



NSAI

ANNUAL REPORT 2023

**NSAI TECHNICAL COMMITTEES
(NSAI/ETC/TC 03 - POWER
INSTALLATIONS EXCEEDING 1KV
(1.5KV DC))**

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1 Chairman's Statement

In 2023 the NSAI/ETC/TC 03 committee held 4 Meetings, membership and contributions are very healthy. We have 27 members with all members engaging in 2023 and several new members in 2023. Some of the highlights of 2023 were.

- The Socialisation of I.S. EN 61936 "Power installations exceeding 1kV A.C. and 1,5 kV D.C. – Part 1: A.C." & I.S. EN 50110 "Operation of electrical installations - Part 1: General Requirements", where NSAI carried out a sales & PR campaign and Engineers Ireland published a Practice note referencing these standards.
- A new working group was set up NSAI/ETC/WG 01 HV & LV Earthing Systems to address the proliferation of LV earthing systems in close proximity to distribution and Transmission earthing systems as a result of Solar farms and electric vehicle charging points.
- The committee members were active in attending international meetings and hosted the CENELEC TC 99x Plenary meeting in Dublin on the 19th of April. Members attend the IEC TC 99 Plenary virtually as the in-person meeting was cancelled. Members attended the CENELEC TC 99x Plenary meeting in Copenhagen in September. The Chair contributed to an earth grid testing workshop in Norway to inform an update to EN 50522.

It is with great sadness that we bid farewell to our colleague Michael O'Hara, who sadly passed away on the 24th of May 2023. Mr. O'Hara was remembered as an active member of the ETCI and NSAI ETC Committees. Members noted the wealth of knowledge which Mr. O'Hara had and how much he had contributed to the Electrotechnical industry in Ireland.

Many Thanks to all involved.

Neil Cowap

Chair of NSAI/ETC/TC 03.

2 Introduction

NSAI/ETC/TC 03 is the technical committee responsible for preparing national installation standards for High Voltage power installations (exceeding 1 kV a.c. or 1,5 kV d.c.) located indoors or outdoors, including earthing. In 2019, the committee published a Standard Recommendation S.R. 61936:2019, "Guidelines on the application of I.S. EN 61936-1:2010&A1:2014, Power installations exceeding 1 kV a.c. - Part 1: Common rules".

The committee are responsible for the maintenance of S.R. 61936.

The committee has two Subcommittees which reports into it.

- NSAI/ETC/TC 03/SC 01 "Overhead electrical lines exceeding 1kVa.c.

This subcommittee was established to develop the Irish National Normative Aspects NNA to EN 50341-1 "Overhead electrical lines exceeding AC 1 KV - Part 1: General Requirements - Common Specifications", which will be I.S. EN 50341-2-11 "Overhead Electrical Lines Exceeding AC 1 KV - Part 2-1: National Normative Aspects (NNAs) For Ireland (based On EN 50341-1)".

- NSAI/ETC/TC 03/SC 02 "Insulators and surge Arresters"

As a result of restructuring within the Electrotechnical sector of NSAI, NSAI/ETC/TC 19 was disbanded and reformed as a subcommittee NSAI/ETC/TC 03/SC 02.

3 Scope of TC

NSAI/ETC/TC 03 is the Technical Committee responsible for preparing national installation standards for:

- Design,
- Operations and Maintenance,
- associated competence assessment/certification
 - of Designers
 - of assets designed
 - of assets constructed

of assets for High Voltage power installations (exceeding 1 kV a.c. or 1,5 kV d.c.) located indoors or outdoors, including earthing.

The standard specifies the design requirements (and associated pro-forma certification) of the installation, and the selection and erection of electrical equipment in order to ensure the safety of persons and the proper operation of the installation. The installation standard is not applicable to factory built and type tested equipment but is relevant to the installation of this equipment. The installation requirements defined in S.R. 61936 are not applicable to overhead and underground lines between separate installations.

The EN 50110 standard is applicable to all operation of and work activity on, with, or near electrical installations. These are electrical installations operating at voltage levels from and including extra-low voltage up to and including high voltage. This latter term includes those levels referred to as medium, high voltage and extra-high voltage. These electrical installations are designed for the generation, transmission, conversion, distribution and use of electrical power.

The work of this NSAI ETC TC3 committee focuses on installations operating at voltages above 1,000 Volts a.c. (question about auxiliary supplies).

