



# Macondo – How Should We React?

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REMPEC 10<sup>th</sup> Focal Point Meeting

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# Major Accidents – Always Require Regulatory Response?

## NEW REGULATORY REQUIREMENTS

- Alexander Kielland – Structural redundancy
- Exxon Valdez – Double hulls

## RISK METHODOLOGY

- Bhopal & Seveso - Seveso directive
- Piper Alpha – “Safety Case”
- Texas City – increased safety for process industry

## CORPORATE MANSLAUGHTER

- Herald of Free Enterprise
- Scandinavian Star

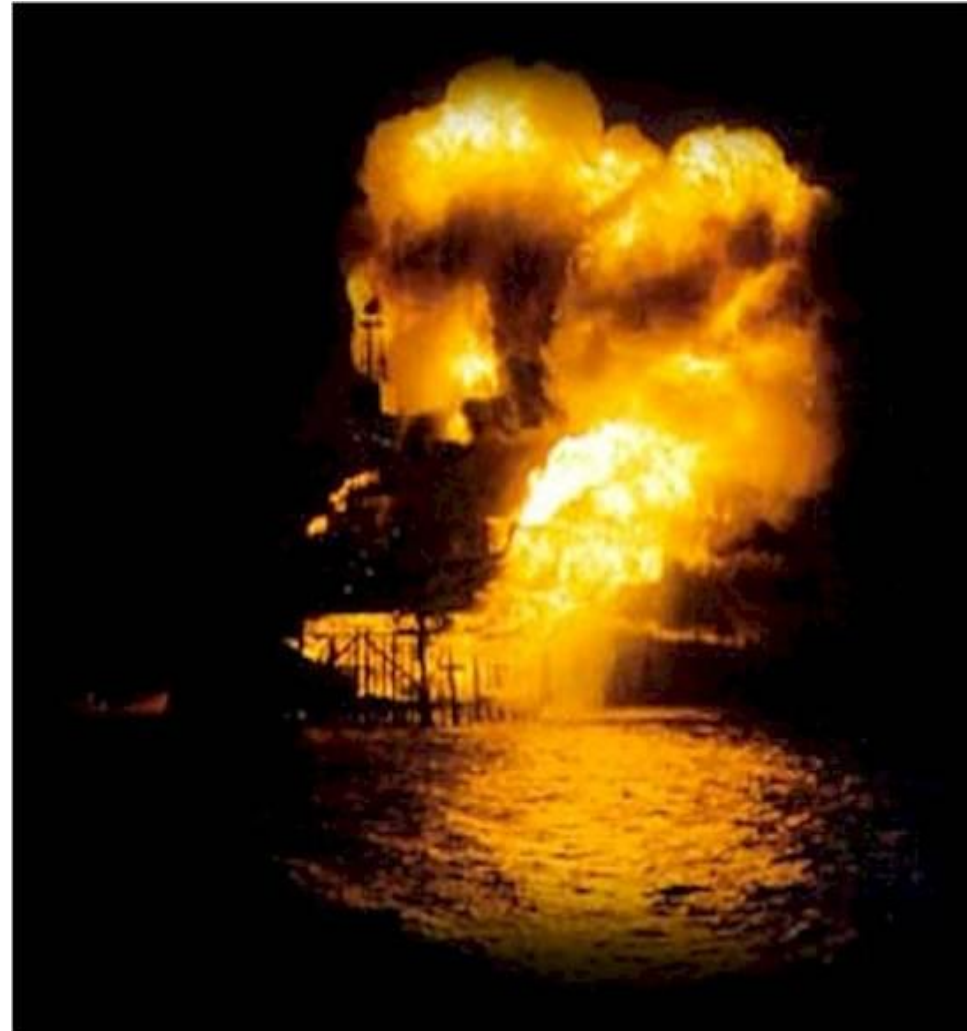
## NEW REGULATORY BODIES

- Flixborough – HSC in UK, HSWA
- Piper Alpha – UK HSE extended to offshore

## FINANCE

- Enron – Sarbanes-Oxley

## MACONDO BLOWOUT ?????



# Deepwater Horizon – a new game changer?

- **Yes** – we are facing a loss of confidence in the industry, with significant impact.
- Several severe accidents the last 2 years contribute to this
  - Montara blow-out in Australia
  - Aban Pearl semi lost offshore Venezuela
- Why is this one significant?
  - **Scale** – largest oil spill ever x 2
  - **Location** – USA + elections + mass media
  - In the new social media age, there is nowhere to hide
  - **Company involved** (BP, a major 'foreign' IOC to the Americans, with a poor track record in the USA)
- How should we react?



