

STANDARDS RELATED MEETING REPORT



REPORT No. : 2285

BY: JP Nhlapo (Standards Writer) and Dr JG Auret (TC31 Mirror Committee chairman):

ATTENDANCE AT: IEC TC 31 ,Subcommittees and WG's

CITY: Frankfurt COUNTRY: Germany

DATES 03-14 October 2016

1. Reason for attending the meeting: To represent local industry in explosion prevention (P-members of TC 31 and O-members of SC 31G, 31J and 31M)

2. Sessions attended:

I. Dr Johanness Auret

Meeting	Date	AM	PM
TC31/WG42	Monday 10 October 2016	X	X
TC31/WG42	Tuesday 11 October 2016	X	X
SC 31J	Wednesday 12 October 2016	X	
SC 31M	Wednesday 12 October 2016		X
TC 31	Thursday 13 October 2016	X	X
TC 31	Friday 15 October 2016	X	X

II. Mr Jabulani Nhlapo

Meeting	Date	AM	PM
TC31/WG27	Wednesday 05 October 2016	9:00 am	17:00
TC31/WG27	Thursday 06 October 2016	9:00 am	17:00
MT 60079-17	Friday 07 October 2016	9:00 am	17:00
TC31/WG42	Monday 10 October 2016	9:00 am	17:00
TC31/WG42	Tuesday 11 October 2016	9:00 am	17:00
SC 31 J	Wednesday 12 October 2015	9:00 am	14:00
SC 31 M	Wednesday 12 October 2015	12H00	16H45
TC 31	Thursday 13 October 2015	09H00	17H00
TC 31	Friday 15 October 2015	09H00am	17H00

3. Objectives set by the SABS:

- a) To increase South Africa's visibility;
- b) To expose young technical persons to the work of the IEC and IECEx;
- c) To get direct feedback of developments within the IEC and IEC TC 31

Progress made in the last year:

South Africa's visibility to the annual attendance of the IEC TC 31 plenary meetings makes us more visible as a regular member with a core of experienced persons. This also fits in with the view of SAFA (The South African Flameproof Association) and the South African Ex industry.

Exposure of young technical persons to the work of the IEC and IECEx, and Mr J Nhlapo from SABS - gained valuable experience.

To get direct feedback of developments within the IEC when attending the meetings, and lot of history, clarification and detail become available through discussions either inside or outside of the meetings. Some such information is included in this report.

4. Other items of interest to the SABS:

a) Explosion Prevention issues: Motor convertors is the subject of three working groups within TC31/WG 27, WG42, WG22 and its SCs and is also being addressed in a SABS TC 65 working group to address South African needs. Careful coordination is needed.

Similarly, an IEC TC31 working group has been started on Internal combustion reciprocating engines.

During the MT60079-17 the maintenance team looked to the investigations on the use of LEDs in explosive atmospheres. "End of life" condition with corresponding high temperature is possible for all LEDs.

IEC TC 101 — Electrostatics, has been briefed to compile a 2-part standard for inclusion in other standards. SABS TC65 should investigate if SANS 10123 will be affected.

Broader coverage and integration of requirements for underground coal mines (Group I) into the standards produced by IEC TC31. This work is in progress.

5. Main outcomes of the meeting: South Africa is becoming a regular participant in IEC TC31 Ex standardization work. Some of the input from South Africa were accepted from the document circulated by IEC for comments. The following minutes were taken from the attended sessions as mentioned in **clause 2**, and the rest of the reports will be added as an Appendix:

5.1 TC31/WG27 Wednesday 05 to 06 October 2016

WG27 has the responsibility of coordinating requirements of Electric Machines across the various protection concepts and the quality standard. WG27 maintains a liaison relationship with IEC TC-2 (Rotating Machinery) and IEC SC22G (Adjustable speed electric drive systems incorporating semiconductor power converters). WG27 met on October 5-6, 2016.

During the WG 27 meeting, the following documents with its comments were reviewed and resolved by the WG:

***IEC 60079-14, 5th Edition**, was reviewed for the converter and soft start requirements in the present edition, current state the installation document would require that soft starters either be tested together with the electric machine or direct temperature control be employed.

