



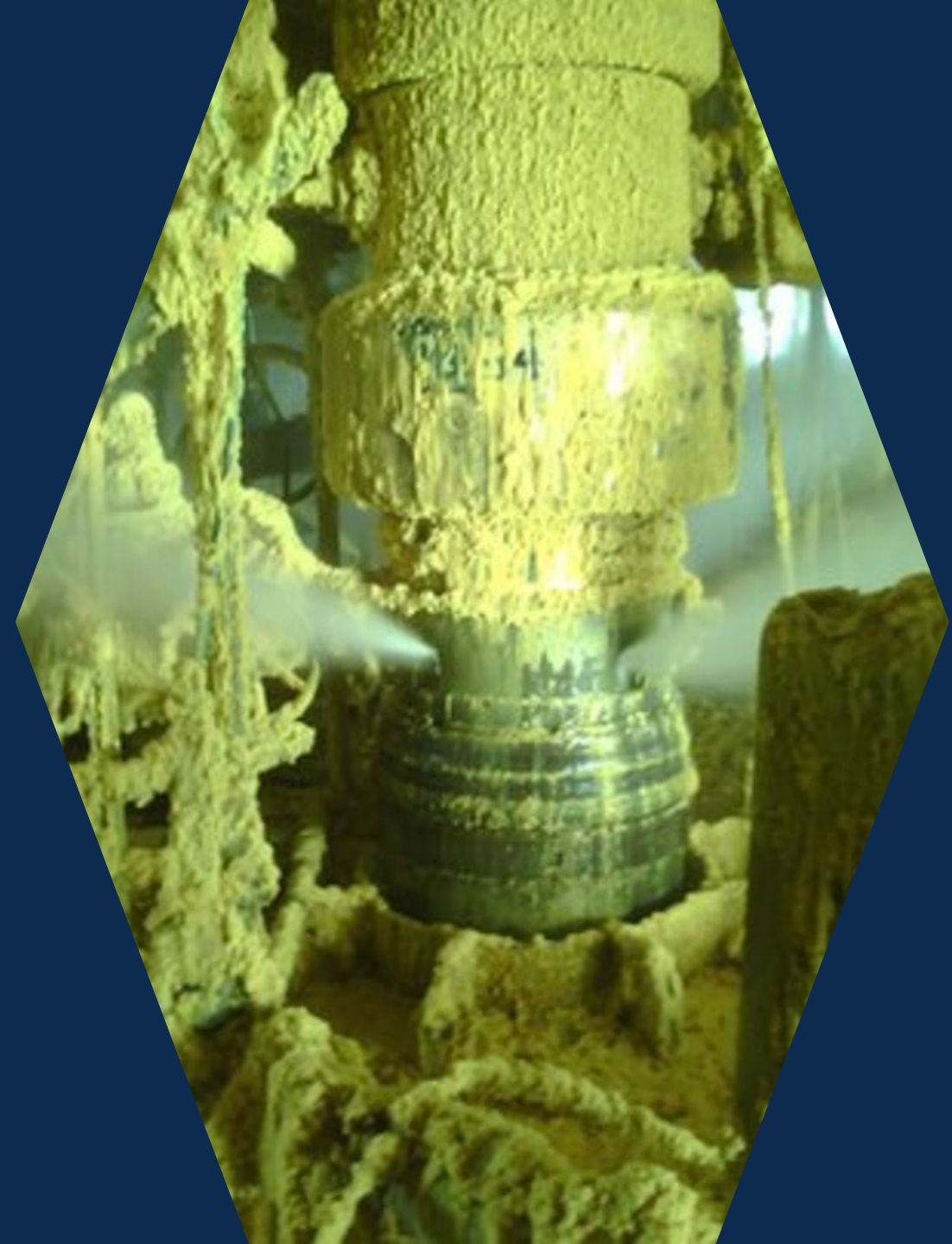
NOPSEMA

Australia's offshore
energy regulator

**International Association of Drilling
Contractors
Australia Chapter – 56th AGM**

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Head of Division Safety & Integrity

nopsema.gov.au



Thank you..... IADC, Drilling Contractors, Staff

**Aiming to keep people safe in troubled times through
“never seen before” collaboration and leadership at all levels**

International

- Global COVID-19 initiatives
- Executive leadership through financial restructuring
- Personal engagement in key operational matters
- Support of International Regulators Forum, International Oil & Gas Producers – “Problem Statement” initiative

Australia

- COVID-19 initiatives
- Support of DrillWell, DrillSafe
- Engagement with Drilling Industry Steering Committee
- Engagement through MODU inspections
- Making NOPSEMA’s contribution highly visible

Agenda: Things on our mind.....

