

## ELECTRICITY REGULATIONS 1994

IN exercise of the powers conferred by section 53 of the Electricity Supply Act 1990 [Act 447], the Minister makes the following regulations:

### PART 1 - PRELIMINARY

#### **Regulation 1. Citation and commencement.**

(1) These regulations may be cited as the Electricity Regulations 1994 and shall, subject to subregulation (2), come into force on the 30th January 1994.

(2) Subject to subregulation (1), the following regulations shall come into force on the 30th January 1996:

- (a) regulation 13;
- (b) subregulations 23(2), 23(3) and 23(4);
- (c) paragraph 78(2)(c);
- (d) paragraph 78(3)(c);
- (e) paragraph 78(4)(c);
- (f) paragraph 78(5)(c);
- (g) paragraph 81(c);
- (h) paragraph 85(c);
- (i) regulation 88; and
- (j) regulation 57.

#### **Regulation 2. Interpretation.**

In these Regulations, unless the context otherwise requires—

"accessory" means a device, other than current-using equipment, associated with such equipment or with the wiring of an installation;

"apparatus" means any electrical apparatus and includes the device or fitting in which a conductor is used, or of which it forms part of;

"appliance" means any device which utilises electricity for a particular purpose;

"bare" means not covered with or protected by insulating material;

"cable" means a length of insulated single conductor, whether solid or stranded, or of two or more such conductors, each provided with its own insulation, which are laid together. The insulated conductor or conductors may or may not be provided with an overall covering for mechanical protection;

"Cable Joints" means a person who holds a Certificate of Competency as a Cable Joints issued under regulation 51;

"Certificate of Approval" means a Certificate of Approval issued by the Commission for the manufacture, import, display, sale or advertisement of any electrical equipment in the area of jurisdiction of the Commission;

"Chargeman" means a person who holds a Certificate of Competency as a Chargeman issued under regulation 49;

"circuit" means an electrical circuit forming a system or a branch of a system;

"circuit breaker" means a mechanical device for making and breaking a live circuit, such as a short circuit, where the circuit is broken automatically;

"Competent Electrical Engineer" means a person who holds a Certificate of Competency as a Competent Electrical Engineer issued under regulation 47;

"consuming apparatus" means an apparatus which is intended to consume electricity;

"distributing main" means the portion of any main with which a service line is or is intended to be immediately connected;

"domestic installation" means an installation in a private dwelling which is not used in any hotel or boarding house or for the purpose of carrying out any business, trade, profession or service;

"earthed" means connected to the general mass of the earth;

"Electrical Contractor" means a person who holds a Certificate of Registration as an Electrical Contractor issued under regulation 75;

"Electrical Repair Contractor" means a person who holds a Certificate of Registration as an Electrical Repair Contractor issued under regulation 88;

"Electrical Services Contractor" means a person who holds a Certificate of Registration as an Electrical Services Contractor issued under regulation 71;

"Electrical Services Engineer" means a person who holds a Certificate of Competency as an Electrical Services Engineer issued under regulation 46;

"electrical work" means any work performed or carried out on an electrical installation and includes the installing, constructing, erecting or repairing thereof, the altering of the structure, the replacing of any of its parts, the adding of any part thereto or the carrying out of any work thereon for the purposes of its maintenance, but does not include work in relation to—

(a) the manufacturing of an electrical installation or the assembling thereof in the course of, or in connection with, its manufacture for the purpose of producing a new article; or

(b) the oiling, greasing, cleaning or painting of an electrical installation;

"electric sign" means a neon sign or other consuming apparatus of like nature operating more than 400 volts;

"Electric Sign Contractor" means a person who holds a Certificate of Registration as an Electric Sign Contractor issued under regulation 84;

"Electrical Supervisor" means a person who holds a Certificate of Competency as an Electrical Supervisor issued under regulation 48;

"extra low voltage" means a voltage normally not exceeding 50 volts alternating current or 120 volts direct current, whether between conductors or between conductor and earth;

"final circuit" means a circuit connected directly to current-using equipment, or to a socket outlet or other outlet points, for the connection of the equipment;

"line conductor" means a conductor forming part of an aerial line;

"low voltage" means a voltage normally exceeding extra low voltage but not exceeding 1,000 volts alternating current or 1,500 volts direct current between conductors, or 600 volts alternating current or 900 volts direct current between conductor and earth;

"Malaysian Communications and Multimedia Commission" means the Commission established under the Malaysian Communications and Multimedia Commission Act 1998 [Act 589];

"multiple-earth neutral" means a neutral line conductor which is earthed at more than one point;

"neutral conductor" means a conductor connected to the neutral point of a system and contributing to the transmission of electrical energy;

"occupier" means the person occupying any premises and includes the person having the charge, management or control thereof either on his own account or as an agent of another person, but does not include a lodger;

"owner" means the owner or lessee of an installation, and includes, where the owner or lessee is absent, his authorised agent;

"person" includes any individual, firm, company, association, partnership or body of persons, whether incorporated or otherwise;

phase conductor" means a conductor of an alternating current system for the transmission of electrical energy, other than a neutral conductor;

"portable apparatus" means an apparatus so constructed that it may be readily moved from place to place and be safely operated without any structural alteration following the removal;

"Private Wiring Unit" means a person who holds a Certificate of Registration as a Private Wiring Unit issued under regulation 80;

"registered installation" means an installation for which a valid Certificate of Registration has been issued under regulation 3;

"resident Competent Electrical Engineer" means a Competent Electrical Engineer who is engaged on a full-time basis to be responsible for a particular installation;

"residual current device" means a mechanical switching device or an association of devices intended to cause the opening of the contacts when the residual current attains a given value under specified conditions;

"road" has the meaning assigned thereto in the Road Transport Act 1987 [*Act 333*];

"service line" means an electric supply line through which electricity is, or is intended to be, supplied to one consumer or a group of consumers from a distributing main or immediately from a generating station or substation;

"substation" means any premises or enclosed part thereof which contains apparatus for either transforming or converting electricity to or from high voltage (other than transforming or converting electricity solely for the operation of switching devices or instruments) or for switching, controlling or regulating electricity at high voltage and which is large enough to admit the entrance of a person after the apparatus is in position, and includes the apparatus therein;

"switchboard" means an assembly or switchgear with or without instruments, but does not apply to a group of local switches in a final circuit;

"Switchboard Manufacturer" means a person who holds a Certificate of Registration as a Switchboard Manufacturer issued under regulation 92;

"switchgear" means an assembly of main and auxiliary switching apparatus for operation, regulation, protection or other control of electrical installations;

"telecommunication authority" - [*Deleted by P.U.(A) 431/2003: Reg. 2*];

"telecommunication line" means a wire or wires and any appliances or any apparatus connected to it used for the purpose of communication as defined under the Communications and Multimedia Act 1998 [*Act 588*];

"transformer" means an apparatus without continuously moving parts which by electromagnetic induction transforms alternating voltage or current in one winding into alternating voltage or current in one or more other windings, usually at different values of voltage or current, and includes an auto-transformer;

"Wireman" means a person who holds a Certificate of Competency as a Wireman issued under regulation 50.

## **PART II – INSTALLATION**

### ***Registration of Installation***

#### **Regulation 3. Application for registration of installation.**

(1) Unless otherwise exempted by the Minister, an application for the registration of an installation shall be in Form A as prescribed in the First Schedule.

(2) The Certificate of Registration shall be in Form B as prescribed in the First Schedule.

(3) A Certificate of Registration shall be valid for a period of not less than one year and not more than five years from the date of issue.

(4) [*Deleted by P.U.(A) 431/2003: Reg.3*]

#### **Regulation 4. Fee for registration of installation.**

A fee shall be paid for the issue of a Certificate of Registration at the rate prescribed in Part I of the Second Schedule.

#### **Regulation 5. Inspection and test of installation.**

(1) Inspection and test of a new installation for the purpose of registration shall be made not later than twenty-one days after the receipt of Form A referred to in regulation 3 and reasonable notice of the inspection and test shall be given in writing to the owner or management of the installation, as the case may be.

(2) Upon receiving the notice issued under subregulation (1), the owner or management of the installation shall cause the preparation for the inspection and test to be made and shall be present at the time of such inspection and test.

(3) Notice of initial and follow-up inspection and test shall be in Forms D and E respectively as prescribed in the First Schedule, and shall be served either personally upon the person to whom they are addressed or be sent to him by registered post or be affixed conspicuously to the building where the installation to be inspected and tested is located.

#### **Regulation 6. Fee for inspection and test of installation.**

A fee shall be charged for the inspection and test of any installation at the rate prescribed in Part II of the Second Schedule.

#### **Regulation 6A. Register.**

(1) The Commission shall keep a Register into which shall be entered the name and other particulars of every person to whom a Certificate of Registration is issued under regulation 4.

(2) There shall be removed from the register the name and other particulars of every person to whom a Certificate of Registration has been cancelled under regulation 7.

**Regulation 7. Cancellation of Certificate of Registration of installation.**

(1) The Commission may cancel a Certificate of Registration of installation issued under these Regulations if —

- (a) the installation is no longer required to be used;
- (b) the installation is found to be unsafe for use;
- (c) the person to whom the Certificate was issued uses it for a purpose other than for that for which it was issued; or
- (d) the person has contravened or failed to comply with any of the provisions of the Act or these Regulations.

(2) Where a Certificate of Registration of an installation is cancelled by the Commission pursuant to subregulation (1) the person to whom the Certificate was issued shall return it to the Commission within fourteen days after being notified in writing of the cancellation.

## ***Licence for Installation***

### **Regulation 8. Licence for a public installation.**

A licence for a public installation shall be in the form which the Commission deems fit and appropriate for the public installation.

### **Regulation 9. Licence for a private installation.**

A licence for a private installation shall be in Form F as prescribed in the First Schedule.

### **Regulation 10. Fee for public or private installation.**

(1) The fee payable for the issue of a licence for a public installation, other than the generation referred to in subregulation (2), shall be on an annual basis and shall be at the rate as prescribed in Part III of the Second Schedule.

(2) The fee payable for the issue of a licence for a public installation for generating electricity using biomass, hydro power, solar power, geothermal power, wind power, waves and tides sources with aggregate power not exceeding 10MW shall be paid on an annual basis and shall be at the rate as prescribed in Part IIIA of the Second Schedule.

(3) The fee payable for the issue of a licence for a private installation shall be paid in full in accordance with the period of the licence and shall be at the rate prescribed in Part IA of the Second Schedule.

(4) All fees due under subregulations (1), (2) and (3) shall be payable at the beginning of the commencement year of the licence.

(5) Any fees paid before the date of coming into operation of Parts IA, III and IIIA of the Second Schedule shall not be refundable.



## ***Supervision and Test of Installation***

### **Regulation 11. Approval for commencement of wiring.**

(1) No wiring or rewiring of an installation or extension to an existing installation shall be carried out by an Electrical Contractor or a Private Wiring Unit without first obtaining the approval in writing from a licensee or supply authority, as the case may be:

Provided that no approval is necessary for an extension to an existing wiring of a domestic installation where the total current consumed at any one time by the said installation, as a result of the extension, does not exceed the maximum current demand as agreed upon in the supply contract between the owner and the licensee or supply authority.

(2) The manner for calculating the maximum current demand of a domestic installation in subregulation (1) shall be as prescribed in the Third Schedule.

### **Regulation 12. Supervision and completion of installation.**

(1) Any electrical wiring in an installation which receives single phase supply from a licensee or supply authority, as the case may be, shall be under the immediate supervision of a Wireman with Single Phase Restriction or Three Phase Restriction, and upon completion of the installation, the Wireman shall certify a Supervision and Completion Certificate.

(2) Any electrical wiring in an installation operating at low voltage which receives three phase supply from a licensee or supply authority, as the case may be, shall be under the immediate supervision of a Wireman with Three Phase Restriction, and upon completion of the installation, the Wireman shall certify a Supervision and Completion Certificate.

(3) For the purpose of this regulation and subregulations 13(1) and (2), a Wireman with Single Phase Restriction or Three Phase Restriction, as the case may be, shall be employed on a full-time basis by an Electrical Contractor or a Private Wiring Unit.

### **Regulation 13. Test of installation.**

(1) Upon completion of wiring or rewiring of an installation or extension to an existing installation in subregulation 12(1), the installation shall be tested by a Wireman with Single Phase Restriction or a Wireman with Three Phase Restriction authorised to test any installation, and who shall certify a Test Certificate for the installation.

