2020: An Unprecedented Year; What Did We Learn? More Critically, What for the Future?

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SPE – Perth
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nopsema.gov.au
Today’s Discussion

Setting the scene

What happened next

Crystal Ball

Q&A/ Discussion
Setting the scene
2017-2019

Australia’s offshore energy regulator.
Building LNG Export Capacity

Liquefied natural gas exports from selected countries (Jan 2013-May 2019)
billion cubic feet per day

Qatar
Australia

United States
Malaysia
Russia
A Year in Review
2020 Hindsight

Ctrl  Alt  Del
Old Normal
Shell to cut up to 9,000 jobs as oil demand slumps

Royal Dutch Shell has said it plans to cut 7,000 to 9,000 jobs as it responds to challenges including the slump in oil demand amid the Covid-19 pandemic.
What Happened Next?
What Happened Next?

- Oil price
- C-19: industry response
  - Keeping people safe
  - Essential energy
  - Speed over perfection
- Asset sales/ restructuring
- Financial consequences
- Deferred maintenance; skills and capability
Regulators had a role too....

Hurricane Laura

$US14bn, 77 dead
In relentless pursuit of offshore safety:
A Privileged Perspective

Derrick O’Keeffe – Head of Safety & Well Integrity

NOPSEMA - National Offshore Petroleum Safety and Environmental Management Authority

Australia’s offshore energy regulator

Society of Petroleum Engineers
Distinguished Lecturer Program
www.spe.org/dl
Recommendations

- Strategic approach
- Root causes
- Ownership of risk
Crystal Ball?
“If I had an hour to solve a problem I’d spend 55 minutes thinking about the problem and 5 minutes thinking about the solution.”

Albert Einstein
New Normal?
Equipment & Services

Titleholder/operator/service partner
Control of work
Clarity of responsibilities
Knowledge of risks
WOMP/Safety Cases

- WOMP – common concerns
- DISC/NOPSEMA WOMP initiative
- Interfaces: Roles and responsibilities
  - APPEA self-audit checklist
  - Industry tools – API Bulletin 97
- Opportunities to improve
Decommissioning Framework Review

S572: “maintain in good condition...”.... “remove when not in use”

S270: “plugged and closed off”

SPE Oct 2020: “The potential loss of containment, as a result of delay in well abandonment, presents ongoing risk to safety, environment & ‘licence to operate’.”

1000 wells
Well Control

IRF/IADC/IOGP – Well Control Problem Statement

Global perspective

• Pathways to address e.g.
  • PP/FG

• Interfaces

• Adopt standards

Problem Statement:

Many industry collective efforts have gone into defining responses to deal with any loss of well control situations. Recent data and incidents provide a view that a deeper understanding of the underlying hazards and new 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” funnel to reduce the likelihood of any loss of well control events taking place. The planned efforts can be split into three broad areas:

1. Well design “inputs” (pore pressure/fracture gradient/geological risks).
2. Translation of 1 into efficient and safe well designs.
3. Definition of safe operating envelopes for Well activities in the operations and production phases.

It is recognized that whilst some areas like pore pressure/fracture gradient prediction has become universally accepted industry guidance 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.

The change we expect to see:

• 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.

External Organization(s) that could be tasked with leading the change / developing the solution:

• EAGE / IOGP / API / IADC / NACE

Key performance indicators:

• Development of industry-wide standards or guidelines.
• IRF/IADC collaboration on selection of targeted guidance for shared implementation focus.
• Reduced likelihood of well control incidents.
Questions?
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