

CITI Investor Symposium

Offshore Petroleum Safety: Priorities for 2010 and Beyond

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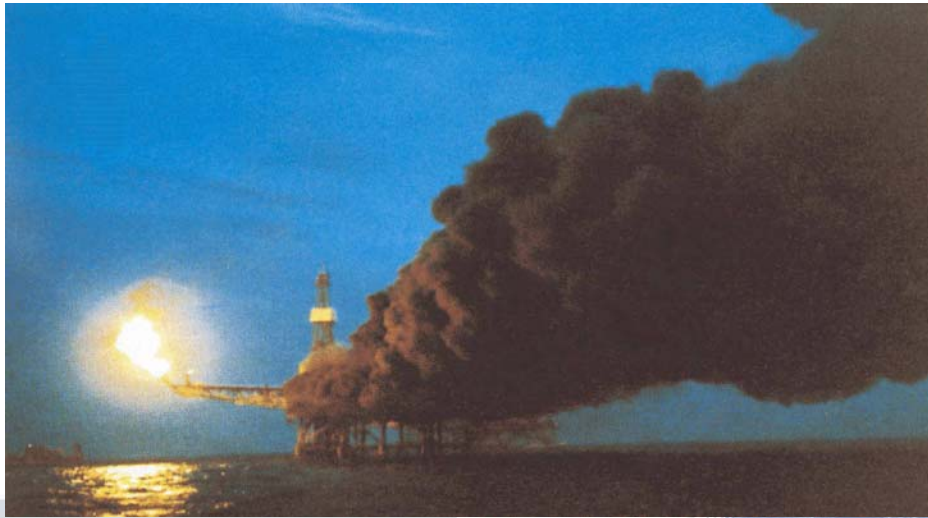
23 November 2010



Thank you for the opportunity to say a few words to emphasise that to be a vibrant and growing industry contributing to the wellbeing of all Australian's we must first be a safe industry.

Today I will talk a little about NOPSA, reflect on industry performance and recent challenges and suggest some areas of focus going forwards.

Piper Alpha North Sea – 6 July 1988



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Piper Alpha – 167 people lost their lives.

I show this as a reminder;

- It can happen again.
- It can happen here.
- It can happen to us.
- We need to keep this in the front of our minds at all times.

Role of the Operator

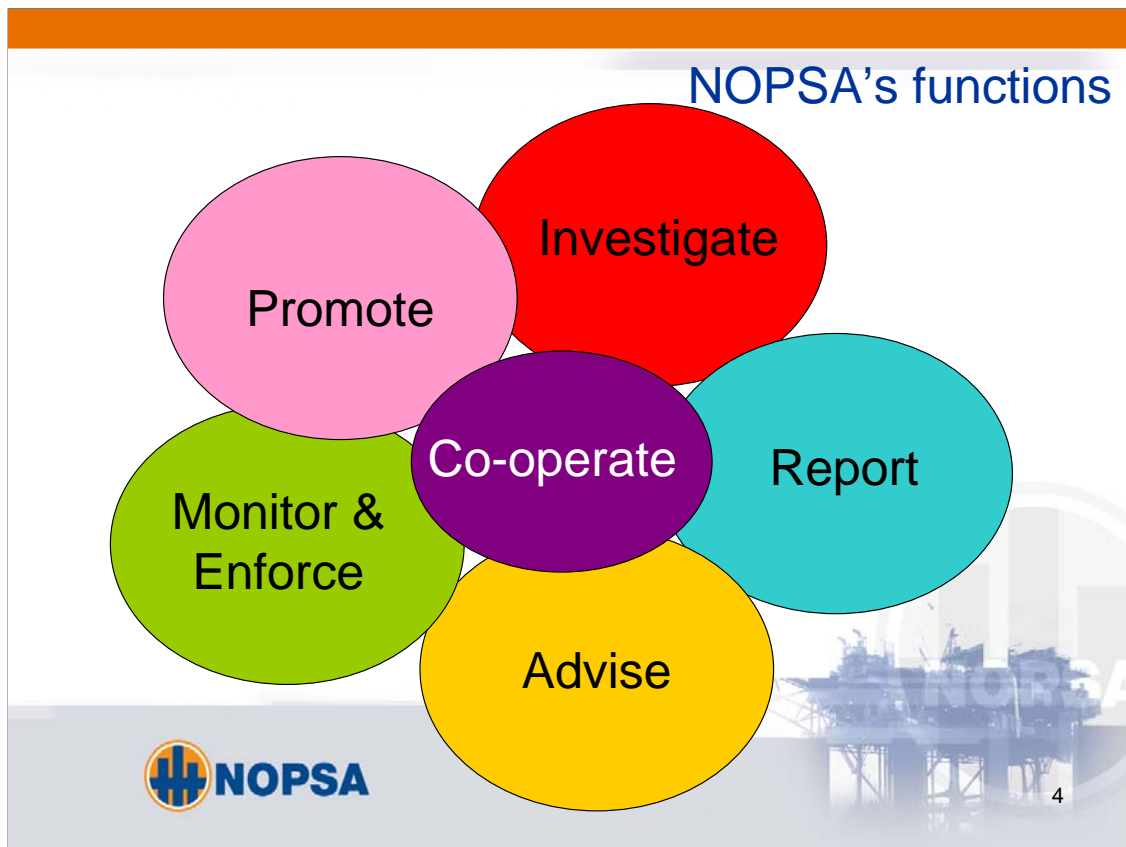
- ***The safe operation of a facility*** is the responsibility of the facility Operator.
- ***Underlying principle*** - the primary responsibility for ensuring health and safety lies with those who create risks and those who work with them.



