



APPEA SUBMISSION

2015 OPERATIONAL REVIEW OF

NOPSEMA

15 May 2015

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1. INTRODUCTION

Nationally, almost \$180 billion is currently being invested in oil and gas projects in Australia, including six major liquefied natural gas (LNG) export projects¹ (following the commencement of the commissioning process for Australia's newest LNG project in December 2014). These projects include:

- largest resources projects and some of the largest capital projects ever undertaken in Australia;
- world's first projects featuring CSG to LNG developments;
- world's first floating LNG project; and
- largest greenhouse gas storage project in the world.

By 2020, the sector's economic contribution to the national economy is set to more than double to \$65 billion and taxation paid is projected to rise from \$8.8 billion (an estimated \$4.9 billion in corporate taxes and \$3.8 billion in production taxes) to reach almost \$13 billion.

With this huge investment and extensive oil and gas activity, the Australian oil and gas industry is committed to demonstrating it has uniformly high standards in place at all times to protect the safety, integrity and health of people, the environment and our communities. APPEA supports strong and independent regulation that sets an objective and science based framework for reducing risks while providing certainty to industry. Given the substantial benefits to the national economy, regulation of the oil and gas industry should be designed and implemented to promote high standards of actual operational performance and risk management without imposing unnecessary regulatory/administrative burdens.

APPEA has been an active partner with the Commonwealth and state/territory governments and regulators over many years in developing the current regulatory frameworks and industry practice governing safety, structural integrity and environment for oil and gas activities and operations. APPEA has provided leadership to further strengthen regulatory regimes, improve transparency around critical controls and build additional emergency response capability after recent serious offshore incidents. At the same time however, unnecessary and duplicative regulation, and inconsistency and confusion between different regulators has increasingly placed a costly and inefficient burden on oil and gas projects across Australia without contributing to raising standards or outcomes. APPEA therefore acknowledges the commitment of the Australian Government to address this regulatory burden and supports the initiatives to achieve a genuine 'one stop shop' regulator for oil and gas activities and facilities in Commonwealth waters, as well as pursuing further alignment with the regulatory regimes in state/territory waters and with

¹ Bureau of Resources and Energy Economics (2013), *Resources and Energy Major Projects*

major hazard facilities regulation onshore. Further, APPEA supports the key role NOPSEMA plays in achieving an integrated, consistent, risk based and streamlined approach to the regulation of the industry's offshore oil and gas facilities and activities.

APPEA's submission to the 2015 Operational Review of NOPSEMA is intended to assist the Australian Government with the continuous improvement of the offshore regulatory regime applying to oil and gas activities and facilities in Commonwealth waters, and importantly to improve the operational performance of the industry, particularly in the prevention of major accident events.

UNDERPINNING PRINCIPLES OF REGULATION

Regulation of oil and gas operations should reflect leading practice and be objective-based. For industries subject to rapid technological change and which operate in dynamic, high risk environments, prescriptive regulation is likely to become quickly outdated and worse, counterproductive in terms of managing risk. Instead, regulations need to set clear objectives and leave it to operators to determine how these objectives are to be achieved and to provide a robust justification (or case for safety, environment and structural integrity) to an independent and competent regulator.

APPEA acknowledges that both industry and regulators need high levels of experience and competence in developing, assessing, implementing and adapting through management of change process an 'argued and justified case' that ensures:

- 'critical' controls (or barriers) are identified that can either prevent a serious incident occurring in the first place or minimize the consequences if a serious incident were to occur;
- the adequacy of those critical controls is assessed and justified (which requires both ALARP argument and identification of performance standards that are genuinely about the desired performance and are SMART – specific, measurable, achievable, realistic and time managed);
- accountability for their implementation is assigned; and
- their effectiveness in practice is verified – and where necessary changes are made and managed to the critical control and performance standard to ensure they are effective.

This requires a level of 'adaptive management' and engagement between industry and regulator, not a rigid adherence to the original documents submitted to the regulator and accepted, which will inevitably need refining in practice through the implementation process. It also requires a clear understanding of why and what are the 'critical' controls

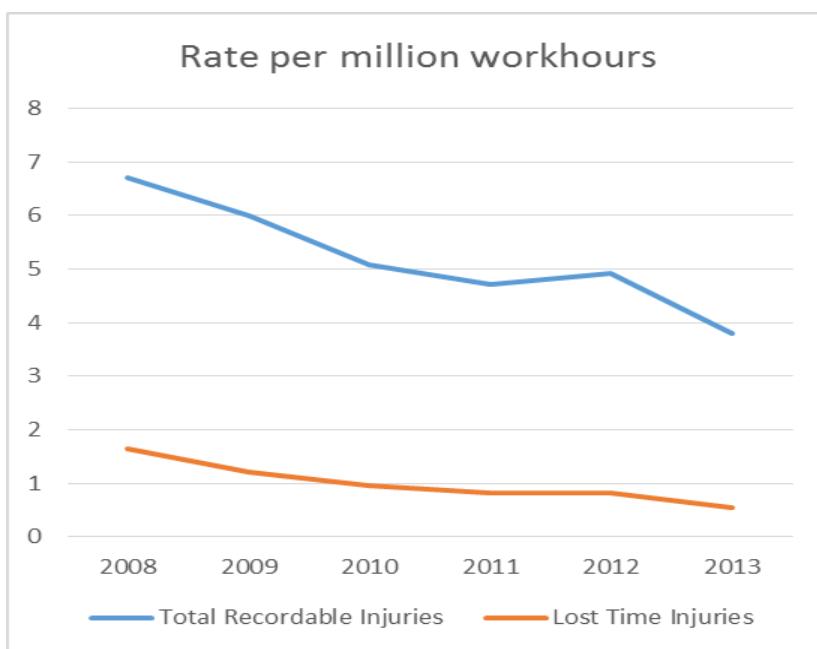
It is imperative in high hazard industries such as oil and gas operations that experiences and lessons are shared across the industry as effectively and rapidly as possible. Effective sharing of lessons is highly dependent on having in place a mature regulator(s) experienced in the field, and engaged with industry to share and problem solve through a flexible but transparent and managed approach to changing circumstances (technology, environments, science etc.) backed up by clear objective based regulation and ultimately independent, fair and firm enforcement.

