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

Title: Discussion paper from USNC/IECEx regarding Uncertainty of Measurement

Circulation to: Members of the IECEx Management Committee, ExMC and members of the ExTAG

This document contains a discussion paper prepared by the USNC/IECEx National Member Body of the IECEx for discussion during the 2019 ExTAG and ExMC Dubai meeting.

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VIA E-MAIL TRANSMISSION

Mr. Chris Agius
IECEx Secretariat
c/o IEC Central Office
3, rue de Varembé
P.O. BOX 131
CH-1211 Geneva 20, Switzerland

Subject: USNC/IECEx Proposal for the 2019 Annual Meeting of the IECEx System Regarding Measurement Uncertainty

Dear Mr. Agius:

The USNC/IECEx proposes for consideration at the upcoming Dubai meeting, that ExTAG WG04, *Uncertainty of Measurement*, be reconvene and begin holding meetings at the 2020 Operational Meetings in Shanghai to consider updates to OD 012, *ExTAG Guide for Application of Uncertainty of Measurement to conformity for laboratory tests carried out under the IECEx System*, based on the new edition of ISO/IEC 17025; the note in Clause 26.1 of IEC 60079-0; as well as draft requirements for non-accredited internal calibration labs per IECEE CBTL Assessment Report (OD-2005) being implemented with the IECEE.

The USNC/IECEx is concerned how IECEx assessors are to interpret the new wording for measurement uncertainty in Clause 7.6.3 of ISO/IEC 17025:2017:

> **"7.6.3** A laboratory performing testing shall evaluate measurement uncertainty. Where the test method precludes rigorous evaluation of measurement uncertainty, an estimation shall be made based on an understanding of the theoretical principles or practical experience of the performance of the method."

Therefore, it would be beneficial to update IECEx OD 012 to clarify that it is not necessary for laboratories to regularly evaluate measurement uncertainty for tests conducted under their scope due to how the standards were developed, see IEC 60079-0, Clause 26.1, Type Test, Note:

> "NOTE Due to the safety factors incorporated in the types of protection, the uncertainty of measurement inherent in good quality, regularly calibrated measurement equipment is considered to have no significant detrimental effect and need not be taken into account when making the measurements necessary to verify compliance of the equipment with the equipment requirements of the relevant part of IEC 60079."

Another beneficial update to IECEx OD12 would be to address what should be the expectations for internal and external calibration certificates to include measurement of uncertainty, including the certificates for testing done at the manufacturer's facility.

Thank you for your attention to this matter. Please contact me if you have any questions.

Sincerely,

Secretary, USNC/IECEx

Encl (1): IECEE OD-2005, *Testing Laboratory Assessment Report*