



NSAI

ANNUAL REPORT 2020

**NSAI TECHNICAL COMMITTEES
(NSAI/ETC/TC 02)**

Contents

1	Chairman's Statement	3
2	Introduction	4
3	Scope of TC.....	4
4	Structure and Membership	5
4.1	Structure	5
4.2	Members	5
4.2.1	Members NSAI/ETC/TC 02/WG 01	6
4.2.2	Members NSAI/ETC/TC 02/ELV	6
4.2.3	Members NSAI/ETC/TC 02/WG 03	7
5	Summary of 2020 Activities	7
5.1	National	7
5.1.1	Meetings NSAI/ETC/TC 02	7
5.1.2	Meetings NSAI/ETC/TC 02/WG 01	8
5.1.3	Meetings NSAI/ETC/TC 02/WG ELV.....	8
5.1.4	Meetings NSAI/ETC/TC 02/WG 03	8
5.1.5	National Work	8
5.2	International/Regional	10
5.2.1	Meetings	10
5.2.2	International/Regional Work	11
5.2.3	International/Regional Standards Reviewed.....	11
5.2.4	International/Regional Voting Results	11
5.3	Regulatory Development/Update.....	11
6	Irish Publications/Reviews.....	11
6.1	Publications	11
6.2	Reviews	11
7	Work programme for 2021 onwards	11
8	Additional Information	12

1 Chairman's Statement

2020 was a memorable year. The Covid-19 pandemic affected everyone, and those who avoided or survived it have much to be grateful for. Our thoughts are with those who suffered, and our thanks are with the “front liner workers” who fought to keep us all safe.

The work of NSAI/ETC/TC 02 moved rapidly online, under the professional guidance of NSAI staff. The volume of documents, and the increasing speed of change in the electrical industry, dictated that a move online was inevitable at some stage. Online meetings are not quite the same as meetings in the NSAI boardroom, and it is essential that the camaraderie and networking benefits are maintained in order to retain volunteer member effort.

The NSAI/ETC/TC 02 program set out for the year was challenging, with the launch of I.S. 10101 “National Rules for Electrical Installations” planned to include roadshows and presentations nationwide. Instead, the team turned their focus towards the web with online I.S. 10101 presentations and webinars rolled out to a public in lockdown. The benefit from this approach was a broad reach right across the country, without requiring time for the presenters to travel. Safe Electric created very professional YouTube webinars, and engineering institutions provided platforms for online presentations. Suppliers through EMDA and EIFI provided technical presentations online for their product ranges aligned with the new standard. Contractors had, for a while at least, some time on their hands during lockdown to apply themselves to the new changes.

The Commission for Regulation of Utilities (CRU) allowed an extension of time for implementation, giving breathing space to the industry. However, it is anticipated that there will be more concentrated interest and queries on I.S. 10101 towards the final implementation date of March 2021. Apprentice training organisations are dealing with the change from FAS to SOLAS, which is presenting challenges for apprenticeship and qualification standards as the new syllabus settles in. Private training organisations have established courses to fill the commercial gap, leaping into the new territory of online training.

Attendance at NSAI/ETC/TC 02 meetings has been high, despite the effect of the Covid-19 virus and the switch to online meetings. Interest and involvement from the electrical industry has grown significantly. NSAI/ETC/TC 02 has received additional requests for membership, and the Strategic Business Plan has been updated to detail more clearly the membership requirements and composition. NSAI/ETC/TC 02 workload has been spread across workgroups and task forces throughout the year, and this trend will need to continue. We have been honoured to have IET JPEL/64 UK members attend NSAI/ETC/TC 02 online meetings and advise us on the progress since rollout of the new UK wiring rules BS 7671. Reciprocal invites have been issued for Ireland to attend UK meetings, and continuing this cross-border engagement will be beneficial for Ireland and also essential to alleviate any fears of a Brexit effect on wiring standards.

NSAI/ETC/TC 02 continued to review and vote on forthcoming standards being developed by IEC/TC 64 and CENELEC/TC 64, and Ireland has members attending Maintenance Teams at IEC level. Expanding Ireland's involvement at IEC level remains a challenge.

