



**NSAI**

# ANNUAL REPORT 2020

NSAI TECHNICAL COMMITTEES  
(NSAI/ETC/TC 15 HUMAN  
EXPOSURE TO  
ELECTROMAGNETIC FIELDS

## Contents

1	Chairman's Statement .....	3
2	Introduction .....	3
3	Scope of TC.....	3
4	Structure and Membership .....	4
4.1	Members .....	4
5	Summary of 2019 Activities .....	4
5.1	National .....	4
5.1.1	Meetings .....	4
5.1.2	National Work .....	4
5.2	International/Regional .....	4
5.2.1	Meetings .....	4
5.2.2	International/Regional Work .....	5
5.2.3	International/Regional Standards Reviewed .....	6
5.3	Regulatory Development/Update .....	6
6	Irish Publications/Reviews.....	6
6.1	Publications .....	7
7	Work programme for 2019 onwards .....	8
8	Additional Information .....	8

## 1 Chairman's Statement

NSAI/ETC/TC 15 continues to function well with good input and participation from our experts for which we are grateful.

The issues with having standards listed as Harmonised in the OJEU continues. This places an additional burden on manufacturers to determine compliance with EU Directives including the Radio Equipment, Low Voltage and Medical Device Directives.

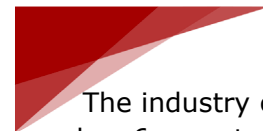
We are hopeful that the appointment of more HAS consultants by the EU Commission will help to alleviate this problem. New challenges for TC 15 include the verifying emissions from wireless charging including electric cars.

We look forward to another productive year in TC 15.

## 2 Introduction

This TC serves the telecommunication, ICT and power transmission sectors in Ireland. The protection of general consumer and user of electrical products that emit electromagnetic fields or transmit using radio frequency such as mobile phones, laptops, tablets and other transmitting devices is also within the remit of this committee.

The main activity for this committee is to monitor and provide input on the IEC and CENELEC standards developed to assess electromagnetic fields associated with human exposure or in the Human Environment. The standards produced are important as they are listed in the OJEU as harmonized standards under the Radio Equipment Directive and Low Voltage Directive.



The industry currently has 6 experts involved in international work

A total of 16 active national members

## 3 Scope of TC

NSAI/ETC/TC 15 provides a national forum for the review and contribution to the development of standards in the area of Electromagnetic fields and Human Health. The main focus of this committee is the work of CENELEC TC 106X and IEC TC 106.

Members of TC also play a role in promoting best practice nationally in relation to use of appropriate standards to ensure safety for human exposure to electromagnetic fields.

The committee mirrors the following international committees:

Committee Name	Committee Title
<b>IEC TC 106</b>	Methods for the assessment of electric, magnetic and electromagnetic fields associated with human exposure
<b>CENELEC TC 106</b>	Electromagnetic fields in the human environment

## 4 Structure and Membership

There are no working groups under this committee. See the list of organizations currently involved in NSAI/ETC/TC 15 in 4.1.

### 4.1 Members

The list below are the organizations represented on NSAI ETC TC 15 for the year:

Organisation	Role
<b>Compliance Engineering Ireland</b>	2 expert members (Chair & 1 member)
<b>ESB</b>	2 Expert members
<b>Johnson Controls</b>	1 Expert member
<b>2RN</b>	1 Expert member
<b>EPA</b>	2 Expert members
<b>EIR</b>	1 Expert member
<b>Dell</b>	1 Expert member
<b>Apple</b>	3 Expert members
<b>Intel</b>	1 Expert member
<b>Vodafone</b>	1 Expert member
<b>NSAI</b>	Committee secretary

## 5 Summary of 2020 Activities

### 5.1 National

#### 5.1.1 Meetings

Committee members attended the following national meetings in NSAI as follows:

Meeting No.	Date	Minutes Reference ** optional**
1	27 <sup>th</sup> April 2020	N1042
2	16 <sup>th</sup> Nov 2020	N1045

