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

**TITLE: Discussion Paper received from UL, LLC, US, on clause 9.1 of IEC 60079-15:2017 for the 2019 ExTAG Meeting**

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

**INTRODUCTION**

This document contains a topic raised by UL, LLC, US and is issued for discussion during the Closed Session of the 2019 ExTAG Meeting

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On behalf of Mr. Julien Gauthier

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**Background**

There has been uncertainty between certification bodies regarding the application of construction requirements for Sealed Devices.

Portions of the first and second paragraphs from clause 9.1 of IEC 60079-15:2017 are provided below:

“…Where the device is constructed with a separate housing and base that are sealed together, the housing and base of the device are not considered to be part of the seal.”

“The documents according to IEC 60079-0 shall include a datasheet or statement from the sealed device manufacturer to show that the materials used for the seals have a thermal stability adequate for the service temperature range to which they will be subjected.  The materials used for the seals shall have a continuous operating temperature (COT) range that includes a minimum temperature that is below, or equal to, the minimum service temperature and a maximum temperature that is at least 10 K above the maximum service temperature. This data sheet or statement may be on the sealing or encapsulating material, or may be on the overall sealed device itself.”

The definition of a Sealed Device in clause 3.1.3 states that the device is “….sealed effectively to prevent entry of an external atmosphere.”  The definition implies that all materials critical to preventing the entry of external atmosphere into the sealed device, including a housing, base, and seal, are part of the method of protection.

**Problem**

Clause 9.1 could lead to a conclusion that no production control whatsoever is necessary for the housing, i.e. the part which an encapsulant is poured into.  If the housing is also constructed of polymeric material, it is logical that this part is critical to the definition of a Sealed Device and therefore needs to be defined and controlled in the schedule drawings.  The statement in clause 9.1 that the housing and base are not part of the seal should not be taken to mean that no requirements apply to those parts, it means only that the second paragraph of 9.1 specifically applies to the poured sealant.

**Discussion**

We would like to discuss this topic in ExTAG to ensure consistency among ExTLs and ExCBs.  As a result of this discussion, perhaps a communication to the TC31 maintenance team or an ExTAG Decision Sheet could be generated.