Occupational health and safety, well integrity and environmental regulation

Australian Oil and Gas Course – UWA Law School
25 June 2015
• Why have a regulator?
• Why NOPSEMA?
• How is NOPSEMA set up?
• What does NOPSEMA do?
• What are NOPSEMA’s priorities?
• How does it regulate?
• Why does it regulate the way it does?
• Is NOPSEMA effective?
Occidential, Piper Alpha, UK

July 1988, 167 fatalities
BP, Texas City Refinery, US

March 2005, 15 fatalities
NOPSEMA

PTTEP, Montara, Australia

October 2009, Blow-out
BP, Macondo, Gulf of Mexico

April 2010, 11 fatalities

Extensive environmental impact
 Chevron, Nigeria

The KS Endeavor jack-up rig, Funiwa, 2012
Hercules Offshore, Gulf of Mexico

Hercules 265 Jack-Up Rig, 2013
Premex, Gulf of Mexico

Abkatun Permanente platform, 4 fatalities, April 2015

Jack up rig, Abkatun-Pol-Chuc field, Bay of Campeche, 2 fatalities, May 2015
Commonwealth regulatory regime for offshore petroleum
Background and history

1988: Piper Alpha disaster, North Sea, United Kingdom
1996: Safety case regime enacted in Australia
1999: COAG commissioned independent review of offshore regulation
2001: COAG review recommended single Commonwealth offshore safety regulator
2006: Offshore Petroleum Act 2006 introduced
2010: BP Macondo, Gulf of Mexico, United States (April 2010)
2011: NOPSA regulation of well integrity commenced (Apr 2011)
2012: National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) established (Jan 2012)
2014: NOPSEMA endorsed as sole regulator for offshore petroleum environmental approvals (Feb 2014)
2015: Commencement of financial assurance requirements (Jan 2015)
Corporate governance

- Responsible Commonwealth minister
- Council of Australian Governments Energy Council
- Responsible state and Northern Territory minister
- NOPSEMA CEO
- NOPSEMA Board

Flow of information:
- Council of Australian Governments Energy Council consults Responsible state and Northern Territory minister.
- Responsible state and Northern Territory minister provides advice and recommendations to NOPSEMA CEO.
- NOPSEMA CEO reports policy/direction to Responsible Commonwealth minister.
- Council of Australian Governments Energy Council reports and information to Responsible state and Northern Territory minister.
- Responsible state and Northern Territory minister provides advice and recommendations to NOPSEMA Board.
- NOPSEMA Board requests advice and recommendations from NOPSEMA CEO.
Legislation administered by NOPSEMA

- **Offshore Petroleum and Greenhouse Gas Storage Act 2006**
  - Schedule 3 – OHS law
    - Safety Regulations 2009
      - Part 5 – Resource Management and Administration Regulations 2011 (Wells Regulations)
      - Environment Regulations 2009
- **Regulatory Levies Act 2003**
  - Regulatory Levies Regulations 2004
Regulation of the offshore petroleum lifecycle

Seismic / other surveys:
- Environment Plan (EP)

Drilling:
- SC, EP, WOMP, AAUWA

NOPSEMA
- [OPGGS Act]

Project Concept
- OPP

Construction, Production:
- SC, EP, PSZ

Decommissioning:
- SC, EP, AAUWA

Construction Operations Decommissioning

Development
- SC, EP, PSZ

Operations
- field development plan

title surrender

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NoPTA/JA
- [OPGGS Act]

acreage release and bid

award title
Legislative functions

- Monitor and Enforce
- Investigate

Compliance

- Promote
- Advise

Improvement

- Co-operate
- Report

Governance
Jurisdiction

NOPSEMA

Commonwealth Waters

Western Australia

Northern Territory

South Australia

Queensland

New South Wales

Australian Capital Territory

Victoria

Tasmania

Relevant State/NT Minister or

NOPSEMA where functions conferred
• Conferral of powers
• Environmental streamlining
• Stakeholder engagement
• International standing
• Maintain industry performance
Objective-based Regulation
RISK CREATORS SHOULD TREAT THE RISK
RISK CREATORS SHOULD ANALYSE THE RISK
RISK CREATORS SHOULD IDENTIFY THE RISK
What does the regulator do?

- Assess – gives permission to operate
- Inspect – monitor compliance
- Investigate – identify non-compliance
- Enforce – expedite return to compliance

**This only works when...**

- Industry can see the risks
- The risks can be controlled
- Industry have an vested interest in risk control
- Industry are happy to disclose (have the right mentality)
Outcome mentality

You’ve made a mistake

Take ownership of the problem and assess the possible consequences

Are they potentially serious?

Yes

Tell someone senior immediately

No

Take corrective action and inform those affected

Investigate why the mistake occurred

Is there a flaw in the system?

Yes

Share your discovery and improve the process

No

Try and learn from your mistake

Problem solved

Courtesy of Elmer P. Danenberger III
Compliant Mentality

You’ve made a mistake

Will it show?

Yes

Can you hide it?