#### 5.1.2 National Work

There were no national projects assigned to ETC TC 15 in 2020

### 5.2 International/Regional

#### 5.2.1 Meetings

Committee members attended international CENELEC (CLC) and IEC meetings as follows:

Committee Name	Location	Date	No. of Attendees
IEC TC 106 Plenary	Virtual	27 <sup>th</sup> Nov 2020	1
CLC TC 106X	Virtual	30 <sup>th</sup> April 2020	3
	Virtual	3 <sup>rd</sup> Dec 2020	4

## 5.2.2 International/Regional Work

### Pandemic impact:

The pandemic, which spread across all of Europe and the rest of the world in 2020, impacted on standards work. Most technical committees moved to use of virtual or on-line. While this has worked quite well it is hoped that some form of physical meetings will return in 2021. The use of virtual meetings has some advantages in that it facilitated greater national participation in international meetings, without the need for international travel. NSAI/ETC/TC 15 had up to 4 national experts participating CLC TC 106X meetings. There are some disadvantages too. Collaboration on-line for drafting groups can be more difficult due to connectivity issues, different time zones etc. It has resulted in some delays in work programmes. Extensions to timelines was facilitated by the international development organizations during 2020 because of the pandemic. It can be difficult to arrange international meetings to arrange to suit all time zones. The IEC TC 106 plenary meeting was scheduled for 4.00am to 7.00am Irish time. Great credit to the national expert who did participate in this meeting.

### International Working group activities:

Most of the international contributions of NSAI/ETC/TC 15 is focused on European work. A number of national experts are members of the following CENELEC TC 106X working groups:

WG 1 - Mobile phones and base stations – 3 national experts are currently engaged in this WG. This group currently has no active work items

WG 2 – Anti-theft devices - currently an Irish expert is the convenor of this international WG, with one national expert participating in the group. At the moment there is no active work items under this group.

WG 7 – Broadcasting – 3 national experts participating. This group developed EN 50496:2018– *Determination of workers exposure to EMF and assessment of risk at a broadcast sites* and is currently developing prEN 50554 - *Basic standard for the in-situ assessment of a broadcast site related to general public exposure to radio frequency electromagnetic fields*. This standard reached the final voting stage (Formal vote) in 2020.

WG 15 – EMF and implants – 3 national experts participating in this WG. The EN 50527 series has been developed by the group with 3 standards published to date. These set out risk assessment to consider for workers with active implants and are aimed at employers. PrEN 50527-2-3 *Procedure for the assessment of the exposure to electromagnetic fields of workers bearing implantable medical devices, Part 2-3 – Specific assessment for workers with implantable neurostimulators* completed the enquiry stage in 2020 with work proceeding on the final draft under way.

WG 17 - EMF Assessment in the electricity supply industry – 1 national expert participating in this WG. This group published EN 50647:2017 – *Basic standard for the evaluation of workers exposure to electric and magnetic fields from equipment and installations for the production, transmission and distribution of electricity*. EN 62110:2009/AC:2015 – *Electric and magnetic fields generated by AC power systems – Measurement procedures with regard to public exposure* is also of interest to this group. However, there are no active work items active under this group at present.

WG20 - Reasonable foreseeable use – 2 national members participating in this group. This was a new WG established in 2018 under CENELEC TC 106X to develop a technical report to provide guidance on “reasonable and foreseeable use” as stated in the relevant directives.

WG 21 - Basic standards and generic standards – This group was established in 2018 and is a combination of the previous WG 3 & WG 4. There is 1 national expert participating in this group. This group started work on three new work items in 2020:

- prEN 50663 – *Generic standard for the assessment of low power electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (10MHz – 300 GHz)*
- prEN 50664 – *Generic standard to demonstrate the compliance of equipment used by workers with limits on exposure to electromagnetic fields (0 Hz -300 GHz) when put into service or in situ.*
- prEN 50665 – *Generic standard for assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (0 Hz – 300 GHz)*

At the international level national experts participate in two Working groups under IEC TC 106 where 1 national expert is participating:

WG 8 – Addressing methods for assessment of contact current related to human exposures to electric, magnetic and electromagnetic fields.

