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the **REGULATOR**

National Offshore Petroleum Safety and Environmental Management Authority



NOPSEMA
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ABOUT NOPSEMA

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) is Australia's independent expert regulator for health and safety, environmental management and structural and well integrity for offshore petroleum facilities and activities in Commonwealth waters.

By law, offshore petroleum activities cannot commence before NOPSEMA has assessed and accepted detailed risk management plans that document and demonstrate how an organisation will manage the risks to health and safety to as low as reasonably practicable (ALARP) and the risk to the environment to ALARP and with acceptable environmental impacts.

For more information visit our website at nopsema.gov.au.

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FEEDBACK

NOPSEMA welcomes feedback from our stakeholders. Please direct all enquiries about this publication to communications@nopsema.gov.au.

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Message from the Chief Executive

When considering the millions of hours worked offshore each year, the probability of a major accident happening is extremely low. History has taught us, however, that while these events may be rare when a major accident happens it has potential to kill many, cause substantial environmental harm, cost companies millions, and bring about calls for change. The 6 July 2018 marks the 30th anniversary of the world's deadliest ever offshore petroleum accident, the *Piper Alpha* disaster, which led a sea change in offshore safety and shaped the industry and regulatory regime we know today.

On the night of the disaster, the *Piper Alpha* platform was positioned 200 kilometres south-east of Aberdeen in the North Sea when one of its two condensate pumps failed. Believing it safe to use, and to ensure production was not affected, workers activated the other pump. Unknown to them, a critical pressure safety valve had been temporarily removed from the pump and replaced with a hand-tightened blind flange. When the pump was activated, high-pressure gas leaked through the blind flange before igniting and setting off a chain reaction of explosions and fires that decimated the platform and killed 167 workers.

When the 13 month inquiry into the disaster, chaired by Lord Cullen, concluded in 1990 it made no less than 106 recommendations; all of which were accepted by the industry. The key recommendations for legislative action led to the transfer of statutory powers to a single regulatory body, resulting in the establishment of the Offshore Division in the UK Health and Safety Executive. New regulations were also introduced to replace the existing prescriptive-based legislation with more modern, goal-setting regulations stipulating the requirement for operators or owners to prepare and have accepted a safety case for each fixed or mobile installation.

When the Australian Government commissioned a review in 1999 into the adequacy of Australia's offshore safety regulation the learnings from the *Piper Alpha* disaster were taken into consideration. At the time, the states and Northern Territory used a combination of prescriptive and goal-setting legislative rules. The review's key recommendations for legislative actions echoed those of Lord Cullen's inquiry. In 2005, the Australian Government established NOPSEMA's predecessor, the National Offshore Petroleum Safety Authority (NOPSA), as the single regulatory body for offshore safety in Commonwealth waters and introduced new goal-setting regulations requiring all operators to prepare and have accepted a safety case for each facility. The establishment of NOPSA was supported by all state and Northern Territory governments, with Victoria also adopting NOPSA as its regulator for offshore safety in Victorian waters.

In the years that followed *Piper Alpha*, much had been achieved to improve offshore safety. Regrettably, this wasn't enough. A number of major offshore accidents in Australia and internationally became the unfortunate catalyst for further change.

On 3 June 2008, a high pressure 12 inch export sales gas pipeline ruptured and exploded on the beach of *Varanus Island* off the coast of Western Australia. Another parallel pipeline ruptured soon after, directing fires towards the onshore processing plant and causing several associated lines to rupture and ignite. On 21 August 2009, a failure of the *Montara* H1 well integrity barriers in the Timor Sea, north of Australia, led to an oil spill and gas leak that lasted 74 days with a fire destroying the wellhead platform and *West Atlas* jack-up drill rig. On 20 April 2010, the *Deepwater Horizon* rig suffered a loss of well control and major blowout in the Gulf of Mexico, USA. The disaster killed 11 workers and led to the worst oil spill in USA history lasting 87 days.

As would be expected, these major accidents drew intense media and public scrutiny and sparked moves for further regulatory reform within Australia. In 2010, a Commission of Inquiry into the *Montara* incident strongly recommended a single and independent regulatory body be established for offshore safety, well integrity, and environmental management. This recommendation was accepted and, in 2012, NOPSA became NOPSEMA as the national regulator assumed responsibility for regulating safety, well integrity and environmental management.

It is well-known that the offshore workforce operate in an inherently dangerous environment. We owe them the safest working conditions that can reasonably be obtained. Our precious oceans and near-shore environments also deserve all reasonable protection. I believe that the regulatory regime administered by NOPSEMA is the best way to achieve strong safety and environmental outcomes. The regulatory regime is premised on continuous improvement and it would be unwise to think that this same premise doesn't apply to the regime itself. This why NOPSEMA continues to advocate for measures such as increased transparency and the conferral of powers.



Stuart Smith, CEO

Reflections on a collaborative approach to safety management

NOPSEMA recognises the importance of sharing knowledge and perspectives to drive improved outcomes. In the last issue of *the Regulator* (Issue 1:2018) we sought the views of three leading international regulatory counterparts on the ‘value of the regulator.’ In this issue, we have asked three key industry groups to share their thoughts on ‘a collaborative approach to safety.’

Les Linklater, Executive Director
Step Change in Safety



What are the key facilitators to building a collaborative approach to safety improvement across the petroleum industry?

There are many factors which I believe shape the safety challenge for us but there are four key enablers that I think frame our efforts on improving safety performance across the whole industry. Communication, motivation and cooperation, or collaboration as its come to be called, and above all, leadership. Communication needs to be more open, more effective and focused on the faster sharing of lessons. Motivation to suspend ego and, supported by a willingness to cooperate, to co-create, avoid duplication and inefficiency to make it simpler and more engaging for our workforce. Finally, visible leadership so that whenever and wherever we have control of influence we consult, listen and respond openly and each of us work with others to raise standards.

What are some of the barriers to building a collaborative approach to safety improvement across the petroleum industry?

The industry is incredibly adept at solving complex technical problems. We use our expertise and know-how within our organisations’ structures, procedures and ways of doing things. Result—solution achieved. There is, however, a fear that collaboration results in watered-down solutions, created without everyone else’s best interests at heart. Collaboration isn’t about teamwork or feeling good, it requires us to cast aside our professional differences and organisational capabilities that can only be overcome through working together. Collaboration requires us to change our priorities.

What is the role of the workforce in contributing to collaborative safety improvement across the petroleum industry?

There is a risk that we think of the workforce as just those who work in the hazardous environment (offshore or on-site). However, collaborative safety improvement requires onshore and office personnel just as much to be a success. It is as easy to create a disaster with a pen as it is with a spanner. When signing a work pack, a work instruction, a safety review, a P&ID or any other document, you must believe it to be robust. Therefore, ensuring that everyone understands and plays their part in managing the major accident hazard risk is vitally important.

Stedman Ellis, CEO — WA Australian Petroleum Production and Exploration Association



What are the key facilitators to building a collaborative approach to safety improvement across the petroleum industry?

The starting point is that everyone involved in the offshore oil and gas industry has a personal responsibility for ensuring their safety and the safety of others—this common cause helps underpin collaboration across teams within organisations and across the industry as a whole. Industry-wide improvement initiatives have been driven by APPEA members to solve problems, facilitate engagement and drive continuous improvement. For example, an MOU for Mutual Aid, a Subsea First Response Toolkit and MODU Mooring Guidelines developed in concert with NOPSEMA; the Stand Together for Safety employee events, process safety communications tools and the IChemE Industry Safety Centre with members; and the establishment of common safety and supervisor training programs. The expansion of the Safer Together initiative to the offshore sector in 2018 is a significant new initiative.

What are some of the barriers to building a collaborative approach to safety improvement across the petroleum industry?