Yes

Conceal it before anyone finds out

No

No

Can you blame someone else, or special circumstances?

No

Bury it

Yes

Could an admission damage your career prospects?

No

Get in first with your version of events

Yes

Sit tight and hope the problem goes away

Problem avoided

Courtesy of Elmer P. Danenberger III
Policy background

OUTCOME AND IMPROVEMENT MENTALITY

ACTIVITY SPECIFIC ASSESSMENT

OBJECTIVE-BASED REGIME

ENCOURAGES FLEXIBILITY & INNOVATION

BURDEN OF RESPONSIBILITY ON RISK CREATOR
Conceptual imperatives

Transparent process
- Demonstrating published risk tolerance criteria are met
- Making the commitment to perform
- Meeting the level of performance

Impartial regulator
- Removed from resource promotion
- Separated from policy and direct Ministerial oversight
- Expert staff who make judgements on technical merits

Uncompromised foundations
- Risk management framework
- Imposition of general duties on the operator
- A ‘case’ approach accepted (or not) by the regulator
Case essentials

1. Content and level of detail
2. Reasoned and supported argument
3. Transparent decision making
4. Commitment to quality risk/impact management
5. Unambiguous and enforceable commitments
Recognition that it is not possible to entirely remove all risk.

Focus on how activities go ahead, not when or if.

Legislative duties qualified by:

- ‘all reasonably practicable steps’
- ‘reduce so far as is reasonably practicable’
- ‘reduce to a level that is as low as reasonably practicable’ (ALARP).
Control measures are the basis for managing risk

Must demonstrate scrutiny of existing control measures and considered array of alternatives

Must demonstrate how control measures will be effective

Must set performance standards for the effectiveness of control measures
Nuances

- Differences in terminology across the regulations
- Titleholders and operators
- Hazards and risks vs impacts and risks
- Demonstration of acceptable levels
- Levies paid on submission or on acceptance
- Stakeholder engagement vs workforce involvement
Operators of offshore facilities make a ‘case for safety’ which includes:
- facility description
- detailed description of formal safety assessment
- detailed description of safety management system.

Operators must demonstrate that they have taken all the steps necessary to reduce risks to a level that is as low as reasonably practicable (ALARP)
• Titleholders submit an environment plan which includes:
  – a description of the activity and the environment
  – an assessment of all impacts and risks
  – an implementation strategy
• Titleholders must demonstrate that they have taken all the steps necessary to reduce risks to a level that is as low as reasonably practicable (ALARP) and to an acceptable level
Titleholders submit a well operations management plan (WOMP) which requires the titleholder to control well integrity hazards or risks where integrity means:

- under control in accordance with an accepted WOMP
- able to contain reservoir fluids
- subject only to risks that have been reduced to a level that is as low as reasonably practicable.

Risks managed in accordance with sound engineering principles, standards, specifications and good oil field practice

Approval of applications for specific well activities that change well bore
Titleholders/operators must have an accepted ‘case’

Demonstration risks are reduced to ALARP

Performance standards must be specified and monitored for effectiveness

Titleholders/operators must act in accordance with their acceptance

Reporting requirements must be met
Data and statistics
Some of the highlights of the data published include:

- Injuries and complaints are both at the lowest levels since 2005.
- The number of improvement and prohibition notices issued has halved from 30 to 15.
- 7% decrease in the total number of reportable incidents.
- 16% increase in the number of hydrocarbon releases overall.
- 15% increase in the number of inspections undertaken by NOPSEMA.
Dangerous occurrences - unplanned events, SCE* damage, other

Note: SCE refers to safety-critical equipment.
Root causes of OHS reportable incidents

2014 OHS incidents - reported root causes

- Design: 20%
- Preventive Maintenance: 15%
- Procedures: 10%
- Human Engineering: 5%
- Equipment Parts/Defects: 5%
- NA or None: 2%
- Work Direction: 2%

NOPSEMA
International benchmarking-Hydrocarbon gas releases

Hydrocarbon gas release rates - selected country comparison
IRF member countries with comparable regimes to Australia

Rate per 100 million BOE

- Canada
- UK
- Australia
- Netherlands
- Norway

Years: 2005 to 2014
Total recordable cases (TRCs) - injuries

Note: Total recordable cases is the sum of fatalities, major injuries, LTIs (lost time injuries), ADIs (alternative duties injuries) and MTIs (medical treatment injuries)
International benchmarking - Injury rates

Injury rates - selected country comparison
IRF member countries with comparable regimes to Australia

- Netherlands
- Norway
- Canada
- UK
- Australia
Assessment and inspection

Assessments notified

Note: Assessments where NOPSEMA has formally notified the duty holder in writing of a decision. Only includes assessments that have been notified and completed (i.e. excludes those in progress and recalled/cancelled).

Inspections
Enforcement actions

Note: Excludes verbal warnings/advice, directions and investigation notices
Keeping in touch

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- *The Regulator* newsletter
- Environmental management news
- Well integrity news
- Safety news
- HSR news
- Safety alerts
- Environment alerts
- Media releases
Questions?