# What the Oil & Gas Industry has and has not achieved

 Over the last 20 years the industry has attained a **step change** (factor of ten) improvement in occupational safety

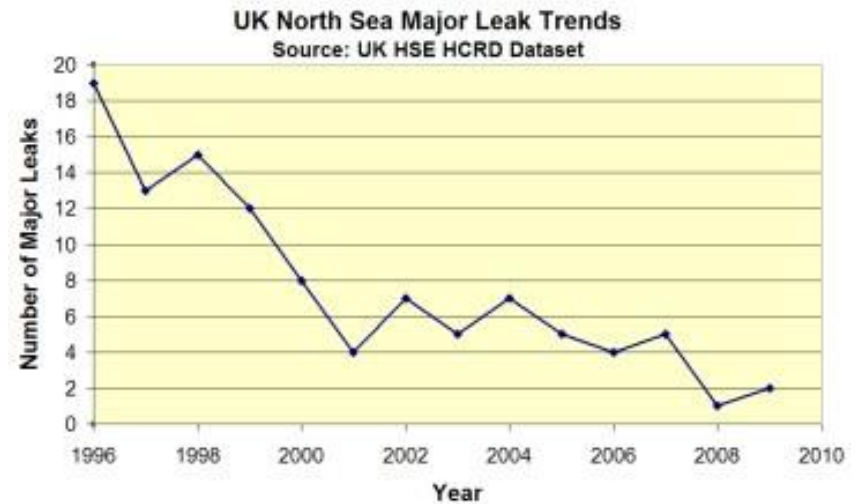
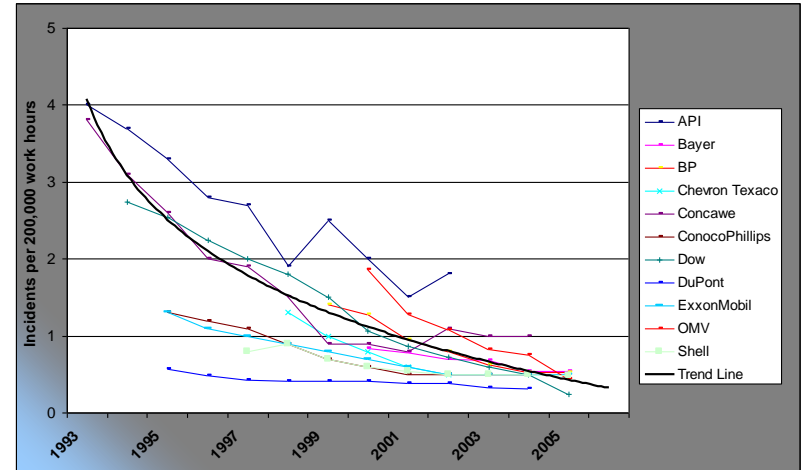
- Graph shows factor of 3 in last 10 years

 USA and EU Process Industry

- Neither EU nor USA has demonstrated significant improvements for onshore major accidents (OSHA PSM, EU Seveso Directive)
- Chemical Safety Board and Baker Panel highlighted after Texas City that Process Safety (major accidents) and Occupational Safety (personal accidents) are NOT the same



 North Sea major accident safety has improved

- No major disaster since introduction of Safety Case / risk based legislation in UK / Norway (leaks have occurred, but none escalated)
- Reducing trend in major hydrocarbon leaks
  - Factor of 10 in last 13 years – UK HSE Database
  - “What doesn’t leak can’t explode...”




# How do we improve regulations?

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- 1) By having a “instant” reaction and issuing regulations specifically targeted at the event that has happened? 
- 2) By setting prescriptive regulations directed at the last incident? 
- 3) By more effective implementation of what we already have? 
- 4) By understanding the root causes of an incident, and engaging the industry in identifying ways to avoid accidents which present risks to Safety, Environment and Profitability 
- 5) By requiring operators to demonstrate to stakeholders (not just regulators) how they will design, operate and decommission their facilities in a safe and environmentally responsible manner 
- 6) By setting improvement goals for the industry, and verifying how they are achieving those goals. 

