



SIMPLIFIED LEGAL *And* **REGULATORY GUIDE:**

**Nigerian Electricity Regulatory Commission
(NERC) Regulation on Electric Fencing in the
Nigerian Power Sector, 2016**





CONTENTS

Overview

Enabling Law

Objective(s)

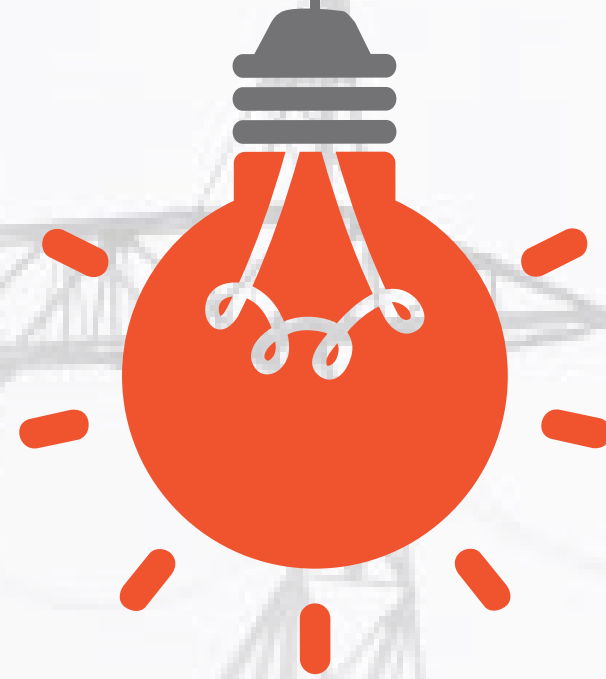
Key Provisions

Key Stakeholders

Pricing and Tariffs

Incentives and Investment Opportunities

Sanctions and Penalties



OVERVIEW

**Nigerian Electricity Regulatory Commission
(NERC) Regulation on Electric Fencing in the
Nigerian Power Sector, 2016**



The Electric Fencing Regulations (“the Regulations”) for the Nigerian Electricity Regulatory Commission (NERC) was introduced in 2016 as a regulatory framework for the operation of electric fencing activities in the Nigerian Electricity Supply Industry (NESI). The Regulations contain eight (8) chapters, a total of twenty-two (22) sections and a Schedule for fees for consent to install electric fences.

The Glossary of Terms referenced in this guide can be found in the main Regulation¹ and in our [Glossary of Industry Terms](#).



NERC is empowered by the Electric Power Sector Reform Act, 2005 (EPSRA)², as the major agency with the responsibility of formulating regulations to facilitate the implementation and enforcement of the provisions of the Act. NERC is vested with the authority to develop regulations relating to areas of administration, billing, licensing, procurement procedures, pricing and tariffs, electric fencing, etc.³ The Electric Fencing Regulations is one of the many regulations formulated within the ambit of the Commission's powers. [Please refer to EL's guide on the Electricity Act.](#)



OBJECTIVE

**Nigerian Electricity Regulatory Commission
(NERC) Regulation on Electric Fencing in the
Nigerian Power Sector, 2016**

OBJECTIVE



The primary objective of the Regulation is:

- To ensure that all electrical fences constructed in Nigeria are constructed in a manner that protects the health and safety of the general public.⁴



KEY PROVISIONS

**Nigerian Electricity Regulatory Commission
(NERC) Regulation on Electric Fencing in the
Nigerian Power Sector, 2016**

KEY PROVISIONS



Granting of Consent by the Distribution Licensee

The Regulation provides that a person who seeks to install an electric fence must obtain the consent of the Distribution Licensee that is authorized by the Commission to supply electricity. NERC must give its consent where electricity supply to the fence is both from public supply and from private generation. It should be noted that the Distribution Licensee will give its consent after an Application has been submitted by the electric fence owner and has satisfied all the requirements stated in the Regulations. The Application must contain the following:

- a. Name of applicant.
- b. Contact address of applicant.
- c. The proposed location for the installation of the electric fence.
- d. Site map showing proposed location of the electric fence and surrounding structures and natural features.
- e. Scaled geographical layout of fence installation showing nearby gas, power, water, communications lines, roads, and railways.
- f. Electrical schematic diagram showing electric connections, energizers, voltage levels, earthing points, signaling leads, etc. signed by the approved installer of the electric fence.

