Standards in Process Safety

International Standards Workshop
for the Global Oil & Gas Industry
in Eastern Europe

15-16 February 2007

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What is a standard?

- **A standard is defined as "a technical specification approved by a recognized standardising body for repeated or continuous application, with which compliance is not compulsory, and which is one of the following: an international standard, a European standard or a national standard."**

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Why do we need standards

Standards enhance the safety of industry operations, assure quality, help keep costs down, reduce waste and minimize confusion.

They help speed acceptance and bring products to market quicker. And they avoid having to reinvent the wheel every time a product is manufactured.

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What do Standards do?

Standards define the characteristics of a product, process or service. These characteristics usually determine the design, performance or safety requirements that are voluntarily agreed upon by interested parties.

Standards exist for a wide variety of products, e.g.:

- paper sizes,
- computer operating systems (such as DOS),
- the symbols on a motor vehicle dashboard,
- credit card sizes,
- film photo speed (such as asa 100, 200, 400), and
- weights and measures.

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Where are Standards Used?

- The physical makeup of a product (e.g., steel)
- Creating standardized dimensions, such as in finished paper or containers
- Allowing for uniformity of parts such as screws or conformity of equipment such as computers
- Product performance (i.e., the final product meets the design specifications, as in a car engine)
- Health and safety requirements for products and equipment (to prevent fires, explosions, electric shocks, chemical and radiation hazards and so forth)
- Controlling the environmental impact of products and processes
- Creating a common international communication base
- Process (i.e., how a company operates).

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Why do we need standards

- **Standards are a key component of the Single Market.**
- **Though technical and removed from the public eye, they represent one of the most important issues for business.**
- **They are critical in facilitating trade and hence have a high visibility amongst both American and European policy-makers and International Operators.**

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- Flixborough
- Seveso
- Bhopal
- Pasadena
- Allentown
- Texas City
- Buncfield

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What is Process Safety

- **The past 30 years have seen the development and maturity of Process Safety Management (PSM) and Risk Management Program (RMP) requirements.**
- **The early driving force for these concepts and the ensuing regulations were major chemical incidents at facilities throughout the world.**

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ISO TC 67 and Safety

- **Enhance Technical Integrity**
  - **Safety, Health and protection of the Environment**
  - **Maximise availability, minimise lost revenue**
- **Establish a Common Technology Base**
  - **Technology transfer / Sharing best practice**
- **Support Legislation where linked**
  - **Safety and Environmental Regulations (e.g. Process Safety Management, US)**
  - **Procurement Legislation (e.g. European Directives)**
  - **Essential Requirements (e.g. 'New Approach' European Directives)**

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Other Standards

- Health and Safety at Work Directives 89/391 (Framework),
  - 89/654 (Workplaces),
  - 89/655 (Work Equipment),
- 89/656(Personal Protective Equipment),
- 90/269 (Manual Handling of Loads) and
- 90/270(Display Screen Equipment)

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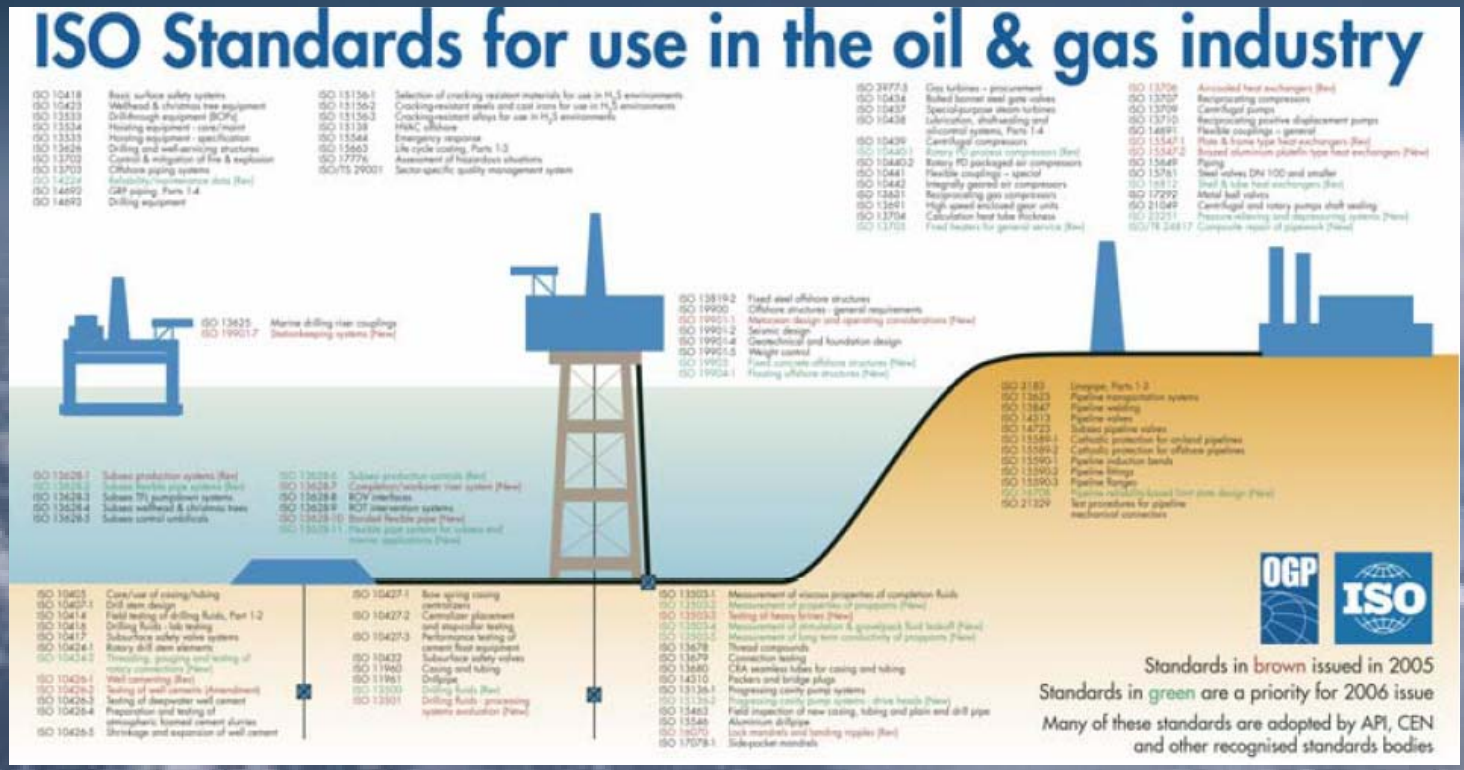
ISO/TC 67: Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries



- **ISO TC67 has published 120 standards.**
- **API has adopted 46 of these as joint API / ISO standards.**
- **CEN has adopted 89 of these as joint European EN ISO standards.**
- **China has adopted 18 of these as Chinese national standards.**

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Some Examples

ISO TC/145 has developed ISO 9186, Graphical symbols – Test methods for comprehensibility and for comprehension,

and ISO, 7010:2003, Graphical symbols – safety colours and safety signs – Safety signs used in workplaces and public areas

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Some Examples

There are 193 ISO standards and other documents applying to fasteners

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Now What?

- Do we need an individual standard for process safety?
- Should “safety” be left in the hands of other standards?
- Should Industry “self regulate”?

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