Incoming technical queries relating to wiring rules (emails to wiringrules@nsai.ie) continued to absorb effort, although the process has been streamlined considerably by NSAI working in partnership with SAFE ELECTRIC. It is difficult to decide in each case if the query should be directed to the Registered Electrical Contractor, to the inspectorate SAFE ELECTRIC, or to NSAI/ETC/TC 02. NSAI/ETC/TC 02 may have to define its scope more carefully, and re-direct queries where the wording of the rules has been clearly established.

As the year 2020 draws to a close, it is with regret that I must advise of my resignation as chair of NSAI/ETC/TC 02. Due to pressure of other commitments, I must step aside to allow a new chair to inject renewed enthusiasm and energy to the post. It has been an honour to work

alongside the NSAI/ETC/TC 02 team with such a broad range of very detailed experience in electrical standards. The role of chair has been made much easier with the guidance and professionalism of NSAI/ETC/TC 02 Secretary Amanda-Jane Gainford, to whom I owe many thanks. The ETCI transition is complete. The I.S. 10101 launch has taken place. For NSAI/ETC/TC 02, there will always be more to be done, but much has already been accomplished during the year 2020.

2 Introduction

NSAI/ETC/TC 02 is responsible for the maintenance and revision of the national standards for electrical installations in residential, commercial and industrial premises up to and including 1kV a.c.. NSAI/ETC/TC 02 also provides interpretation of the rules when requested.

The National Wiring Rules are a national standard. They are recognised in common law as the state of the art and are recognised by the Health and Safety Authority (HSA) as means of complying with the Electricity Regulations. Similarly, ET 101 is cited in the Building Regulations as the electrical installation wiring standards required in order to comply with the statutory requirements. Moreover, ET 101 has formally been recognised by the Commission for Regulation of Utilities (CRU) as the technical rules to be observed by registered electrical contractors (RECs). In 2020 with the publication of I.S. 10101, ET 101 starts to be replaced as the National Rules for Electrical Installations. There is a [transition period](#) outlined by the CRU for the adoption of I.S. 10101.

The National Wiring Rules are prepared in consultation with the regulator, the inspectorate, contractors, designers, and a broad range of electrical industry experts. This collaboration ensures that national consensus exists, which is the most important aspect of the work of ETC/TC 02. A major feature of the work is the obligation and privilege to participate with both European and international standards bodies, namely CENELEC and IEC. ETC/TC 02 engages with CENELEC TC64 and IEC TC64. TC64 being the expert body for "Electrical installations and protection against electric shock". ETC/TC 02 works to ensure that Irish concerns are considered during in the creation and maintenance of rules at IEC and CENELEC level. ETC/TC 02 is also responsible for the adaption and adoption of the resultant harmonization documents created at this level into the National Wiring rules for Ireland.

3 Scope of TC

The primary scope of the committee is to mirror the work of the following international committees:

Committee Name	Committee Title
IEC TC64	Electrical installations and protection against electric shock
CLC TC64	Electrical installations and protection against electric shock

NSAI ETC TC2 is responsible for the development, maintenance and revision of a coherent set of national standards and other deliverables for electrical installations in residential, commercial and industrial premises, including the preparation, maintenance and revision of Standards, Codes of Practice and Guides dealing with electrical installations up to 1000V.

The committee has assumed responsibility for the maintenance of ETCI publication ET 101 “National Rules for Electrical Installations”.

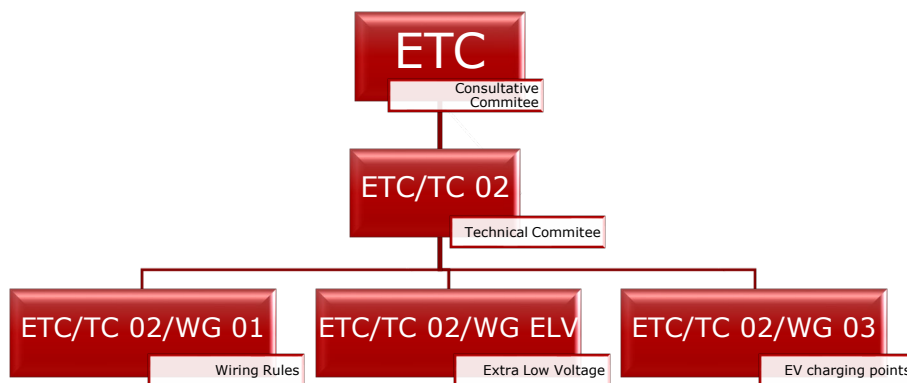
The latest version of the “National Rules for Electrical Installations” I.S. 10101 was published on the 6th of March 2020. The transition period from ET 101:2008 to I.S. 10101:2020 is outlined by the CRU in the [link](#).

