**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/471/CD Draft Revision Draft ExTAG Decision Sheet – Static versus dynamic stresses on a sealed device**

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

**INTRODUCTION**

This document is a compilation of comments, along with originator observations, on ExTAG/471/CD *Draft ExTAG Decision Sheet – Static versus dynamic stresses on a sealed device,* and was prepared by UL LLC.

As a result of comments received the originator, ULL LLC, has withdrawn the Draft Decision Sheet and requested the matter be referred to TC31 for an amendment to IEC 60079-15.

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

[***Christine Kane***](mailto:christine.kane@iecex.com)

On behalf of Mr. Julien Gauthier

***Julien Gauthier***

***ExTAG Secretary***

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| **ExCB/**  **ExTL** | **Clause/ Sub-clause** | **Paragraph Figure/**  **Table** | **Type of**  **comment**  **General/**  **technical/**  **editorial** | **COMMENTS** | **Proposed change** | **Observation**  **(to be completed by the originator)** |
| --- | --- | --- | --- | --- | --- | --- |
| **CNEX-Global B.V.**  **NL** | **-** | **-** | **g** | **CNEX-Global B.V. supports this draft DS** | **-** | **Noted** |
| **DEKRA Certification B.V.**  **NL** |  |  | **T** | **We do not agree with the draft DS, “should be considered” is to open and additional requirements are not allowed in a DS.** | **Withdrawal of the Draft ExTAG Decision Sheet ExTAG/471/CD or state allowance of static test (so without operation).** | **Accepted in Principle.**  We plan to submit a proposal to amend IEC 60079-15 via TC31. |
| **DEKRA EXAM**  **BVS DE** | **ExTAG/471/CD** |  | **ge** | We agree in principal, that a switching device with a toggle switch must be able to fulfill the requirements for sealed devices even during actuating.  But we have not done any practical tests for “nC” with a switching device which has got any external toggle switch as shown in the draft. |  | **Noted** |
| **Ex-A**  **HR** |  |  |  | Ex-Agencija agrees with proposed text of Draft Decision Sheet, ExTAG/471/CD and no further  comment. |  | **Noted** |
| **FME**  **GB** |  |  | **te** | The draft DS proposes a technical change to the standard, as it affects changes to an established test requirement (by introducing the requirement to operate the switch as it is intended to be used in the equipment) which is not permitted under IECEx ExTAG rules. | Send to TC31 MT60079-15 to initiate an amendment to IEC 60079-15 Ed 5. | **Accepted in Principle.**  We plan to submit a proposal to amend IEC 60079-15 via TC31. |
| **FMG**  **US** |  |  | **te** | Neither IEC 60079-15:2010: (Ed 4) or IEC 60079-15:2017 (Ed 5) include specific requirements for dynamic seals. The only way to drive consistency in the application of requirements for seals (static or dynamic) is with specific requirements. What is proposed is a change to the standard (not permitted), and it still leaves it open to ExTLs to do what they consider appropriate. This will not drive consistency any more than the existing situation. | Refer this to TC31/MT60079-15 to consider an amendment to properly address dynamic seals with appropriate requirements.  Consider a DS clarifying that the existing requirements only address static seals? | **Accepted in Principle.**  We plan to submit a proposal to amend IEC 60079-15 via TC31. |
| **IBExU**  **DE** | **Answer** | **Answer** | Technical | Does the intended operation of a device include the operation of motors/movement of motor shaft in water? If so how should the contacts be protected from water? |  | **Accepted in Principle.**  We plan to submit a proposal to amend IEC 60079-15 via TC31. |
| **NANIO CCVE (ExCB/ ExTL**  **RU** |  |  | General | We support ExTAG/471/CD without any comments. |  | **Noted** |
| **NCC**  **BR** | **22.5** |  |  | **We agree. According to clause 22.2 (Test configuration), each test shall be made in that configuration of the equipment which is considered to be the most unfavorable by the person making the test.** |  | **Noted** |
| **NEPSI**  **CN** |  |  | **G** | In general, we support the draft decision sheet ExTAG/471/CD, because the external movement of the mechanical actuator is really a kind of normal operations. | But more detailed requirements may require to be introduced into the leakage test procedure, for example, the frequency or numbers of the movement. | **Accepted in Principle.**  We plan to submit a proposal to amend IEC 60079-15 via TC31. |
| **SGS Baseefa**  **GB** |  |  | Ge | Initially, we did not understand how a toggle switch could be made as a sealed device, as there is the need to transfer the motion of the toggle to the switching contacts. An arrangement of a magnet attached to the toggle actuating a reed switch would clearly be acceptable, but in this case we could not see why it would need to be actuated during the bubble test.  However, we have learnt that there are “waterproof” toggle switches on the market where the toggle operates the switch mechanism through a flexible diaphragm and that these may be considered “sealed”. Our initial reaction was that the standard did not permit such a construction, but a closer reading of the document confirms that such a construction would not be prohibited provided it passed the test. Our concern, though, is that it is not the actuation of the toggle during the bubble test that is relevant, but the life of the sealing membrane.  There may also be a possibility that the illustrated switch has a rotating seal around the ball of the toggle. We would not have contemplated that the standard would have allowed such a construction, but a closer reading of the document confirms that such a construction would not be prohibited provided it passed the test. In this case, also, it would seem that a life test on the seal is just as relevant as movement of the switch during the bubble test. | Originator of the draft DS to specify exactly what type of seal is contemplated being subject to stress, and explain the stressing mechanism.  Although not specifically prohibited in the standard, the fact that the standard does not address seals of the type that may be under discussion would tend to suggest that such seals were never contemplated to be within the scope of this clause | **Accepted in Principle.**  We plan to submit a proposal to amend IEC 60079-15 via TC31. |
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| **TIIS**  **JP** |  |  | **Technical** | **It is doubtful whether the device with the mechanical movement on the surface can be considered "sealed device". TIIS recommends to send to TC31 for confirmation.** |  | **Accepted in Principle.**  We plan to submit a proposal to amend IEC 60079-15 via TC31. |
| **UL**  **BR** |  |  |  | **ULBR supports the DS without any further comments.** | **None.** | **Noted** |