## THE REGULATOR

2020 - ISSUE 3





### **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 greenhouse gas storage 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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### MESSAGE FROM THE CHIEF EXECUTIVE OFFICER



key concerns relating to people, the wellbeing of offshore workers and human fragility.

Welcome to this latest quarterly edition of *The Regulator*, the third for 2020. In this edition, we evaluate our new normal of ongoing change and challenging circumstances in light of COVID-19 and the many ways in which the offshore oil and gas sector is responding and adapting. As you will discover from the pages within, while COVID-19 has presented challenges, it has also provided opportunities for the sector to work more collaboratively than ever before in shaping and informing its future.

In a test of resolve and resilience, the sector has so far responded quickly and astutely to changing priorities by building stronger relationships to support shared solutions and goals. While these relationships will hold the industry in good stead as it continues to navigate the way forward, 2020 will undoubtedly be remembered as one of the toughest years for the industry.

With the added pressure of historically low oil prices on the operating environment, NOPSEMA has highlighted key concerns relating to people, the wellbeing of offshore workers and human fragility. As the offshore energy regulator, we have an important role in supporting the sector throughout the pandemic.

We are having important conversations about mental health and the need to be able to recognise the triggers. Heightened anxiety and tension in the workplace can affect attention to detail and overall performance. Contributing factors such as extended work shifts and less time with family and friends pose increased risk to personal health, process safety and the incidence of major accidents. We are aware that border closures, travel restrictions and quarantine requirements have resulted in some offshore workers spending time in isolation and working longer swing patterns, separated from loved ones.

While NOPSEMA's initial inspections of operators' arrangements for dealing with COVID-19 indicate that the vast majority of dutyholders have appropriate and reasonable arrangements in place for transmission risks among personnel, NOPSEMA is concerned about the longer-term mental health effects of the pandemic. Given the risks associated with mental health, NOPSEMA is conducting a review of operators' approaches to managing this specific area.

Based on the results of surveys and inspections, NOPSEMA has published examples of better practices in psychosocial risk management. These results will inform industry advice and guidance prepared by NOPSEMA for sharing with Australian offshore facility operators, state regulators, international regulators through the International Regulators' Forum, health and safety representatives and members of the offshore petroleum industry workforce.

Through inspections and other regulatory activities, NOPSEMA is also ensuring that dutyholders continue to maintain facilities and actively plan for decommissioning as per the various legislative requirements. More than half of the offshore oil and gas facilities in Australian waters currently regulated by NOPSEMA are older than 20 years, some exceed 50 years and more than 10 facilities have ceased production, highlighting appropriate management of ageing infrastructure and timely decommissioning as a priority for industry.

A recent independent review, known as the Walker Review, considered the circumstances leading to the administration of Northern Oil and Gas Australia, which purchased the Northern Endeavour facility and associated petroleum fields from Woodside in 2016. The Review found NOPSEMA to be "... a robust, professional and independent regulator that had significant concerns right from the start of the change of operator/titleholder for the Northern Endeavour. As fears about the cumulative impact of the individual concerns increased, the decisions on the appropriate

course of action to take were well informed." The Review also made nine recommendations. three of which relate to NOPSEMA's inspection processes including planning, focus on root causes of non-compliance and the use of inspection recommendations. NOPSEMA is currently taking steps to ensure inspection processes and practices are modified where appropriate to respond to these outcomes.

The Commonwealth Government's Decommissioning Framework Review and Offshore Oil and Gas Safety Review were identified by the Walker Review as the most appropriate mechanisms to deliver recommended reforms to legislative changes and clarifications to strengthen the decommissioning framework under the Offshore Petroleum and Greenhouse Gas Storage Act 2006 (OPGGS Act), NOPSEMA is providing regulatory and operational advice on these matters.

In the spirit of continuous improvement, NOPSEMA is also pursuing a holistic approach to physical inspections at offshore facilities and regulated business premises to incorporate the expertise of specialists in occupational health and safety, environmental management, well integrity and oil spill risk. Integrated inspections are expected to provide NOPSEMA inspectors with a fuller picture of compliance issues to further enhance regulatory outcomes. In the past, NOPSEMA has largely conducted inspections specific to occupational health and safety, or environmental management.

Read on to learn more about these and other initiatives.

I trust you find this latest edition of The Regulator informative.

