



NOPSEMA

Australia's offshore
energy regulator

Decommissioning: Planning for the end

A regulator's perspective

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Objective



Outline regulatory requirements and considerations for field retirements and decommissioning offshore Australia (Commonwealth waters)

Contents

1. Background
2. Legislation & regulations
3. Standard, guidelines, policies
4. Well abandonments
5. WOMP compliance
6. Environment plans - Decommissioning
7. Issues & risk with delay
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9. Collaboration
10. Questions

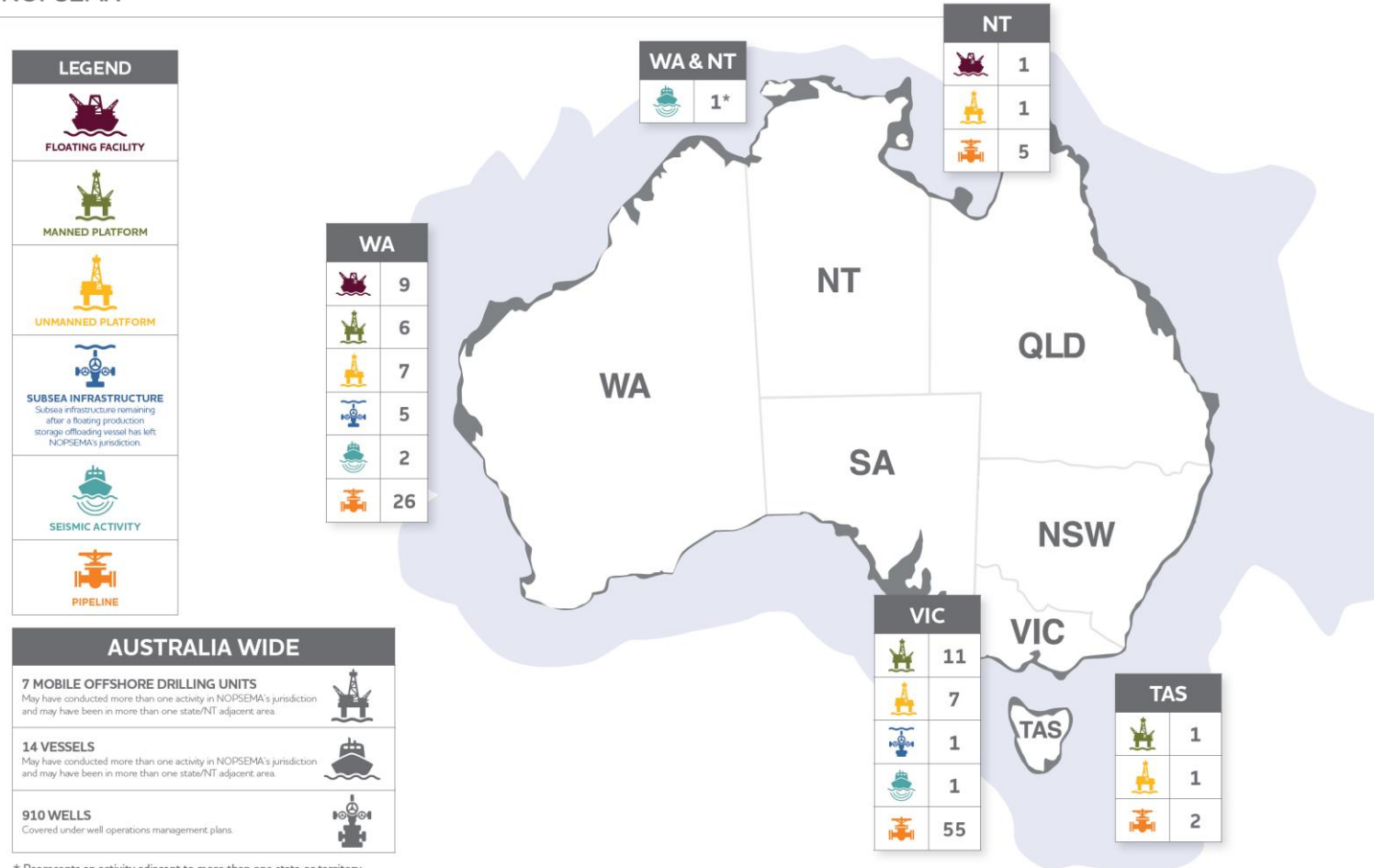
Background

- Upcoming worldwide wave of O&G field retirements and decommissioning
- Field decommissioning (incl wells' P&A) offshore Australia in Commonwealth waters over recent years include:
 - Griffin, Jabiru / Challis, Puffin, Mackerel, Black Back
- Around 900 wells still remain offshore Australia
 - Platform and SS developments
 - E&A wells not yet abandoned

Background



2018–19 OFFSHORE ACTIVITY



* Represents an activity adjacent to more than one state or territory.