I.S. 10101 specifies the requirements for the design, erection, and verification of low-voltage electrical installations. This Standard is intended to provide for the safety of persons, livestock and property against dangers and damage which may arise in the reasonable use of electrical installations and to provide for the proper functioning of those installations.

4 Structure and Membership

4.1 Structure

The Figure below illustrates the structure of the Committee:



4.2 Members

The table below provides the names of the committee members for the year 2020:

Name	Organisation	Role	
Gainford, Amanda-Jane	NSAI	National Standards Authority of Ireland	Secretary
Dunn, Charles	CIBSE	Chartered Institution of Building Services Engineers	Chair
Blaney, Shane	ECA	Distribution Network Operator	Member
Butler, Dave		Safe Electric	Member
Clare, John		John Clare Training	Member
Clarke, Conor	OPW	Office of Public Works	Member
Cullen, Gary	CDETB	City of Dublin Education & Training Board	Member
Delaney, Padraig	HSA	Health & Safety Authority	Member
Dervan, Brendan		Engineers Ireland	Member
Dunne, Paul	DCC	Dublin City Council	Member
Eastwood, Gerry	IET	Institution of Engineering & Technology	Member
Eustace, Ray	DSO	Distribution Network Operator	Member
Hickey, Brian	AECI	The Association of Electrical Contractors	Member
Keogh, Mark	EMDA	Electrical manufactures and Distributors Association	Member
Lynch, Paul	NECI	National Electrical Contractors Ireland	Member
McGrath, Emer	DKIT	Dundalk Institute of Technology	Member
Moran, Brian	ECSSA	Electrical Contractors Safety & Standards Association Ireland Ltd	Member

Murphy, Stephen	Solas	Future Education and Training	Member
Prendergast, Shane	SEAI	Sustainable Energy Authority of Ireland	Member
Rafter, Gary	ACEI	Association of Consulting Engineers of Ireland	Member
Redington, Brendan	HSE	Health Service Executive	Member
Ward, Sean	CRU	Commission for Regulation of Utilities	Member
Woolmington, Thomas	TUD	Technical University Dublin	Member
Buckley, Gerard	Liaison	Liaison NSAI/ETC/TC 20	Observer
Kidd, Jonathan	Liaison	Liaison IEC/TC 64/MT4 & MT 40	Observer
Moore, Stephen	Liaison	Liaison NSAI/ETC/TC 06	Observer
O'Connor, Kevin	Liaison	Liaison NSAI/ETC/TC 063	Observer
O'Connor, Tim		Safe Electric	Observer

4.2.1 Members NSAI/ETC/TC 02/WG 01

Name	Organisation		Role
Gainford, Amanda-Jane	NSAI	National Standards Authority of Ireland	Secretary
Dunne, Paul	DCC	Dublin City Council	Chairperson
Bednarik, Jan	ESBI		Member
Blaney, Shane	ECA	Distribution Network Operator	Member
Butler, Dave		Safe Electric	Member
Dervan, Brendan		Engineers Ireland	Member
Dunn, Charles	CIBSE	Chartered Institution of Building Services Engineers	Member
Dunne, Paul	DCC	Dublin City Council	Member
Eustace, Ray	DSO	Distribution Network Operator	Member
McEneff, Mark		Geoghegan Electrical	Member
O'Connor, Tim		Safe Electric	Member
Power, Ray		Joe Vaughan Electrical	Member
Woolmington, Thomas	TUD	Technical University Dublin	Member
Delaney, Padraig	HSA	Health & Safety Authority	Observer
Redington, Brendan	HSE	Health Service Executive	Observer