(2) Upon completion of wiring or rewiring of an installation or extension to an existing installations as in subregulation 12(2), the installation shall be tested by a Wireman with Three Phase Restriction authorised to test any installation, and who shall certify a Test Certificate for the installation.

(3) Upon completion of an installation or extension to an existing installation operating at higher than low voltage, the installation shall be tested by an Electrical Services

Engineer, employed on a full-time basis by an Electrical Services Contractor and who shall certify a Test Certificate for the installation.

**Regulation 14. Supervision and Completion Certificate and Test Certificate.**

(1) The Supervision and Completion Certificate and Test Certificate in regulations 12 and 13 shall be in Forms G and H respectively as prescribed in the First Schedule.

(2) No installation, other than those in regulation 11, shall receive electricity from or be given electricity by a licensee or supply authority until the Supervision and Completion Certificate and Test Certificate has been submitted by the owner or management of the installation to the licensee or supply authority, as the case may be.

## ***Material, Equipment and Method of Installation***

### **Regulation 15. Apparatus, conductor, accessory, etc.**

- (1) Any apparatus, conductor or accessory for the purpose of connection to an installation shall be sufficient in size, power and number to serve the purpose for which it is intended and shall be constructed, installed, arranged, protected, worked and maintained in such a manner as to prevent danger.
- (2) A conductor shall be insulated and effectively protected or so placed or safeguarded in such a manner as to prevent danger.
- (3) A conductor which is neither protected by metallic sheath nor conveyed in a conduit shall be protected by an insulating bush or tube, where it passes through a wall, partition, floor, or the roof of a building or other structure.
- (4) Every cable or metallic conduit in which cables are run can be buried in plaster provided that the cable or conduit is of such material that corrosion of the cable or conduit will not cause weakening of the insulation and consequent danger from leakage of current.
- (5) A cable or metallic conduit in which cables are run may be buried in pure cement or concrete.
- (6) Any conductor or apparatus that is exposed to the weather, water, corrosion, undue heating or used in inflammable surroundings or in an explosive atmosphere shall be constructed or protected in such a manner as to prevent danger.

### **Regulation 16. Switch, switchfuse, fuse switch, circuit breaker, contractor, fuse, etc.**

- (1) Any switch, switchfuse, fuse switch, circuit breaker or isolating link shall be—
  - (a) constructed, placed or protected in such a manner as to prevent danger;
  - (b) constructed and adjusted in such a manner as to and maintain efficient contact;
  - (c) provided with an efficient handle insulated from the system and arranged in such a manner that the handle cannot inadvertently touch any live part;
  - (d) constructed or arranged in such a manner that it cannot accidentally come into contact with any live conductor when left in the "off" position;
  - (e) constructed in such a manner that it cannot be left in partial contact with any live conductor; and
  - (f) constructed in such a manner that an arc cannot be maintained when used for breaking a circuit on load.

(2) Any circuit breaker or contactor used for changing a source of supply shall have poles which include a pole for the neutral.

(3) Any fuse or circuit breaker shall be—

(a) constructed and arranged in such a manner so as to break the current when it exceeds a given value for a sufficient time to prevent danger; and

(b) constructed, guarded or placed in such a manner as to prevent danger of overheating, arcing or from the scattering of hot metal or other substance.

(4) A fuse in subregulation (3) shall be either of such construction or protected by a switch so that the fusible portion shall be readily renewed without danger.

### **Regulation 17. Generator, motor, transformer, etc.**

(1) Any part of a generator, motor, transformer, or other equipment operating at high or extra high voltage which is within the natural reach of a person shall be protected where necessary to prevent danger.

(2) A motor shall be controlled by one or more effective starting devices for starting or stopping it

(3) The switch referred to in subregulation (2) shall be placed in such a manner that it can be easily operated by the person in charge of the motor.

(4) Any switchgear for use in connection with winches, winders and cranes exposed to the weather, on dredges or in underground places, operating at higher than low voltage, shall be of the totally enclosed metal-clad type.

(5) Where electricity is transformed from one voltage to another, provision shall be made to guard against danger by reason of the lower voltage system becoming accidentally charged above its normal voltage by leakage from or leakage due to contact with the higher voltage system.

(6) Where an auto-transformer is used for any purpose, care shall be taken to ensure that the voltage between any part of the lower voltage winding and the earth does not exceed the voltage between the terminals of the lower voltage winding.

(7) An underground substation, not otherwise easily and safely accessible, shall be provided with adequate means of access by a door way with a staircase or ladder securely fixed and placed in such a manner that no live part of any switchboard or any bare conductor is within the natural reach of any person.

### **Regulation 18. Means of isolation.**

In an electrical system effective means shall be provided for—

- (a) making dead every part of the system;
- (b) protecting every part of the system from excess current;
- (c) making dead every branch of a distribution system without interruption of supply to the remainder system; and
- (d) making dead every sub-circuit of a wiring system without interruption of supply to the remainder system.

## ***Installation of Switchboard***

### **Regulation 19. Arrangement of switchboard in general.**

(1) The general arrangement of a switchboard shall be as follows:

(a) all its parts which may have to be adjusted or handled shall be readily accessible;

(b) the course of a conductor shall be readily traced and a clearly drawn diagram of the connections shall be displayed near the switchboard;

(c) a conductor, not arranged for connection to the same system, shall be kept well apart and shall be readily distinguished; and

(d) a bare conductor shall be placed or protected so as to prevent danger from accidental contact.

(2) A rubber mat of suitable size and thickness shall be placed on the floor in front of every switchboard to prevent danger of electric shock to an operator.

(3) A switchboard having bare conductors so exposed that they may be touched, shall, if not located in an area set apart for the purpose thereof, be fenced or otherwise enclosed.

(4) No person, except a competent person or a person acting under the immediate supervision of a competent person, shall have access to any part of the switchboard.

(5) An apparatus appertaining to a switchboard and requiring handling shall be placed or arranged in such a manner that the same may be operated from the working platform of the switchboard, and any measuring instrument and indicator connected therewith shall be placed in such a manner that the same may be observed from the working platform.

(6) Where the apparatus, measuring instrument and indicator referred to in subregulation (5) are operated or observed from any place, adequate precaution shall be taken to prevent danger.

### **Regulation 20. Working on a switchboard.**

Before any work is commenced on a switchboard—

(a) the switchboard shall be made dead and the conductor earthed; or

(b) if the switchboard is arranged in such a manner that any conductor thereof can be made dead in section and separated by permanent or removable division or screen from any adjoining section of which the conductor is live, that section on which work has to be done shall be made dead and every conductor earthed.

### **Regulation 21. Switchboard operating at high or extra high voltage.**

In a switchboard operating at high or extra high voltage—

(a) the conductor which is within the natural reach of a person standing on the working platform or in any switchboard passage way shall be placed or protected adequately to prevent danger;

(b) the metallic frame of any instrument shall be earthed; and

(c) the metal handle of a switch and any metal gear for operating the switch shall be earthed.

## ***Underground Supply Line***

### **Regulation 22. Underground mains and connections.**

(1) An underground supply line shall be continuously insulated and protected to the satisfaction of a Commission, and where it is attached to a bridge or culvert it shall be protected in such a manner as may be directed by the Commission.

(2) The breaking up of a street, road or public place for the purpose of laying an underground main and the connections thereto and the refilling and making good thereof shall be carried out by the owner, management, licensee, supply authority, or his servant or agent, as the case may be, in the manner as may be required by the relevant authority charged with the responsibility for matters relating to streets, roads or public places.

(3) Except for the purpose of making immediate repairs, no underground main shall be laid by the owner, management, licensee, supply authority, or his servant or agent, as the case may be, in any road unless reasonable notice has been given to the relevant authority.

### **Regulation 23. Joint, connection or termination.**

(1) Any electrical joint, connection or termination shall be constructed and made to serve its purpose with regard to its conductivity, insulation, mechanical strength and mechanical protection.

(2) A joint, connection or termination of any cable shall be carried out by a Cable Jointer.

(3) The cable referred to in subregulation (2) shall include—

(a) an impregnated paper-insulated cable, sheathed in lead or aluminium;

(b) an armoured cable with thermosetting insulation;

(c) a mineral-insulated cable;

(d) a polymeric-insulated cable;

(e) an oil-filled cable;

(f) a gas-pressure cable; and

(g) any other cable where the Commission considers the jointing, connecting and terminating of such cable requires special skill.

(4) A joint of an armoured polyvinyl chloride insulated cable shall be carried out by a Cable Jointer.



## **Portable Apparatus**

### **Regulation 24. Portable apparatus in general.**

- (1) A flexible cable for portable apparatus shall be connected to the system by a permanent joint or a properly constructed plug and socket.
- (2) A portable apparatus and its flexible cable shall be controlled by effective means suitably located and capable of making dead the apparatus.
- (3) An exposed metallic part of a portable apparatus shall be earthed independently and any flexible metallic cover of the conductor shall be earthed.
- (4) A portable apparatus which is exposed to the weather, or is within reach of any person normally working in the vicinity of a conducting floor, shall be of completely insulated construction or earthed, and where it is subject to accidental damage, it shall be further protected by an earthed guard.
- (5) No portable lampholder shall be in metallic connection with the lamp guard or with any other exposed metallic part of a portable lamp which is not effectively earthed.

### **Regulation 25. Portable apparatus on a dredge or floating structure**

- (1) A portable inspection lamp used on a dredge or other floating structure, in a place normally exposed to the weather where the floor is liable to be wet, in any underground place or confined space such as the inside of a boiler, tank or pipe, or in other similar situation, shall be operated at a voltage not exceeding 50 volts between conductors.
- (2) A portable apparatus used in any of the situations described in subregulation (1) shall be connected to the main in such a manner that the voltage to earth of any part of the apparatus shall not exceed 50 volts.
- (3) A portable apparatus suitable for use on 100 volts may be used and supplied with electricity from a transformer having a 100 volts winding with the center or the neutral point of the winding connected to earth.

## ***Installation of Electric Sign***

### **Regulation 26. Electric sign.**

- (1) No circuit for an electric sign shall use voltage exceeding 7,500 volts to earth, measured on an open circuit.
- (2) There shall be an effective means of disconnection or isolation so that repair and maintenance of an electric sign may be safely carried out.
- (3) The switch normally used for controlling the circuit shall be of the double-pole type and of sufficient current rating.
- (4) The switch referred to in subregulation (3) shall be installed in an easily accessible position and shall be marked "SUIS KAWALAN".
- (5) Any exposed frame or metal part of an electric sign and any metal sheath or conduit enclosing a cable shall be effectively earthed.
- (6) An Electric Sign Contractor who installs an electric sign shall notify the officer-in-charge of the local Fire Brigade before the electric sign is put into use.

### **Regulation 27. Fireman's switch, notice and transformer.**

- (1) A fireman's switch shall be provided for—

- (a) any exterior electric sign; and
- (b) any interior electric sign,

which are unattended.

- (2) The fireman's switch referred to in subregulation (1) shall comply with the following requirements:

- (a) it shall be arranged so that it is capable of isolating the electric sign from all poles of the supply except from the neutral of a three-phase four-wire supply;
- (b) it shall be painted red and near it shall be fixed a name-plate having the words "SUIS BOMBA" inscribed on it in white block capital letters and the "ON" and "OFF" position shall be clearly indicated with the "OFF" position at the top and all letterings shall be legible to a person standing on the ground;
- (c) it shall be fixed in a conspicuous position reasonably accessible to a fireman and not more than 2, 700 millimetres from the ground;
- (d) in respect of an exterior electric sign, the switch shall be directly below the electric sign or a notice indicating its position shall be placed directly below the electric sign and a name-plate shall be fixed near the switch so as to render it clearly distinguishable;

(e) in respect of an interior electric sign, the switch shall be on the main entrance to the building or in a position agreed to by the officer-in-charge of the local Fire Brigade;

(f) where more than one fireman's switch is installed in any one building, every such switch shall be clearly marked to indicate the electric sign or the section of the electric sign which it controls and the officer-in-charge of the local Fire Brigade shall be notified accordingly;

(g) a fireman's switch shall be provided with a lock or catch designed to prevent the switch from being inadvertently or accidentally returned to the "ON" position; and

(h) wherever practicable, an exterior electric sign on any one building shall be controlled by a single fireman's switch.

(3) A danger notice not less than 150 millimetres wide by 100 millimetres high made of suitable material with the lettering in red on a white background bearing the words "BAHAYA VOLTAN TINGGI" shall be fixed in a prominent position adjacent to an electric sign or to a transformer if it is not immediately adjacent to the same electric sign, and in the case of a portable electric sign, the notice shall be fixed to the transformer.

