NOPSEMA

the REGULATOR

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Contents

"Consultation helps engender the support decisions need to be successfully implemented."
(Donald Rumsfeld)

From the CEO

In the last edition of *the Regulator* we reported on the findings of our 2013 *Annual offshore performance report*, which found that while injury rates had fallen, the number of uncontrolled hydrocarbon releases had increased compared with 2012 reports. We have seen this trend continue in the first quarter of 2014 with 11 reported releases, which is more than double the recent average.

While all of the releases reported were small (less than 80 kg of gas and one liquid spill less than 200 L), all hydrocarbon releases are cause for concern. Even a small release, should it ignite, has the potential to kill or harm people and impact the environment.

Analysis of the incidents implicates a range of equipment, with valves and vents on fixed platforms being one of the more common equipment types involved (28%), followed by pipes, tubes and instruments (18%). NOPSEMA has further investigated the root causes of the incidents. This analysis has established that the predominant root causes are inadequate maintenance, poor communications, work direction and management systems (people).

The challenge for industry is to ensure that their assets have integrity, particularly as they age, and that their people and processes are up to scratch. Critical to minimising the number of hydrocarbon releases is having clear processes and procedures in place and ensuring they are implemented correctly.

As the primary generator of risk, industry must respond to the challenge of doing more to address this trend. NOPSEMA will continue to monitor reported hydrocarbon releases and to challenge industry through inspections, assessments and by providing direct feedback to CEOs and senior management on whether they are doing enough to manage risks to the workforce and the environment to as low as reasonably practicable.

In this edition, NOPSEMA explores how effective consultation between titleholders and the community can be achieved following recent public concern around the transparency of proposed petroleum activities under the streamlined environmental approval arrangements. Consultation processes that are designed to be open and collaborative, and that are conducted with integrity, are more likely to confer a social licence to operate and to meet the requirements for NOPSEMA's acceptance of an environment plan.

Jane Cutler, CEO

Achieving effective consultation with relevant persons

The Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Environment Regulations) require titleholders to consult throughout the planning, decision making and implementation stages of a petroleum activity within Commonwealth waters. It is an explicit regulatory requirement for titleholders to carry out appropriate consultation with relevant persons[1] before submitting an environment plan for assessment by NOPSEMA.

Consultation with relevant persons is not just a fundamental requirement for NOPSEMA's acceptance of an environment plan. More importantly, it is a process that is crucial to gaining stakeholder confidence that the environmental impacts and risks of petroleum activities will be of an acceptable level. Relevant persons must be provided with adequate opportunity and information about the proposed activity so they can evaluate it and convey to the titleholder how they may be affected. The titleholder must then assess and appropriately address any objections and claims raised by the relevant person.

In the past few months, NOPSEMA has received a substantial increase in correspondence from various sectors of the community raising concerns about the consultation processes undertaken by some titleholders in the course of preparing environment plans. The majority of this correspondence includes claims that consultation has not:

- encompassed all relevant persons
- provided relevant persons with sufficient information or reasonable time to assess the possible consequences of the activity on their functions, interests or activities
- provided assurance to the relevant persons that their objections or claims have been understood, considered and appropriately addressed.

This recent correspondence reiterates the importance for titleholders to design and conduct effective and transparent consultation processes. NOPSEMA encourages titleholders to consider the following principles of effective consultation, which have been adapted from a report by the Commonwealth Ministerial Council on Mineral and Petroleum Resources[2].

- **Communication:** Open and effective engagement should be undertaken between titleholders and relevant persons ensuring accurate and relevant information is provided and that any feedback provided is received and addressed openly.
- **Transparency:** The consultation process adopted, individuals being consulted, details of the activity and any points of interest or controversy should wherever possible, be made open and transparent. A productive consultation process will establish agreed information and feedback processes.
- **Collaboration:** An effective consultation process will have mutually beneficial outcomes to both relevant persons and the titleholder. By approaching consultation as a collaborative process, appropriate outcomes are achieved.
- **Inclusiveness:** Titleholders should recognise, understand and involve relevant persons early and throughout the lifespan of the activity.
- **Integrity:** The manner in which consultation is undertaken should foster respect and trust. This should be evident from the consultation report included in the EP.

By applying these principles, and approaching consultation proactively and as an ongoing mechanism for addressing the impacts and risks associated with petroleum activities, titleholders will be able to fulfil their obligation to afford procedural fairness to relevant persons and ultimately gain stakeholder confidence that the environmental impacts and risks of the activity will be acceptable.