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Many of the recommendations from the Cullen Inquiry into the Piper Alpha disaster, such as Safety Cases, form the basis of our approach to safety in the Australia offshore industry today.

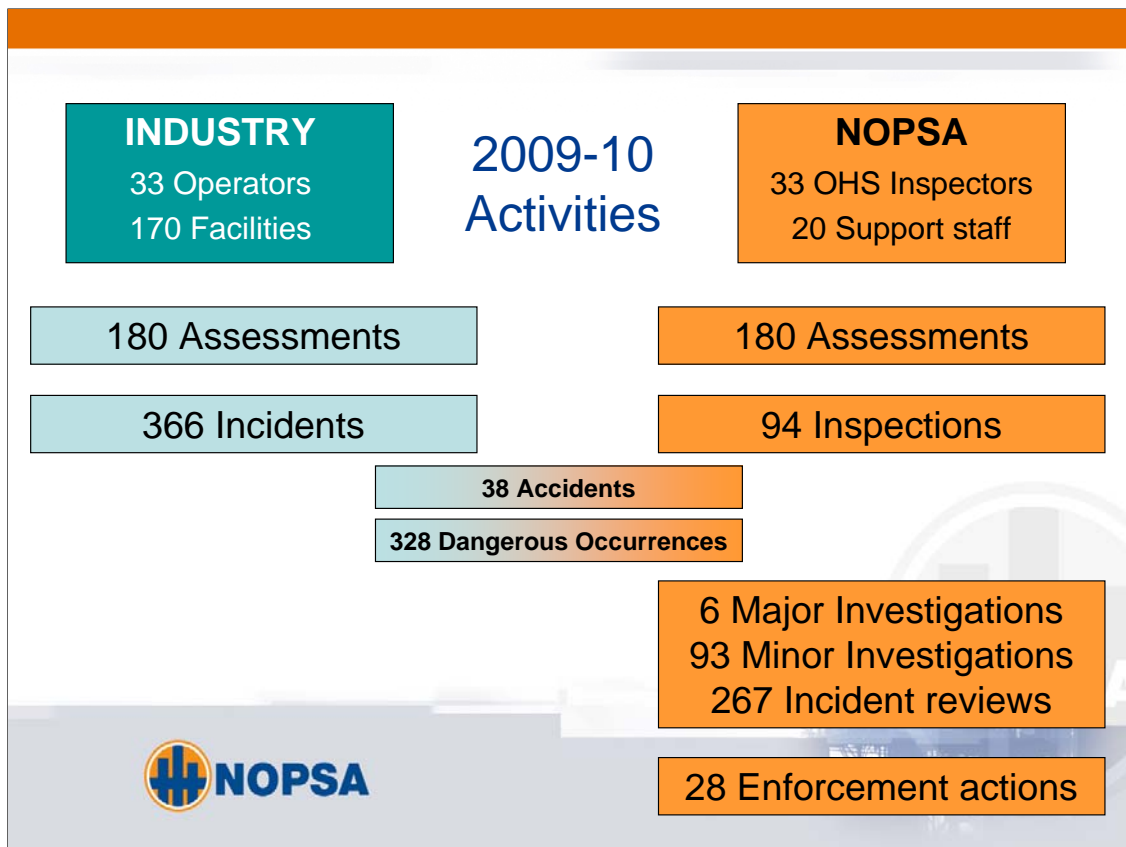
One of the most important principles for a safe industry is clear responsibilities. In our system the responsibility for safety lies with those best placed to manage safety. In other words, the Operators of facilities are responsible for the safety of their facilities and those working on them.



