INTERNATIONAL ELECTROTECHNICAL COMMISSION

EQUIPMENT FOR EXPLOSIVE ATMOSPHERES –

Committee Good Working Practice (GWP)

CONTENTS

**EQUIPMENT FOR EXPLOSIVE
ATMOSPHERES –**

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INTRODUCTION

This TC 31 Good Working Practice details agreed committee working practices for the organisation, communication and the drafting of standards in TC 31 and its subcommittees.

NOTE The document follows a remark made by TC 31 Secretary, George F. Thompson and put to the Standardization Management Board meeting of January 2006 in response to a question about the usefulness of IEC and ISO/IEC guides in drafting publications. It was felt that industry needs would be better reflected if each TC had its own standard practice document with the relevant links to all IEC guides and IT tools provided for the convenor at the start of any new project. Not only did the SMB grant permission to publish, they also put out a request to other technical committees and subcommittees to use this as a model in drafting a similar document relating to their own activities (see SMB/3264/DL, SMB Decision 126/8).

It is intended to promote a common approach:

- To the drafting of standards,

- To the working practices, organisation and communication of chairs, secretaries and convenors of Advisory Groups (AG), Maintenance Teams (MT), Project Teams (PT) and Working Groups (WG)

Members of TC 31 and its subcommittees should inform the TC 31 Secretary about any ideas they have regarding items that should be included in the good working practice document.

In the following text, the acronym "MT" is intended to cover also the cases of AGs, WGs and PTs. The term "Standard" used in this document also designates other deliverables such as Technical Reports (TR), Technical Specifications (TS) and PAS (Publicly Available Specification).

The significance of changes between IEC TC 31 GWP Version 12 and IEC TC 31 GWP Version 11: 2019-01 are as listed below:

Changes	Clause	Type		
		Minor and editorial changes	Extension	Major technical changes
New Clause added: Reference to ISO/IEC Directives, Part 2	1.1		X	
Wording of the introductory paragraph updated	1.8.2	X		
New Clause added: Using of "e.g." and "i.e."	1.8.12			C1
New Clause added: Clarification of the designation of temperatures (°C and K)	1.8.13	X		
Clarification how to address the mitigation of the condition identified by the "X" condition	2.4	X		
The reporting of MTs to the CAG and to the plenary meetings are modified.	4.2.10 4.2.11			C2
New Clause added: Inquiries via IEC Contact	5.11		X	
New Clause added: Clarification about the support of research work	5.12		X	

NOTE: The technical changes referred to include the significance of technical changes in the revised GWP document, but they do not form an exhaustive list of all modifications from the previous version.

Explanations:

A) Definitions

Minor and editorial changes   clarification
decrease of technical requirements
minor technical change
editorial corrections

These are changes which modify requirements in an editorial or a minor technical way. They include changes of the wording to clarify technical requirements without any technical change, or a reduction in level of existing requirement.

Extension   addition of technical options

These are changes which add new or modify existing technical requirements, in a way that new options are given, but without increasing requirements for equipment that was fully compliant with the previous standard. Therefore, these will not have to be considered for products in conformity with the preceding edition.

Major technical changes   addition of technical requirements
increase of technical requirements

These are changes to technical requirements (addition, increase of the level or removal) made in a way that a product in conformity with the preceding edition will not always be able to fulfil the requirements given in the later edition. These changes have to be

considered for products in conformity with the preceding edition. For these changes additional information is provided in clause B) below.

Note: These changes represent current technological knowledge. However, these changes should not normally have an influence on equipment already placed on the market.

B) Information about the background of 'Major Technical Changes'

C1: The abbreviations i.e. and e.g. have been incorrectly used interchangeably in previous versions of the TC 31 standards, but they do not mean the same thing.

C2: The CAG meeting is an information exchange between all MTs of TC 31 and its subcommittees. Thus, a report of each MT is helpful. The plenary is a decision-making committee. A report of a MT is only needed only when a decision needs to be made by the plenary.

1 Drafting in General

1.1 General

The ISO/IEC Directives, Part 2 states the general principles by which ISO and IEC documents are drafted and stipulates certain rules that shall always be applied in order to ensure that they are clear, precise and unambiguous. These rules are also important for ensuring that each document contributes effectively to the consistent and interdependent body of knowledge that ISO and IEC produce.

The latest edition of the ISO/IEC Directives and other reference documents are available at the IEC web site: https://www.iec.ch/members_experts/refdocs/

When drafting a standard:

1.2 IEC Template

Download the latest IEC Standard Template to your computer from the IEC web site: https://www.iec.ch/standardsdev/resources/docpreparation/iec_template/template.htm

Remember to apply this latest IEC standard template initially and each time you open a document for the first time, for example, when a document is sent to you as convenor after revision by the secretary or a person nominated by you. In Word, under "Tools", then "Templates and Add-ins", the box for "Automatically update document styles" should NOT be checked, as this is to be avoided. When this box is checked, the Word programme tries to update all the styles every time you open the file, which may be a cause of problem when the document is long, and full of tracked changes.

1.3 Foreword

A list of the changes from the previous edition and their significance shall be included in the foreword to standards (This text together with a blank table in Word is at https://www.iec.ch/public/tc31/The%20significance%20of%20changes%20table.docx). These should be written in a meaningful form that makes the change evident. In particular, changes to testing that may involve new test equipment should be clearly shown. Changes to marking requirements are considered major changes.

The changes should be collected throughout the drafting process and by careful comparison of the changes at CDV/FDIS stage with the published edition. See Annex A for an example of how to show the significance of changes.

1.4 Indexing

This defaults on the template to two levels. Formatting of the document and heading of clauses should be done in a way that then provides meaningful information in the index (all critical tests and no blank headings). In exceptional cases it may be possible to index to more levels.

1.5 Cross references

Hyperlinks are used in documents for cross-referencing to other clauses and sub-clauses. This ensures the reference clause numbers are automatically updated if the original clause number changes. It also makes navigating the documents easier. IEC CO shall be asked to keep hyperlinks when documents are published in pdf to improve useability. Advice on how to insert cross-references is given at https://www.iec.ch/standardsdev/resources/draftingpublications/writing_formatting/tips_recommendations/cross_references.htm

1.6   Scope of standards

The Scope of standards containing equipment design requirements should contain the following statement (This text together with a blank table 1 in Word is at https://www.iec.ch/public/tc31/Applicability%20of%20specific%20clauses%20table.docx). :

> This standard supplements and modifies the general requirements of IEC 60079-0, *except as indicated in Table 1*. Where a requirement of this standard conflicts with a requirement of IEC 60079-0, the requirement of this standard takes precedence.

The text in italics and Table 1 are only included when a detailed list of "exclusions" is required, such as is provided in Examples 1 and 2 below. This table shall consider both the latest published edition of IEC 60079-0 and the preceding edition. For each clause or sub-clause the application should be identified as "applies", "excluded", "excluded except when…" or "modified". If clause does not exist in the latest published or preceding edition of IEC 60079-0, the "clause" should be shown as "NR".

Where the Table is incorporated into the scope of a standard, this table shall include all of the clause or sub-clause numbers taken from the General Requirements standard as applicable. In Example 1, all of the requirements for Clause 15, "Connection facilities for earthing or bonding conductors" are addressed in the same manner, and that table entry would be only the main clause number as shown and no further breakdown of the clause is necessary.

Example 1

Table 1 – Applicability of specific clauses of IEC 60079-0

Clause of IEC 60079-0			IEC 60079-0 application to IEC 60079-15		
Ed 6.0 (2011) (informative)	**Ed 7.0 (2017) (informative)**	**Clause / Sub-Clause Title (normative)**	**Protected sparking nC**	**Non sparking nA**	**Restricted breathing nR**
15	15	Connection facilities for earthing and bonding conductors	Applies	Applies	Applies
Applies – This Clause / Sub-Clause of IEC 60079-0 is applied without change.					
Excluded – This Clause / Sub-Clause of IEC 60079-0 does not apply.					
Excluded except when…					
Modified – This Clause / Sub-Clause of IEC 60079-0 is modified as detailed in this standard.					
NOTE The applicable Clauses / Sub-Clauses of IEC 60079-0 are identified by the Clause / Sub-Clause title which is normative. This document was written against the specific requirements of IEC 60079-0 Ed 7.0. The Clause / Sub-Clause numbers for the 7th and previous edition are shown for information only. This is to enable the General Requirements IEC 60079-0 Ed 6.0 to be used where necessary with this part of IEC 60079. Where there were no requirements for the 6th edition but there are for the 7th edition (indicated by NR against the 6th edition only), or where is a conflict between requirements, the later edition requirements take precedence.					

In Example 2: The individual sub-clauses are not addressed in the same manner. For clarity, the main clause number and title should be included since this provides an indication of the subject as the first subclause of a new clause in 60079-0 is usually 'General' which does not provide any indication of the subject. In this situation, the row for the main clause is shaded grey for example 25%. The breakdown of sub-clauses should be taken as far as necessary to identify the specific requirements.
Other special conditions may also occur;

i.   Clause 12 below for Ed 7.0 which is for future use which should be indicated as 'Excluded'.

ii.   In certain conditions the clause can be either 'excluded' or 'applies'. An example of how to address this is also shown below

Example 2

Table 1 – Applicability of specific clauses of IEC 60079-0

Clause or Sub-Clause of IEC 60079-0			IEC 60079-0 clause application to IEC 60079-11		
			Intrinsically safe apparatus		Associated apparatus
Ed. 6.0 (2011) (informative)	Ed. 7.0[1] (20xx) (informative)	Clause / Subclause title (normative)	Group I and Group II	Group III	
4	4	Equipment grouping	Applies	Applies	Applies
4.1	4.1	Group I	Applies	Excluded	Applies
4.2	4.2	Group II	Applies	Excluded	Applies
4.3	4.3	Group III	Excluded	Applies	Applies
4.4	4.4	Equipment for a particular explosive atmosphere	Applies	Applies	Applies
5	5	Temperatures	Applies	Applies	Applies
5.3	5.3	Maximum surface temperature			
5.3.1	5.3.1	Determination of maximum surface temperature	Applies	Applies	Excluded
5.3.2	5.3.2	Limitation of maximum surface temperature			
5.3.2.1	5.3.2.1	Group I electrical equipment	Applies	Excluded	Excluded
5.3.2.2	5.3.2.2	Group II electrical equipment	Applies	Excluded	Excluded
5.3.2.3	5.3.2.3	Group III electrical equipment	Excluded	Applies	Excluded
5.3.3	5.3.3	Small component temperature for Group I or Group II electrical equipment	Applies	Excluded	Excluded
NR	12	(reserved for future use)	Excluded	Excluded	Excluded
21	21	Supplementary requirements for luminaires	Excluded	Excluded	Excluded
22	22	Supplementary requirements for caplights and handlights			
22.1	22.1	Group I caplights	Modified	Excluded	Excluded
22.2	22.2	Group II and III caplights and handlights	Modified	Modified	Excluded

_____

[1] Under preparation

Clause or Sub-Clause of IEC 60079-0			IEC 60079-0 clause application to IEC 60079-11		
			Intrinsically safe apparatus		Associated apparatus
Ed. 6.0 (2011) (informative)	Ed. 7.0[1] (20xx) (informative)	Clause / Subclause title (normative)	Group I and Group II	Group III	

Applies – This Clause / Sub-Clause of IEC 60079-0 is applied without change.
Excluded – This Clause / Sub-Clause of IEC 60079-0 does not apply.
Excluded except – This Clause / Sub-Clause of IEC 60079-0 does not apply except when the conditions stated are met.
Modified – This Clause / Sub-Clause of IEC 60079-0 is modified as detailed in this standard.
NR – No requirements.