NOPSEMA has published an information paper on consultation that provides more detail on the interpretation and application of the environment plan consultation provisions of the Environment Regulations.

1 A relevant person, defined in regulation 11A of the Environment Regulations, is a government department or agency that may be relevant to, or an organisation or person whose functions, interests or activities may be affected by, the activities to be carried out under the environment plan or the revised environment plan.

2 Ministerial Council on Mineral and Petroleum Resources, *Principles for Engagement with Communities and Stakeholders*, MCMPR, Canberra, 2005. www.pir.sa.gov.au/__data/assets/pdf_file/0020/41735/mcmpr_principles_nov05.pdf

What can relevant persons do to support effective consultation?

To facilitate effective consultation with a titleholder, relevant persons should consider:

- raising any objection or claim directly to the titleholder, clearly describing how the proposed petroleum activity may affect or change the functions, interests or activities of the person or the organisation, with particular reference to environmental impacts and risks, including economic and cultural features
- presenting any objections or claims about the potential adverse impact of each activity to which the environment plan relates to the titleholder, with supporting information where possible
- avoiding blanket requests for the environment plan, which is likely to be incomplete at that stage and presents challenges for both parties in achieving effective and efficient consultation outcomes
- using written (email or hardcopy) correspondence to record key aspects of the consultation so that it can be provided in the environment plan submission to NOPSEMA.

Relevant persons who have extensive dealing with titleholders should consider developing guidance on how and when they wish to be consulted.

How does NOPSEMA ensure adequate consultation occurs during the environment plan process?

Copies of the full text of any written responses made by relevant persons, details of consultation between the titleholder and relevant persons, and the titleholder's assessment of the merits of any objections or claims made by the relevant person must be documented in the environment plan submitted by the titleholder. NOPSEMA will assess the environment plan to ensure that titleholders have fulfilled the consultation requirements of the Environment Regulations.

Commitments to ongoing consultation following submission of an environment plan and during an activity must be reflected in the implementation strategy within an environment plan and described in the environment plan summary that is published on NOPSEMA's website.

If consultation is undertaken using the principles outlined in this article, relevant persons will be provided with a greater level of confidence that the titleholder will effectively and appropriately address concerns and there should be no need to copy NOPSEMA into consultation correspondence with titleholders.

If, after an environment plan is accepted, it becomes evident to NOPSEMA that consultation has not been undertaken in accordance with the Environment Regulations, and as a result a new impact or risk is identified that is not provided for in the environment plan in force, NOPSEMA may have grounds to request the submission of a proposed revision of the environment plan.

Well testing choke manifolds

Within the hydrocarbon processing industry, failures during the isolation and reinstatement of the process plant are a key root cause of loss-of-containment incidents. Noting that the well testing equipment typically used on mobile offshore drilling units (MODUs) is essentially a temporary, single-train hydrocarbon process plant, NOPSEMA suggests that facility operators recognise the relevance of process plant isolation standards and good practice to MODU well testing.

During well testing activities on a MODU, a well test choke manifold is used to regulate the well flow, measure parameters including pressure, temperature and well fluid composition at set flow rates, and enable alternate flow paths when changing fixed size choke beans without interrupting the flow of well fluids through the system. To change choke beans, the active choke is isolated by closing the upstream and downstream valves of that flow-path while simultaneously diverting flow to an alternate leg of the manifold. Typically, this activity may occur several times during a particular well test.

Some facility operators specify a four-valve choke manifold arrangement for surface well pressures up to 10,000 psi. Consequently, when performing choke bean replacements, personnel working on the choke manifold rely on single-valve isolation against the high pressure flowing well. An isolation failure and release of well fluids that may contain flammable hydrocarbons and toxic hydrogen sulphide presents a risk of harm to workers in the vicinity of the choke manifold and could escalate into a major accident event.

Within the process industry, the higher risk associated with the use of single-valve isolations for intrusive work is well recognised. It is good practice to provide positive final isolation using rated blind flanges or spades as far as reasonably practicable. Double-valved isolation that can be confirmed via bleed points should be used where positive isolation cannot be practicably achieved.

NOPSEMA advises that some facility operators have adopted an eight-valve choke manifold for some well test applications. This arrangement allows for a double-valve isolation and bleed configuration for choke bean replacement work. Double-valve isolation and bleed provides a valved barrier against the ingress of hazardous substances by the closure of two block valves in series and the use of a bleed point in between to prove the integrity of the upstream isolation valve seal. To monitor the integrity of the primary isolation, bleeds must be proven to be clear to ensure that there is no pressure build up.