4.2.2 Members NSAI/ETC/TC 02/ELV

Name	Organisation		Role
Gainford, Amanda-Jane	NSAI	National Standards Authority of Ireland	Secretary
Dunn, Charles	CIBSE	Chartered Institution of Building Services Engineers	Chair
Butler, Dave		Safe Electric	Member
Clare, John		John Clare Training	Member
Clarke, Conor	OPW	Office of Public Works	Member
Dunne, Paul	DCC	Dublin City Council	Member
Eustace, Ray	DSO	Distribution Network Operator	Member
Rafter, Gary	ACEI	Association of Consulting Engineers of Ireland	Member
Redington, Brendan	HSE	Health Service Executive	Member
Ward, Sean	CRU	Commission for Regulation of Utilities	Member

Woolmington, Thomas TUD Technical University Dublin Member

4.2.3 Members NSAI/ETC/TC 02/WG 03

Name	Organisation		Role
Gainford, Amanda-Jane	NSAI	National Standards Authority of Ireland	Secretary
Eustace, Ray	DSO	Distribution Network Operator	Chair
Buckley, Gerard	Liaison	Liaison NSAI/ETC/TC 20	Member
Butler, Dave		Safe Electric	Member
Byrne, Des	DCCAE	Department of Communications, Climate Action & Environment	Member
Clare, John		John Clare Training	Member
Dunne, Paul	DCC	Dublin City Council	Member
Gorman, Chris		Western Automation	Member
Harrington, Eugene	HES		Member
Houston, Gerard		EV Charging Ireland	Member
Kinsella, Darren	EVCIA	Electric Vehicle Chargers Installers Association	Member
Prendergast, Shane	SEAI	Sustainable Energy Authority of Ireland - Energy management/Sustainability	Member
Rafter, Gary	ACEI	Association of Consulting Engineers of Ireland	Member
Redington, Brendan	HSE	Health Service Executive	Member
Ward, Sean	CRU	Commission for Regulation of Utilities	Member
Woolmington, Thomas	TUD	Technical University Dublin	Member
Campbell, Noleen	NSAI	National Standards Authority of Ireland	Observer

5 Summary of 2020 Activities

5.1 National

5.1.1 Meetings NSAI/ETC/TC 02

In 2020 as a result of Covid-19 all meeting from March 2020 were held virtually. ETC/TC 02 meetings were typically hosted in the mornings. Where issues would benefit from longer consideration, then these were often carried over to working group meetings held later in the day. Committee members attended the following National meetings as follows.

Meeting No.	Date	Minutes Reference
1	23/01/2020	N1733
2	27/02/2020	N1724
3	19/03/2020	N1746
4	23/04/2020	N1826
5	21/05/2020	N1842
6	25/06/2020	N1872
7	23/07/2020	N1905
8	20/08/2020	N1913
9	24/09/2020	N2007

10	22/10/2020	N1969
11	26/11/2020	N2029

5.1.2 Meetings NSAI/ETC/TC 02/WG 01

Meeting No.	Date	Attendance	Minutes Reference
1	25/06/2020	N0064	N0052
2	09/07/2020	N0065	N0053
3	23/07/2020	N0066	N0061
4	20/08/2020	N0067	N0063
5	24/09/2020	N0071	N0070
6	22/10/2020	N0075	N0074
7	26/11/2020	N0080	N0077
8	17/12/2020	N0082	N0081

5.1.3 Meetings NSAI/ETC/TC 02/WG ELV

Meeting No.	Date	Attendance
1	13/05/2020	N1960
2	25/06/2020	N1961
3	20/10/2020	N1962

5.1.4 Meetings NSAI/ETC/TC 02/WG 03

Meeting No.	Date	Minutes Reference
1	20/10/2020	N0012
2	17/11/2020	N0015
3	15/12/2020	N0020

5.1.5 National Work

The key focus for ETC/TC 02 in 2020 was publishing and promoting the launch of the New National Rules for Electrical Installations I.S. 10101.

NSAI ran a Public relations campaign in conjunction with the CRU and Safe Electric for the launch of I.S. 10101 which took place on the 6th of March 2020. This campaign and on many social media platforms including LinkedIn, Facebook, Twitter and other relevant platforms such as NSAI website and a magazine electric.ie.

Some of the analysis from the campaign taken in April 2020 are shown below.