NOTE 1 The applicable Clause / Sub-Clause of IEC 60079-0 are identified by the Clause / Sub-Clause title which is normative. This document was written against the specific requirements of IEC 60079-0 Ed 7.0. The Clause / Sub-Clause numbers for the 7th and previous edition are shown for information only. This is to enable the General Requirements IEC 60079-0 Ed 6.0 to be used where necessary with this part of IEC 60079. Where there were no requirements for the 6th edition but there are for the 7th edition (indicated by NR against the 6th edition only), or where is a conflict between requirements, the later edition requirements take precedence. NOTE 2 A shaded row in the above table indicates that this is a Clause / Sub-Clause heading. In cases where the applicability is the same for all of the sub-clauses the 'Applies' or 'Excluded' is listed in the heading row and the sub-clauses are not expanded. Where the application of the individual sub-clauses may be different, these are expanded in the above table and the applicability for each is listed.

1.7   Normative references of standards

Insert the standardized version of the normative standard reference clause from the IEC Template by clicking on the "Insert" menu, selecting the menu choice "AutoText", and then choosing the introduction to this clause from the list.

References to other standards should wherever possible, be of a general nature, so that reference to the standard can be an undated reference. For example, "the cement shall be subjected to the thermal endurance to heat and thermal endurance to cold tests of IEC 60079-0". If a specific clause number needs to be identified, the normative reference to the standard needs to be a dated reference, since the reader may have to reference an earlier version of the standard than the current issue to get the information on which the reference was based. For standards other than the "type of protection" sub-parts of IEC 60079-0, where including a specific clause reference to IEC 60079-0 in the standard is necessary to clarify issues for the reader, it should be included.

When referring to IEC 60079-0 for the marking associated with "Specific Conditions of Use" (Commonly called <"X" Conditions>), the sub-parts have traditionally used the text:

> ……shall be marked with the symbol "X" in accordance with 29.2 i) of IEC 60079-0 and the specific conditions for use shall detail the……

Because this text includes a reference to a specific sub-clause, the IEC Directives require that the reference to IEC 60079-0 become a "dated" reference in Clause 2. This creates application problems as the various sub-parts may refer to a prior edition of IEC 60079-0 without a true technical need to do so. To allow the latest edition of IEC 60079-0 to be used with the sub-part, the following text is preferred for those requirements where such a reference is necessary:

……the certificate number shall include the "X" suffix in accordance with the marking requirements of IEC 60079-0 and the Specific Conditions of Use listed on the certificate shall detail the……

For the "Type of Protection" sub-parts listed in 60079-0, references to specific requirements of IEC 60079-0 should not be used, as these standards are always to be applied in conjunction with 60079-0, and only the requirements that supplement or modify those given in IEC 60079-0, should be included.

1.8   Terms and Definitions of standards

1.8.1   IEC Directives

In all cases when dealing with terms and definitions Clause 16 of the ISO/IEC Directives, Part 2 Ninth edition, 2021, MUST be consulted.

1.8.2   Introductory paragraph

A clause needs to go into all standards with respect to definitions referring to IEC 60079-0 and the International Electrotechnical Vocabulary (IEV). As 60079-0 is the definitive document and should be the most up to date for the definitions, the reference to the IEV should be in a note.

The introductory paragraph of Clause 3 should be:

"For the purposes of this document, the terms and definitions given in IEC 60079-0 and the following apply.".

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at https://www.electropedia.org/

- ISO Online browsing platform: available at https://www.iso.org/obp

NOTE   Additional definitions applicable to explosive atmospheres can be found in the International Electrotechnical Vocabulary (IEV) IEC 60050-426.

References to other standards can be added to the introductory paragraph if required.

1.8.3   Definitions

No variation in definitions from 60079-0 is permitted. In exceptional cases, a definition may be changed to meet a particular need but in that case a different term must be used to that of original definition. The use of notes to clarify a definition for a particular standard, rather than changing a definition should be encouraged.

1.8.4   Changes to definitions

Any change to an existing definition should be resisted and ONLY be proposed on the basis of being an essential change for technical correction.

The responsibility for any change to a definition resides with the MT in control of the standard that has developed the first requirement for the definition. The MT is to develop the proposed change and make a submission to TC 31 WG22 to verify the impact for the IEV.

Before agreement can be reached on introducing a change to a definition an impact study must be carried out by the proposers together with WG22 to determine what effect the change will have within every standard it is used and whether or not the change must be introduced coincidental or on a publication of the next edition of each standard.

1.8.5   Introduction of a new definition

When a MT perceives a need to introduce a new definition, the current editions of TC 31 standards and the IEV should be consulted to determine if a suitable definition already exists. If a suitable definition exists, it should be used. Any new definition must be communicated to WG22 for inclusion in the next edition of the IEV.

1.8.6   Sub-part definitions

Whether or not definitions are included in the sub-parts of IEC 60079 is determined by the following:

- Only definitions not used in 60079-0 (and also those definitions not included in a base standard, if the standard being drafted is a sub-part of a base standard, and the base standard is a sub-part of 60079-0).

- If an unaltered 60079-0 term is used in the sub-part, then the definition should not be included in the sub-part definitions list.

- Definitions used in 60079-0 shall not be altered unless absolutely necessary.

- If a 60079-0 term is fundamentally altered, then the altered definition should be included, and given a different name. Definitions that differ only editorially from those in 60079-0 should not be included.

- If a 60079-0 term is amended only by a NOTE, then the 60079-0 definition is referenced and a NOTE added below.

Wherever possible, definitions appearing in different sub-parts should be harmonized with the definition that appears in 60079-0, and not included in the sub-part definitions list.

1.8.7   Common definitions

Definitions that appear in two or more TC 31 documents should be sent to TC 31 WG22 for inclusion in the next edition of 60079-0 and 60050(426).

1.8.8   Standard Clauses

To ensure consistency of approach, MTs are not to change standard clauses specified in this document.

This is to minimise 'experts' being distracted from dealing with technical issues in meetings and to avoid lack of consistency in standards. If an MT thinks it has found an issue with a standard clause, this should be communicated to the TC 31 Secretary for consideration.

1.8.9   Common Phrases

For consistency, all parts of the TC 31 series of standards should use the phrases "explosive atmosphere(s)", "explosive gas atmosphere(s)", or "explosive dust atmosphere(s)", as applicable and no other variations.

Note: See Annex B for information concerning titles for the IEC 60079 series.

There are two types of "group" within the TC 31 standards, the "equipment group" for the atmosphere and the "material group" for the insulating material. The use of the general term "group" should be avoided as it can introduce confusion.

The following terms are used in many TC 31 standards: "Type of Protection" and "Level of Protection". "Type of Protection" is used to define the concept, for example Type of Protection Intrinsic Safety "i". The Level of Protection is used when a Type of Protection is further subdivided for example "ia", "ib", "ic".

Types of Protection and Levels of Protection are enclosed in double quotes as shown above.

1.8.10   Capitalization

The terms "Group" and "Zone" are always capitalized if the term is referring to a specific "Group" or "Zone", for example "Group IIC" or "Zone 2". The term is not capitalized if it is referring to the more general designation, for example "for the specific zone of use".

The terms "Ex Equipment", "Ex Component", "Blanking Element", "Cable Gland", "Specific Conditions of Use" "Type of Protection", "Level of Protection", "Equipment Protection Level" and "Schedule of Limitations" should be used with capitals as shown.

1.8.11   Graphics and figures

Any graphics or figures the use of black and white is sufficient. Colours in figures, tables or text shall only be used where they facilitate the use of the document. They have to serve a purpose in helping the user to easily understand and interpret the data and explanations given. The use of colour for purely aesthetic purposes is not permitted. Where colour is present in a document, the number of colours used shall be kept to a minimum; they shall be chosen so as to be clearly distinguishable from each other. Furthermore, cross-hatching to produce lighter effects should be avoided – solid colours are preferred. In choosing the colours, due consideration shall be given to the fact that users of IEC documents print them using varying qualities and types of printers.

RGB colour scheme values (primary and secondary colours) as used in the IEC Graphic Charter:

See https://www.iec.ch/standardsdev/resources/draftingpublications/graphics_figures/

1.8.12   Using of "e.g." and "i.e."

The use of the abbreviations i.e. and e.g. shall be avoided. These have been incorrectly used interchangeably in previous versions of the TC 31 standards, but they do not mean the same thing:

- i.e. is an abbreviation for the Latin phrase 'id est', which means "that is." i.e. would be used to restate something said previously in order to clarify its meaning.
- e.g. is short for the Latin phrase 'exempli gratia', which means "for example." e.g. would be used before an item or list of items that serve as examples for the previous statement.

Never include both *for example* and *etc.* in the same sentence. "For example, managers, technicians, experts, etc." is not an acceptable text.

1.8.13 Designation of temperatures

Temperatures are given in °C (Degrees Celsius) while temperature intervals are given in K (Kelvins).

2 Marking

2.1 WG22 assistance for MTs

TC 31 WG22 is available to assist the other Maintenance Teams (MTs) in achieving TC 31's desired consistency in marking throughout the series of TC 31 documents. Under this procedure, Maintenance Teams should forward plan marking clauses in their documents to WG22 for review and comment. WG22 will review these by correspondence in a timely manner and expects to be able to respond in four weeks or less. If no comments are made by WG22 within the established time frame, the affected MT can proceed with the proposed marking.

2.2 New WARNING and CAUTION markings

For new WARNING and CAUTION markings, MTs should consider the use of those already in 60079-0 and in the cases where new text is required, should follow the format established in 60079-0. Any new WARNING & CAUTION markings shall be developed as follows:

- Always include a "signal" word such as "WARNING" followed by an "en" dash and then the specific warning text. The "en" dash can be inserted from the symbol library in Microsoft using the insert toolbar.
- Prohibitions on specific actions should be started with "DO NOT".
- Information relating to actions that are unlikely to result in an explosion or a personnel risk should use the signal word "CAUTION" and not "WARNING".

2.3 Location of marking requirements

ALL marking requirements in a product standard are to be located in the "Marking" clause and not scattered throughout the document. It is recommended that a table format, like Table 16 in 60079-0 Edition 6 (see part of this table below), be used for the collection of warning markings and references to them included in the text. References to the table must also be included in the text that calls out the marking requirement.

Table 2 – Text of warning markings

	Reference	WARNING Marking
a)	6.3	WARNING – AFTER DE-ENERGIZING, DELAY Y MINUTES BEFORE OPENING *(Y being the value in minutes of the delay required)*
b)	6.3, 23.12	WARNING – DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT

Note: Extract from Table 18 in 60079-0 Edition 7

2.4 "X" marking

The specification for use of the "X" marking should be carefully considered such that it does not dilute the value of the "X" marking as a means of imparting critical information necessary for installation or maintenance. The description of the "X" marking in the standard needs to include what the "specific condition of use" is that needs to be provided for safe installation and maintenance. Many of the sub-parts currently do not specify exactly what "specific condition of use" needs to be conveyed to the user through the "X" marking. (See also 1.6)

There are some principles that should be considered by convenors and their groups in relation to "Specific Conditions of Use" when standards are being developed or revised, as follows:

- The certificate number shall include the "X" suffix in accordance with the marking requirements of IEC 60079-0 and the Specific Conditions of Use listed on the certificate shall detail *[how to address the mitigation of the condition identified by the "X" condition]*.