- g. A signed Undertaking signed by the installer and owner of the fence to comply with the provisions of the Regulations; and
- h. Where an electric fence is shared by more than one owner, mutual consent by all the parties must be obtained.
- i. Where mutual consent between different owners could not be achieved, such case shall be referred to the nearest NERC Customer Complaint Forum Office for resolution.
- j. Consents must be issued by the Authorized person and stamped.⁵

Requirements and Enforcement

The Regulations provide that all electric security fence energizers and installations must comply with the requirements that are specified in part 9 of the regulations and clause 4 of IEC 60335-2-76 Standard.

Also, the Voltage Impulse Peak must not exceed 10kV except the IEC 60335-2-76 Standard⁶ allows it. It should be noted that energizer outputs are either current or energy limited.



Furthermore, injury or death that is caused to a human being or livestock due to direct contact with the electric fence must be reported to the Distribution Licensee and the Commission within twenty-four (24) hours the incident occurred.

In addition, the energizers of electric fence must comply with the requirements of the EMC for electric fence supply units as specified in the most recent edition of the IEC 60335-2-76 Standard.

It should be noted that only industry acceptable and purpose-made insulators must be used on electric fence installations and the installer must only use materials that will minimize the galvanic effect between dissimilar metals.

In addition, the installer must only use earth rods that are made of conductive corrosive, resistant material, and have a minimum length of 1 meter.⁷

Furthermore, it should be noted that only electric fences that are built in accordance with the IEC 60335-2-76 Standard or equivalent standards⁸ are to be used in Nigeria.

Installation and Maintenance of Electric Fences

General Electric fences and their ancillary equipment must be installed, operated, and maintained in compliance with the Regulations to minimize the risk of endangering the lives of persons and animals and reduce the risk of electric shocks.

It should be noted that the above requirement to ensure compliance with the Regulations regarding the installation, operation and maintenance of electric fences and ancillary equipment, does not cover a situation when a person attempts to enter the premises unlawfully.

In addition, Electric fences and their ancillary equipment must be installed, operated, and maintained in a manner that avoids electrical contact with underground metallic structures for other utility installations and to minimize interference with communication lines and devices.

The Regulation prohibits electrification by an energizer or direct electric supply for barbed wires, razor wires and all metallic parts of the fence.