The focus of the industry is sharing best practices, lessons and inspiration across teams and operations to help drive improvements in performance. This has been facilitated by the shift from treating safety as a compliance task enforced by regulators to a responsibility shared by everyone in the workplace. Good working relationships and open communications flows are critical and APPEA's forums, committees and conferences play an important role for the industry as a whole. It is also important that good quality performance data can help guide where operators focus their tools, training and team building efforts.

What is the role of the workforce in contributing to collaborative safety improvement across the petroleum industry?

Collaboration with the workforce is at the heart of the industry's drive for Australia to be a world leader in safety in the offshore oil and gas industry. All workers, and particularly Health and Safety Representatives, are critical to this collective improvement. Industry recognises this contribution and endeavours to support these representatives in a variety of ways, including, for example, members bringing them together onshore to share lessons from different facilities.



Niall Myles, Operator Co-Chair Safer Together



After some time working in Karratha, my wife remarked “Your industry is nuts”. She was working at the local medical centre seeing the same folk come in for the same medicals time after time, as they changed sites or companies. Wasteful, yes, but also frustrating for them.

We need to remove the barriers and frustrations that make it difficult for our people to work safely...

Niall Myles—Operator Co-Chair of Safer Together WA/NT and SVP Australia Operating Unit, Woodside

Safer Together WA/NT is a not-for-profit, member-led organisation of operator and contract partner companies committed to creating the leadership and collaboration needed to build a consistent and robust safety culture in the Oil and Gas industry in Western Australia and Northern Territory.

Find out more at the Safer Together WA/NT official website safertogether-wa-nt.com.au

What are the key facilitators to building a collaborative approach to safety improvement across the petroleum industry?

The industry’s history of sharing lessons is a good foundation as we move to collaborate further towards simpler, standardised safety programmes and processes.

Fundamental to this, is a partnership that leverages the knowledge in the contractors, who see the best and least effective solutions across operating sites, and operators who must implement the site changes.

Visible, line-led senior leadership, and working groups with a bias for action and a focus to be in service of our entire workforce.

What are some of the barriers to building a collaborative approach to safety improvement across the petroleum industry?

Key, is breaking the habit of established ways of working where each company finds their own solutions. The flexibility and humility to collaborate isn’t just a big company issue—it’s a leadership issue.

Just as good is the enemy of great, our history of sharing forums in the industry and the success to date acts against our need to collaborate further and go to the next level.

What is the role of the workforce in contributing to collaborative safety improvement across the petroleum industry?

Safety, while it must be line-led, can only be delivered by our workforce.

The Safer Together Industry Safety Induction developed for new industry starters challenges participants to:

- Be credible: What I say is consistent with what I do.
- Take action: I address unsafe conditions.
- Speak up: I talk openly and honestly about safety.

These core behaviours frame the role of all of us in contributing to safety.

Support for Health and Safety Representatives outside of a facility-based inspection



In the last issue of *the Regulator* (Issue 1: 2018) NOPSEMA described how it engages all Health and Safety Representatives (HSRs), no matter their employer, during facility-based inspections. Further to this, NOPSEMA provides HSRs with ongoing support outside its inspections.



HSRs can contact the NOPSEMA focal point inspector for their facility to raise any concerns or to ask for assistance and advice. NOPSEMA focal point inspectors are more than happy to assist and advise HSRs in:

- finding resolutions to safety concerns
- working with facility management to resolve ongoing issues
- understanding and exercising their powers.



HSRs can call or email the NOPSEMA focal point inspector for their facility. If the inspector's contact details are not known, HSRs can contact NOPSEMA's office and ask to speak to their inspector.

Perth (08) 6188 8700 | Melbourne (03) 8866 5700 | e: information@nopsema.gov.au

If the focal point inspector is not available, HSRs can speak with another member of the inspection team who will be able to assist. All conversations between a HSR and NOPSEMA are confidential and are not reported to the facility operator unless the HSR requests the matter to be escalated.*

*Where requested, the inspector will endeavour to maintain the anonymity of the HSR in the same way as for any person making a complaint or providing information for NOPSEMA follow-up.



In the event that HSRs are not able to reach a resolution with facility management, HSRs can contact their focal point inspector or NOPSEMA to request an inspection.

Inspections conducted in response to HSR feedback have, in the past, resulted in enforcement actions including prohibition and improvement notices.



NOPSEMA maintains a dedicated HSR webpage on our public website which can be accessed at nopsema.gov.au/safety/health-and-safety-representatives.

NOPSEMA has also developed and published a HSR handbook to assist HSRs in understanding and performing their role.

HSRs can subscribe to receive HSR-specific email updates as well as safety, well integrity and environmental management news at nopsema.gov.au/subscribe.

NOPSEMA strongly encourages all HSRs to subscribe to *the Regulator* and, if interested, printed copies can be provided to offshore facilities by contacting communications@nopsema.gov.au.





The regulators perspective on marine seismic surveys: Identifying and managing environmental impacts

In its position as Australia's offshore oil and gas regulator, NOPSEMA has noticed increasing debate and disagreement in the public domain about the potential environmental impacts of marine seismic surveys. A lot of concern has been fuelled by media reports and social media posts linking unrelated pieces of information or events, much of which is unsubstantiated. This article seeks to provide NOPSEMA's perspective as the independent, evidence-based, decision-maker.

So what are marine seismic surveys? Marine seismic surveys are one of the first steps in the offshore petroleum exploration process and are used to assist oil and gas companies in identifying hydrocarbon deposits below the sea floor. Typically, they involve a vessel towing an array of different sized chambers, filled with compressed air across a survey area. The release of compressed air produces sound waves that bounce off underground rock formations and the returning sound waves are then captured by the hydrophones being towed behind the vessel. By analysing the collected soundwaves, geophysicists and geologists are able to build a picture of underground rock formations and more accurately define where hydrocarbon deposits might be.

Marine seismic surveys, as with any other human activity, have an impact on the environment. Some scientific research into the effect of sound generated from seismic surveys demonstrate a range of potential impacts in the marine environment from temporary behavioural disruptions in whales to increased rates of mortality in some marine invertebrates. The type and degree of environmental impacts from a seismic survey is influenced by a number of factors specific to that survey. These factors include the ecological, social, economic and cultural features of the environment the survey is proposed to be conducted in; the type of equipment that will be used; and the way the survey will be managed. This is one of the reasons why every seismic survey proposed in Commonwealth waters requires its own environment plan.

Vital to understanding what the environmental impacts of a particular marine seismic survey may be, requires a comprehensive environmental impact assessment. A part of this assessment includes applying relevant scientific research in the context of the factors specific to proposed survey and the environment it is proposed to be conducted in. Once the environmental impacts of a particular seismic survey are understood then actions can be proposed to eliminate or reduce those impacts to as low as reasonably practicable and acceptable levels. Such actions may include implementing internationally recognised control measures such as restricting the timing and duration of the survey, deploying marine fauna observers to ensure sound emissions are ceased/reduced in power if marine mammals are detected, or not allowing the survey to be undertaken in particularly environmentally sensitive areas.

To draw a comparison, it is widely acknowledged that commercial fishing has an impact on the environment through the removal of fish, potential damage to marine habitats, and potential mortality of species that are not being targeted for sale. But, it is also recognised that if these impacts are appropriately identified and managed, we can continue to enjoy the benefits of sustainable fishing into the future. It is for this reason commercial fishing is closely managed by fishers and regulators to ensure that fish stocks are sustainable and impacts on the marine ecosystem are managed to acceptable levels.

To ensure the impacts of marine seismic surveys are managed to acceptable levels and there is no long-lasting or widespread damage to the environment, NOPSEMA assigns a team of environment specialists to assess each proposed survey through the submission of an environment plan. That assessment takes into consideration all the factors specific to the survey being proposed, contemporary and relevant scientific research and any information provided by stakeholders. It also involves iterative discussions and meetings with the titleholder proposing the survey to ensure appropriate and commensurate actions are taken to protect the environment; if they are not then NOPSEMA will not accept the plan and the survey will not be allowed to occur.

