

*INTERNATIONAL STANDARDS
WORKSHOP FOR*
**OIL & GAS INDUSTRY
IN EASTERN EUROPE**

15-16 February 2007

Sofitel Hotel

Bucharest, Romania

TOPICS TO BE DISCUSSED

- **ISO Standards for the Oil & Gas Industry**
- **ISO TC67 structure and participation**
- **ISO TC67 and published standards**
- **Upcoming meetings and scheduled events**

ISO, IEC, & ITU

- **ISO = International Organization for Standardization (157 member countries)**
- **IEC = International Electrotechnical Commission (51 members, 16 associates)**
- **ITU = International Telecommunication Union (191 country members, 638 sector members and 135 associates) “sister organization” and linked to United Nations**
- **All headquartered in Geneva, Switzerland, and exist in response to WTO – TBT**

International ISO / IEC / ITU

Regional

National

Industry/Institutes

Company

Private "in-house" owners & users, contractors,
Suppliers, manufacturers, regulators, academia...

ANSI

PIP

ASRO

ASME

EI

GOST

JISC

API

ABS

NACE

QS

ABNT

BNPé

DnV

CEN

AFNOR

DIN

BSI

SN

NORSOK

EEMUA

ISO/IEC STANDARDS

- **ISO/IEC Directives 1:2004 *Procedures for the technical work***
- **ISO/IEC Directives 2:2004 *Rules for the structure and drafting of International Standards***
- **ISO/IEC Directives:2004 Supplement, procedures specific to ISO**
- **ISO Template Version 2.1**

ISO/IEC STANDARDS

- **Consensus-based**
- **Market driven**
- **Technically current**
- **Internationally expertise**
- **Voluntary, not mandated**
- **Meet requirements of WTO Technical Barriers to Trade**

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OIL AND GAS STANDARDS

- Always been a self-regulating community
- Company specifications
- American Petroleum Institute (API)
 - Industry association collating best practices since 1924
 - Open to all interested parties building consensus standards
 - Currently have approximately 500 standards
- Other organizations
 - Norwegian Standards Organization (SN and NORSOK)
 - American Society of Mechanical Engineers (ASME)
 - British Standards Institute (BSI)
 - Energy Institute (Energy Institute, formerly IP)
 - Private companies or consortia – DNV, ABS, T.H. Hill

WHY ISO STANDARDS?

- **International**
- **Compatibility**
- **Interchangeability**
- **Commonality**
- **Interoperability**
- **Availability**
- **Safety**
- **Worker health**
- **Environmentally compliant**

ISO TC67 TITLE

- *“Materials, equipment and offshore structures for the petroleum, petrochemical and natural gas industries”*

Excludes offshore structures that are subject to IMO regulations

(part of TC8 – Ships and marine technology)

TC67 SCOPE, MISSION, AND VISION

- **SCOPE**

- Standardization of the materials, equipment and offshore structures used in the drilling, production, transport by pipelines and processing of liquid and gaseous hydrocarbons within the petroleum, petrochemical and natural gas industries

- **MISSION**

- To create value-added standards for the oil and natural gas industries

- **VISION**

- Global standards used locally worldwide

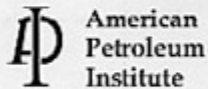
VISION OF GLOBAL STANDARDS

API Adopt-back of ISO 13706, as ANSI/API 661

Air-Cooled Heat Exchangers for General Refinery Service

API Standard 661, Fifth Edition
March 2002

ISO 13706: 2000, Petroleum and Natural Gas Industries—Air-cooled Heat Exchangers



Helping You
Got The Job
Done Right.™



European Standard (adoption of ISO 13706 via Vienna Agreement)

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 13706

April 2000

ICS 75.180.20

English version

Petroleum and natural gas industries - Air-cooled heat exchangers (ISO 13706:1998)

Industries du pétrole et du gaz naturel - Echangeurs de chaleur refroidis à l'air (ISO 13706:1998)

Eröl- und Erdgasindustrien - Luftgekühlte Wärmeaustauscher (ISO 13706:1998)

This European Standard was approved by CEN on 15 April 2000.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Central Secretariat: rue de Steenant, 36 B-1050 Brussels

