

IECEx ExTAG Training Workshop

Certification of Assemblies
ExTAG DS 2015/001

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WHEN YOU NEED TO BE SURE



- Some forms of assembly have been the subject of IECEx certification since the scheme began, for example a large rotating electrical machine may comprise:
 - The actual electromagnetic machine
 - Anti-condensation heaters
 - Water cooler leak detectors
 - Temperature detectors (winding and bearing)
 - Vibration detectors
 - One or two high voltage terminal boxes
 - One or more auxiliary terminal boxes
 - Purge control system

- A skid often consists of several certified items plus other items.
- Is it an assembly or is it an installation?
- In Europe, we have the answer in the context of the Guidelines to the ATEX Directive:
 - If it is traded as a completed identifiable entity, and is a “single functional unit”, it is an assembly
 - If it is traded as a kit of parts for assembly “on site”, or is not a “single functional unit”, it is an installation
 - NB Clause 3.7.5 of the guidelines takes 3 pages to explain the above simplistic definitions

- There is considerable market pressure to provide IECEx Certification for “Assemblies”
- How do we draw the line between an assembly as a “single functional unit” and an installation
 - IECEx does not certify installations
 - IECEx already certifies complex equipments which are assemblies that are “single functional units” such as large rotating electrical machines
- DS 2015/001 recognises that there is a need to use information from IEC 60079-14 when certifying “single functional unit” assemblies

- Contains a mixture of mandatory and non-mandatory requirements plus information
- The mandatory requirements are capable of being used in the course of certification
- Conformity to the entire standard is neither possible nor certifiable in the context of assemblies
- Only appropriately selected requirements from the standard can be used in the context of assemblies

- To select appropriate parts, it is necessary to understand the whole standard
- For example:
 - Mounting and connecting a group of Ex d enclosures requires consideration of requirements for non-obstruction of flamepaths, as well as sealing between the enclosures to avoid pressure piling using appropriate bushings or gland assemblies for the electrical interconnections
 - Earthing and bonding requirements
 - Implications on zoning if a flammable material can be released

- The ExTL needs to be able to demonstrate competence in respect of application of IEC 60079-14
- The ExTR needs to explain which parts of IEC 60079-14 have been applied and how the requirements have been verified

- IEC TC31 has set up AHG 46 to prepare a New Work Item Proposal based on taking relevant parts from IEC 60079-14 and creating a standard specifically for use in certification of assemblies
- The first meeting is in Minsk in October
- Assuming the fastest possible progress, the standard should be available in 2018
- IECEx will accept this standard for certification purposes

- Industry is insisting on IECEx Certification of Assemblies TODAY
- DS 2015/001 was prepared as a first step towards meeting this market need
- A first revision of DS 2015/001 is up for debate in ExTAG this week
 - Tightens requirements for competence

- The one thing left slightly open by the current and proposed DS 2015/001 is the absolute definition of the breakpoint between an assembly and an installation
- In Europe, we have the guidance based on an assembly being “a single functional unit”
- Is it appropriate to adopt this for IECEx?