A rigid and policing style of regulation where finding blame is the main game cannot contribute to best industry practice and performance through timely sharing of lessons and experiences.

2. OVERVIEW OF INDUSTRY'S HSE PERFORMANCE AND COLLABORATION

■ Safety Performance and Collaboration

APPEA has worked with the industry since 2007, through an annual CEO Safety Leadership Forum (which includes service sector/contractor CEOs from across all oil and gas operations in Australia) and the APPEA HSO Committee and forums, to achieve a significant improvement in personal safety performance across the industry. A series of industry and company initiatives have dramatically reduced injury rates whilst work hours have tripled.



There is however, always more that can and must be done and APPEA and the oil and gas industry leaders are continuing with the work to drive for better performance across all sectors of the industry. Some current APPEA initiatives aimed at achieving continuous improvement include for example:

- Alignment of APPEA's safety performance data reporting with the protocols of the International industry body IOGP in order to leverage global learnings, including collecting and publishing data on industry high potential events to foster rapid transfer of lessons between oil and gas industry companies.
- Co-ordination of specialist network groups to share lessons and understand best practice e.g. HSO Committee, APPEA Drilling Steering Committee, Human Factors Subcommittee, Safety Performance Reporting Subcommittee and Aviation/Search and Rescue Working Group.
- Conduct of a number of key safety/risk awareness and competence programs - the Common Safety Training Program (CSTP) and the Safe Supervisor Competency Program (SSCP) to build the safety and risk awareness and competency of its oil and gas workforce to support strong safety culture and continuous improvement. These programmes are discussed in more detail below.

CSTP

The Common Safety Training Program (CSTP) is an initiative of the Australian Oil and Gas CEO Safety Leadership Forum and provides a benchmark for safety awareness and preparation for working in the oil and gas industry. Launched in 2010, the program reflects the commitment of oil and gas organisations to continually improve safety performance with nearly 8000 participants already completing the program.

The CSTP combines a structured off-the-job program in an immersive learning environment followed by a demonstration of behaviours and skills and peer assessment in the workplace.

CSTP is highly regarded because of its immersive learning techniques and hands-on approach to establishing safety behavioural skills and culture from the beginning of workers' career in the oil and gas industry and developing skills for experienced personnel. It has introduced a consistent, reliable and high-quality process that allows companies and the regulator to have confidence in entry-level safety training standards across the industry.

Since 2013 CSTP has been an industry requirement for all personnel working in offshore production and drilling activities in the Australian oil and gas industry. Some companies have mandated it for onshore projects.

SSCP

The Australian Oil and Gas CEO Safety Leadership Forum introduced the Safe Supervisor Competence Program in 2012 to develop supervisor skills in safety critical roles. Supervisors play a critical role in managing safety and productivity, and provide the interface between management and the frontline, contractors and operators. Supervisors are also critical to improving the attitude, culture and performance of their workforce, yet many are often selected on their technical skills and experience rather than their people and leadership skills.

Many supervisors do not receive any training or development prior to or after being assigned a supervisory role and the SSCP has been designed to provide supervisors, particularly those employed by contractors, a combination of practical, hands-on and simulated oil and gas learning, reinforced with demonstration in the workplace. The aim of the program is to allow companies and the regulator to have confidence in supervisor competency, particularly those with contractor companies who have relatively high staff turnover, and a mobile workforce that moves across projects.

A review and expansion of the SSCP program is proposed for 2015-16 to reflect changes to industry requirements and expectations as it transitions from construction to operations and maintenance.

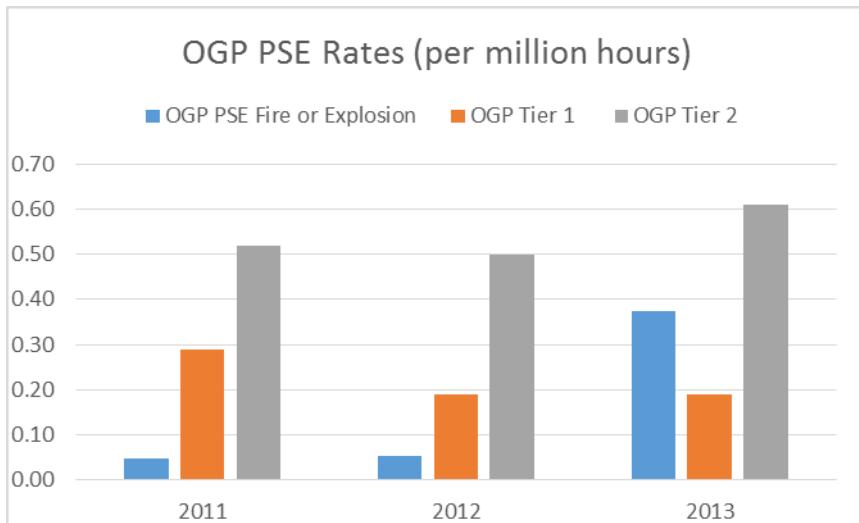
Process Safety

In common with the global oil and gas industry, Australia's oil and gas industry is heavily focused on improving our collective process safety performance. Industry leaders recognise that we must take advantage of the lessons and experience we have gained from our persistent and successful focus on personal safety and convert this into a leadership framework for addressing the process safety challenges we face e.g.