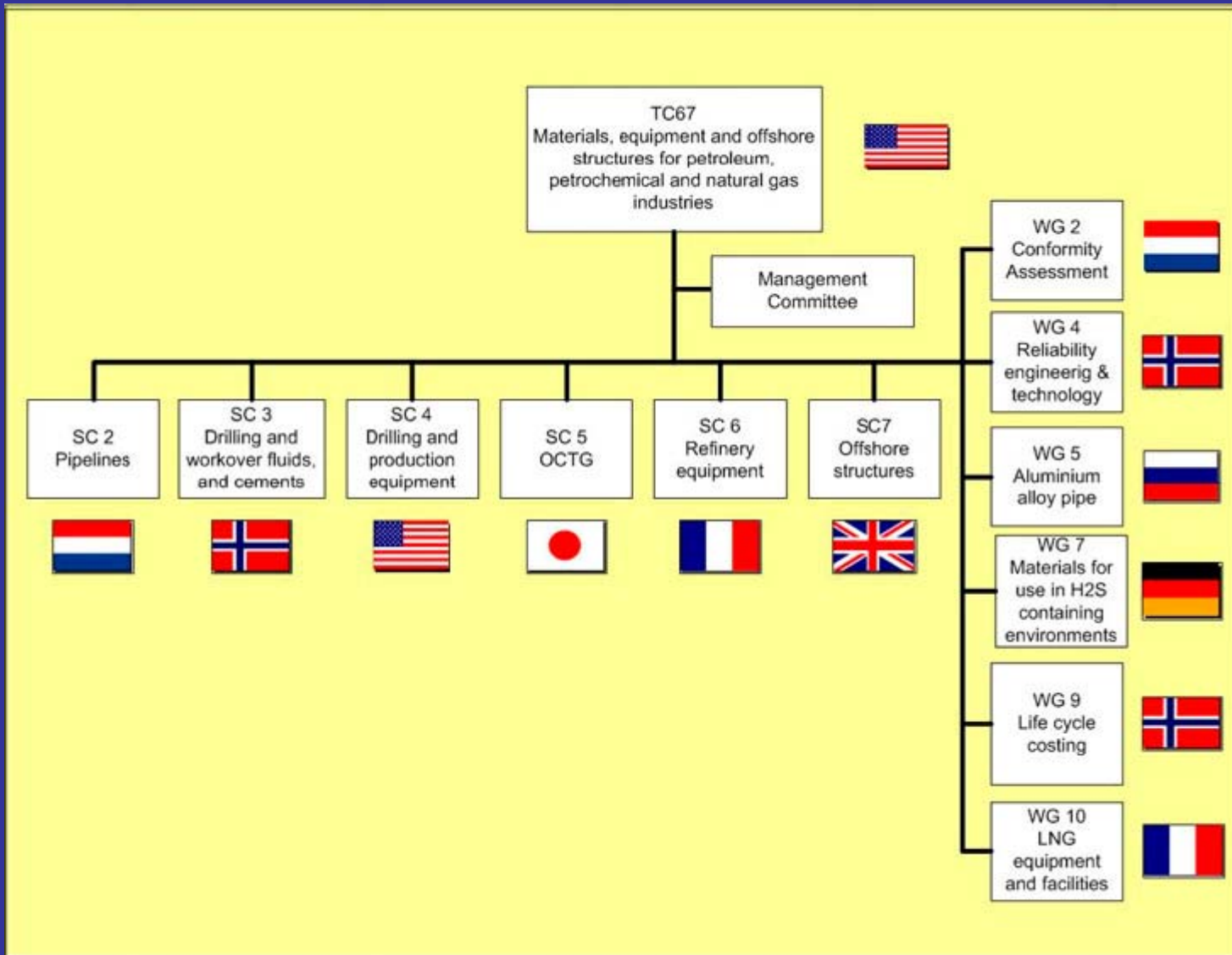
TC67 MEMBER COUNTRIES

- PARTICIPATING – “P” members = 28 countries
 - Argentina, Brazil, Canada, China, Denmark, Finland, France, Germany, Indonesia, Italy, Japan, Kazakhstan, Korea, Mexico, Netherlands, Nigeria, Norway, Oman, Portugal, Qatar, Romania, Russian Federation, South Africa, Spain, Ukraine, United Kingdom, United States, Venezuela
- OBSERVING – “O” members = 26 countries
 - Australia, Austria, Azerbaijan, Belgium, Bulgaria, Colombia, Cuba, Czech Republic, Ecuador, Egypt, Hong Kong, Hungary, Iran, Ireland, Malaysia, Moldova, Mongolia, Poland, Saudi Arabia, Singapore, Slovakia, Sweden, Switzerland, Thailand, Trinidad and Tobago, Viet Nam

TC67 PARTICIPATION

- **Operators**
- **Manufacturers**
- **Suppliers**
- **Government regulators**
- **Academia**
- **Consultants**