NOPSA is the National Offshore Petroleum Safety Authority. We are a Federal Government Statutory Authority and I report to Minister Martin Ferguson. Our role as regulator is to provide independent and robust challenge to Operators.

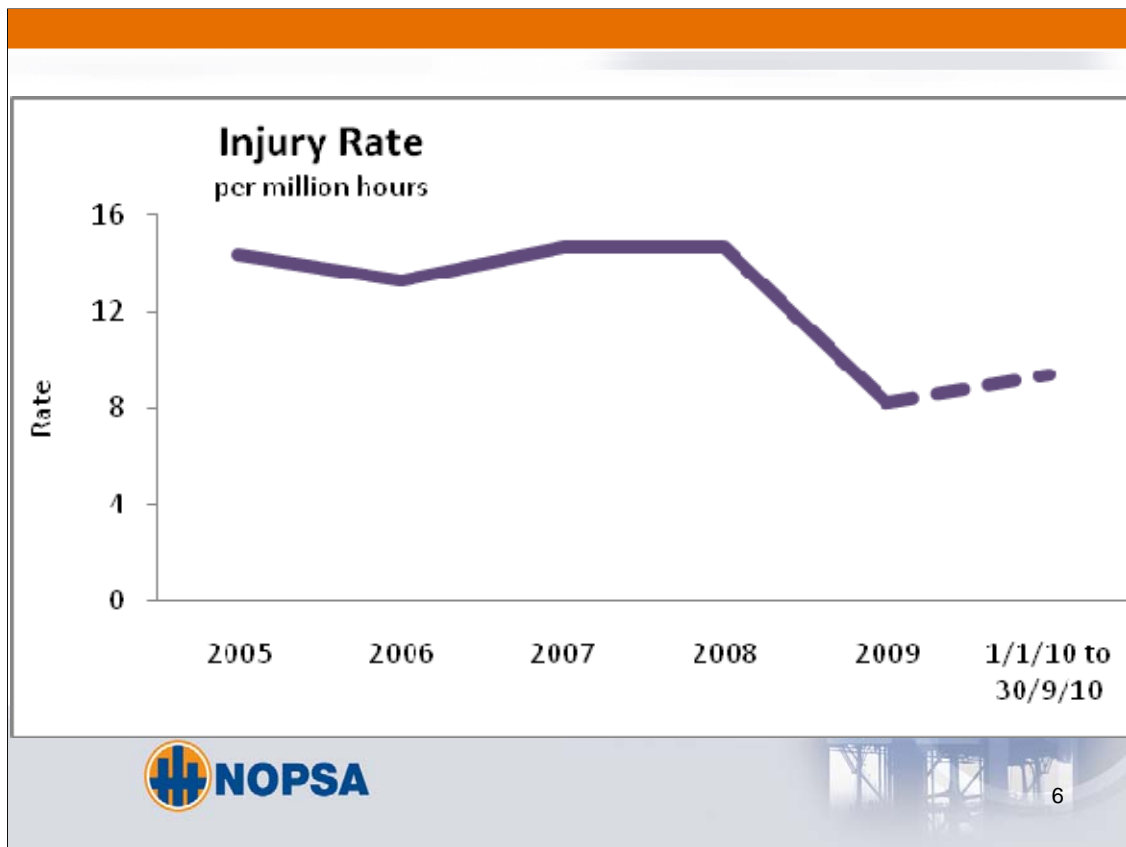
At the heart of what we do is ask Operators three questions:

- “Are you doing enough to be safe?” This is documented in a Safety Case and assessed by NOPSA prior to activities in the field. A Safety Case is a point in the process of safety that starts at the time of the earliest discussions about the possibility of developing a particular resource and continues until after decommissioning of the facility.
- “Are you doing what you said you would do?” We inspect facilities, rather like an audit, and we verify on a sampling basis.
- When something goes wrong we ask “What happened? Why? What can we learn? Did anyone break the law? Is enforcement needed?”
- Until last week our remit covered facilities such as platforms and drill rigs – we now have a function to regulate well integrity. These legislative amendments also clarify the titleholder’s responsibility for well integrity. NOPSA is now moving to develop a best practice approach to regulating well integrity.



This gives you a sense of the scale of NOPSA.

We are currently recruiting for five new inspectors to support an increase in the number of inspections of drill rigs and normally-attended production facilities to twice per year. We will now commence recruiting additional well integrity expertise.



Moving to industry performance, this graph refers only to facilities in NOPSA's jurisdiction.

The decline in injury rate is actual harm avoided – more people are going home safely.

It reflects the results of the work that a number of operators have put in to reducing personal injury rates over the last few years.

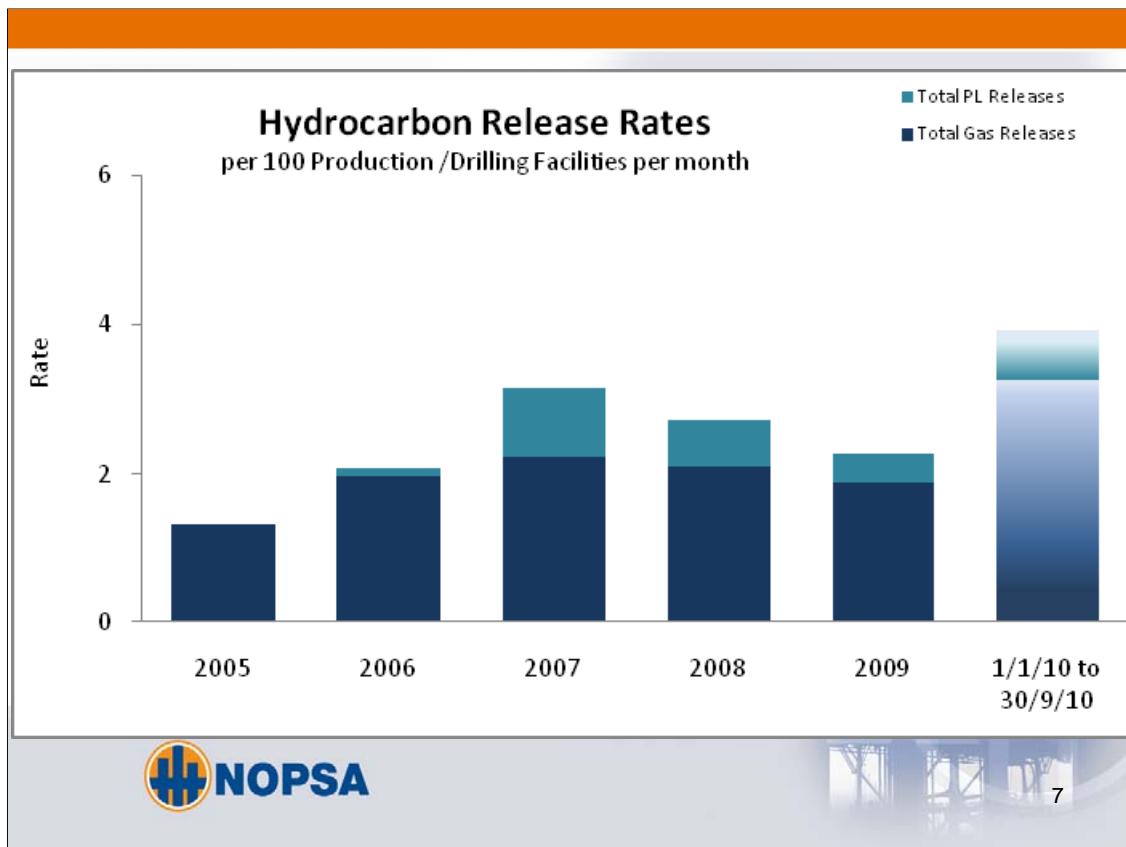
But lower personal injury rates, less slips, trips and falls does not mean a lower risk of exploding oil rigs!