It is important for discussion and debate on the environmental impact of marine seismic surveys and whether or not they are acceptable be based on an objective assessment of the best available information and relevant scientific research. With this in mind, NOPSEMA strongly encourages stakeholders to openly share their perspectives, information and research so that we can develop a common understanding of potential impacts and how they may be managed to as low as reasonably practicable and acceptable levels.

Major review of environmental guidance

Since 2012, NOPSEMA has developed a series of documents to inform and assist stakeholders in understanding NOPSEMA's decision-making on environment plans and advise titleholders on how to interpret and meet the requirements of the Environment Regulations.

In November 2017, the Minister for Resources and Northern Australia, Senator the Hon Matthew Canavan, announced a series of changes to improve the transparency of offshore petroleum environmental management. The Department of Industry, Innovation and Science has since commenced work to develop the necessary regulatory amendments to implement these changes.

In preparation for these changes, NOPSEMA is seeking feedback on its documents supporting the assessment and approval process for environment plans, particularly the:

- environment plan assessment policy
- environment plan decision making guideline
- environment plan content requirements guidance note
- environment plan summaries guideline
- consultation requirements under the OPGGS Environment Regulations information paper.

All comments can be provided either via the [online survey](#) or by emailing environment@nopsema.gov.au by **20 July 2018**. NOPSEMA will consider the comments received during the public comment period and may also conduct further consultation with stakeholders to address comments received. NOPSEMA will aim to publish a report by the end of 2018 to collate the comments received and provide a response on how the feedback will be used to inform changes and improvements to the process.





Maintaining world class oil spill response capability

Around the world, leaders of industry are continually making major advancements in the capability of the global offshore oil and gas industry to respond to major oil pollution incidents. To ensure NOPSEMA's advice and promotion activities remain contemporary and abreast of leading developments in oil spill response arrangements, our specialists participate at international technical and trade conferences and actively seek to engage with a range of local and international oil spill response organisations and service providers.

Recently, NOPSEMA participated at the Offshore Technology Conference Asia in Kuala Lumpur, and Interspill in London, where new developments in oil spill response equipment and improvements to rapid response arrangements were shared. NOPSEMA also joined with representatives from the International Regulators Forum (IRF) and International Offshore Petroleum Environment Regulators (IOPER) to conduct site visits of the Trendsetter/Halliburton joint Global Response Facility located at Houston International Airport, USA. Although relatively remote to Australia, regulators were introduced to a range of rapid response arrangements that illustrate how the evolution in the design of critical response equipment offers innovations in deployment logistics and capability. Other IRF and IOPER site visits in 2018 have included Oil Spill Response Limited in the UK and the Norwegian Clean Seas Association for Operating Companies in Norway.

Through these activities, it is clear to NOPSEMA that there are new technologies that should be explored and adopted where reasonably practicable for duty holders operating in Commonwealth waters. Over the past 18 months, we have been collaborating with duty holders to ensure a thorough consideration of opportunities to expand or improve cooperative response solutions. This includes securing access to appropriate response arrangements from global providers to ensure world class response arrangements are maintained and continue to be improved.

NOPSEMA shares industry's goal of maintaining world class oil spill response arrangements and directing substantial focus to both prevention of oil spills and ensuring appropriate response arrangements are in place should a spill occur. NOPSEMA will continue its participation and engagement at forums where international agencies and oil spill response providers meet to ensure we remain informed about advancements in technologies and improvements to arrangements that may significantly improve oil spill response capability. Similarly, duty holders should be investigating new technologies and examine the feasibility of adopting local and international arrangements when considering their needs for establishing response capability for offshore petroleum activities in Australia.

Meeting your obligations for decommissioning

When offshore petroleum infrastructure will no longer be used to support petroleum operations a titleholder must remove or otherwise satisfactorily deal with the disused infrastructure. This process is called decommissioning. While there are a number of decision makers involved in the regulation of decommissioning, it is NOPSEMA's role is to assess the relevant risk management plans for the activity to ensure they meet all safety, well integrity and environmental management requirements.

Typically, decommissioning occurs at the end of petroleum operations but must also be undertaken for any disused infrastructure throughout the life of an offshore petroleum project. NOPSEMA considers the complete removal of infrastructure and the plugging and abandoning of wells as the base case scenario for all offshore decommissioning activities. A titleholder may propose decommissioning options other than the complete removal of infrastructure but the proposed option must deliver equal or better well integrity and environmental outcomes.

NOPSEMA will challenge any arguments made by titleholders that attempt to inaccurately represent the feasibility or practicability of complete removal of infrastructure. For example, when assessing decommissioning options, titleholders should be considering the use of decommissioning campaigns, the availability of nearby rigs and vessels, emerging technology and the collaborative use of decommissioning resources.

Titleholders will often use comparative assessments in their environment plans to assess different options for decommissioning. While options to partly remove, re-use or leave infrastructure in the marine environment may be proposed, titleholders must remember to include the base case scenario for complete removal throughout their evaluation and assessment process. When a decommissioning option is finally selected, NOPSEMA may require the titleholder to provide a range of scientific studies and environmental data to support that selection. For example, a titleholder may choose to identify, measure and assess the value of offshore infrastructure to fish assemblages in a particular geographical location to support their case for leaving infrastructure in the marine environment.

If a titleholder proposes to leave infrastructure in the marine environment, their environment plan must then demonstrate the acceptability of any long term impacts and risks of leaving that infrastructure. In this instance, if a comparative assessment is used, then it is important for titleholders to involve stakeholders early in the development stages of the comparative assessment. This will help to ensure that different viewpoints are captured and stakeholder expectations are understood and considered before any decision on is made on a preferred decommissioning option.

NOPSEMA is encouraged to note that industry has commenced discussions aimed at increasing consistency in the approaches that may be taken to evaluate and demonstrate appropriate decommissioning outcomes. NOPSEMA, in conjunction with the Department of Industry, Innovation and Science, will continue engagement with the industry and other stakeholders to ensure that any approach addresses the relevant legislative requirements.

The National Offshore Petroleum Titles Administrator and the Joint Authority will request advice from NOPSEMA prior to making title-related decisions where titles, or parts of titles, are to revert to vacant acreage. NOPSEMA provides advice on matters such as if all property has been removed or alternative arrangements have been made, if wells have been plugged and abandoned, if the conservation and protection of natural resources in the titles is provided for, and if any damage to the seabed or subsoil has been made good.



When do you need to submit a safety case revision?

NOPSEMA has noticed an increase in the frequency of operators using their formal Management of Change (MoC) processes as a means of permanently deviating from their safety case commitments. For example, some operators have used their MoC process to approve the removal of controls identified within the facility's safety case as being necessary to reduce the risk of a major accident to a level that is as low as reasonably practicable.

Any proposed change to a facility, its activities or safety management system (SMS) that are not addressed in the safety case in force for the facility may trigger the requirement to submit a revised safety case to NOPSEMA. The Safety Regulations stipulate that a safety case revision is required for a change of circumstances or operations. The types of change that warrant a revision are stipulated in Regulation 2.30 and include when:

- the technical knowledge relied upon to develop the safety case becomes outdated
- the facility is going to be modified or decommissioned beyond that which is described in the accepted safety case
- a series of proposed modifications will result in a significant cumulative change to the risk of a major accident
- there is a significant change to the SMS
- the compositions of substances conveyed by pipelines are different from the compositions described in the safety case
- the activities to be carried out at the facility are different to the activities described within the safety case
- there is a significant increase in the level of risk to health and safety, either immediate or cumulative.

When a change meets one or more of the criteria listed above, irrespective of the quality and rigor of an operator's MoC process, the submission of a revised safety case to NOPSEMA is required. It is the operator's obligation to identify when a change requires a revision to the safety case. If NOPSEMA identifies such changes then it is generally a case of non-compliance and may lead NOPSEMA to take enforcement action against the operator.