NOPSEMA considers the use of a double-valve isolation and bleed arrangement with supporting isolation procedures to be good practice for well test choke bean change out activities.

Operators have a duty under Clause 9(2)(c) of Schedule 3 to the *Offshore Petroleum and Greenhouse Gas Storage Act 2006* to take all reasonably practicable steps to ensure that any plant, equipment, materials and substances at the facility are safe and without risk to health. Hence, for their proposed well testing activities, facility operators should consider whether the level of risk associated with choke bean replacement is as low as reasonably practicable (ALARP).

Produced formation water discharge: oil in water

The repeal of regulations 29 and 29A is a notable change brought about through the 28 February 2014 amendments to the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Environment Regulations). The Regulations previously set a limit of 30 mg/L of petroleum (averaged over 24 hours) in any produced formation water (PFW) discharged to the sea, and also outlined associated testing requirements for equipment used to monitor oil-in-water (OIW).

The 30 mg/L limit was a legacy of the former 'Schedule of Specific Requirements as to Offshore Petroleum Exploration and Production 1995', and stemmed from an engineering specification used in the Gulf of Mexico in the 1970s. This was considered to be the limit at which a visible sheen could not be observed and was as low as the available water treatment and analysis technology of the day could achieve.

Regulations 29 and 29A were prescriptive within the wider 'objective-based' context of the Environment Regulations, and were inconsistent with the principles of risk management as found in ISO 31000, especially given OIW is only one class of contaminants associated with PFW mixtures discharged to the sea.

Under the amended Environment Regulations, discharges of PFW are to be assessed and managed in the same way as other emissions and discharges from offshore petroleum facilities. That is, it needs to be demonstrated that the impacts and risks will be of an acceptable level and reduced to as low as reasonably practicable (ALARP). It should be noted that while OIW limits may remain a valid control, the risk assessment process must address all impacts and risks. It may therefore be necessary to consider a range of other factors, including the PFW discharge regime, chemical composition, toxicity, extent of dispersion and fate (including potential for accumulation in sediments and biota).

Further, the Environment Regulations also require an appropriate implementation strategy with provisions for the monitoring of emissions and discharges, and reporting arrangements to facilitate assessment of whether environmental performance outcomes and standards are being met and control measures are effective. Together, these elements of the implementation strategy aim to ensure that all reasonable action is being taken to keep the impacts and risks from the discharge of PFW acceptable and ALARP.

How clean is clean?

During recent planned inspections of diving activities, NOPSEMA issued recommendations to a range of diving contractors in relation to the cleanliness of pure oxygen and oxygen enriched (>25% oxygen content) gas systems.

NOPSEMA's inspectors observed that most diving contractors have processes in place for cleaning oxygen and oxygen enriched gas systems that are compliant with industry guidelines (typically International Marine Contractors Association (IMCA) guidance document D 031). However, many do not have established cleanliness levels to which the systems must be cleaned and a means by which the system cleanliness level is verified after cleaning.

To control the risks of fire and explosion that are associated with use of these systems, it is important for diving contractors to establish quantitative measures for system cleanliness and permissible levels of contamination that are compliant with recognised industry practice, standards or guidelines.

Standard Practice ASTM G93-03 is widely adopted to meet this requirement as it provides guidance in the specification of oxygen system cleanliness and proposes a practical range of cleanliness levels that will satisfy most system needs. While there are no codes or standards prescribed in the Offshore Petroleum and Greenhouse Gas Storage (Safety) Regulations 2009 (Safety Regulations) for these purposes, diving contractors have a duty under Clause 11 of Schedule 3 to the *Offshore Petroleum and Greenhouse Gas Storage Act 2006* to take all reasonably practicable steps to ensure that any plant, equipment, materials and substances used in connection with employees' work are safe and without risk to health.

Diving contractors should also ensure that their diving safety management system specifies cleanliness levels for oxygen and oxygen enriched gas systems, and the means by which system compliance is verified in accordance with subregulations 4.4(2)(e) and (f) of the Safety Regulations.

Reminder: interference with accident sites offshore

Following a recent accident at an offshore facility, the site of the accident was disturbed and cleaned-up before NOPSEMA was notified of the event. This resulted in the facility operator being issued with an improvement notice for a contravention of regulation 2.49(1) of the Offshore Petroleum Greenhouse Gas Storage (Safety) Regulations 2009.