Questions for investors to ask...

“What is your safety performance ? How does it compare with your peers? What are the trends?”

What are your injury rates?

Do you collect information about near misses? What does it look like?”



Unfortunately we can see here that there has been an increase in hydrocarbon releases over the first 6 months of this year. Given that any hydrocarbon release, no matter how small shows a loss of control, this is a concern and is a focus of our attention. Remember the initial leak that lead to the Piper Alpha disaster was only about 30kg.

If it doesn't leak it can't explode!

Questions for investors

Show me the hydrocarbon release data for your facilities?

What are the causes?

What have you done to fix the problems permanently?

Root Causes					
2005	2006	2007	2008	2009	Q1 2010
Procedures - Not Followed	Preventive Maintenance	Preventive Maintenance	Preventive Maintenance	Procedures - Not Followed	Procedures - Not Followed
Preventive Maintenance	Procedures - Not Followed	Design Specs	Procedures - Not Followed	Design Specs	Design Specs
Design Specs	Human Engineering - Machine Interface	Procedures - Not Followed	Design Specs	Preventive Maintenance	Preventive Maintenance Training - Understanding

Turning now to the root causes of all incidents and accidents reported to NOPSAs – you can see there is a pattern. We can see that there are three areas to work on:

- Get the design right;
- Maintain it properly; and
- Have good procedures.... And follow them! Write it how you do it and do it how you write it.

Investors might like to :

- Understand maintenance budget and backlogs;*
- Understand the implications of shifting capex to opex when facilities are rushed into production to meet a commitment to the market; and*
- Recognise the risks when a facility starts its productive life with a maintenance backlog.*

Safety Culture

***Safety culture is
how the organisation behaves
when no one
is watching.***

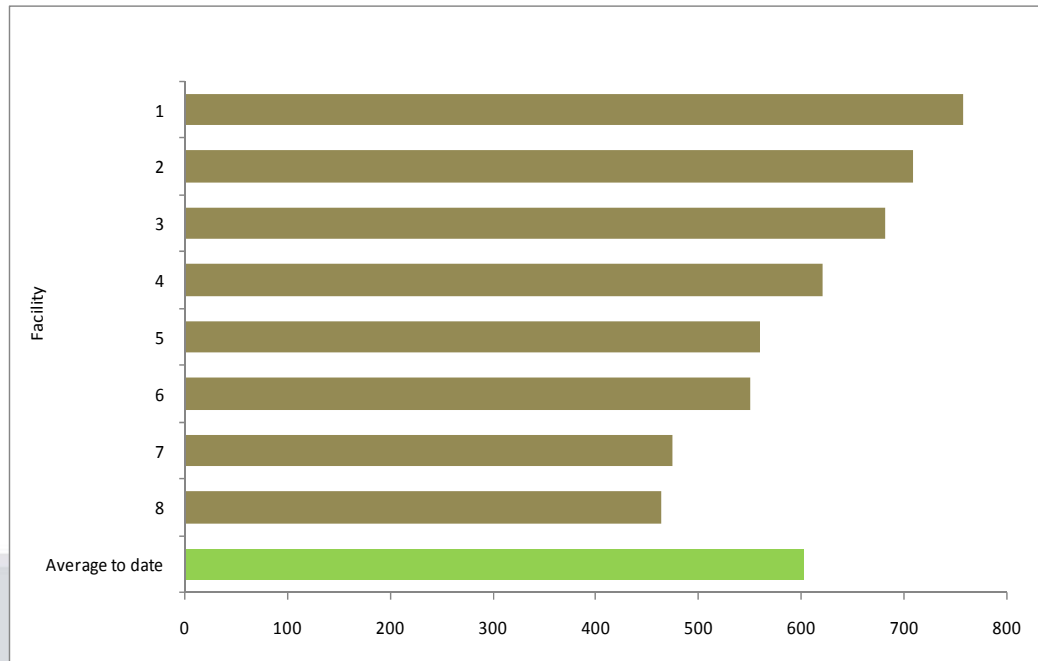


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Words inspired by "**Safety culture is how the night shift operates when it is alone without management watching**" Jean-Marc Jaubert, head of safety at French major Total, quoted in the *Chemical Engineer* July/August 2010.