Many, but we're highlighting three issues for today

1. Tackling global issues

- IRF/IADC/IOGP “Problem Statement” initiative
- Innovative methodology: opportunity to replicate on success
- Collaborative approach leveraging global reach

2. Decommissioning

- Increased expectations for timely actions
- Guidance available
- Regulatory actions
- New legislation proposed

3. Interface risks

- Broader risk identification & control
- Oil co/ drilling contractor/ service partner interfaces
- Collaborative approach

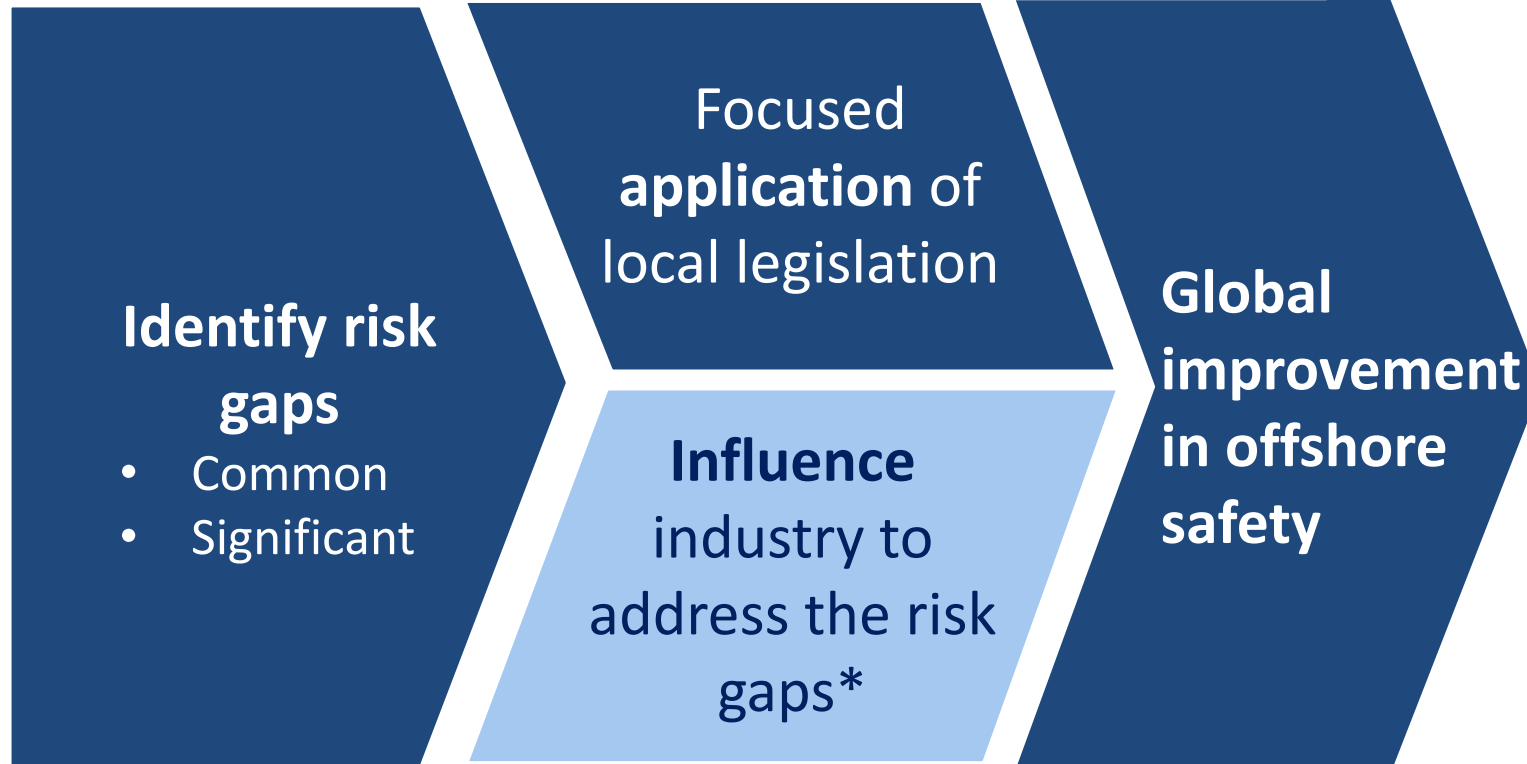
1. Tackling global issues

IRF “Problem Statement” Initiative



International
Association
of Oil & Gas
Producers

Tackling global issues: An IRF Vision



Why IRF?

