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February 14, 2011

VIA FEDERAL EXPRESS

Attn. Steven L. Medlin, AICP
City-County Planning Director
Durham City-County Planning Department
101 City Hall Plaza
Durham, NC 27701

Re: Sentry Security Systems, LLC Application for UDO Text Amendment

Dear Mr. Medlin:

Enclosed please find an application for a UDO Text Amendment regarding the security system we discussed last week. Also enclosed is a check made payable to the City of Durham in the amount of \$3120.00 for the application fee.

If you have any questions regarding this matter, please do not hesitate to contact me.

I look forward to working with you.

Very truly yours,

MORRIS, MANNING & MARTIN, LLP

Keith D. Burns

KDB/hc

Cc: Ms. Cindy Gsell

Enclosures



UDO Text Amendment



Tracking Information (Staff Only)

Case Number: <i>101100003</i>	Date: <i>2/15/11</i>	Article: <i>Sub 9.18 9.9 Fines f walls</i>
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Applicant

Name: Sentry Security Systems, LLC c/o Keith Burns	Telephone: (919) 806-2969
Address: 1000 Park 40 Plaza, Ste 350	Fax: (919) 806-2057
City/State/ZIP: Durham, NC 27713	Email: kburns@mmmlaw.com

Signature/Date *[Signature]* *2/14/11*

Requested Change

Describe what you want to change in the ordinance and why:

Please see attached.

Fees (Staff Only)

Date:	Staff:	Account: Account:	Fee:
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ELECTRIC FENCE REGULATIONS / ORDINANCE

The construction and use of electric fences shall be allowed in any non-residential zone in which outdoor storage is permitted, subject to the following standards.

1. **IEC Standard 60335-2-76:** Unless otherwise specified herein, electric fences shall be constructed or installed in conformance with the specifications set forth in International Electro technical Commission (IEC) Standard No. 60335-2-76.
2. **Electrification:**
 - (a) The energizer for electric fences must be driven by a commercial storage battery not to exceed 12 volts DC. The storage battery should be charged primarily by a solar panel; however, the solar panel may be augmented by a commercial trickle charger.
 - (b) The electric charge produced by the fence upon contact shall not exceed the energizer characteristics set forth in paragraph 22.108 and depicted in Figure 102 of IEC Standard No. 60335-2-76.
3. **Perimeter fence or wall:** No electric fence shall be installed or used unless it is completely surrounded by a non-electrical fence or wall that is not less than six feet tall; provided, however, that the electric fence shall extend two feet above the perimeter fence or wall.
4. **Location:** Electric fences shall be authorized in any non-residential zone in which outdoor storage is permitted.
5. **Height:** Electric fences may have a height of up to 10 feet; provided, however, that the portion of the fence above 8 feet shall consist of no more than four strands of wire that are installed generally horizontally and that are spaced vertically no more closely than every 6 inches (e.g. at 8.5 feet, 9 feet, 9.5 feet and 10 feet) and support posts.
6. **Warning signs:** Electric fences shall be clearly identified with warning signs that read: "Warning-Electric Fence". Warning signs must be placed on the exterior fence at intervals of not less than sixty feet.
7. **Permitting:** Electric fences shall be governed and regulated under burglar alarm regulations and permitted as such. – (other options used for regulating and permitting are Building, Fence, Burglar alarm, Low voltage)
8. **KNOX Box** – installation optional based on Fire Department request.

**NORME
INTERNATIONALE
INTERNATIONAL
STANDARD**

**CEI
IEC**

60335-2-76

Edition 2.1

2006-04

Edition 2:2002 consolidée par l'amendement 1:2006
Edition 2:2002 consolidated with amendment 1:2006

**Appareils électrodomestiques et analogues –
Sécurité –**

**Partie 2-76:
Règles particulières pour les électrificateurs
de clôtures**

**Household and similar electrical appliances –
Safety –**

**Part 2-76:
Particular requirements for electric fence
energizers**



Numéro de référence
Reference number
CEI/IEC 60335-2-76:2002+A1:2006

22.108 Energizer output characteristics shall be such that

- the impulse repetition rate shall not exceed 1 Hz;
- the **impulse duration** of the impulse in the 500 \wedge component of the **standard load** shall not exceed 10 ms;
- for **energy limited energizers** the energy/impulse in the 500 \wedge component of the **standard load** shall not exceed 5 J;