TC67 ORGANIZATION



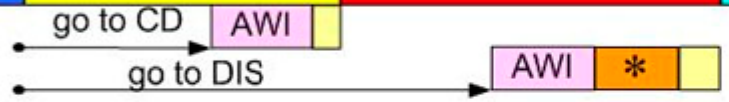
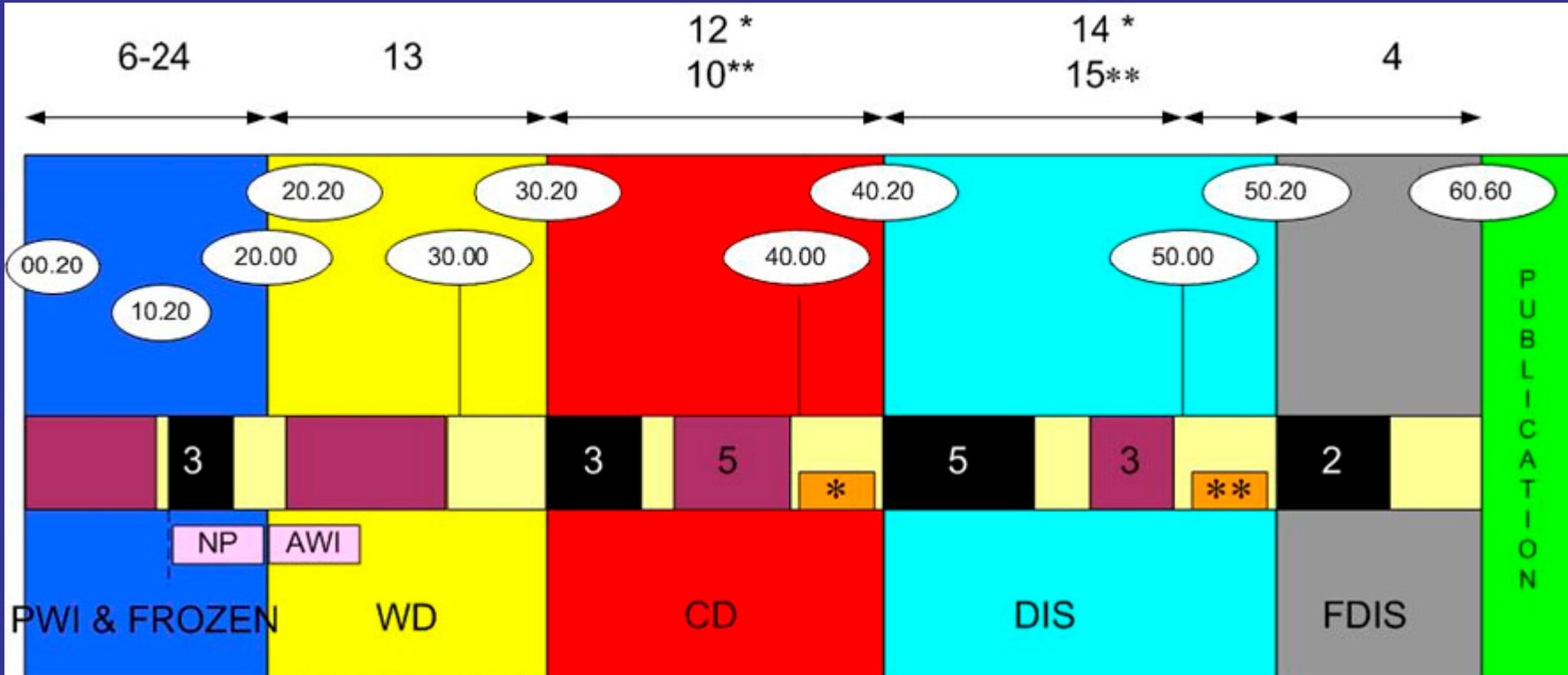
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ISO STAGES OF STANDARDS


- **WD – completion of work draft, 20.20**
- **CD – circulation of committee draft, 30.20**
- **DIS – launch of draft international standard, 40.20**
- **FDIS – start of final draft international standard ballot, 50.20**
- **IS – published as international standard, 60.60**

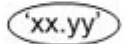
TC67 TYPICAL PROGRAM

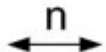


 Technical Work, Consensus Building

 Secretariat Administration

 Enquiry and Voting (months)