(4) A transformer used in an electric sign shall bear a name-plate showing the following:

(a) the maker's name and address;

(b) the maker's type designation;

(c) open-circuit root mean square (r.m.s.) secondary voltage to core;

(d) rated primary current;

(e) rated primary voltage; and

(f) frequency.

**Regulation 28. Steps to be taken by owner or management.**

The owner or management of an installation shall—

(a) at all times maintain the electric sign to ensure adequate safety to obviate danger from arising; and

(b) take adequate precautions to prevent any unauthorised person from coming into contact with any part of the electric sign.

## ***Other Installations***

### **Regulation 29. Installation not in use.**

When any part of a system or an installation is not in use, that part shall be isolated from the source of electricity and shall not be allowed to remain alive.

### **Regulation 30. Power of Commission to make adjustment or alteration to installation.**

When an installation is found likely to cause undue interference with supply of electricity to other consumers or other installations, the Commission may require the owner, occupier or management of the installation to make adjustments or alterations to the installation or the operation of the electrical system to such an extent, as he considers necessary, to rectify the situation.

### **Regulation 31. Installation for electric smelting, X-ray, etc.**

Any installation for electric smelting or for any other electric metallurgical process or any X-ray installation shall be controlled and operated in such a manner as the Commission may direct.

### **Regulation 32. Installation in a place of public entertainment.**

(1) In a place of public entertainment, any meter or main switch used in connection with the intake of electricity supply from a licensee or supply authority, as the case may be, shall be installed in an enclosure of adequate size which shall be made of fire-resisting materials and shall be adequately ventilated and where the enclosure is located in open air, it shall be of weather-proof construction.

(2) The connection of a source of electricity supply to a projector switchboard, stage switchboard or other control board shall be easily accessible.

(3) Any part of a switch, circuit breaker or fuse and any conductor which is live shall be protected to prevent accidental contact with them.

(4) Any switchboard, fuse board, circuit breaker or other electrical regulating apparatus shall be installed in such a manner so as to prevent access by any person other than a competent person or a person under the immediate supervision of a competent person.

(5) An enclosed switch and circuit breaker, other than a lighting switch shall have the "ON" and "OFF" positions clearly indicated.

(6) The switch, circuit breaker and fuse board shall be labelled to indicate clearly the circuits which they control.

(7) The use of a flexible cable for a portable apparatus shall be avoided and if it is unavoidable the cable used shall be kept as short as possible.

(8) In a projection room of a cinema—

(a) wiring for supply at different voltages shall be kept apart and distinct;

(b) a separate sub-circuit shall be provided for lighting and no apparatus other than the lights in the projection room shall be connected to the sub-circuit; and

(c) any projector, lantern, rectifier or transformer shall be controlled by a separate double-pole switch located in a position which is easily accessible to the operator.

(9) Where a moving apparatus is arranged to be started or stopped from a point remote from the apparatus, a suitable isolating switch shall be installed close to the apparatus.

**Regulation 33. Installation on a dredge or floating structure.**

(1) Any lighting installation on a dredge, floating structure or an offshore platform shall be arranged in such a manner that the voltage between any conductor and earth does not exceed 150 volts.

(2) Any lighting installation by means of any luminous discharge lamp including the fluorescent lamps on a dredge, floating structure or an offshore platform shall comply with the following provisions:

(a) the voltage between any two conductors shall not exceed 255 volts;

(b) any final circuit for supplying electricity to a discharge lamp shall not have any other apparatus connected to it; and

(c) means shall be provided to ensure the immediate discharge of electricity stored in capacitors when the supply of electricity is disconnected.

## ***Earthing of Installation***

### **Regulation 34. Earthing of metallic part, neutral point, etc.**

(1) Any metallic sheath, cover, handle, joint box, switch box, fuse box, switchgear frame, the frame bed plate of any generator, converter, rectifier and motor, the metallic case and core of any transformer, and the metallic frame and cover of any refrigerator, cooking stove and other electrical equipment including any domestic appliance, except those of class II construction, shall be effectively earthed.

(2) Any water pipe connected to a public water supply system shall not be used as a sole means of earthing.

(3) Any gas pipe shall not be used as a sole means or earthing.

(4) The neutral point of an alternating current system or the midpoint of a direct current system shall not be connected to earth at more than one point, except with the approval of the Commission.

(5) Where the neutral or mid-point of a system is not effectively earthed, an indicative and protective device shall be installed in order to avoid danger due to leakage of current to earth from a live conductor.

(6) Where permission of the Commission has been obtained for the neutral conductor to be used as an earth conductor for earthing the frame of an electrical apparatus, the neutral conductor shall not be used as the return conductor for a single phase supply.

### **Regulation 35. Method of earthing.**

In any installation a complete system of earthing conductors made of an acceptable material and having an adequate cross-sectional area with one or more earth plates, pipes or rods shall be provided. Such system of earthing conductors shall be connected to the earth and effectively maintained.

### **Regulation 36. Protection against earth leakage current.**

(1) For an installation in a place of public entertainment, protection against earth leakage current shall be afforded for any final circuit supplying electricity to an equipment which is intended to provide service to the public or which is intended to be accessible to, used by or operated by the public by a residual current device having a rated residual operating current not exceeding 10 milliamperes.

(2) For an installation in a place where the floor is likely to be wet or where the wall or enclosure is of low electrical resistance, protection against earth leakage current shall be afforded for any final circuit supplying electricity to any equipment, either individually or in a group, by a residual current device having a rated residual operating current not exceeding 10 milliamperes.

(3) For an installation where hand-held equipment, apparatus or appliance is used or is likely to be used, protection against earth leakage current shall be afforded for any final

circuit, either individually or in a group, by a residual current device having a rated residual operating current not exceeding 30 milliamperes.

(4) For an installation, other than the installations mentioned in subregulations (1), (2) and (3), protection against earth leakage current shall be afforded for any final circuit, either individually or in a group, by a residual current device having a rated residual operating current not exceeding 100 milliamperes unless—

(a) for functional reasons, it is impractical to provide the protection; or

(b) it is unsafe or even dangerous to provide the protection.

## **General Requirements of Installation**

### **Regulation 37. Room for switchboard or equipment.**

Any part of an installation where the switchboard or equipment is installed in any premises—

- (a) shall be adequately lighted, ventilated and kept dry;
- (b) shall be free from obstruction to facilitate the safe working of the switchboard or equipment;
- (c) shall be of ample dimension to facilitate ample space for safe operation or maintenance; and
- (d) shall not be used for storage of any kind.

### **Regulation 38. Notice.**

(1) A standard notice displaying the words "DILARANG MASUK" shall be placed outside a place containing electrical equipment where unauthorized interference with the equipment is to be expected and where such interference is dangerous.

(2) The notice referred to in subregulation (1) shall be of suitable material, 350 millimetres wide and 240 millimetres high with the lettering in black on a white background, and the words "DILARANG MASUK" shall be inscribed in capital letters in the middle, the inscription being 290 millimetres long and 30 millimetres high and the spacing of letters being 6 millimetres wide.

(3) A standard notice displaying the word "BAHAYA" shall be placed in a conspicuous position near the switchboard.

(4) The notice referred to in subregulation (3) shall be of suitable material, 240 millimetres wide and 350 millimetres high with the lettering in red on a white background, and at the top it shall bear a line of three conventional thunderbolts each 80 millimetres high and 6 millimetres wide at the broadest part, and below these the word "BAHAYA" shall be inscribed in capital letters, the inscription being 190 millimetres long and 28 millimetres high and the spacing of letters being 6 millimetres wide.

(5) The notices under subregulations (1) and (3) shall be legible and placed in conspicuous positions.

### **Regulation 39. Instructions for treatment of electric shock.**

(1) Instructions in the national language as to the proper mode of treating a person suffering from electric shock shall be affixed to any installation, other than a domestic installation, where persons are normally employed and where electricity is generated, transformed or used.



(2) The owner, management, licensee or supply authority of an installation, as the case may be, shall ensure that any person employed therein understands and is familiar with the instructions.

**Regulation 40. Fire extinguishers.**

Fire extinguishers shall be provided by the owner, management, licensee or supply authority of an installation, other than a domestic installation, and the extinguishers shall be kept on the premises for use at any time.

## ***Installation of Aerial Line***

### **Regulation 41. General conditions of aerial line.**

The following general conditions shall apply to an aerial line:

(1) A line conductor shall be of hard-drawn copper, cadmium copper, aluminium or steel-cored aluminium, or such other material as may be approved in writing by the Commission.

(2) A line conductor, unless it is effectively insulated, shall be rendered inaccessible to the natural reach of a person in a building or any other place.

(3) The height of the line conductor shall be increased or its position altered in order to provide sufficient clearance for safety in accordance with its use.

(4) Effective means shall be provided to ensure that a line conductor is dead after it has fallen due to breakage or otherwise.

(5) Any metal work on supports other than a conductor, within 3, 048 millimetres of the ground wherever situated, shall be effectively earthed at each support or connected to a continuous overhead earth conductor which shall be effectively earthed at not less than four points in every 1.61 kilometres.

(6) Any stay wire under subregulation (5) shall be effectively earthed except where it is connected with any unearthed steel-work on wooden pole supports in which case it shall be insulated by means of an insulator placed in each stay wire at a height of not less than 3, 048 millimetres from the ground.

(7) A multiple-earth neutral shall not be installed except with the written approval of the Commission and subject to such conditions as the Commission may impose.

(8) A line conductor, other than a multiple-earth neutral, shall be attached to a suitable insulator carried on the support of wood, iron, steel or reinforced concrete.

(9) Every precaution shall be taken to prevent the corrosion of any metalwork and the deterioration of wooden poles and supports at or below the surface of the ground.

(10) A service line shall be connected to a line conductor at a point of support only and shall be fixed to an insulator on a consumer's premises.

(11) Adequate provision shall be made for any line conductor forming part of a system at different voltages, erected on the same pole or support, to—

(a) guard against danger to any person who works on the system; and

(b) guard against the lower voltage caused by leakage from, or when it comes into contact with, the higher voltage system.

(12) An aerial line, including its supports and structural parts, and any electrical appliance or device belonging to or connected therewith, shall be regularly inspected and effectively maintained.

(13) Any owner, management, licensee or supply authority, as the case may be, shall remove any aerial line upon ceasing to use it for transmission of electricity.

(14) The factor of safety of a line conductor shall be—

(a) based on the breaking load and shall be calculated on the assumption that the line conductor is at a temperature of 21 degrees Celsius; and

(b) the line conductor shall be simultaneously subjected to wind of 96.56 kilometres per hour at right angles to the line and this is wind to be taken as exerting a pressure equivalent to 0.05 gram per square millimetre calculated on the whole of the projected area of the lines.

(15) The height from the ground of any line conductor or auxiliary earth wire in still air shall not, except with the written permission of the Commission, be less than the height appropriate to the system voltage and situation indicated below:

<i>System Voltage between conductors</i>	<i>Ground Clearance in Metres</i>		
	<i>Over roads</i>	<i>Other than over roads</i>	<i>In positions inaccessible to vehicular traffic</i>
Not exceeding 600 volts	5.49	5.18	4.57
Exceeding 600 volts but not exceeding 11,000 volts	5.79	5.49	4.88
Exceeding 11,000 volts but not exceeding 66,000 volts	6.10	6.10	5.18
Exceeding 66,000 volts but not exceeding 132,000 volts	6.70	6.70	5.79
Exceeding 132,000 volts but not exceeding 275,000 volts	7.00	7.00	7.00
Exceeding 275,000 volts	7.30	7.30	7.30

(16) Any insulated line conductor, operating at a voltage not exceeding low voltage, shall be terminated on the building at a height of not less than 2.74 metres from ground level where the normal use of the building does not result in danger or accidental contact with the line conductor by a person normally resident in, or employed in, or visiting the building.

(17) A line conductor shall not cross, over or under, any radio aerial, except with the written permission of the Commission.

(18) Where an aerial line crosses, over or under or is in close proximity to any other aerial line, adequate clearance must be maintained, and where one of the aerial lines operates at high extra high voltage, and the other aerial line at low voltage, suitable protection shall be provided to protect the low voltage line from danger due to excess voltage in the event of any contact between the two lines due to breakage of any line conductor of any of the aerial lines.

