer

Name _____

File No. _____

To Chief Electrical Inspector / Electrical Inspector for ……...

***** Not applicable to isolated wall tubes or to brackets, electroliers, switches, ceiling fans and such other fittings (other than portable hand lamps and transportable apparatus) unless provided with earth terminal.

FORM II

(Installations of voltage level more than 250V up to and including 650V)

Report No. _____

Date of Inspection by Electrical Inspector

or self-certification by supplier/owner/Chartered Electrical Safety Engineer _____

Date of Last inspection or self certification _____

1. Consumer No. _____
2. Voltage and system of supply:

(i) Volts _____(ii) No. of Phases _____ (iii) AC/DC _____

3. Name of the consumer or owner _____
4. Address of the consumer or owner _____
5. Location of the premises _____
6. Particulars of the installations

(a) Motors:

Make	No.	H.P.	Amps.	Voltage

(i)_____

(ii)_____

(b) Other equipment (complete details to be furnished):

(i)_____

(ii)_____

Total connected load h.p./KVA

_____

(c) Generators details i.e. Make, S. No, KVA rating and Voltage:

(i) _____

(ii) _____

General condition of the installation:

Sl. No.	Regulation Nos.	Requirements	Report
7.	Regulation-3	Is the register of designated persons properly made and kept up to date duly attested ?	Yes/No
8.	Regulation-12	(i) Is/Are there any visible sign(s) of overloading in respect of any apparatus wiring? (ii) Whether any unauthorised temporary installation exist?. (iii) Are the electric supply lines and apparatus so installed, protected, worked and maintained as to prevent danger ? (iv) Any other general remarks.	Yes/No Yes/No Yes/No
9.	Regulation-13	Give report on condition of service lines, cables, wires, apparatus and such other fittings	Satisfactory/Not Satisfactory

		placed by the supplier or owner of the premises. If not satisfactory give details.	
10.	Regulation-14	Whether suitable cut-outs/MCBs provided by the supplier at the consumer's premises are within enclosed fire proof/resistant receptacle?	Yes/No
11.	Regulation-15	(i) Whether switches are provided on live conductors?. (ii) Whether indication of a permanent nature is provided as per Regulation so as to distinguish neutral conductor from the live conductor as per IS color code? (iii) Whether a direct line is provided on the neutral in the case of single phase double pole iron clad switches/Isolators/MCBs instead of fuse ?	Yes/No Yes/No Yes/No
12.	Regulation-16	(i) Whether earthed terminal is provided by the supplier? (ii) General visible condition of the earthing arrangement.	Yes/No Satisfactory/Not Satisfactory
13.	Regulation-17	(i) Are bare conductors in building inaccessible? (ii) Whether readily accessible switches have been provided for rendering them dead ?	Yes/No Yes/No
14.	Regulation-18	Whether "Danger Notice" in Hindi and the local language of the district and of a design as per relevant Indian Standard is affixed permanently in conspicuous position?.	Yes/No
15.	Regulation-19	(i) Whether insulating floor or mats conforming to IS-15652:2006 have been provided? (ii) Whether identification of panel has been provided on the front and the rear of the panel?	Yes/No Yes/No
16.	Regulation-21	Whether flexible cables used for portable or transportable equipment covered under the Regulation, are heavily insulated and adequately protected from mechanical injury?.	Yes/No
17.	Regulation-22	State the condition of metallic coverings provided for various conductors.	Satisfactory/Not Satisfactory
18.	Regulation-24	Whether the circuits or apparatus intended for operating at different voltage(s) are distinguishable by means of indication(s) of permanent nature?.	Yes/No
19.	Regulation-26	Whether all circuits and apparatus are so arranged that there is no danger of any part(s) becoming accidentally charged to any voltage beyond the limits of voltage for which it/they is/are intended ?	Yes/No