NOPSA has started work in this area. We have used the methodology used by the Baker Inquiry into the Texas City disaster. A survey comprising a series of questions in 8 topic areas was given to the offshore workforce during inspections on 8 facilities as well as senior management onshore.

Safety Culture Facility Score



A benchmark score is not included here as not all categories have benchmarks.

A series of questions were asked in eight topic areas, with a wide variation in scores between facilities.

Two topic areas had 50% or more of facilities scoring below the benchmark in:

- Training;
- Reporting (internal reporting).

We even saw significant variation between facilities run by the same Operator.

In summary, our preliminary findings show a wide variation in results between facilities here in Australia.

Investors might like to ask about safety culture and safety leadership.

NOPSA Focus Areas

- Process safety culture
- Asset integrity / aging facilities
- Maintenance management
- Emergency response
- Contractor management



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And it won't surprise you to see NOPSA's current focus areas.

We will be paying particular attention to these areas in our:

- Safety Case assessments;
- Inspections; and
- Promotional activities.

Learning from history

“The past seldom obliges by revealing to us when wildness will break out in the future...”



Quote from: *Against the Gods, The Remarkable Story of Risk*, by PL Bernstein.

This photo is not Montara...

It is ENSCO 51 in the Gulf of Mexico from 1 March 2001

There were many similarities with Montara...except it only took about 20 hours to ignite, even with deluge, and the flow was bridged naturally fairly quickly.



Montara 21 August 2009

Immediate Cause:
Primary cementing
integrity failure

Root Cause:
Systemic failure of
management systems,
non-compliance with
operating procedures



As for Montara...

We await the public release of the Commission of Inquiry report in the near future.

NOPSA lodged a brief of evidence with the Commonwealth Department of Public Prosecutions (CDPP) in June. The CDPP are working through their processes to determine how best to approach any potential prosecution.

There is a lot of information available on the public record, from this we can conclude that:

- The immediate cause was a poor cement job and failure of the float valves; and
- The root cause was a systemic failure of management systems and non-compliance with operating procedures. The standards processes and procedures seem to have been in place but not adhered to for some reason.

Deepwater Horizon – Gulf of Mexico 20 April 2010



- Well integrity not established / failed
- Hydrocarbons entered the well undetected – well control lost

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Source: Deepwater Horizon Accident Investigation Report
September 8, 2010
BP

Many pages of writing and pictures and detailed discussion of the technical aspects of drilling and well control have entered our living rooms. Many inquiries and reports, we are fostering a reasonable understanding of what happened, but so far they haven't really addressed the question of WHY it happened.

Key findings ...

The annulus cement barrier did not isolate hydrocarbons;

The shoe track barriers did not isolate the hydrocarbons;

The negative pressure test was accepted although well integrity had not been established;

Influx was not recognised until hydrocarbons were in the riser; and

Well control response actions failed to regain control of the well.

Foreseeable and Inevitable?