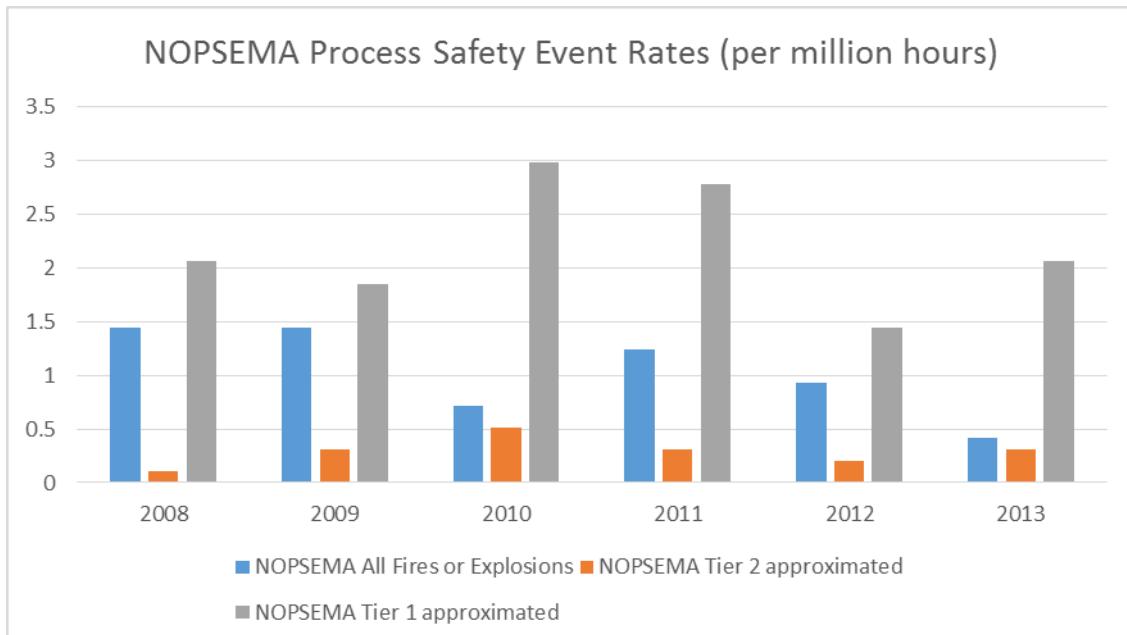
- Triple the number of gas trains over the next few years
- Simultaneous construction and production at the same location

- Plant life-extensions and facility decommissioning
- New technologies (e.g. CSG to LNG or FLNG).

International process safety dataset for lagging process safety metrics (fires/explosions and hydrocarbon releases) demonstrates no discernible improvement in performance since data collection began in 2011 (source IOGP):



Whilst IOGP data is based upon definitions from the API Standard 754, NOSPEMA has also collected a similar dataset for offshore operations in the Commonwealth waters of Australia since 2008. Whilst the data is not directly comparable, the NOSPEMA dataset shows a similar lack of a discernible improvement trend over an extended period:



Process safety events usually occur as a result of a combination of 'hard to see' and often complex factors, and the relative rarity of process safety events means the absence of an incident is no predictor. The development of effective **lead indicators** is therefore critical (see section on IChemE Safety Centre work). Process safety is also not just about engineering and systems – it does involve organisational culture and **human factors** and there are strong lessons to be had from Macondo and other incidents.

APPEA has commenced a number of initiatives designed to drive continuous improvement in process safety performance across the oil and gas industry:

- Safety Case Working Group seeking to share and improve best practice in effective safety case development and implementation;
- Human Factors Subcommittee working on human factors in process safety.
- Representing the Australian oil and gas industry's participation in the IChemE Safety Centre, which is seeking to produce informative reference documents to represent best practice in process safety (e.g. leading process safety metrics, competency guides etc.) – see further information below.
- Steering the new oil and gas industry leadership initiative Stand Together for Safety (STFS) to achieve broad engagement in process safety from the front line to the boardroom and between companies, service providers and regulators.

Stand Together for Safety – Oil and Gas Industry Leadership Initiative

A STFS Leadership Steering Committee, made up of oil and gas industry leaders, contractors, workforce representatives and regulators, was formed in March 2014 with the following objectives:

- Significantly improve engagement with our workforce, contractors, representatives from technical, engineering and HSE roles and regulators through a new '*Stand Together for Safety*' leadership program;
- Leverage existing technical work and experience from across Australian and global industry, but adapt for the local workforce and regulators;
- Ensure that the wide range of views (Frontline to Boardroom) are considered;
- Resolve root cause issues, tackle workforce priorities and develop programs to achieve improvement;
- Target "global best in history" performance in process safety outcomes, increased accuracy of reporting of process safety metrics and significant reduction in Tier 1 hydrocarbon releases.

STFS aims to trigger an industry wide discussion on process safety and the verification of safety critical controls or barriers. Researchers worldwide have found that process safety and the prevention of major accident events require that the role of people in the operation and their understanding of safety-critical controls are as significant as engineering solutions.

The ability to hold informed discussions on a subject as complex and diverse as process safety can often be daunting for management, supervisors and personnel alike. Yet the ability for everyone to truly understand the status of plant is fundamental to ongoing safe operations. Equally important is the ability for everyone to be able to raise issues around process safety when usually the hazard may not be readily visible or the effects may not manifest for many years.

STFS has endorsed a “*Process Safety - A Good Practice Guide*” template and an overarching implementation plan for improving process safety performance across the Australian oil and gas industry. The good practice guide utilises the proven successes from personal safety management approach (OGP 459 - Life Saving Rules). The guide defines “Golden Rules” for process safety and the behaviours associated with them. This concept has been taken further by including benchmarks of “what good looks like” in process safety, and providing a series of assurance questions to direct effective barrier verification discussions across the industry. The Process Safety guide will be peer reviewed by experts from a range of different disciplines (e.g. Commissioning and Simultaneous Operations/Maintenance; Drilling and Well Integrity; Decommissioning; Asset Life Extension; Design) to ensure the information is applicable to the entire life cycle of oil and gas activities.

IChemE Safety Centre and Process Safety (ISC)

The Institution of Chemical Engineers is the UK based organisation that provides oversight of the chemical engineering profession in the UK and internationally. Nine of the Australian oil and gas companies agreed to fund the establishment of the IChemE Safety Centre (ISC) in 2013 for an initial 3 years through APPEA. The ISC is subsequently starting to broaden its member base and networks around the world, in order to foster leading edge thinking in process safety on a global basis. This represents an opportunity for APPEA and its members to contribute to global best practice from an Australian footprint.

The ISC is developing activities in a number of areas and two of these are nearing completion:

- Establishment of a common set of leading metrics for process safety. These metrics are distinctive in that they are qualitative in nature to assist adoption by a diverse range of companies across multiple industries.
 - Guidance about recommended process safety competencies from the frontline to the boardroom.
- **Environmental Performance and Collaboration**

The Australian Government’s response to the Montara Commission of Inquiry Report, including major changes to the regulatory framework for environmental management under the OPPGS Act, and the 2010 Macondo incident in the Gulf of Mexico, have led to a significant focus on collaboration and improving the Australian oil and gas industry’s collective capacity (policy approaches, physical resources and shared knowledge) in environmental management and preparedness. The Macondo incident in particular has driven extensive global industry collaboration, and sharing of technology, good practice and lessons, including through international bodies such as IOGP and IPEICA.

The major industry wide initiatives cross several key areas:

- Oil Spill Response Capacity and Preparedness;
- Improving the Marine Environmental Science Knowledge Base;
- Commercial Fishing Sector Stakeholder Engagement
- Subsea Response and Well capping (not covered in this submission)

Oil Spill Response Capacity and Preparedness

[Oil Spill Response \(Surface\) Capacity and Preparedness Review](#)

Significant progress has been made collectively by industry to build its capacity for subsea responses to uncontrolled well releases. In addition, under the new risk management processes underpinning the new regulatory framework, significant progress has been made by individual companies and through Oil Spill Response Agencies such as AMOSC and OSR Ltd to increase oil spill surface response options (for example the purchase by industry of an oiled wildlife mobile response centre in 2013).

However, in 2014 APPEA's members identified a need to have a clearer understanding of industry's collective capacity for surface response, thus allowing it to identify priority areas for future collective investment and to also identify any areas of unnecessary duplication in capacity.

In 2015 APPEA commissioned a national Oil Spill Response Capacity and Preparedness Review. The Review will involve all of APPEA's operating members, as well as gaining the perspective of regulators (particularly NOPSEMA) and Oil Spill Response Agencies.

The final report is due to be delivered to APPEA in August 2015.

[APPEA's Oil Spill Response \(OSR\) Forum and Joint Industry Initiatives](#)

In 2013, APPEA established its Oil Spill Response Forum. Its charter is to:

- Share regional, national and international research findings and best management practices with regards to Oil Spill Response (OSR)/Oil Spill Contingency Planning (OSCP);
- Share relevant OSR/OSCP information and learnings from member organisations;
- Provide a potential focal point for regulators to disseminate relevant OSR/OSCP information to members; and where identified by the Forum;
- Develop specific products or tools that will be useful to industry operating in the Forum's geographical focus area (e.g. initiatives, working groups).

Initiatives to date have included:

- The development of Sharing Environmental Solutions: Planning for Dispersant Use in Oil Spill Response – An Australian Perspective;
- The Oil Spill Response Capacity and Preparedness Review (see above);
- The Industry-Government Environmental Meta-Database Project (see Improving Marine Environmental Science Knowledge Base Below)
- Improving the use of Oil Spill Impact Assessment Tools Workshop;
- Exploring the use of Remote Surveillance Technologies in Oil Spill Response Workshop;
- Improving engagement with the IPIECA-OGP Oil Spill Response Joint Industry Projects (JIP)
- HSE Conference Keynote Session – Oil Spill Response Forum
- Exploring collaboration in developing Tactical Oil Spill Response Plans
- 2014 National Plan Review – Oil and Gas Industry Response

Improving the Marine Environmental Science Knowledge Base

The Australian Oil and Gas Industry have a long track record as one of the leading investors in Marine Environmental Science. APPEA sees significant benefit in bringing this comprehensive knowledge together, and to provide platforms for increasing its availability for industry, government, the research sector and our stakeholders more broadly.

The APPEA Marine Environmental Science Program

The overall objectives for the APPEA Marine Environmental Science Program (MESP) are to:

- Help to build stakeholder confidence in the industry;
- Consolidate respected facts and data for easy and accessible reference;
- Support the industry's future growth potential;
- Maximise the investment already made by APPEA member companies in environmental research and oil spill response capacity; and
- Reduce the cost and effort in securing Environmental approvals.

The MESP is arranged to deliver a series of projects around key Australian Oil and Gas Industry Marine Environmental Science issues and currently includes:

- Underwater Sound and Vibration from Offshore Petroleum Activities (including Marine Seismic Surveying) and its Potential Effects on Marine Fauna
- Understanding the Potential Consequences of Unplanned Discharges
- Environmental Aspects of Decommissioning
- Managing Environmental Impacts of Planned Discharges
- Biosecurity Risk Management

The Industry-Government Environmental Metadata (I-GEM) Project

I-GEM Project is an industry and government collaboration to collate and present geospatial metadata on marine environmental baseline and monitoring studies collected in the last decade. The objective of this program is to ensure industry and government have the same marine studies knowledge base. The meta-geospatial database will allow organisations to understand what environmental baseline studies exist, where they exist, and who the custodian is. The database will provide a valuable shared resource to support impact assessment in the unlikely event of a major oil spill.

In its current pilot form I-GEM metadata are publically accessible on wa.aodn.org.au/waodn/ through in kind contribution of several companies, including: APPEA, WAMSI, IVEC, IMOS, AIMS and Woodside. The pilot phase contributed 148 metadata records to AODN and the commitment for 218 additional I-GEM metadata records

Commercial Fishing Sector Stakeholder Engagement

Australia's marine environment is a significant source of both Food and Energy to Australia and the world and the petroleum and commercial fishing industries are significant contributors to the economy of Australia, and to our national identity.

There are several issues which have caused tension between the two industries, including the potential interactions between Marine Seismic Surveying and commercial seafood species, as well as oil spill response preparedness, rare issues with on-water interactions between vessels and the issue of recreational fishing from commercial oil and gas vessels.

Therefore the two industries have come to recognise that there is a common interest to work together to promote fair and reasonable access to the resources each industry extracts and to work together to positively influence the relationship between our members.

Joint Oil and Gas – Commercial Fishing Industry Memorandum of Understanding and Roundtable

In November 2015, APPEA entered into a Memorandum of Understanding (MOU) with 5 of Australia's peak Commercial Fishing and Seafood Industry Associations. The purpose of this MOU is to facilitate improved communication, cooperation and consultation arrangements between the Parties including:

- Identifying common goals;
- Improving strategic communications;
- Developing issue specific interaction frameworks where appropriate;
- Undertake joint initiatives that benefit both industries;
- Raise awareness and perspectives of issues facing each industry; and
- Promoting commonly agreed messages to each party's members and stakeholders.

The first expression of the MOU has been the creation of an Oil and Gas – Commercial Fishing Cross-Industry Roundtable, whose primary aim is to deliver on the objectives of the MOU.

The Roundtable has identified several initiatives it wishes to pursue including:

- The development of a public Joint Knowledge Base for scientific literature on the subject of Underwater Sound and Vibration from Offshore Petroleum Activities and its Potential Effects on Marine Fauna;
- The development of a joint industry website to improve the targeting of environmental and appropriate operational information, to streamline engagement between Oil and Gas and Commercial Fishing industry;
- Increased cross-engagement of both industries at each industries relevant national conferences;
- Agreement to a cross-industry position on not supporting recreational fishing from commercial fishing

3. ADDRESSING THE REVIEW'S TERMS OF REFERENCE

3.1 NOPSEMA'S EFFECTIVENESS IN BRINGING ABOUT IMPROVEMENTS IN WELL INTEGRITY, SAFETY & ENVIRONMENTAL MANAGEMENT

- There are a number of factors that contribute to NOPSEMA playing a key role in driving continuous improvement in the performance of what is a high hazard industry. These include:
 - The fact that NOPSEMA has a unique whole of industry view of both regulatory submissions, including the potential for early engagement on design and project development, but importantly also what is actually taking place in the field. This umbrella view should be strengthened further as NOPSEMA moves to a more integrated approach to their regulation of well integrity, safety and environmental management – given the highly interrelated nature of these activities.
 - The ability of NOPSEMA to take an objective, independent look at what industry is doing in practice, and to contribute to creating a vulnerable, questioning culture in a dynamic environment. This independence also means NOPSEMA can influence any lower performers for the benefit of the collective industry. These are the key values to be had from 'independence' – not therefore a 'hands off' approach as it so often seems to become. The focus should be on challenging and 'adaptive/change management' rather than blind compliance.
 - The ability of NOPSEMA to take an active role in the International Regulators Forum, and thereby have access to emerging trends in oil and gas industry performance globally and to best practice regulatory approaches.
 - The dual nature of NOPSEMA's regulatory function e.g. timely and proactive engagement and education on industry wide issues as well as titleholder or operator specific, backed up by firm and fair enforcement activity out in the field.
- One measure of the effectiveness of NOPSEMA is that since the creation of NOPSA in 2005, the safety performance of the industry in terms of recordable cases and injuries has steadily improved, and the number of fatalities in the industry has remained very low, with no fatalities recorded offshore since 2013. However, on the other side of the ledger there has been no discernible sustained improvement in the numbers of hydrocarbon releases (see previous section on industry performance), and an upward trend in reporting of damage to safety-critical equipment. This is a global trend and highlights the importance of the work the Stand Together for Safety Steering Committee (which NOPSEMA sits on) and the IChemE Safety Centre are doing on driving process safety improvement and ensuring a common and accessible approach to ensuring effective barriers are in place and working, and are understood by everyone at all levels (not just process engineers) and to develop lead indicators and competencies across the industry.
- Following the two previous statutory reviews and associated recommendations, NOPSA implemented a number of improvements to its inspection, investigation and enforcement approach, including adopting a risk and themed based approach to inspections. This approach has continued with the establishment of NOPSEMA covering structural integrity and environmental management. APPEA notes however, that to date the bulk of in the field

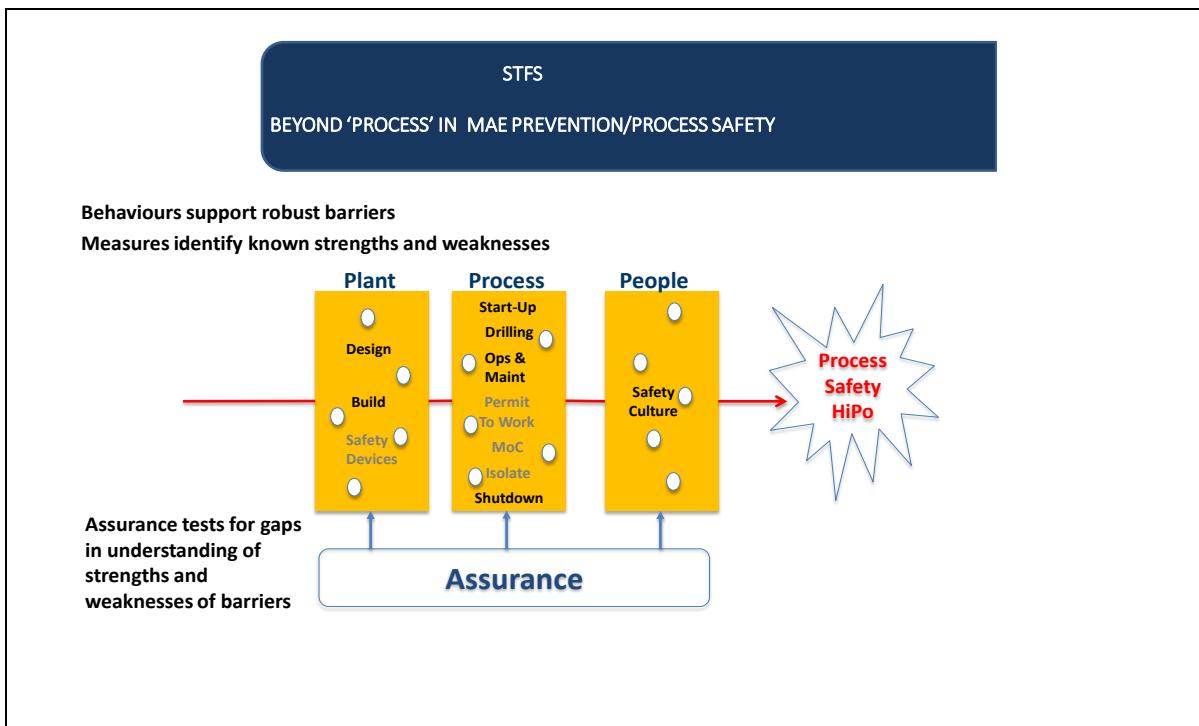
activity appears to relate to OHS inspections, with environmental inspections slowly increasing.

- There seems to be little information available on well integrity inspections, and this is one area that APPEA believes needs far more attention or perhaps more broad and proactive engagement with industry through the APPEA Drilling Steering Committee (noting that hidden way on page 30 of the NOPSEMA Annual Report for 2013 is a reference to four risk based inspections of well operations – primary cementation, titleholder communications (internal and third party) and management of change). Well and structural integrity of facilities needs to have a significant focus given the potential for major accident events – including those resulting in major environmental impacts.
- Anecdotal reports from industry would also indicate a mixed experience in the depth and significance of NOPSEMA's inspections in terms of preventing major accident events, with too much focus on relatively trivial issues or inadequate in depth challenging of e.g. the genuine relevance and effectiveness of performance standards for critical barriers.
- NOPSEMA makes industry performance data and information available in a range of ways – directly to titleholders and operators, a quarterly newsletter addressing key issues 'The Regulator', publishing and annual performance report (usually released at APPEA's main conference) data reports and trends on the NOPSEMA Website, issuing of Safety Alerts (though APPEA notes only 3 were issued in 2014), publishing enforcement notices with lessons that may be applicable more broadly (on website at <http://www.nopsema.gov.au/resources/published-notices/> and putting NOPEMA presentations on a resources section of the website with advice on priority focus areas and topic based inspections.
- APPEA is of the view however, that there is far more that NOPSEMA could do to apply the insights and learnings they gain from their overview of all of industry's operations, and from their interactions with global regulators. By way of example, in their annual performance report NOPSEMA present the findings of their topic based inspections. In 2013 they covered maintenance management and control of ignition sources focussing on hazardous area equipment, vessel and aircraft control (mainly helicopter operations), and emergency preparedness. The observations/findings from their inspections are set out at a very high level in what is once a year lag report (e.g. published around May of the following year). APPEA would contend that this is a missed opportunity for driving significant improvements through engaging with the whole industry, possibly through a joint APPEA/NOPSEMA workshop format - the preventative maintenance theme for example, being central to driving improvements in hydrocarbon releases.
- Whilst acknowledging the complexity of mounting successful prosecutions, the need for such action on occasions and the legal issues involved, APPEA is strongly of the view that more needs to be done to ensure timely and effectively sharing of learnings from serious incidents and investigations across the industry. By way of example, the root causes and deep learnings from the Stena Clyde incident (where two offshore workers lost their lives) have not been adequately shared across the industry nearly three years later. This is true for NOPSEMA but also for industry itself.

- APPEA is of the view that the NOPSEMA environment teams' focus on improving oil spill planning and preparedness is a particularly good example of where proactive engagement between the regulator and industry has resulted in significant improvements in planning and capability across the industry, and triggered effective industry collaboration (see previous section on industry's environmental performance and collaboration). There is no doubt that the Australian oil and gas industry collectively is far ahead in terms of oil spill capability and readiness than it was five years ago.
- In general, and despite the fact that NOPSEMA generally has a tendency to communicate from behind a wall of primarily legislative and at times highly confusing language, APPEA and industry have found the Environment Team in particular prepared to engage with APPEA and industry collectively on common issues emerging out of the submission of environment plans, and to hold workshops and forums to address these issues with industry where appropriate.
- Another good example has been the proactive and strategic approach taken by NOPSEMA to address the need for more extensive public transparency and stakeholder consultation triggered both by the requirements under the *OPGGS (Environment)Regulations* and also the endorsement of NOPSEMA's environmental authorisation process (the Program) under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). NOPSEMA's approach has balanced the objective of building public and stakeholder confidence in the rigour and transparency of NOPSEMA's regulatory decision making processes, whilst also addressing the sensitive and complex nature of highly technical risk and ALARP arguments and the role for example of modelling to inform decision making.
- Under the NOPSEMA regime, we have seen continuous improvement in the timeliness and effectiveness of stakeholder consultation by our members. The industry is working both collectively at national and state levels to provide advance and strategic information on petroleum activities to stakeholder groups and also locally to engage and listen to stakeholder concerns. APPEA acknowledges the need for ongoing work to be done in this area (see previous section on Stakeholder Engagement and Roundtable with Fishing Industry), and APPEA is keen to have NOPSEMA contribute to a better understanding of this sometimes complex issue and to continue to assist in managing the expectations of stakeholders.
- One key area for improvement in the NOPSEMA regime is engagement with the workforce and health and safety representatives. APPEA appreciates that NOPSEMA inspectors do make contact with elected health and safety representatives on their scheduled facility inspections, and guidance material is available on their website as well as a range of other safety information and alerts. However, given the central role given to workplace consultation and the involvement of the workforce in safety case regulation, APPEA is of the view more should be done to engage with the workforce. APPEA's Stand Together for Safety initiative and annual HSR Forum provide one avenue for NOPSEMA to seek to engage on key safety issues with the workforce, and APPEA would urge stronger support for the HSR Forum from NOPSEMA. In previous years, NOPSEMA had created an HSR website, but at the time it was not widely used due to lack of internet access offshore. It may be timely to reconsider mechanisms to better communicate with the workforce given the improvement in access to internet offshore.

3.2 NOPSEMA'S GOVERNANCE ARRANGEMENTS – EXPANDED FUNCTIONS

- See full response in Section 3.1 above, which also addresses a number of the specific questions posed under the second terms of reference, and highlights the integrated/interactive nature of offshore oil and gas activities and operations.
- In general, NOPSEMA has adopted a regulation driven approach to carrying out their functions and putting in place governance arrangements, and therefore consistency in approach across safety, well integrity and environment has been dependent on the respective regulatory provisions. NOPSEMA has developed a suite of transparent policy documents and wherever possible, aligned its' assessment, inspection and investigation policies for the three permissioning areas of safety, well integrity and environment. NOPSEMA's timeframes for assessment and acceptance are reported on their website and they are within the accepted timeframes set out by regulation and policy. There is however, more work that could be done to provide for greater consistency across the inspectorate, and to provide a more integrated approach as appropriate between the three key permissioning areas of safety, well integrity and safety case.
- NOPSEMA's necessary strict adherence to regulation, compliance and independence post Montara may mean we are missing an opportunity to genuinely engage in the field to drive the prevention of major accident events in particular. NOPSEMA should be asking challenging questions about the effectiveness of critical performance standards and barriers, and facilitating appropriate change management and continuous improvement rather than blind compliance with regulatory documents. Sometimes they are doing this well – but APPEA would contend perhaps not consistently and not always focussed on the highest risks. Both industry and NOPSEMA (and indeed other major hazard regulators) tend to get caught up in process and forget the people, behaviours and culture that are so critical to understanding weaknesses and verifying barriers – see STFS Diagram 1 below. Both industry and the Regulator need to do more work to improve the inspectors' and industry personnels' understanding of the behaviours required and competence to challenge and verify that there are robust barriers.

STFS Diagram 1:


- The one area NOPSEMA is appropriately focussed on continuous improvement is through revisions and new submissions, where NOPSEMA may not accept something that has been accepted before if it no longer is ALARP (or acceptable) because of changing knowledge, practice, technology, capacity for collaboration, cost structures etc. This is not 'gold plating' as some have claimed or prescription by stealth. It is exactly what an outcomes and risk based regime was intended to achieve. This must be offset however, by the diminishing return of exhaustive ALARP demonstration [whilst also noting that the commonly accepted concept of ALARP tested in courts, both in Australia and in the United Kingdom, involves some test of 'gross disproportion' i.e. it is not just balancing the costs and benefits of a measure].
- NOPSEMA's published annual report sets out transparently its functions, strategies, key performance indicators and how it is tracking in meeting the performance indicators. This is a useful way of strategically reporting on how they are using resource and efforts most effectively and efficiently to fulfil their functions.
- Post Macondo and Montara, the Australian Government introduced a series of regulatory reforms aimed at aligning some of the provisions of the different regulations administered by NOPSEMA and strengthening the compliance and enforcement tools available to the regulator e.g. the *Offshore Petroleum and Green House Gas Storage Amendment (Compliance Measures) Act 2013* (Compliance Measures Act No. 1) and the *Offshore Petroleum and Greenhouse Gas Storage Amendment (Compliance Measures No. 2) Act 2013* (Compliance Measures Act No. 2). Some of the changes included:
 - the introduction of a civil penalty regime, providing the regulator with an alternative enforcement tool aimed at improving compliance outcomes;

- increasing the current criminal penalty levels under the *Offshore Petroleum and Greenhouse Storage Act 2006* (the Act) to bring them in line with other major hazard industry legislation;
 - harmonisation of OHS offence penalties with the Work Health and Safety Act 2011 to reflect the greater consequence involved in a major hazard industry;
 - redrafting of the Act to allow for the future triggering of the standard monitoring and investigation powers in the proposed *Regulatory Powers (Standard Provisions) Bill 2012* (the Regulatory Powers Bill), which enables NOPSEMA inspectors to use the monitoring and investigation powers in the Regulatory Powers Bill to monitor and investigate compliance with all obligations of persons under the Act and associated regulations; enabling the parties responsible for administering the Act to share information in appropriate circumstances;
 - implementing a range of alternative enforcement mechanisms, such as infringement notices, adverse publicity orders, injunctions and continuing penalties;
 - enabling NOPSEMA inspectors to issue environmental prohibition notices and environmental improvement notices to require petroleum titleholders to take action where required to remove significant threats to the environment; and
 - requiring NOPSEMA to publish OH&S and environment improvement notices and prohibition notices on its website.
- NOPSEMA are producing and making transparent a range of regulatory and compliance information, including making improvement and prohibition notices available on its website. These notices provide an important tool to NOPSEMA to direct duty holders to take action to deal with serious issues and risks, and highlight areas of concern that may have broader application to all duty holders and industry generally. Whilst prohibition notices are by nature heavy enforcement, improvement notices should be seen as ‘education’ tools as much as enforcement tools, and generally retain the outcome focus of the regulatory regime.

3.3 NOPSEMA'S CAPACITY TO RESPOND TO CHANGES IN INDUSTRY – OPERATIONS & TECHNOLOGY

- An objective, outcomes or performance based approach to regulation, such as that provided for under the OPGGSA regime, is best suited to high risk and dynamic work environments, and this has been confirmed through numerous local and global reviews and inquiries. Objective regulation facilitates an adaptive management approach to high risk (or continuous improvement) rather than blind adherence to prescribed, generic and minimum standards. Such prescribed standards are too often inadequate, irrelevant to the specific environment or real problems and out of date (due to real challenges in developing, getting multiple party agreements to and legislating for such prescriptive regulation).
- In complex, dynamic and high risk activity such as hydrocarbon processing facilities, it is essential that the responsibility for managing the risks lies at the point of operations. The fundamental principles are ‘continuous improvement’ not minimum compliance.

- Such an approach does enable the regulator to respond to changes in industry's operations and technology, and there is plenty of evidence that ALARP demonstration under the NOPSEMA regime does change dependent on knowledge, practice, technology, operational structures, costs etc.
- FLNG provides an interesting case study into the ability of NOPSEMA to influence the 'design' phase of petroleum activities and facilities. Though in itself FLNG is not new technology, the scale is new and it is a different operating model for LNG.
- On Thursday 7 May, the Western Australian Legislative Assembly Economics & Industry Standing Committee (the Committee) tabled its report entitled "*Safety-related matters relating to FLNG projects in Australian waters off the Western Australian coast.*" The report is available from the Committee's [website](#). The Report provides an excellent summary of the evolution and effectiveness of objective and risk based regulation as well as an excellent summary of the legally tested concept of 'as low as reasonably practicable' or ALARP.
- Reducing risks to ALARP levels in the case of FLNG design is largely through the concept of 'safety in design' and through the use of the bowtie approach to preventing major accident events (verifying layers of barriers) and also mitigation in response to an event. The information generated by an operator's safety in design processes can then be incorporated into its safety case for submission to NOPSEMA.
- Currently however, the OPGGS Safety Regulations do not currently provide the flexibility to allow NOPSEMA and proponents to meaningfully discuss the technical complexities and design issues often associated with new technologies. Further, the OPGGSA regime does not provide a formal mechanism for the proponent of a new offshore production facility to engage with NOPSEMA regarding the design and concept selection of a proposed facility at an early stage in the concept selection process. NOPSEMA has no formal mechanism for challenging the concept selection and proposed design of a production facility at that early stage in the process. By the time a safety case is submitted the proponent of a facility has usually committed to a specific design.
- Amendments were made to the OPGG (Safety Levies) Regulations in 2010 allow the regulator (then NOPSA and now NOPSEMA) to recover the costs of engagement with industry regarding design issues for proposed facilities. This was intended to be a temporary measure (using safety levies). Industry has participated in this trial early engagement process, and supports the concept.
- An Early Engagement Safety Case submission is currently a voluntary submission to NOPSEMA. An EESC is submitted 'soon after the project concept selection stage and prior to a Final Investment Decision is made and/or detailed design for the facility is commenced'.
- The Commonwealth's Department of Industry and Science has recently commenced drafting a consultation paper to formalise the implementation of a 'Design Notification Scheme' similar to the design notification scheme that applies to the UK offshore oil and gas industry. APPEA supports the concept and will work closely with the Australian Government and the Department to finalise an 'early engagement on design' process that best suits the Australian offshore petroleum regime.

3.4 NOPSEMA'S INTERACTION WITH EXTERNAL PARTIES TO IMPROVE REGULATORY OUTCOMES

- See full response in Section 3.1.
- In concluding APPEA's comments, it is worth underlining that NOPSEMA interact effectively with third parties in the regime, such as independent scientific bodies, NGOs and unions. NOPSEMA has engaged with a range of parties, listened to their issues and positions and where appropriate provided information, clarification and advice on the application of objective based regulations and ALARP/Acceptable demonstration. A key area for NOPSEMA and industry is working collaboratively to better understand and communicate on the technology, research and science underpinning demonstration of ALARP, particularly in environmental management. NOPSEMA have held a strong and clear position, and not allowed the regulator to be used or captured by self-interested advocates or commercial interests.