(19) At the point of crossing of any aerial lines under subregulation (18), protection shall be provided by an earthed cradle guard between the two aerial lines, and where the higher voltage line crosses over the low voltage line, and where the higher voltage line crosses over the low voltage line, the cradle guard shall not be erected on the lower voltage line supports and shall not be connected to any of the lower voltage line conductors or auxiliary earth conductors except with the written permission of the Commission.

(20) A cradle guard under an aerial line shall be such that from the outermost wires on each side of the guard a line drawn upwards towards the centre of the guard at an angle of 45 degrees to the horizontal shall totally enclose the line conductors.

(21) A cradle guard shall be suitably backstayed where necessary, and in the event of breakage of any or all of the line conductors, the cradle guard shall support any fallen line conductor without serious deformation and without allowing the line conductor or the cradle guard wire to come into contact with the aerial line to be protected or any road underneath the guard.

(22) A cradle guard wire shall be of hard-drawn copper or galvanised stranded steel wire.

(23) The cradle guard shall be connected at both ends to effective earth plates or pipes and to the continuous earth wire, if provided, and the electrical resistance of the cradle guard to earth shall be maintained at a sufficiently low value to ensure the immediate operation of the protective devices controlling the circuit in the event of failure of insulation occurring between a line conductor and the cradle guard.

(24) Any cradle guard wire, including cross lacing, must be maintained in good order and sound condition and the resistance of each arrangement of cradle guard wires to earth must be maintained at a sufficiently low value so that, in the event of any contact occurring between a line conductor and a cradle guard wire, the line conductor shall be made dead.

(25) An aerial line may cross over a railway line provided that, in all cases, the prior written consent of the relevant authority has been obtained, and any such crossing shall be installed and protected in the manner prescribed in subregulation (20), (21), (22), (23) and (24) and conforms with any instruction issued from time to time by the Commission or the relevant authority, as the case may be.

(26) No joint in a line conductor shall be made in any span of an aerial line which crosses over another aerial line or a telecommunication line, road, railway line or navigable waterway.

(27) *[Deleted by P.U.(A) 431/2003: Reg. 20]*

#### **Regulation 42. Aerial line operating at low voltage.**

The following conditions shall apply to an aerial line operating at low voltage:

- (a) an aerial line shall be protected from leakage in the following manner:
  - (i) in a case where metal poles are used, an earthed wire running from pole to pole and connected to the pole shall be used; or
  - (ii) in a case where wooden or concrete poles are used, a bonding wire connected to the supporting metalwork of all insulators and terminating at the lowest point shall be used; and
  - (iii) in all cases, the neutral shall be the lowest conductor of an aerial line;
- (b) a line conductor may cross, over or under, any overhead telecommunication line, provided that the line is installed and protected in accordance with the provisions of subregulations 41(21), (22), (23), (24) and (25) and conforms with any instruction issued from time to time by the Commission or Malaysian Communication and Multimedia Commission;
- (c) the clearance between a line conductor and a building or structure, other than a substation, shall be maintained at not less than 2,134 millimetres horizontally or not less than 2, 743 millimetres vertically unless the written permission of the Commission has been obtained to provide for a different clearance;
- (d) no person shall, without the lawful authority of the owner, management, licensee or supply authority of the installation, as the case may be, undertake any work or engage in any activity within 2, 134 millimetres horizontally or 2, 743 millimetres vertically of any conductor.

#### **Regulation 43. Aerial line operating at high or extra high voltage.**

The following provisions shall apply to an aerial line operating at high or extra high voltage:

- (a) any metalwork other than conductors, but including stays, shall be permanently and effectively earthed and for this purpose a continuous earth wire shall be provided and connected with earth at not less than four points in every 1.61 kilometres, the spacing between the points being as nearly equal as possible, or the metalwork shall be connected to an effective earthing device at each individual support;
- (b) where an aerial line crosses over a road, a suitable cradle guard shall be erected in accordance with the requirements of subregulations 41(21), (22), (23), (24) and (25) and the Commission may in special circumstances exempt the owner, management, licensee or supply authority of the installation, as the case may be, from having to comply with this subregulation;

(c) no aerial line shall be erected along a road without the prior approval in writing of the Commission who may require special precautions and method of construction to be adopted;

(d) any line conductor operating at a voltage not exceeding 66, 000 volts may cross over an overhead telecommunication line provided that the crossing is installed and protected in the manner required by subregulations 41(21), (22), (23), (24) and (25) and conforms to any instruction issued from time to time by the Commission or Malaysian Communications and Multimedia Commission;

(e) an aerial line support or structure shall be clearly and permanently marked with a number;

(f) an aerial line support or structure shall be numbered consecutively;

(g) adequate provision shall be made to prevent unauthorized climbing on any lattice steel tower or other types of aerial line support or structure;

(h) a danger notice of the standard pattern prescribed in subregulations 38(3) and (4) shall be fixed at each support or structure where an aerial line is erected along or across a road, canal, navigable river or railway or crosses over any other overhead conductor;

(i) the clearance between a line conductor and a building or structure, other than a substation, shall be maintained at not less than 4.57 metres unless the written permission of the Commission has been obtained to provide for a different clearance;

(j) no person shall, without the lawful authority of the owner, management, licensee or supply authority of the installation, as the case may be, undertake any work or engage in any activity within 4.57 metres of a conductor;

(k) an aerial line conveying electricity at high or extra high voltage shall not be laid or placed parallel to or nearly parallel to any telecommunication line which is within 183 metres by direct measurement of the proposed route of the supply line:

Provided that the distance of 183 metres may be increased or reduced by the Commission after considering the voltage to be used and all circumstances generally affecting each particular case;

(l) no person, other than a licensee or supply authority, shall lay or place an aerial line conveying electricity at high or extra high voltage within 9.15 metres of any open wire telecommunication line except with the written permission of the Commission; and

(m) the provisions of paragraph (1) shall not apply to any telecommunication line or apparatus installed in a building.

## **PART III – OPERATION**

### ***Examination for Competent Persons***

#### **Regulation 44. Appointment of Board of Examiners**

*[Deleted by P.U.(A) 431/2003: Reg. 24]*

#### **Regulation 45. Requirement for Certificate of Competency.**

(1) Any Electrical Services Engineer, Competent Electrical Engineer, Electrical Supervisor, Chargeman, Wireman or Cable Jointer referred to in these Regulations shall possess a valid Certificate of Competency appropriate to such category, with restrictions, if any, issued to him by the Commission under these Regulations.

(2) The Commission may conduct or cause to be conducted, in such manner as it deems fit, examinations for the purposes of determining whether a person possesses the necessary qualifications to be issued with a Certificate of Competency.

(3) *[Deleted by P.U.(A) 431/2003: Reg. 25].*

#### **Regulation 45A. Application for examination.**

(1) An application for examination for a Certificate of Competency shall be made in writing in such manner as may be determined by the Commission.

(2) Every application under subregulation (1) shall be considered by the Commission who shall decide whether the applicant is eligible under these Regulations to sit for the examination.

(3) The Commission shall notify in writing of its decision.

#### **Regulation 46. Eligibility to become Electrical Services Engineer.**

(1) A person, in order to be considered eligible to sit for the examination for a Certificate of Competency as an Electrical Services Engineer, shall satisfy the Commission that he complies with the following conditions:

(a) that he is a Malaysian citizen;

(b) that he is a holder of a Certificate of Competency as a competent Electrical Engineer issued under these Regulations;

(c) that he has experience in carrying out the work in connection with maintenance and repair, overhaul and service, calibration, test and commissioning of equipment and location of cable faults;

(d) that he is able to speak and write in the national language; and

(e) that he is able to comply with any other conditions as the Commission deems necessary.

(2) Before a Certificate of Competency as an Electrical Services Engineer is issued to a person, he shall attend a professional interview conducted by the Commission and shall satisfy the Board that--

(a) he has sufficient knowledge of maintenance and repair, overhaul and service, calibration, test and commission of equipment, including the principles of operation of equipment used for generation, transmission, distribution, utilisation, protection and metering in electrical installations and energy efficiency management;

(b) he has sufficient knowledge of location of cable faults;

(c) he has sufficient knowledge of first aid, resuscitation and treatment of electric shock; and

(d) he has sufficient knowledge of the Act and any regulation made thereunder.

(3) The examination for a Certificate of Competency as an Electrical Services Engineer shall be based on a syllabus to be determined by the Commission and shall be conducted partly by written answers to questions set and partly by viva voce.

(4) Notwithstanding subregulations (1), (2) and (3), the Commission may exempt, at its discretion, any person from any or all of the requirements necessary for the examination.

#### **Regulation 47. Eligibility to become Competent Electrical Engineer.**

(1) A person, in order to be considered eligible to sit for the examination for a Certificate of Competency as a Competent Electrical Engineer, shall satisfy the Commission that he complies with the following conditions:

(a) that he is a Malaysian citizen;

(b) that he holds a Degree or the equivalent qualification to a degree in electrical engineering from a recognised university or institution;

(c) that he is a Professional Engineer in electrical engineering registered with the Board of Engineers under the Registration of Engineers Act 1967;

(d) that he has not less than five years working experience in an environment where electrical equipment is in operation and has had experience of controlling live equipment;

(e) that he is able to speak and write in the national language; and

(f) that he is able to comply with any other conditions as the Board deems necessary.



(2) Before a Certificate of Competency as a Competent Electrical Engineer is issued to a person, he shall attend a professional interview conducted by the Commission and shall satisfy the Commission that—

(a) he has sufficient knowledge of modern electrical engineering practice, including the principles of operation of equipment used for generation, transmission, distribution, utilisation, protection and metering in electrical installations and energy efficiency management;

(b) he has sufficient knowledge of first aid, resuscitation and treatment of electric shock; and

(c) he has sufficient knowledge of the Act and any regulation made thereunder.

(3) The examination for a Certificate of Competency as a Competent Electrical Engineer shall be based on a syllabus to be determined by the Commission and shall be conducted partly by written answers to questions set and partly by viva voce.

(4) Notwithstanding subregulations (1), (2) and (3), the Commission may exempt, at its discretion, any person from any or all of the requirements necessary for the examination.

#### **Regulation 48. Eligibility to become Electrical Supervisor.**

(1) A person, in order to be considered eligible to sit for the examination for a Certificate of Competency as an Electrical Supervisor, shall satisfy the Commission that he complies with the following conditions:

(a) that he is a Malaysian citizen;

(b) that he is in possession of a Diploma or the equivalent qualification to a Diploma in electrical engineering from a recognised institution;

(c) that he has not less than five years working experience in an environment where electrical equipment is in operation and has had experience of controlling live equipment;

(d) that he is able to speak and write in the national language; and

(e) that he is able to comply with any other conditions as the Commission deems necessary.

(2) Before a Certificate as an Electrical Supervisor is issued to a person, he shall attend an interview conducted by the Commission and shall satisfy the Commission that—

(a) he has sufficient knowledge of modern electrical engineering practice, including the principles of operation of equipment used for generation, transmission, distribution, utilisation, protection and metering in electrical installations and energy efficiency management;

(b) he has sufficient knowledge of first aid, resuscitation and treatment of electric shock; and

(c) he has sufficient knowledge of the Act and any regulation made thereunder.

(3) The examination for a Certificate of Competency as an Electrical Supervisor shall be based on a syllabus to be determined by the Commission and shall be partly by written answers to questions set and partly by *viva voce*.

(4) [Deleted by P.U.(A) 431/2003: Reg. 29]

(5) Notwithstanding subregulations (1), (2) and (3), the Commission may exempt, at its discretion, any person from any or all of the requirements necessary for the examination.

#### **Regulation 49. Eligibility to become Chargeman.**

(1) A person, in order to be considered eligible to sit for the examination for a Certificate of Competency as a Chargeman, shall satisfy the Commission that he complies with the following conditions:

(a) that he is a Malaysian citizen;

(b) that he is not less than 20 years of age;

(c) that he has the suitable educational qualification to be determined by the Commission;

(d) that he has not less than three years working experience in an environment where electrical equipment is in operation and has had experience of controlling live equipment;

(e) that he is able to speak and write in the national language; and

(f) that he is able to comply with any other conditions as the Commission deems necessary.

(2) Before a Certificate of Competency as a Chargeman is issued to a person, he shall attend an interview conducted by the Commission and shall satisfy the Commission that—

(a) he understands the use of various types of equipment which are likely to come under his charge, and has sufficient knowledge to install and operate it without danger;

(b) he has sufficient knowledge of first aid, resuscitation and treatment of electric shock; and

(c) he has sufficient knowledge of the Act and any regulation made thereunder.