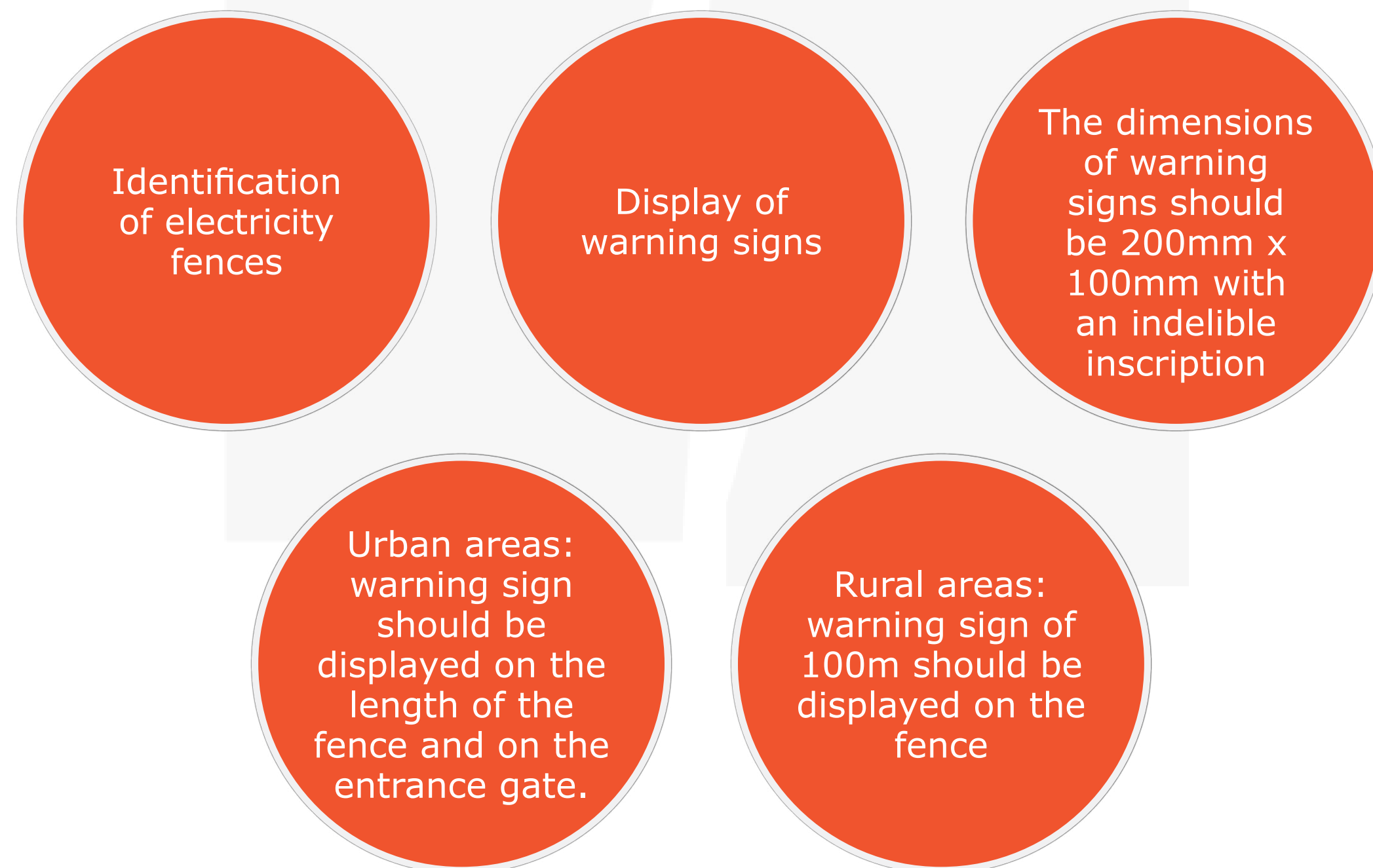
Beyond the fact that installation of electric fences must be carried out by certified and registered engineers, the



mains supply wiring must not be installed in the same conduit as signaling leads closely linked with the installation. When a pulsed conductor is installed underground, a suitable mechanical protection must be provided, and a pulse conductor must not be installed in the same conduit as a communication or data cable.⁹