- Where a standard indicates that a lesser requirement might be accepted under Specific Conditions of Use, it should be possible to demonstrate that the application of those conditions will provide the required Level of Protection

- Where Specific Conditions of Use are used to inform the user of additional actions that may be needed to supplement the requirements of a standard in order to achieve the required Level of Protection, it is required that some 'guidance' be provided

  - This 'guidance' may set actual limits for the lower acceptance (for example the low impact requirements of IEC 60079-0)

  - Alternatively, the guidance may provide assistance in the wording that would be appropriate for a requirement to be covered by Specific Conditions of Use (for example for electrostatic charge requirements)

3   Instructions

The instructions for "Installation and Maintenance" and the instructions for "Use" were considered to present separate and unique situations as follows. 60079-0 follows this logic and the various sub-parts should align with this:

- Installation and Maintenance Instructions:

  Installation and Maintenance instructions specific to the explosion protection may be shown as a Certificate "X" Condition, BUT in all cases shall appear in the instructions. As an alternative to the "X" Condition, the instructions or a specific reference to them may be located on the label AND in all cases shall appear in the instructions

- Use Instructions:

  Use instructions specific to the explosion protection such as "WARNING - Do not open in explosive atmosphere" shall be marked on the product AND shall appear in the instructions.

4   Convenors

4.1   Document Control Practices for Working Group Project Team and Maintenance Team Convenors

4.1.1   Drafting

4.1.1.1   Drafting General Requirements

The initial electronic text to be used in a revision or amendment shall be the IEC published text of the existing publication, not the FDIS text from the previous edition. This is the actual text to be altered, which will avoid unnecessary editing. This text is to be obtained from the secretary.

Have a copy or access to the ISO/IEC Directives handy for reference:

http://www.iec.ch/members_experts/refdocs/

Only the convenor, or a person nominated by him and/or the secretary shall revise this text electronically to avoid corruption of the template and to maintain control of the changes and avoid copyright issues.

The document modification process has been found to be most effective when during comment resolution both the revised document and "Observations of the MT" column in the compilation of comments are developed simultaneously and "on-screen" during the Maintenance Team meeting.

4.1.1.2   CD Preparation

The MT shall prepare the CD based on inputs from comments on a DC, if circulated, and the inputs of its experts. In TC 31 and SC 31G the draft CD can be submitted to the secretary who will arrange for a critical review by the BSI editors. Eight weeks should be allowed for this process. This process can occur in parallel with the official IEC comment process on the CD, but there can be a value in completing the critical review prior to issuing the CD, as it should reduce the number of editorial comments resulting from the IEC comment process. The convenor shall review each individual change and accept or reject changes as necessary, but need not provide a justification for the action. For contentious issues, the convenor may wish to involve the MT in the resolution.

4.1.1.3   CDV Preparation

After addressing the NC comments on the CD, the convenor should send the document to TC/SC secretary who will arrange for review by the TC/SC Editing Committee (see 4.1.1.6). The convenor should consider these comments prior to preparing the final text that will be sent to the secretary for circulation as a CDV.

It helps the progress of the document if a "compare" document which shows the tracked changes is also sent showing the changes to the CDV, from the previous edition, as it helps to correct the French translation.

4.1.1.4   FDIS preparation

When addressing the NC comments on the CDV to prepare the FDIS, the convenor shall use the IEC Central Office "short edit" version of the CDV if available, from the secretary. The "short edit" version has been reviewed by the editors at the IEC Central Office. Proposed changes and questions are inserted into the document in "tracking" mode by the editors. The convenor or the MT shall review each individual change and accept or reject changes as necessary.

There needs to be a critical final look at this stage for mistakes. After addressing the NC comments on the CDV, the convenor shall send the document to the secretary who will arrange for review by the TC/SC Editing Committee (see 4.1.1.6). The comments of the Editing Committee are forwarded to the convenor for action. The convenor reviews and acts on the comments as necessary and forwards the revised document to the secretary for final processing.

It helps the progress of the document if a "compare" document which shows the tracked changes is also sent to the secretary showing the changes to the FDIS, from the CDV, as it helps to correct the French translation.

4.1.1.5   DTS preparation

The approval vote for a draft Technical Specification is the equivalent of an FDIS. The convenor shall send the document to the secretary who will arrange for review by the TC/SC Editing Committee who will have a maximum of two weeks for their review. The comments of the Editing Committee are forwarded to the convenor for action. The convenor reviews and acts on the comments as necessary and forwards the revised document to the secretary for final processing.

4.1.1.6   Editing Group EG52

The editing group EG52 is responsible for editing draft documents (Standards, Technical Specifications, Technical reports, Amendments and Interpretation Sheets) to ensure their conformity to the ISO/IEC Directives, Part 2, the TC 31 Good Working Practice document and correlation to other 60079-X or 80079-X standards.

In particular EG52 should use as a resource the editing checklist in Annex A of the ISO/IEC directives Part 2. In addition the recommendations for "Specific Conditions of Use" in clause 2.4 shall be considered

The constitution of EG52 is decided by the Technical Committee or Subcommittee and confirmed during a plenary meeting. As a minimum the membership includes the Chair, Vice-Chair(s) and Secretary (of the TC 31 and its SCs), and the Project Leader for the document in question. EG52 will have a maximum of two weeks for any review.

4.1.2   Comment Resolution

Comments received from National Committees and groups within TC 31 such as SCs/AGs/MTs/PTs/WGs/JWGs/HWGs on CD and CDV documents are sent to the MT convenor by the Secretary of TC 31 or of the applicable Sub-Committee. The comments are sorted according to Clause number by the Secretary of TC 31 or the applicable Sub-Committee and sent to the MT for their review and action. The first column of the comment form may be split into two columns with the first new column being a comment number and the second column identifying the National Committee. This "numbering" of comments has been found to aid the MT in their processing of comments. The paragraph numbering feature may be used to assign the comment numbers.

TC/SC 31 convenors are delegated by the secretary to be responsible for ensuring the completion of the "Observations of the Secretariat" column of the compilation of comments (CC and RVC Annex) prior to returning them to the secretary for review and publication. However, such comments must have been reviewed and discussed by the MT, either in face-to-face meetings or by correspondence, and represent the consensus position of the MT.

For consistency, the dispositions of comments shall be as follows (acronyms shall not be used):

a) **Accepted.**

The comment was acceptable as presented.

b) **Not Accepted**

 This disposition indicates that the comment will not be incorporated into the document. All rejections shall have the justification for rejection, whether technical or editorial and documented as part of this disposition.

c) **Accepted in Part**

This disposition indicates that some parts of the comment will be accepted and incorporated into the document. An explanation of how the accepted part is to be incorporated into the document shall be given. The parts that have not been accepted

shall have the justification for doing so, whether technical or editorial, documented as part of this disposition.

d) **Accepted in Principle**

This disposition indicates that the principle of the comment was accepted, but was incorporated into the document in a different manner than that suggested by the commenter. Explanation of how this is to be incorporated into the document shall be included along with the justification for the decision.

e) **Held for Next Edition**

This disposition is to be used for major technical comments received for the CDV that has had a positive vote but have merit for consideration, but must be held until the next maintenance cycle of the document if the vote was in acceptance of the CDV.

f) **Noted**

This is used where there is no action required on the comment.

In cases b), c) and d), the justification provided should clearly convey the specific reasons why the comment was not acceptable. This will allow the commenter the opportunity to provide additional information and justification at the next stage of review for those cases where, perhaps because of language barriers or interpretation difficulties, the commenter believes that the Maintenance Team did not fully understand the proposal.

To avoid repeating an action in subsequent or related comments, a reference to a comment number may be used, for example "Accepted in part. See comment 12"

The convenor shall then send the completed CC or /RVC Annex document to the secretary who will send it to the IEC CO for distribution to the National Committees.

Resolution of FDIS comments are the responsibility of IEC CO and since changes can be corrections of typographical errors only, the entire MT is generally not involved in reviewing and resolving them. This is also the case if at CDV stage, with no negative votes, the chair, secretary and convenor agree to publish without a FDIS stage. Major technical comments introduced at the CDV stage may be held over for consideration at the next revision. Any technical comments submitted at the FDIS stage are not to be considered until the next revision.

4.2   MT Meetings and Agendas

4.2.1   General

Conduct of meetings shall observe antitrust laws. Agendas shall be provided in advance, and care taken for any other items raised to assure that no issues related to pricing, competitive strategy, market share and so on are discussed. It is the responsibility of our participants to ensure that only non-confidential technical details required for the production of our standards are discussed.

4.2.2   Role of the convenor

Once set up, the MT is under the responsibility of the convenor who is expected to:

- manage the development of the project;

- organize and chair the working group meetings;

- report to the TC/SC secretary and chairman on the progress/delays;

- monitor attendance and participation of the experts;

- report to the TC/SC secretary and chairman on any significant problem affecting the project;

- follow through the project until circulation of the FDIS.

4.2.3   Role of the experts

4.2.3.1   General

Individually appointed experts are brought together to deal with the specific task allocated to the MT. IECEx are able to nominate experts to IEC TC 31 groups directly.

The initial responsibility for the work within any MT dealing with the specific subject matter of the TC 31 HWG is with the experts of the TC 31 HWG involved with that MT. The function of those experts will involve reporting activities to the TC 31 HWG on a regular basis and should identify any clauses/comments/actions that require further TC 31 HWG consideration.

The experts act in a personal capacity and not as the official representative of the organization by which they were appointed. However, it is recommended that they keep close contact with their organization (National Committee or other International Organization in liaison) in order to inform them about the progress of the work.

4.2.3.2   Selection of experts

National Committees are advised to note that when considering applicants for a position as an Appointed Expert on a particular MT, TC 31 asks them to give consideration to the following:

- Experts should have five years or more of experience in the subject as technical expertise in the subject of the Maintenance Team or Working Group is critical
- Experts should be involved in national standardization for the subject
- Experts should represent personal knowledge, not company or national position
- Experts should have strong communication skills
- Experts should be able to travel and participate in meetings
- Experts are expected to actively participate in the development of national comments
- Experts should be appointed at the beginning of a maintenance cycle and are expected to continue through at least one complete maintenance cycle.
- No more than 1/4 of the total experts should be from the same country, unless a specific need for such additional participation is demonstrated
- Multiple experts from the same company division, product line, or service line should be avoided except when transitioning from one expert to another, such as due to an impending retirement
- Balance between interest groups such as those shown below is desirable, but may not be practical
    - **Producer** - Individuals who are involved in the production, manufacture, or distribution of the type of product or system that is the topic of the Maintenance Team or Working Group. This includes individuals involved in the design, engineering support, manufacturing, testing, and/or marketing of the type of product or system; or who are employed by or represent a producer, manufacturer, or distribution of the type of product or system.
    - **User** - Individuals who are involved in using the type of product or system that is the topic of the Maintenance Team or Working Group, but who are not involved with the production, manufacture or distribution of that type of product or system.
    - **Testing / Certification** - Individuals who represent organizations that provide testing, assessment and/or certification of the type of product or system that is the topic of the Maintenance Team or Working Group.

- o **Regulatory / Inspection** - Individuals who represent governmental entities having regulatory or inspection interest in or influence over the type of product or system that is the topic of the Maintenance Team or Working Group.
- o **Special Expert** - Individuals who have expertise in an aspect of the type of product or system that are not covered by another interest group.