Example—deviating from the accepted level of risk

During testing of a valve identified as a major accident control measure within the accepted safety case, the valve failed to meet applicable performance standards, due to either damage or degradation. The facility operator applied their MoC process and decided to lock the valve open rather than undertake repair or replacement. NOPSEMA considered that the permanent removal of the MAE control measure described in the accepted safety case represented a modification to the facility, and so issued a request for a formal revision of the safety case to be submitted to NOPSEMA for assessment.

Example—implementing a better way of doing something

A facility operator wanted to change their primary means of search and rescue (SAR) from marine to aviation. The operator identified that the proposed change met one of the criteria for safety case revision outlined in the Regulations, namely that the activities to be carried out at the facility (aviation SAR) are different to the activities described in the safety case (marine SAR). The operator submitted a safety case revision to NOPSEMA. Once the safety case revision was accepted, the operator implemented the change to aviation SAR.

Operators should consider including in their MoC procedures, forms and flowcharts, a requirement to review a proposed change against the safety case in force for their facility with reference to the criteria specified in Regulation 2.30. The use of such ‘safety case check-points’ at key decision points throughout the MoC process could be beneficial, as the implications of a change may only become apparent through the assessments initiated by the MoC process itself. Useful check-points may include:

- At initiation of the MoC process. Is this a modification to the facility, activities to be conducted, or SMS? If yes, the facility operator should review the proposed change against the safety case in force for their facility and consider whether a revision is required.

It should be noted that NOPSEMA considers that permanent (or long-term) removal or degradation of a technical control for a MAE may constitute a modification that requires a safety case revision.

- After risk assessment. Will the change result in a significant overall increase in the risk of a major accident? If yes, a safety case revision is required.
- At final approval. Have any of the triggers for a safety case revision been met? If yes, the MoC should be replaced with a safety case revision.

Operators are reminded that it is an offence to undertake work at a facility in a manner contrary to the safety case in force for that facility. If you are unsure of whether a proposed change is sufficient to require a safety case revision to be submitted to NOPSEMA, then NOPSEMA strongly encourages you to contact the focal point inspector for your facility, who will be able to provide guidance.

For further information about safety case revisions, operators can refer to the safety case guidance notes published at nopsema.gov.au/safety/safety-case-guidance-notes, in particular, the *Safety case lifecycle management* and *Safety management systems* guidance notes.

PREVENTING AND MANAGING
A LOSS OF WELL CONTROL

NOPSEMA EVENTS
& INITIATIVES

Sharing insights on best practice for well integrity and control

In the last issue of *the Regulator* (Issue 1: 2018), NOPSEMA published ‘A study of well integrity failures in offshore Australia’ outlining a project to compile and analyse data on well integrity failures for production wells using incident notifications, inspection findings and well operations management plans. The project has expanded to include analysis of well control incidents for exploration and appraisal wells. A workshop will be arranged with titleholders in the fourth quarter of this year to review the anonymized data and share insights into best practices in well integrity and well control. NOPSEMA is pleased that the APPEA Offshore Drilling Industry Steering Committee is in support of the project and will participate in workshop planning. To stay up-to-date on workshop details or to subscribe to well integrity news and *the Regulator* visit nopsema.gov.au/subscribe.



A new avenue for community feedback

In March 2018, NOPSEMA established a Community and Environment Reference Group, offering a new avenue for the regulator to receive community views on our performance in regulating offshore petroleum environmental management. Following expressions of interest, eight members were appointed to the group by its Chair and NOPSEMA CEO, Mr Stuart Smith.

NOPSEMA Community and Environment Reference Group

Mr Stuart Smith, NOPSEMA CEO (Chair)

Mr Brett McCallum, a commercial fishing representative in Western Australia.

Mr Daniel Marsh, a stakeholder engagement and social impact management practitioner, based in Perth.

Ms Jacqueline Hine, a conservation advocate and regional community member, based in Exmouth.

Ms Kirsten Rough, a commercial fishing industry participant in South Australia.

Ms Mannie Shea, a commercial fishing and stakeholder engagement advocate, based in Fremantle.

Ms Pauline Nolle, a commercial fishing industry participant and advocate based in Victoria.

Ms Robyn Glindemann, a conservation advocacy and public policy participant, based in Perth.

Mr Stuart Field, a marine scientist in applied research, planning, management and policy development, based in Perth.

Group members participate as individuals, rather than representatives of their employer or organisation, and contribute their experience and perspectives across a range of areas that interact the regulation of offshore petroleum environmental management.

In March and June 2018, the group held its first two meetings where they were asked to suggest topics for discussion with NOPSEMA at future meetings. The group identified consultation on petroleum activities and management of longer-term, cumulative environmental impacts as areas of interest. It is NOPSEMA's expectation that the group will assist in identifying actions and/or initiatives that will strengthen our effectiveness as a regulator and our 'social license' to regulate.

Meeting records are available on NOPSEMA's website at nopsema.gov.au/environmental-management/stakeholder-engagement-and-transparency. Any feedback may be provided to the group by emailing cerg@nopsema.gov.au.

Environment inspections focus on source control

NOPSEMA's regulatory focus on the prevention of major accidents to protect the health and safety of people at or near facilities and the environment is something that is well documented and understood across industry and the public alike. Another core focus area which is perhaps a little less public is the work that we do to ensure offshore petroleum titleholders are best prepared to launch all appropriate mitigating response actions in the unfortunate case that a major accident does occur.

One set of response actions is described in technical circles as 'source control.' If the accident is an offshore 'blowout' or 'loss of well control' after a failure of a blowout preventer then the source control options available are often limited to various dynamic/static/top kill approaches including the possible installation of a capping stack or drilling of a relief well.

Real world experience has been that titleholders work towards simultaneously implementing as many of these source control options as makes feasible sense. Where access and safety allows, top kill efforts are undertaken from the original rig or another rig brought to the site. Where the original rig is disabled, has been lost or is simply not safe to use, a capping stack may be brought into play by one or more specialist offshore installation vessels. Other teams will be surveying the site, removing debris with remote operated vehicles (ROVs), fighting fires, or undertaking other actions to enable a safe response. This may include, for example, injecting subsea dispersants at the wellhead or spraying surface dispersants on the water where oil surfaces to minimise explosive vapours. Meanwhile, at a safe distance upwind/current, a rig sourced in the region on an emergency basis will begin drilling a relief well to intercept the blowout well thus eventually allowing a more permanent 'bottom kill'.

The complexity of these response actions makes it clear that advance planning is key to ensuring their success; it is simply not good enough to wait until a major accident occurs before response plans are made. The good news is NOPSEMA, as the national regulator, and the offshore petroleum industry agree on this point. The challenge is ensuring the latest technological developments and best practices, world-wide, are recognised, translated into the Australian context, are consistently implemented, and fit for the circumstances that may unfold.

It is with this in mind that inspectors in NOPSEMA's Spill Risk and Well Integrity teams have been undertaking targeted inspections on source control. In the year Q1-2017 to Q1-2018 seven inspections were carried out with a source control focus. Six titleholders, large and small, were inspected in connection with drilling (5 inspections), production (1 inspection), and well intervention activities (1 inspection).

Following a standard format that allowed for variation to meet the diverse characteristics of the different activities, NOPSEMA's inspectors looked at *planning* to ensure that the level of detail was commensurate to the risk, *service arrangements* with specialist third party providers (e.g. well intervention specialists, transport firms, ROV operators), availability of source control *expertise and management*, and *equipment arrangements* (e.g. capping stack providers, availability of relief well rigs and long-lead time materials).

During these inspections, NOPSEMA found a significant amount of good practice. For example, ongoing maintenance of tracking systems for suitable relief well rigs and capping stack deployment vessels, the rigorous study of activity and location-specific capping stack feasibility, and detailed well-specific logistics studies for mobilising equipment such as capping stacks to site. Similarly, a range of areas were identified for improvement and NOPSEMA issued recommendations to address these aspects. These findings can be summarised in four categories, including: ensuring availability, preparing to meet environment plan timeframes, preparedness documentation, and preparedness planning.