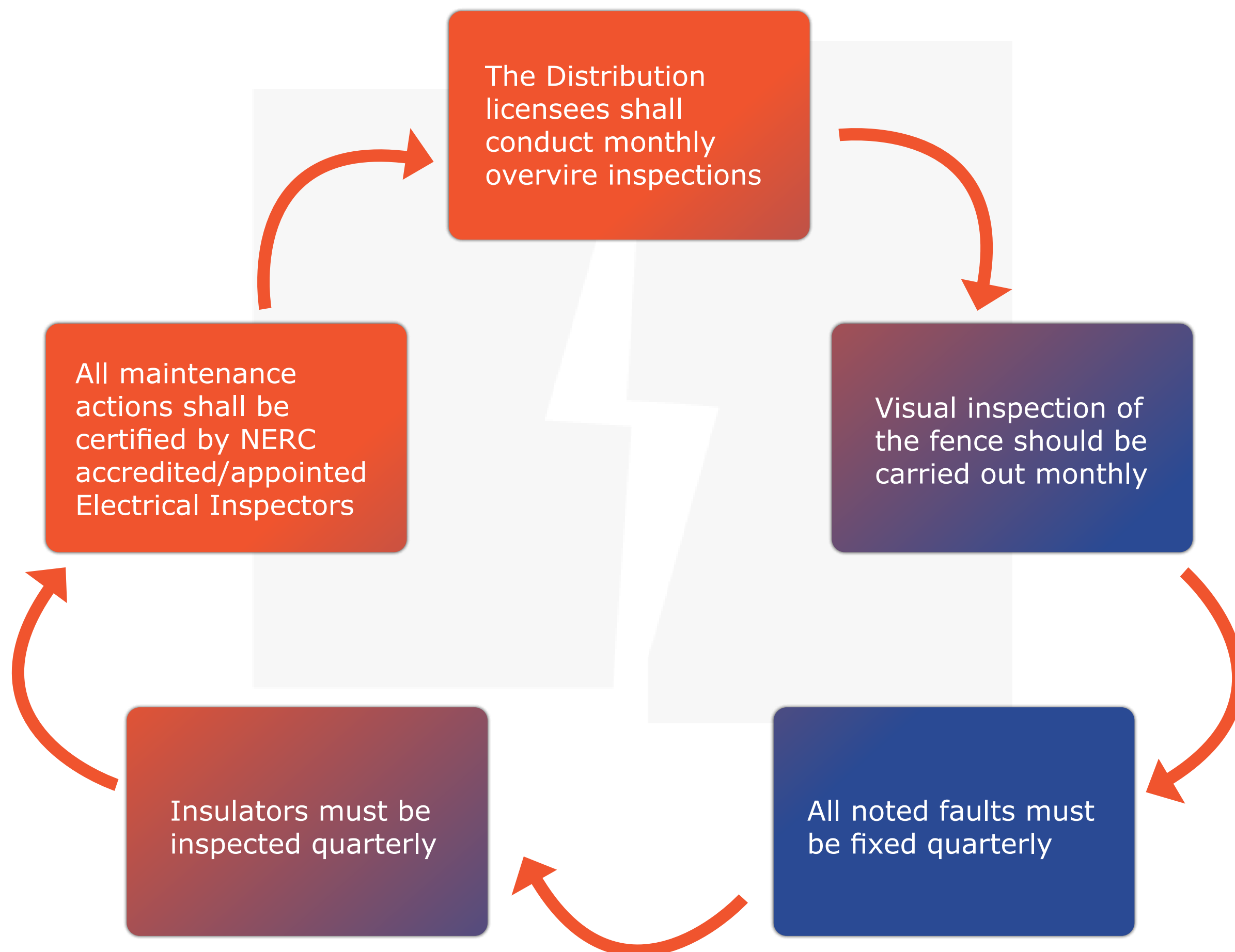
To fit insulators, insulators shall be installed correctly according to the manufacturer's guidelines and broken or deformed insulators cannot be used.¹⁰ In addition, electrical connections clamps, ferrules or soldering must be used when an electrical connection is made on an electric fence and wrap joints are not allowed.¹¹

Below are the guidelines for warning signs in the electrical system¹² :





The Regulation provides guidelines to be adopted for the maintenance of an electric fence. Also, to maintain an electric fence satisfactorily, the following guidelines are to be followed: ¹³





Location of Electric Fences

The location of an Electric Fence along a public road or in an urban area must be installed in a way that ensures the electrified wires cannot come into contact with persons and animals inadvertently.

An Electric fencing must also be installed without any obstructions including vegetation, shrubbery, creepers, trees, telephone poles, etc. In urban areas, care must be taken to ensure that no obstruction can come closer than 1.0m sideways and 1.5m above the Electric Fence, while in rural areas, care must be taken to ensure that no obstruction can come closer than 1.2m sideways and 1.5m above of the electric fence.