(3) The examination for a Certificate of Competency as a Chargeman shall be based on a syllabus to be determined by the Commission and shall be partly by written answers to questions set and partly by viva voce and may include such practical tests as the Commission deems necessary.

(4).*[Deleted. P.U.(A) 431/2003: Reg. 30]*

(5) Notwithstanding subregulations (1), (2) and (3), the Commission may exempt, at its discretion, any person from any or all of the requirements necessary for the examination.

#### **Regulation 50. Eligibility to become Wireman.**

(1) A person, in order to be considered eligible to sit for the examination for a Certificate of Competency as a Wireman, shall satisfy the Commission that he complies with the following conditions:

- (a) that he is a Malaysian citizen;
- (b) that he is not less than 18 years of age;
- (c) that he has the suitable educational qualification to be determined by the Commission;
- (d) that he has working experience in relation to electrical wiring for such a period, to be determined by the Commission, with an Electrical Contractor or Private Wiring Unit or any recognised academic institution or Government department or agency;
- (e) that he is able to speak and write in the national language; and
- (f) that he is able to comply with any other conditions as the Commission deems necessary.

(2). Before a Certificate of Competency as a Wireman is issued to a person, he shall attend an interview conducted by the Commission and satisfy the Commission that—

- (a) he has sufficient knowledge and practical skill in the wiring of an installation;
- (b) he has sufficient knowledge of first aid, resuscitation and treatment of electric shock; and
- (c) he has sufficient knowledge of the Act and any regulation made thereunder.

(3) The examination for a Certificate of Competency as a Wireman shall be based on a syllabus to be determined by the Commission and shall be partly by written answers to questions set and partly by viva voce and may include such practical tests as the Commission deems necessary.

(4) *[Deleted. P.U.(A) 431/2003: Reg. 31]*

(5) Notwithstanding subregulations (1), (2) and (3), the Commission may exempt, at its discretion, any person from any or all of the requirements necessary for the examination.

**Regulation 51. Eligibility to become Cable Jointer.**

(1) An applicant, in order to be considered eligible to sit for the examination for a Certificate of Competency as a Cable Jointer, shall satisfy the Commission that he complies with the following conditions:

(a) that he is a Malaysian citizen;

(b) that he is not less than 20 years of age;

(c) that he has the suitable educational qualification to be determined by the Commission;

(d) that he has not less than three years working experience in the jointing, connecting and terminating of cables;

(e) that he is able to speak and write in the national language; and

(f) that he is able to comply with any other conditions as the Commission deems necessary.

(2) Before a Certificate of Competency as a Cable Jointer is issued to a person, he shall attend an interview conducted by the Board and shall satisfy the Commission that he understands the jointing, connecting and terminating of various types of cables which are likely to come under his charge and has sufficient knowledge to carry out the work.

(3) The examination for a Certificate of Competency as a Cable Jointer shall be based on a syllabus to be determined by the Commission and shall be partly by written answers to questions set and partly by viva voce and may include such practical tests as the Commission deem necessary.

(4) [*Deleted. P.U.(A) 431/2003: Reg. 32*]

(5) Notwithstanding subregulations (1), (2) and (3), the Commission may exempt, at its discretion, any person from any or all of the requirements necessary for the examination.

**Regulation 52. Temporary registration of foreign person.**

(1) Subject to these Regulations and such conditions as the Commission may think fit to impose, the Commission may, upon payment of the fee prescribed in Part IIIB of the Second Schedule, issue a temporary Certificate of Competency as a competent person to any foreign person.

(2) A foreign person may be considered for temporary issuance of the Certificate of Competency if he satisfies the Commission that—

(a) he possesses the necessary qualification and skill which is recognised for the practice of electrical engineering in the country where he normally practices;

(b) he possesses the necessary expertise and his physical presence is required in Malaysia; and

(c) he has the necessary work permit issued by the relevant authority.

(3) Notwithstanding subregulation (2), before a person may be considered for the purpose of temporary registration as an Electrical Services Engineer or a Competent Electrical Engineer, he shall be registered temporarily as a Professional Engineer in Electrical Engineering with the Board of Engineers under the Registration of Engineers Act 1967 [Act 138].

(4) The Commission may issue a temporary Certificate of Competency for a period not exceeding twelve months.

(5) A foreign person whose Certificate of Competency has expired may apply for renewal subject to the provisions of these Regulations and the Commission may renew the Certificate as he deems fit.

(6) For the purpose of this regulation, "foreign person" means a person who is not a citizen or a permanent resident of Malaysia.

#### **Regulation 53. Medical evidence of fitness.**

The Commission may required medical evidence of physical and mental fitness, certified by a registered medical practitioner, to be produced by a person before a Certificate of Competency is issued to him.

#### **Regulation 54. Fee for examination, endorsement and replacement of Certificate of Competency.**

A fee as prescribed in Part IV of the Second Schedule shall be charged for—

- (a) an examination for a Certificate of Competency;
- (b) the endorsement of a Certificate of Competency;
- (c) replacement of a Certificate of Competency; and
- (d) the reissuance of a Certificate of Competency.

#### **Regulation 55. Restriction of endorsement of Certificate of Competency.**

(1) The Commission may at its discretion—

- (a) restrict the use of a Certificate of Competency of any Electrical Services Engineer, Competent Electrical Engineer, Electrical Supervisor, Chageman, Wireman or Cable Jointer to any type, class, duration or location of installation;
- (b) endorse a Certificate of Competency for a Wireman with Single Phase Restriction or a Wireman with Three Phase Restriction to authorise him to set and certify the wiring of any Single Phase or Three Phase installation,

respectively, operating at low voltage on the condition that he has shown sufficient knowledge and experience in carrying out the work to the satisfaction of the Commission; or

(c) endorse a Certificate of Competency for a Wireman with Three Phase Restriction to authorise him to carry out any electric sign installation on the condition that he has shown sufficient knowledge and experience in carrying out the work to the satisfaction of the Commission.

(2) The Commission may make any other endorsement on any Certificate of Competency issued under these Regulations as the Commission deems necessary.

#### **Regulation 56. Form of Certificate of Competency.**

The Certificates of Competency as an Electrical Services Engineer, a Competent Electrical Engineer, an Electrical Supervisor, a Chargeman, a Wireman and a Cable Jointer shall be in Forms J, K, L, M, N and O respectively as prescribed in the First Schedule.

#### **Regulation 57. Surrender of Certificate of Competency issued under any other written law.**

(1) A person who holds a Certificate of Competency issued under any other written law shall forthwith surrender the Certificate to the Commission who shall issue to the person a new Certificate of Competency of equivalent qualification.

(2) A person who holds a Certificate of Competency issued under any other written law immediately before the date of commencement of these Regulations, and who does any work, act or thing under these Regulations may continue to do so during the period of twelve months from the commencement of these Regulations provided that he has surrendered the Certificate referred to in subregulation (1) for the purpose of issuance of the appropriate Certificate of Competency under these Regulations.

(3) A fee shall be charged for any Certificate of Competency issued under subregulation (1) at the rate prescribed in Part IV of the Second Schedule.

#### **Regulation 58. Lost or damaged Certificate of Competency.**

Where a Certificate of Competency issued by the Commission is lost, stolen, destroyed, mutilated or defaced, a replacement of the Certificate of Competency may be issued by the Commission on production of a statutory declaration that the original Certificate of Competency has been lost, stolen or destroyed or upon surrender of the mutilated or defaced original Certificate of Competency and upon payment of such fee as prescribed in Part IV of the Second Schedule.

#### **Regulation 59. Suspension and revocation of Certificate of Competency.**

(1) The Commission may, after the conclusion of an enquiry under the Act or on consideration of a judgment of a court or a finding in an enquiry of death held under the

Criminal Procedure Code, if it appears necessary to the Commission so to do, suspend for such period as the Commission may decide or revoke absolutely any Certificate of Competency issued under these Regulations.

(2) The Commission may suspend or revoke a Certificate of Competency issued under these Regulations if the holder of the Certificate has obtained the Certificate by making or causing to be made a false or fraudulent declaration, certification or representation, either in writing or otherwise.

(3) The Commission may endorse, suspend or revoke any Certificate of Competency issued under these Regulations in a case of serious misconduct.

(4) For the purpose of subregulation (3) "serious misconduct" means one or more of the following:

(a) sleeping while on duty;

(b) causing damage to equipment by careless operation;

(c) causing danger to life by careless operation;

(d) causing damage to equipment by neglect to use safety devices provided;

(e) causing danger to life by neglect to use safety devices provided;

(f) being under the influence of alcohol or drugs or both whilst on duty;

(g) making or causing to be made a false or fraudulent declaration, certification or representation, either in writing or otherwise; or

(h) failing to carry out any duty prescribed in these Regulations.

(5) When the Commission has reason to believe that a person who holds a Certificate of Competency has committed an offence under the Act or these Regulations or any misconduct under these Regulations and is no longer fit to hold the Certificate of Competency the Commission shall forthwith suspend the Certificate.

(6) The Commission shall, as soon as practicable after the suspension of the Certificate, appoint a Committee consisting of the Chairman of the Commission and two other officers appointed by the Chairman of the Commission to enquire into the alleged offence or misconduct.

(7) The person whose Certificate of Competency has been suspended under subregulation (5) shall be given the opportunity to defend himself against the alleged offence or misconduct before the Committee appointed by the Commission.

(8) The Committee appointed by the Commission shall, within fourteen days from the date of the completion of an enquiry under subregulation (6), forward its findings and recommendations to the Commission which shall decide whether to endorse, suspend for such period as the Commission deems fit or to revoke absolutely the Certificate of Competency issued under these Regulations.

(9) A person who is aggrieved by the decision of the Commission under subregulation (8) may apply to the Minister for re-consideration of the matter. The application shall be made in writing within twenty-one days from the date when the decision of the Commission is received by him and shall contain the grounds of grievance.

(10) The decision of the Minister on the matter referred to him under subregulation (9) shall be final.

(11) A person, whose Certificate of Competency issued under these Regulations has been suspended, shall not, during the period of the suspension, do any work, act or thing which under these Regulations a person is allowed to do as a holder of such Certificate of Competency.

(12) A person, whose Certificate of Competency issued under these Regulations has been revoked, shall not, after the date of the revocation, do any work, act or thing which under these Regulations a person is allowed to do as a holder of such Certificate of Competency.



## ***Competent Person***

### **Regulation 60. Competent person.**

(1) The competent person to work, operate or be in control of any work or operation of an installation required by any owner, management or licensee of the installation, as the case may be, shall, unless exempted under the Act, be recommended by the following persons:

(a) where the installation operates at a voltage not exceeding 600 volts—

- (i) an Electrical Services Engineer;
- (ii) a Competent Electrical Engineer;
- (iii) an Electrical Supervisor; or
- (iv) a resident Competent Electrical Engineer;

(b) where the installation operates at a voltage exceeding 600 volts but not exceeding 132, 000 volts—

- (i) an Electrical Services Engineer;
- (ii) a Competent Electrical Engineer; or
- (iii) a resident Competent Electrical Engineer; and

(b) where the installation operates at a voltage at or exceeding 132,000 volts, a resident Competent Electrical Engineer.

(2) The Electrical Services Engineer, Competent Electrical Engineer, resident Competent Electrical Engineer or Electrical Supervisor, as the case may be, in subregulation (1) shall—

(a) recommend the competent person who shall work or operate or be in control of any work or operation and who shall be responsible for any work or operation carried out by any person under his control; and

(b) obtain the approval from the Commission of the competent person referred to in paragraph (a),

for the installation or equipment belonging to the owner, management or licensee.

(3) The owner, management or licensee of the installation or equipment shall comply with such recommendation as may be approved by the Commission under subregulation (2).

(4) [*Deleted by P.U.(A) 431/2003: Reg. 40*]

### **Regulation 61. Competent person responsible for a public installation.**

Notwithstanding regulation 60, the competent person required by a licensee of a public installation shall—

- (a) work, operate or be in control of the installation; and
- (b) be responsible for the work or operation in the installation of any person under his control.

### **Regulation 62. Competent person on each shift.**

Where any installation or equipment is operated by two or more shifts, the competent person on each shift required by the owner, management or licensee of the installation or equipment, as the case may be, shall be as specified in regulation 60.

### **Regulation 63. Registration of competent person.**

(1) A person who holds a Certificate of Competency issued under these Regulations and who does any work, act or thing under these Regulations in relation to his Certificate of Competency shall register himself with the Commission.

