**REPUBLIC OF RWANDA**

**RWANDA UTILITIES REGULATORY AGENCY**
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# REGULATIONS 002/EL/ENERGY/RURA/2012 OF 04th OCTOBER,2012 ON ELECTRICAL INSTALLATIONS

## ADOPTED BY

## THE REGULATORY BOARD

## OF

## RWANDA UTILITIES REGULATORY AGENCY – (RURA)

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**PREAMBLE**

Pursuant to Organic Law n° 04/2005 of 08/04/2005 determining the modalities of protection, conservation and promotion of the environment in Rwanda;

Pursuant to Law n°39/2001 of 13/09/2001 establishing an agency for the regulation of certain public utilities;

Pursuant to Law n°21/2011 of 23/06/2011 governing Electricity in Rwanda;

The Regulatory Board of the Rwanda Utilities Regulatory Agency in exercising its powers conferred upon it by Article 13 of the Law N°21/2011 of 23/06/2011 governing Electricity in Rwanda;

**AND AFTER** its deliberations in its meeting of 4th October 2012;

**HEREBY** issues the following regulations on Electrical installations:

## CHAPTER 1. GENERAL PROVISIONS

### Article one. Scope

These regulations shall apply to electrical installations of all premises (residential, commercial, public and industrial premises) on the Rwandan territory.

### Article 2. Purpose

The aim of these regulations is to ensure protection of people, properties and environment from hazards that can arise from the operation of an electrical installation under normal or faulty conditions.

### Article 3. Definitions

Unless the context otherwise requires, the terms used in these regulations shall have the following meaning:

"**Authority**" means Rwanda Utilities Regulatory Agency;

"**Class"** means a group into which electrical installation works are categorized according to their standard;

"**Company"** means a corporate body composed of a defined number of persons registered for the purpose of carrying out business in Electrical installation works;

"**Electrical Installation**" means machinery, in or on any premises, that is used for the transmission of electrical energy from a point of control to a point of consumption anywhere on the premises, including any article that forms part of such an installation, irrespective of whether or not it is part of the electrical circuit;

"**Permit**" means a written document issued by the Authority to an individual or a company for electrical installation works;

"**Electrical Installation work**" means the installation, alteration or repair, wholly or partially, of any conductor or apparatus or system of wiring in or upon premises, connected or intended to be connected to a supply of electricity;

"**Licensee**" means a person or company in possession of a license for distribution/supply of electricity;

"**Permit Holder**" means a person or company holding a valid permit, issued under these regulations, to carry out electrical installation works;

**"Person"** means an individual registered to carry out business in Electrical installation works;

"**Premise**" means a place such as a site, building or structure, whether stationary or mobile, that can be electrically wired.

## CHAPTER 2: POWERS OF THE AUTHORITY

### Ariticle4. Powers of the Authority

The Authority shall have the powers to:

(1) Issue, suspend or revoke a permit in accordance with these Regulations; and

(2) Inquire into and resolve complaints against permit holders and/or between a permit holder and a licensee.

## CHAPTER 3. REQUIREMENTS FOR UNDERTAKING ELECTRICAL INSTALLATIONS AND PERMITS CLASSES

### Article 5. Classes of permit

The Authority may issue any of the following classes of permit:

(1) **Class A:** For electrical installation of residential premises not exceeding five bedrooms and reparations on equipment of up to 230V;

(2) **Class B:** For electrical installation in multi- storied buildings, other big bungalows and mansions of complex design and commercial buildings**,** installation of light plants up to a level of 400V and any work under Class A;

(3) **Class C:** For Low voltage and medium voltage connections up to 30kV and any work under Class B;

(4) **Class D:** For electrical installation systems designs and Installation in specialised fields like switchgear, centralised heating, refrigeration, and generator sets and solar systems;

(5) **Class Z:** To carry out Installation of any plants up to and including high voltage (70kV and above).

**Article 6. Technical qualifications for permit applicants**

(1) A person/ company shall not be granted a permit under these Regulations unless he/ she/it possesses any of the following technical qualifications-

- a University Degree or advanced diploma in electrical or electromechanical Engineering
- an Advanced level Technician certificate or Diploma ($A_2$)
- an Ordinary level Technician's certificate or Diploma($A_3$)
- A relevant working experience of three years.

(2) The qualifications under Article 6 and experience shall determine the class of permit which the Authority shall issue to each respective applicant.