The work of the committee is analogous to the work of NSAI ETC TC2 'Electrical Installations' which develops and maintains the requirements for installations connected at low voltage. The work of this committee will also require coordination and cooperation with the scope of work associated with that of NSAI ETC TC 20 for Smart Grids.

The committee mirrors the following international committees:

Committee Name	Committee Title
IEC TC 99	Insulation co-ordination and system engineering of high voltage electrical power installations above 1,0 kV AC and 1,5 kV DC
IEC TC 115	High Voltage Direct Current (HVDC) transmission for DC voltages above 100 kV
IEC TC 78	Live Working
IEC PC 127	Low-voltage auxiliary power systems for electric power plants and substations
IEC PC 128	Operation of electrical installations
CLC BTTF 62-3	Operation of electrical installations
CLC TC 99X	Power installations exceeding 1 kV a.c. (1,5 kV d.c)

Subcommittee NSAI/ETC/TC 03/SC 02 mirrors the following international committees:

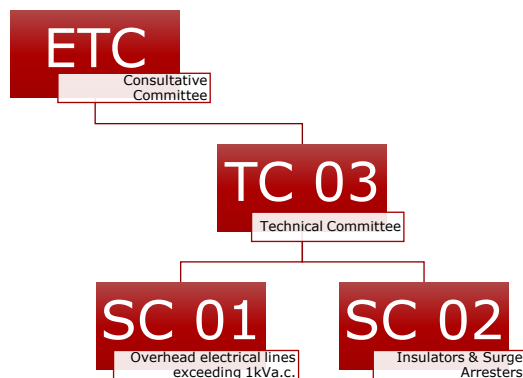
Committee Name	Committee Title
IEC TC 36	Insulators

IEC SC 36A	Insulated bushings
IEC TC 37	Surge arresters
IEC SC 37A	Low-voltage surge protective devices
IEC SC 37B	Components for low-voltage surge protection
CLC TC 36A	Insulated bushings
CLC TC 37A	Low-voltage surge protective devices

4 Structure and Membership

4.1 Structure

The Figure below illustrates the structure of the Committee:



4.2 Members

2023 brought several new members to the committee. The list below are the members for the year:

Organisation	Role
Eirgrid CHAIR	National chairperson
AECI	National committee member
AECOM	National committee member
AFRY	National committee member
Consultant	National committee member
Liaison Engineers Ireland	National committee member
Eirgrid	National committee member
ESB Networks	National committee member
ESBI	National committee member
ESBN EMP	National committee member
H&MV Engineering	National observer
Hitachi Energy	National committee member
Hivar Engineering	National observer
HSA	National committee member
HSE	National observer
IET	National committee member
MOTTMAC	National committee member
NeoDyne	National committee member
Premium Power	National observer
Powercomm Engineering	National committee member
R-P-G	National committee member
SIRO	National committee member
Statkraft	National committee member

Suir Engineering	National committee member
NSAI SECRETARY	National secretary

4.2.1 Members of NSAI/ETC/TC 03/SC 01

Organisation	Role
NSAI	National Secretary
ESB	National Committee Member

4.2.2 Members of NSAI/ETC/TC 03/SC 02

Organisation	Role
NSAI	National secretary
ESB	National Chairperson
TE CONNECTIVITY IRELAND LTD	National Committee Member
ESB	National Committee Member

5 Summary of 2023 Activities

5.1 National

The full Technical Committee met 4 times in 2023.

5.1.1 Meetings

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

Meeting No.	Date	Minutes Reference
1	2023-02-23	N1336
2	2023-04-13	N1346
3	2023-09-14	N1358
4	2023-12-07	N1376

5.1.2 National Work

No national work carried out in 2023.

5.2 International/Regional

5.2.1 Meetings

The Committee hosted the CLC TC 99x plenary meeting in Dublin in April 2023, welcoming international experts to the NSAI offices.