Looking to the future, NOPSEMA's focus on source control preparedness in environment inspections will continue. NOPSEMA's current inspection planning foresees targeting all titleholders and high risk activities as dictated by inspection policy targets as well as when opportunities for ad-hoc inspections arise.



Summary of recent NOPSEMA inspection recommendations on targeted source control-focused environment inspections.

- Ensuring the *availability of equipment and services* to implement source control operations. For example, tracking availability of relief well capable rigs, suitable deployment vessels for SFRT/capping operations, and service providers.
- Ensuring *timeframes for implementing source control* operations can be met. For example, conducting logistics studies and stipulating and exercising timeframes.
- Ensuring *preparedness planning* is undertaken and supported by necessary studies. For example, technical development of the worst case discharge scenario, well-specific relief well planning, capping stack feasibility, interface compatibility, landing and shut-in studies undertaken, capping stack providers provided with relevant activity and well-specific information for each well, pre-activity reviews completed.
- Ensuring *sound procedures* are in place for implementing operations. For example, for the implementation of a capping stack and the roles and responsibilities of all relevant response parties.



Addressing challenges to operational integrity of contracted equipment

In April 2018, NOPSEMA held a collaborative industry workshop aimed at improving operational integrity of contracted equipment. NOPSEMA initiated the workshop after recent inspections of mobile offshore drilling units (MODU) identified unsafe management of contracted equipment installed for well testing activities. Workshop participants identified a need for better planning and communication between MODU operators, titleholders, and suppliers of third-party equipment.

The workshop was attended by members of the Drilling Industry Steering Committee of the Australian Petroleum Production & Exploration Association, members of the International Association of Drilling Contractors and representatives from service/equipment suppliers of well intervention equipment (EXPRO, Halliburton and Schlumberger). Presentations were delivered from NOPSEMA, ConocoPhillips, BHP Billiton, and Ensco followed by panel sessions focusing on key challenge areas.

One of the key challenge areas workshop participants identified arises from shared duties and responsibilities of the MODU operator, titleholder and third party service/equipment providers. For example, the drilling contractor, as the operator of the MODU facility, is responsible for implementing the safety case requirements for well testing and discharging their duties as the operator. The titleholder, as a 'person in control of parts of facility or particular work,' is typically responsible for well testing within their title area. Finally, the third-party service/equipment providers, as 'suppliers of plant and substances' and 'employer,' have responsibilities regarding the safety and integrity of the plant and equipment they supply and for their employees undertaking the well testing activities.

Workshop participants also identified opportunities for improvement. This included the importance of ensuring that personnel from all parties are involved in risk assessment activities during the design and planning of well testing activities. This action would support a shared understanding of hazards and risks, and inform decisions concerning the control measures and safety management systems needed to eliminate or reduce risks to a level that is as low as reasonably practicable (ALARP).

Additional opportunities include ensuring all parties have ongoing access to the safety case in force for the facility as they all have an obligation to ensure activities and work conducted at the facility are not contrary to that safety case. There should also be sufficient lead-time to allow input from facility operator and third party service/equipment providers into key planning activities such as a revision to a safety case. Furthermore, there should be a clear definition and transparent communication of the scope of activities included in the safety case and the boundaries of these to all relevant operational personnel.

While each party involved in well testing activities has individual duties under Schedule 3 to the OPGGS Act, they all collectively share the responsibility for protecting the health and safety of people at or near the facility. It is NOPSEMA's expectation that all relevant parties work together to manage their shared duties and responsibilities to eliminate or reduce risks to a level that is ALARP.

How NOPSEMA takes enforcement action

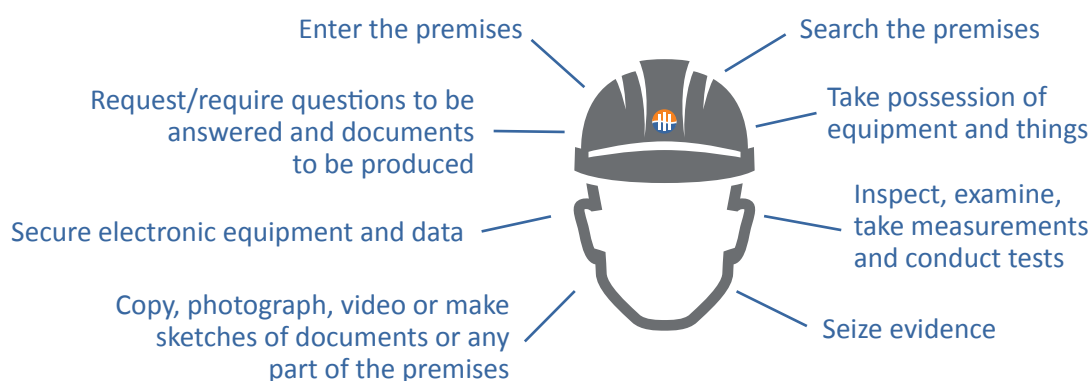


An offshore incident/threat/breach occurs

The duty holder notifies NOPSEMA, NOPSEMA discovers during inspection or is notified by a third-party

NOPSEMA investigates

POWERS OF THE NOPSEMA INSPECTOR*



ENFORCEMENT ACTIONS

If NOPSEMA determines a breach of the OPGGS Act has occurred, enforcement action may be taken. Enforcement actions include issuing an improvement or prohibition notice, requesting a revision or withdrawing acceptance of the relevant risk management plans, issuing a general direction or pursuing prosecution.



From 2012-2017, NOPSEMA took the following enforcement actions:

150 improvement notices **15** prohibition notices
50 requests to revise a permissioning document **3** general directions
3 intent to withdraw acceptance of a permissioning document **3** prosecution briefs

*NOPSEMA inspectors may exercise inspection powers under the OPGGS Act and inspection or investigation powers under the Regulatory Power (Standard Provisions) Act 2014, investigation powers require a warrant to be obtained.



Industry responds to DP system human error tolerance

Since 2016, NOPSEMA has been raising concerns with the offshore petroleum industry about the susceptibility of dynamic positioning (DP) system controls to human error. This concern originated from an incident in Commonwealth waters where a vessel unintentionally drifted off location. Although no-one was injured, the lives of divers working on the seabed nearby were put at risk.

It is important to remember that facility operators have a duty of care under the OPGGS Act to take all reasonably practicable steps to ensure equipment at the facility is safe and without risk to health. Similarly, manufacturers must take all reasonably practicable steps to ensure that the plant and equipment is so designed and constructed as to be, when properly used, safe and without risk to health and safety.

In highlighting this issue, NOPSEMA drew the attention of international regulatory counterparts resulting in the International Regulators Forum (IRF), of which NOPSEMA is a member, agreeing to highlight the issue (if relevant) in their respective jurisdictions so as to ensure manufacturers globally take steps to ensure DP systems are tolerant to human error. The IRF also published NOPSEMA's *Dynamic positioning must be resilient against human error* article on their website at irf.shoresafety.com.

NOPSEMA wrote to global DP manufacturers seeking information on the steps they have taken regarding the tolerance of their systems to human error. This communication included the message from the IRF meeting and an updated timeline of events and regulatory actions on the issue. From the four manufacturers that responded to NOPSEMA, there was a general recognition that double-press buttons are susceptible to human error and when used for mode changes on DP control panels could result in a loss of three-axis control.

The manufacturers also noted that depending on factors such as the age, make and model of the DP control system, additional software controls may be available to reduce the risk of inadvertent mode changes, such as: audible alarms, visual alarms, audible voice messages confirming mode changes, confirmation dialog boxes, on-touch screen systems, and a confirmation dialog box at different location on the screen. Where software changes are not an option, or as an interim measure pending software changes, clear covers over mode-change buttons can reduce their vulnerability to inadvertent double-presses.