Stuart Smith Chief Executive Officer



## INTERNATIONAL REGULATORS' FORUM GOES VIRTUAL

For the first time in its 25-year history, the International Regulators' Forum (IRF) has held its Annual General Meeting (AGM) virtually.

As one of 11 national regulators comprising the IRF, NOPSEMA joined the AGM on 6 and 7 October 2020 to share Australian perspectives on offshore oil and gas and provide input to problem statements presented by other countries. Similar virtual events have been held in September and October for the International Offshore Petroleum Environment Regulators (IOPER).

Throughout 2020, members of the IRF and IOPER have met regularly via teleconference to share information, experiences, case studies and best practice approaches for dealing with challenges associated with COVID-19 and low oil prices, as well as ongoing efforts to collaborate on other safety and environmental priority initiatives.

Common, global challenges for the industry include psychosocial impacts and reductions in personnel on facilities. In recognising the challenges, IRF members have highlighted the importance of continued maintenance and repair to ensure asset integrity, as well as ongoing training and mentoring for sustaining high levels of professional competency.

In delivering robust regulatory oversight of the global offshore oil and gas industry, IRF members will continue to share information and best practices relevant to the pandemic to support industry measures.

IRF members include offshore upstream petroleum health and safety regulators from Australia, Brazil, Canada, Denmark, Ireland, Mexico, the Netherlands, New Zealand, Norway, the United Kingdom and the United States.

# PRIORITISING SUPPORT AND MENTORING FOR THOSE WORKING IN ISOLATION

The competence of staff working in the offshore oil and gas sector is integral to safety and environmental protection in countering threats of a major incident. Appropriate mentoring, ongoing professional development and onthe-job learning have always been important components in ensuring high standards of competency and skill across the workforce. However, an increase in the number of professionals working remotely and in isolation as a result of COVID-19 has highlighted new risks associated with learning and development.

NOPSEMA is concerned about the impacts and consequences of COVID-19 on access to specialists, mentoring, networking and peer support. Recruiting and retaining skilled specialists in the workplace is important in setting and maintaining high standards, as they provide a critical function in informal teaching and mentoring with a view to driving excellence across the workforce, particularly for graduates and early-to-mid-career professionals.

The structural integrity of offshore facilities is a key concern in the prevention of major accidents. It's therefore imperative that technical staff possess specific skills and competencies to prioritise high standards of safety and environmental management. With so many technical staff working in isolation during the pandemic, NOPSEMA is highlighting the need for appropriate mentoring, feedback and professional development in addressing skills gaps and ensuring continued knowledge and competence acquisition as would normally occur in a shared physical workspace.

As part of regular inspections of offshore facilities and petroleum assets, NOPSEMA considers reporting procedures, maintenance and the outcomes of regular assessments to ensure compliance with Commonwealth legislation and associated regulations. NOPSEMA has asked oil and gas companies to be mindful of the competencies of staff, especially those who are responsible for assessing and maintaining structural integrity, highlighting its concerns about the impacts on training, mentoring, professional development and retention of skills during the pandemic.



TRAINING IN THE TIME OF COVID-19:

# REMOTE LEARNING OPTIONS FOR HEALTH AND SAFETY REPRESENTATIVES

In light of physical distancing requirements and travel restrictions as a result of COVID-19, NOPSEMA has highlighted the need for remote learning opportunities to ensure that newly selected Health and Safety Representatives (HSRs) are able to receive training within a reasonable timeframe following their selection.

HSRs contribute to improving the safety of the offshore workforce by representing work group members, understanding their health and safety concerns and assisting them to participate in health and safety decisions that affect them. Working in collaboration with the facility operator, work group members and employers, HSRs help to prevent incidents and promote safer ways of working. HSRs are afforded a range of powers and protections under the Offshore Petroleum and Greenhouse Gas Storage (OPGGS) Act, including powers to inspect workplaces, investigate complaints, represent group members, and issue improvement notices.

Under the *OPGGS Act*, once selected by the members of their designated work group, HSRs must undertake a course of training relating to occupational health and safety that is accredited by NOPSEMA. This course has in the past been delivered in a classroom-based environment to facilitate peer learning and collaboration between HSRs from different companies and facilities.

As a consequence of the COVID-19 pandemic and associated public health measures, no HSR training was delivered across Australia between the months of March and July 2020. While restrictions have currently eased across much of the country and HSR training in Western Australia has recommenced, it now appears that a rapid recovery to pre-COVID-19 conditions is unlikely, and that the impacts of COVID-19 will likely continue for some time.