(2) The registration referred to in subregulation (1), other than a temporary Certificate of Competency issued under regulation 52, shall be valid for a period of not less than one year and not more than five years on payment of the fees as prescribed in Part V of the Second Schedule.

(2A) If a person who is registered under subregulation (2) intends to continue to do any work, act or thing for which such registration is required after the expiry of the period of registration, he shall, before or on the date of expiry of his registration apply for a new registration.

(3) A person, who holds one or more Certificates of Competency issued under these Regulations, shall not register or allow to be registered such certificate or certificates, as the case may be, with more than one employer or installation, except with the written permission of the Commission.

(4) A person who holds a Certificate of Competency as an Electrical Services Engineer, Competent Electrical Engineer or Electrical Supervisor shall not do any work, act or thing under these Regulations which a person is allowed to do as a holder of such Certificate of Competency if he is more than 75 years of age.

(5) A person who holds a Certificate of Competency as a Chargeman, Wireman or Cable Jointer shall not do any work, act or thing under these Regulations which a person is allowed to do as a holder of such Certificate of Competency if he is more than 65 years of age.

(6) Notwithstanding subregulations (4) and (5), the age limit of a person may be waived on a year to year basis at the discretion of the Commission who may require medical

evidence of the physical and mental fitness of the person certified by any registered medical practitioner.

(7) The owner, management or licensee of the installation, as the case may be, shall cause to register within seven days of employment or appointment any person who holds a Certificate of Competency issued under these Regulations and shall inform the Commission in writing the name and qualification of the person.

(8) The owner, management or licensee of the installation, as the case may be, shall prepare a duty list to identify the work or operation of each competent person and the part of the installation which is to be under the responsibility of each competent person under his employment, and the duty list shall be acknowledged by the competent person and shall be produced on demand by an authorized officer.

**Regulation 64. Competent person to connect switchboard, equipment, etc.**

(1) No switchboard, switchgear or equipment, except any electrical appliance, fitting or apparatus designed to be connected to an electrical socket outlet by means of a plug, shall be connected to an installation for the purpose of receiving electricity unless the connection is carried out by or under the control of a competent person.

(2) Notwithstanding subregulation (1), it shall not be unlawful for a person to replace any lamp in a domestic installation.

**Regulation 65. Competent persons to submit plans, drawings and specifications.**

The competent persons who shall, on request, prepare and submit plans, drawings and specifications are as provided in Part VI of the Second Schedule.

### ***Regular Inspection by Competent Person***

#### **Regulation 66. Installation to be visited and inspected by competent person.**

Without prejudice to any exemption under the Act and subject to regulation 67, an installation shall be visited and inspected by the competent person referred to in regulation 67.

#### **Regulation 67. Competent person and frequency of visit and inspection.**

(1) The competent person who is required to visit and inspect the installation shall be as follows:

(a) where the installation is operating at low voltage—

- (i) the Electrical Services Engineer;
- (ii) the Competent Electrical Engineer; or
- (iii) the Electrical Supervisor; and

(b) where the installation is operating at higher than low voltage—

- (i) the Electrical Services Engineer; or
- (ii) the Competent Electrical Engineer.

(2) The number of visits for the purpose of inspection by the competent person referred to in subregulation (1) shall be as follows:

- (a) for an installation not exceeding 600 volts and receiving electricity via a switchgear rated at or above 100 amperes, the minimum number of visits for the purposes of inspection per month shall be one visit;
- (b) for an installation exceeding 600 volts but not exceeding 11,000 volts, the minimum number of visits for the purpose of inspection per month shall be two visits; and
- (c) for an installation exceeding 11,000 volts but not exceeding 132,000 volts the minimum number of visits for the purpose of inspection per month shall be four visits:

Provided that in a place of public entertainment the frequency of inspection for the installation referred to in paragraph (a) shall be at least two inspections per month:

Provided further that the Commission may determine—

- (aa) in the interests of public safety the number of inspections for an installation by a competent person shall be more than that prescribed in paragraph (a), (b) or (c); or

(bb) where he is satisfied that the installation is safe and reasonably secured, the number of inspections for the installation by a competent person shall be less than that prescribed in paragraph (a), (b) or (c).

**Regulation 68. Duty of Engineer or Supervisor to inspect and report.**

(1) Any Electrical Services Engineer, Competent Electrical Engineer or Electrical Supervisor who is required to inspect an installation under regulation 67 shall inspect the installation and shall record and direct all findings, recommendations and instructions to the Commission and the owner, management or licensee of the installation, as the case may be.

(2) The Electrical Services Engineer, Competent Electrical Engineer or Electrical Supervisor shall submit to the owner, management or licensee of the installation, as the case may be, an inspection report of his findings, recommendations and instructions on the installation within two weeks of the inspection.

(3) The owner, management or licensee of an installation shall keep a book of all the records and reports made under subregulations (1) and (2) and the book shall be open for inspection by the Commission at all times.

(4) The Electrical Services Engineer, Competent Electrical Engineer or Electrical Supervisor shall submit to the Commission an Inspection Certificate as prescribed in Form I of the First Schedule within two weeks of the inspection of the Installation.

**Regulation 69. Commission to determine number of visits.**

The Commission shall determine the total number of visits in a month which can be performed by any Electrical Services Engineer, Competent Electrical Engineer or Electrical Supervisor for the purpose of inspection of any installation as provided in regulation 67.

**Regulation 70. Duty to inform and to make good defects.**

Any Electrical Services Engineer, Competent Electrical Engineer or Electrical Supervisor inspecting and installation referred to in subregulation 67(2), and being aware of any defect in the installation or any equipment therein which is likely to cause danger shall forthwith inform the owner, management or licensee of the installation to make good or remove the defects, and make a report immediately to the Commission.

## **Registration of Electrical Services Contractor**

### **Regulation 71. Electrical Services Contractor.**

(1) No person shall perform or carry out any maintenance and repair, overhaul and service, calibration, test and commission of any installation or equipment and location of cable faults unless he holds a valid Certificate of Registration as an Electrical Services Contractor issued under these Regulations.

(2) The maximum voltage for any electrical work referred to in subregulation (1) to be undertaken by an Electrical Services Contractor shall be limited to whatever operating voltage restriction that is in the Certificate of Competency of the Electrical Services Engineer who is in his employment.

(3) A Certificate of Registration as an Electrical Services Contractor shall be in Form P as prescribed in the First Schedule and shall be valid for a period of not less than one year and not more than five years from the date of issue or renewal of the Certificate of Registration.

### **Regulation 72. Requirements for registration as an Electrical Services Contractor.**

No Certificate of Registration as an Electrical Services Contractor shall be issued or renewed unless the Commission is satisfied that—

(a) the person has registered his business under the Registration of Businesses Act 1956 or is a company registered or incorporated under the Companies Act 1965;

(b) the person employs on a full-time basis an Electrical Services Engineer, and nothing in this paragraph prohibits the same person to be the Electrical Services Engineer;

(c) the person has insurance coverage for his employees under the Employees' Social Security Act 1969 [Act 4]; and

(d) the person is in possession of testing equipment and instruments related to his work to be determined by the Commission.

### **Regulation 73. Information required for registration as an Electrical Services Contractor.**

Before issuing or renewing a Certificate of Registration for an Electrical Services Contractor, the Commission shall require the person to submit the following information:

(a) the names and addresses of all partners in the case of a registered partnership, and of all directors, managers and shareholders in the case of a registered company;

(b) the premises rented or owned for carrying on the business; and

(c) any other information as the Commission deems necessary.

**Regulation 74. Fee for Certificate of Registration as an Electrical Services Contractor.**

A fee shall be paid for a Certificate of Registration as an Electrical Services Contractor and the renewal thereof at the rate prescribed in Part VII of the Second Schedule.

## ***Registration of Electrical Contractor***

### **Regulation 75. Electrical Contractor.**

(1) No person shall perform or carry out any electrical work unless he holds a valid Certificate of Registration as an Electrical Contractor issued under these Regulations.

(2) A Certificate of Registration as an Electrical Contractor shall be in Form Q as prescribed in the First Schedule in the First Schedule and shall be valid for a period of not less than one year and not more than five years from the date of issue or renewal of the Certificate of Registration.

### **Regulation 76. Requirements for registration as an Electrical Contractor.**

No Certificate of Registration as an Electrical Contractor shall be issued or renewed unless the Commission is satisfied that—

(a) the person has registered his business with the Registrar of Businesses or is a company registered or incorporated under the Companies Act 1965;

(b) the person employs on a full-time basis such number of Wireman as prescribed in regulation 78 relevant to the class of Electrical Contractor to which his application relates;

(c) the person has insurance coverage for his employees under the Employees' Social Security Act 1969 [Act 4]; and

(d) the person is in possession of suitable equipment, testing equipment and instruments related to his work to be determined by the Commission.

### **Regulation 77. Information required for registration as an Electrical Contractor.**

Before issuing or renewing a Certificate of Registration for an Electrical Contractor, the Commission shall require the person to submit the following information:

(a) the names and addresses of all partners in the case of a registered partnership, and of all directors, managers and shareholders in the case of a registered company;

(b) the premises rented or owned for carrying on the business; and

(c) any other information as the Commission deems necessary.

### **Regulation 78. Classification of Electrical Contractors.**

(1) An Electrical Contractor shall be classified under any of the following classes:

(a) Class A;



- (b) Class B;
- (c) Class C; or
- (d) Class D.

(2) An Electrical Contractor of Class A shall be a person who—

- (a) is capable of carrying out electrical work above one million ringgit in value;
- (b) has employed on a full-time basis at least three Wireman with Three Phase Restriction, and nothing in this paragraph prohibits him to be one of the three Wireman;
- (c) has employed on a full-time basis at least one Wireman with Three Phase Restriction authorised to test an installation, and nothing in this paragraph prohibits the Wireman from being one of the three Wireman with Three Phase Restriction as provided in paragraph (b); and
- (d) has employed on a full-time basis at least two Wireman with Single Phase Restriction, and nothing in this paragraph prohibits him to be one of the two Wireman.

(3) An Electrical Contractor of Class B shall be a person who—

- (a) is capable of carrying out electrical work up to one million ringgit in value;
- (b) has employed on a full-time basis at least two Wiremen with Three Phase Restriction, and nothing in this paragraph prohibits him to be one of the two Wiremen;
- (c) has employed on a full-time basis at least one Wireman with Three Phase Restriction authorised to test an installation, and nothing in this paragraph prohibits the Wireman from being one of the two Wiremen with Three Phase Restriction as provided in paragraph (b); and
- (d) has employed on a full-time basis at least one Wireman with Single Phase Restriction, and nothing in this paragraph prohibits him to be the Wireman.

(4) An Electrical Contractor of Class C shall be a person who—

- (a) is capable of carrying out electrical work up to five hundred thousand ringgit in value;
- (b) has employed on a full-time basis at least one Wireman with Three Phase Restriction, and nothing in this paragraph prohibits him to be the Wireman; and
- (c) has employed on a full-time basis at least one Wireman with Three Phase Restriction authorised to test an installation, and nothing in this paragraph

prohibits the Wireman from being the same person as the Wireman with Three Phase Restriction as provided in paragraph (b).

(5) An Electrical Contractor of Class D shall be a person who—

(a) is capable of carrying out electrical work up to one hundred thousand ringgit in value;

(b) has employed on a full-time basis at least one Wireman with Single Phase Restriction, and nothing in this paragraph prohibits him to be the Wireman;

(c) has employed on a full-time basis at least one Wireman with Single Phase Restriction authorised to test an installation, and nothing in this paragraph prohibits him to be the Wireman; and

(d) shall only carry out electrical work in a single phase installation which receives electricity from a licensee or supply authority, as the case may be, via a single phase two wire system.

(6) An Electrical Contractor may apply to the Commission to be promoted from one class to another.

**Regulation 79. Fee for registration as an Electrical Contractor.**

A fee shall be paid for a Certificate of Registration as an Electrical Contractor and the renewal thereof at the rate prescribed in Part VIII of the Second Schedule.

## ***Registration of Private Wiring Unit***

### **Regulation 80. Private Wiring Unit.**

(1) No person shall carry out any electrical wiring on his own premises unless he holds a valid Certificate of Registration as a Private Wiring Unit issued under these Regulations.

(2) A Certificate of Registration as a Private Wiring Unit shall be in Form R as prescribed in the First Schedule and shall be valid for a period of not less than one year and not more than five years from the date of issue or renewal of the Certificate of Registration.

