**INTERNATIONAL ELECTROTECHNICAL COMMISSION SYSTEM FOR CERTIFICATION TO STANDARDS RELATING TO EQUIPMENT FOR USE IN EXPLOSIVE ATMOSPHERES (IECEx SYSTEM)**

**TITLE: Compilation of comments and observations on ExTAG/638A/CD – Draft ExTAG Decision Sheet –** **Ex m fault assessment**

**Circulated to: ExTAG – IECEx Testing and Assessment Group**

**INTRODUCTION**

This document contains a compilation of comments received on, ExTAG/638A/CD – Draft ExTAG Decision Sheet – Ex m fault assessment, as well as observations from the originator, David Stubbings, CML, and UL/FM.

On the basis of comments received on ExTAG/638A/CD Draft DS the originator David Stubbings, on behalf of CML/UL/FM, has advised that they wish the Draft DS be withdrawn and to be forwarded for discussion to MT60079-18.

***Please inform the Secretariat immediately of any omissions or errors at-***

***Christine Kane***

***ExTAG Secretariat***

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| **Address:****IECEx Secretariat****Level 33 Australia Square****264 George Street****Sydney NSW 2000****Australia****Web:** [**www.iecex.com**](file:///C%3A%5CUsers%5Cjugauthier%5CAppData%5CLocal%5CTemp%5CnotesC9812B%5Cwww.iecex.com) |