4.2.4   MT Meetings

4.2.4.1   Calling Meetings

The convenor should consult the Meeting Schedule that can be accessed from the TC 31 Dashboard or the IECEx web site before calling a meeting. This is to ensure that it does not take place at the same time as another meeting that would conflict with the experts being able to attend. It is also to optimize the travelling time and costs of the experts, for example by calling meetings in conjunction with other meetings at the same location and time frame that the experts will be attending. The meeting schedule location in the IECEx web site is:

http://www.iecex.com/information/meeting-schedule/ or
http://www.iec.ch/dyn/www/f?p=103:7:0::::FSP_ORG_ID:1232

Typically, there are meetings of TC 31 groups twice a year:

- March, in conjunction with meeting of the TC 31 Chair's Advisory Group
- October, in conjunction with the TC 31 Plenary Meeting

These meetings should be referred to by their respective months (March and October for example) rather than seasonally (Spring and Autumn/Fall) to avoid confusion between experts from the northern and southern hemispheres.

4.2.4.2   Length of Meetings

When deciding how many days may be necessary for resolution of comments, experience has shown that 70 comments is the average that can be covered in one day.

Where there are a very large number of comments to be discussed, it may not be practical to schedule a meeting with the time to consider each comment in detail. In such a case to improve efficiency, the TC/SC secretary or MT convenor may include suggestions for the editorial comments in the Comment Form for confirmation by the meeting. Note that only editorial comments should be addressed in this manner. Technical comments should be carefully considered with the MT

4.2.4.3   Webconferences

Advice on holding webconferences is given in Annex H. IEC uses the Zoom web conferencing service, the user guide can be found at:

https://www.iec.ch/tools/pdf/zoom_guide.pdf.

TC 31 discourages teleconferencing into MT meetings for an entire, day-long session. Calling in to present, or to listen to, a specific report or portion is easier to manage. Meetings held solely by teleconference should have a very focused and limited agenda and be of short duration.

4.2.5   MT Meeting Agendas

The convenor shall post a draft agenda on the MT's collaboration platform at least two months before the meeting date.

Annex C gives an example of a MT/PT/WG Draft Agenda which can be copied and modified to suit the particular meeting. It is also possible to download the meeting template from the IEC website.

4.2.6   MT Organization

Convenors and MTs can devise a way of managing its appointed experts. If, for example, a MT is becoming too large, it can be internally organized to be more manageable. The MT could, for example, have small specialist Task Groups (TG) of experts having a particular knowledge that could tackle those issues delegated to the TG and report back to the MT via a single expert input, thus saving time and making decisions easier to reach.

For each MT a deputy/assistant to the convenor shall be appointed. Only one of the MT convenors should attend the meeting of the TC 31 CAG.

4.2.7   MT Participation

If it becomes necessary to manage the membership of MTs, Clause 8.2 of the convenors' kit 'Guidance for Project Leaders and for Convenors of Working Groups, Maintenance Teams and Project Teams' provides some guidelines. In addition to the recommendation, where MTs are large enough, it may be decided, taken in conjunction with the TC/SC Secretary and the relevant National Committee, to remove any non participating experts from the WG/MT.

Convenors should review the participation of the MT experts at regular intervals and in particular at the end of each maintenance cycle. The convenor should correspond to identified non participating expert members initially by email using the Standard text (see Annex D) and if the result indicates that the member's response is unsatisfactory then this should be communicated to the secretary for action. In addition a secretary's note will be added to any document that refers to expert participation. An example is as follows:

Secretary's Note: National Committees are asked to review the participation of their experts on MT60079-XX. TC 31 periodically review experts for active participation and attendance. National Committees will be asked to remove or replace non active experts.

Observers wishing to attend a meeting must have prior approval from the convenor. In some cases the number of observers may be restricted due to meeting room constraints. The convenor decides the level of participation of observers at the meeting.

4.2.8   MT internal documents

To keep track of internal documents and to ensure the latest version is used, the files are to be identified and listed in a document continuously updated by the convenor. The files are to be named as shown in the following example: 31-60079-15-Ed4-CD-draft01-2007-09-25. The first four criteria of this format are used by the IEC Editor when preparing the short edited version for preparation of the FDIS. Using this will keep the naming convention constant and logical throughout the drafting process.
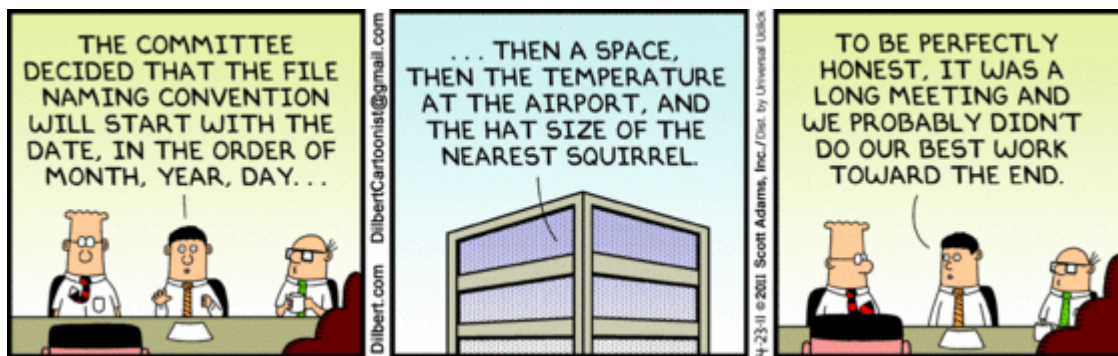
2

4.2.9   Minutes

Minutes shall be made at each meeting and sent to MT members and the TC/SC officers within one month.

4.2.10   Reporting to CAG

The MT should prepare a short report for each CAG meeting. This should be submitted to the TC 31 secretary in Word and:

- highlight any issues for discussion by the CAG;
- include the status of the work items;
- list meetings since the last CAG;
- give the date and location of the next planned meeting if available;
- **raise anything else which may be of interest to other MTs**.

Please see Annex E for the constitution of the TC 31 Chair's Advisory Group.

4.2.11 Reporting to Plenary

The MT should prepare a short report for each TC or SC plenary meeting. This should be submitted to the secretary in Word at least 4 weeks prior to the meeting, unless the meeting of the MT has occurred less than 4 weeks prior to the plenary meeting in which case the report should be provided a.s.a.p. after the MT meeting, if a decision is needed.

The report should:

- highlight any issues for **decision** by the Plenary;
- include the status of the work items;
- raise anything else which may be of interest to other TCs or SCs.

4.3   Collaboration Platform

The Collaboration Platform provides a good way to share information among members of MTs.

Your current username and password are required to access this service and if you do not have a login, you should contact your National Committee to obtain one. It is possible that some company servers with make access to these tools difficult.

To access use: https://collaborate.iec.ch/

_____

2 This cartoon is included with the kind agreement of the artist, Scott Adams, who apparently understands how we work in TC 31

4.4   TC 31 Horizontal Working Groups [TC 31 HWG]

4.4.1   Liaisons

It is recommended that the TC 31 HWG gives consideration as to the nature of the work being undertaken by the relevant MT. It is recommended that at least one expert from the TC 31 HWG is an expert within that MT.

Where TC 31 HWGs or other PT/MT/WGs provide technical details for inclusion in standards not under their control, it is essential that they are consulted when any changes in these technical details are considered.

No formal co-operation or liaison with the sub committees of TC 31 is envisaged. However, the sub-committees may need to be advised of the co-operation and representation of the TC 31 HWG with the MTs under their control.

Liaisons with groups outside TC 31 must be referred to TC 31 or the relevant subcommittee for approval and possible subsequent action.

4.4.2   Assigning work for TC 31 HWG experts

The assignment of work of the TC 31 HWG experts to other MTs should be considered on the basis of:

- a willing volunteer with expertise in that particular area
- each member to be involved in at least one other relevant MT

4.4.3   New Work Allocation

The CAG will refer any accepted new work proposal containing aspects related to the work of the TC 31 HWG for a recommendation. The TC 31 HWG is to review the proposal and forward a recommendation to the CAG on the best way to proceed.

Where the new proposal recommends the assignment of the work to a MT, then the TC 31 HWG should create a co-operation with that MT. This should be reviewed on a case by case basis to determine if additional resources are to be temporarily assigned during the development phase.

4.4.4   Review of Documents

A TC 31 HWG should consider all TC 31 draft documents containing requirements affecting its scope of work and where necessary prepare comments for submission to the secretary. These comments are to be included with and have equal standing to National Committee comments. IECEx and category D liaisons may submit comments on draft IEC documents by submitting them to the relevant IEC committee secretary by the due date on the standard comment form. It is recommended that the IEC working group leader be copied on the comments.

4.5   Liaison with IECEx ExTAG

IECEx OD 035 (A procedure to generate, discuss, report and publish ExTAG Decision Sheets) requests that the IECEx includes the applicable convenors of IEC TC31 maintenance teams in the circulation of the notification of a new draft IECEx Decision Sheet. These are located at http://www.iecex.com/publications/extag-decisions/

The MT normally has 6 weeks to respond to a draft ExTAG Decision Sheet using the form which is also found on the IECEx ExTAG page. The WG or MT convenor circulates the draft DS using the IEC Collaboration Platform. Any comments from the MT members

are collated by the MT convenor and a consensus view of the MT is reported to IECEx ExTAG by the convenor indicating the MT number in the "ExCB/ExTL" column.

The WG or MT may point out that the decision sheet is not desirable because it will change the technical requirements of the standard, or an Interpretation Sheet is more appropriate. If a technical change to the standard is shown to be necessary an amendment or new edition should be proposed in the normal manner.

Note   The TC or SC can decide to bring forward the stability date to allow an urgent amendment to be processed.

5   Guidance for chair, vice-chair, secretaries and convenors

5.1   TC 31 GWP Document

The Secretary of TC 31 or the relevant sub-committee is to send a copy of this GWP document to the convenor at the start of each project and/or maintenance cycle.

This TC 31 reference document is available for viewing and downloading on the IEC TC 31 "Dashboard", General Information

5.2   IEC TC/SC Officers eTraining

This training is designed for IEC TC/SC's chair, vice-chair, secretaries and convenors. It gives the opportunity to new comers to familiarise themselves with their main tasks and relevant procedures in conducting their IEC related activity. For experienced chair, secretaries and convenors, it is an easy way to refresh and update their knowledge.

The training is modular giving flexibility for the structure, content and duration. When taken in IEC premises it gives the possibility to meet with the majority of IEC CO individuals involved in the specific tasks of TC/SCs officers.

To access use: http://etraining.iec.ch/

5.3   IEC List of "Country Codes"

http://www.iec.ch/dyn/www/f?p=103:5:0

5.4   Use of editing marks

All CDs that are revisions of documents should be circulated as complete texts including editing marks and not just as a list of major technical changes to be made to the existing text. This is for ease of understanding of what has been changed, added or removed thus saving time as in the past experts did not realize critical text had been deleted. Please do not select "use balloons" in the "track changes" setup. This will allow the text to be displayed in legislative format, with strikethroughs and underlines.

It is useful to circulate CDV texts including editing marks within the MT, prior to submission to the TC or SC Secretary, to allow a final review prior to circulation to NCs. IEC will not allow a CDV to include editing marks. A "clean" copy of the CDV text is required to be submitted for circulation. However, it is recommended that a separate INF document including the editing marks be circulated along with the CDV.