 ISO Stage number

 Time in Months

 French Translation at DIS

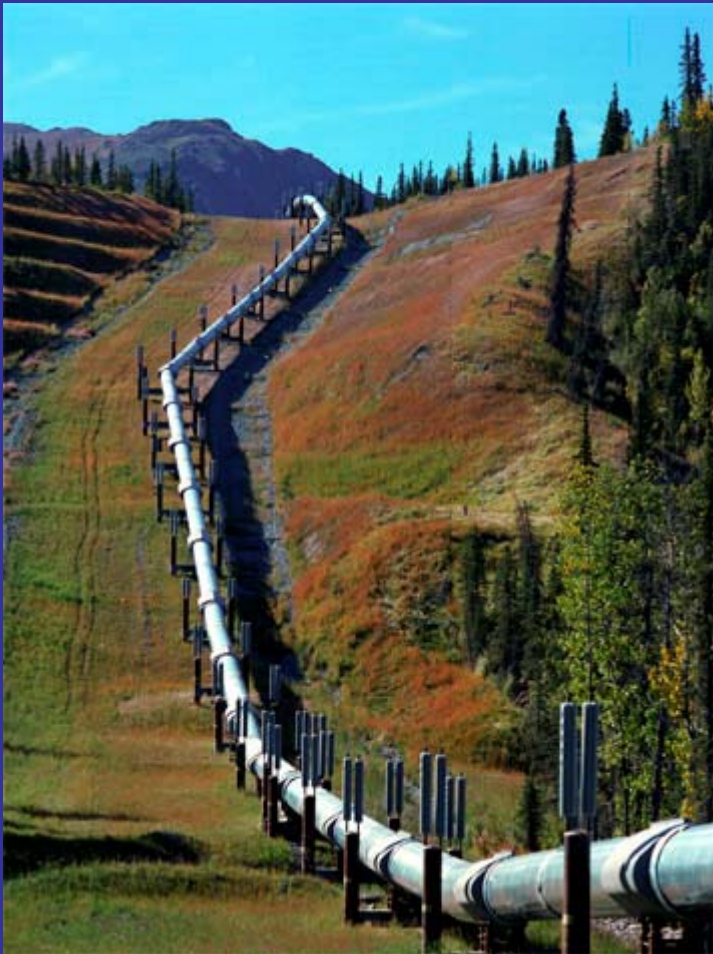
 French Translation at FDIS

DRILLING STANDARDS



- 11960 Casing and tubing
- 15546 Aluminum alloy drill pipe
- 15156 Materials for H₂S environments
- 10423 Wellhead & christmas tree equipment
- 11961 Drillpipe
- 13679 Connection testing
- 13500 Drilling fluids
- 13501 Drilling fluid processing equipment
- 14310 Packers

PIPELINE STANDARDS



- 3183 Linepipe
- 13623 Pipelines
- 13847 Pipeline welding
- 14313 Pipeline valves
- 14723 Subsea pipeline valves
- 15589 Cathodic protection
- 15590 Induction bends, fittings and flanges
- 21329 Mechanical connectors

SUBSEA STANDARDS



- 13628-1 Subsea production systems
- 13628-2 Unbonded flexible pipe systems
- 13628-3 Through flowline systems
- 13628-4 Subsea wellhead & christmas tree
- 13628-5 Subsea control umbilicals
- 13628-6 Subsea production control systems
- 13628-7 Workover/completion risers
- 13628-8 Remotely operated vehicles (ROV)
- 13628-9 Remotely operated tool (ROT) intervention system

OFFSHORE STANDARDS



- **19900 Offshore structures**
 - **19901-1 Metocean design**
 - **19901-2 Seismic design and criteria**
 - **19901-4 Geotechnical and foundation design**
 - **19901-5 Weight control during engineering and construction**
 - **19901-7 Stationkeeping**
- **19903 Concrete structures**
- **19905-1 Jack-ups**
- **13625 Marine drilling riser couplings**
- **Coming soon for FDIS 19902 fixed-steel structures**

REFINERY EQUIPMENT STANDARDS



- 10434 Steel gate valves
- 10437 Steam turbines
- 10439 Centrifugal compressors
- 13704 Heater tube thickness
- 13706 Air-cooled heat exchangers
- 13707 Reciprocating compressors
- 13709 Centrifugal pumps
- 15649 Piping

GENERAL PURPOSE STANDARDS



- **13881 Classification and conformity assessment**
- **14224 Reliability and maintenance**
- **15663 Life cycle costing**
- **15589 Corrosion-resistant alloys for H₂S**
- **29001 Quality Management System (industry specific ISO 9001)**

TC67 PUBLICATION RECORD

- 1995=2
- 1996=4
- 1997=0
- 1998=2
- 1999=11
- 2000=22
- 2001=20
- 2002=17
- 2003=22
- 2004=16
- 2005=12
- 2006=14
- TOTAL = 142

TC67 CONTACT INFORMATION

- Secretariat:
 - Chair, Cheryl Stark
 - starkcl@bp.com
 - Secretary, David Miller
 - miller@api.org
- Website: www.tc67.org OR www.iso.org

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TC SUBCOMMITTEES

2007 Meetings

- SC 2, Doha 24-25 Apr
- SC6, Rio 8-9 May
- SC7, Calgary 5-6 Jun
- SC4, San Francisco 21-22 Jun
- SC5, San Francisco 23 Jun
- SC3, San Francisco 27 Jun

ISO TC67

- **Management Committee** **29 Jun**
 – **San Francisco**
- **Plenary** **17-18 Oct**
 – **London**
- **Management Committee** **19 Oct**
 – **London**

- **www.tc67.net for further information**

TC67 MOTTO

*“do it once,
do it right,
do it internationally”*

-Ron Barnett, 1988

THANK YOU

Cheryl Stark

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