Under regulation 2.49, it is an offence for a person to interfere with the site of an accident that caused death or serious personal injury to any person; a member of the workforce to be incapacitated from performing work for a period of at least three days; or where there has been a dangerous occurrence, before an inspection of the site by an OHS inspector has been completed.

A person breaching this requirement commits a criminal offence and is potentially liable to prosecution. Operators should request permission to disturb the site (if required) from the duty OHS inspector at the time of notification through the NOPSEMA notification phone line (+61 (0)8 6461 7090). Further guidance on the notification and reporting of accidents and dangerous occurrences can be found on NOPSEMA's website.

Image courtesy of Stena Drilling

Update on investigation into fatalities on *Stena Clyde* drilling rig, Bass Strait, August 2012

The complex investigation by NOPSEMA into the double fatality on the *Stena Clyde* mobile offshore drilling unit in the Bass Strait on 27 August 2012 has reached its final stage.

NOPSEMA submitted a brief of evidence to the Commonwealth Director of Public Prosecutions (CDPP) in April and is awaiting their advice.

NOPSEMA has collected numerous witness statements and examined extensive evidence, including material seized under warrant. Three independent expert witnesses engaged by NOPSEMA have provided reports on specific areas of the investigation.

NOPSEMA is committed to supporting the CDPP should the CDPP decide a prosecution is warranted.

IOSC: Maintaining focus on managing spill risks

NOPSEMA recently participated at the International Oil Spill Conference in Savannah, Georgia, USA. Attended by around 3,000 delegates, the conference provided an opportunity for government and industry to share lessons learned, understand new technologies and compare jurisdictional approaches to managing oil spill risks.

Presenting a paper titled 'Maintaining focus on managing spill risks', NOPSEMA discussed the challenges and opportunities presented by Australia's objective-based regulatory regime, which places the onus on the offshore petroleum industry to drive continuous improvement in oil pollution preparedness and response.

By analysing environment plan submissions and other qualitative information since its formation in 2012, NOPSEMA concludes that the offshore petroleum industry has undergone transformational change in response to challenges by the regulator to demonstrate appropriate levels of oil spill preparedness.

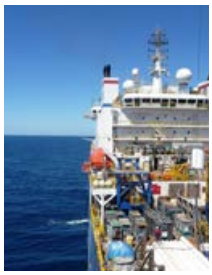
As the industry grows and risk profiles change, the challenge is to continually re-evaluate preparedness capacity. This is critical to maintain a world-class response capability and to ensure that oil spill response arrangements match the risk profiles of the petroleum activities conducted in Commonwealth waters. The experience gained to date has identified opportunities for both industry and the regulator to ensure preparedness for the next major event – not the last.

Without prescriptive minimum requirements, it is necessary to undertake thorough evaluation of risk profiles for each petroleum activity prior to commencement, to ensure that these are regularly reviewed and to confirm that response arrangements are continually demonstrated to be commensurate with the risks. This objective-based approach provides for flexibility and assists that only the necessary response resources are put into place. This helps minimise costs associated with unnecessary controls, while ensuring that areas of higher spill risk receive appropriate response capability and levels of preparedness.

The presentation given at the conference and the full paper can be found on NOPSEMA's website and will be of interest to those undertaking and maintaining oil spill risk assessments and preparing associated oil pollution emergency plans.

Data reports and statistics

NOPSEMA continuously collects and receives data on the safety, well integrity and environmental management performance of the offshore petroleum industry, as well as its own regulatory performance. This data is regularly analysed and converted into a series of datasets. The latest datasets are published both quarterly and annually under the 'Resources' tab at nopsema.gov.au They contain many familiar performance indicators such as incident rates, injury rates, hydrocarbon releases and international benchmarks.



Schedule of events

Events listed below are those at which NOPSEMA is presenting, exhibiting or has an organisational role.

- 30-31 July 2014 — The Maritime Union of Australia - FPSO conference, Perth
- 6-8 August 2014 — American Institute of Chemical Engineers and Centre for Chemical Process Safety - Asia-Pacific conference, Perth
- 1 -3 September 2014 — Australian Petroleum Production and Exploration Association - National health, safety and environment conference and HSR forum, Perth

Feedback

NOPSEMA welcomes your comments and suggestions. Please direct media enquiries, requests for publications, and enquiries about NOPSEMA events to communications@nopsema.gov.au Operators and other employers are encouraged to circulate this newsletter to their workforce. Past issues of this newsletter are available at nopsema.gov.au

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