20.	Regulation-27	(i) In the case of generating stations, whether fire-buckets filled with clean dry sand have been conspicuously marked and kept in convenient situations in addition to fire-extinguishers as per IS 3034 suitable for dealing with minor electric fires ? (ii) Whether First Aid Boxes or cupboards conspicuously marked and properly equipped are provided and maintained?. (iii) Is adequate staff trained in First Aid Treatment and fire fighting?	Yes/No Yes/No Yes/No
21.	Regulation-28	(i) Whether instructions in English or Hindi and the local language of the district and where Hindi is the local language, in English and Hindi, for the resuscitation of persons suffering from electric shock have been affixed in a "conspicuous place" ?. (ii) Are the designated persons able to apply instructions for resuscitation of persons suffering from electric shock ?	Yes/No Yes/No
22.	Regulation-34	Leakage on premises: State insulation resistance between conductors and earth in Mega Ohms.	 ----- M Ohms
23.	Regulation-35	(i) Whether a suitable linked switch, or circuit breaker is placed near the point of commencement of supply so as to be readily accessible and capable of being easily operated to completely isolate the supply ? (ii) Whether every distinct circuit is protected against excess electricity by means of a suitable circuit breaker or cut-out ? (iii) Whether suitable linked switch or circuit breaker is provided near each motor or apparatus for controlling supply to the motor or apparatus?. (iv) Whether adequate precautions are taken to ensure that no live parts are so exposed as to cause danger?	Yes/No Yes/No Yes/No Yes/No
24.	Regulation-37	(i) Whether clear space of 100 cm is provided in front of the main switchboard? (ii) Whether the space behind the switchboard exceeds 75 cm in width or is less than 20 cm? (iii) In case the clear space behind the switchboard exceeds 75 cm. state whether a passage way from either end of the switchboard to a height of 1.80 metres is provided.	Yes/No Yes/No Yes/No

25.	Regulation-41	(i) Has the neutral point at the transformer and generator been earthed by two separate and distinct connections with earth? (ii) Have the frame of every generator, stationary motor and so far as practicable portable motor and the metallic parts (not intended as conductors) of all transformers and any other apparatus used for regulating or controlling electricity and all apparatus consuming electricity at voltage exceeding 250V but not exceeding 650V been earthed by two separate and distinct connections with earth ? (iii) Have the metal casings or metallic coverings containing or protecting any electric supply line or apparatus been properly earthed and so joined and connected across all junction boxes as to make good mechanical and electrical connection? (iv) Whether the consumer's earth-electrode is properly executed and has been tested. If yes, give value of earth resistance? (v) Is the earth wire free from any mechanical damage ? (vi) Whether record of earth resistance value maintained?	Yes/No Yes/No Yes/No Yes/No ------- Ohms. Yes/No Yes/No
26.	Regulation 42	Whether earth leakage protective device (ELCB/RCCB) of appropriate capacity as defined in Regulation have been provided in each circuit?	Yes/No
27.	Regulation-45	Have the protections and interlocks for the generating units been provided. If not, give details?	Yes/No
	Overhead Lines	(i) State if the consumer has any overhead lines. (ii) Does the overhead line near the premises of consumer meets the requirement of regulations 58, 60 and 61? If not, give details. (iii) Is guarding provided for overhead lines at road crossings? (iv) Any other remarks.	Yes/No Yes/No Yes/No

Date :

Signature of the Inspecting Officer

Name _____

Designation _____

File No. _____

(For Self Certification by Owner or Supplier or Chartered Electrical Safety Engineer)

CERTIFICATE

(Under Regulation 30 / Regulation 43 of CEA (Measures relating to Safety & Electricity Supply) Regulation,2010)

This is to certify that the electrical installation has been completed in all respects and the work has been carried out conforming to the CEA (Measures relating to Safety & Electricity Supply) Regulation,2010 and relevant Standards of IS/NEC/IEC. The site tests done are found to be in order and it is electrically safe to operate the apparatus free from any danger.

Encl: Test reports

(Signature)

Self certifying supplier or owner

Name _____

(Signature)

Chartered Electrical Safety Engineer

Name _____

File No. _____

FORM III

(Installations of voltage exceeding 650V)

Report No. _____

Date of Inspection by Electrical Inspector

or self-certification by supplier/owner/Chartered Electrical Safety Engineer _____

Date of Last inspection or self certification _____

1. Consumer No. _____
2. Voltage and system of supply:

(ii) Volts _____(ii) No. of Phases _____ (iii) AC/DC _____

3. Name of the consumer or owner _____
4. Address of the consumer or owner _____
5. Location of the premises _____
6. Particulars of the installations

