

IECEX International Conference 2012

IEC International Standards Update – Current status of International Standards covering Ex including the new IEC SC 31M standards dedicated to “non-electrical” equipment and protective systems



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- 1. IEC Committee TC 31**
- 2. IEC Subcommittee SC 31M**
- 3. New ISO/IEC Ex quality systems standard**
- 4. Next three ISO/IEC dual logo standards under development for non-electrical Ex equipment**
- 5. The use of TC 31 standards in the IECEx System**
- 6. Developments in highlighting changes in TC 31 Ex standards**

- **IEC - International Electrotechnical Commission**
- **Scope TC 31 *Equipment for explosive atmospheres:***
 - **To prepare and maintain international standards relating to equipment for use where there is a hazard due to the possible presence of explosive atmospheres of gases, vapours, mists or combustible dusts**



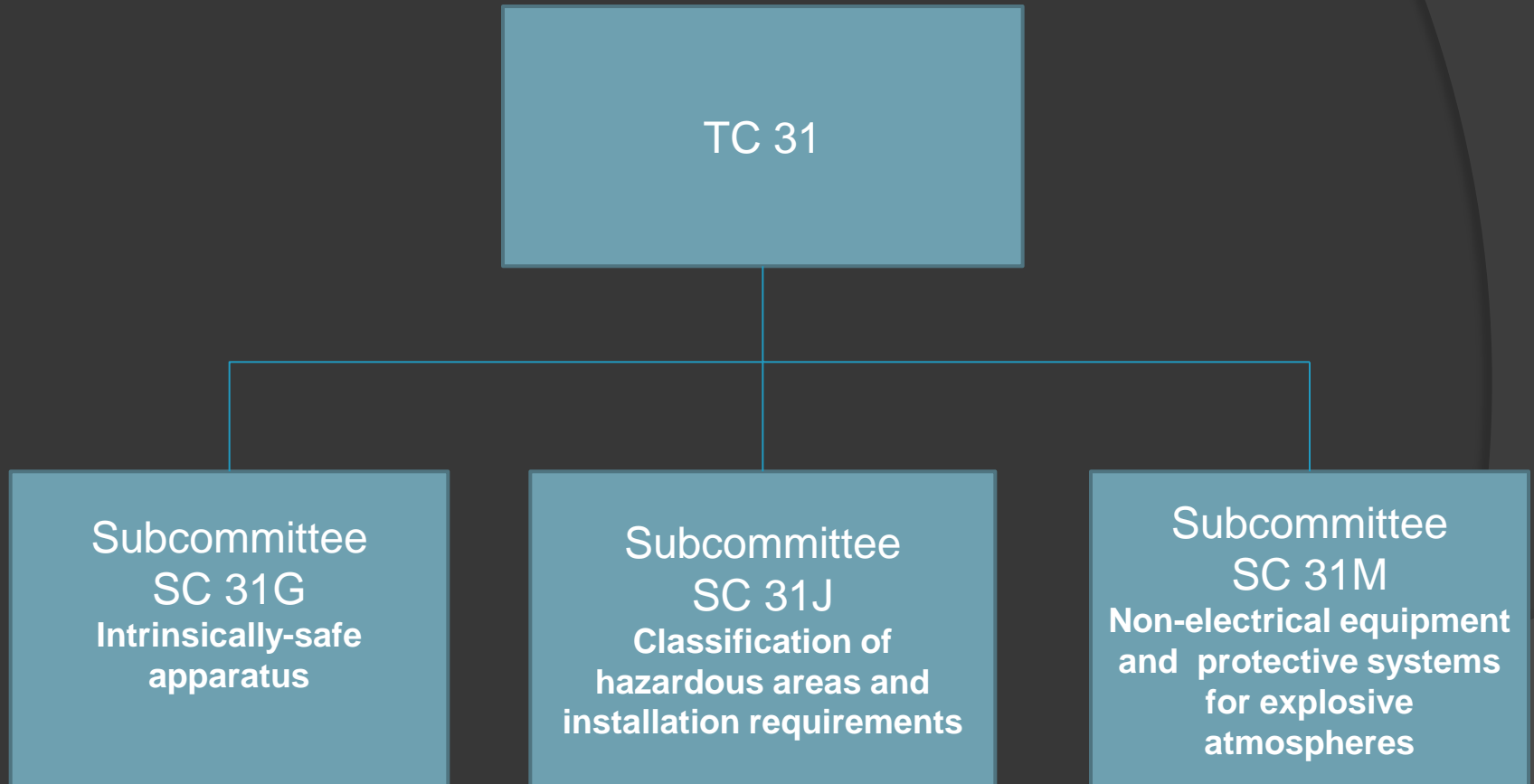
Deepwater Horizon oil rig - Gulf of Mexico