NOPSEMA similarly wrote to the International Maritime Organisation, International Association of Drilling Contractors, International Marine Contractors Association (IMCA), International Association of Oil and Gas Producers, Energy Institute and the Marine Technical Society (MTS), seeking any input they may have on the issue. Following that correspondence, NOPSEMA is pleased to note that IMCA and MTS have published documents on their websites drawing attention to the inadvertent activation of buttons that influence DP control and have made suggestions on ways to reduce the likelihood and recovery/recognition time of such an action. Operators are encouraged to read these documents and consider if the measures proposed are applicable to their facilities.

NOPSEMA is now developing a program of work to ascertain the extent to which relevant facility operators have taken steps to improve the human error tolerance of their DP systems. Updates on this work will be provided in future issues of *the Regulator*.

IMCA: Station Keeping Event Bulletin 01/08

The IMCA bulletin recognises a reduction in loss of position events as a result of human error over the last three years but notes one event reported in January 2018. The bulletin reminds readers ‘of the importance to assess and guard against the vulnerability of this type of event occurring on-board their vessel.’ The bulletin also provides the IMCA Marine DP Committee’s considerations following the two most recent, including:

- It is important that DP operator training focuses on good practice, an action should be followed up continuously to verify the intention of the action is reached or being executed.
- This type of event has happened on other DP vessels, it is noted that some vessel operators have fitted a cover or made ‘mode of operation’ buttons stand out from others.
- The incident highlights the importance of vessel operators risk assessing the operation of the DP control station and taking appropriate action as required.
- Vessel operators are reminded of the critical nature of DP mode selection buttons and should assess if the DP system is susceptible to unintentional deactivation of any critical mode. If so, appropriate action should be taken without delay.
- Recent action that the Committee is aware of is:
 - The fitting of a plastic flip cover to protect mode selection buttons
 - Installation of an additional function that requires the operator to confirm the mode change via a pop up window on the operator station.

MTS: Classic DP Incident — Accidental Deselection of Auto DP

Similar to the IMCA bulletin, the MTS provides the following considerations for possible barriers to this fault and ways to detect it, including:

- Install button covers over axis controls.
- Add an audible alarm when changing DP modes.
- DP system watch circles fixed to a geographical point and remain when switching to manual mode.
- Turn on trace lines (snail trails) on the DP system and position reference systems (PRS)—this will show the vessel drifting.
- Watch circles turned on in PRSs with audible alarms. Note: Some of the features above may not be available on all DP systems or PRSs.
- If available from DP vendor and it will not adversely impact the vessel’s Industrial mission, consider installing a confirmation dialog box function.



Plans for marine parks take effect

On 1 July 2018, new management plans for the south-west, north-west, north, temperate east and Coral Sea Australian marine parks took effect. The plans were finalised by the Minister for the Environment and Energy, the Hon Josh Frydenberg MP, and introduced to Parliament on 21 March 2018 following a comprehensive review process commenced in December 2013.

The Director of National Parks (DNP) is the statutory authority responsible for the administration and management of marine parks. Marine park management plans enable a range of marine user activities and set rules for what activities are allowed with and without the authorisation of the DNP and what activities are not allowed. Management plans also set out the requirements for 'mining operations' which are only allowable in certain areas (zones) of marine parks and encompass offshore petroleum activities and some greenhouse gas activities. This includes associated titleholder emergency response, environmental monitoring and remediation activities.

The finalisation and commencement of the new management plans signifies the final milestone of a carefully considered marine park planning process led by the DNP and Parks Australia. This step also represents the culmination of marine bioregional planning processes, an independent review and economic analysis, collaboration with marine users, and consideration of expert advice and feedback provided by interested parties during a statutory public consultation period.

With the new management plans in effect, offshore petroleum titleholders need to ensure that the offshore project proposals and environment plans for their offshore petroleum activities demonstrate that their activities are consistent with the zoning and rules that apply to mining operations in marine parks and impacts on the representative values of the parks will be of an acceptable level; and in the case of environment plans, also managed to as low as reasonably practicable.

It should be noted that if a petroleum title was in force prior to the proclamation of a marine park then it is recognised as a 'prior usage right' and exempt from having to comply with provisions of the marine park management plans.

NOPSEMA is working closely with Parks Australia to develop guidance on *Managing activities that may affect Australian marine parks*. The guidance will seek to outline what titleholders need to consider and evaluate during the preparation of environment plans for activities that may impact on the marine parks. The guidance will also outline the requirements for titleholders in consulting with the DNP as a relevant person during the preparation and implementation of an environment plan. NOPSEMA expects the guidance to be published in the coming weeks. To receive an email update please subscribe to environmental management news at nopsema.gov.au/subscribe.

For more information on Australian marine parks, or to download management plans, please visit the Parks Australia website at parksaustralia.gov.au/marine. Petroleum titleholders, proponents and special prospecting authorities are encouraged to seek opportunities to work with Parks Australia to improve existing knowledge of marine parks, for example, by sharing collected data to inform environmental assessment and management arrangements for their activities.



Responding to the unexpected while complying with the safety case

NOPSEMA has identified a number of situations where facility operators had been working outside the scope of their accepted safety case without realising that they were doing so. The safety case, once accepted by NOPSEMA, defines the range of activities that are permitted to occur and the conditions that must be met.

In some situations, activities were performed when the safety case explicitly stated they would not. In other situations, unexpected conditions emerged which had not been considered during the development of the safety case. Although the operator responded to the unexpected conditions and attempted to reduce risk to a level that was as low as reasonably practicable, these operations were still outside of the safety case in force for the facility.

The way operators view the purpose of the safety case informs how the safety case is used. Some operators treat the safety case solely as a means of obtaining approval to operate, while others use it as the foundation of risk management on the facility. Where there is a disconnect between the safety case and operational decisions, there is a greater risk that operations will unknowingly move outside of the scope of the safety case in force for the facility. Line-of-sight between the safety case and facility operations can be improved through contingency planning to identify appropriate responses to unexpected situations. The adoption of relevant rule sets may aid offshore facility personnel in making sound decisions in these situations.

In the event of safety critical equipment (SCE) impairment, facility personnel must respond to dynamic circumstances where the loss or degradation of the SCE may potentially increase risk levels at the facility. The immediate response action can be summarised as typically offering offshore facility personnel two options, namely to stop or restrict operations to within the limits of remaining barriers, and/or to identify and assess any temporary substituted technical or other control measures that may be implemented to support continued operation. The first option pursues a precautionary approach and restricts the affected operation prior to a formal, structured operational risk assessment being performed. The latter approach would normally result from an operational risk assessment that had properly considered the degraded situation, and identified and implemented suitable and sufficient actions to enable continued operation until the SCE is fully repaired or replaced.

Decisions to suspend or limit operations can be especially challenging for facility personnel, so operators should adopt rules to guide and support robust decision-making. These are likely to take the form of discrete situations in which the Offshore Installation Manager has a predetermined course of action to follow in the event of specific SCE failures; including the use of mandated stopping points when specified conditions are approached, met or exceeded. If this contingency planning is properly thought through and built into the safety case, legally compliant continued operations are enabled.

Where operators are found to be operating in a manner contrary to their accepted safety case, NOPSEMA will act to secure compliance. Compliance actions can include written advice/warnings, improvement notices, prohibition notices, requests for a revised safety case, and withdrawal of safety case acceptance.