5.5   CDV publication without FDIS

If at CDV stage there are no negative votes it is the responsibility of the chair and secretary to decide if publication without an FDIS is appropriate. They will take into account advice from the convenor before deciding to publish with or without an FDIS

stage. The chair and secretary only intend to publish without an FDIS stage if CDV comments are minor editorial only.

5.6   Redline standards

Standards can also be published as redline versions, which provide a quick and easy way to compare all the changes between the standard and its previous edition. It is the preferred position of TC 31 to have a redline version, but it is recognised that where there are major changes to a standard, a redline version may be so full of changes it is not useful. In this case the convenor should recommend whether the changes between one edition of a standard and the next justify the publication of a redline version.

5.7   IEC supporting information

Guidance by Role is a useful place to start. Information on the roles and responsibilities of chair, secretaries, convenors, project leaders and experts can be found at:

http://www.iec.ch/standardsdev/resources/tcroles/

IEC technical support information including forms and templates can be found and downloaded from the IEC website:

http://www.iec.ch/standardsdev/resources/docpreparation/forms_templates/

The IEC website has a 'good working practice forum'. It was agreed that all useful IEC material such as this should be referenced in this Good Working Practice document, where applicable links could also be included.

5.8   Meeting Organization

A checklist for arranging TC / SC meetings is given in Annex F. The Meeting Registration System shall be used for meetings held in conjunction with the plenary or CAG. It can also be used for individual meetings.

NOTE IEC experts who have an IEC login but are not TC 31 experts cannot see the meetings on the MRS. They have to be added by the IEC helpdesk (helpdesk@iec.ch).

5.9   Meeting decisions and resolution

Decisions and resolutions should be displayed on the screen while they are being discussed, to ensure that all attendees understand the proposal.

5.10   SC 31M

Working Procedures for SC 31M are given in Annex G

5.11   Inquiries via IEC Contact

The Secretary of the TC or SC has the responsibility of dealing with inquiries on the content of a standard or delegating the responsibility for a reply.

5.12   Research

Where possible, new or modified technical requirements in standards, including tests, should be based on proper evidence which will often be in the form of appropriate research. Conveners in conjunction with their MTs should seek such evidence initially from existing technical information, including research. Where that does provide the required information, they should consider establishing a research project to gain the appropriate evidence. Where the need for research is identified, it is recommended a proposal be brought to the CAG for discussion. The proposal should include the nature

of the research plus, if known, the body proposed to carry out the research and the source of funding.

Where the research used is incorporated in published documents, these documents should be included either in the references or the bibliography, as appropriate. Where new research is initiated it is recommended that opportunities for publishing the research be considered so that it can also be formally referenced in the published standard.

Annex A

Changes to TC 31 Standards

Example of How to Show the Significance of Changes

The significance of changes between IEC Standard, IEC 60079-X, Edition 6.0, 2011-06 and IEC 60079-X, Edition 5.0, 2007-10 are as listed below:

Changes	Clause	Type Minor and editorial changes	Extension	Major technical changes
Clarification on the need to provide service temperature information for Ex Components in the Schedule of Limitations	5.2	X		
Relocation of EPL Da dust layer requirements from IEC 60079-18 & IEC 60079-31	5.3.2.3.1	A1		
Added for EPL Db, a dust layer in a specified orientation, marked as TL	5.3.2.3.4		X	
Added requirement that where an adhesive is used to secure a gasket, it shall be used within its COT and shall comply with the requirements for cements.	6.5			C1
Requirements relocated to IEC 60079-28	former 6.6.2	A2		
Ultrasonic requirements updated based on latest research work	6.6.3		X	
Added reference to IEC 60079-28	6.6.4	A2		
Material identification parameters have been revised to reflect reasonably obtainable information	7.1.2.2	X		
Relocation of 10 K margin for EPL Gc or Dc from IEC 60079-15, IEC 60079-18 & IEC 60079-31	7.2.2	A3		
Added additional relaxation for the case where a surface is in contact with an earthed surface on only two of four sides.	7.4.2 b)		X	
Added reference to IEC 60243-1 and IEC 60243-2 for test method to require a 4 kV DC test..	7.4.2.c			C2
Additional guidance added with respect to the possible Specific Conditions of Use	7.4.2 e)	X		
Clarified Group II, EPL Ga limits	8.3	X		
Added limitation for external surfaces of >65% copper	8.5			C3

Changes	Clause	Type		
		Minor and editorial changes	Extension	Major technical changes
Added clarification as to what is considered a tool	9.1	X		
Clarified that the tolerance class of the set screw is not critical, only that it not protrude from the threaded hole after tightening.	9.4	X		
Added requirements for EPL Gc and Dc	20.1			C4
The test circuit requirements for a flameproof connection have been removed as they are more completely specified in IEC 60079-1.	20.2	X		
The impact test requirements for luminaires are relocated to Table 15	21.1Table 15	X		
New cell types and data added based on latest available data	Table 13		X	
New cell types and data added based on latest available data	Table 14			C5
Clarified the test voltage for maximum surface temperature	26.5.1.3	X		
Relocation of EPL Da dust layer requirements from IEC 60079-18 & IEC 60079-31	26.5.1.3	A1		
Relocation of EPL Db specified dust layer requirements from IEC 60079-31	26.5.1.3	A4		
Added for EPL Db, a dust layer in a specified orientation, marked as TL	26.5.1.3		B1	
Clarified that for EPL Dc, the testing is conducted without a dust layer.	26.5.1.3	X		
Text added to address marking of "Ex associated equipment"	29.4		X	
Text added to address marking of "Ex associated equipment"	29.5		X	
Text added to address marking of equipment intended to be installed in a boundary wall.	29.9		X	
The marking of Ex Component enclosure was aligned with the marking requirements of IEC 60079-1 and IEC 60079-7	29.10	X		
The alternate marking of EPL has been deleted.	former 29.13			C6
Additional instruction material for electric machines added	30.3			C7
Additional instruction material for cable glands added	30.5A.5			C8

NOTE: The technical changes referred to include the significance of technical changes in the revised IEC Standard, but they do not form an exhaustive list of all modifications from the previous version. More guidance may be found by referring to the Redline Version of the standard.

Explanations:

A) Definitions

Minor and editorial changes	clarification decrease of technical requirements minor technical change editorial corrections

These are changes which modify requirements in an editorial or a minor technical way. They include changes of the wording to clarify technical requirements without any technical change, or a reduction in level of existing requirement.

Note for Convenors - For these changes additional explanatory information may be provided in clause B) below as "Ax" Notes.

Extension	addition of technical options

These are changes which add new or modify existing technical requirements, in a way that new options are given, but without increasing requirements for equipment that was fully compliant with the previous standard. Therefore, these will not have to be considered for products in conformity with the preceding edition.

Note for Convenors - For these changes additional explanatory information may be provided in clause B) below as "Bx" Notes.

Major technical changes	addition of technical requirements increase of technical requirements

These are changes to technical requirements (addition, increase of the level or removal) made in a way that a product in conformity with the preceding edition will not always be able to fulfil the requirements given in the later edition. These changes have to be considered for products in conformity with the preceding edition.

Note for Convenors - For these changes additional information shall be provided in clause B) below as "Cx" Notes.

Note: These changes represent current technological knowledge. However, these changes should not normally have an influence on equipment already placed on the market.

Note for Convenors – Use hyperlinks to the clause numbers in the document. For the "Ax", "Bx", and "Cx" references, use a "bookmark" for each, and then hyperlink the actual note to that reference.

B) Information about the background of Changes

A1 The dust layer requirements for EPL Da are unchanged from what previously existed in IEC 60079-18, Ed 4 and IEC 60079-31, Ed 2, but have been relocated to IEC 60079-0 to allow consistent application in all techniques.

A2 IEC 60079-28 now includes all requirements for optical radiation for all EPLs.

A3 The COT requirements for EPL Gc or Dc are unchanged from what previously existed in IEC 60079-15, Ed 4, IEC 60079-18, Ed 4, and IEC 60079-31, Ed 2, but have been relocated to IEC 60079-0 to allow consistent application in all techniques.

A4 The dust layer requirements for EPL Db with a specified dust layer depth are unchanged from what previously existed in IEC 60079-31, Ed 2, but have been relocated to IEC 60079-0 to allow consistent application in all techniques.

B1 Dust layer requirements for EPL Db with a dust layer in a specified orientation have been added.

C1 It is recognized that the new requirements were, in many cases, already applied. The change is to ensure that they are uniformly and consistently applied.

C2 Require that the test be conducted at 4 kV DC.

C3 The limitation applies to external surfaces of other than cable glands, blanking elements, thread adapters and bushings.

C4 The added requirements for tool securing and marking are consistent with the approach in 60079-15

C5 Voltage values were changed following additional research due to the complicated assessment and sometimes unspecified construction of Li/Ion-cells. It was found that some voltage values previously stated were too low.

C6 The now required EPL marking may be other than that permitted by the level or protection to account for limiting restrictions of material or plastic material surface area.

C7 Additional instruction material for electric machines required to facilitate selection, installation, and maintenance.

C8 Additional instruction material for cable glands required to facilitate selection and installation.

Annex B

Titles for the IEC 60079 series

At the TC31 Plenary Meetings in 2005 and 2006 it was agreed that:

- For future editions of the 60079 series "Explosive atmospheres" the titles will be drafted by the Editing Committee.

- The generic title for the 60079 series needed changing for future editions as it no longer reflected the content of the present series or current developments with the combining gas and dust.

- The change in generic title of the 60079 series does not affect or alter the title and scope of TC31 and its subcommittees.

An up to date list of TC 31 publications can be found at:

TC31
http://www.iec.ch/dyn/www/f?p=103:22:0::::FSP_ORG_ID,FSP_LANG_ID:1232,25

SC31G
http://www.iec.ch/dyn/www/f?p=103:22:0::::FSP_ORG_ID,FSP_LANG_ID:1331,25

SC31J
http://www.iec.ch/dyn/www/f?p=103:22:0::::FSP_ORG_ID,FSP_LANG_ID:1333,25

SC31M
http://www.iec.ch/dyn/www/f?p=103:22:0::::FSP_ORG_ID,FSP_LANG_ID:1453,25

Annex C

**SAMPLE Draft Agenda
(EDIT TO SUIT)**

INTERNATIONAL ELECTROTECHNICAL COMMISSION

TECHNICAL COMMITTEE 31: EQUIPMENT FOR EXPLOSIVE ATMOSPHERES

MT60079-29: Gas detectors

Draft agenda for the meeting to be held in Frankfurt Germany,
from 12th to 14th October 2008 starting at 09.00 and finishing at 17.00.

Item	Description	Documents
1	Opening of the meeting	
2	Approval of the agenda	
3	Review of membership list	
4	Note the minutes/notes/report of the last meeting	
5	Information from the Convenor	
6	60079-29-1	
6.1	Review and complete 31/567/CC	
6.2	Redraft document implementing the above and input from MT experts	
7	60079-29-2	
7.1	Review and complete 31/568/CC	
7.2	Redraft document implementing the above and input from MT experts	
8	Recommend the next stage in the progress of the documents	
9	Review of the time schedule / stability dates	
10	Review of applicable IECEx Decision Sheets	
11	Any other business	
12	Date and place of the next meeting	
13	Close of the meeting	

Note: Items marked in blue above are mandatory items for all Agenda

Annex D

Standard Text – Non-Participating Experts

From the Convenor to Non Participating WG/MT Expert Members.