(3) The Authority may require and cause such applicant, for the purpose of ascertaining his ability to undertake, engage in or perform electrical installation work, to be examined, in such manner as it may determine, upon any matter or thing in connection with his application.

**Article 7. General requirements for undertaking electrical installations and permit conditions**

(1) A person or company shall not practice electrical installation works unless he/ she or it is in possession of a valid permit issued by the Authority.

(2) Every person issued with a permit under these Regulations shall exhibit such permit at all times in his or her usual place of business.

(3) A permit holder shall practice for at least two years before applying for upgrading of his permit.

(4) Any permit issued under these regulations which is not renewed for two consecutive years shall, unless the permit holder has before expiry of the permit informed the Authority in writing of his intention and reasons not to renew the permit, be deemed to have been revoked and shall not be considered for renewal.

(5) The Authority shall maintain a register of all permits issued for the time being set under these Regulations.

## CHAPTER 4. COMPLIANCE WITH STANDARDS

All Electrical installations should comply with all the provisions contained in the following Rwanda Standards:

- RS 565-1: 2011 on Electrical Wiring of Premises - Part 1: Low-voltage Installations
- RS 474-1: 2011 for Power Installations exceeding 1kV a.c. – Part 1: Common rules
- Any other relevant standards issued by the Rwanda Bureau of Standards.

The Authority shall revoke or suspend a permit of any person or company involved in electrical installations works who fails to observe the above.

## CHAPTER 5. APPLICABLE FEES, APPLICATION PROCEDURES AND PERMIT RENEWAL

### Article 8. Applicable fees

The Authority shall prescribe the application and annual fees to be paid by a person or company for the class of permits he/it is applying for under these Regulations.

The following fees shall apply to each of the permit Classes:

- Application fee: 25,000 Rwf
- Permit fees/Annual permit fees :

| CLASSES | PERSON ( Rwf) | COMPANY (Rwf) |
|---|---|---|
| Class A | 30,000 | 100,000 |
| Class B | 100,000 | 300,000 |
| Class C | 180,000 | 500,000 |
| Class D | 100,000 | 300,000 |
| Class Z | 250,000 | 800,000 |

**Article 9. Permit renewal**

A permit issued under these Regulations may be renewed but shall not be transferable.

A permit issued under these Regulations shall expire after twelve (12) months from the date it was issued.

**Article 10. Application Procedures**

(1) Applicants for electrical installation permits shall submit the following:

- A filled and signed application form (Annex I) upon payment of the application fee.
- Trade register
- Notarized copies of all academic qualifications and certificates
- A detailed and updated CV
- Evidence or particulars relating to the applicant's previous experience of electrical installation works

(2) Applicants whose diploma, certificates, and other qualifications were obtained outside Rwanda should be from a recognized Institution.

(3) An employee of a company may apply for a permit on his or her own or on behalf of the company if such company authorizes him or her in writing.

(4) Where an employee of a company applies for an individual permit and another for his or her company or organization, each permit shall be paid for separately in accordance with the fees prescribed in these Regulations.

(5) A company applying for a permit under these Regulations shall have amongst its staff persons qualified to be issued the permit of the class the company is applying for as well as staff persons qualified to be issued with class A or B categories of permit.

(6) A permit shall be issued in a prescribed form and subject to such conditions as the Authority may determine.

## CHAPTER 6. INSPECTION, TESTING AND PERMIT HOLDERS RESPONSIBILITIES

### Article 11. Inspection and Testing

(1) The licensee shall inspect and connect premises whose installations have been carried out by a person or a company with a valid permit.

(2) An electrical installation shall, after completion (including any work completed after repair, alteration or addition) and before it is energised for use, be inspected, tested and certified by a licensee in accordance with these Regulations.

(3) In the case of a repair, alteration or addition to an electrical installation, only the affected parts of the installation need to be inspected and tested under these Regulations.

(4) In order to obtain any information and to carry out any inspection as provided under these Regulations, the licensee may, at its discretion, request a third party to carry out inspection or tests on his behalf and to provide a report to the licensee.

(5) The licensee will monitor the professional performance of permit holders and will report any mal- practices to the Authority. The Authority shall examine such cases and any others arising from the public. Depending on the gravity of the case, the concerned will have his/her permit either suspended for a certain period or completely withdrawn.

