



Petroleum Institute of Thailand

Thailand Oil & Gas Industries Standards

The international standards workshop for the oil and gas industry
in Thailand and South East Asia

March 11, 2010

Peninsula Hotel
Bangkok, Thailand



Contents

- 1 Introduction
- 2 Why do we need standards?
- 3 Availability of standards
- 4 PTIT 's activities on oil & gas standards
- 5 Summary



Introduction

Standards



A basis for comparison; a reference point against which other things can be evaluated.

Guidelines



Any document that aims to streamline particular process according to a set of routine.

Code of practice



A set of guidelines and regulations to be followed by members of some profession i.e. trade, occupation, organization etc.



Why do we need standards?

Standards can be found the whole time in our daily lives.

Rather than asking why we need standards, we might beneficially ask ourselves what our world would be like if no standards.

- ❖ Products might not work well as expected, they may be of inferior quality and incompatible with other operational processes
- ❖ In extreme cases; non-standardized products may even be harmful.

Standardized products and services are being perceived as:

safe

healthy

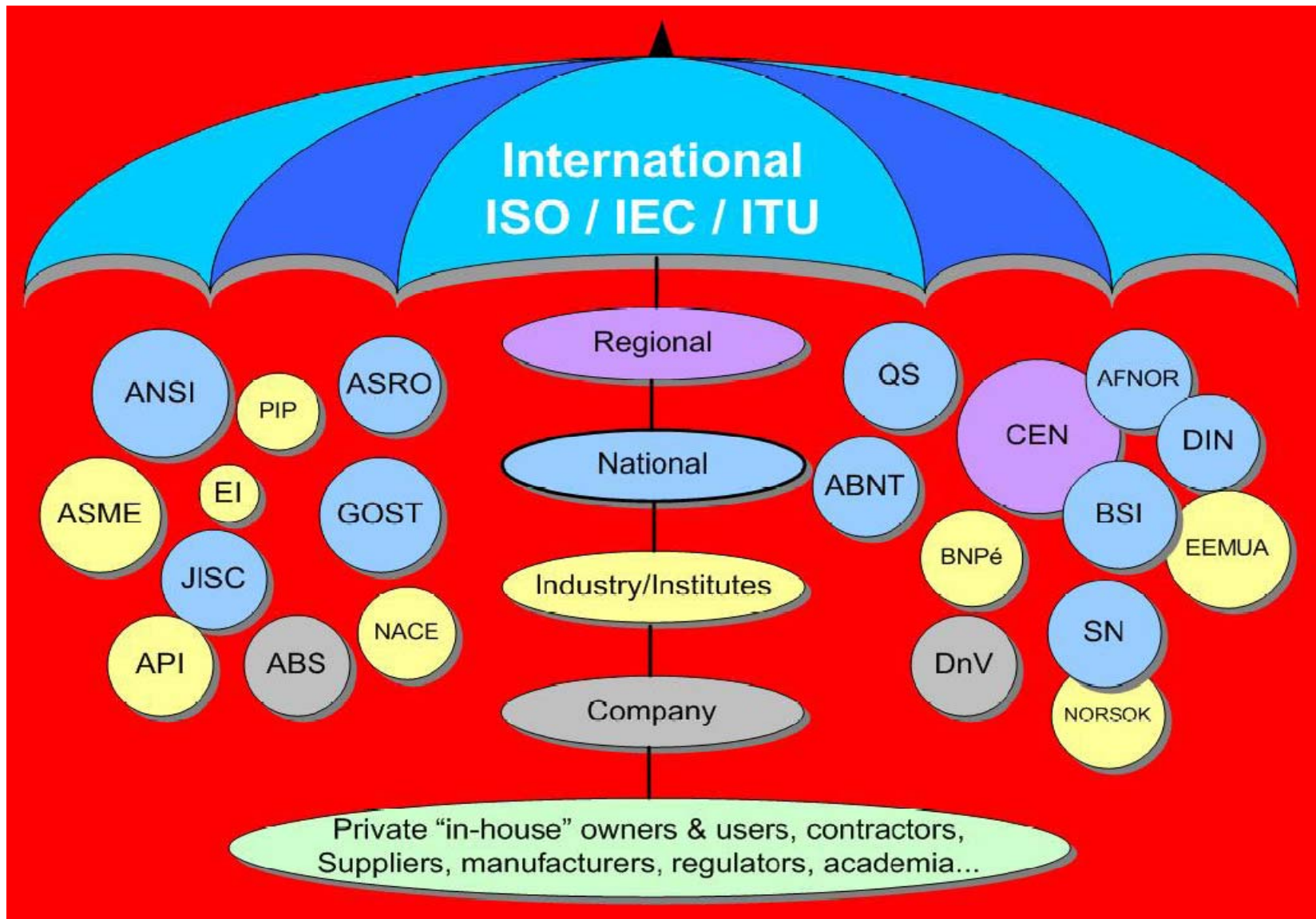
secure

High
quality

Compatible



Availability of standards



Source: INTERNATIONAL STANDARDS WORKSHOP FOR OIL & GAS INDUSTRY IN EASTERN EUROPE 15-16 February 2007, Sofitel Hotel Bucharest, Romania



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
- International standards
 - ISO



How these standards being applied to industries in Thailand

- National standards body
- Adopting original standards
- Regulations
- Guidelines
- Code of practice