Dear XXXXXXX

It has come to my attention that you have not attended the past XX meetings of XX nor have you been active in the submission of comments to the documents circulated. Active participation of all of the appointed experts is essential for the Maintenance Team and Working Group system to function properly. The TC 31 Good Working Practice and the IEC Guidelines for Convenors advise "If an expert is not active and does not attend two successive meetings, the project leader, working group or Maintenance Team convenor should inform the TC/SC secretary and ask the National Committee to confirm that the person is still available and, if not, to find a replacement."

Have there been extenuating circumstances that have prohibited your participation? If so, please let me know immediately as I will soon be contacting the TC/SC secretary to begin the above process which could result in your removal from the XX by your National Committee.

XXXX
Convenor MT60079-XX

Annex E

Constitution of the TC 31 Chair's Advisory Group

E.1   Preamble

The establishment of the Chair's Advisory Group (CAG) in TC 31 was approved by National Committees (NCs) during the meetings of TC 31 held in New Delhi, Houston, Seoul and Vladivostok as reported in documents 31/262/RM, 31/279/RM, 31/380/RM and 31/1353/RM. The constitution of the CAG is in accordance with the provisions of the thirteenth edition of ISO/IEC Directives, Part 1, subclause 1.13.

E.2   Name

The name of the group is Chair's Advisory Group, acronym CAG.

Note: In the IEC system the committee is referred to as AG36.

E.3   Function

The CAG of TC 31 is an advisory group to the Chair of TC 31 and functions as the steering group for TC 31.

E.4   Purpose

The purpose of the CAG is to assure:

- Timely and efficient completion of TC 31 and its subcommittee's programme of work;
- Productive performance of the Advisory Groups (AG), Working Groups (WG), Maintenance Teams (MT), and Projects Teams (PT).

E.5   Exclusion

The CAG does not prepare any technical documents relating the TC 31 projects.

E.6   Membership

The members of the TC 31 CAG are:

− TC Chair;
– immediate past Chair;
– TC Vice-Chair(s);
− SC Chair;
– SC Vice-Chair(s);
− TC Secretary and Assistant Secretary;
− SC Secretaries and Assistant Secretaries;
− Convenors of AG/WG/MT/PT/AHGs of TC 31 and its subcommittees;
− the IECEx executive;
− IEC Central Office Technical Officer for TC 31.

WG convenors, AG convenors, MT convenors, PT project leaders and ad-hoc group convenors are all referred to as convenors for the purposes of this document.

The Chair and Secretary of CENELEC TC 31 and CEN TC 305 are invited to attend meetings of the CAG as observers to serve as a liaison with those committees.

Other persons may be invited by the Chair of TC31, as guests, to attend specific meetings of the CAG as appropriate.

E.7   Meetings

Meetings of the CAG are usually held between TC 31 Plenary meetings, subject to the decision of the Chair of TC 31.

E.8   Accountability

The CAG conducts its tasks in a transparent manner and is fully accountable at all times to the TC 31 member NCs at the TC 31 meetings or by correspondence.

E.9   Report of Activities

The outcomes of CAG meetings are in the form of a full report. The report is circulated to TC 31 P- and O members NCs as INF documents and is reported at the next TC 31 meeting. In appropriate cases, CAG recommendations may be discussed by TC 31 P-members and, when necessary, the appropriate recommendations may be approved by P-members to become decisions of TC 31, or may be cancelled by TC 31 P-members. Any TC 31 P-member may, if so desired, request the CAG to consider a proposal or any other matter related to TC 31 activities. Relevant recommendations should then be circulated to TC 31 P- and O members.

Annex F

Checklist for arranging TC / SC meetings

Time	Action	Responsibility	
		Plenary	CAG
T - 24 months	Secretary plan in place for the plenary meetings. Note: It is normal practice for the MT/WG/PTs to meet at the same time as TC31 and it SCs	TC31 Secretary	N/A
T - 24 months	Secretary plan in place for the CAG meeting. Note: It is normal practice for the MT/WG/PTs to meet at the same time as the CAG.	N/A	TC31 Secretary
T - 18 months	Solicit host country (if not done by IEC C.O. when meeting is in conjunction with GM). – Tentative date checked against IECEx schedule. – Cannot meet within 2 weeks of the general meeting (unless in conjunction with GM) If TC31 and its SCs are not invited to the GM, take up one of the open offers.	TC31 Secretary	N/A
T - 18 months	Solicit host country. – Tentative date checked against IECEx schedule.	N/A	TC31 Secretary
T - 12 months	Host confirmation & official invitation To TC Officers.	Host Country	Host Organization
T - 11 months	Acceptance by Secretary. Reserve block space on IECEx schedule.	TC31 Secretary	TC31 Secretary
T - 9 months	Email to chairs, convenors, leaders with meeting request form	TC31 Secretary	TC31 Secretary
T - 8.5 months	Reminder email for meeting request response.	TC31 Secretary	TC31 Secretary
T - 8 months	Circulate first-pass schedule to meeting leaders. Schedule discussions & shuffling.	TC31 Vice Chair & TC31 Secretary	TC31 Vice Chair & TC31 Secretary
T - 7 months	Finalize meeting schedule. Circulate & update IECEx schedule.	Vice Chair TC31 Secretary	Vice Chair TC31 Secretary
T - 6 months	Must have a formal meeting notice with dates and location.	Host Country	Host Organization
T - 4 months	Detailed Meeting & hotel information posted by host. Registration starts.	Host Country	Host Organization

Time	Action	Responsibility	
		Plenary	**CAG**
T - 4 months	Members register − TC/SC delegates and observers are Approved by their National Committees − MT Experts are automatically Approved if they are an appointed expert − MT observers request attendance to convenor and register pending Approval. Approval is by TC/SC secretary with concurrence of convenor and host.	Host Country Members TC/SC Secretary & Convenor	N/A
T - 4 months	Members register − MT Experts are automatically Approved if they are an appointed expert − MT observers request attendance to convenor and register pending Approval. Approval is by TC/SC secretary with concurrence of convenor and host.	N/A	Members TC/SC Secretary & Convenor
T - 4 months	Draft agendas (DA).	TC/SC Secretary	N/A
T - 4 months	MT/PT/WG/AHG/etc. notification	Convenor	Convenor
T - 2 months	Draft CAG agenda	N/A	TC31 Secretary
T – 2 months	Circulation of MT/PT/WG/AHG/etc. agenda	Convenor	Convenor
T - 0	Meetings start.	All	All

Annex G
IEC SC 31M – Working Procedures

G.1   Objective

The objective of this Annex is to provide a background to the establishment of SC 31M and to specify its ongoing working procedures.

G.2   Background

This document reflects the outcome of discussions between ISO/TMB and IEC/SMB on the potential conflict with IEC TC 31 due to the proposal to set up a new ISO TC on explosive atmospheres.

It was jointly agreed by ISO/TMB and IEC/SMB to the establishment of IEC Subcommittee SC 31M within IEC TC 31 instead of establishing a separate committee in ISO. It was agreed that IEC SC 31M would produce IEC/ISO double logo standards as either double prefix ISO/IEC, or single prefix ISO and IEC standards.

In 2007 both the ISO TMB (34/2007 and resolution 61/2007) and the IEC SMB ((SMB decision 129/27) agreed the formation of the IEC technical Sub Committee SC 31M to define standards for Non-electrical equipment and protective systems for explosive atmospheres. The standard carries the dual logo and either single prefix or double ISO/IEC prefix in the 80079 series. Note that part numbers in 60079 (TC 31) and 80079 (SC 31M) cannot be duplicated. Whilst developments follow the IEC work flow there are some considerations that require coordination between IEC, ISO and CEN (in particular at the CDV and FDIS stages).

Note that by default the whole 80079 series falls under the EU ATEX and/or Machinery Directive and therefore requires the development and approval of the associated Annexes ZA; which are carried out under CEN.

It was agreed that the TC 31 CAG would have a formal role in the allocation of work to SC 31M, including consideration of work within TC 31 or other subcommittees that might better be managed in SC 31M.

The call for experts for SC 31M, 31M/1/AC, was circulated on 29 June 2007. The first meeting of SC 31M took place in Kuala Lumpur, Malaysia on 7 November 2007.

G.3   Outcomes from the Approval Process

G.3.1   Title

The title of IEC SC 31M was agreed to be:

> Non-electrical equipment and protective systems for explosive atmospheres

G.3.2   Scope

The scope of SC 31M is:

> To prepare and maintain international standards relating to non-electrical equipment and protective systems for use where there is a hazard due to the possible presence of explosive atmospheres of gases, vapours, mists or combustible dusts.

> Notes:

> Note: For the purposes of this sub-committee non-electrical equipment is defined as "equipment which can achieve its intended function mechanically". For the purposes of this sub-committee, 'Protective system' is defined as devices other than components of the

equipment which are intended to halt incipient explosions immediately and/or to limit the effective range of an explosion.

G.3.3   Future Changes to Title or Scope

Any future changes of title and/or scope of SC 31M should follow the normal procedures with a final ratification by the IEC/SMB and ISO/TMB for the sake of transparency.

G.3.4   Establishment of the SC 31M

SC 31M was established through direct approval by IEC/SMB and ISO/TMB not via normal process specified in the IEC Directives.

G.3.5   Secretariat

The Secretariat of IEC SC 31M was established through direct approval by IEC/SMB and ISO/TMB, allocating the IEC SC 31M Secretariat to ISO Germany/ DIN.

G.3.6   Chair

The founding Chair of IEC SC 31M, Dr Heino Bothe, was approved by IEC/SMB and ISO/TMB for an initial term of 6 years. Succeeding chair are appointed by TC 31. For any extensions of term of office or change of chair, the procedures given in the ISO/IEC Directives – Supplement shall be followed.

G.3.7   Reporting on SC 31M

There should be periodic reporting to IEC/SMB and ISO/TMB on the functioning of SC 31M.

G.4   Working procedures

The proposed working procedures are given in table G.1 below.

The following scenario is based on the assumptions that IECSC 31M deliverables will be:
- o   IEC/ISO double logo with ISO prefix
- o   IEC/ISO double logo with ISO/IEC(preferred) or IEC prefix

P-members and experts will be recorded in the IEC data base and IEC Expert Management System (EMS) respectively and should represent both IEC and ISO interests in their country.

Table G.1 – Working Procedures

Activity	Deliverables	
	IEC/ ISO double logo with ISO/IEC prefix	IEC/ ISO double logo with ISO prefix
Submission of NPs	Parameters NPs for SC 31M will be defined by TC 31 CAG (including SC 31M participation) NPs within the scope and clearly defined parameters of SC 31M should be submitted to this SC according to the ISO/IEC Directives Part 1, clause 2.3.2.	
Voting on NPs	NPs will be circulated and voted on in SC 31M. This circulation occurs only within IEC. Voting using the IEC electronic voting system. Acceptance criteria according to the existing ISO/IEC Directives Part 1 (simple majority of P-members voting and the correct number of experts)	
Project numbering	ISO/IEC 8XX79 series of publications	ISO 8XX79
Work programme (WP)	The WP will be recorded in the IEC data base/ website.	

Activity	Deliverables	
	IEC/ ISO double logo with ISO/IEC prefix	IEC/ ISO double logo with ISO prefix
Working document numbering	Using the IEC system and recorded in the IEC project data base.	
Distribution of working documents up to the CDV stage	Working documents to be circulated using the IEC server.	
Distribution of working document at the CDV and FDIS stages

Note – At this stage all of the IEC and ISO member bodies have the right to vote and comment on CDVs and FDISs | Parallel circulation within both IEC and ISO organizations.