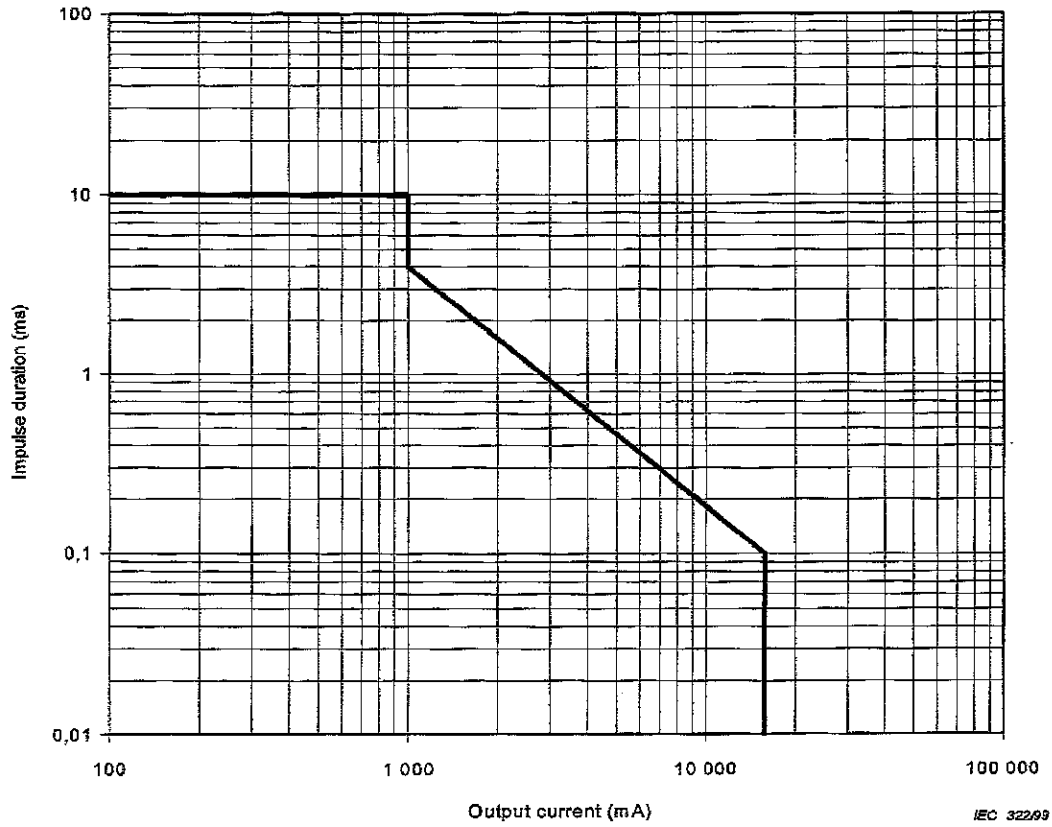
NOTE The energy/impulse is the energy measured in the impulse over the **impulse duration**.

- for **current limited energizers** the **output current** in the 500 \wedge component of the **standard load** shall not exceed for

- an **impulse duration** of greater than 0,1 ms, the value specified by the characteristic limit line detailed in Figure 102;
- an **impulse duration** of not greater than 0,1 ms, 15 700 mA.

*Compliance is checked by measurement when the **energizer** is supplied with the voltage in 11.5, the **energizer** being operated under conditions of **normal operation** but with the **standard load** connected to its output terminals. When measuring the impulse repetition rate the **standard load** is not connected.*

The measurements are made using a measuring arrangement with an input impedance consisting of a non-inductive resistance of not less than 1 M \wedge in parallel with a capacitance of not more than 100 pF.



NOTE The equation of the line relating impulse duration (ms) to output current (mA) for 1 000 mA < output current < 15 700 mA, is given by $\text{impulse duration} = 41,885 \times 10^3 \times (\text{output current})^{-1.34}$

Figure 102 – Current limited energizer characteristic limit line

Annex CC (informative)

Installation of electric security fences

CC.1 General

An **electric security fence** should be installed so that, under normal conditions of operation, persons are protected against inadvertent contact with **pulsed conductors**.

NOTE 1 This requirement is primarily intended to establish that a desirable level of safety is present or is being maintained in the **physical barrier**.

NOTE 2 When selecting the type of **physical barrier**, the likely presence of young children should be a factor in considering the size of openings.

CC.2 Location of electric security fence

The **electric fence** should be separated from the **public access area** by means of a **physical barrier**.

Where an **electric fence** is installed in an elevated position, such as on the inner side of a window or skylight, the **physical barrier** may be less than 1,5 m high where it covers the whole of the **electric fence**. If the bottom of the window or skylight is within a distance of 1,5 m from the floor or access level then the **physical barrier** need only extend up to a height of 1,5 m above the floor or access level.

