



IECEX System in the US

**System for Certification to Standards Relating to
Equipment for Use in Explosive Atmospheres**

supported by the

United States National Committee (USNC)

of the

International Electrotechnical Commission (IEC)

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Presenter: Scott Kiddle, USNC/IECEX Vice Chair, Approvals Manager ABB IAMA

Birth and Evolution of the “Ex-Scheme”

May, 1996: an IEC Committee met in London to commence work on the implementation of an idea for an international certification scheme dedicated to the highly specialized field of explosive atmospheres (Ex).

The meeting was attended by experts from 11 countries, and resulted in an identified worldwide industry need - for a mechanism to address wasteful duplication of testing and certification of Ex equipment.



2003 IECEx System born

Explosive atmospheres are areas where flammable liquids, vapors, gases, or combustible dusts are likely to occur in quantities sufficient to cause a fire or explosion.

They are present in nearly every industry all across the globe, creating a worldwide need for effective and harmonized international standards that can maintain safety while facilitating global trade.

The IECEx System is working to provide that solution.



The IECEx System

The IECEx System actually operates four separate Certification Schemes:

- IECEx Certified Equipment Scheme;
- IECEx Certified Service Facilities Scheme;
- IECEx Conformity Mark Licensing System;
- IECEx Certification of Personnel Competencies Scheme (CoPC)

Note: The US participates under all four IECEx Schemes.



US Adoption of the IECEx System

Since Division and Zone systems have significant differences, global manufacturers and users found it increasingly difficult to conduct business in the emerging world market.

This global business challenge made it critical for the US to examine the Zone system more closely and find a way to integrate it into its codes.

In 1995, the US adopted the IEC Zone system as a new Article 505 in the 1996 edition of the NEC.

In 2001, the US joined the IECEx System as a Member body, with the first US IECEx certification body recognized in 2002.



US Adoption of the IECEx System

In 2007, OSHA updated 29CFR* Part 1910 to recognize the Zone area classification system as an alternative to the Division area classification system.

* CFR – Code of Federal Regulations

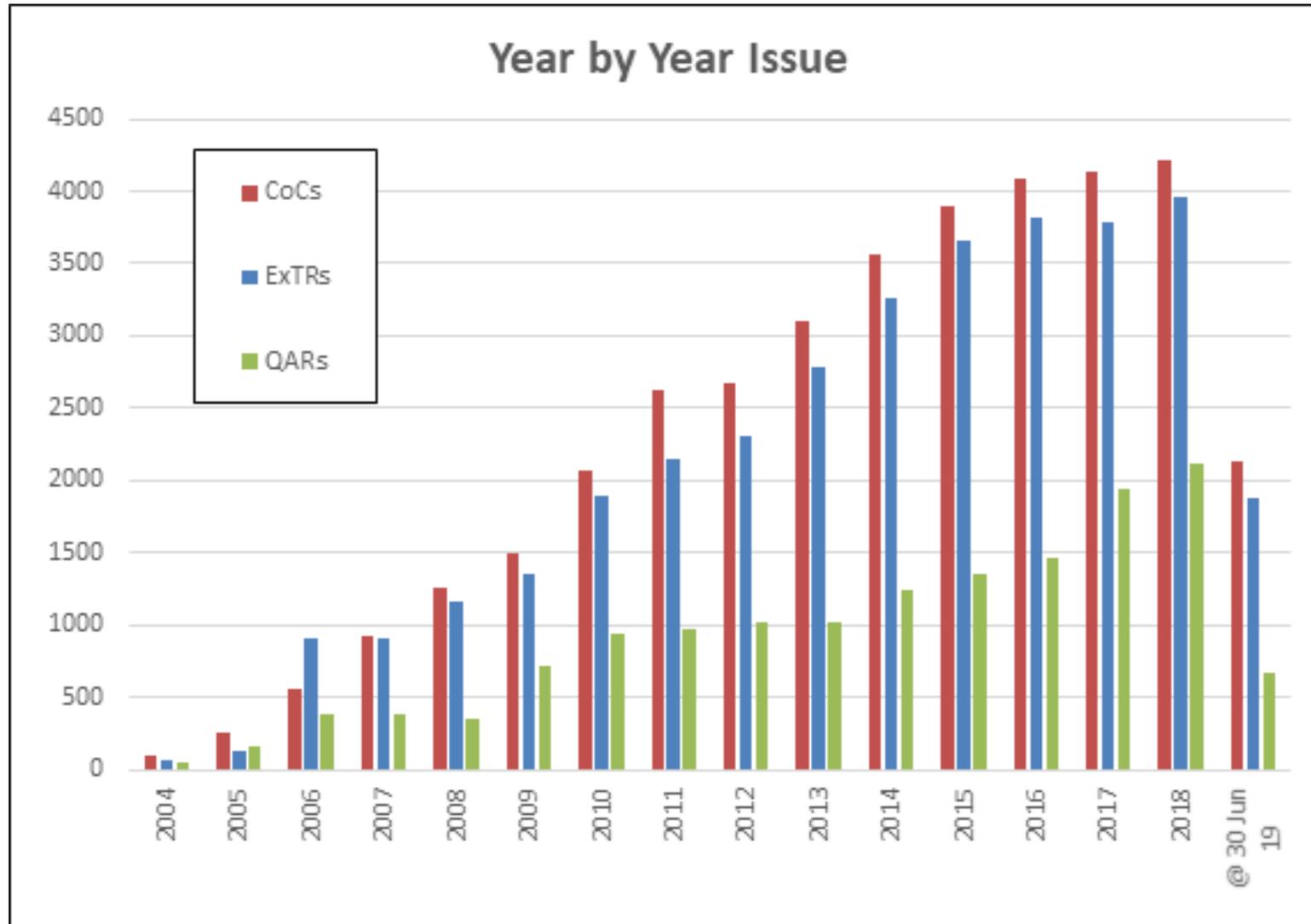
In 2014, OSHA amended 29CFR Part 1910 to include many of the US adoptions of IEC 60079 series of standards with US National differences.