### **Regulation 81. Requirement for registration as a Private Wiring Unit.**

(1) No Certificate of Registration as a Private Wiring Unit shall be issued or renewed unless the Commission is satisfied that—

(a) the person has registered his business under the Registration of Businesses Act 1956 [Act 197] or is a company registered or incorporated under the Companies Act 1965 [Act 125];

(b) the person employs on a full-time basis a Wireman with Three Phase Restriction, and nothing in this paragraph prohibits him to be the Wireman;

(c) the person employs on a full-time basis at least one Wireman with Three Phase Restriction authorised to test an installation, and nothing in this paragraph prohibits the Wireman in paragraph (b) from being the Wireman under this paragraph;

(d) the person has insurance coverage for his employees under the Employees' Social Security Act 1969 [Act 4]; and

(e) the person is in possession of suitable equipment, testing equipment and instruments related to his work to be determined by the Commission.

(2) Notwithstanding subregulation (1), the Commission may, after due consideration, exempt any person from all or any of the requirements necessary for the issue or renewal of the Certificate of Registration.

### **Regulation 82. Information required for registration as a Private Wiring Unit.**

(1) Before issuing or renewing a Certificate of Registration for a Private Wiring Unit, a Commission shall require the person to submit the following information:

(a) the names and addresses of all partners in the case of a registered partnership and of all directors, managers and shareholders, in the case of a registered company;

(b) the premises rented or owned for carrying on the business; and

(c) any other information as the Commission deems necessary.

(2) Notwithstanding subregulation (1), the Commission may exempt, at its discretion, any person from all or any of the requirements stipulated in subparagraphs (1)(a), (b) and (c).

**Regulation 83. Fee for registration as a Private Wiring Unit.**

A fee shall be paid for a Certificate of Registration as a Private Wiring Unit and the renewal thereof at the rate prescribed in Part IX of the Second Schedule.

## ***Registration of Electric Sign Contractor***

### **Regulation 84. Electric Sign Contractor.**

(1) No person shall perform or carry out any electric sign work unless he holds a valid Certificate of Registration as an Electric Sign Contractor issued under these Regulations.

(2) A Certificate of Registration as an Electric Sign Contractor shall be in Form S as prescribed in the First Schedule and shall be valid for a period of not less than one year and not more than five years from the date of issue or renewal of the Certificate of Registration.

### **Regulation 85. Requirements for registration as an Electric Sign Contractor.**

No Certificate of Registration as an Electric Sign Contractor shall be issued or renewed unless the Commission is satisfied that—

(a) the person has registered his business under the Registration of Businesses Act 1956 [Act 197.] or is a company registered or incorporated under the Companies Act 1965 [Act 125.];

(b) the person employs on a full-time basis at least one Wireman with Three Phase Restriction authorised to carry out electric sign work, and nothing in this paragraph prohibits him to be the Wireman;

(c) the person employs on a full-time basis at least one Wireman with Three Phase Restriction authorised to test an installation, and nothing in this paragraph prohibits the said person, the Wireman with Three Phase Restriction as in paragraph (b) and the Wireman under with Three Phase Restriction endorsed to test an installation to be the one and the same person;

(d) the person has insurance coverage for his employees under the Employees' Social Security Act 1969 [Act 4]; and

(e) the person is in possession of suitable equipment, testing equipment and instruments related to his work to be determined by the Commission.

### **Regulation 86. Information required for registration as an Electric Sign Contractor.**

Before issuing or renewing a Certificate of Registration for an Electric Sign Contractor, the Commission shall require the person to submit the following information:

(a) the names and addresses of all partners in the case of a registered partnership and of all directors, managers and shareholders in the case of a registered company;

(b) the premises rented or owned for carrying on the business; and

(c) any other information as the Commission deems necessary.

**Regulation 87. Fee for Certificate of Registration as an Electric Sign Contractor.**

A fee shall be paid for a Certificate of Registration as an Electric Sign Contractor and the renewal thereof at the rate prescribed in Part X of the Second Schedule.

## ***Registration of Electrical Repair Contractor***

### **Regulation 88. Electrical Repair Contractor.**

(1) No person shall, in the course of or in connection with or for the purposes of any trade, business or profession carried on by him, perform or carry out any checking, servicing or repair of any electrical appliance unless he holds a valid Certificate of Registration as an Electrical Repair Contractor issued under these Regulations.

(2) A Certificate of Registration as an Electrical Repair Contractor shall be in Form T as prescribed in the First Schedule and shall be valid for a period of not less than one year and not more than five years from the date of issue or renewal of the Certificate of Registration.

### **Regulation 89. Requirements for registration as an Electrical**

No Certificate of Registration as an Electrical Repair Contractor shall be issued or renewed unless the Commission is satisfied that—

(a) the person has registered his business under the Registration of Businesses Act 1956 [*Act 197.*] or is a company registered or incorporated under the Companies Act 1965 [*Act 125.*];

(b) the person employs on a full-time basis a skilled person with sufficient experience in the repair and service of electrical appliances, and nothing in this paragraph prohibits him to be the skilled person;

(c) the person has insurance coverage for his employees under the Employees' Social Security Act 1969; and

(d) the person is in possession of suitable equipment, testing equipment and instruments related to his work to be determined by the Commission.

### **Regulation 90. Information required for registration as an Electrical Repair Contractor.**

Before issuing or renewing a Certificate of Registration for an Electrical Repair Contractor, the Commission shall require the person to submit the following information:

(a) the names and addresses of all partners in the case of a registered partnership and of all directors, managers and shareholders in the case of a registered company;

(b) the premises rented or owned for carrying on the business; and

(c) any other information as the Commission deems necessary.

### **Regulation 91. Fee for Certificate of Registration as an Electrical Repair Contractor.**

A fee shall be paid for a Certificate of Registration as an Electrical Repair Contractor and renewal thereof at the rate prescribed in Part XI of the Second Schedule.



## ***Registration of Switchboard Manufacturer***

### **Regulation 92. Switchboard Manufacturer.**

(1) No person shall, in the course of or in connection with or for the purposes of any trade or business carried on by him, make any switchboard unless he holds a valid Certificate of Registration as a Switchboard Manufacturer, issued under these Regulations.

(2) A Certificate of Registration as a Switchboard Manufacturer shall be in Form U as prescribed in the First Schedule and shall be valid for a period of not less than one year and not more five years from the date of issue or renewal of the Certificate of Registration.

### **Regulation 93. Requirements for registration as a Switchboard Manufacturer operating at low voltage.**

No Certificate of Registration as a Switchboard Manufacturer for a switchboard operating at low voltage shall be issued or renewed unless the Commission is satisfied that—

(a) the person has registered his business under the Registration of Businesses Act 1956 [Act 197.] or is a company registered or incorporated under the Companies Act 1965 [Act 125.];

(b) the person employs on a full-time basis at least one Wireman with Three Phase Restriction, and nothing in this paragraph prohibits him to be the Wireman;

(c) the person employs on a full-time basis at least one Chargeman with the relevant restriction to be determined by the Commission, and nothing in this paragraph prohibits the person, the Chargeman and the Wireman with Three Phase Restriction as in paragraph (b) to be one and the same person;

(d) the person has insurance coverage for his employees under the Employees' Social Security Act 1969; and

(e) the person is in possession of suitable equipment, test equipment and instruments for testing of the switchboard.

### **Regulation 94. Requirements for registration as a Switchboard Manufacturer operating at low voltage and higher than low voltage.**

No Certificate of Registration as a Switchboard Manufacturer for a switchboard operating at low voltage and higher than low voltage shall be issued or renewed unless the Commission is satisfied that—

(a) the person has registered his business under the Registration of Businesses Act 1956 [Act 197.] or is a company registered or incorporated under the Companies Act 1965 [Act 125.];

(b) the person employs on a full-time basis at least one Wireman with Three Phase Restriction, and nothing in this paragraph prohibits him to be the Wireman;

(c) the person employs on a full-time basis at least one Chargeman with the relevant restriction to be determined by the Commission, and nothing in this paragraph prohibits the person, the Chargeman and the Wireman with Three Phase Restriction as in paragraph (b) to be one and the same person;

(d) the person employs on a full-time basis at least one Professional Engineer in electrical engineering who is registered with the Board of Engineers under the Registration of Engineers Act 1967 [Act 138], and nothing in this paragraph prohibits the person to be the Professional Engineer;

(e) the person has insurance coverage for his employees under the Employees' Social Security Act 1969; and

(f) the person is in possession of suitable equipment, test equipment and instruments for testing of the switchboard.

**Regulation 95. Information required for registration as a Switchboard Manufacturer.**

Before issuing or renewing a Certificate of Registration for a Switchboard Manufacturer the Commission shall require the person to submit the following information:

(a) the names and addresses of all partners in the case of a registered partnership and of all directors, managers and shareholders in the case of a registered company;

(b) the premises rented or owned for carrying on the business; and

(c) any other information as the Commission deem necessary.

**Regulation 96. Fee for Certificate of Registration as a Switchboard Manufacturer.**

A fee shall be paid for a Certificate of Registration as a Switchboard Manufacturer and the renewal thereof at the rate prescribed in Part XII of the Second Schedule.

## ***Approval of Equipment***

### **Regulation 97. Certificate of Approval of equipment.**

(1) No person shall manufacture, import, display, sell or advertise—

(a) any domestic equipment;

(b) any equipment which is usually sold direct to the general public; or

(c) any equipment which does not require special skills in its operation.  
unless the equipment is approved by the Commission.

(2) A Certificate of Approval to manufacture, import, display, sell or advertise the equipment shall be in Forms V and W respectively as prescribed in the First Schedule.

(3) A processing fee of twenty ringgit shall be charged for an application for a Certificate of Approval of any equipment.

(4) A fee shall be paid for the Certificate of Approval in subregulation (2) and the renewal thereof at the rate prescribed in Part XIII of the Second Schedule.

### **Regulation 98. Marking or labelling of approved equipment.**

Where an equipment has been approved for manufacture, import, display, sale or advertisement by the Commission, the person to whom a Certificate of Approval has been issued under regulation 97 may be required by the Commission to mark or label the equipment and he shall do so in the manner to be determined by the Commission.

### **Regulation 99. Samples of equipment to be delivered to Commission.**

(1) Any application for a Certificate of Approval of any equipment referred to in regulation 97 shall be made to the Commission in the manner to be determined by the Commission.

(2) The applicant shall deliver to the Commission samples of the equipment in subregulation (1) and such other information in connection therewith, including drawings, photographs, pamphlets and technical literature, as the Commission may require.

(3) A sample delivered shall have attached or affixed thereto a label bearing the following particulars:

(a) the full name of the applicant;

(b) the nature of the equipment;

(c) the energy efficiency of the equipment; and

(d) the catalogue or type number of the manufacturer, or any other means of identifying the equipment.

(4) The Commission shall not be liable for any loss or damage caused to any equipment delivered under subregulation (2).

**Regulation 100. Test and modification before approval.**

(1) The Commission may cause one or more samples of the equipment in regulation 99 to be examined and tested.

(2) Where the Commission considers that the equipment examined and tested in subregulation (1) is likely to cause danger, the person applying for approval thereof shall modify or alter the equipment to suit the Commission's requirements before submitting any further samples thereof.

**Regulation 101. Submission for test and seizure of dangerous equipment.**

(1) The Commission may at any time by notice in writing require a person who manufactures, imports, displays, sells or advertises any equipment to deliver, within such time as may be specified in the notice, samples of the equipment for an examination and a test thereof.

(2) If any equipment is, in the opinion of the Commission, unsafe or dangerous or likely to become unsafe or dangerous to use, the Commission may prohibit the manufacture, import, display, advertisement or sale of the equipment and may direct the person in subregulation (1) to withdraw immediately all the equipment from use or sale and where necessary may seize and remove such equipment.

(3) The Commission shall not be liable for any loss or damage caused to any equipment delivered or seized and removed under subregulation (1) or (2), as the case may be.

## ***Renewal, Transfer, Cancellation, Removal and Reinstatement***

### **Regulation 102. Renewal of Certificate of Registration.**

The renewal of any Certificate of Registration issued under regulation 71, 75, 80, 84, 88 or 92 shall be made not less than fourteen days before the date of expiry of the Certificate.

### **Regulation 103. Transfer of Certificate of Registration.**

(1) No Certificate of Registration issued under regulation 71, 75, 80, 84, 88 or 92 shall be transferred by the holder of the Certificate to any other person except with the written permission of the Commission.