# Reaction and Reflection




RECOMMENDED PRACTICE  
DNV-RP-E102

RECERTIFICATION OF BLOWOUT  
PREVENTERS AND WELL CONTROL  
EQUIPMENT FOR THE US OUTER  
CONTINENTAL SHELF

JUNE 2010

DET NORSKE VERITAS

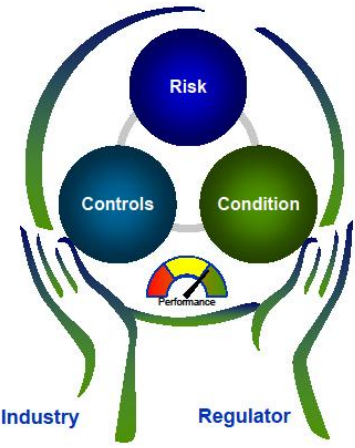



DET NORSKE VERITAS

Report  
OLF/NOFO - Summary of differences  
between offshore drilling regulations  
in Norway and U.S. Gulf of Mexico

Oljeindustriens Landsforening/Norsk Oljevernforening For  
Operatorselskap

Report no/DNV Reg No.: 2010-1220/ 12P3WF5-9  
Rev 01, 2010-08-17



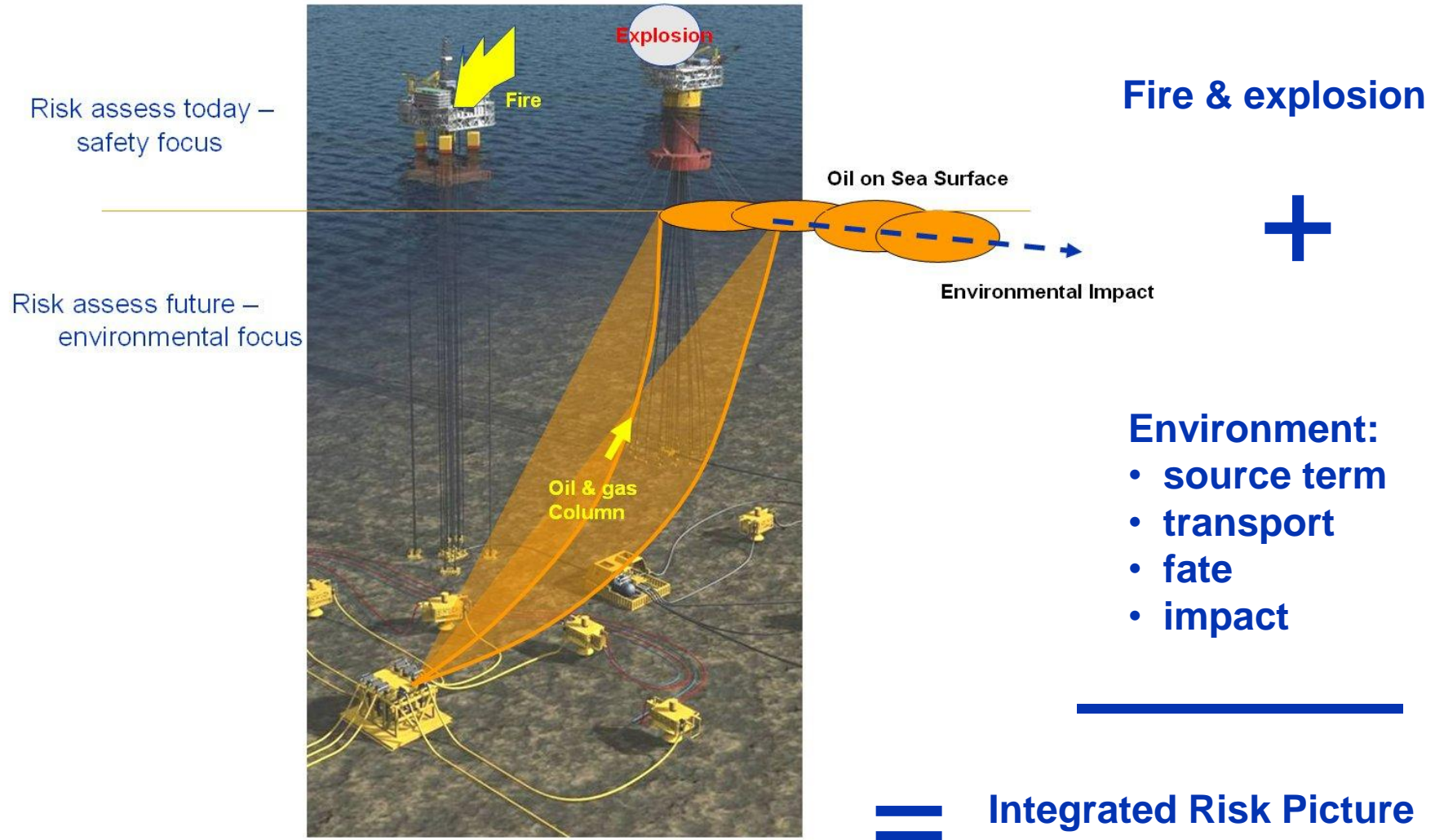
Industry Regulator

**Key Aspects of an Effective U.S. Offshore Safety Regime**

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# Risk Management – Safety and Environment, Topsides and Subsea