Quarterly performance dataset — Q1:2018

INDUSTRY ACTIVITY AND PERFORMANCE

Submissions		
Category	Type of assessment	Number
Safety	Safety cases	25
	Scopes of validation	13
	Diving safety management systems	3
	Diving project plans	0
	Diving start-up notices	2
Well integrity	Well operations management plans	3
	Well activity applications	0
	Final abandonment reports	6
Environment	Environment plans	8
	Environment plan summaries	11
	End of an environment plan (regulation 25A)	17
	Offshore project proposals	0
Other	Petroleum safety zone application	2
	Petroleum safety zone access application	0
	Area to be avoided access application	0
	National Offshore Petroleum Titles Administrator request for title related information	16
Total		106

Incidents		
Category	Type of incident	Number
People safety	Accidents (immediate reporting) and Injuries (monthly reporting)	
	Fatalities	0
	Serious injury	0
	Incapacitation / lost time injury >= 3 days	3
	Lost time injury <3 days	0
	Medical treatment injury	7
	Alternative duties injury	10
	Total accident and injuries	20
	Dangerous occurrences	
	Could have caused death or serious injury	7
	Could have caused incapacitation >= 3 days lost time injury	3
	Total dangerous occurrences (people safety)	10

Incidents		
Category	Type of incident	Number
Process safety	Dangerous occurrences	
	Collision marine vessel and facility	0
	Damage to safety-critical equipment	30
	Fire or explosion	1
	Other kind needing immediate investigation	2
	Pipeline—kind needing immediate investigation	0
	Pipeline—likely to have resulted in significant damage	0
	Pipeline—significant damage	0
	Uncontrolled hydrocarbon release >1–300 kg	4
	Uncontrolled hydrocarbon release >300 kg	0
	Uncontrolled petroleum liquid release >80–12 500 L	2
	Unplanned event—implement emergency response plan (including false alarms)	43
	Well kick >50 barrels	0
	Total dangerous occurrences (process safety)	82
	Total dangerous occurrences (people and process safety)	92
Well integrity	Well integrity incidents	
	Loss of integrity > 1 kg gas released	1
	Failure of hydrostatic pressure—blowout preventer closure and positive well pressure	0
	Loss of integrity—well-related equipment damage or failure	4
	Potential loss of integrity—well-related equipment damage/failure	6
	Any other unplanned occurrence to regain control of the well	0
	Total well integrity incidents	11
Environment	Reportable environmental incidents	
	Hydrocarbon vapour/petroleum liquid release	1
	Chemical release	0
	Drilling fluid/mud release	0
	Fauna incident	2
	Matter protected under Part 3 of the Environment Protection and Biodiversity Conservation Act 1999	0
	Other	0
	Total reportable environmental incidents	3

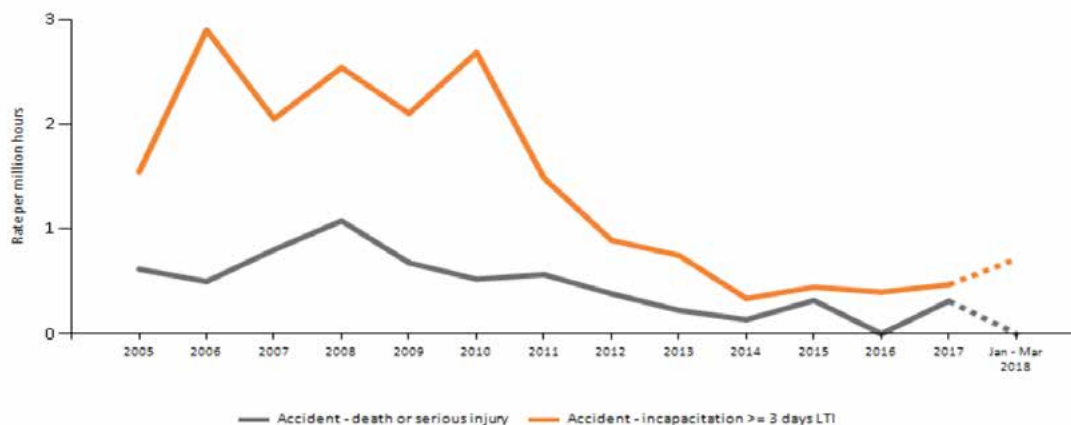
Note: Uncontrolled hydrocarbon releases/spills may have been reported as an OHS incident and as an environmental incident. Injuries may have been reported as a total recordable case and as an accident.

HOURS WORKED OFFSHORE

2017				2018	Current year total	Quarterly average (2016–2017)
Q1	Q2	Q3	Q4	Q1		
2 085 822	2 399 322	3 922 465	4 382 723	4 200 102	4 200 102	3 398 087

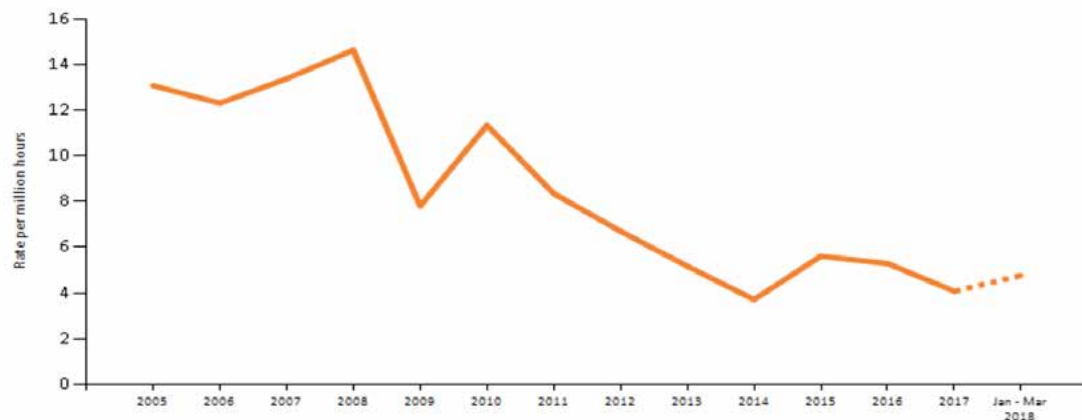
INDUSTRY PERFORMANCE INDICATORS

Accidents



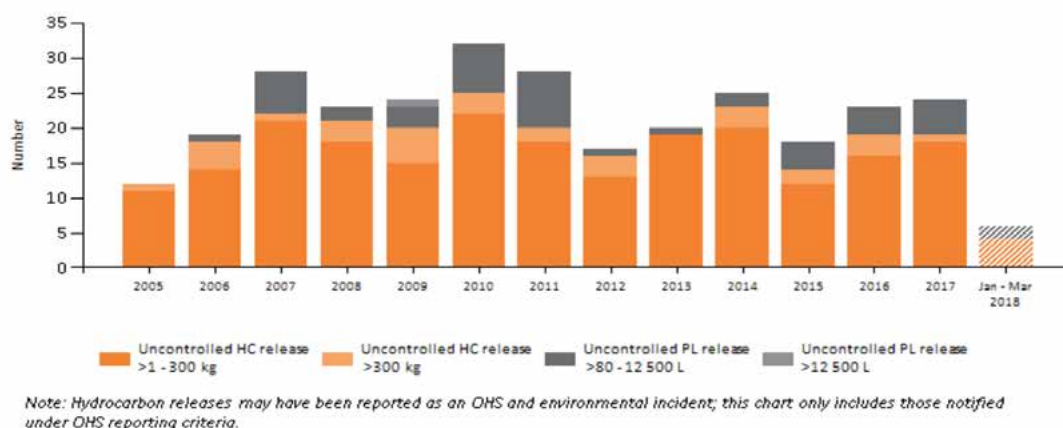
No fatalities or serious injuries were reported to NOPSEMA during the quarter, resulting in the rate decreasing to zero.