Where it is impossible to remove an obstruction, derogation must be obtained from the Commission. Also, special permission must be obtained from the appropriate authorities for any part of an electric fence to pass underneath or above a national road.¹⁴

For electric fences installed and operated near communication lines, steps must be taken to prevent the harmful interference on the nearby communication lines. Where it is established that an Electric Fence causes harmful interference on the nearby communication lines, the installation will need to be rectified. It must be proven that the affected communication

lines comply with standards for installation or configuration specifications or both. Where the installations comply with standards, and the communication line interference persists, the Electric Fence owner must be required to reconfigure his fence and if no solution is found, the installation may be removed or switched off.¹⁵

Also, when an Electric Fence connection lead or Electric Fence wire crosses an overhead communications line, the crossing of the line must be at an angle larger than 45°.

It should be noted that an electric fence must not be installed to run parallel to communication lines.

Nevertheless, where an electric fence has already been installed parallel to a communication line, the following requirements must be complied with:



Where the fence and a communication line has been installed parallel at a distance less than 100m, the minimum separation distance of at least 1m shall be maintained between the highest part of the electric fence and the communication line

Where the fence and line has been installed parallel at a distance exceeding 100m, the minimum separation distance of at least 2.5m shall be maintained between the highest part of the electric fence and the communication line

Electric Fence Energizers

The Regulations prescribe that Electric fence energizers should not be installed close to power or communication distribution boxes, but they must be installed close to the fence in a secured location within the owner's premises. The order is that electrical supplies are to be taken to the energizer and the energizer must not be earthed to the same earth systems used by the local electricity supplier or communication provider or both.

Distance between the energizer earth and any electric supplier or communication system earth system must be at least 2 meters. Also, installers must ensure that all ancillary equipment connected to the electric fence circuit provides a degree of isolation between the fence circuit and the supply mains equivalent to that provided by the energizer. In addition, special precautions must be taken if the electric fence security system is connected to any communication device.¹⁶

If there is more than one energizer connected to an electric fence, or where electric fences are at a space of less than 2.5m from another, the operation of the energizers must be coordinated in a way that ensures effective pulses on any conductor (s) or fence (s) which must be within a predetermined pulse rate and magnitude range as defined by the limits of any compliant single energizer.¹⁷

Earthing of Electric Fences

For big areas that are fenced, the Regulations require earthing of at least every 300m. Residential electric fences are to be earthed at 30m intervals and/or at every corner and every strain post. Below are the requirements for the earthing of electric fences:

- Where practicable, a spot where the earth rods are to be driven into the ground shall be chosen where the



soil is damp to ensure good electrical contact with the ground.

- For an effective earth system, the earth rods are to be spaced at distances at least equal to the length of the earth rod, but preferably at distances of at least 1.5 times the depth to which the rods are driven into the ground.
- A minimum of 3 earth spikes shall be used to earth the electric fence energizer.
- If more than one energizer is used, all energizer earth systems shall be integrated to be one large system.
- As an alternative to earth rods, earth electrodes in the form of bare copper conductors (effective 16mm²) could be buried in a trench with a minimum length of at least 20m and a depth of at least 0.5m¹⁸

It should be noted that the galvanic corrosion between dissimilar metals must be considered when different metals between earth rods and connecting leads are used. Only clamps are to be used when connecting leads or wires to earth rods.¹⁹

Complaints Procedure

The Regulation specifies that consumer complaints must be resolved in accordance with the NERC's Regulation on Customer Complaints: Standard and Handling Procedure.²⁰ Where the complaint is unresolved, the complaint shall be referred to the Forum Office within the closest proximity to the authorized operational area of the Distribution Licensee.²¹



KEY STAKEHOLDERS

Nigerian Electricity Regulatory Commission
(NERC) Regulation on Electric Fencing in the
Nigerian Power Sector, 2016

KEY STAKEHOLDERS



The primary agency for the supervision and control of the Regulations as specified in the EPSRA is NERC. The Commission was established as a corporate body to regulate the generation, transmission, distribution of electricity in Nigeria through promoting efficiency in industry and market structures, electric fencing, regulating prices and ensuring safety in the production and delivery of electricity.²² NERC is vested with the responsibility of monitoring and overseeing electric fencing activities. The Commission may amend or repeal the provisions of the Regulation.²³ In addition, the monitoring of the installations, use and maintenance of electric fences throughout Nigeria is the responsibility of the Commission. This would ensure that electricity is not misused through the installation of electric fencing.²⁴

The background of the slide features a faint, dark silhouette of a high-voltage power transmission tower, centered and extending vertically. The tower's lattice structure is visible, and it appears to be part of a larger network of power lines.