# Safety AND Environment

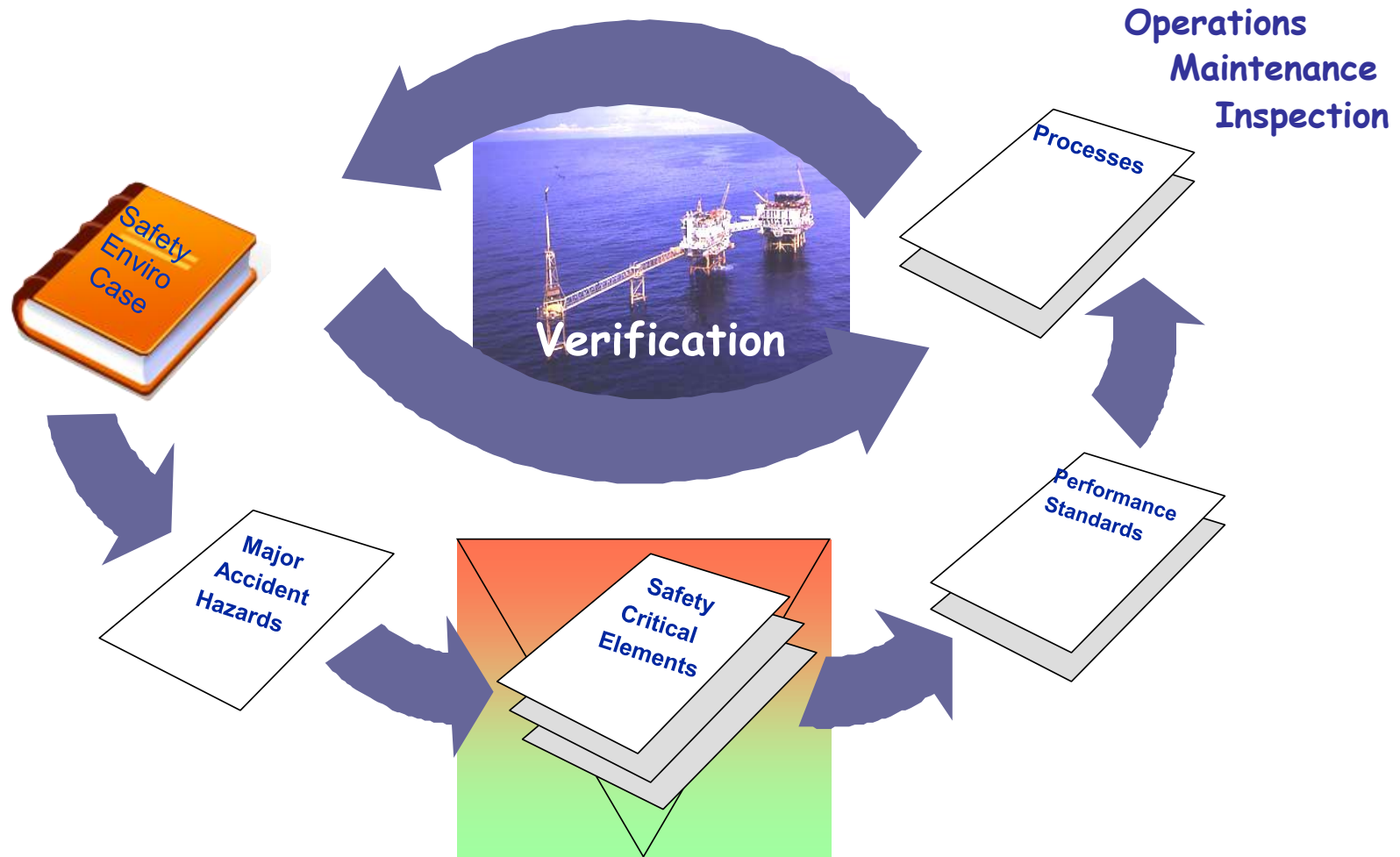
ERA is typically based on

- Generic system description
  - No specification of the reliability of the barrier technology
  - Little or no specification of process integrity
- Historical data for blow-out and release
  - Blow-out probability are based on the last 20 years incidents in GoM, UK and Norway
  - Blow-out durations are not specific for the well and reservoir.
- ERA's should take into consideration
  - Type of technology applied and it's reliability
  - Specific barriers applied and their reliability
  - Well and reservoir characteristics
  - Human factors that can influence the risk level
  - Type of activities conducted
  - Time of year that the activities are carried out





# A More Integrated Approach



# Remember!

“Companies with the best performance in major accident risk management do not necessarily have better systems than those with poorer performance, they are just much more diligent in doing what they say they do, and verifying that they have done it”



# Safeguarding life, property and the environment

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