



Every two months, Dr. Martin Thedens, Chair of IEC TC 31 "Equipment for explosive atmospheres", offers his perspective on the latest developments in the world of standards.

The technical experts from individual member states of the IEC, within Working Groups (WG), Maintenance Teams (MT) or, for new standards, Project Teams (PT), work voluntarily on IEC TC 31 standards. This work is done on the principle of consensus building.

We try to achieve a global harmonized standard with the aim that our standards are "state of the art", based on the individual knowledge of the technical experts and the guidance, recommendations and decisions by the Chair Advisory Group (CAG) and the Plenary of IEC TC 31.

From a national or European point of view, it would not make any sense to have different national or regional technical requirements related to the explosion protection of equipment. The reason is very simple – physics is the same around the world. Thus, it's clear that CENELEC TC 31 (and CEN TC 305 for the non-electrical standards of IEC TC 31's Subcommittee IEC SC 31M) does not have any active working groups for those projects, which are covered by IEC TC 31 and its three Subcommittees. The enquiry and voting are done in parallel between CLC TC 31 and IEC TC 31. In this perfect harmony, an IEC 60079-xyz is published as EN IEC 60079-xyz.

Well, let's have a look at one example: 60079-15. Edition 5.0 of IEC 60079-15:2017, published in December 2017, has the title: "Explosive atmospheres - Part 15: Equipment protection by type of protection

The question of harmonization

'n". This standard specifies requirements for the construction, testing and marking for Group II electrical equipment with type of protection "n" which includes sealed devices "nC", hermetically sealed devices "nC", non-incendive components "nC" and restricted breathing enclosures "nR" intended for use in explosive gas atmospheres.

This fifth edition replaces the fourth edition, published in 2010, and constitutes a technical revision, as for example enclosed break devices "nC" are now designated as "dc" and the requirements are located in IEC 60079-1:2014 and Type of Protection "nA" is now designated as Type of Protection "ec" and the requirements for "ec" equipment are located in IEC 60079-7:2015.

The European version is EN IEC 60079-15:2019, published in October 2019. The use of the prefix "EN IEC" means that there are no technical differences between the IEC version and the EN version, besides the European Annexes. These Annexes regulate the relation between the requirements of the ATEX Directive 2014/34/EU and the requirements of the standard. The Annexes are also needed for the harmonization process with the aim of listing the standard under the Directive as a harmonized standard. A harmonized standard fulfills the requirements of a Directive with a so-called presumption of conformity. This harmonization process is done by the HAS Consultants on behalf of the European Commission. The HAS Consultants are not involved in the standardization process, they act as individual persons.

A consolidated list of references of harmonized standards on equipment for explosive atmospheres can be found on the webpage of the European Commission (<https://tinyurl.com/2zp7bwvu>). The actual version of the list is from August 2023, but the following standard is listed there: EN 60079-15:2010. Seven years after the IEC version was published and five years after publication of the EN version, the former edition is still the only harmonized standard!

The IEC TC 31 MT60079-15 has already started the revision of the fifth edition with a forecast publication of IEC 60079-15, edition 6.0 in December 2027.

What has happened? Well, one issue is the preparation of these Annexes and the assessment, which clause of the Directive is fulfilled by which clause of the standard – additionally to the related clauses of EN IEC 60079-0, the general requirement document for Ex Equipment. In the past, this task was performed by the CENELEC TC 31 secretariat supported by individual European experts. And the justification was done by very simplified and general references. Since the Court of Justice of the European Union ordered the EU Commission more responsibility and influence over standardization, the preparation of the Annexes has become considerably more complicated. The individual supporters could not do that any longer. The preparation of all Annexes could not be done by the secretariat, as deep technical knowledge of all individual standards is needed. It can also not be done by CENELEC TC 31 Working Groups, as they do not exist and the technical work is done on the IEC TC 31 level or via national mirror groups. This situation is a big dilemma for CENELEC TC 31 and needs to be solved!

A new project has been started now as EN IEC 60079-15:2019/FprAA:2025 with the scope of "Creating an amendment to list the EN IEC 60079-15:2019 in OJEU by submitting European elements (Annex ZZ and Annex ZA)". Hopefully, the question of harmonization of EN IEC 60079-15:2019 could be solved soon. ■

Dr. Martin Thedens is the Chair of IEC TC 31 "Equipment for explosive atmospheres", as well as Head of PTB-Department 3.6 "Explosion Protection in Sensor Technology and Instrumentation", Head of Sector 1 "Explosion Protection and Shooting Devices" of PTB's Conformity Assessment Body, Chair of DKE K241 "Explosion Protected Electrical Equipment" (DE mirror to IEC TC 31), and the Immediate Past Chair of ExNBG (official group of the European Commission for the ATEX Notified Bodies).