As there are no P-members within ISO, the second voting criterion will be the only one applicable to these documents within ISO, that is to say < 25% negative votes of all ISO members casting a vote | |
| Editing - basic | To ensure a uniform format and treatment of the subject matter, then all editing activities would be carried out within the IEC. | |
| Copyright | IEC or ISO | ISO |
| Publishing – cover pages, foreword etc | IEC

ISO | |
| Maintenance of publications | Publications transferred for other areas of TC 31 to SC 31M are expect to the be published as ISO/IEC 8XX79 series of publications | ISO follows the systematic review process. That means that all published standards will be reviewed by ISO members a maximum of 5 years after first publication and at a maximum of five years thereafter (3 years for a Technical Specification). "Review" means that the NC are asked whether they vote for confirmation, revision or withdrawal of the standard in question. The results of the review are not binding, the final decision is taken by a TC resolution. The decision will be taken by the lead organisation following the normal steps for approving the maintenance cycle (IEC in our case which requires P member endorsement via the circulation of a Document for Comments, a Questionnaire or a Plenary decision) . |
| Parallel voting procedures with CENELEC and CEN | Submitted to parallel voting procedures in CENELEC/ CEN | Submitted to parallel voting procedures in CEN. |

This document clarifies these flows and coordination points for the development of 80079 series of standards developed within IEC SC31M. This document uses the IEC terms CDV and FDIS. Their equivalents are provided in the table below:

**Table G.2 – IEC and ISO equivalent terms**

IEC Term		ISO Term	CEN Term

CDV		DIS	CEN/ENQUIRY
FDIS		FDIS	CEN/FV

It is highlighted that developments of 80079 standards within SC31M often require input from the European standards development organization CEN. However the IEC does not have a formal agreement with CEN it requires submission through ISO via the ISO Vienna agreement. The ISO Vienna agreement with CEN can be interpreted as analogous to the IEC Frankfort agreement with Cenelec, see diagram below:
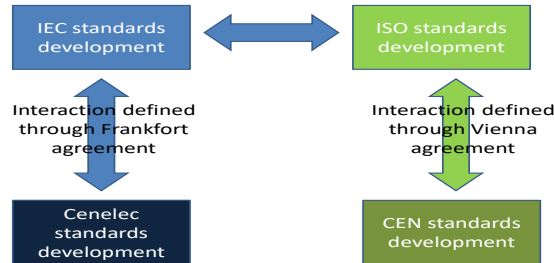
Figure G.1 – Interaction with CEN and CENELEC

The following provides the high level process flow of 80079 standard projects developed within IEC SC31M
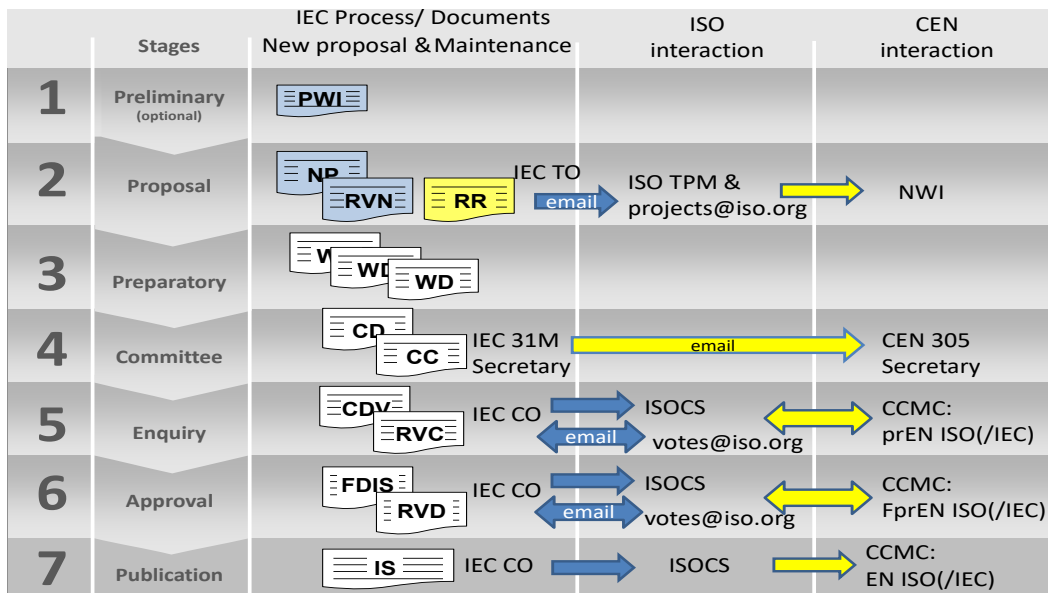
Key:
PWI = Preliminary Work Item, NP = new proposal, WD = working documents, CD = Committee draft,
CDV = Committee Draft for Vote, FDIS = Final Draft International Standard, IS = International Standard, RR= Review Report

Figure G.2 – Points of coordination between IEC, ISO and CEN for 80079 series of standards within SC31M

Note that skipping FDIS is possible (IEC Fast Track) but will require coordination between IEC, ISO and CEN

The following diagrams provide a more detailed flow for the IEC stages for the development of 80079 International Standards within IEC TC31/SC31M.

IEC Proposal Stage (RVN/RR -> CD)

IEC Committee Stage (CD -> CDV)

2 wks

7 weeks
fixed

12 weeks
fixed

12 wks

16 weeks to
FDIS
circulation

IEC	ISO	CEN

IEC/CO
RVN/RR

email

ISO TPM New project or
maintenance started

CEN New project or
maintenance started

Secretary
IEC/SC31M
CD

email

ISO TPM IEC CD to enable
AnnexZA development in CEN

Secretary
CEN/TC 305

PT/MT Leader //
CEN/TC 305/ WG
Convenor

Draft CDV

Secretary
IEC/SC31M

European
AnnexesZA (EN)

Editing Committee
IECTC 31

Secretary
CEN/TC 305

Secretary
IEC/SC31M

AFNOR

DIN

Draft CDV

Note that IEC SC 31M Secretary to inform CEN 305
Secretary of submisison of CDV to ISO by IEC

IEC/CO

ISOCS SI
Submissions Interface

European
AnnexesZA (FR)

European
AnnexesZA (GE)

AFNOR

DIN

ISOCS SI
Annexes
submission
possible
once
Draft CDV
received
from IEC

DIS EN +ZA

Draft
CDV/DIS GE

ISO

Secretary CEN/TC 305

EU AnnexZA (EN)	EU AnnexZA (FR)	EU AnnexZA(GE)

IEC/CO

Draft CDV EN	Draft CDV FR

ISOCS SI

DIS FR +ZA

Ballot only sent out Friday

Ballot can be sent out Any Day

CCMC

Ballot only sent out Thursday

IEC
Layout and
Editing of
CDV in
parallel to
ballot
circulation

IEC
CDV
Ballot

12 weeks

ISO DIS
Ballot

12 weeks

CEN Ballot
prEN ISO(/IEC)

Comments consolidated
with ISO automatically

email

RVC
ISO/IEC comments

Secretary
IEC/SC31M

IEC Enquiry Stage (CDV -> FDIS)

Draft FDIS EN

Draft FDIS

Figure G.3 – Consolidated Process flow between IEC, ISO and CEN for IEC Proposal, Committee and Enquiry (CDV/DIS) Stages

IS Approval Stage (FDIS -> Pub)

| IEC | ISO | CEN |

Draft FDIS

Secretary
IEC/SC31M

2 wks

Editing Committee
IEC/SC31M

Secretary
IEC/SC31M

early version of FDIS sent by SC31M secretary
to CEN 305 Secretary to update AnnexesZA

Secretary
CEN/TC 305

Draft FDIS

PT/MT Leader //
CEN/TC 305/ WG
Convenor

Up to 7 weeks
(soon to be
removed)

IEC/CO

European
AnnexesZA (EN)

AFNOR

DIN

Secretary
CEN/TC 305

Draft
FDIS GE

AFNOR

DIN

FDIS FR   FDIS EN

European
AnnexesZA (FR)

European
AnnexesZA (GE)

Up to 12 weeks

IEC
Layout and Editing
of draft FDIS
before circulation

FDIS FR   FDIS EN

ISOCS
SI

ISO
FDIS FR FDIS EN

ISOCS SI *

Secretary CEN/TC 305

EU
AnnexZA (EN)   EU
AnnexZA (FR)   EU
AnnexZA(GE)

Ballot only sent out Friday

Ballot can be sent out Any Day

CCMC

Ballot only sent out Thursday

IEC 6 weeks

IEC FDIS
Ballot

6 weeks

ISO FDIS
Ballot

8 weeks

CEN Ballot
prEN ISO(/IEC)

8 weeks

(ISO & CEN+2 weeks)

email

Comments consolidated
with ISO automatically

IEC Layout &
approval of
IS before being
published

RVD
ISO/IEC input

Up to 6 weeks

IEC Publishing

ISOCS
SI

ISO

CCMC

CEN

IS EN   IS FR

ISO/IEC IS
Published

IS EN   IS FR

ISO/IEC IS
Published

EN EN   EN FR   EN GE

EN
Published

Figure G.4 Consolidated Process flow between IEC, ISO and CEN for IEC Approval (FDIS) Stage

Note 1: CEN Annexes ZA submission/updates to ISO can only occur during the period after ISO has received the documents for vote from IEC (CDV and FDIS stages) and during the associated ballot.

Note 2 this document does not include the interaction from the use of European Commission third party HAS consultants within the CEN process. Irrespective of the ballot results, in the case of a HAS Consultant negative assessment, then ISO & IEC will discuss and mutually agree on the appropriate resolution.

Annex H

Webconferencing

H.1   Introduction

The high cost of travel and the widespread availability of webconferencing tools mean that this is becoming a more realistic way of contributing to meetings under some circumstances. However there are still problems:

- The technology needed to permit efficient & effective use of teleconferencing for larger and longer meetings is not always widely available at the typical meeting locations:

    — microphones and speakers for each participant are needed for maximum effectiveness;
    — most large meeting spaces are not configured for an optimal teleconference experience. Many of the things that make an in-person meeting comfortable – a large room with high ceilings to accommodate a large crowd, tables and chairs, paper handouts – are exactly the things to be avoided in a teleconference.

- Teleconferencing into a meeting also has many disadvantages to the person calling in:
    — there is limited dialogue and interface between those attending in person and those teleconferencing;
    — callers cannot benefit by the interaction which takes place outside the meeting room, at coffee breaks and social events;
    — those calling in are sometimes forgotten by the host when questions are invited;
    — it can be a difficult experience spending the entire day on a teleconference. Phone participants are more likely to multi-task, not giving full attention or being actively engaged much of the time.
- Teleconferencing can decrease the overall meeting effectiveness for everyone, adversely affecting those participating in-person:
    — technical problems can delay or interrupt the meeting
    — those calling in often forget to mute their phones leading to extraneous noises or feedback;
    — the necessity to manage the people calling in places an administrative burden on the host and can lead to delays.

Therefore TC 31 discourages teleconferencing into Working Group meetings for an entire, day-long session. Calling in to present, or to listen to, a specific report or portion is easier to manage. Meetings held solely by teleconference should have a very focused and limited agenda, and be of short duration. Regular breaks should be held in longer meetings.

Further guidance is given in:

https://www.iec.ch/iec-virtual-meetings-security-and-best-practices

H.2   Meetings

H.2.1   Remote participation in a physical meeting

At the discretion of the Group Leader, electronic participation in all or part of a meeting may be allowed on a meeting by meeting basis, by announcing it in the meeting agenda or by request.