Similar guidance is not presently in the protection concept standards, an Ad-Hoc team has been appointed to review this inconsistency and report back

IEC 60079-15, 4th Edition; IEC60079-7, 5th Edition Compound filled cable sealing boxes, It was brought to the attention of the WG that requirements for compound filled sealing boxes, which are still in use were inadvertently not included when the "nA" requirements were transferred to IEC60079-7. It has been confirmed that this concept is being used with current "nA" certifications. The transfer to "ec" has introduced the need to apply both IEC 60079-7 and IEC 60079-15 for this construction, with a resulting marking of "ec nA" that would be quite confusing. WG27 has prepared an Amendment to IEC 60079-7, Ed 5, to insert this section from IEC 60079-15, Ed 4.

WG27 supports the request that the Stability Date of IEC60079-7, Ed 5 be adjusted to allow for this Amendment 1 to proceed, at CDV stage as Amendment 1 to IEC 60079-7, Ed 5; with the hope that no negative votes would allow the amendment to be published after a positive CDV vote. It is expected that this process could be completed within 6 months. We have discussed this with the co-convenors for MT60079-7 and have their support.

5.2 SC 31J/MT 60079-17 (Friday 07 October)

MT 60079-17 held two meetings in 2016 (March, Windsor and October, Frankfurt) to resolve NC comments that were received to 31J/257/DC and other comments left over from the last edition. All comments have now been resolved by MT 60079-17 and the convener is going to prepare a new draft of the standard (IEC 60079-17).

MT 60079-19 also supported the inclusion of further changes re-enforcing that the use of the inspection tables is not mandatory and considering the introduction of certified assemblies. It is proposed that the next stage of the project will be held so timing with the development of 60079-14 can be aligned.

5.3 The IEC TC31 WG42 committee met on October 10-11, 2016, to discuss the IEC 60079-42/TS/Ed1: Explosive atmospheres – Part 42: Electrical Safety Devices for the control of potential ignition sources from equipment

The WG held a 2-day meeting on October 10 and 11, 2016. 21 people (members, liaisons or guests) attended the meeting and all the comments were discussed.

The document created in Minsk in October 2015 was sent to the national committees in January 2016 as a new work item proposal 31/129/NP. This was unanimously approved (see 31/1250A/RVN) and 137 comments from 7 different P Members were submitted.

One very important sentence was added to the Scope of the document as: "Increasing the EPL of equipment is not in the scope of this document." WG 42 hopes that with this statement ongoing discussions regarding the intent of the document might be resolved.

Members of the WG have been requested to prepare some examples for the use of this document and WG42 also asks if examples can be provided by any other parties.

The WG42 convenor will contact Elmar Fuchs, Convenor of 80079-38, if mining should stay in the scope of this technical specification or not. The WG members are asked to discuss this with national mine experts as well.

WG42 propose the document should be sent as a CD to the national committees so that comments can be received before a proposed meeting in March 2017.

WG 42 will also propose changes to other parts of the IEC 60079 and ISO/IEC 80079 series of standards to harmonise the safety levels with this technical specification

The next meeting for all the WG's will be at **Sydney March 2017**.

5.4 IEC SC 31J (Wednesday 12 October AM)

SC31J Plenary meeting was held in Frankfurt, DE on 12th October 2016

IEC SC31J is responsible for the operation of five MTs and one WG. The items relevant to each standard are summarised below:

MT60079-14: Explosive atmospheres – Part 14: Electrical installations design, selection and erection

MT 60079-14 held a meeting on October 4th and 5th in Frankfurt to discuss the future development of the standard.

MT 60079-14:

*Proposed a restructure of IEC 60079-14 in the next edition which was supported by SC31J.

*Proposed a recommendation to IECEx that "U" certificates for components are revised to clearly show a different certificate title as "Ex component" in header and body of the certificate and additional warning regarding the use of the component without the final certificate of the Ex equipment. This was supported by SC31J and Mark Amos from IECEx agreed to take this proposal back to IECEx.

*Have identified a possible aspect regarding the reference pressure for cable glands being different to that established for an item of equipment. A request has been made for WG22 to investigate the matter as part of the next edition of IEC 60079-0 and report back if there are any recommended actions for MT 60079-14.

Some further tests have been carried out regarding the flame transmission from cables into Exd enclosures based on the concerns which were raised on the current edition of IEC 60079-14. Further testing is needed to close gain results from a wider range of cables but tests so far indicate

the selection basis provides an adequate level of safety. A report will be prepared once all testing is completed. In the meantime any further information from EXCBs on any past testing would be appreciated.

IEC SC31J supports IEC 60079-14 Ed.5 Annex E as a recommended method for selecting cables where barrier glands are not used with a flameproof enclosure. NCs should consider this recommendation as appropriate.

