
STATUTORY RULES OF NORTHERN IRELAND

2012 No. 381

THE ELECTRICITY SAFETY, QUALITY
AND CONTINUITY REGULATIONS
(NORTHERN IRELAND) 2012

PART 2

PROTECTION AND EARTHING

Electrical protection

6. A generator or distributor shall be responsible for the application of such protective devices to their network as will, so far as is reasonably practicable, prevent any current, including any leakage to earth, from flowing in any part of their network for such a period that that part of their network can no longer carry that current without danger.

Continuity of the supply neutral conductor and earthing connections

7.—(1) A generator or distributor shall, in the design, construction, maintenance or operation of their network, take all reasonable precautions to ensure continuity of the supply neutral conductor.

(2) A generator or distributor shall not introduce or retain any protective device in any supply neutral conductor or any earthing connection of a low voltage network which they own or operate.

General requirements for connection with earth

8.—(1) A generator or distributor shall ensure that, so far as is reasonably practicable, their network does not become disconnected from earth in the event of any foreseeable current due to a fault.

(2) A generator or distributor shall, in respect of any high voltage network which they own or operate, ensure that—

- (a) the network is connected with earth at, or as near as is reasonably practicable to, the source of voltage but where there is more than one source of voltage in that network, the connection with earth need only be made at one point;
- (b) the earth electrodes are designed, installed and used in such a manner so as to prevent danger occurring in any low voltage network as a result of any fault in the high voltage network; and
- (c) where the network is connected with earth through a continuously rated arc suppression coil, an automatic warning is given to the generator or distributor of any fault which causes the arc suppression coil to operate.

(3) A generator or distributor shall, in respect of any low voltage network which they own or operate, ensure that—

- (a) the outer conductor of any electric line which has concentric conductors is connected with earth;
 - (b) every supply neutral conductor is connected with earth at, or as near as is reasonably practicable to, the source of voltage except that where there is only one point in a network at which consumer's installations are connected to a single source of voltage, that connection may be made at that point, or at another point nearer to the source of voltage; and
 - (c) no impedance is inserted in any connection with earth of a low voltage network other than that required for the operation of switching devices or of instruments or equipment for control, telemetry or metering.
- (4) A consumer shall not combine the neutral and protective functions in a single conductor in their consumer's installation.
- (5) Paragraphs (1) to (3) shall not apply to a network which is situated within a generating station if, and only if, adequate alternative arrangements are in place to prevent danger.

Protective multiple earthing

9.—(1) This regulation applies to distributors' low voltage networks in which the neutral and protective functions are combined.

(2) In addition to the neutral with earth connection required under regulation 8(3)(b) a distributor shall ensure that the supply neutral conductor is connected with earth at—

- (a) a point no closer to the distributor's source of voltage (as measured along the distributing main) than the junction between that distributing main and the service line which is most remote from the source; and
- (b) such other points as may be necessary to prevent, so far as is reasonably practicable, the risk of danger arising from the supply neutral conductor becoming open circuit.

(3) Paragraph (2)(a) shall only apply where the supply neutral conductor of the service line referred to in paragraph (2)(a) is connected to the protective conductor of a consumer's installation.

(4) The distributor shall not connect their combined neutral and protective conductor to any metalwork in a caravan or boat.

Earthing of metalwork

10.—(1) Subject to paragraph (2), and without prejudice to any other requirement as to earthing, a generator, distributor or meter operator shall ensure that any metalwork enclosing, supporting or otherwise associated with their equipment in a network and which is not intended to serve as a phase conductor is, where necessary to prevent danger, connected with earth.

(2) Paragraph (1) shall not apply—

- (a) to any metalwork attached to, or forming part of, a wooden pole support, the design and construction of which is such as to prevent, so far as is reasonably practicable, danger within 3 metres of the ground from any failure of insulation or failure of insulators; or
- (b) to any wall-mounted metal bracket carrying an overhead line not connected with earth, where the line is both supported by an insulator and the part of the line in contact with the insulator is itself surrounded by insulation.