

## **IICA Training - AS/ NZS 60079.10.1 Development Plan**

### **AS/ NZS Standards committee MS-011 proposal for discussion**

AS/NZS 60079.10.1 Explosive atmospheres Part 10.1: Classification of areas—Explosive gas atmospheres, is the reference standard for classification of hazardous areas due flammable gas or vapours in Australia and New Zealand. The standard is referenced in numerous other AS/NZS standards and is also referenced by various regulations in both Australia and New Zealand. As such it is appropriate that any development plan receives wide stakeholder consultation. This paper sets out the proposed development plan for the next edition of AS/NZS 60079.10.1 which will have a target publication of 2016/2017.

The details herein are intended to alert relevant key stakeholders of the development plan and to invite comment from these key stakeholders.

#### **1. Background**

AS/NZS 60079.10.1 is currently comprised of two key sections. These are:

- A. General principles. This section is a direct text adoption from the IEC parent document i.e. IEC 60079-10-1. The general principles form the 'mandatory' requirements to analyse the hazards and arrive at a relevant classification. The general principles recognise a number methods of analysis so use of a particular method is not mandatory.
- B. Annex ZA examples. This section is an AS/NZS only, informative annex. The examples are not mandatory and may provide guidance for selected specific applications. The issues with the annex are further explained in section 3.

The IEC parent document, IEC 60079-10-1, is at the final stages of development (FDIS in mid 2015) for the next edition. AS/NZS committee MS-011 has had significant input into this development in IEC committee TC31 and consider the new IEC edition to be a superior document to the previous edition and suitable for adoption as an AS/NZS standard. Adoption of the next edition of IEC 60079-10-1 is also consistent with the wider policy to keep already adopted IEC standards in step with the current IEC editions.

The development of the next edition for AS/NZS 60079.10.1 is then related to the planned completion and ultimate adoption of the next edition of IEC 60079-10-1. Standards Australia procedures for adopting or developing new standards also apply. These procedures will require evidence of relevant stakeholder consultation and support.

#### **2. Annex ZA Issues**

The examples in Annex ZA have grown up over many years and are derived from both previous standards to the current AS/NZS 60079.10 series and as a result of additions in the more recent standards. Standards Australia and New Zealand Standards joint committee, MS-011, have been tracking numerous issues with Annex ZA. Some of the key issues are summarised below:

- 1) There are numerous errors and inconsistencies in the current text of Annex ZA.

- 2) There are a number of examples that are inconsistent with other AS/NZS standards. This prompts a need for general coordination between relevant committees.
- 3) Very few of the examples in Annex ZA are derived from calculations. They been developed based on experience or may be generally accepted practice for risk management in some industries. The examples are therefore subject to 'challenge' based on calculation methodologies that will be reinforced from basic principles in the next edition of IEC 60079-10-1. The optional use of new tools such as Computational Fluid Dynamics (CFD) analysis can validate both more refined and safer outcomes, depending on the particular situation.
- 4) Some of the examples may be treated as 'industry norms' but many others are not suitable as 'industry norms' and are purely illustrative. There is little in the current Annex ZA to differentiate these variances for users of the standard.
- 5) The examples are not mandatory (while many users would like to treat them as such). Statutory Regulators have indicated they would like to see some examples as 'mandatory' but we need to recognise other examples are not suitable for such designation.
- 6) Many users 'chapter shop' from the examples to try and correlate an example to their situation when such use and application of the examples is not valid. This leads to considerable misuse of the examples and often inappropriate classifications. In many cases there is a requirement to vary from the examples for a specific application. Such requirements include the limitations of the example not reflecting the specifics of the user application or the example was simply never meant for that situation.
- 7) There a number of more recent overseas codes with examples that should be considered as being based on more scientific analysis. The possible alignment of such codes also helps general industry.

### **3. The Development plan**

Considering all of the above, Standards Australia committee MS-011, have proposed to the following as the development plan for AS/NZS 60079.10.1.

- A. Direct text adoption of the next edition of IEC 60079-10-1. This would be adopted as AS/NZS 60079.10.1 edition 2.
- B. Removal of Annex ZA from AS/NZS 60079.10.1 and creation of an AS/NZS supplement document that would accompany the direct text adoption. This new supplement would:
  - 1) Be informative only. However where the use of examples support standard industry practice this can be identified by specific text.
  - 2) Provide a basic structure as:
    - A. Introduction, basic principles in applying AS/NZS 60079-10-1 and the supplement, scope etc.
    - B. Any additional guidance notes in applying AS/NZS 60079-10-1 (where relevant)
    - C. Clarifications for each example following the current sections in Annex ZA

- 3) Provide identification for each example as either;
  - A. Supported by calculation or modelling and provide relevant parameters
  - B. Accepted as 'industry norms' to meet regulatory compliance or the needs of other standards, or,
  - C. Generalised examples that are not intended as specific guidance.
- 4) Review current examples and correct identified errors in Annex ZA.
- 5) Allow more explanations on the use, intended application and restrictions for examples.
- 6) Provide for other updates as noted under the issues for Annex ZA.

Reference to this new supplement from the adoption preface in AS/NZS 60079.10.1. and use of the supplement would ensure all regulatory links and references from other standards remain intact.

These activities need to be aligned as outlined in section 2.

Development of the new supplement to redress the issue identified will require:

- Input from a number of stakeholders, related standards committees and industry groups.
- A high level of effort, and
- Broad evidence of stakeholder support to meet Standards Australia criteria for complex project approvals.

#### **4. Stakeholder input**

Comments to the proposed development plan is requested from:

- Related AS/NZS standards committees
- Key stakeholder groups and particularly regulatory bodies

Relevant groups are also asked to nominate a person who can act as liaison for further contact.

Specific comments for changes to AS/NZS 60079.10.1 Annex ZA are also requested. E.g. new industry ideas, known errors, changes to align with development of other standards.

A preliminary draft document which considers relevant changes to the current examples from AS/NZS 60079.10.1 Annex ZA:2009 has been prepared by committee MS-011. Stakeholders are requested to contact a representative from MS-011 to discuss further details if required.