CC.3 Prohibited zone for pulsed conductors

Pulsed conductors shall not be installed within the shaded zone shown in Figure CC1.

NOTE 1 Where an **electric security fence** is planned to run close to a site boundary, the relevant government authority should be consulted before installation begins.

NOTE 2 Typical **electric security fence** installations are shown in Figure CC2 and Figure CC3.

CC.4 Separation between electric fence and physical barrier

Where a **physical barrier** is installed in compliance with CC.3 at least one dimension in any opening should be not greater than 130 mm and the separation between the **electric fence** and the **physical barrier** should be

- within the range of 100 mm to 200 mm or greater than 1 000 mm where at least one dimension in each opening in the **physical barrier** is not greater than 130 mm;
- greater than 1 000 mm where any opening in the **physical barrier** has all dimensions greater than 50 mm;
- less than 200 mm or greater than 1 000 mm where the **physical barrier** does not have any openings.

NOTE 1 These restrictions are intended to reduce the possibility of persons making inadvertent contact with the **pulsed conductors** and to prevent them from becoming wedged between the **electric fence** and the **physical barrier**, thereby being exposed to multiple shocks from the energizer.

NOTE 2 The separation is the perpendicular distance between the **electric fence** and the **physical barrier**.

CC.5 Prohibited mounting

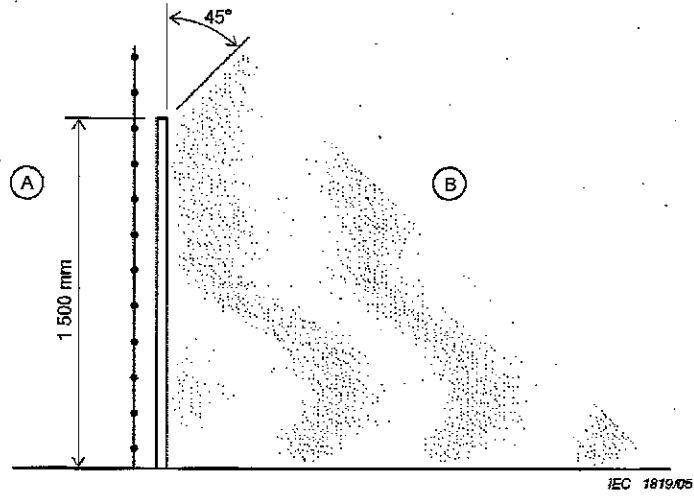
Electric fence conductors should not be mounted on a support used for any overhead power line.

CC.6 Operation of electric security fence

The conductors of an **electric fence** should not be energized unless all authorized persons, within or entering the **secure area**, have been informed of its location.

Where there is a risk of persons being injured by a secondary cause, appropriate additional safety precautions should be taken.

NOTE An example of a secondary cause is where a person may be expected to fall from a surface if contact is made with **pulsed conductors**.