66 NOPSEMA has highlighted the need for remote learning opportunities

In anticipation of ongoing COVID-19 interruptions to classroom-based training provisions, NOPSEMA believes it's prudent to consider how HSR training might be delivered



via remote learning during periods when governments have implemented restrictions that prohibit traditional classroom-based training.

NOPSEMA has written to accredited providers of HSR training and invited them to submit for accreditation a restructured training package supporting provision of remote HSR training. The package will need to meet the same learning elements and performance criteria as outlined in the Course Descriptor. Providers were asked to assess the potential adverse impacts on learning outcomes associated with remote learning and to identify how these will be mitigated. Further, providers were asked to describe how they will ensure that the important peer-learning components of HSR training will be maintained within a remote learning environment.

NOPSEMA will follow the usual process for accrediting the proposed training package and, once satisfied with the proposal, will provide conditional accreditation where the remote package may be delivered during periods where state or federal government restrictions prevent classroom-based training from proceeding.

NOPSEMA inspectors attend accredited HSR training sessions to liaise directly with HSRs, answer any questions they may have and listen to concerns. During periods where state or federal government restrictions prevent classroom-based training from proceeding, NOPSEMA will continue to provide inspector involvement in remote training via videoconference.

## ADAPTATION IS THE NEW NORMAL

# DEVELOPING NEW WAYS OF CONNECTING AND COLLABORATING ACROSS THE OFFSHORE ENERGY SECTOR

As the global community continues to adapt and evolve in response to the effects of COVID-19, the Australian offshore energy sector is also taking steps to navigate challenges to traditional ways of functioning and doing business.

Against the backdrop of historically low oil prices, 2020 will undoubtedly be remembered as one of the toughest years for the industry. While the sector's immediate response to COVID-19 was to ensure critical business continuity and the health of its people, many of the longer-term challenges are still crystallising.

NOPSEMA has highlighted that key concerns relating to people and human fragility will require careful and continuous management.

According to NOPSEMA's Head of Safety and Integrity Derrick O'Keeffe, the "health" of offshore workers has taken on new meaning since the arrival of COVID-19.

"The general wellbeing of offshore workers and relevant factors such as anxiety, fatigue and disruption to learning and application are contributing to the risks associated with COVID-19. As greater stress among the workforce leads to greater risk of accidents and injuries, the psychological effects of COVID-19 are significant," Mr O'Keeffe said.

"Variable work schedules, travel restrictions, quarantine and separation of workers from their families have placed considerable pressure on the industry, across all touch points."

NOPSEMA has an important role in supporting the sector throughout the pandemic. In addition to implementing and assessing against COVID-19 Pandemic Compliance Strategies, greater focus is being given to softer skills, culture and people management. Utilising



technology and sharing information to ensure better connectivity. collaboration and social integration are priorities for ensuring an inclusive culture while complying with physical distancing requirements.

NOPSEMA CEO Stuart Smith says mental health issues can manifest in many ways and it's important to recognise the triggers.

"We know that heightened anxiety and tension in the workplace can affect attention to detail and overall performance. Collectively. we need to consider issues such as work shifts, frequency of breaks, connections with family and friends. If these issues aren't addressed appropriately, there can be greater risk to personal health and safety, process safety and even major accidents."

He says the sector will benefit if it applies learnings from the pandemic, such as the importance of collaboration in addressing common problems.

"COVID-19 has demonstrated that

industry collaboration, particularly when combined with a shared sense of urgency and willingness to learn and adjust practices as required. can deliver fast and effective outcomes. This is a key lesson of the pandemic, which I hope the sector will learn and apply going forward in the interests of resilience."

**66** NOPSEMA has an important role in supporting the sector throughout the pandemic

NOPSEMA has resumed physical inspections on offshore oil and gas facilities and developed initiatives to increase engagement.

As one of the inspectors involved in physical inspections, Derrick O'Keeffe has seen first-hand how the industry is responding to COVID-19.

"Despite the many challenges relating to COVID-19, the workforce is maintaining high standards of safety and environmental management. Having visited facilities and spoken to numerous members of the workforce, I am confident that the industry will continue to respond appropriately. We certainly expect them to and will continue to provide support through advice and sharing of good practices as well as compliance oversight and if necessary, enforcement."

Industry surveys to gauge and assess operators' response to managing risks associated with COVID-19 continue to be updated in line with changing and evolving risk profiles. NOPSEMA publishes the surveys and exemplar responses as a means of encouraging consistent, best practice approaches across the industry.