(6) The owner or manager of a building shall ensure regular inspection and testing of electrical installations of the building is conducted to ascertain the installations are in good and safe conditions.

### Article 12. Permit holder responsibilities

(1) Any Person or Company holding a permit for electrical installation work shall duly fill a Certificate of Completion (Annex II) under these Regulations.

(2) Any Person or Company issued with a permit under these Regulations shall reveal a high degree of discipline in the performance of his or her work.

## CHAPTER 7. CANCELLATION, APPEAL AND PENALTIES

### Article 13. Refusal or Cancellation of Permit

The Authority shall at any time refuse to grant or renew a permit, or cancel a permit if it is proved that the permit holder(s)/applicant(s) has failed to comply with any conditions contained in these Regulations.

In case of refusal to grant a permit or cancellation of a permit, the Authority shall call upon the concerned in writing.

### Article 14. Appeal

A person aggrieved by any action of the Authority in issues concerning refusal or cancellation of permit may appeal in writing within one month from the date of refusal or cancellation and seek arbitration from a relevant authority.

### Article 15. Enforcement notice

In case of non compliance with these Regulations, the Authority may issue an enforcement notice to remedy the failure within a short and specific period of time.

### Article 16. Penalties

An owner or occupier of any premises shall not allow any electrical installation work to be carried out on his or her premises in contravention of the provisions of these Regulations.

Failure to comply with this provision is an offence punishable in accordance with the provision hereunder set in these Regulations.

Any person who contravenes the provisions of these Regulations commits an offence and is liable on conviction to a fine not exceeding Rwf 1,000,000.

## CHAPTER 8. FINAL PROVISIONS

### Article 17. Repealing provision

All prior provisions contrary to these regulations are hereby repealed.

## Article 18. Disclaimer

The Authority shall not be held liable for any accident resulting from poor/substandard electrical installations.

## Article 19. Coming into Force

These Regulations shall come into force six months after the date of approval and signature by the Regulatory Board.

**Kigali, on the 4th October 2012**

**(Sé)**

**Eugène KAZIGE**

**Chairperson of the Regulatory Board**

# ANNEXES

## ANNEX I: ELECTRICAL INSTALLATION PERMIT APPLICATION FORM

**Attn**: THE DIRECTOR GENERAL
Rwanda Utilities Regulatory Agency (RURA)
P.O. Box: 7289
**KIGALI**

I, ……., hereby apply for the following class* of permit:

**Class A:** For electrical installation of residential premises not exceeding five bedrooms and reparations on equipment of up to 230V;

**Class B:** For electrical installation in multi- storied buildings, other big bungalows and mansions of complex design and commercial buildings**,** installation of light plants up to a level of 400V and any work under Class A;

**Class C:** For Low voltage and medium voltage connections up to 30kV and any work under Class B;

**Class D:** For electrical installation systems designs and Installation in specialised fields like switchgear, centralised heating, refrigeration, and generator sets and solar systems;

**Class Z:** To carry out Installation of any plants up to and including high voltage (70kv- 110kv).

**(Delete class that do not apply)*

I promise to carry out all electrical installation works undertaken by me strictly in accordance with these Regulations.

Name in full…… …

Physical Address ……
……..

Mobile No. …… ……

Date of Birth…….…….. Nationality……..

Name and address of present employer, (if any)

……

……

Title of present job……..

……..

**Experience and Qualifications –**

Details of educational qualifications and examinations passed……..

……

……

Details of apprenticeship (if any) ……..

……

……

Subsequent experience in the work of an electrician or a wireman ……..

……..

……..

**Details of a Permit previously held (if any) –**

Permit No……..

Issued on……..

Issued by……..

I declare that the particulars given by me are true and correct

Date……..

**Signature of Applicant**

## ANNEX II: CERTIFICATE OF COMPLIANCE FOR ALL ELECTRICAL INSTALLATIONS

| **Certificate No.** | **Date of issue :** |
|---|---|
| *Note : Enter the required information or tick the appropriate block* | |