- Hydrocarbons ignited
- The BOP did not seal the well



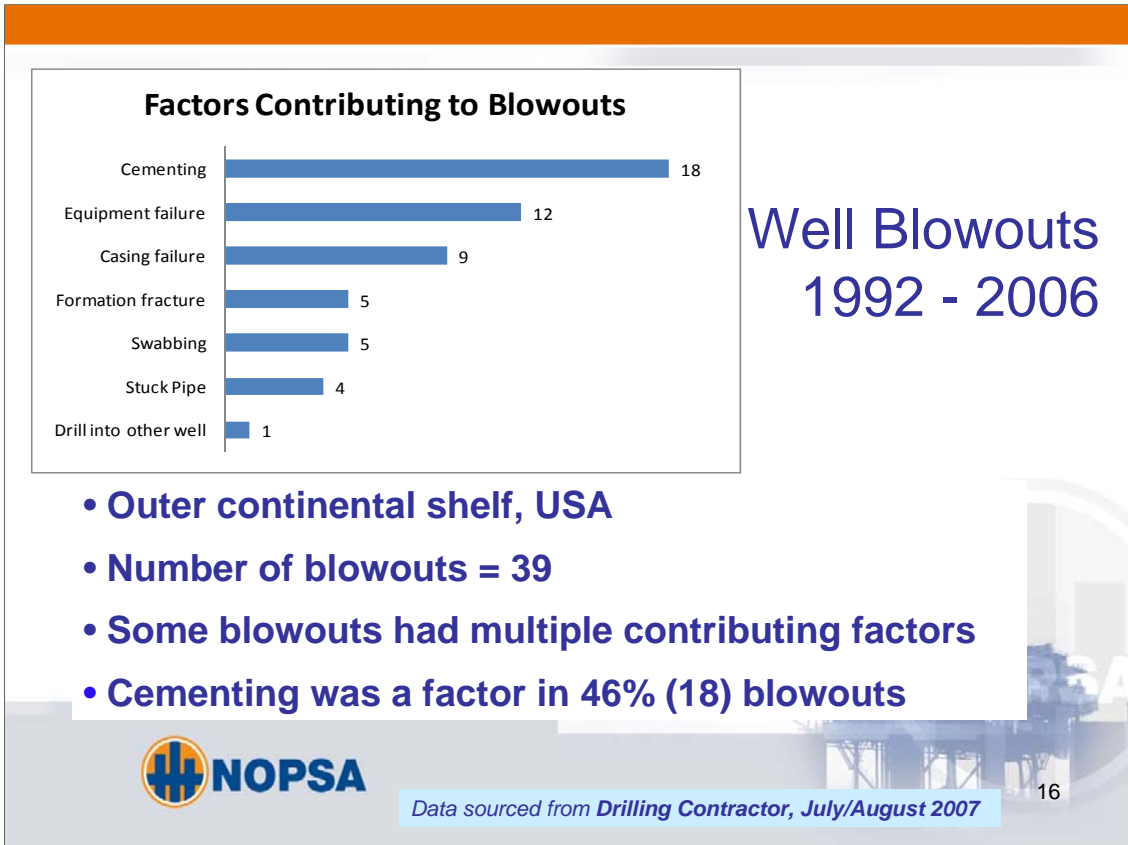
Once events had reached this point the result was inevitable.

Diversion to the mud gas separator resulted in gas venting onto the rig.

The fire and gas system did not prevent hydrocarbon ignition (insufficient measures to prevent gas ingestion into enclosed non-hazardous area containing ignition sources).

The Blowout Preventer (BOP) emergency mode did not seal the well.

The BP report contains some salient lessons but doesn't answer the question WHY... For each of the eight findings there are some deeper and more challenging questions.



I would make a personal observation - blow outs have been around for a long time. Recent data says cement has been a factor in 46% of blowouts.

I would suggest that whilst technology has moved on, the basic principles of drilling have not changed since I was a drilling engineer ... cement is a critical barrier ... barriers are important ... and it is not a barrier unless it is proven!

Gulfaks C Platform - Norway 20 May 2010



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A well control incident in Norway, involving loss of well control.
Non essential personnel were evacuated and well control was eventually regained.

From a report on the incident, the Norwegian regulator – the PSA – concluded:

“...that serious deficiencies have been identified in Statoil’s planning of this Gulfaks well and in management checks that the work was being done in an acceptable manner”

Consider a Reuters headline from yesterday:

“UPDATE 1 - Luck stopped Statoil well blowout in May - watchdog”

We now have a situation where we have serious incidents in three of the major offshore petroleum provinces – here in Australia, in the Gulf of Mexico and in the North Sea.

Aban Pearl – Venezuela 14 May 2010



Now, before we get too myopic about deepwater drilling we should remember that Montara was a Jack-up in shallow water.

We should also pay attention to some recent incidents that have not received so much publicity.

In May this year, the Aban Pearl – also known as the Treasure Seeker, built in 1977 in Norway – took in water, capsized and sank. Fortunately, there were no fatalities or injuries, according to reports.

Speculating, on the basis of no information, there was a hull integrity breach in combination with bilge/ballast issues.