Mental health issues can manifest in many ways and it's important to recognise the triggers

Facility operators and members of the offshore workforce are encouraged to review the information and identify opportunities for improving systems and practices. This approach to shared learning includes regular interaction with Health and Safety Representatives, who may raise concerns on behalf of their facility. Analysis of the survey responses is also shared with other regulators of the offshore industry internationally to support

the development of integrated, global responses to shared issues and challenges. NOPSEMA shares this information in its role as one of 11 national regulators of the International Regulators' Forum.

"Health and Safety Representatives have a key role in the identification of emerging issues on facilities, including the consequences of reduced work hours and deferred maintenance," Mr O'Keeffe said.

NOPSEMA is also part of a national initiative to promote a united sectoral response to the many challenges and lasting effects of COVID-19. Alongside resources companies, key industry groups and federal and state government representatives, NOPSEMA participates regularly in a virtual roundtable to discuss a range of issues including risks to workers' health and safety and responsible environmental management.

"The industry forum, chaired by NOPSEMA and consisting of industry, state regulators and union representatives, meets regularly to ensure that opportunities to protect worker health are being rapidly developed and deployed," Mr O'Keeffe said.

Despite the challenges, COVID-19 has presented opportunities for the offshore energy sector to work more collaboratively than ever before in shaping and informing its future.

In a test of resolve and resilience, NOPSEMA is pleased to see the sector has responded quickly to changing priorities by building stronger relationships to support shared solutions and goals. These strengthened relationships will hold the industry in good stead as it continues to navigate the way forward.

## SHINING A LIGHT ON OFFSHORE MENTAL HEALTH

As part of a series of surveys undertaken by NOPSEMA to gain information from offshore petroleum industry operators about systems and arrangements in place to manage risks associated with COVID-19, NOPSEMA has asked facility operators to prepare responses to specific questions about psychosocial risk.

Due to border closures, travel restrictions and quarantine requirements in light of COVID-19, some offshore workers have been spending time in isolation and working longer swing patterns, separated from family and friends. There are genuine concerns about the impacts and consequences of extended periods away from home on the mental health and general wellbeing of workers.

While initial inspections of operators' arrangements for dealing with COVID-19 indicate that the vast majority of dutyholders have appropriate and reasonable

arrangements in place for transmission risks among personnel, NOPSEMA is concerned about the longer-term mental health effects of the pandemic.

The introduction of isolation periods prior to travelling offshore, changes to work schedules and requests for workers to relocate to avoid border closures can contribute to fatigue, stress, anxiety and other psychosocial hazards. Given the risks associated with mental health, NOPSEMA is conducting a review of operators' approaches to managing mental health risk.

Based on the results of surveys and inspections, NOPSEMA has published examples of better practices in psychosocial risk management. These will inform industry advice and guidance prepared by NOPSEMA for sharing with Australian offshore facility operators, state regulators, international regulators through the International Regulators' Forum, health and safety representatives and members of the offshore petroleum industry workforce.

### IF YOU NEED SOMEONE TO TALK TO, CALL:

- 66
- Lifeline on 13 11 14
- Kids Helpline on 1800 551 800
- MensLine Australia on 1300 789 978
- Suicide Call Back Service on 1300 659 467
- Beyond Blue on 1300 22 46 36
- Headspace on 1800 650 890
- QLife on 1800 184 527



# NOPSEMA INTRODUCES INTEGRATED INSPECTIONS

NOPSEMA has continued to monitor compliance throughout 2020 but with various restrictions and new risks resulting from COVID-19, NOPSEMA's inspection program has had to adapt. While NOPSEMA's inspections have continued throughout the pandemic, border controls and other government restrictions have at times this year prevented NOPSEMA from physically attending offshore facilities and company premises. To ensure continued contact and oversight of offshore petroleum activities, NOPSEMA has employed remote inspection approaches. NOPSEMA has also incorporated additional compliance monitoring tools, such as benchmarking against recognised better practice approaches for addressing specific COVID-19 health risks to ensure ongoing protection of workers and the environment during the pandemic.

Now that restrictions are starting to ease for parts of Australia, NOPSEMA resumed physical offshore inspections in August 2020 in line with appropriate protocols to manage health risks associated with COVID-19.