TC 31 basic structure



- **3 sub-committees**
- **15 working groups (3 joint, 2 ad-hoc)**
- **5 project teams**
- **21 maintenance teams**
- **34 participating countries (P-members)**
- **12 observer countries (O-members)**

- **Non-electrical equipment and protective systems for explosive atmospheres**
- **Scope:**
 - **To prepare and maintain international standards relating to non-electrical equipment and protective systems for use where there is a hazard due to the possible presence of explosive atmospheres of gases, vapours, mists or combustible dusts**
 - **Note: For the purposes of this sub-committee non-electrical equipment is defined as "equipment which can achieve its intended function mechanically". For the purposes of this sub-committee, 'Protective system' is defined as devices other than components of the equipment which are intended to halt incipient explosions immediately and/or to limit the effective range of an explosion.**



New ISO/IEC Ex quality systems standard

- Publication in April 2011 of ISO/IEC 80079-34: Explosive atmospheres – Part 34: Application of quality systems for equipment manufacture
- Developed by SC 31M
- First published double logo standard





New ISO/IEC Ex quality systems standard (continued)

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Application in IECEx

- Discussed at IECEx ExMC meeting in September 2011
- ISO/IEC 80079-34 will replace IECEx Operational Document OD005-1, with OD005 to be withdrawn 1 January 2015
- Any initial assessment to ISO/IEC 80079-34 or OD005-1 to 31 December 2014
- Next audit of a manufacturer's site to be conducted using both ISO/IEC 80079-34 or OD 005-1
- Subsequent audits to ISO/IEC 80079-34 only
- Comparison document between ISO/IEC 80079-34 and OD005 is ExTAG/247/Inf



Next three ISO/IEC double logo standards

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- **ISO 80079-36 *Explosive atmospheres – Part 36: Non-electrical equipment for explosive atmospheres — Basic method and requirements***
- **ISO 80079-37 *Explosive atmospheres - Part 37: Non-electrical equipment for explosive atmospheres — Non-electrical type of protection constructional safety "hc", control of ignition source "hb", liquid immersion "hk"***



Next three ISO/IEC double logo standards (continued)

- These two standards cover protection technique requirements relevant for non-electrical equipment
- Part 36 complements and refers to IEC 60079-0, the general requirements, and introduces ignition hazard assessment
- Part 37 introduces explosion protection techniques not covered by current standards
- It will be possible to apply appropriate current techniques (eg Ex d) to non-electrical equipment



Next three ISO/IEC double logo standards (continued)

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- **ISO/IEC 80079-38 *Explosive atmospheres - Part 38: Equipment and components in explosive atmospheres in underground mines***
- **Standard specifies the explosion protection requirements for equipment that may be an individual item or form an assembly**
- **It covers electrical and non-electrical equipment**



Next three ISO/IEC double logo standards (continued)

- All 3 standards have been through committee draft (CD) processes with the next stage, committee draft for voting (CDV)
- It should be possible for certification schemes such as IECEx to certify to these standards once they are published as IECEx has capability in place to certify to standards for other than electrical equipment and for equipment complying with ISO standards

- All standards used for equipment compliance in the IECEx Certified Equipment Scheme are TC 31 electrical standards
- For the same scheme ISO/IEC 80079-34 is now applied for manufacturers
- For IECEx Certified Service Facilities Scheme the standard used is IEC 60079-19 *Explosive atmospheres Part 19: Equipment repair, overhaul and reclamation*

- IECEx has requested clearer indication regarding the significance of changes made to TC 31 standards
- Use of IEC ‘Redline Standards’
- TC 31 CAG task group to consider the development of TC 31 requirements for the identification of the technical significance of changes to TC31 Standards
- Proposal from above group, based on new CENELEC approach, approved at last TC 31 plenary meeting

- A table will be included in the standards that categorises the change for each relevant clause as follows:
 - Minor and editorial changes – including clarification, decrease of technical requirements, minor technical change, editorial corrections
 - Extension - addition of technical options
 - Major technical changes - addition of technical requirements or increase of technical requirements

- **TC 31 provides the major source of development of standards for Ex that are adopted throughout the world**
- **The standards are changing from covering just electrical equipment to also covering non-electrical equipment**
- **The TC 31 standards form the basis for the IECEx system**
- **Latest developments will make it easier to know the significance of changes from one edition to the next**

IECEX International Conference 2012

End of Session



IEC International Standards update