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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**TECHNICAL COMMITTEE NO 31:
EQUIPMENT FOR EXPLOSIVE ATMOSPHERES**

**TECHNICAL SUBCOMMITTEE SC 31M – NON-ELECTRICAL EQUIPMENT AND PROTECTIVE SYSTEMS
FOR EXPLOSIVE ATMOSPHERES**

List of decisions taken at the meeting of SC 31 M, held in Busan, Republic of Korea on 2018-10-24

| No. | Decision | Action | Target date |
|-----|--|------------------------------|-------------|
| 1 | SC31M approves the Chair, Secretary and Convenor of the group concerned to be members of a common editing team (Editing Group or EG) to be set up by TC31 which will handle all TC and SC documents. A formal decision will also be taken in the TC31 Plenary. | TC 31 | |
| 2 | SC31M supports starting the process to revise ISO/IEC 80079-38 to provide language in the document to better address its potential use for certification. A call for experts will be made to seek experts in addition to those from the existing MT80079-38, to form a task group to prepare a draft to circulate for comment. | SC 31 M Secretary | |
| 3 | SC31M supports preparing a 2CD for ISO/IEC 80079-41 be issued before 2019-06. The projected date for a CDV is 2020-12, with the date for the published document of 2021-12. The report of TC 31 to SMB should include the details of the delay. | TC 31 Secretary, IEC SMB | |
| 4 | SC31M supports the path forward proposed by AHG6 in their report. The report will be an annex to the Decision list. | MT 80079-20-1, MT 80079-20-2 | |
| 5 | SC31M thanks AHG6 for their report and agrees to disband AHG6. | IEC CO | |
| 6 | SC31M agrees to revise the stability date for ISO/IEC 80079-38 to 2021.. | IEC CO | |
| 7 | <p>SC31M agrees to set a stability date for ISO16852 at 2022.</p> <p>*IEC Central Office Clarification note after the SC31M meeting. IEC Central Office is unable to change the stability date of ISO 16852 as the current publication is under the responsibility of ISO. However IEC Central Office will coordinate with ISO to ensure the transition from ISO 16852 to the IEC publication.</p> | IEC CO* | |
| 8 | SC31M agrees to revise the stability date for ISO 80079-37 to 2021. | IEC CO | |

| No. | Decision | Action | Target date |
|-----|--|--------|-------------|
| 9 | SC 31M supports the development of a safety publication with a preference for a BSP but accepting a GSP, subject to further discussion with ACOS. | TC 31 | |
| 10 | SC 31M supports TC 31 establishing a new WG to progress early work of AHG 51 on a proposed safety publication. This may need to be considered as a horizontal WG to include the TC 31 subcommittees. | TC 31 | |
| 11 | SC 31M supports TC 31 plan to extend the work of AHG 51 until the new WG is established and then transition any roles from AHG 51 to become roles as part of the new WG scope. | TC 31 | |
| 12 | SC 31M supports TC 31 plan to have AHG 51 finalize any proposal to ACOS and make formal contact with other TCs/SCs of IEC as needed to obtain necessary support. | TC 31 | |
| 13 | SC 31 M thanks the Korean hosts and organizers for the invitation, the well-organized meetings and the excellent facilities provided for the meeting and for their generous hospitality. | | |

IEC SC 31M AHG6 Proposal for IEC SC 31M Plenary

Task of IEC SC 31M AHG6 “Review ISO 6184 Parts 1-4”:

To review ISO 6184, Parts 1-4, transferred to SC 31M from ISO, to determine how this material should be integrated into existing SC 31M documents or to develop new standards.

ISO 6184-1 “Explosion protection systems -- Part 1: Determination of explosion indices of combustible dusts in air”

- expand the scope of MT80079-20-2 to also have responsibility for ISO 6184-1
- to incorporate the content of ISO 6184-1 into the next edition of ISO/IEC 80079-20-2
- further remarks:
 - ISO 6184-1 does not match the requirements of more modern standards for detail or tolerances to construction or measurements.
 - See also EN 14034 series of standards, which are much more recent, and cover both 1 m³ and 20 l test methods.

ISO 6184-2 “Explosion protection systems -- Part 2: Determination of explosion indices of combustible gases in air”

- expand the scope of MT80079-20-1 to also have responsibility for ISO 6184-2
- incorporate the content of ISO 6184-2 into the next edition of ISO/IEC 80079-20-1
- further remark:
 - ISO 6184-2 does not match the requirements of more modern standards for detail or tolerances to construction or measurements.
 - See also EN 15967 (2011) for maximum explosion pressure and rates of pressure rise (currently under review in CEN); EN 1839 for explosion limits and the limiting oxygen concentration. These standards contain much more detail on tolerances and verification of results, and include information on materials which are hard to ignite.

ISO 6184-3 “Explosion protection systems -- Part 3: Determination of explosion indices of fuel/air mixtures other than dust/air and gas/air mixtures”

- expand the scope of MT80079-20-1 to also have responsibility for ISO 6184-3
- incorporate the content of ISO 6184-3 into the next edition of ISO/IEC 80079-20-1 as an Annex. Then the vessel etc. need not to be described again, only the procedure and the interpretation need to be part of the Annex.
- add a new para into the next edition of ISO/IEC 80079-20-2 that further information about the explosion indices of hybrid mixtures (and mists – this needs to be discussed in the MT) can be found in an Annex of ISO/IEC 80079-20-1
- further remarks:
 - ISO 6184-3 does not match the requirements of more modern standards for detail or tolerances to construction or measurements.
 - For hybrid mixtures, ISO 6184-3 gives information on vaporizing material; calculating amounts by partial pressures and the implications of igniting vapor under turbulent conditions. Some of this information is covered in other more recent standards for gases and vapors.

ISO 6184-4 “Explosion protection systems -- Part 4: Determination of efficacy of explosion suppression systems”

- expand the scope of MT80079-20-1 to also have responsibility for ISO 6184-4
- incorporate the content of ISO 6184-4 into the next edition of ISO/IEC 80079-20-1 as an Annex. Then the vessel etc. need not to be described again, only the procedure and the interpretation need to be part of the Annex.
- add a new para into the next edition of ISO/IEC 80079-20-2 that further information about the efficacy of explosion suppression systems can be found in an annex of ISO/IEC 80079-20-1
- further remarks:
 - Generally, the efficacy of an explosion suppression system depends on (1) the response time of the system, (2) the suppressant dispersion, spatial and temporal distribution and (3) the efficacy of the suppressant. Only item (3) is addressed in ISO 6184-4. Both other items have to consider the geometry of the process equipment in which an explosion is to be suppressed and can basically not be validated in a standardized volume. This means that tests on the efficacy of explosion suppression in a 1m³ vessel provides an important but incomplete result. Thus, the title of ISO 6184-4 is misleading because it implies that the test fulfills all safety-related requirements.
 - Moreover, there is an European standard with requirements for explosion suppression systems (EN 14373) which goes far beyond the requirements of ISO 6184-4.