In recommencing offshore inspections, NOPSEMA has evolved inspection programming to consider a broader set of risk factors and an asset or activity-based approach that incorporates the expertise of

specialists in occupational health and safety, environmental management, well integrity and oil spill risk. This holistic approach to compliance monitoring allows NOPSEMA to better target physical inspections at offshore facilities and regulated business premises.

NOPSEMA has also incorporated additional compliance monitoring tools

In taking an integrated approach to inspections to involve diverse skill sets, NOPSEMA is able to focus on the most pressing risks for each asset and is well-positioned to deliver timely technical advice to address a broad range of matters that may arise during an inspection. NOPSEMA will continue to ramp up physical offshore inspections but with the added logistical complexity and the imperative to ensure that NOPSEMA inspectors are not themselves a vector for infection. NOPSEMA has even more reason to ensure it's getting the most out of each and every inspection.



Integrated compliance program development, planning and conduct of inspections are expected to provide NOPSEMA inspectors with a fuller picture of compliance issues to further enhance regulatory outcomes. In the past, NOPSEMA has largely conducted inspections specific to occupational health and safety, or environmental management, or well integrity. Developing a more integrated and dynamic approach has been an area that NOPSEMA has been working on since conducting an internal review of its inspection processes in 2019. COVID-19 has accelerated progress and development.

Once fully implemented, this approach will deliver the most effective and efficient use of resources, potentially reducing the need for multiple inspections, providing better coordination of travel to offshore facilities.

The impacts of COVID-19 on the community and industry continue to be assessed and managed by industry, with NOPSEMA ensuring the processes of regulatory assessment and oversight are occurring, in accordance with legislative requirements and varying local conditions, health risks and circumstances across the country.

# MANAGING RELATIONSHIPS AND RESPONSE ARRANGEMENTS ACROSS BORDERS

As state and federal governments respond to COVID-19 with changing and evolving restrictions, NOPSEMA continues to work with industry and government to test national capabilities and emergency response procedures to ensure effectiveness, reflective of latest circumstances.



A series of solutions-focused exercises involving industry, state government authorities and NOPSEMA have been undertaken to address challenges resulting from restrictions on the movement of specialist personnel and equipment due to border controls and physical distancing requirements as a cooperative effort.

As the offshore energy regulator, NOPSEMA is responsible for ensuring oil and gas companies and facility operators have in place adequate arrangements and control measures for responding appropriately in an emergency. In this role, NOPSEMA is focusing oversight efforts on these cooperative industry exercises and providing feedback in line with legislative requirements. Individual companies are then applying the outcomes of these exercises to their operations which will be subject to further NOPSEMA compliance monitoring activities.

Exercises are being revisited to address the rapidly changing landscape and ensure that the most effective control measures are identified and can be implemented. Industry measures are aimed at limiting any potential disruption in the event an oil pollution response was required, through adaptive and novel approaches to remove or limit COVID-19 transmission risk. This includes the implementation of remote, virtual incident management support teams and

training, through to consideration of remote accommodation options to separate emergency personnel from operating facilities and surrounding communities to limit the threat of infection. Protocols developed by industry to reduce the risk of transmission of COVID-19 among offshore workers and the community have also been updated in response to changing circumstances and government requirements.

The learnings from joint exercises are contributing to the maintenance of the national capability for responding to an oil spill during a pandemic. The outcomes are also assisting to inform changes to common arrangements for industry-wide application and have demonstrated real benefits of cooperative approaches to planning, response and assurance.

Relevant to cross-border incidents. recent amendments have been made to the Offshore Petroleum and Greenhouse Gas Storage Act 2006 to strengthen and clarify NOPSEMA's regulatory powers within state and territory jurisdictions during an oil pollution emergency originating in Commonwealth waters. A policy outlining how NOPSEMA will exercise its regulatory compliance monitoring, enforcement and intervention for offshore oil pollution incidents. including the recent amendments, has recently been developed with input from relevant state and federal agencies and is available at nopsema.gov.au

# MAINTAINING FOCUS ON MAINTENANCE AND DECOMMISSIONING OF PROPERTY



During a sustained low oil price environment and in the context of late life fields and ageing production facilities in Commonwealth waters, NOPSEMA is taking active steps to ensure that duty holders are continuing to maintain facilities and are actively planning for decommissioning as per the approved end state. In line with the Ministerial Statement of Expectations issued to NOPSEMA in October 2019, NOPSEMA is also ensuring that end state planning is geared towards full removal of property, as per the legislative requirement, with NOPSEMA only accepting alternatives where appropriate justification is provided when deviation is sought.