Post	Date	Link	Total Impressions	Total Engagements
Pre-Launch	20 th Feb	LinkedIn Twitter Facebook	3,194	120
Video 1	2 nd March	LinkedIn Twitter Facebook	3,495	136

Video 2	3 rd March	LinkedIn Twitter	2,543	65
KFM tweet	6 th March	Twitter	686	17
Electric.ie	16 th March	LinkedIn Twitter Facebook	2,087	82
Justin post	26 th March	LinkedIn Twitter	3,262	155

NSAI developed a [FAQs](#) page for the launch of I.S. 10101. This page is maintained by NSAI.

NSAI spent time working with members of the committee to develop an online [webinar](#) for I.S. 10101 in the absence of roadshows planned by Safe Electric prior to Covid-19s impact. ETC/TC 02 members presented "What's new in I.S. 10101" sessions to Engineers Ireland, the IET, within their own organisations and work places and the CIBSE and developed a webinar which is hosted on the NSAI website.

Safe Electric produced several webinars based on I.S. 10101 for their members. These can be freely accessed online and cover a range of topics. Safe Electric plan to release additional webinars in 2021. [Webinars](#)

- **In episode 1**
 - Enhanced Cable Specifications to Comply with I.S. 10101:2020
 - Additional RCD Protection in Domestic Dwelling
 - Changes to Heights/Locations for Distribution Boards
- **In episode 2**
 - Arc Fault Detection
 - Surge Protection
 - Metal Sink Bonding
 - How to – Erroneous Test
- **In episode 3**
 - Chapter 6 of I.S. 10101 which deals with verification and Certification
 - Specific requirements for the Continuity of Conductors
 - Demonstration and importance of nulling a meter
 - How to, RP+RE and Ring Main test
- **In episode 4**
 - Insulation & Resistance

ETC/TC 02 meetings include agenda items for liaising with other NSAI committees, including receiving presentations and providing technical replies to queries.

The regular works of considering public queries in relation to the existing ET 101 & I.S. 10101 continued, as well as reviewing forthcoming proposals from CENELEC and IEC for which Ireland has a vote. A dedicated workgroup met regularly throughout the year to review the text of new HD document clause by clause to see the impact on I.S. 10101.

ETC/TC 02 membership has remained strong throughout 2020, with attendances at an all-time high, and enquiries from non-members seeking to get involved.

5.2 International/Regional

5.2.1 Meetings

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

Meeting No.	Committee Name	Location	Date	No. of Attendees
1	IEC/TC 64/ Plenary	Virtual	05/05/2020	1
2	CLC/TC 64/ Plenary	Virtual	01/07/2020	1
3	IEC/TC 64/MT 2	Virtual	08/07/2020 – 10/07/2020	1
4	IEC/TC 64/MT 9	Virtual	21/07/2020	1
5	IEC/TC 64/MT 3	Virtual	03/09/2020	1
6	IEC/TC 64/MT 1	Virtual	30/09/2020 – 01/10/2020	1
7	IEC/TC 64/MT 2	Virtual	14/10/2020 – 16/10/2020	1
8	IEC/TC 64/MT 9	Virtual	18/11/2020	1

Member of NSAI/ETC/TC 02 also joined IET JPEL/64 meetings.

Meeting No.	Committee Name	Location	Date	No. of Attendees
1	IET JPEL/64	Virtual	22/04/2020	1 (AJG)
2	IET JPEL/64/C	Virtual	20/05/2020	2 (TO'C, AJG)
3	IET JPEL/64/A	Virtual	08/06/2020	2 (TO'C, AJG)
4	IET JPEL/64/A	Virtual	29/06/2020	1 (AJG)
5	IET JPEL/64	Virtual	15/07/2020	1 (AJG)
6	IET JPEL/64/C	Virtual	16/07/2020	2 (RE, AJG)
7	IET JPEL/64/A	Virtual	07/09/2020	1 (AJG)
8	IET JPEL/64/A	Virtual	09/11/2020	1 (AJG)
9	IET JPEL/64/C	Virtual	11/11/2020	1 (AJG)
10	IET JPEL/64/D	Virtual	12/11/2020	1 (RE)

As a result of Covid-19 all international meetings were held virtually giving members of NSAI/ETC/TC 02 an opportunity to attend the meetings.