(a) Transformer: (complete detail to be enclosed)

Make	S. No.	K.V.A. rating	Voltage

(i)_____

(ii)_____

(b) Generators details i.e. Make, S. No, KVA rating and Voltage:

(i) _____

(ii) _____

(c) List of equipment (complete details of HT /LT switchgears to be furnished):

(i)_____

(ii)_____

(c) Total connected load KVA _____

Complete list of connected load to be furnished:

Sl. No.	Regulation Nos	Requirements	Report
1.	Regulation-3	(i) Is the register of the designated persons properly made and kept up to date duly attested? (ii) Whether Electrical Safety Officer as required under the Regulation is designated?	Yes/No Yes/No
2.	Regulation-12	(i) Is/Are there any visible sign(s) of overloading in respect of any apparatus? (ii) Whether any unauthorised temporary installation exist? (iii) Whether the motors and controlling equipment are being over hauled	Yes/No Yes/No Yes/No

		periodically and record kept of the same in a register?	
		(iv) Whether the transformer oil samples are being tested periodically and results recorded in a register? State value of dielectric strength of oil.	Yes/No ----kV/mm
		(v) Whether suitable lightning arrestors have been provided near the transformers for protection against lightning?	Yes/No
		(vi) Whether earth resistance is being measured periodically in dry and wet season and results recorded in a register? Copy of record to be enclosed.	Yes/No
		(vii) Any other defect or condition which may be a source of danger. If Yes please explain?	Yes/No
		(viii) Whether operation and maintenance data has been clarified, categorized and computerized for prompt and easy retrieval?	Yes/No
		(ix) Whether predictive maintenance is being performed for installation of voltage exceeding 650V?	Yes/No
		(x) Whether residual life assessment and life extension programmes are being undertaken for installations or equipment of voltage exceeding 650V (applicable for installations or equipment more than 15 years old)?	Yes/No
		(xi) Whether all required type and routine tests at factory done for equipments. Deficiencies and Discrepancies in above test report and results, if any, shall be reported?	Yes/No
		(xii) Are there deficiencies in construction with reference to Indian Standard requirements. Please specify.	Yes/No
3.	Regulation-13	Give report on condition of service lines, cables, wires, apparatus and such other fittings placed by the supplier or owner of the premises. If not satisfactory give details.	Satisfactory/Not Satisfactory
4.	Regulation-14	Whether suitable cut-outs/MCBs provided by the supplier at the consumer's premises are within enclosed fire proof/resistant receptacle?	Yes/No
5.	Regulation-15	(i) Whether switches are provided on live conductors?.	Yes/No
		(ii) Whether indication of a permanent nature is provided as per Regulation so as to distinguish neutral conductor from the live conductor as per IS color code?	Yes/No

		(iii) Whether a direct line is provided on the neutral in the case of single phase double pole iron clad switches/Isolators/MCBs instead of fuse ?	Yes/No
6.	Regulation-16	(i) Whether earthed terminal is provided by the supplier? (ii) General visible condition of the earthing arrangement.	Yes/No Satisfactory/Not Satisfactory
7.	Regulation-17	(i) Are bare conductors in building inaccessible? (ii) Whether readily accessible switches have been provided for rendering them dead?	Yes/No Yes/No
8.	Regulation-18	. Whether "Danger Notice" in Hindi and the local language of the district and of a design as per relevant Indian Standard is affixed permanently in conspicuous position?.	Yes/No
9.	Regulation-19	(i) Whether the practice of working on live lines and apparatus is adopted ? If so, have the safety measure been adopted as per Schedule-III ? (ii) Whether insulating floor or mats conforming to IS-15652:2006 have been provided? 14. (iii) Whether identification of panel has been provided on the front and the rear of the panel?	Yes/No Yes/No Yes/No
10.	Regulation-21	Whether flexible cables used for portable or transportable equipment covered under the Regulation, are heavily insulated and adequately protected from mechanical injury?.	Yes/No
11.	Regulation-22	State the condition of metallic coverings provided for various conductors.	Satisfactory/Not Satisfactory
12.	Regulation-24	Whether the circuits or apparatus intended for operating at different voltage(s) are distinguishable by means of indication(s) of permanent nature?.	Yes/No
13.	Regulation-26	Whether all circuits and apparatus are so arranged that there is no danger of any part(s) becoming accidentally charged to any voltage beyond the limits of voltage for which it/they is/are intended ?	Yes/No
14.	Regulation-27	(i) In the case of generating stations and enclosed sub stations, whether fire-buckets filled with clean dry sand have been conspicuously marked and kept in convenient situations in addition to fire-extinguishers as per IS 3034 suitable for	Yes/No