IRF is ideally positioned to drive safety improvement in the upstream O&G industry:

- Privileged access to information
- Global perspective
- Safety focus, often linked to environment
- Legal powers to enact change
- Influence at many levels

*Locally, plus collectively via global industry organisations

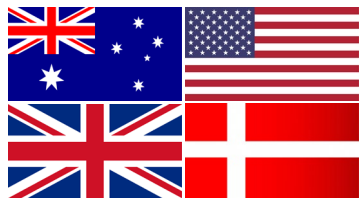


Which Problems are being tackled

IRF and industry have prepared the following 3 problem statements to be addressed collaboratively

Prevention of well control incidents

- Greater emphasis on left hand side of well control bow-tie, particularly with regards to PFIG prediction and monitoring
- IRF oversight: Australia, USA, UK, Denmark



Investigation quality

- Improve investigation quality and improve ways to embed learnings
- IRF oversight: Brazil & Ireland



Digitalisation

- Reducing risks from automated systems with a human-centered design approach
- IRF oversight: Norway & Canada



Well Control Problem Statement

Problem statement:



Greater emphasis is needed on the left-hand side of the “Loss of Well Control” bow tie, particularly on pore pressure & fracture gradient prediction (PPFG) and its application to well design and construction.

Expected outcomes:

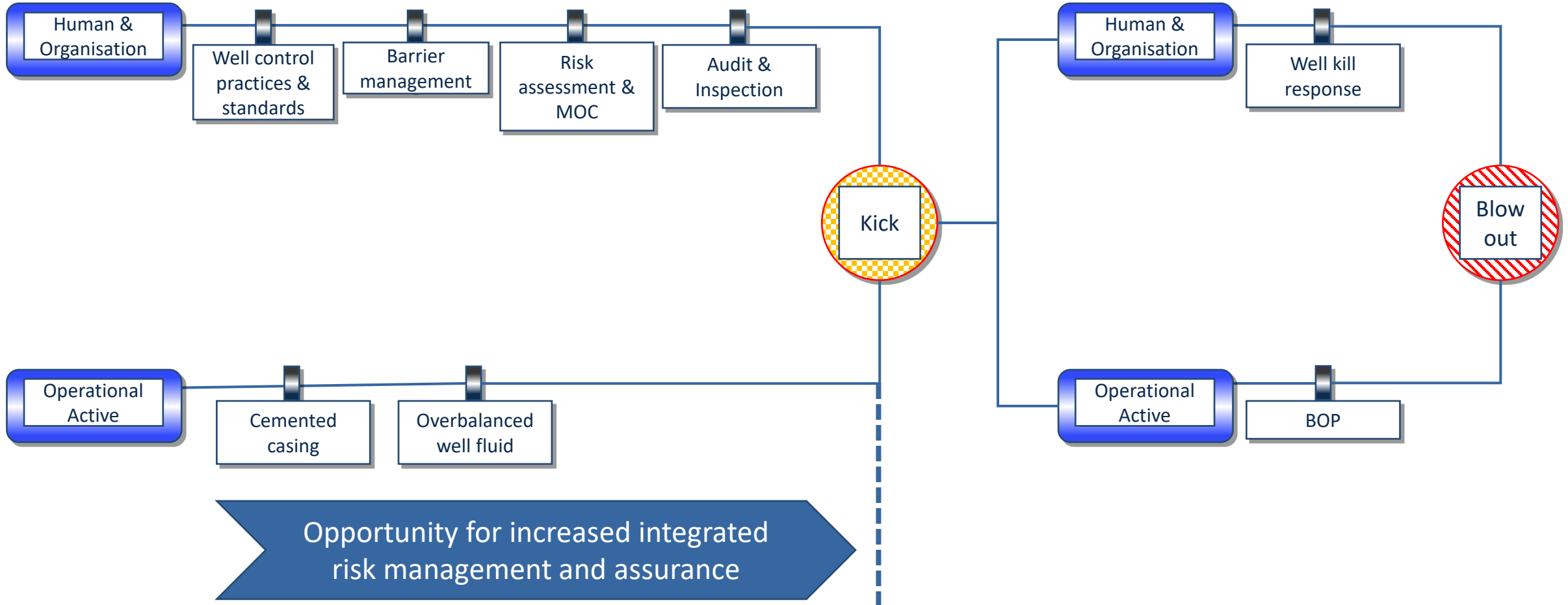
- Systematic approach to PPFG prediction
- Systematic workflows for translating PPFG data into well design
- Systematic implementation of existing guidance on well operating envelopes

Deliverables/KPIs:

- Publish PPFG industry guidance – target by Q1, 2022
- Joint IRF/IOGP/IADC implementation
- Reduced risk of well control incidents

| | |
|--|--|
|   <p>International Regulators' Forum GLOBAL OFFSHORE SAFETY</p> | |
| <p>Title: Proposed submission for IRF *</p> <p>Well Integrity: Prevention of Well Control Incidents , the case for industry guidelines</p> | |
| <p>Problem Statement:</p> <p>Much industry collective effort has gone into defining responses to deal with any loss of well control situation. Recent data and incidents provide a view that a deeper understanding of the underlying hazards and how industry designs for them is worthy of collective action. This will strengthen industry focus towards the Left Hand Side of the “Loss of Well Control” bow tie and thus reduce the likelihood of any loss of well control events taking place. The planned efforts can be split in three broad areas:</p> <ol style="list-style-type: none"> 1) Well design “inputs” (pore pressure/fracture gradients/geological risks). 2) translation of 1) into efficient and safe well designs 3) definition of safe operating envelopes for Wells activities in the operations and production phases. <p>It is recognized that -whilst some areas like pore pressure/fracture gradient prediction has no universally accepted industry guidelines- in other areas guidance does exist. As such, this effort will likely need some development of new guidance but also target implementation of existing guidance.</p> | |
| <p>The change we expect to see:</p> <ul style="list-style-type: none"> • Systematic industry approach to pore pressure/fracture gradient prediction, likely through the development and adoption of new industry baseline guidance. • Systematic work flows and key technical elements required for translating any new pore pressure/fracture gradient guideline into efficient and safe well designs, likely through development and implementation of new industry baseline guidance. • Systematic implementation of existing relevant guidance on safe well operating envelopes. | |
| <p>External Organization(s) that could be tasked with leading the change / developing the solution:</p> <ul style="list-style-type: none"> • EAGE / IOGP / API / IADC / IWCF | |
| <p>Key performance indicators:</p> <ul style="list-style-type: none"> • Development of industry wide standards or guidelines. • IRF/IOGP collaboration on selection of targeted guidance for shared implementation focus. • Reduced likelihood of well control incidents. | |
| <p>Owner:</p> <p>Contributors:</p> | <p>Date: DD Month Year</p> <p>*Action from S.Pinks email dated 26 September 2019</p> |

Focus on left of Bow Ties - Example



2. Decommissioning

Increased expectations for timely action



NOPSEMA
Australia's offshore energy regulator



Decommissioning Policy

Section 572 Maintenance and removal of property

Document No: N-00500-PL1903 A720369

Date: 20/11/2020

Background to policy

Section 572 of the *Offshore Petroleum and Greenhouse Gas Storage Act 2006* (OPGG Act) places duties on titleholders in relation to the maintenance and removal of structures, equipment and property brought onto title.

In the October 2019 Statement of Expectations from the Minister for Resources and Northern Australia, the Minister highlighted the need for heightened oversight of titleholders' compliance with their obligations under section 572 of the OPGGS Act.

The statement of expectations requires NOPSEMA, through its regulatory processes, to ensure that titleholders maintain structures, equipment and property in the title area used in connection with the operations authorised by the title, and to remove them when neither used, nor to be used. Deviations from the requirement to remove property can only be accepted where it is appropriate having regard to the Australian Government *Offshore Petroleum Decommissioning Guideline*.

NOPSEMA's statement of intent issued in November 2019 outlined that NOPSEMA will, through its compliance monitoring and enforcement activities, ensure that titleholders are appropriately planning for and executing decommissioning activities in a timely and responsible manner.

To give effect to the statement of expectations and NOPSEMA's statement of intent, NOPSEMA has established this regulatory policy to communicate how it will focus on titleholders' compliance with section 572 through compliance monitoring and enforcement activities.

This regulatory policy may need to be amended depending on the implementation approach contained in the proposed Australian Government Decommissioning Policy Framework that is to be released. This regulatory policy continues to apply in the context of the existing legislative and administrative framework until these changes come into force.

§572(2)

A titleholder must maintain in good condition and repair all structures that are, and all equipment and other property that is:

- a) in the title area; and
- b) used in connection with the operations authorised by the permit, lease, licence or authority.

§572(3)

A titleholder must remove from the title area all structures that are, and all equipment and other property that is, neither used nor to be used in connection with the operations