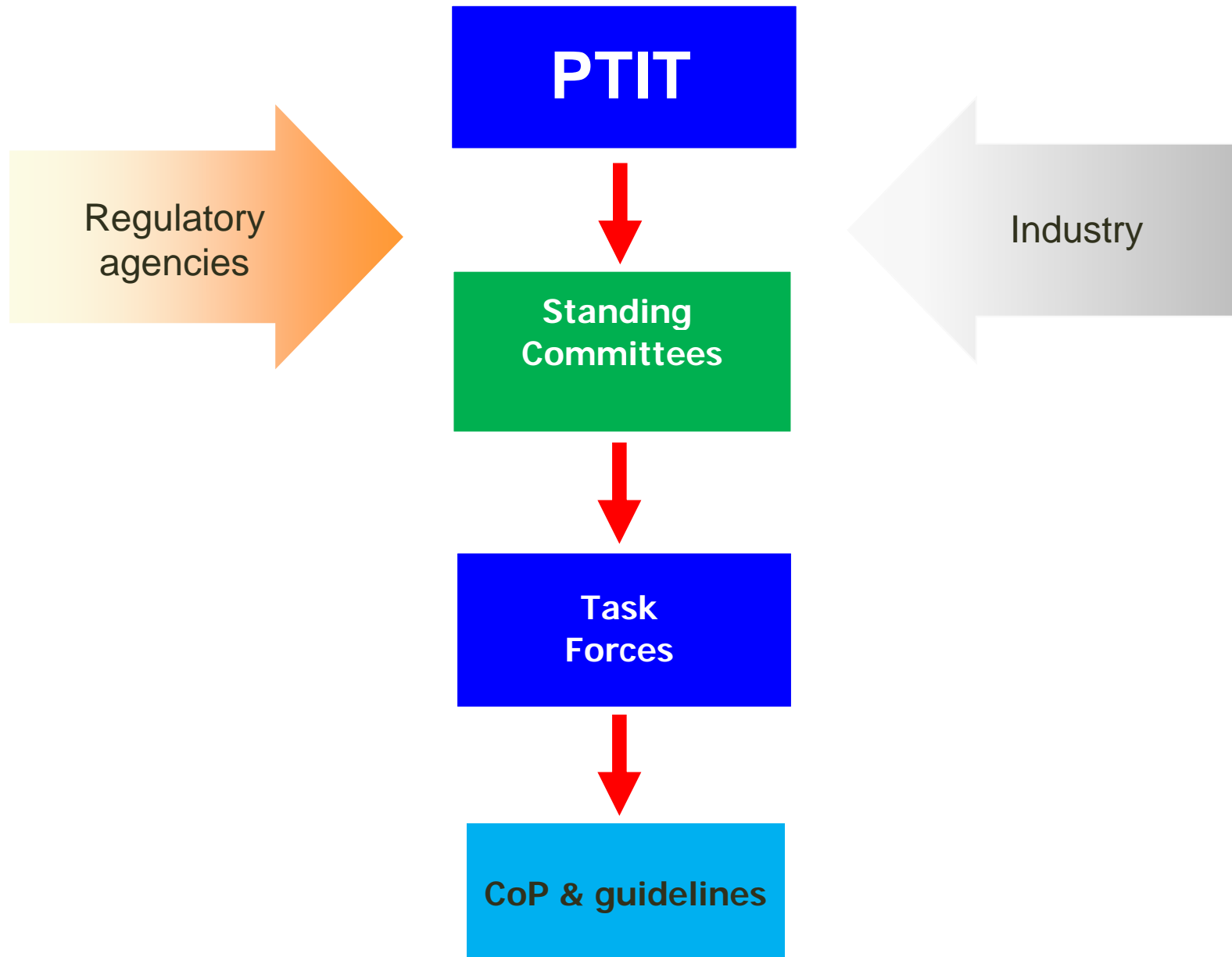


PTIT's Code of practice (CoP)

- PTIT develop CoP based on industry demand
- Operational driven
- Technically current
- Basic requirements
- These CoP are not mandatory
- It's a set of good practice as advised and agreed by industry and regulatory agencies



Code of Practice, guidelines & Regulatory Support Structure


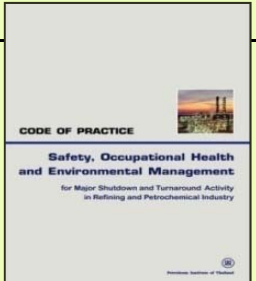
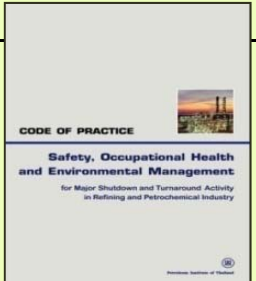






Code of Practices and Guidelines (1/3)

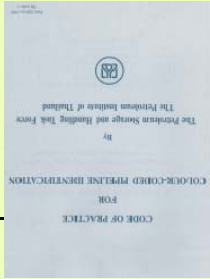



Code of practice/Guidelines	Adopted standards	Purposes	
<p>1. WET Testing for Produced Water from Oil & Gas Operations in the Gulf of Thailand</p>		<p>US. EPA.</p>	<p>Code of practice</p>
<p>2. Facilities Decommissioning Guidelines of Oil & Gas Installations</p>		<p>API 2220, API 2007</p>	<p>Guidelines</p>
<p>3.S,OH&EM for Major Shutdown of Refining and Petrochemical Plants</p>		<p>ISO 14001, OHSAS 18001, ISO 9001</p>	<p>Code of practice</p>
<p>4.Integrated Health Management System</p>			



Code of Practices and Guidelines (2/3)



Code of practice/Guidelines	Adopted standards	Purposes
5. Petroleum Tank Inspection 	API, BS	Code of practice
6. Color-Coded Pipeline Identification 	API	Code of practice
7.Environmental Code of practice for Hydrocarbon Development in Thailand		Code of practice
8.Loading and Unloading Petroleum products		Code of practice



Code of Practices and Guidelines (3/3)



Code of practice/Guidelines	Adopted standards	Purposes
9. Safety Training in The Petroleum and Petrochemical Industries and Associated Industries		Code of practice
10. Road Safety Management		Code of Practice




PTIT Study / Consultancy Projects (1/2)

Study	Agency	Adopted Standards	Purposes
<p>1. Natural Gas Transport Regulation Study</p> 	<p>DOEB</p>	<p>ASME, DNV</p>	<p>Regulatory Development</p>
<p>2. Study and review on the designs, fabrication integrity assessment of petroleum platforms and subsea pipelines</p> 	<p>DMF</p>	<p>API, DNV, ISO, ABS, ASME</p>	<p>Regulatory Development</p>