		dealing with minor electric fires ? (ii) Whether First Aid Boxes or cupboards conspicuously marked and properly equipped are provided and maintained?. (iii) Is adequate staff trained in First Aid Treatment and fire fighting?	 Yes/No Yes/No
15.	Regulation-28	(i) Whether instructions in English or Hindi and the local language of the district and where Hindi is the local language, in English and Hindi, for the resuscitation of persons suffering from electric shock have been affixed in a "conspicuous place" ?. (ii) Are the designated persons able to apply instructions for resuscitation of persons suffering from electric shock ?	Yes/No Yes/No
16.	Regulation-34	Leakage on premises: State insulation resistance between conductors and earth in Mega Ohms.	 ----- M Ohms
17.	Regulation-35	(i) Whether a suitable linked switch, or circuit breaker, or emergency tripping device is placed near the point of commencement of supply so as to be readily accessible and capable of being easily operated to completely isolate the supply? (ii) Whether suitable linked switch or a circuit breaker to carry and break the full load current on the secondary side of a transformer? (iii) Whether every distinct circuit is protected against excess electricity by means of a suitable circuit breaker or cut-out? (iv) Whether linked switch or circuit breaker or emergency tripping device is provided near the motor or other apparatus at voltage exceeding 650V but not exceeding 33kV for controlling supply to the motor or apparatus? (v) Whether adequate precautions are taken to ensure that no live parts are so exposed as to cause danger?	Yes/No Yes/No Yes/No Yes/No Yes/No
18.	Regulation-37	(i) Whether clear space of 100 cm is provided in front of the main switchboard? (ii) Whether the space behind the switchboard exceeds 75 cm in width or is less than 20 cm? (iii) In case the clear space behind the switchboard exceeds 75 cm. State whether a passage way from either end of the switchboard to a height of 1.80 meters is	Yes/No Yes/No Yes/No

		provided.	
19.	Regulation-44	(i) Whether all conductors and apparatus including live parts thereof are inaccessible? (ii) Whether all windings of motors or other apparatus are suitably protected? (iii) State in case of transformers or reactors or switches or static condensers involving the use of more than 2,000 litres of oil in one chamber, if suitable oil soak pits are provided? (iv) Where 9,000 litres or more of oil is used in any one oil tank, has provision, been made for draining away or removal of oil which may leak or escape from such tank(s)? (v) Whether trenches inside sub-station containing cables are filled with non-inflammable material or completely covered with non- inflammable slabs? (vi) Are conductors and apparatus so arranged that they may be made dead in sections for carrying out work thereon? (vii) Whether separate cable trays are provided for control/Power/AC/DC cables? (viii) Whether suitable fire fighting system as per the Regulation has been provided? (ix) Whether the baffle walls of four hours fire rating between apparatus or consumer premises, in a substation or a switching station with apparatus having more than 2000 litres of oil are installed, has been provided as required under the Regulation?	Yes/No Yes/No Yes/No Yes/No Yes/No Yes/No Yes/No Yes/No Yes/No
20.	Regulation-45	Whether protections and interlocks have been provided? If not, give details.	Yes/No
21.	Regulation-48	(i) Have the frames of every generator, stationary motor, and so far as practicable portable motor and metallic parts not intended as conductors of all transformers and any other apparatus used for regulating or controlling electricity and all electricity consuming apparatus at voltage exceeding 650V but not exceeding 33kV been earthed by two separate and distinct connections with earth ? (ii) Is the earth wire free from any mechanical damage ? (iii) Has the neutral point at the transformer and generator been earthed by two separate and distinct connections with earth?	Yes/No Yes/No Yes/No