NSAI ETC/TC 02 was represented at the following meetings:

- CLC TC 64 Plenary meeting held on the 7th of July 2020.
- IEC TC 64 Plenary meeting held 5th May 2020.
- IEC TC 64 MT 2 - Current Carrying Capacities and related overcurrent protection, 8th – 10th July 2020
- IEC TC 64 MT 9 Disconnection times and related matters, 21st July 2020
- IEC/TC 64/MT 3 External Influences Ad'Hoc Group on Part 54 3rd September 2020
- IEC/TC 64/MT 1 Terms and definitions 30th September 2020
- IEC TC 64 MT 2 - Current Carrying Capacities and related overcurrent protection, 14th October 2020
- IEC TC 64 MT 9 Disconnection times and related matters, 18th November 2020

Ireland is fortunate to have a seat at CENELEC and will need to work to hold its high standing in international circles. The meeting demonstrated how the speed and volume of electrical standardisation has grown, and how countries have evolved their organisations to respond to the rapidly changing electrical environment.

5.2.2 International/Regional Work

Members of the committee attend maintenance teams meeting in Germany for IEC TC 64 MT 40 & IEC TC 64 MT 4, ensuring Irish views were considered by the maintenance teams.

5.2.3 International/Regional Standards Reviewed

All draft standards in the 60364-series issued by IEC TC64 and CLC TC64 to national mirror committees are received and considered by ETC/TC 02. Consideration includes how the proposed new standards affect the current National Rules for Electrical Installations ET 101 & I.S. 10101:2020.

5.2.4 International/Regional Voting Results

ETC/TC 02 monthly meetings propose a vote where required for IEC or CENELEC documents, which NSAI submits to the relevant bodies.

5.3 Regulatory Development/Update

The work of ETC/TC 02 is influenced by several European Directives including the Alternative Fuels Infrastructure Directive, the Construction Products Directive, the Low Voltage Directive, the Electromagnetic Compatibility Directive to name but a few. The National Rules for Electrical Installations must also align with Ireland's Building Regulations, which requires liaison with the Department of the Environment. Continued pressure to reduce carbon footprint has implications on the wiring rules where new standards are being developed for alternative energies, and ETC/TC 02 members advanced liaison with ESB and SEAI to align regulations.

6 Irish Publications/Reviews

6.1 Publications

The launch of I.S. 10101 took place on the 6th of March 2020. The first corrigendum was published on the 30th of October 2020. ETC/TC 02 have worked to distribute information through its members organisations about the launch of I.S. 10101. In particular, NSAI, Safe Electric and electric.ie were of great assistance in promoting the new standard and keeping the public informed of progress.

6.2 Reviews

The launch of I.S. 10101 is as a result of the review work carried out by ETC/TC 02. In 2020 the working group, NSAI/ETC/TC 02/WG 01 have started the review of additional HD's which have been published which impact I.S. 10101. This work will be ongoing for 2021.

7 Work programme for 2021 onwards

The committee will be very busy in 2021. To deal with the work load they have formed 3 working groups.

- NSAI/ETC/TC 02/WG 01 "wiring rules"

- The main focus of this group is to review HD's which have been published since the cut off date chosen for I.S. 10101.
- NSAI/ETC/TC 02/WG ELV "Extra Low Voltage"
 - This group is charged with identifying which sections of I.S. 10101 would be impacted if 0-50Volts were included in the scope.
- NSAI/ETC/TC 02/WG 03 "EV charging points"
 - This group are exploring the latest publication of HD 60364-722: 2018 to see what impact it has on I.S. 10101 and are considering earthing arrangements necessary for EV charging points.

The main committee NSAI/ETC/TC 02 continue to review and input into proposed changes to the 60364 series of standards at both IEC 64 & CLC TC64 level.

The committee will continue to review queries from the public on I.S. 10101 and where possible provide guidance.

The committee will work with its assigned liaison officers to encourage greater collaboration between the Electrotechnical sector committees.

The committee would like to get more involved at IEC & CLC level and it is hoped that some members of the committee will join working groups or maintenance teams in 2021.

8 Additional Information

All meetings were held by MS teams in 2020 and in 2021 it is foreseen that meeting will continue remote for the first two quarters.



FIGURE 1: SOME MEMBERS OF THE NSAI/ETC/TC 02 COMMITTEE.