An Interpretation Sheet will be issued to clarify wording in the use of VVVF converters and soft starters with motors. This has been agreed with WG27

Other items from IEC SC31J

IEC have advised through SMB/5866/DC that IEC SC31J does not meet the required metrics for a subcommittee to be considered necessary and this should be corrected by February 2017. If IEC 60079-13 is transferred to IEC SC31J the required metrics would then be met.

Based on outputs from the previous CAG meeting IEC SC31J agrees that a formation of a liaison with

IEC SC31M will assist the joint work for IEC SC31M WG1.

IEC SC31J has received a liaison request from IEC SC61D and endorsed Mr. Neil Dennis as a Category

A liaison as well as with IEC SC61C if this is requested.

The next IEC SC31J Plenary meeting is planned for October 2017 in Vladivostok, RU.

5.5 IEC SC 31M NON-ELECTRICAL EQUIPMENT AND PROTECTIVE SYSTEMS FOR EXPLOSIVE ATMOSPHERES (Wednesday 12 October AM) -

All the task teams reported on their activities to IEC SC 31 M, and below is just a summary of the reports and decisions:

The first meeting of the IEC SC31M/WG1 was held on 2016-10-10 at the VDE premises. The main task was to discuss the need to define requirements for selection, installation, maintenance, repair, overhaul and reclamation of non-electrical equipment.

It was decided to increase the requirements which have to be followed by the users. Even if in the major case the requirements regarding selection, installation, maintenance, repairs, overhaul and reclamation are, for example: the installation of a non-electrical equipment has to be installed in accordance with instructions given by the manufacturer.

Finally, it was proposed to prepare annexes of ISO 80079-36 regarding these items.

For the moment, except these annexes no other update of the requirements stated in ISO 80079-36 and -37 was requested.

PT 80079-38 Explosive atmospheres - Equipment and components in explosive atmospheres in underground mines

Reported that since February new standards ISO 80079-36, -37 and ISO/IEC 80079-38 are available and IEC SC 31 M decided in its 2016 Plenary meeting to disband the project teams and the maintenance of ISO 80079-36 and also -37 is delegated to the new WG 1.

The next IEC SC 31M Plenary Meeting is scheduled in conjunction with IEC TC 31 Plenary Meeting in October 2017 in Vladivostok, Russia.

5.6 IEC TC 31 meeting held on 2016-10-13 (starting time: 09:00am) to 2016-10-14 (approximate finishing time 14:00).

During the IEC TC 31 meeting the chairperson welcomed everyone and as per agenda items the meeting took place. All the reports presented on the IEC TC 31 plenary meeting are available on request.

The next plenary meeting of IEC TC 31 will be in 2017, October 19th + 20th in Vladivostok, RU

6. Recommendations to South Africa, or the national TC/SC:

6.1 Investigate if SABS example of supporting its employees can be followed by assisting with sponsorship of a promising young technical person involved in the Ex industry and selected by industry to enable him/her to attend the IEC TC 31 plenary meeting.

6.2 SABS and Ex Industry should consider increasing number of participation in the International standardization, more especially testing and certification.

6.3 The IEC standards from IEC SC 31M – Non-electrical requirement and protective systems for explosive atmospheres are approaching completion. South Africa should agree on a strategy to deal with these standards.

6.4 IEC TC Maintenance teams (MT) and working Groups are hosted twice before the plenary meeting, and South Africa should attend all the meetings as it is to the best of their interest.

6.5 Request from the chairman of IEC TC 31 was that South African mirror committee members should vote and comment on all the IEC documents to keep their participation record active.

Appendix below are only reports from the meetings attended, and embedded. The rest of the reports will be made available upon request.

7. Appendix

Attached are the reports from the attended sessions

Appendix A – IEC TC 31/WG 42: Safety devices related to explosion risk



WG42.pdf

Appendix B – IEC TC 31/WG 27: Electric Machines



WG27.pdf

Appendix C – IEC TC 31/MT 60079-29: Electrical apparatus for the detection and measurement of flammable gases



MT60079-29.pdf

Appendix E – IEC TC/SC 31J: Classification of hazardous areas and installation requirements



SC31J Meeting
Report.pdf

Appendix D – IEC TC/SC 31M: Non-electrical requirement and protective systems for explosive atmospheres



SC31M Meeting
Report.pdf

Appendix E – TC 31 equipment for explosive atmospheres



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