		(iv) Have the metal casings or metallic coverings containing or protecting any electric supply line or apparatus been properly earthed and so joined and connected across all junction boxes as to make good mechanical and electrical connections throughout their whole length? (v) Whether earthing has been properly executed and has been tested. If yes, give value of earth resistance.	Yes/No Yes/No ------Ohms
22.	Regulation-49	Is the outdoor (except pole type) sub-station efficiently protected by fencing not less than 1.8 metres in height?	Yes/No
23	Regulation-50	(i) Where platform type construction is used for pole type sub-station, has sufficient space for a man to stand on the platform been provided? (ii) Has hand-rail been provided and connected with earth (if metallic and if sub-station has not been erected on wooden supports and wooden plateform)?	Yes/No Yes/No
24.	Regulation-51	Has suitable provision been made for immediate and automatic or manual discharge of every static condenser on disconnection of supply ?	Yes/No
25	Overhead Lines	(i) What is the minimum size of the conductors of overhead lines used ? State the type of conductors. (ii) Whether clearances above ground of the lowest conductor of overhead lines are as per regulation 58? State clearance. (iii) On the basis of maximum sag, Whether vertical clearances where the line of voltage exceeding 650V passes above or adjacent to any building or part of a building are as per regulation 61? State clearance. (iv) On the basis of maximum deflection due to wind pressure, whether horizontal clearances between the nearest conductor and any part of such building are as per regulation 61? State clearance. (v) Where conductors forming parts of system at different voltages are erected on the same supports, whether adequate provision has been made as per regulation 62 to guard against danger to linemen and others	Size of Conductor --- Yes/No --- metres Yes/No --- metres Yes/No --- metres Yes/No

		from the lower voltage system being charged above its normal working voltage by leakage from or contact with the higher voltage system ?	
		(vi) Where overhead lines cross or are in proximity to each other whether they have been suitably protected to guard against possibility of their coming in contact with each other as per regulation 69?	Yes/No
		(vii) Has every guard wire been properly earthed as per regulation 70 at each point at which its electrical continuity is broken?	Yes/No
		(viii)(a) Whether metal supports of overhead lines and metallic fittings attached thereto are permanently earthed as per regulation 72?	Yes/No
		(b) Has each stay-wire (except in case where an insulator has been placed in it at a height not less than 3 meters from the ground) been earthed as per regulation 72?	Yes/No
		(ix)(a) Whether overhead line is suitably protected with a device for rendering the line electrically harmless in case it breaks as per regulation 73?	Yes/No
		(b) Whether anti-climbing devices have been provided at each support as per regulation 73?	Yes/No
		(x) (a) Has the owner of overhead lines adopted efficient means for diverting to earth any electrical surges due to lightning in every overhead line which is so exposed as to be liable to injury from lightning as per regulation 74?	Yes/No
		(b) Whether earth lead from the lightning arrestors is connected to a separate earth electrode as per regulation 74?	Yes/No
		(xi) Whether unused overhead lines are maintained in a safe mechanical condition as per regulation 75?	Yes/No
		(xii) Whether statutory clearances from Authorities i.e. Forest Department/Railways/ PTCC/Defence (AHQ)/Civil Aviation have been taken as per Indian standard. If yes, enclose copies of the same.	Yes/No
		(xii) Any other remarks.	

In addition to above, following electrical equipment wise test details to be given:

S.No.	Equipment	Test Conducted	Test Results	Remarks
1.	Linked Switch with fuses (s)	i)Mechanical operation ii)Rating of Fuse iii) Contact of blades	Smooth/Trouble some -------Amps Full/Partial	
2.	Isolator (Sl. No.--- Make: Capacity:-	i) Mechanical operation ii) Remote Operation iii) Local Operation iv)Measurement of contact resistance v) Interlocking with earth switch vi)Interlocking with Circuit Breaker vii) IR Values Open condition Closed condition	Ok/Not ok Ok/Not OK Ok/Not Ok ----- micro Ohms OK/Not OK Ok/Not OK Phase to Phase and Phase-Earth	
3.	Circuit Breaker (Circuit breaker location and no.)	1.Rating of Circuit Breaker a. Type b. Voltage c. Normal Current d. Rupturing Current 2. IR Values Open condition Closed Condition 3.Contact Resistance 4. Mechanical Operation 5. Remote operation 6. Local Operation 7. Interlocking with Isolator 8. Interlocking with earth switch Circuit breaker control circuits 9. Alarm and Trip for OTI/WTI/Buchholz/PRV/etc., 10. Earth Fault Relay 11.Over Current Relay 12. Under Voltage Relay 13. other safety Alarms 14. Whether all the provisions of Regulation 35 are satisfactory?		
4.	Transformer Tranformer No., Location, (Transformer Sl. No. Make, Capacity, Voltage	1. Insulation Resistance Values i) HT to LT ii) HT to Earth iii) L T to Earth 2. Break down Voltage test Oil sample I (Top)		