Section 572

- Titleholder must maintain in good condition all structures, equipment and other property in the title area used in connection with authorised operations.
- Titleholder must remove from title area all structures, equipment and other property neither used nor to be used in connection with authorised operations.

Sections 166 & 587

- If no petroleum recovery operations carried out for 5 years, the Joint Authority can terminate the licence
- If permit / lease / licence has been terminated / expired etc, NOPSEMA can direct (former) titleholder to remove all property and plug or close off all wells.

OPGGS Act 2006



Minister's directive (Oct 2019):

“I ask that NOPSEMA give heightened focus to oversight of titleholders' compliance with OPGGS Act Section 572 obligations in relation to maintenance and removal of property and equipment brought onto title”.

Part 2.12 – Surrender of titles

Joint Authority may consent to surrender title only if the registered holder of the permit, lease or licence:

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- **Has, to the satisfaction of NOPSEMA:**
 - Removed all property in the surrender area or made other arrangements
 - Plugged or closed off all wells
 - Made good any damage to the seabed or subsoil

Standards, Guidelines, Policies

Standards, guidelines and other policies concerning well decommissioning include:

- Oil and Gas UK Well Decommissioning Guidelines
- Oil and Gas Authority (UK regulator)
 - General consent period for well suspension – 2 yrs
- US Bureau of Safety & Environmental Enforcement (BSEE) “Idle Iron Policy”
 - Any well “idle” or not useful expected to be plugged no later than 3 years after becoming “idle”.
- NORSOK D-010
 - Max duration for a well temp abandoned without monitoring – 3 yrs
- ISO 16530-1
 - Well should not remain suspended indefinitely