Policy

- Safety Case
- Environmental Plan
- WOMP

Decommissioning Plan

| What is the level of regulatory intervention I may expect? | What are the triggers that will result in this type of compliance action? | What type of compliance actions may be applied? |
|--|---|--|
| 1. Higher level of regulatory oversight | <ul style="list-style-type: none"> Field is in a permanent state of non-production No permitting document in place to conduct necessary decommissioning activities Suspended wells or infrastructure posing integrity risk No/limited progress in executing field decommissioning to approved end-state Evidence of integrity issues that are likely to limit decommissioning options Asset sale being progressed | <ul style="list-style-type: none"> Compliance actions such as statutory General and Remedial Directions or formal requests for revisions to permitting documents Commencement of investigation |
| 2. Moderate level of regulatory oversight | <ul style="list-style-type: none"> Approaching end of field life (EOFL) within 5 years No permitting document in place to conduct decommissioning activities Some property is in non-production/wet parked with low integrity risk Suspended wells with low integrity risk Wellheads remaining in-situ with no accepted permitting document Integrity may become an issue in near term and limit future decommissioning options Limited progress in executing field decommissioning to approved end-state Potential asset sale being explored | <ul style="list-style-type: none"> Compliance actions such as formal request to revisions of permitting documents or seeking advice on compliance with decommissioning obligations from titleholders Verification of compliance through targeted compliance monitoring or assessment of permitting documents |
| 3. Lower level of regulatory oversight | <ul style="list-style-type: none"> Operational with end of field life in 5-10 years Integrity may become an issue in longer term and may limit future decommissioning options Permitting document provides some detail on decommissioning activities | <ul style="list-style-type: none"> Regular promote and advise opportunities Verification of compliance through routine compliance monitoring or assessments of permitting documents |
| 4. Routine regulatory compliance monitoring | <ul style="list-style-type: none"> Operational with end of field life in >10 years No integrity issues Permitting document demonstrates compliance with requirements and describes decommissioning planning and execution activities | <ul style="list-style-type: none"> Some promote and advise opportunities Verification of compliance through routine compliance monitoring or assessments of permitting documents |

1. High

Field is in a permanent state of non-production

2. Moderate

Approaching end of field life within 5 years

3. Lower

Operational end of field life in 5-10 years

4. Routine

Operational end of field life > 10 years

Strategy – Life Cycle Concept



Decommissioning Compliance Strategy

2021 to 2025

Purpose: To set the direction for how NOPSEMA will work with its stakeholders to ensure that decommissioning of wells, structures, equipment and property is undertaken in a timely, safe and environmentally responsible manner and is considered across the full life cycle of a project. The strategy intends to reinforce and clarify decommissioning related requirements of titleholders under the *Offshore Petroleum and Greenhouse Gas Storage Act 2006* (the Act) and ensure appropriate planning for, and execution of, decommissioning activities in Australia's Commonwealth waters.

| Decommissioning of offshore petroleum wells, structures, equipment and property completed in a timely, safe and environmentally responsible manner | | | |
|--|--|---|---|
| Objectives | Ensuring titleholders have appropriate plans for decommissioning all wells, structures, equipment and property, and are executing activities to complete decommissioning in a timely manner | Providing certainty to the oil and gas industry regarding the obligations to decommission all wells, structures, equipment and property | Improving understanding and capacity building on safety, well integrity, and environmental outcomes for the decommissioning of wells, structures, equipment and property |
| Actions | Coordinate assessment and decision-making of permissioning documents to ensure decommissioning related requirements have been met and considered throughout the life cycle of a petroleum project | Develop and communicate NOPSEMA's regulatory policies in relation to decommissioning related legislative provisions including Section 270 and 572 of the Act and supporting regulations | Collaborate with oil and gas industry, government and other stakeholders so that there is a common understanding of challenges, solutions and expectations of government |
| | Pursue revisions to in-force permissioning documents when titleholders have failed to adequately provide for the planning, maintenance and/or decommissioning of all wells, structures, equipment and property | Collaborate with oil and gas industry and other stakeholders to develop guidance to assist titleholders in preparing decommissioning permissioning documents and explain how NOPSEMA makes its decisions | Promote greater research by oil and gas industry and government to address gaps in knowledge associated with short- and longer-term consequences of offshore petroleum decommissioning activities |
| | Undertake compliance monitoring of titleholders to understand their organisational approach to decommissioning and complete risk-based inspections to verify specific planning for, and execution of decommissioning activities | Collaborate with oil and gas industry and other stakeholders to understand the risks and benefits of alternatives to full removal and provide a pathway for obtaining deviations where appropriate | Work with stakeholders to identify opportunities for the development of an oil and gas industry property register to provide greater situational awareness of number, type, condition and status of wells, structures, equipment and property |
| | Apply appropriate compliance action (e.g., serving remedial and general directions) to ensure compliance of titleholders with their decommissioning obligations | Streamlining of the environmental approval (e.g., Sea Dumping Act) process for petroleum decommissioning activities in Commonwealth waters to minimise burden and duplication of effort | Collaborate with oil and gas industry to promote and share good practice approaches to decommissioning of offshore wells, structures, equipment and property |
| | Investigate and undertake appropriate compliance action including enforcement and prosecution in cases where a titleholder has not maintained property and equipment and this compromises the ability to remove it, or the titleholder has failed to decommission it following cessation of production | Provision of advice to NOPTA and the Joint Authority to assist with informing their decision-making regarding title-related decommissioning compliance matters | Prepare guidance and promote the publication of environmental performance reports describing a titleholders' performance and reports describing NOPSEMA decision making related to permissioning documents for decommissioning activities |
| | Targets | <ul style="list-style-type: none"> All new and revised permissioning documents demonstrate how decommissioning requirements have been considered Decommissioning plans are in place for all structures, equipment and property that have ceased production All wells have been risk assessed and have accepted abandonment plans in place Moored or tethered buoyant infrastructure removed within 12 months of permanently ceasing operation | <ul style="list-style-type: none"> Titleholders are aware of decommissioning requirements in place and how to prepare permissioning documents Suite of NOPSEMA guidance available outlining expectations in relation to the different phases of decommissioning Arrangements are in place for a single environmental approval for decommissioning activities in Commonwealth waters Suite of NOPSEMA guidance published Reduction in average assessment timeframes for decommissioning plans |
| End 2021 | End 2023 | End 2025 | |