OSHA is currently amending the NRTL Directive to allow acceptance of IECEx Test Reports to support NRTL Certification

In spite of differing National Differences and Regulations across all IECEx Member Bodies, the IECEx provides significant benefit as an international data exchange agreement across all participating IECEx certification bodies.



Cumulative Growth of Issued IECEx CoCs for the IECEx Certified Equipment Scheme





■ Canada

- Accreditation by SCC* as a Certification Body
 - SCC is Canada's national accreditation body
 - SCC does not directly certify products
 - SCC accredited Certification Bodies include many OSHA NRTLs
- Canadian adoptions of the IEC standards include National Differences
- Any SCC accredited certification body can base certification on IECEx documentation
- All new installations in Canada are to use the “Zone” system and are supported by the Canadian adoptions of the IEC-based standards

*SCC – Standards Council of Canada



IECEx – Acceptance around the world

■ USA

- Recognition by OSHA* as a NRTL**
 - OSHA applies in the workplace
 - OSHA does not directly certify products
- US adoptions of the IEC standards include National Differences
- If an OSHA NRTL wants to base certification on IECEx documentation, must have agreement with the ExCB and all tests must be witnessed by the ExCB
- Most installations in the USA still use the “Division” system and are thus not easily supported by the IEC-based standards
- US Coast Guard will accept an IECEx Certificate from a USCG recognized laboratory, but, will not recognize an ATEX Certificate as suitable

*OSHA – Occupational Safety and Health Administration

** Nationally Recognized Testing Laboratory



■ European Union

- An IECEx ExTR from any IECEx ExCB can be used to support an application for ATEX EU-Type Examination
 - Apart from marking, the technical requirements are almost certainly identical
- An IECEx QAR from any IECEx ExCB can be used to support an application for an ATEX QAN
 - The requirements are absolutely identical (ISO/IEC 80079-34)
- A European ExCB (as all are also ATEX NBs) will usually issue both sets of documentation together for very little extra cost

How Does the US Participate?

The US participates in the IECEx through the American National Standards Institute (ANSI). ANSI is the sole US representative and dues paying member, via the US National Committee (USNC) to the IECEx System.

The USNC is responsible for US representation in various electrotechnical bodies associated with the IECEx, such as the conformity assessment scheme.

The USNC/IECEx functions to govern the operation of the IECEx System within the US, and is the official US “Member Body” within the IECEx System.

The USNC/IECEx is the US voice at international IECEx meetings, and membership is open to US interests.



USNC/IECEX structure

The USNC/IECEX is a standing committee of the USNC/IEC Council.

NEMA supports the IECEX and serves as the Secretariat for the USNC/IECEX.

USNC/IECEX encourages Tri-National Participation,
Brazil – US – Canada.

USNC/IECEX is reaching out to Users and Regulators for their (your) participation. The IECEX Equipment Certification System serves you!



How to get involved? For more information:

- USNC/IECEX Chair, Evans Massey
evans.massey@us.abb.com
- USNC/IECEX Vice-Chair, Paul Kelly
Paul.T.Kelly@ul.com
- USNC/IECEX Vice-Chair, Scott Kiddle (User Outreach)
scott.kiddle@us.abb.com
- USNC/IECEX Treasurer, Kevin Wolf
Kevin.wolf@Intertek.com
- USNC/IECEX Secretary, Joel Solis
joel_solis@nema.org