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

Committee Name	Location	Date	Attended
IEC TC 99 Plenary	Virtual	2023/10/25	2
IEC/TC 99/MT 4	Virtual	2023/10/04	1
IEC/PC/127 Plenary	Virtual	2023/12/01	1
IEC/PC/127 WG 2			
IEC/PC/127 WG 4			
IEC/PC/127 ahG 1			
IEC/PC/128 Plenary	Helsinki	2023/03/08	1
IEC/PC/128/WG 1		2023/09/05	1
IEC/PC/128/WG 2	Helsinki	2023/03/07	1
IEC/PC/128/WG 2	Virtual	2023/10/22	1
CLC/BTTF 62-3	Vienna	2023/09/26-28	1
CLC/TC 99X Plenary	Dublin	2023/04/19	5
CLC/TC 99X Plenary	Copenhagen	2023/09/05	1
CLC/TC 99X/WG 01			
IEC TC 36			
IEC SC 36A			
IEC TC 37			
IEC SC 37A			
IEC SC 37B			
CLC TC 36A			
CLC TC 37A			
IEC TC 115	Milan	2023/09/25-29	0
Earth Grid testing workshop	Norway	2023/08/22-24	1

5.2.2 International/Regional Work

NSAI ETC TC 03 members hold four leadership roles in IEC in this sector.

- 1) Chairperson of IEC PC 127 – Low-voltage auxiliary power systems for electrical power stations and substations.

- 2) Convenor of IEC PC 128 WG 1 – Terms and definitions.
- 3) Convenor of IEC PC 127/WG 3 – System design.
- 4) Liaison between IEC TC 99 and IEC PC 128 WG 1

Work continues on the international project committee IEC PC 128 "Operation of electrical installations".

5.2.3 International/Regional Standards Reviewed

The committee continue to review standards as they arise in IEC & CLC.

The committee has been actively attending IEC meeting in relation to IEC 61936 and have been attending CLC meetings in relation to EN 50110.

5.2.4 International/Regional Voting Results

NSAI/ETC/TC 03 vote on all documents at IEC and CENELEC documents using a default voting strategy. The committee actively voted on 12 documents in 2023. The committee submitted 5 sets of comments.

IEC/TC 99: Ireland has actively voted 2 times in 2023.

IEC/TC 78: Ireland has actively voted 1 time in 2023.

IEC/TC 115: Ireland has actively voted 6 times in 2023.

IEC/TC 128: Ireland has actively voted 1 time in 2023.

CLC/BTTF 62-3: Ireland has actively voted 2 times in 2023.

Body	Vote Reference	Comments Submitted	Decision
IEC	99/400/Q	Yes	Approve
IEC	99/401/Q	Yes	Approve
IEC	78/1445/Q	Yes	Approve
IEC	115/324/CD	No	Abstain
IEC	115/319/DTS	Yes	Approve
IEC	115/320/DTS	No	Approve
IEC	115/321/CD	Yes	Approve
IEC	115/324/CD	No	Approve
IEC	128/35/NP	No	Approve
IEC	115/343/DTS	No	Approve
CLC	FprEN 50110-1	No	Approve
CLC	FprEN 50110-2	No	Approve

5.3 Regulatory Development/Update

NSAI PR campaign around the promotion of the 2 standards mentioned in the Engineers Ireland Practice notice.

- I.S. EN 50110-1 Operation of Electrical Installations - Part 1: General
- I.S. EN 61936-1 Power Installations exceeding 1KV (AC) Part 1: Common Rules

[LinkedIn Post](#)

NSAI Website: [News Page](#)

NSAI [Standards Webstore](#)



- Engineers Ireland Issues Paper [Competence of Persons controlling, operating and working on HV Apparatus \(engineersireland.ie\)](#)
- Engineers Ireland [Practice note Practice Note now available for engineers involved with high-voltage systems - Engineers Ireland](#)
- Location to download Practice note [Listings | Engineers Ireland](#).

6 Irish Publications/Reviews

6.1 Publications

The Committee did not publish any deliverables this year.

6.2 Reviews

The Committee reviewed the following Irish national deliverables: S.R. 61936-1:2019

7 Work programme for 2024 onwards

The committee will continue attendance and contribution at IEC & CLC level throughout 2024. The committee are exploring the following areas for 2024:

- Socialisation of I.S. EN 61936 & I.S. EN 50110.
 - to get the requirements included on the EirGrid and ESNB Declaration of fitness documents.
- Collaborate with Working group NSAI/ETC/WG 01 HV & LV Earthing Systems

- The inclusion of Ireland requirements into CLC & IEC Standards
- Develop internationally standards.
 - I.S. EN 61936 & I.S. EN 50110
- DERMS (Distributed Energy and Resource Management Systems)
- Provide input in ESNB Distribution Code Review Panel (DCRP) when necessary

8 Additional Information

No additional information to add.