End 2021

- All new and revised permissioning documents demonstrate how decommissioning requirements have been considered

End 2023

- Decommissioning plans are in place for all structures, equipment and property that have ceased production
- All wells have been risk assessed and have accepted abandonment plans in place
- Moored or tethered buoyant infrastructure removed within 12 months of permanently ceasing operation

End 2025

- All structures, equipment and property decommissioned to approved end-state within 5 years of permanently ceasing production
- All wells have been plugged and closed-off with accepted abandonment report within 3 years of permanently ceasing production
- Successful prosecution or enforcement action taken when deemed necessary

2. Interface Risks

Broader risk identification and control



NOPSEMA World of Risk – 5 year snapshot

231 Notifications 40% requiring investigation

Tight hole (Mud Man)

Gas lift annular problems

Wells awaiting P&A

Well Integrity Risk

Environmental Risk

Safety Risk

Outside PP & GF Boundaries

At PP & FG Boundaries

BOP closing pressure calculations

BOP Pressure test

Injury while working in the derrick

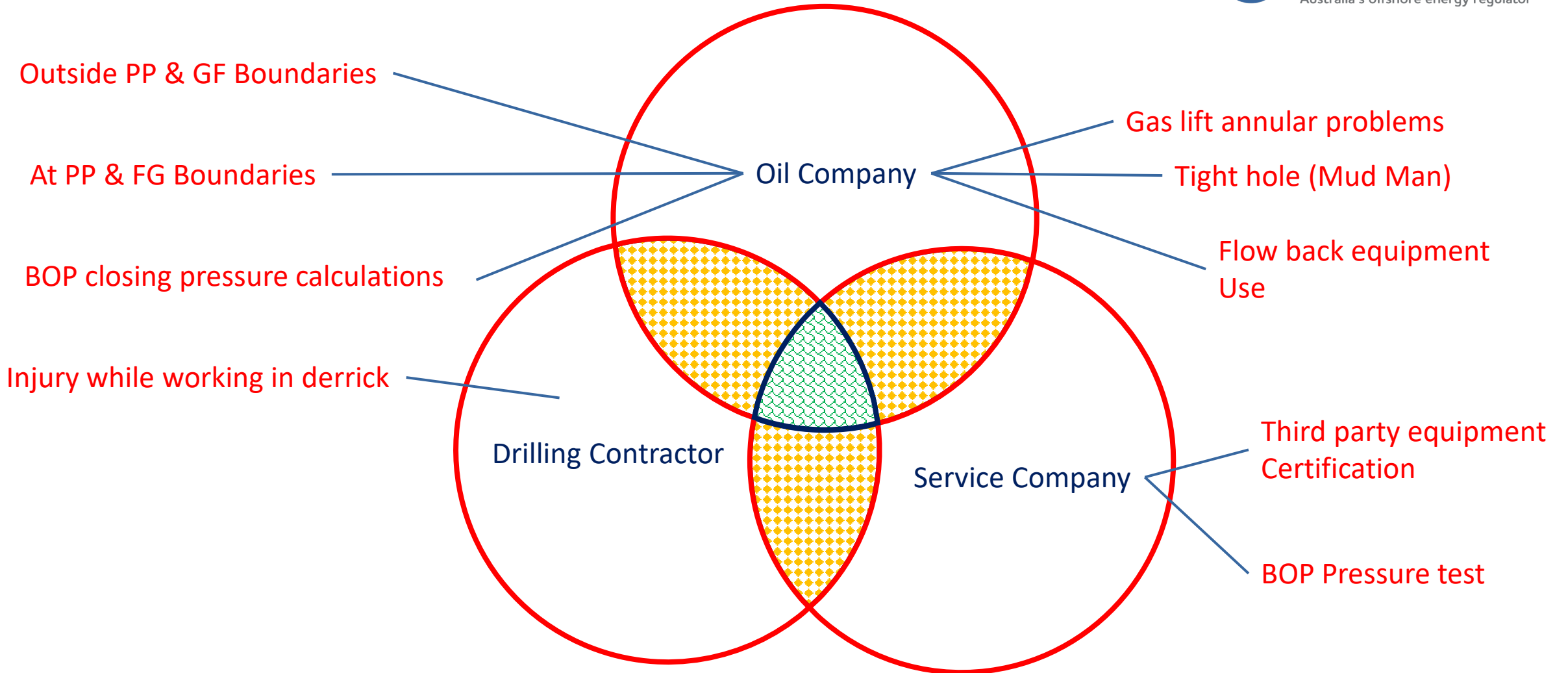
Third party equipment Certification

Flow back equipment Use

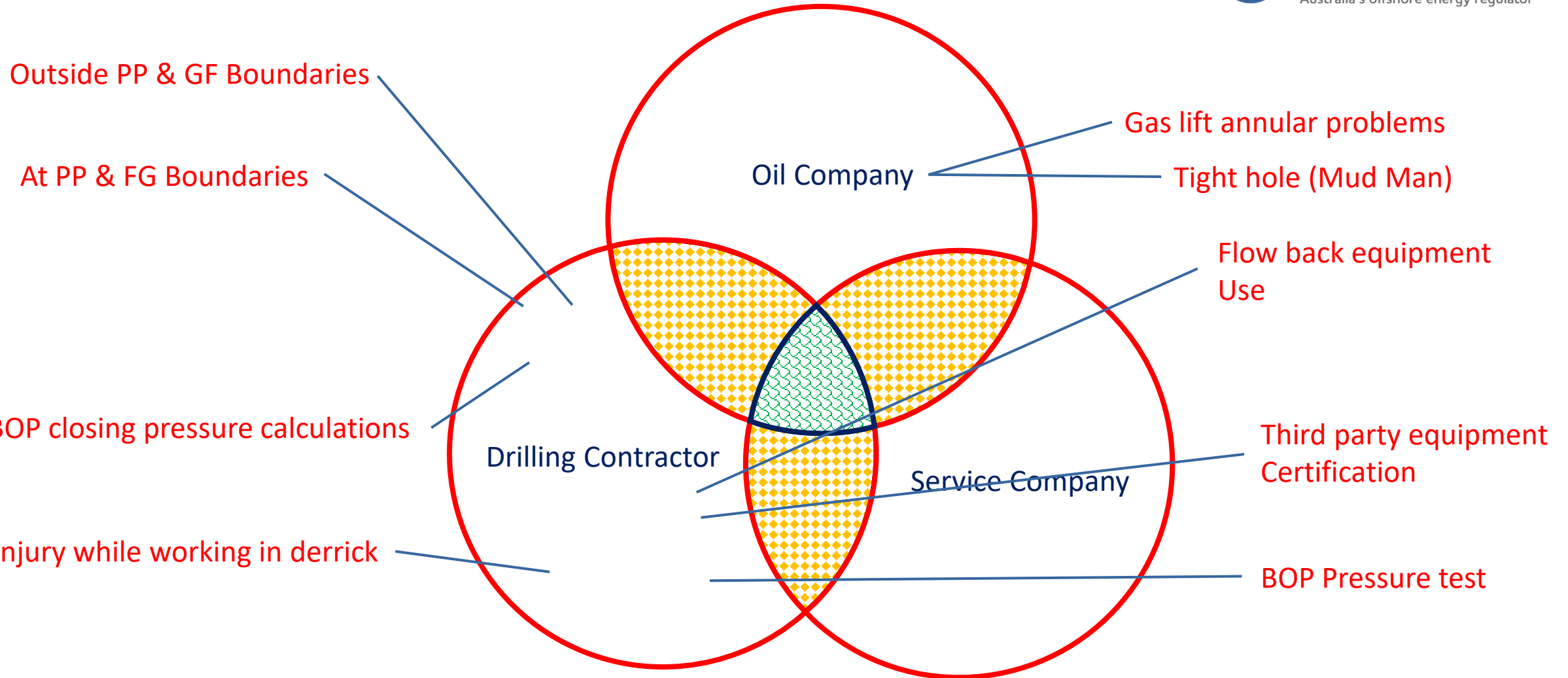
119 Notifications 30% requiring investigation