| **ExCB/****ExTL** | **Clause/ Sub-clause** | **Paragraph Figure/****Table** | **Type of****comment****General/****technical/****editorial** | **COMMENTS** | **Proposed change** | **Observation****(to be completed by the originator)** |
| --- | --- | --- | --- | --- | --- | --- |
| **CMD****In consultat-ion with****Intertek India Private Limited, Karandikar Laboratori-es Pvt. Ltd., and KL Certificati-on Services** |  |  |  | **After a consultation with members of the National forum and ExCBs/ExTLs from India participating in ExTAG, it is hereby stated that we have 'no comments' on draft ExTAG/638A/CD. However, we still feel that the approach outlined in Answer 1 will be the correct and safer approach.** |  | **To be determined by MT 60079-18 through ISH or Amendment.** |
| **CNEX-Global B.V.** | **-** | **-** | **g** | **As this draft DS does not solve an uncertainty in an interpretation, nor has a useful conclusion giving guidance which method is to be applied, there is no need for this DS to be published?****MT to decide for this issue if it is to be used in future standard editions** | **None.** | **Agreed. The intention was to record the discussion but allow the MT60079-18 to issue the decision through ISH or Amendment.** |
| **CQM****CN** |  |  |  | **CQM support the file** |  | **Due to the mixture of views the discussion is being passed to MT 60079-18 to determine an outcome through ISH or Amendment.** |
| **DEKRA / BVS****DE** |  |  | **General**  | **We do not agree with the proposed DS.****Reason:****The answer 1 contains new requirements (e.g. FMEA), which according to us increases the requirements too much. In addition, the term "high risk component" is not defined.****Answer 2 reduces the consideration of failure cases too much and is not sufficiently secure.****In our opinion, both answer options lead to more questions than to a further clarification of the current status of standards** |  | **To be determined by MT 60079-18 through ISH or Amendment.** |
| **FMG****US** |  |  | **ge** | **Of the two answers provided, FMG would prefer only Answer 2 as a better answer to the specific question asked.****Having two answer does not reduce confusion. Cautioning the use of Answer 1 is counterproductive.** | **As MT60079-18 has made their position clear, preparation of an Amendment would be far better solution.** | **To be determined by MT 60079-18 through ISH or Amendment.** |
| **FMG****US** |  |  | **ge** | **Is there a reason that DS2015/002 has simply not been updated to reflect IEC 60079-18:2011 (Ed 3) and IEC 60079-18:2014 (Ed 4)?** | **If an amendment is prepared, DS2015/002 should be deleted, or amended to align with the Amendment** | **I didn’t want to make DS2015/002 more complicated.****The issue will be passed to MT60079-18 for decision/proposal.** |
| **FTZU****CZ** |  |  |  | **We support a preparation the new standard edition with clear definition of this topic.** | **Withdraw this draft DS** | **Agreed. For MT60079-18 to decide next step.** |
| **ITL****IL** | **7.2.2, 7.2.4** |  |  | **Preference for Answer 2**  |  | **To be determined by MT 60079-18 through ISH or Amendment.** |
| **KOSHA****KR** | **7.2.1** |  | **technical** | **ANSWER 1****If component having fault condition is installed together with fuses(thermal or normal), Answer 2 is meaningful. But if there is no thermal fuse or normal fuse used then heating could be continued by fault on component and reach over the mold material COT.****So Answer1 is appropriate.** |  | **To be determined by MT 60079-18 through ISH or Amendment.** |
| **NANIO CCVE (RU)****ExCB/****ExTL** |  |  | **General** | **The answers in the draft are taken into account. But we support the approach described in answer 1.** |  | **To be determined by MT 60079-18 through ISH or Amendment.** |
| **PTB****DE** |  |  |  | **Answer 1 is in accordance with the requirements of the standard. e.g. chapter 7.21:****The failure of some components may result in an unstable condition, for example, alternating between high and low resistance. In those cases, the most onerous condition shall be considered.****The mentioned evaluation of the failure behavior corresponds to the test practice and observable effects in case of component failure.** | **Answer 1 is to be applied** | **To be determined by MT 60079-18 through ISH or Amendment.** |
| **QPS****CA** |  |  |  | **QPS has no further comments regarding this TAG. We support submission to the maintenance team for further action.** |  | **Agreed.** |
| **TC 31** |  |  | **MT** | **We support answer 2.** **In the standard 60079-18, (both Ed. 3 and Ed. 4) in section 7.2.1 the following requirement is given: “The failure of some components may result in an unstable condition, for example, alternating between high and low resistance. In those cases, the most onerous condition shall be considered.”****The view of TC 31 MT 60079-18 is that some words are missing at the requirement that ensures that only one interpretation is possible and that the requirement should be read as follows:****“The failure of some components may result in an unstable condition, for example, alternating between high and low resistance. In that case, the most onerous of the two conditions shall be considered. An intermediate failure condition need not be considered.”****Note that the protection method relies on the use of encapsulation to prevent exposure of components to the combustible material. The Type of Protection is Ex “m” and not Ex “i”, so considering components as failing only to short or open circuit is adequate when applying faults to the circuit for the purpose of determining the surface temperature of the encapsulation material. The fault examination is intentionally different than an Ex “i” assessment because of the use of encapsulation.** **To add the additional requirements given in Answer 1 is a significant technical change which is not permitted in an IECEx DS.** | 1. **Delete Answer 1, Rename Answer 2 to “Answer".**
2. **Add a second paragraph to this single Decision Sheet Answer that reads, "The 3rd paragraph of 7.2.1 should be read as follows: “The failure of some components may result in an unstable condition, for example, alternating between high and low resistance. In that case, the most onerous of the two conditions shall be considered. An intermediate failure condition need not be considered.”**
3. **The "Clauses" field at the heading of the Decision Sheet should read "7.2.1" instead of "7.2.2, 7.2.4".**
 | **We are forwarding this issue to MT60079-18 for proposal and voting through IEC process.** |
| **TIIS****JP** |  |  |  | **We do not support the revised draft DS.****We think that an Interpretation Sheet should be issued to clarify the intent of the standard referred to by TC31(MT) in the comments table ExTAG/642/CC.** **In the comment table, TC31(MT) supports Answer 2 while many ExCBs/ExTLs support Answer 1. We believe that an Interpretation Sheet is more effective than a DS which allows both Answers to be used.** | **Withdraw the draft DS and discuss with TC31(MT) to issue an Interpretation Sheet.** | **Agreed. The intention was to record the discussion. Draft DS to be withdrawn.** |
| **UL-****USA** | **Answer** |  | **General** | **We still feel that Answer #2 is correct, which has been validated by TC31. If ExCBs wish to apply more stringent requirements (for example, answer #1) they are free to do so.** | **None, as long as all issued ExTR’s using either method are acceptable to all bodies within IECEx.**  | **Agreed, the discussion is being passed to MT60079-18 for proposal and voting through IEC** |
| **ULBR** |  |  | **G/T** | **In general we support this draft decision but think that only Answer 2 should be included in the published version. This is also supported by what’s written under “Outcome of initial consultation”****.** | **Remove Answer 1 as an option from the draft DS before publishing.** | **To be determined by MT 60079-18 through ISH or Amendment.** |
| **ULD****DK** |  |  | **G/T** | **In general we support this draft decision but think that only Answer 2 should be included in the published version. This is also supported by what’s written under “Outcome of initial consultation”.** | **Remove Answer 1 as an option from the draft DS before publishing.** | **To be determined by MT 60079-18 through ISH or Amendment.** |
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