PRICING **AND TARIFFS**

**Nigerian Electricity Regulatory Commission
(NERC) Regulation on Electric Fencing in the
Nigerian Power Sector, 2016**

PRICING AND TARIFFS



The Regulation contains in its Schedule the fees to be charged for consent to install electric fences and they are as follows²⁵:

| S/N | Plot size (m ²) | Fees payable (₦) |
|-----|-----------------------------|------------------|
| | < 300 | 18,000 |
| | 300-500 | 20,000 |
| | 500-1000 | 22,000 |
| | 1000-2000 | 25,000 |
| | 2000-5000 | 30,000 |
| | > 5000 | 50,000 |

INCENTIVES AND INVESTMENT OPPORTUNITIES

Nigerian Electricity Regulatory Commission
(NERC) Regulation on Electric Fencing in the
Nigerian Power Sector, 2016



INCENTIVES AND INVESTMENT OPPORTUNITIES



The Regulations do not specifically provide opportunities for investment.



SANCTIONS AND PENALTIES

**Nigerian Electricity Regulatory Commission
(NERC) Regulation on Electric Fencing in the
Nigerian Power Sector, 2016**

SANCTIONS AND PENALTIES



There is no provision for sanctions and penalties under the Regulations.

Referenced Statutory Instruments

- Electric Power Sector Reform Act (EPSRA) No.6 LFN 2005
- Nigerian Electricity Regulatory Commission (Business Rules of the Commission) Regulations, 2006.
- Nigerian Electricity Regulatory Commission Customer Handling Complaint Procedure, 2006
- Nigerian Electricity Regulatory Commission Regulations on Customer Services Standard of Performance for Distribution Companies, 2007

Endnotes

1 NERC, Official website available at <https://nerc.gov.ng/doclib/regulations/255-regulation-on-electric-fencing-nps2016/file>

2 NERC, Official website available at [https://nerc.gov.ng/index.php/component/remository/Regulations/Electric-Power-Sector-Reform-Act-\(EPSR\)-2005/?Itemid=591](https://nerc.gov.ng/index.php/component/remository/Regulations/Electric-Power-Sector-Reform-Act-(EPSR)-2005/?Itemid=591)

3 See Section 32(1)(e), Section 81, Section 96(1), 96 (2)f of the EPSRA, No 6 LFN 2005

4 Section 4

5 Section 6

6 Section 6 of IEC 60335-2-76 Standard

7 Section 7

8 In the case of equivalent standards, they must be approved by the Commission in consultation with the Standards Organization of Nigeria before their application in Nigeria.

9 Section 9

10 Section 10

11 Section 11

12 Section 12

13 Section 13

14 Section 14

15 Section 15

16 Section 16

17 Section 17

18 Section 18

19 Section 19

20 NERC, official website available at <https://nerc.gov.ng/index.php/component/remository/Regulations/Customer-Complaints-Handling-Standards-and-Procedures/?Itemid=591>

21 Section 21

22 Sections 31-61 of the EPSRA

23 Section 22

24 Section 8

25 Schedule A - Fees for Consent to Install Electric Fences

DISCLAIMER

This document titled the “Simplified Legal and Regulatory Guide” of the referenced country is not expected to form the basis of, or be construed as standard legal advice; nor should any of its contents and representations be strictly relied upon for any activities. Electricity Lawyer (EL) will not be liable for decisions whatsoever that are made based on the contents of the document.

For Enquiries and/or Advisory Services, kindly reach out to us at our e-mail address: ask@electricitylawyer.com

For Research and Insights, kindly reach out to us at our email address: insights@electricitylawyer.com

For Training and Capacity Building, kindly reach out to us at our email address: trainings@electricitylawyer.com



ELECTRICITY
LAWYER