**SECTION 1-LOCATION**

**Physical address**
Province:
District/Town/City:
Sector:
Cell:
Village/Umudugudu:
Plot number of Building:

**Owner address**
Name:
Contact:
Tel: E-mail: P.O.Box:

**SECTION 2-INSTALLATION**

| | | | | | |
|---|---|---|---|---|---|
| Existing certificate: | No ☐ | Yes ☐ | Date of issue: | Number: | |
| Existing Installation ☐ | Alteration/Extension ☐ | New installation ☐ | Temporary installation ☐ | | |
| Type of wiring | Open wiring ☐ | Conduits ☐ | Cable ☐ | Armored cable ☐ | Raceways ☐ |
| | Others ☐ | | | | |
| Type of installation | Domestic ☐ | Commercial ☐ | Industrial ☐ | Sectional title ☐ | |
| | Others ☐ | | | | |
| Estimated year of original installation: ……. | | | | | |
| Type of electricity supply system: | TN-S ☐ | TN-C-S ☐ | TN-C ☐ | TT ☐ | IT ☐ |
| Supply earth terminal provided: | Yes ☐ | | No ☐ | | |
| **Characteristics of supply:** | | | | | |
| Voltage: | 230V ☐ | 400V ☐ | Other ☐ | | |

| | | | |
|---|---|---|---|
| Number of phases: | One ☐ | Two ☐ | Three ☐ |
| Phase rotation: | Clockwise ☐ | | Anticlockwise ☐ |
| Frequency: | 50Hz ☐ | Other ☐ | d.c. ☐ |
| Prospective short circuit current at point of control: ……kA | | | |
| How determined? | Calculated ☐ | Measured ☐ | From supplier ☐ |

**Main switch type:**

| | | |
|---|---|---|
| Switch disconnector (on-load isolator) ☐ | Fuse switch ☐ | Circuit - breaker ☐ |
| Earth leakage circuit-breaker ☐ | Earth leakage switch disconnector ☐ | |
| Number of poles: | Current rating:……A | Short-circuit/withstand rating:……kA |
| Rated earth leakage tripping current *IΔn* | 30mA ☐ | Other : ……mA |
| Surge protection | Yes ☐ | No ☐ |
| Is alternative power supply installed? | Yes ☐ | No ☐ |

**SECTION 3 - DESCRIPTION OF INSTALLATION COVERED BY THIS REPORT**
(Add additional pages, specification references or drawings, where applicable)
……
……

**NUMBER OF CIRCUITS OR POINTS COVERED BY THIS REPORT**

| Circuits | Existing installation | | New/altered/temporary installation | |
|---|---|---|---|---|
| Lighting circuits | Main distribution board | Sub – distribution boards | Main distribution board | Sub-distribution boards |
| Lighting points | | | | |
| Socket-outlet circuits | | | | |
| Socket-outlets | | | | |
| Three-phase socket-outlets | | | | |
| Socket-outlets for critical applications | | | | |
| Points on mixed circuits | | | | |
| Motor circuits | | | | |
| Control circuits | | | | |
| Air-conditioning circuits | | | | |
| Motor-controlled assembly circuits | | | | |
| Transformer circuits: Lighting | | | | |
| Bell | | | | |
| Other | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Heating circuits | | | | | | | | | | |
| Fan circuits | | | | | | | | | | |
| Elevator/escalator circuits | | | | | | | | | | |
| Signage circuits | | | | | | | | | | |
| Fixed appliance circuits: Cooking | | | | | | | | | | |
| Geyser/water heater | | | | | | | | | | |
| Borehole/pool pump | | | | | | | | | | |
| Other | | | | | | | | | | |
| Earth leakage: Main switch | | | | | | | | | | |
| Only socket-outlets | | | | | | | | | | |
| Overhead busbars | | | | | | | | | | |
| Alternative power supply connections | | | | | | | | | | |
| Other circuits | | | | | | | | | | |

| **SECTION4 - INSPECTION AND TESTS (new and existing installations)** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **INSPECTION** | **Existing installation** | | | | **New/ altered/ temporary installation** | | | |
| 1- Accessible component are correctly selected | | | | | | | | |
| 2- All protective devices are of correct rating and capable of withstanding the prospective fault level | | | | | | | | |
| 3- Conductors are of the correct rating and current-carrying capacity for the protective devices and connected load | | | | | | | | |
| 4- Components have been correctly installed | | | | | | | | |
| 5- Disconnecting devices are correctly located and all switchgear switches the phase conductors | | | | | | | | |
| 6- Different circuits are separated electrically | | | | | | | | |
| 7- Connection of conductors and earthing and bonding are mechanically sound and electrically continuous | | | | | | | | |
| 8- Circuit, fuses, switches, terminals, earth leakage units, circuit-breakers, distribution boards are correctly and permanently marked or labeled | | | | | | | | |
| 9- In respect of the electrical installation, fire barriers have been erected, precautions taken against spread of fire and effect of heat | | | | | | | | |
| 10- Safety and emergency lighting and signs are functioning correctly | | | | | | | | |
| 11- The installation including all accessible components comply with RS 565-1 : 2011 / RS 474-1: 2011<br>or<br>12- The installation complies with the general safety principles of RS 565-1 : 2011 / RS 474-1: 2011 and is reasonably safe | | | | | | | | |
| 13- Position of the readily accessible earthing terminal | | | | | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| for earth connection of other services by installers of such services | | | | | | | | | | | |
| 14- Alternative supply connections, change-over switch and indicator | | | | | | | | | | | |

