Chapter 14:08
Factories and Works
(Electrical) Regulations, 1976

Rhodesia Government Notice No. 304 of 1976

*Amended by **S.I. 285/82**.*

ARRANGEMENT OF SECTIONS

PRELIMINARY

Section

1 Title

2 Interpretation of terms

PART I
ELECTRICAL MACHINERY

3 Fencing and enclosure

4 Notices

5 Safety precautions

6 Switch-boards

7 Portable electric tools and lights

PART II
MAINTENANCE

8 Examination and repairs

9 Safety equipment

10 Temporary earthing and isolation

11 Earthing, general

PART III
INSTALLATION

12 Transformer-or switch-rooms and houses

IT is hereby notified that the Minister of Labour and Social Welfare has, in terms of subsection (1) of section 34 of the Factories and Works Act [*Chapter 14:08*], made the following regulations:—

PRELIMINARY

Title

1 (1) These regulations may be cited as the Factories and Works (Electrical) Regulations, 1976.

(2) These regulations shall come into operation on the **1st May, 1976**.

Interpretation of terms

2 In these regulations—

"Chief Inspector" means the Chief Inspector of Factories appointed in terms of section 4 of the Act;

"**code**" means a publication—

(a) embodying a Code of Practice laid down by the British Standards Association or the Central African Standards Association or the South African Bureau of Standards; and

(b) copies of which are held at Occupational Safety Offices

"competent person" means a person who has served an apprenticeship in an appropriate trade or who has not less than 5 years' practical experience in working with machinery, and who has a thorough knowledge of the machinery or class of vessel of which he is in charge or which he may be required to examine;

"**conductor**" means any bar, pin, tube, socket, wire or line used for conducting electrical energy;

"**earthed**" and "**connected with earth**" means connected with the general mass of earth in such a manner as will ensure at all times an immediate and efficient discharge of electrical energy, and cognate expressions shall be construed accordingly;

"**extra low voltage**" means normal operating voltage not exceeding 30 volts.

"**inspector**" means an inspector appointed in terms of section 4 of the Act;

"**insulation**" means non-conducting material enclosing, surrounding or supporting electrical conductors, or parts of electrical equipment which may become live;

"**live**" means charged with electrical energy;

"**low voltage**" means exceeding 30 volts but, not exceeding 250 volts;

"**metal parts**" or "**metal work**" means any metal part other than a conductor and its associated live parts, or an earth conductor;

"**user**" means an occupier or builder, or the person or persons owning or using the machinery or electrical apparatus.

PART I
ELECTRICAL MACHINERY

Fencing and enclosure

3 A user shall cause all electricity generating plant, transforming, switching or linking apparatus, to be fenced or properly enclosed when situated in any factory or structural works.

Notices

4 (1) A user shall cause the following notices to be exhibited at suitable places within electric generating stations and all premises and structural sites where electrical apparatus is installed—

(a) a notice prohibiting any unauthorized person from handing or interfering with electrical apparatus;

(b) a notice containing directions as to procedure in case of fire;

(c) a notice containing directions as to resuscitation of persons suffering from the effects of electric shock;

(d) a notice forbidding interference with switches whilst any person is working on associated electrical apparatus during maintenance, repair or similar operations.

(2) Notices prohibiting unauthorized persons from entering such factories or structural premises shall be posted at all designated entrances to such premises.

Safety precautions

5 A user shall cause all electrical machinery, apparatus and conductors to be so installed, worked, maintained and identified as to prevent danger to persons and to be protected in such a manner that no injuries can be caused to any person by inadvertent contact with any portion thereof.

Switch-boards

6 A user shall cause all switch-boards to have at the back thereof a clear space of at least 1,2 mtrs, and this space shall be kept closed and locked except for the purpose of inspection, alteration or repair, and shall not be obstructed in any manner:

Provided that this shall not apply in the case of—

(i) switch-boards the backs whereof are accessible only through an opening in the wall or partitions against which they are placed, if such openings are kept closed and locked;

(ii) switch-boards which have no uninsulated conductors accessible from the back;

(iii) switch-boards for voltages not exceeding low voltage; or

(iv) switch-boards the switch-gear of which is of a totally enclosed construction.

Portable electric tools and lights

7 (1) No user shall permit the use of, and no person shall use, a portable electric tool the operating voltage of which exceeds 50 volts unless—

(a) it is connected to a source of electricity supply incorporating an earth leakage protection device of a type and construction approved by the Chief Inspector; or

(b) it is connected to the source of electricity supply through the interposition between each tool and the source, of an individual double wound isolating trans-former, the secondary winding of which is not earthed at any point and which is construed in accordance with a code approved by the Chief Inspector, and the screen or core earthed; or

(c) it is connected to a source of high frequency electricity supply derived from a generator which is used solely for supplying power to such portable electric tool and which arrangement is approved by the Chief Inspector; or

(d) it is constructed with double insulation in accordance with a code approved by the Chief Inspector.