1803 Notifications 46% requiring investigation

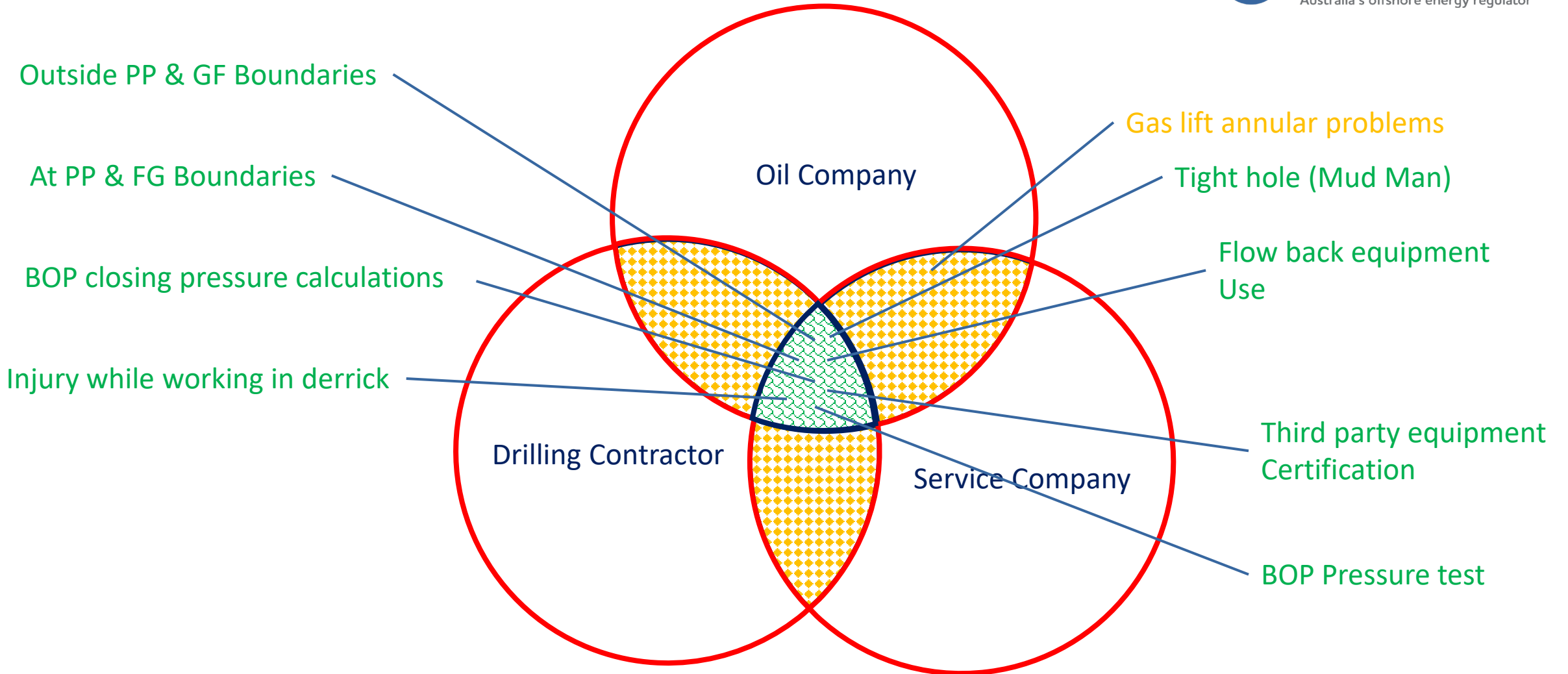
Who controls the risk now?



Who is responsible for the consequences?



Integrated management reducing risk

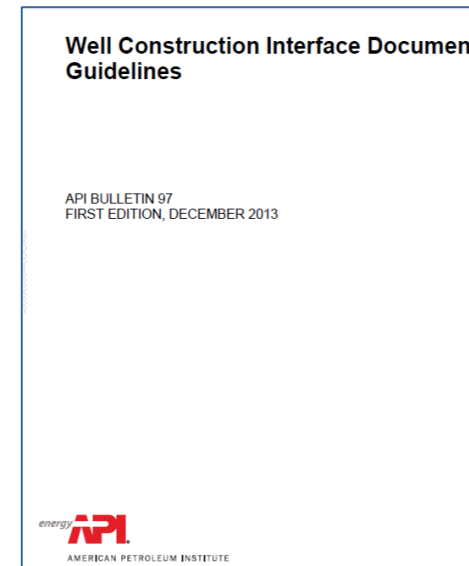


Opportunity for increased assurance from each other

Technical Partners

“Given the events of the past three years, drilling contractors should begin to act more like aircraft pilots than limousine drivers. Operators* in turn should begin to treat contractors more like technical partners concerning well design, construction, risk management and management of change”

Integrating barriers, bridging documents and SEMs using the Bow-Tie system . Scott Randall et al OTC 23692 May 2012



- In Australia the "Operator" carries the legal title of "Titleholder"

A large, glowing sphere with horizontal bands of blue and white, resting on a dark, cylindrical pedestal. The sphere is illuminated from the right, creating a bright white band across its middle. The background features a calm ocean under a sunset sky with warm orange and red tones. The overall scene is serene and contemplative.

Questions?

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