Key

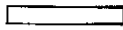


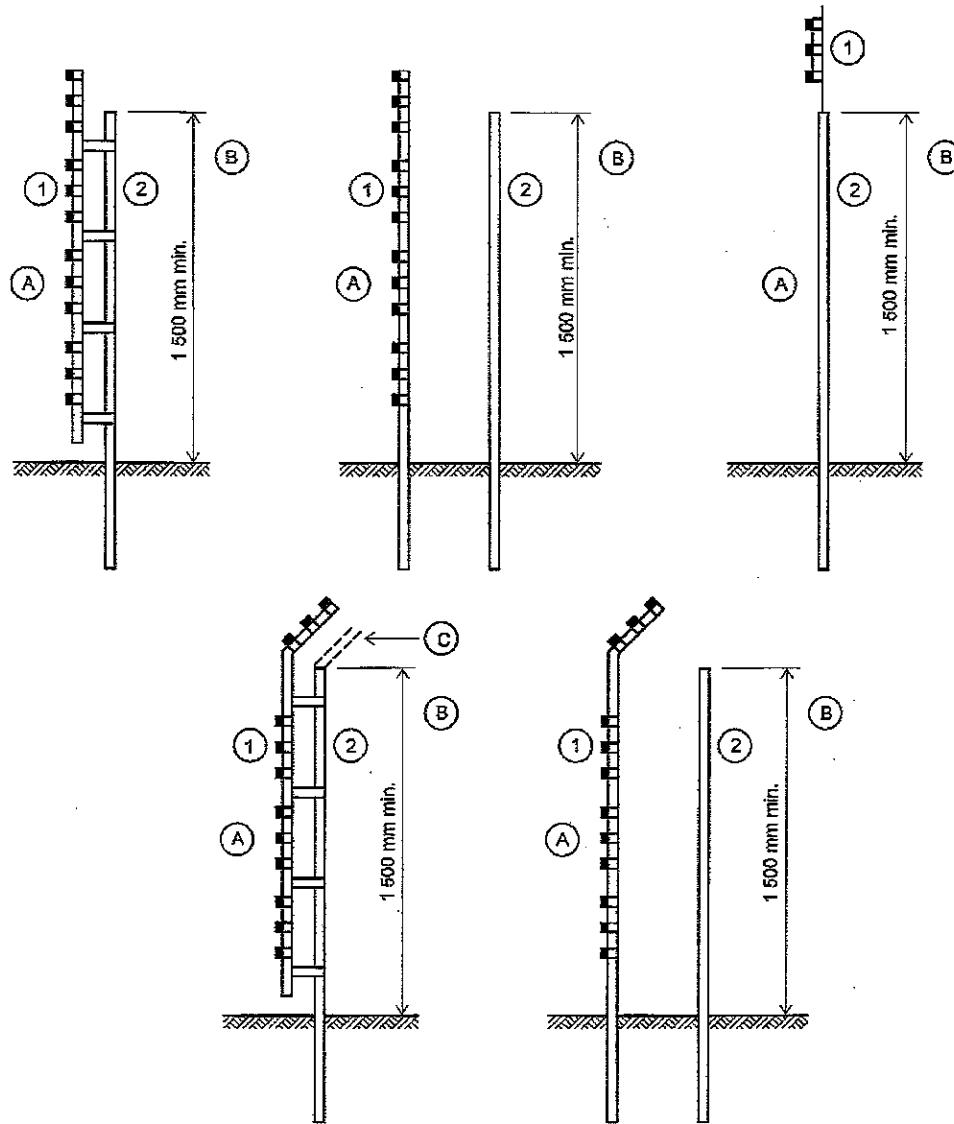
- A = Secure area
- B = Public access area
-  Physical barrier
-  Prohibited area
-  Electric security fence

Figure CC.1 – Prohibited area for pulse conductors

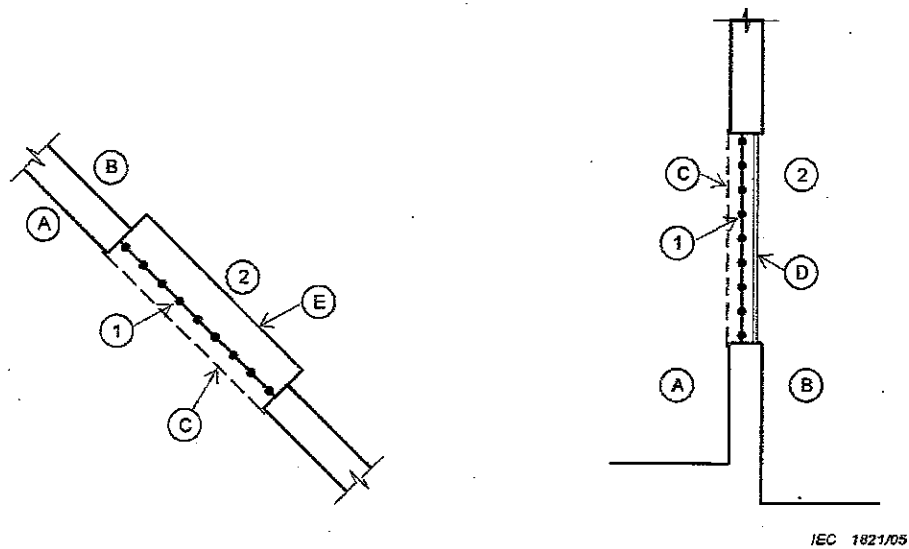


IEC 1820/05

Key

- A = Secure area
- B = Public access area
- C = Barrier where required
- 1 = Electric security fence
- 2 = Physical barrier

Figure CC.2 – Typical constructions where an electric security fence is exposed to the public

**Key**

- A = Secure area
- B = Public access area
- C = Barrier where required
- D = Glass window pane
- E = Skylight in roof
- 1 = Electric security fence
- 2 = Physical barrier

Figure CC.3 – Typical fence constructions where the electric security fence is installed in windows and skylights

Bibliography

The bibliography of Part 1 is applicable except as follows.

Addition:

IEC 60335-2-86, *Household and similar electrical appliances – Safety – Part 2-86: Particular requirements for electric fishing machines*

IEC 60335-2-87, *Household and similar electrical appliances – Safety – Part 2-87: Particular requirements for electric animal stunning equipment*