Injuries



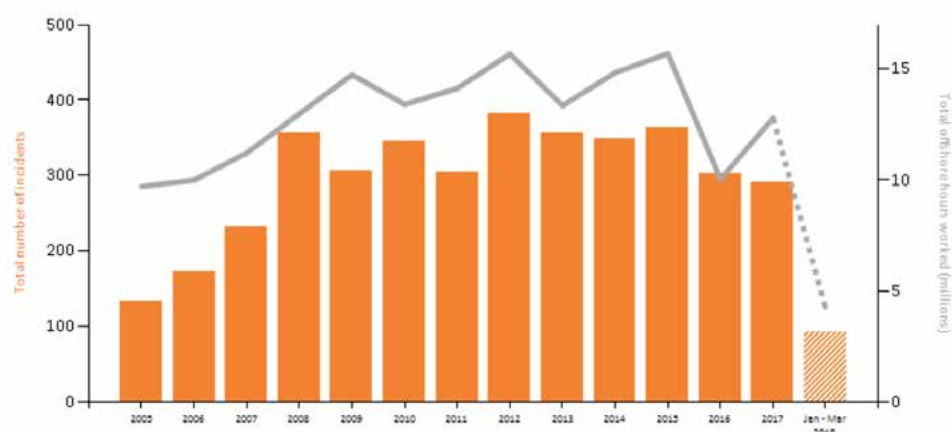
Twenty injuries were reported to NOPSEMA during the quarter, including 10 medical treatment injuries, seven alternative duty injuries and the three LTI >= 3 days accidents (as described above).

OHS hydrocarbon releases



Four hydrocarbon gas releases were notified to NOPSEMA during the quarter, all of which were classified as low level (>1—300 kg) and two uncontrolled petroleum liquid releases – also low level (>80—12,500 L).

Dangerous occurrences



Ninety-two dangerous occurrences were reported during the quarter to NOPSEMA, which is higher than the quarterly average of 77 for the last two years. The majority of these dangerous occurrences were unplanned events requiring emergency response plan implementation (46.7%) followed by damage to safety-critical equipment (32.6%). Of the damage to safety-critical equipment incidents, 14 were related to facility integrity.

NOPSEMA ACTIVITY AND PERFORMANCE

Improvement and compliance		
Type of activity	Category	Number
Inspections	Occupational health and safety	20
	Well integrity	3
	Environmental management	15
	Total inspections	38
Enforcement actions*	Occupational health and safety	3
	Environmental management	1
	Directions	2
	Total enforcement actions	6

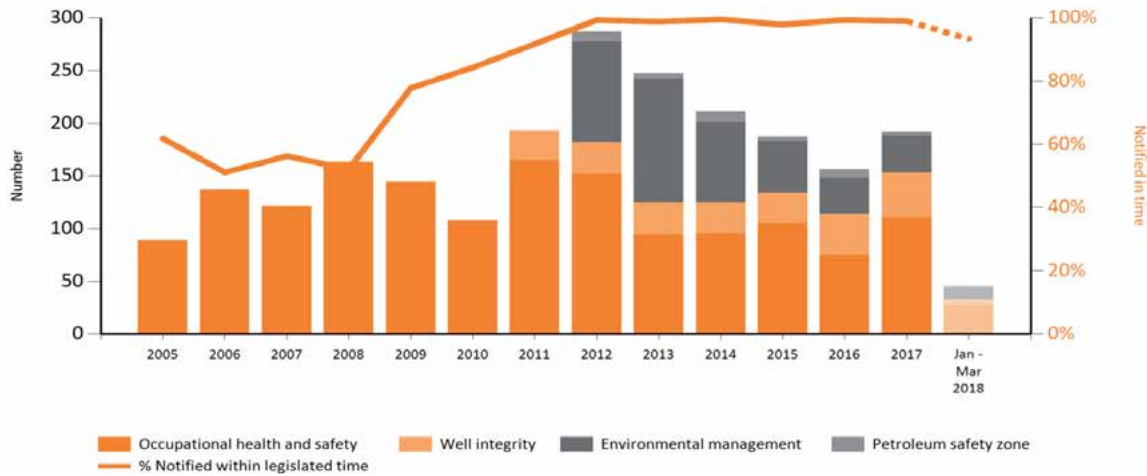
*Excludes verbal warnings/advice, warning letters, investigation notices and inspection recommendations.

ADVICE, PROMOTION AND CONSULTATION

Stakeholder meetings	Number
Duty holders/titleholder applicants	117
Government agency (federal, state, international)	31
Industry/trade associations	10
Consultants/contractors	6
Non-government organisations/other	11
Total stakeholder meetings	175

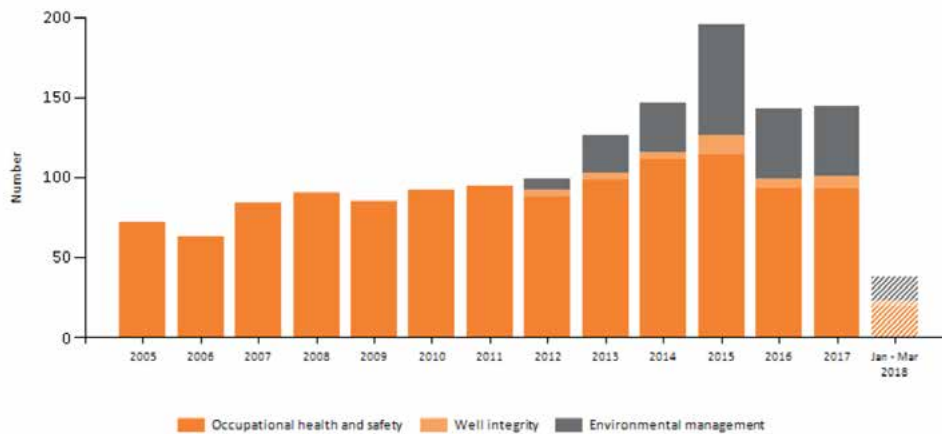
NOPSEMA PERFORMANCE INDICATORS

Notified assessments



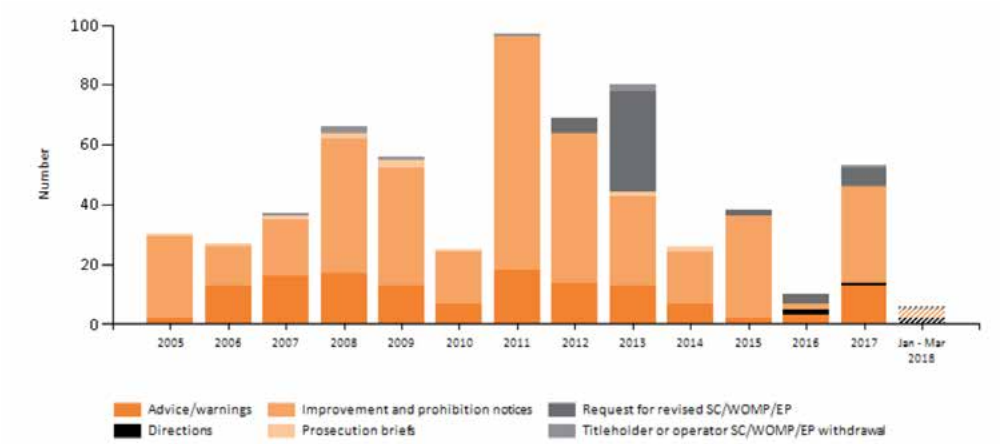
During the quarter, 96% of all assessments were notified within legislated timeframes. Only assessment types with legislated timeframes are included in the 'notified in time' data, however, it is NOPSEMA's policy to apply a specified timeframe on all assessment types.

Inspections



NOPSEMA conducted 38 inspections across 51 facilities and petroleum activities (a single inspection may cover multiple facilities) during the quarter.

Enforcement actions



Notes

Handwriting practice lines consisting of 30 horizontal dotted lines.

Notes

Notes

Handwriting practice lines consisting of 30 horizontal dotted lines.



Schedule of events

August 2018

20–21 August 10th Annual ProSafe 2018, Melbourne

September 2018

14 September Western Australia Petroleum Day 2018

October 2018

23–25 October SPE Asia Pacific Oil & Gas Conference and Exhibition, Brisbane

Events listed are those at which NOPSEMA is presenting, exhibiting or has an organisational role. For presentations at past events visit nopsema.gov.au/resources/presentations.