As highlighted in previous editions of *The Regulator*, NOPSEMA continues to increase focus through its advice, guidance, assessment and inspection program on ensuring that dutyholders undertake maintenance necessary to control risks and ensure asset integrity so that equipment can be removed once operations cease. These efforts include consideration of approving alternatives to full removal where appropriate justification is provided, as well as taking enforcement where there are serious breaches of the requirements.

On 6 August 2020, the Commonwealth Department of Industry, Science, Energy and Resources (DISER) released the outcomes of an independent review into the circumstances leading to the administration of Northern Oil and Gas Australia (NOGA). The Walker Review sought to understand how and why the NOGA group of companies entered liquidation. The review also considered how best to minimise risks of a similar event occurring again. A serious consequence of NOGA entering liquidation was that they could not meet their decommissioning

obligations, putting a spotlight on the risks of late-life assets and underfunded titleholders.

The review found NOPSEMA to be a robust, professional and independent regulator and made nine recommendations. Three relate to NOPSEMA's inspection processes including planning, focus on root causes of non-compliance and the use of inspection recommendations. NOPSEMA is currently taking steps to ensure that inspection processes and practices are reviewed and appropriately modified to respond to the outcomes of the Walker Review.

The remainder of the recommendations of the review related predominantly to legislative changes and clarifications to strengthen the decommissioning framework under the Offshore Petroleum and Greenhouse Gas Storage Act 2006 (OPGGS Act). NOPSEMA is supportive of appropriate legislative reforms that seek to strengthen requirements in relation to asset maintenance and ensure that titleholders are ultimately held to account for the decommissioning of facilities, including the plugging and abandonment of wells and the removal of equipment.

The DISER Decommissioning Framework Review and the DISER Offshore Oil and Gas Safety Review were identified by the Walker Review as the most appropriate mechanisms to deliver recommended reforms and NOPSEMA is actively providing regulatory and operational advice to DISER on these matters.

As the reviews progress, NOPSEMA will continue to take all available actions under the current *OPGGS Act* framework to monitor and enforce compliance with requirements in relation to property maintenance and decommissioning.

### **EMBRACING OPPORTUNITIES FOR SELF-REFLECTION AND EXTERNAL REVIEW**



In its role as the independent offshore energy regulator, it is appropriate that NOPSEMA is regularly subject to a range of external reviews and audits. Recent reviews include the Australian Government's review of the circumstances that led to the failure of the NOGA Group of Companies and the Northern Endeavour (The Walker Review) as well as the Chief Scientist's Audit of NOPSEMA's environmental approvals process for drilling in the Great Australian Bight. These reviews and others have highlighted potential areas for improvement while identifying NOPSEMA as a professional and effective regulator.

As a statutory authority, NOPSEMA has a legislative requirement to undergo regular, independent assessments for examining effectiveness in bringing about improvements in occupational health and safety, environmental management and well integrity.

In addition to appearing at Senate Estimates hearings and participating in Senate inquiries during 2020, a review of NOPSEMA's operational performance is now underway, covering the period 2015-2020. The Operational Review occurs every five years, with the terms of reference drawn from the Offshore Petroleum and Greenhouse Gas Storage Act 2006.

The Operational Review, examining NOPSEMA's activities and regulatory functions, also incorporates the review of NOPSEMA's compliance with streamlining arrangements under the Environment Protection and Biodiversity Conservation (EPBC) Program.

The previous EPBC Program Review took place in 2015, a year after the Program was endorsed by the then Federal Minister for Environment.

While the first Program Review was conducted separately from the NOPSEMA Operational Review, the two have been combined this year in recognition of the common elements in relation to industry environmental regulation and the timing of the reviews.

The Program Review seeks to assess the performance of the Program against its objectives. This includes ensuring that offshore petroleum and greenhouse gas activities are carried out in a manner consistent with the principles of ecologically sustainable development and activities will not result in unacceptable impacts to matters protected under Part 3 of the EPBC Act. The Program Review also seeks to review the administrative arrangements between NOPSEMA and the Department of Agriculture, Water and the Environment.

NOPSEMA expects the Operational Review will highlight any areas where NOPSEMA can improve its operations to support more effective regulation of the offshore petroleum and greenhouse gas storage industry into the future. The Program Review component will, if found necessary, provide recommendations for improvements to NOPSEMA's regulatory processes to ensure the continued delivery of the Program's objectives and protection of Part 3 matters of the EPBC Act.