Now before you say it couldn't happen here ...

There are currently about 15 mobile offshore drill rigs (MODUs) currently operating in Australia.

10 are more than 20 years old – you may be aware that there was a significant upgrade to MODU codes in 1989.

Three are more than 30 years old – the same vintage of the Aban Pearl. Please think about how you can assure yourself that the facilities working on your investments have what we term 'integrity'.

Varanus Island 3 June 2008

- Fire & explosion of one pipeline - three adjacent pipelines failed
- WA Dept of Mines & Petroleum (DMP) prosecution underway
- 2009 - Bills/Agostini Inquiry into Varanus Island
- Economic impacts



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So we don't lose sight of the fact that the oil and gas industry has many facets ...Let's look at the Varanus Island fire in 2008, where a failure and explosion of one pipeline initiated failure in three adjacent pipelines.

NOPSA's Final Report into the incident (conducted at the request of the then Western Australian Department of Industry and Resources) concluded that corrosion and ineffective inspection and monitoring were the causes of the incident. Apache, in reporting to the US SEC noted that its 'Company subsidiaries disagree with NOPSA's conclusions'.

The DMP has filed a prosecution notice in the Magistrates Court of Western Australia, charging Apache with failure to maintain a pipeline in good condition and repair under the *Petroleum Pipelines Act 1969*. Apache, in reporting to the US SEC noted that the Company subsidiary 'plans to vigorously pursue its defenses'.

There have been a number of inquiry reports – but the joint Commonwealth and State Offshore Petroleum Regulation Inquiry is yet to be released by the State Government.

Media reports note that the explosion resulted in significant economic impacts on companies tethered to the WA economy. There have been many media reports concerning litigation activity and insurance claims.

Implications ...

➤ For industry

- Media spotlight
- Loss of reputation & community trust
- Insurance and liability
- Cost increases
- Can smaller companies and minor partners pay and survive?
- Which entity is ultimately responsible for safety?
- Minimum standards vs best practice



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Together these incidents have a wide range of implications for the industry:

- Media attention;
- Loss of reputation and community trust – many communities are now saying “not in my back yard” – pressure is building for increased regulation;
- In the US there is discussion of unlimited liability – to avoid any taxpayer burden. How that may manifest here such as bank guarantee, bonds ... Is not yet clear;
- Drivers for cost increases include greater redundancy in equipment and in the US higher criminal/civil penalties. A consortium of the four majors is proposing to spend US \$1billion on a rapid deployment spill containment system – perhaps we should pause and reflect whether the money would be better spent on prevention of the incident rather than managing the consequence.
- Will smaller companies pay the extra costs? Has the barrier to entry been raised? Will minor partners be able to pay in the event of a problem? If not, why have a minor partner? Will there be industry consolidation?
- Which entity is ultimately responsible for safety?
- The ongoing debate about minimum standards versus best practice.

Implications...

➤ For government & regulators

- Independence of safety regulator
- Regulatory capture
- Performance-based vs prescriptive requirements
- Quality of staff / challenge / inspection / training



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There are also implications for governments and regulators:

- Events in the US have highlighted the importance of an independent regulator;
- The need to avoid regulatory capture; and
- Discussion of the merits of a performance-based approach vs a prescriptive approach – perhaps the answer lies in a combination.

At the heart of these discussions is the capability of the regulator – the importance of obtaining good staff, independent challenge, high quality inspections and training. We need well trained, experienced and capable regulators if they are to credibly challenge some of the best and brightest within the industry.

Questions for us all to think about ...

- Why does the safety performance of the offshore industry seem to be deteriorating?
- Are the underlying causes specific to particular activities (drilling) or facilities (drill rigs) or Operators ... or are they fundamental to the industry?
- How well do we learn from the lessons of the past?
- Why predominantly focus on the safety culture of people at facilities – what about the culture of those who design facilities and allocate budgets to construct & maintain them? What about the fund managers who define success?



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Finally I would like to leave you with questions to consider ...

As an aside to the fourth point we could look at the safety culture of those in the financial services industry who say “compliance with the law is enough” – perhaps it is *not* enough in a performance-based regime.

There are no new types of incidents - only people with short memories or no memories.



Thank you