(2) No user shall require or permit any person to and no person shall use a portable electric light unless—

(a) it is fitted with a handle which is robust and made of non-hygroscopic, non-conducting material;

(b) all live metal parts or parts which may become alive due to a circuit fault are completely guarded so as to prevent danger through accidental contact;

(c) the lamp is protected by means of a substantial guard firmly fixed to the insulated handle;

(d) the cable lead-in is such that usage can be withstood without failure or damage to the insulation.

(3) In wet or damp situations in closely confined spaces, inside metal vessels or in general in contact with large masses of metal, no portable electric light shall be used unless, in addition to the requirements contained in subsection (2), the operating voltage of the lamp does not exceed 30 volts and where the power supply is derived from a transformer such transformer shall have separate windings, and the extra low voltage winding must not be earthed but the transformer screen or core must be earthed.

PART II

MAINTENANCE

Examination and repairs

8 A user shall not permit any examinations, repairs, or alterations necessitating the dangerous approach to, or the handling of electrical apparatus to be carried out while such apparatus is alive, unless such work is done by or under the constant supervision of a competent person**.**

9 Every user shall provide free of charge and maintain in good condition suitable rubber mats, gloves or gauntlets, safety belts and such other protective equipment as may be necessary to prevent accidents, for the use of persons engaged in examination, repairs or alterations necessitating the dangerous approach to, or the handling of live mains or electrical apparatus.

Temporary earthing and isolation

10 (1) Whenever work is be carried on any electrical apparatus which has been disconnected from all sources of supply but which is liable to acquire or retain an electrical charge, the user shall cause

adequate precautions to be taken, earthing or other means, to discharge electrically such electrical apparatus or any adjacent electrical apparatus if there is any danger therefrom, before it is handled, and to prevent any conductor or electrical apparatus from being charged while person are working thereon.

(2) No electrical apparatus shall be reconnected to a supply of electrical energy after examination, adjustment, repair or alteration has been undertaken unless such work has been carried out or inspected and approved by a qualified or competent person.

[substituted by SI 285/82 with effect from 14th May, 1982]

Earthing, general

11 A user shall cause all accessible metallic portions of electric plant or apparatus which, though normally not forming part of an electrical circuit, may become alive accidently, to be protected by an insulating covering or by other efficient means, or to be connected to earth by a conductor of adequate cross-section area:

Provided that his requirement shall not apply to—

(i) metal in earth-free situations, other than runs of metal conduit and close-fitting metal sheathing and armourings of cables;

(ii) short isolated lengths of heavy-gauge metal conduit use for mechanical protection of metal-sheathed or tough rubber protected cables such cables are not used in the secondary circuits of luminous-discharge tube lighting installation;

(iii) short unexposed isolated lengths of metal conduit used for the mechanical protection and insulated wiring passing through floors, walls, partitions or ceilings;

(iv)metal work of fixed electrical equipment, where such metal works is more than 2,4 mtrs above the floor and is neither situated in any position likely to become damp, nor in a lift shaft or near running machinery, nor in contact with a wall, ceiling Chapter 14:08 Factories and Works (Electrical) Regulations, 1976

or other support constructed of or covered with conducting material;

(v) metal parts of electrical apparatus, where such parts are enclosed or shrouded by insulating material so that such metal parts cannot be touched;

(vi) cleats, clips, saddles, clamps or other devices for fixing conduits and cables;

(vii) lamp-caps;

(viii) shades, reflectors, and guards, supported on holders, or lighting fittings of non-conducting material; or

(ix) metal parts on, or screws in or through, non conducting materials separated by such material from current carrying parts and from earth non-current carrying parts in such a way that in normal usage they cannot become alive or come into contact with earthed parts.

PART III

INSTALLATION

Transformer- or switch-rooms and houses

12 (1) A user shall cause all transformer and switch houses—

(a) to be of a size sufficient to provide clear working space for operating or maintenance personnel and to be sufficiently ventilated so as to maintain the equipment at a safe temperature;

(b) to be so constructed as to be proof against vermin, leakage, seepage and flooding;

(c) to be supplied with natural light where possible and with artificial light, the intensity whereof shall not be less than 300 lux, which shall be controlled by a switch adjacent to the

entrance as to prevent danger to persons and to enable all equipment to be clearly distinguished, and all instruments, labels and notices to be easily read;

(d) to be so constructed that no windows are within easy reach of bare conductors or exposed live parts of electrical apparatus;

(e) to have doors opening outwards and which can be readily opened from the inside; and

(f) to be provided with adequate fire extinguishing appliances suitable for use on electrical equipment, which shall be maintained in good working order.

(2) A user shall cause all cable ducts in transformer and switch houses to be covered with suitable non-slip material.

(3) No person other than a competent person shall enter or be required or permitted by the user to enter a transformer or switch house unless all live conductors which are not adequately insulated against inadvertent contact are screened off:

Provided that the competent person may be assisted by any other person acting under his immediate supervision.