NOPSEMA welcomes external reviews and opportunities for continuous improvement to ensure the effective administration of the regulatory framework in delivering a safe and environmentally responsible offshore energy sector. Findings of the reviews are expected to be handed down by the end of 2020. NOPSEMA remains grateful to stakeholders for their efforts in providing input and contributions to the review.

# TECHNOLOGY HOLDS THE KEY TO BETTER WHALE DETECTION



NOPSEMA and the Australian Antarctic Division (AAD) of the Department of Agriculture, Water and the Environment have announced a new challenge to develop new shipborne technology to automate the detection, location, and measurement of whales at sea.

Up to \$2.4 million in funding will be made available by the Australian Government's Business Research and Innovation Initiative (BRII) to solve this challenge. Through the BRII process, businesses are invited to respond to challenges identified by Government agencies and independent bodies such as NOPSEMA, with ideas for innovative solutions.

NOPSEMA believes such technology will serve to improve confidence in the management of seismic surveys and protection of whales, an outcome with benefits for the environment, communities, industry and government. The challenge highlights the opportunity to improve whale detection systems for use during seismic surveys. Current

mitigation measures use marine mammal observers and other techniques on board seismic vessels to visually or acoustically detect and identify whales and to implement mitigation measures to prevent harm. However, limitations with the existing techniques mean that companies may be restricted in operating at certain times or in certain locations to ensure that whales are not harmed.

This technology would help to provide further real-time information to support the work of the marine mammal observers, allow seismic companies to better manage their surveys and provide high quality data for researchers and regulators to improve our understanding of the spatial distribution and behaviour of whales.

AAD's interest in the challenge is the acquisition of a valuable, new, near-autonomous data stream about whales in the Southern Ocean for Australia's new icebreaker RSV Nuyina. NOPSEMA chose the AAD as their partner in managing this challenge for their technical expertise in:

- whale biology;
- formal marine mammal sightings surveys;
- passive acoustics and other detection methods; and
- human impacts on whales.

Additionally, the AAD currently receives and manages all Marine Mammal Observer data from seismic survey vessels operating in Australian waters.

There are limited historical and few ongoing sources of information about the distribution and abundance of whales in Australian waters. Additional sources of information are vital for enhanced understanding of the recovery, distribution and status of whales around Australia to inform environmental impact assessment for industry exploration activities and regulatory decision-making.

Improved understanding about the distribution and behaviour of whales would improve seismic survey planning to better avoid biologically important habitats when whales are likely to be present, thereby reducing the number of costly seismic vessel shut downs needed to prevent harm to whales.

NOPSEMA's challenge highlights recent advances in artificial intelligence image processing to detect and record whale encounters. Examples include the application of a bespoke scientific system that used thermal imaging and artificial intelligence to detect marine mammals. In an experimental trial the system recorded about twice as many whale encounters compared to human marine mammal observers. Not only was the system better at detecting whales, but digital imaging technology proved to yield more accurate measures of distance to the whales than estimates made by human observers. However, automated whale detection systems are currently not commercially available in Australia or internationally, and this potentially limits the efficiency and effectiveness of marine mammal observations and technologies to complement them.

NOPSEMA's challenge asks companies to consider additional technologies to provide vessel based, automated, real-time, round-theclock, accurate detection and identification of marine mammals at sea with accurate distance estimation to inform the implementation of mitigation measures. Solutions would also need to consider how such technology could be deployed on seismic, commercial and research vessels. Secondly, the challenge requires proponents to consider how automated marine mammal detection data and subsequent management actions can be more effectively collated and reported back to DAWE's National Marine Mammal Database. Ideally greater visibility of sighting location data to different audiences will enable meaningful application to environmental impact assessment, research and species conservation.

A video explaining NOPSEMA's BRII challenge has been published on the NOPSEMA website: nopsema.gov.au



### Frequently asked questions

Do you have questions regarding NOPSEMA? NOPSEMA publishes a compilation of Frequently Asked Questions (FAQs) under the news and publications section of our website. Questions listed on the FAQ page include information on safety and integrity, environmental management and general matters. For more information, see nopsema.gov.au/news-and-publications/faqs/

66 Report an incident

> To notify NOPSEMA of an accident, dangerous occurrence, environmental or well integrity incident call:

1300 674 472



### nopsema.gov.au

National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA)

ABN 22 385 178 289