PTIT Study / Consultancy Projects (2/2)

Study	Agency	Adopted Standards	Purposes
<p>3. Maintenance of Oil Storage Tank and Tank Motor Vehicle Study</p> 	<p>DOEB</p>	<p>API, ASME, NFPA, NACE, EPA, PEI, UL, AS, DOT, TP</p>	<p>Guidelines & regulatory development</p>



PTIT: Draft Regulations & Standards Reviews

Agency	Law/Regulation
DOEB (Department of Energy Business)	1.Ministerial Reg. on LPG stations
DOEB	2.Ministerial Reg. on NG Pipeline Standards
DOEB	3.Ministerial Reg. on NGV Transport Standards
DOEB	4.Ministerial Reg. on Fuel Operators Standards
DOEB	5.Ministerial Reg. on Vapor Recovery at Station
DOEB	6.Ministerial Reg. on Vapor Recovery at Terminal
DMF (Department of Mineral Fuels)	7.Ministerial Reg. on Design, Fabrication, Installation, Integrity Assessment of Fixed Platforms and Subsea pipelines
ONEP (Office of Natural Resources and Environmental Policy and Planning)	8.Health Impact Assessment
ONEP	9.Social Impact Assessment
PCD (Pollution Control Department)	10.VOC Standards
PCD	11.Emission Standards
PCD	12.Annual NO2 Standard
PCD	13.Particulate Matter Standard
PCD	14.Effluent Water Standard
PCD	15.Green Procurement Standard



Relevant International Standard / Code for fixed steel platform

	API	ISO	Norsok	DNV	ABS
organization type	Trade Assoc.	Standard Org.	Local standard Institution	Classification society (Certify agent)	Classification society (Certify agent)
Standard Level	National (USA)	International (Swiss based)	National (Norwegian)	Classification (Norwegian)	Classification (USA)
Strength Design	❖ WSD ❖ LRFD	❖ LRFD	❖ LSD	❖ WSD ❖ LRFD	❖ WSD ❖ LRFD
Related references	❖ RP 2A-WSD ❖ RP 2A-LRFD ❖ RP 2SIM	❖ ISO 19900 ❖ ISO 19901-1 ❖ ISO 19901-2 ❖ ISO 19901-3 ❖ ISO 19901-4 ❖ ISO 19901-5 ❖ ISO 19901-6 ❖ ISO 19902	Series ❖ G: Geotechnology ❖ J: Marine operation ❖ M: Material ❖ N: Structural ❖ S: Safety ❖ Z: Technical Info.	❖ OS-C-101 ❖ OS-C-201 Structure ❖ RP – 201/2/3/4	❖ Rules for building & classing offshore installations



Relevant International Standard / Code for subsea pipeline

	API	ISO	DNV	ASME	ABS
Organization type	National trade association	Standard Organization	Classification societies (Certify agent)	Non-profit professional organization	Classification society (Certify agent)
Standard Level	National (USA)	International	Regional (Norwegian)	National (USA)	Classification (USA)
Strength Design	❖ LSD	❖ Design methodology shall be verified by an independent verification agent	❖ LSD ❖ LRFD	❖ LSD	❖ LSD ❖ LRFD
Related references	❖ API RP-1111	❖ ISO 13623	❖ DNV OS-F101	❖ ASME B31.8 ❖ ASME B31.4	❖ Rules for building & classing offshore installations



Summary

- Adopting International standards is favored by industry in normal circumstance, being consistent and in compliance with their multinational operations.
- Authorities prefer industry to be self regulating. However, due to variation in size and management system of operators, regulatory agencies are concern over the level of quality and consistency across the industry.
- CoP and guidelines would remain prevalent practice for oil & gas industry.
- TISI could play more roles in oil & gas standards



**Thank you for your
attention**