WG 9 – Addressing methods for assessment of wireless Power Transfer (WPT) related to human exposures to electric, magnetic and electromagnetic fields.

There are a number of other groups set up under IEC TC 106X including Project teams, maintenance teams, Joint working groups and joint maintenance teams – see link to current subcommittees and working groups of IEC TC 106X:

[IEC - TC 106 Dashboard > Structure: Subcommittee\(s\) and/or Working Group\(s\), Membership, Officers, Liaisons](#)

### 5.2.3 International/Regional Standards Reviewed

The work programme of both CENELEC TC 106X and IEC TC 106 continued to be monitored during 2020.

For CENELEC TC 106X see the links below for the full work programme.

List of [Published standards](#)

List of [revisions and new standards](#)

## 5.3 Regulatory Development/Update

The Radio Frequency Directive (RED) incorporates radio equipment, Low Voltage Directive (LVD) and EMF Directive. These directives do not specify limits and rely on standards to specify correct and safe limits. This Directive also refers to “reasonably foreseeable” conditions. The standards developed by CENELEC TC 106X can be used to demonstrate compliance with these directives. Irish Publications/Reviews.

Different HAS consultants for RED, EMF & LV directives review and approve relevant standards which has caused some delays in getting harmonised standards finally approved. The list of standards being developed and proposed for citation under EU directives are listed in the table below:

Draft Standard	Directive
prTR 50713 – Reasonably Foreseeable use conditions when referring to EMF exposure assessment	2014/53/EU (RED) 2014/35/EU (LVD 2014) 2013/35/EU (EMF 2013) Proposed TR linked to EMF, LVD, RED but not intended for citation
EN 50360:2017/prA1 – Product standard to demonstrate the compliance of wireless communication devices with the basic restrictions and exposure limit values related to human exposure to electromagnetic fields in the frequency range from 300 MHz TO 6 GHz: devices used next to the ear.	2014/53/EU (RED)
EN 50401:2017/prA1 – Product standard to demonstrate the compliance of base station equipment with radiofrequency electromagnetic field exposure limits (110 MHz – 100 GHz) when put into service.	2014/53/EU (RED)
EN 50566:2017/prA1 – Product standard do demonstrate the compliance of wireless communication devices with the basic restrictions and exposure limit values related to human exposure to electromagnetic fields in the frequency range form 30 MHz to 6 GHz: hand-held and body mounted devices, in close proximity to the human body	2014/53/EU (RED)
prEN 50364-1 – Product standard for human exposure to electromagnetic fields from devices operating in the frequency range 0 Hz TO 300 GHz used in Electronic Article surveillance (EAS), Radio Frequency Identification (RFID) and similar applications – Pt 1 General public	2014/35/EU (LVD 2014) 2014/53/EU (RED)
prEN 50663 – Generic standard for assessment of low power electronic and electrical equipment related to human exposure restriction for electromagnetic fields (10 MHz – 300 GHz)	2014/35/EU (LVD 2014) 2014/53/EU (RED)
prEN 50664 – Generic standard to demonstrate the compliance of equipment used by workers with limits on exposure to electromagnetic fields (9 Hz – 300 GHz) when put into service or in situ.	2014/35/EU (LVD 2014) 2014/53/EU (RED)
PrEN 50665 – Generic standard for assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (0 Hz – 300 GHz)	2014/35/EU (LVD 2014) 2014/53/EU (RED)

## 5.4 Publications

There were no national projects assigned to NSAI/ETC/TC 15 in 2020.

The Committee did not publish any national deliverables this year.

## 6 Work programme for 2021 onwards

ETC TC 15 plans to continue to monitor the work of CENELEC TC 106X and IEC TC 106. National experts nominated to WG's under CENELEC TC 106X will contribute to the work programme of this international standards committee.

## 7 Additional Information

None