Since the availability of tools can never be guaranteed, there should be a clear statement that electronic participation cannot be guaranteed.

Electronic participation for specific agenda items may be offered as an alternative to the whole meeting. This participation allows for contributions and presentations on specific items. If necessary the agenda should be rearranged to make remote attendance more convenient.

At the beginning of the meeting, the host should identify all participants and ensure that all remote participants are noted on the attendance list.

The host should establish proper etiquette for the calls, including a way for participants to ask for the floor, asking participants to:

— announce their name each time they speak;

— be brief and clear;

— speak slowly so that those for whom English is not their native language can understand;

— mute their lines when not speaking if they operate in a noisy environment.

To ensure that all participants understand discussions during the meeting, the host should ensure that the same meeting documents are being displayed to the remote participants and those present in the meeting.

H.2.2   Virtual meetings

Short meetings held solely by teleconference for a small number of participants are not subject to the same limitations as calling in to a physical meeting. However they still require careful planning and management.

Be mindful of timezone differences when scheduling meetings with participants from different parts of the world. Online tools are available to help with scheduling, such as http://www.timeanddate.com/worldclock/meeting.html. If there is going to be a series of meetings, consideration should be given to varying the timing so that the burden of inconvenience is shared around.

Meetings should be short, ideally no more than two hours.

H.2.3   Best practices for hosts

Be aware that participants are relying on you to facilitate the meeting. When facilitating a web conference, please:

— ensure that you have fast internet access. Acceptable values are more than 3 mbps download, more than 0.3 mbps upload, and less than 100 ms ping times;

— be familiar with the web and audio conferencing systems. Practice using the web conferencing system before making your first presentation. At a minimum, you should feel comfortable logging into your account and starting your meeting, sharing and unsharing your screen, handing over keyboard and mouse control to other participants, chatting with others, muting or unmuting participants to minimize extraneous noise, and turning your webcam on and off;

— help first time participants by having them join a test meeting prior to your real meeting. This will ensure that they meet all basic technical requirements and will minimize the number of sign-in problems when your real meeting starts;

— start your web meeting a few minutes early so you can greet participants as they enter;

— speak clearly and slowly during your presentation;

— engage your audience by asking direct questions. This will help you assess your audience's attentiveness and comprehension;

— realize that participants are watching what is on your screen. Keep your on-screen display synchronized with your presentation.

It is strongly recommended that another person is delegated to answer chat messages or monitor the participants during the meeting. Do this by making the other person the host of the meeting, while you retain the presenter role. If another person is not available you may wish to use a second monitor to view the teleconference controls, so your on-screen presentation remains clean.

The use of a webcam is not recommended unless really necessary. It uses valuable bandwidth and rarely adds anything to the meeting.

H.2.4   Etiquette

Do:

— identify yourself when speaking (as everyone may not recognize your voice);
— use the mute function when not speaking (and make sure you know how to quickly un-mute);
— check the placement of your headset, if applicable (to prevent hearing the 'heavy breather');
— pay attention (and be ready to quickly respond);
— actively participate;
— give others the opportunity to speak & respond;
— find a quiet place to take the call;
— have the proper equipment available to use (multiple microphones, amplification, etc.);
— connect early to assure computer connection/software compatibility (when using online participation tools);
— as meeting host, take a roll call of all participants;
— as meeting host, regularly address the call-in participants by name, to assure their engagement;
— as meeting host, distribute the call-in details in the meeting invitation AND agenda (rather than just a separate email);
— for audio, please use a dedicated headset (earphones + microphone) or a telephone. If you use your telephone for audio, please do not also use your computer for audio;
— if you have a slow or unreliable internet connection, consider using your telephone for audio instead;

Don't:

— put your phone on hold (which can cause everyone to hear music or commercial info);
— talk over others;
— multi-task while participating remotely;
— make extraneous, distracting noises (shuffle papers; pencil tap, etc.);
— use cellphones or cordless phones, if at all possible (as they typically are less clear);
— use a single speaker phone for a large room of participants (those far away from the microphone/speaker will be unable to hear or be heard).
— use your telephone in speaker mode as this can cause echoing which degrades the sound quality for all participants. If you must use a speaker phone, please remember to mute it when you are not speaking. If you need "hands-free" operation, consider using a headset rather than a speaker phone.

Annex I

Summary of actions and time guidelines for the development of new standards

Action Description	Action by	Form	Time guidelines	Directives (Ed. 2020)
Circulation of New Work Item Proposal (NP)	TC/SC Secretary	Form NP		
Vote on NP	P-members of TC/SC		4 or12 weeks	IEC Suppl. Annex SO
Research of experts	TC/SC Secretary		4 weeks after close of vote on NP	IEC Suppl. – 2.3.5
Circulation of Result on Vote for NP (RVN)	TC/SC Secretary	Form RVN	4 weeks after close of vote on NP	Part 1 – 2.3.6
Availability of first Working Draft	Project Leader	iecstd	6 months after circulation of RVN	IEC Suppl. - 2.1.6
Send CD to CO for circulation	TC/SC Secretary	Form CD	12 months after circulation of RVN	IEC Suppl. - 2.1.6
Comments on CD	P-members and O-members of TC/SC		8, 12 or 16 weeks as agreed by TC/SC	Part 1 - 2.5.2
Compilation of comments on CD (CC)	TC/SC Secretary	Form CC	4 weeks after close of comments	Part 1 - 2.5.3
Send CDV to CO for translation and circulation	TC/SC Secretary	Form CDV	24 months after circulation of RVN	IEC Suppl. - 2.1.6
Translation of Committee Draft for Vote (CDV)	Central Office (CO)		7 weeks after receipt of the CDV	SMB/5938A/RV
Comment and Vote on CDV	All NCs (P-members mandatory)		12 weeks	Part 1 - 2.6.1 AC/21/2012
Editing of CDV	Central Office (CO)			
Result of Vote on Committee draft (RVC)	TC/SC Secretary (including resolved comments)	Form RVC	12 weeks after close of vote on CDV	Part 1 - 2.6.5
Send FDIS to CO for translation and circulation	TC/SC Secretary (Decision with Chair)	Form FDIS	16 weeks after close of vote on CDV	Part 1 - 2.6.6
French translation of FDIS	Central Office (CO)		1 week or 7 weeks max. after receipt of the FDIS	SMB Decision 150/20
Editing and circulation of FDIS	Central Office (CO)		12 weeks after FDIS accepted by CO	Part 1 - 2.7.1
Availability of FDIS	TC/SC		33 months after circulation of RVN	IEC Suppl. – 2.1.6
Vote on FDIS	All NCs (P-members mandatory)	_	6 weeks	IEC Suppl. - 2.7.1
Report of voting on FDIS (RVD)	Central Office prepares and circulates RVD	Form RVD	2 weeks after close of vote on FDIS	Part 1 - 2.7.5
Publication of IS	Central Office (CO)		6 weeks after circulation of RVD	Part 1 - 2.8.1
Availability of International Standard	TC/SC & Central Office		36 months after circulation of RVN	IEC Suppl. – 2.1.6
Maintenance of the International Standard	TC/SC Secretary	Form RR	Project finished in accordance with the stability date	IEC Suppl. - 2.9.3.2

General Purpose Form (INF, RM, DC, Q)	TC/SC Secretary	iecform		

Project Milestones	Time guidelines	Directives (Ed. 2020)
Circulation of Result on Vote for NP (RVN)	Start of the time counter	IEC Suppl. – 2.1.6
First Working Draft	6 months	IEC Suppl. – 2.1.6
First Committee Draft (CD)	12 months	IEC Suppl. – 2.1.6
Committee Draft for Vote (CDV)	24 months	IEC Suppl. – 2.1.6
Final Draft International Standard (FDIS)	33 months	IEC Suppl. – 2.1.6
Publication of the International Standard	36 months	IEC Suppl. – 2.1.6
Maintenance of the International Standard	Project finished before the stability date	IEC Suppl. - 2.9.3.2

Summary of actions and time guidelines for the development of a Technical Specification (TS)

Action Description	Action by		Time guidelines	Directives (Ed. 2020)
Circulation of New Product Proposal (NP)	TC/SC Secretary	Form NP		Part 1 - 3.1.1.1 & 2.3
Vote on NP	P-members of TC/SC	_	4, 8 or12 weeks	IEC Suppl. Annex SO
Circulation of Result on Vote for NP (RVN)	TC/SC Secretary	Form RVN	4 weeks after close of vote on NP	IEC Suppl. – 2.3.6
Circulate a Committee Draft (optional)	TC/SC	Form CD		
Comments on CD	P-members and O-members of TC/SC		8, 12 or 16 weeks as agreed by TC/SC	
Development of Draft TS (DTS)	TC/SC Working Group	_		Part 1 - 3.1.1.1 & 2.4
French translation of DTS	French NC	_	1 week or 7 weeks max. after receipt of the DTS	IEC Suppl – E.3.1.1 & E.3.1.3
Circulation of DTS	TC/SC Secretary	Form DTS		Part 1 - 3.1.1.1 & 2.5
Vote on DTS	All NCs (P-members mandatory)	_	12 weeks	IEC Suppl. Annex SO
Result of Vote on DTS (RVDTS)	TC/SC Secretary (including resolved comments)	Form RVDTS	12 weeks after close of vote on DTS	Part 1 - 2.6.5
Provide final TS to Central Office	TC/SC Secretary	iecstd	16 weeks after close of vote	Part 1 – 3.1.2
Editing and Distribution of TS	Central Office			
Document Maintenance	TC/SC	Form RR	Review 3 years after publication	Part 1 - 3.1.3

Summary of actions and time guidelines for the development of a Publicly Available Specification (PAS)

Action Description	Action by		Time guidelines	Directives (Ed. 2020)
Circulation of Draft PAS (DPAS)	TC/SC Secretary	Form DPAS		AC/48/2007
Vote on PAS	All NCs (P-members mandatory)	_	8 weeks	IEC Suppl. Annex SO
Result of Vote on PAS (RVDPAS)	TC/SC Secretary (including resolved comments)	Form RVDPAS	12 weeks after close of vote on PAS	Part 1 - 2.6.5
Editing and Distribution of PAS	Central Office			
Document Validity	TC/SC		2 years, expendable once to 2 other years	SMB Decision 157/15

Summary of actions and time guidelines for the development of a Technical Report (TR)

Action Description	Action by		Time guidelines	Directives (Ed. 2020)
Circulate a Committee Draft (optional)	TC/SC	Form CD		
Comments on CD	P-members and O-members of TC/SC		8, 12 or 16 weeks as agreed by TC/SC	
Proposal of Draft Technical Report (DTR)	TC/SC Secretary	Form DTR		Part 1 - 3.3.1
French translation of DTR	French NC	_	1 week or 7 weeks max. after receipt of the DTR	IEC Suppl – E.3.1.1 & E.3.1.3
Vote on DTR	P-members	_	8 weeks	IEC Suppl. Annex SO
Result of Vote on DTR (RVDTR)	TC/SC Secretary (including resolved comments)	Form RVDTR	12 weeks after close of vote on DTR	Part 1 - 2.6.5
Provide final TR to Central Office	TC/SC Secretary	iecstd	16 weeks after close of vote	Part 1 - 3.3.2
Editing and Distribution of TR	Central Office			
Document Maintenance / Withdrawal	TC/SC	Form RR	"regularly"	Part 1 - 3.3.3

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