(2) The holder of any Certificate of Registration issued under regulation 71, 75, 80, 84, 88 or 92 shall obtain approval from the Commission in writing for any change of name or address in connection with the business and the Certificate shall be amended or replaced without payment of any fee.

### **Regulation 104. Cancellation of Certificate of Registration.**

(1) The Commission may cancel a Certificate of Registration issued under regulation 71, 75, 80, 84, 88 or 92 if—

(a) the holder of the Certificate ceases to carry on the business in respect of which he is registered;

(b) the holder of the Certificate has been adjudicated a bankrupt;

(c) the company goes into liquidation;

(d) the holder of the Certificate or his servant or agent contravenes or fails to comply with any provisions of the Act or these Regulations; or

(e) the holder of the Certificate has obtained the Certificate by making or causing to be made any false or fraudulent declaration, certification or representation, either in writing or otherwise.

(2) Where a Certificate of Registration is cancelled by the Commission pursuant to subregulation (1), the Certificate shall be returned to the Commission by the person, to whom the Certificate was issued, within fourteen days of the person being notified in writing of the cancellation.

### **Regulation 105. Removal from and reinstatement to the Register of Certificate of Registration.**

(1) There shall be removed from the Register the name and other particulars of any person whose Certificate of Registration was issued under regulation 71, 75, 80, 84, 88 or 92—

(a) where he has failed to renew his Certificate of Registration by the date of expiry thereof; or

(b) where his Certificate of Registration has been cancelled under regulation 104.

(2) A person whose name has been removed from the Register under subregulation (1) may appeal, within thirty days of the removal from the Register, for reinstatement and the Commission, upon receipt of satisfactory evidence or reasons for his reinstatement, may register him again.

(3) The person referred to in subregulation (2) who feels aggrieved by the decision of the Commission not to reinstate him may apply to the Minister for re-consideration of the matter.

(4) The application under subregulation (3) shall be made in writing within twenty-one days from the date of the decision of the Commission and shall contain the grounds of grievance.

(5) The decision of the Minister on the matter referred to him under subregulation (3) shall be final.

(6) [*Delete by P.U.(A) 431/2003: Reg. 75*]

#### **Regulation 106. Renewal of Certificate of Approval.**

Renewal of a Certificate of Approval issued under regulation 97 shall be made not less than fourteen days before the date of expiry of the Certificate.

#### **Regulation 107. Transfer of Certificate of Approval.**

(1) No Certificate of Approval issued under regulation 97 shall be transferred by the holder of the Certificate to any other person except with the written permission of the Commission.

(2) The holder of a Certificate of Approval issued under regulation 97 shall obtain approval from the Commission in writing for any change of name or address in connection with the business and the Certificate shall be amended or replaced without payment of any fee.

#### **Regulation 108. Cancellation of Certificate of Approval.**

(1) The Commission may cancel a Certificate of Approval issued in respect of any equipment referred to in regulation 97 if—

(a) the equipment is found to be unsafe for use upon any examination or test thereof;

(b) the person to whom the Certificate was issued, uses it for a purpose different for that for which it was issued or in a manner calculated to mislead or deceive the public;

(c) the person has contravened or failed to comply with any of the provisions of the Act or these Regulations; or

(d) the holder of the Certificate has obtained the Certificate by making or causing to be made any false or fraudulent declaration, certification or representation, either in writing or otherwise.

(2) Where a Certificate of Approval is cancelled by the Commission pursuant to subregulation (1), the Certificate shall be returned to the Commission by the person to whom the Certificate was issued within fourteen days of the person being notified in writing of the cancellation.

### **Regulation 109. Removal from and reinstatement to the Register of Certificate of Approval**

(1) There shall be removed from the Register the name and other particulars or any person whose Certificate of Approval was issued under regulation 97—

(a) where he has failed to renew his Certificate of Approval by the date of expiry thereof; or

(b) where his Certificate of Approval has been cancelled under regulation 108.

(2) A person whose name has been removed from the Register under subregulation (1) may appeal, within thirty days of the removal from the Register, for reinstatement and the Commission, upon receipt of satisfactory evidence or reasons for his reinstatement, may register him again.

(3) The person referred to in subregulation (2) who feels aggrieved by the decision of the Commission not to reinstate him, may apply to the Minister for re-consideration of the matter.

(4) The application under subregulation (3) shall be made in writing within twenty-one days from the date of the decision of the Commission and shall contain the grounds of grievance.

(5) The decision of the Minister on the matter referred to him under subregulation (3) shall be final.

(6) [*Delete by P.U.(A) 431/2003: Reg. 79*]

## **PART IV – MAINTENANCE**

### ***Maintenance of Installations***

#### **Regulation 110. Inspection and test for the purpose of maintenance of installation, etc.**

(1) An installation shall be maintained in good and working order and safety precautions shall be observed at all times to prevent danger.

(2) The responsibility to maintain the installation in the manner required in subregulation (1) shall be with the owner, management, licensee or occupier of the installation, his servant or agent, as the case may be.

(3) An installation, other than a domestic installation, shall be checked and tested by a competent person at least once in every five years, or at any time as directed by the Commission.

(4) Any protective relay and device of an installation shall be checked, tested and calibrated by a competent person at least once in every two years, or at any time as directed by the Commission.

(5) The Commission may inspect an installation or the premises where an installation is located if the Commission thinks it is desirable to do so in the interest of the public or for public safety and if a notice in writing is given to the owner, management or licensee of an installation or any premises, the owner, management or licensee of the installation or premises, as the case may be, shall cause the person in charge of the installation or premises to attend and give such assistance as may be ordered by the Commission in the notice.

#### **Regulation 111. Competent person to undertake maintenance work.**

No person, except a competent person or a person acting under the control of a competent person, shall undertake to carry out any repair, replacement, servicing or cleaning of any equipment which forms part of an installation.

#### **Regulation 112. Adequate safety precautions to be taken during work.**

(1) A competent person shall take adequate precautions to prevent any installation or equipment from being accidentally or inadvertently made alive when persons are working.

(2) Any person engaged in work in connection with any installation or equipment shall be adequately protected from danger, and the responsibility for such protection shall be on the licensee or supply authority, owner, management or occupier of the installation, his servant or agent, as the case may be.



(3) Where any person is engaged in work on a circuit controlled by a switch not under his immediate supervision, the switch shall be locked in "OFF" position until the work is finished and—

(a) in the case of aerial line work, a notice shall be hung on the switch and earthing sticks to provide earthing shall be fixed at a visible distance from the workmen; and

(b) in the case of underground cabling work, a suitable notice shall be hung on the switch, to warn any person that there are persons at work on the circuit and that the switch shall not be closed.

(4) If the circuit is operated at high voltage or extra high voltage, the switch in subregulation (3) shall be locked in the "OFF" position by the competent person.

(5) No competent person or person under the control of a competent person shall reclose any switch until he is certain that all persons are clear of the circuit concerned and have been warned that the circuit is to be made alive.

(6) No person shall defeat, remove or damage a safety device fitted in connection with or for use with any installation or equipment.

(7) Notwithstanding subregulations (1), (3), (4) and (5), where the competent person is satisfied that live work on any installation, equipment or circuit, as the case may be, is safe, it shall not be unlawful for any person to engage in such work.

**Regulation 113. Competent person to issue written instruction.**

No work or operation under the control of a competent person shall be commenced until a written instruction has been issued by the competent person

## **PART V - MISCELLANEOUS**

### **Regulation 114. Authorised officer's identity card.**

The official identity card or badge which the authorised officer shall carry under subsection 5(6) of the Act shall be in Form X as prescribed in the First Schedule.

### **Regulation 115. Special order by Commission.**

Where it appears to the Commission that it is necessary in order to secure a reasonable degree of safety—

- (a) to take precautions in the working or operation of an apparatus; or
- (b) to make additions or alterations to an apparatus;

the Commission shall issue an order in writing and the other shall be carried into effect by the owner, management or licensee of any installation, contractor, manufacturer, distributor or retailer to whom the order is addressed.

### **Regulation 116. Prohibition of use of equipment dangerous to health.**

(1) No person shall use, work or operate any equipment which is, in the opinion of the Health Officer of a State, hazardous or dangerous to the health of the persons in attendance thereof or to the public.

(2) The Commission shall issue directions to any person concerned to secure the due compliance of the provisions of subregulation (1).

(3) The Commission may prohibit the use of any equipment by a person which is, in his opinion, causing or likely to cause nuisance to the public.

### **Regulation 117. Summons to assessor and witness.**

(1) A summons to an assessor under section 34 of the Act shall be in Form Y of the First Schedule.

(2) A summons to a witness under section 35 of the Act shall be in Form Z of the First Schedule.

(3) An enquiry to be held by the person appointed by the Minister under subsection 34(3) of the Act may be held at any place in Malaysia that the person may elect, and the evidence may be taken in the national language or in the English language.

### **Regulation 118. Fees payable to the Commission.**

Any fees payable under the Act or these Regulations shall be paid in advance to the Commission by such means and in such manner as the Commission may decide from time to time and shall not be refundable under any circumstances.

**Regulation 119. Licensee or supply authority to keep records.**

Any licensee or supply authority shall keep record of the following matters and shall produce them within the specified time as required by the Commission—

- (a) the maximum daily load and electricity sold per month;
- (b) the breakdown of any installation and the occurrence of any accident, fatal or otherwise;
- (c) the class, operating voltage and capacity of all consumers;
- (d) the units generated by a generating station, the plant capacity and the maximum load; and
- (e) any other information as the Commission deems necessary.

**Regulation 120. Fee for a copy of a report.**

A fee of fifty ringgit shall be charged for a copy of the report made under subsection 33(5) of the Act or a copy of the summary of the evidence and the decision made under subsection 34(5) of the Act.

**Regulation 121. Transitional and saving provisions.**

With the coming into force of these Regulations—

- (a) any installation or equipment in operation the design or construction of which does not comply with these Regulations shall be altered so as to make it comply with these Regulations within such reasonable time as the Commission may direct;
- (b) any licence for a public or private installation issued under any written law shall be renewed in compliance with the Act and these Regulations within one year or earlier if the expiry date of the licence falls within the same year;
- (c) any Certificate of Registration of an installation issued under any written law shall be renewed in compliance with the Act and these Regulations when the date for the renewal of the registration is due;
- (d) any Certificate of Registration for any Wiring Contractor, Electric Sign Contractor, Switchboard Maker, Private Wiring Unit or Electrical Services Engineer issued under any written law shall be renewed in compliance with the Act and these Regulations when the date for the renewal of the registration is due;

(e) any registration of competent persons made under any written law shall be renewed in accordance with the Act and these Regulations when the date for the renewal of the registration is due;

(f) any person who has been given approval to sit for his examination conducted under any written law for his Certificate of Competency shall be deemed to be eligible to sit for the examination under these Regulations;

(g) any valid Certificate of Approval for the manufacture and importation of electrical equipment issued under any written law shall be renewed in compliance with these Regulations when its period of validity expires;

(h) any application for the following and any application for the renewal thereof, made under any written law and which is still pending before the coming into force of these Regulations, shall be deemed to have been made under these Regulations, and may be continued to be processed under these Regulations—

(i) a licence for a public installation;

(ii) a licence for a private installation;

(iii) a Certificate of Competency as an Electrical Engineer;

(iv) a Certificate of Competency as an Electrical Engineering Supervisor;

(v) a Certificate of Competency as a Chargeman;

(vi) a Certificate of Competency as a Wireman;

(vii) a Certificate of Registration as a Wiring Contractor;

(viii) a Certificate of Registration as an Electric Sign Contractor;

(ix) a Certificate of Registration as a Switchboard Maker;

(x) a Certificate of Registration as a Private Wiring Unit;

(xi) a Certificate of Registration as an Electrical Services Engineer; and

(xii) a Certificate of Registration for an installation;

(i) any inspection, investigation or enquiry made under any written law and which is still pending before the coming into force of these Regulations shall be deemed to have been conducted under these Regulations and may be continued under these Regulations; and

(j) any findings and consequential verdicts henceforth resulting from any inspection, investigation or enquiry carried out under any written law shall be upheld under these Regulations.

**Regulation 122. Penalty.**

Unless otherwise made an offence under the Act, a person who contravenes or fails to comply with any of the provisions of these Regulations shall be guilty of an offence and shall, on conviction, be liable to a fine not exceeding five thousand ringgit or to imprisonment for a term not exceeding one year or to both.

**Regulation 123. Revocation.**

The Electricity Supply Regulations 1990 are hereby revoked.