| **TEST** | Unit | Instrument | Reading/result | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Existing installation | | | | New/altered/ temporary installation | | | |
| 1- Continuity of bonding | Ω | | | | | | | | | |
| 2- Resistance of earth continuity conductor | Ω | | | | | | | | | |
| 3- Continuity of ring circuits(if applicable) | - | | | | | | | | | |
| 4- Earth loop impedance test: at main switch | Ω | | | | | | | | | |
| 5- Elevated voltage on neutral | V | | | | | | | | | |
| 6- Earth resistance (if required) | Ω | | | | | | | | | |
| 7- Insulation resistance | M Ω | | | | | | | | | |
| 8- Voltage (main DB) no load | V | | | | | | | | | |
| 9- Voltage (main DB) on load | V | | | | | | | | | |
| 10- Voltage at available load (worst condition) | V | | | | | | | | | |
| 11- Operation of earth leakage units | mA | | | | | | | | | |
| 12- Operation of earth leakage test button | - | | Correct | | | | Correct | | | |
| 13- Polarity of points of consumption | - | | Correct | | | | Correct | | | |
| 14- All switching devices, make-and-break circuits | - | | Correct | | | | Correct | | | |

Comments……
……
……..

Comments on parts of the installation not covered by this report
……
……
……..

**SECTION 5- RESPONSIBILITY**

*NOTE For existing installations, complete only 5.4. For new/altered/temporary installations, if no signature appears in 5.1 to 5.3, the signatory of 5.4 takes responsibility.*

**5.1DESIGN.**I/We, being the person(s) responsible for the DESIGN of the electrical installation, particulars of which are described in section 3 of this form, CERTIFY that the work, for which I/we have been responsible, is in the best of my/our knowledge and belief in accordance with these Regulations. The extent of liability of the signatory is limited to the installation described in section 3 of this form.

**For the DESIGN of the installation**:

Name (in block letters): …

For and on behalf of: ……

Position:

Address:

Professional Registration No:

Signature:

Date:

**5.2MATERIAL SPECIFICATION/PROCUREMENT**.I/We, being the person(s)responsible for the MATERIAL SPECIFICATION/PROCUREMENT for the electrical installation, particulars of which are described in section 3 of this form, certify that the equipment that I/we have procured, is to best of my/our knowledge and belief in accordance with these Regulations. The extent of liability of the signatory is limited to the installation described in section 3 of this form.

**For the MATERIAL SPECIFICATION/PROCUREMENT**

Name (in block letters): …

For and on behalf of: ……

Position:
Address:

Professional Registration No:

Signature:

Date:

**5.3 INSTALLER.**I/We, being the person(s) responsible for the installation of the electrical installation, particulars of which are described in section 3 of this form, certify that the work of which I/we have been responsible, is the best of my/our knowledge and belief in accordance with these Regulations. The extent of liability of the signatory is limited to the installation described in section 3 of this form.

**For the Installer**:

Name (in block letters): …

For and on behalf of: ……

Position:

Address:

Professional Registration No:

Signature:

Date:

**5.4 INSPECTION AND TESTS.** I/We, being the person(s) responsible for the inspection and testing of the electrical installation, particulars of which are described in section 3 of this form, certify that the inspection and testing were done in accordance with these Regulations.

The extent of liability of the signatory is limited to the installation described in section 3 of this form.

Name of registered person (in block letters): ……..

Identification No: ……..

Type of registration: Master installation electrician Installation electrician Single-phase tester

Registration No. :

Date of registration:

Address:

Tel. No:

Registration Certificate No:

Signature:

Date: