SLOVENSKI STANDARD
kSIST FprEN 50554:2010

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Osnovni standard za terensko ocenjevanje mesta oddajanja v zvezi z izpostavljenostjo ljudi elektromagnetnim sevanjem

Basic standard for the in-situ assessment of a broadcast site related to general public exposure to radio frequency electromagnetic fields

Ta slovenski standard je istoveten z: **FprEN 50554:2010**

ICS:

13.280	Varstvo pred sevanjem	Radiation protection
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ICS

English version

Basic standard for the in-situ assessment of a broadcast site related to general public exposure to radio frequency electromagnetic fields

To be completed

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This draft European Standard is submitted to CENELEC members for Unique Acceptance Procedure.
Deadline for CENELEC: 2010-07-02.

It has been drawn up by CLC/TC 106X.

If this draft becomes a European Standard, CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

This draft European Standard was established by CENELEC in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: Avenue Marnix 17, B - 1000 Brussels

Project: 16683

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1 # Foreword

2 This draft European Standard was prepared by the Technical Committee CENELEC TC 106X,
3 Electromagnetic fields in the human environment. It is submitted to the Unique Acceptance Procedure.

4 The following dates are proposed:

– latest date by which the existence of the EN has to be announced at national level	(doa)	dor + 6 months
– latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	dor + 12 months
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	dor + 36 months (to be confirmed or modified when voting)

5 _____

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1 Scope

This basic standard specifies the method for assessing overall exposure from fixed radio frequency sources at a broadcast site. This assessment may be applied at any time but must be carried out when the exposure situation changes in or around this site.

It plays an essential role in the coordination of different stakeholders, with respect to ensuring EMF exposure compliance in and around a broadcast site especially for equipment installed within the site

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 50383, *Basic standard for the calculation and measurement of electromagnetic field strength and SAR related to human exposure from radio base stations and fixed terminal stations for wireless telecommunication systems (110 MHz – 40 GHz)*

EN 50413, *Basic standard on measurement and calculation procedures for human exposure to electric, magnetic and electromagnetic fields (0 Hz – 300 GHz)*

EN 50492, *Basic standard for the in-situ measurement of electromagnetic field strength related to human exposure in the vicinity of base stations*

EN 50496, *Determination of workers' exposure to electromagnetic fields and assessment of risk at a broadcast site*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
basic restriction
restrictions on exposure to time-varying electric, magnetic, and electromagnetic fields that are based directly on established health effects. In the frequency range from 30 MHz to 10 GHz, the physical quantity used is the specific absorption rate. Between 10 GHz and 40 GHz, the physical quantity is the power density

3.2
broadcasting service
radiocommunication services in which the transmissions are intended for direct reception by the general public. This service may include sound transmissions, television transmissions or other types of transmission

3.3
broadcast site
site where one or more broadcast transmitters are operated

3.4
controlled area
area in which the operator may decide who is permitted to enter or remain or an area which, due to actual circumstances, the public is prohibited from entering

3.5
employer
any natural or legal person who has an employment relationship with the worker and has responsibility for the undertaking and/or establishment

(Directive 89/391/EEC [4])

3.6
Exposure Ratio (*ER*)
for an individual source, between 100 kHz to 10 GHz:

$$ER = MAX\left[\left(\frac{E}{EL}\right)^2, \left(\frac{H}{HL}\right)^2\right]$$

Between 10 GHz and 40 GHz:

$$ER = \left(\frac{S}{SL}\right)$$

where

ER is the exposure ratio at frequency f for the source;
EL is the investigation E-field reference level at frequency f;
HL is the investigation H-field reference level at frequency f;
E is the assessed E-field at frequency f for the source;
H is the assessed H-field at frequency f for the source;
SL is the power flux density limit at frequency f;
S is the assessed power flux density at frequency f for the source;
f is the frequency of the source

3.7
Member States
European Community Member States

3.8
reference levels
reference levels of exposure are provided for comparison with measured values of physical quantities; compliance with all reference levels given in these guidelines (Council Recommendation 1999/519/EC [2]) will ensure compliance with basic restrictions. If measured values are higher than reference levels, it does not necessarily follow that the basic restrictions have been exceeded, but a more detailed analysis is necessary to assess compliance with the basic restrictions.

3.9
relevant domain
in the absence of a national or local definition, domain surrounding the site where the sum of the exposure ratios from all sources of the site shall be more than 5 %

3.10
relevant source
the principle of relevance establishes the conditions under which a radio source is considered relevant such that account has to be taken of the contribution of that source when assessing RF exposure. In the absence of a national or local definition, the relevant source is a fixed radio source, in the frequency range 100 kHz to 40 GHz, which has an exposure ratio more than 5 %

3.11
site operator
party controlling access to the controlled area

3.12
Stakeholder (*SH*)
party involved in the process of this European Standard in accordance with the local or national legislation. More than one stakeholder can be concerned (national authority, licence holder, broadcaster, site operator, …)

3.13
Threshold Distance (*TD*)
minimum distance in a given direction beginning from the boundary of the controlled area at which compliance with reference level is achieved at all heights when considering emissions from the site alone

3.14
worker
any person employed by an employer, including trainees and apprentices but excluding domestic servants

(Directive 89/391/EEC [4])

4 Assessment fundamentals

4.1 Level of protection

In Council Recommendation 1999/519/EC [2], it is stated:

"II. Member States, in order to provide for a high level of health protection against exposure to electromagnetic fields, should:

(a) adopt a framework of basic restrictions and reference levels using Annex I.B as the basis;

(b) ...

(c) aim to achieve respect of the basic restrictions given in Annex II for public exposure."

and

"(15) Member States may, in accordance with the Treaty, provide for a higher level of protection than that set out in this recommendation;"

In consequence, national or local relevant regulations define the level of protection for applying this European Standard, expressed in basic restrictions and/or reference levels.

4.2 Worker/public exposure

In [2], it is stated:

"(14) In accordance with the principle of proportionality, this recommendation provides general principles and methods for the protection of members of the public while leaving it to the Member States to provide for detailed rules as regards the sources and practices which give rise to exposure to electromagnetic fields and the classification, as work-related or not, of conditions of exposure of individuals, in accordance with Community provisions concerning the safety and health protection of workers;"

Worker exposure at broadcast sites is dealt with in EN 50496 in accordance with Directive 2008/46/EC [3].