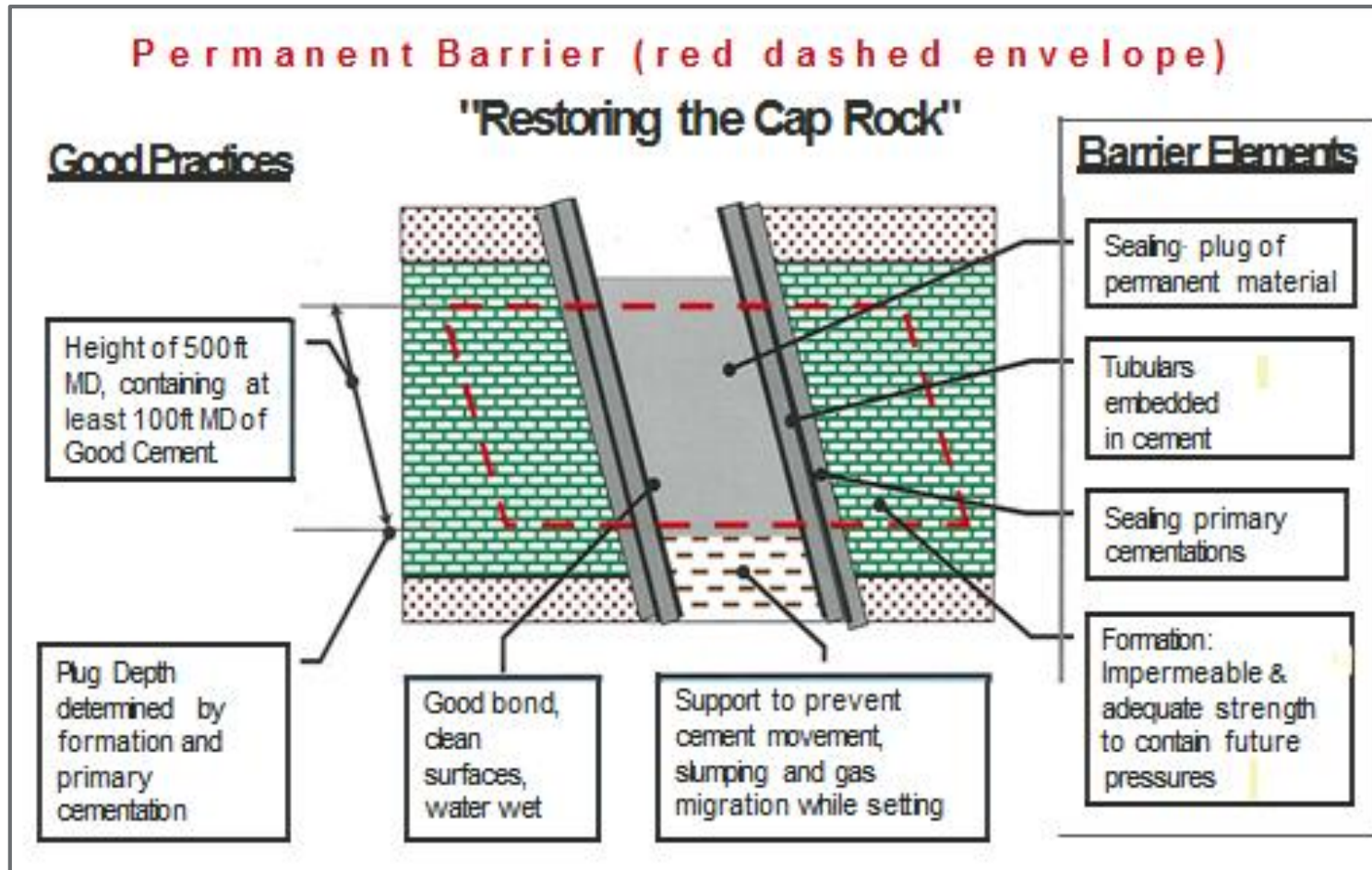
Well Abandonment

Wells' final abandonments:

- Concerned with isolation of formations with flow potential
- Prevent flow from, or into wells, or between formations
- Re-instate integrity of sealing formations (cap rock, intermediate zones)
- Robust and reliable over the long term, in perpetuity or geologic time

Well Abandonment

Illustration - restoring cap rock integrity



WOMP Compliance



Well Operations Management Plan (WOMP) assessment is the main mechanism for verifying P&A compliance with legislation.

Environment Plans - Decommissioning

The process of removing or otherwise satisfactorily dealing with offshore infrastructure in a safe and environmentally responsible manner, at the end of its useful life

- The permit holder (company) is responsible. Complete removal of property and the P&A of wells is **base case**
- Environment Plan - Impacts and risks of removal or proposed alternative must meet the EP regulatory criteria to be acceptable to NOPSEMA
- Alternatives to removal - Address long term (in perpetuity) impacts and risks to the marine environment (ecology, invasive species, stakeholder consultation)
 - Effects of material degradation over time
 - Effects of contaminants, eg NORM, Mercury
- Scientific uncertainty: Collaborative industry approach to building an evidence base to address uncertainty

Issues & risks with delays

- Deterioration of asset integrity
 - Infrastructure instability
 - Well integrity - potential for leaks
- Equipment obsolescence
 - OEM equipment and parts no longer available
- Modern BOPs & risers too heavy for old wellheads
- Loss of records and knowledge
 - File systems replaced, personnel retirements
- **Increase in scope, risk, cost, uncertainty**

Opportunities & Challenges

- Design, install and operate 'property' with the intention of removal
- Maintain property in good condition and repair until it is removed – s572 of OPGGS Act
- Early planning - Decommissioning plans prepared and accepted prior to the cessation of production
- Remove property from the title area when it is neither used nor to be used – s572 obligation applies throughout the lifecycle of a project
- New entrants where late life operations are dependant on field performance and ongoing integrity of ageing facilities

Collaboration

- Global initiatives in place to address offshore decommissioning challenges
- NOPSEMA is member of International Regulators Forum (IRF)
- NOPSEMA also involved locally:
 - Curtin University well decommissioning advisory committee
 - APPEA DISC steering group on well decommissioning
- Industry collaboration is essential for efficient and reliable decommissioning challenges ahead
 - R&D, new technologies
 - Equipment and resources sharing
 - Lessons learned

Questions



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