	Ratio,)	Oil Sample II (Bottom) 3. Vector Group Test 4. Polarity Tests 5. Magnetising Balance 6. Tan Delta Test 7. Oil level in conservator tank 8. Oil level in breather cup 9. OTI/WTI settings 10. OTI/WTI alarm and trip operation 11. Operation of Buchholz relay 12. Operation of PRV 13. Oil leakage 14. Interlock of door switch of dry transformer 15. Clearances i) Side Clearance: ii) Between two Transformers 16. Body Earth Resistance 17. Neutral Earth Resistance 18. Earth Flat size Material used i)Body: ii)Neutral:		
5	Generators: Generator No., Location, (Alternator and Engine Sl. No. Make, Capacity,)	1. Type of Generator 2. Interlocking with other supply sources 3. Body earth resistance 4. Neutral earth resistance 5. Earth Flat size Material used i)Body: ii)Neutral: 6. Generator Protection details		
6.	Cables	1. Cable schedule showing the source, destination, size, length, type of cable, cable identification no., route, with IR values of phase to phase and phase to earth shall be enclosed. 2. Cable trays 3. Cable tray earthing 4. Cables bending radius		
7.	LT Panels	1. No. of panels 2. Location of panel	Top Entry/Bottom Entry	

		3. Rating of the panel 4. Size of the main Bus bars and the distribution Bus bars of the panel 5. Whether the Bus bar size of the panel suitable to rating of the panel 6. IP Protection of panel 7. Type of cable entry 8. No. of Incomers and Bus couplers in a Panel 9. Ratings of the Circuit Breakers 10. No. of MCCBs of each rating in the panel 11. No. of spare MCCBs of each rating 12. Panel Clearance from the wall 13. Clearance between two panels i.e. adjacent panels 14. Whether all the provisions of Regulation 37 followed 15. Size of the Earth strip used for earthing of the panel		
8.	Motors	1. List of Motors with their rating, protection, overload setting, size of earth conductor used.		
8.	Earthing	1. Metal and Size of Earth Strips 2. Type of earthings 3. Location and No. of earth electrode 4. Values of Earth resistance of each earth electrode 5. Earth mat resistance		
9.	Over Head lines and DP structure	1. Size of the Poles of DP structure 2. Clearance between the phases –phase and phase to earth. 3. Ground clearance of the bare conductors 4. Check of electrical clearance along the route of over head line, 5. Check of guarding and clearance at road crossings 6. Check the footings of the poles 7. Earthing arrangements		

		8. What is the minimum size of the conductors of over head lines used? State the type of conductors. 9. Whether all the provisions of regulation 58, 61, 62 ,69, 70 and 72 are satisfied.		
General Observations :				
1.	Check of Phase to Phase , Phase to Ground and Sectional clearance			
2.	Check of Manufacture test reports of individual equipment (Copies to be enclosed)			
3.	General observation and views (Specific deviation from the requirements of the Regulations shall be clearly brought out)			

Date :

Signature of the Inspecting Officer

Name _____

Designation _____

File No. _____

(For Self Certification by Owner or Supplier or Chartered Electrical Safety Engineer)

CERTIFICATE

(Under Regulation 30 / Regulation 43 of CEA (Measures relating to Safety & Electricity Supply) Regulation,2010)

This is to certify that the electrical installation has been completed in all respects and the work has been carried out conforming to the CEA (Measures relating to Safety & Electricity Supply) Regulation,2010 and relevant Standards of IS/NEC/IEC. The site tests done are found to be in order and it is electrically safe to operate the apparatus free from any danger.

Encl: Test reports

(Signature)

Self certifying supplier or owner

Name _____

(Signature)

Chartered Electrical Safety Engineer

Name _____

File No. _____