appea the voice of australia's oil and gas industry

Submission

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Productivity Commission Resource Sector Regulatory Review Issues Paper

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Executive Summary

- Industry consultation by regulators is highly variable amongst regulators and jurisdictions. A robust standard approach providing, adequate time for industry to respond, and feedback in a reasonably considered manner would be preferred.
- Regulatory objectives need to clear, concise and not in conflict or adversely affecting the objectives in other, applicable legislation and regulation. The alignment of objectives across agencies and jurisdictions should be pursued as a matter of priority.
- Regulatory creep is of growing concern to the petroleum industry. The shifting of procedures and goals by regulators is inconsistent with an outcomes based regime and does not consider differences in scale and various operating environments.
- Complex and prescriptive regulation can induce regulators to focus on low risk and low impact areas of activity. Industry notes that safety related legislation and regulation is exceptionally complex as it applies to the various operational areas of the petroleum industry, this can provide risk that industry operators are non-compliant with legislation and regulation, despite best efforts otherwise.
- Regulatory duplication is particularly prevalent the Commonwealth, States and Territories each have a suite of legislation and regulation that applies to the operation of the upstream petroleum industry. These regulatory frameworks can often apply to the same or similar operations. Of particular concern is the application of Commonwealth and State/Territory environmental law and regulation that often provides for overlap and duplication of approvals processes and monitoring and reporting.
- Approvals timelines, particularly statutory approvals timelines are often exceeded or extended by regulators with little or no consequence. The exceeding of statutory timelines provides for significant uncertainty for companies undertaking complex projects, which often result in material delays in project completion and subsequent cost escalation.
- Industry is subject to a suite of Commonwealth, State and Territory laws in relation to aboriginal native title and heritage issues. The petroleum industry is very active in efforts to provide long-term benefits to rural, regional and aboriginal communities in where they operate. Much of this effort is providing opportunities to small businesses, employment, training and building community capability and infrastructure.

Background

The Australian Petroleum Production & Exploration Association (APPEA) is the peak national body representing Australia's oil and gas exploration and production industry.

APPEA has 60 full member companies. These are oil and gas explorers and producers active in Australia. APPEA members account for an estimated 98 per cent of the Australia's petroleum production. APPEA also represents about 140 associate member companies that provide a wide range of goods and services to the upstream oil and gas industry.

The oil and gas industry is an integral part of the Australian economy, including through:

- the supply of reliable and competitively priced energy.
- the investment of hundreds of billions of dollars of capital and operating expenditure.
- the payment of billions of dollars in taxes and resource charges to governments.
- the direct employment of tens of thousands of Australians.
- the generation of significant sums of export earnings (and the replacement of costly imports).

Australia has a phenomenal economic opportunity to supply a major share of the energy demand for the rapidly growing Asia Pacific region. The International Energy Agency (IEA) in its *World Energy Outlook 2017* (WEO) estimated that there are 1.1 billion people without electricity and another 2.8 billion that do not have access to clean cooking facilities.[1] As the standards of living for those living in our region improve, their demand for energy, particularly cleaner energy, will grow.

A key challenge in achieving future growth is maintaining Australia's international competitiveness in an ever-changing global energy market. A high-cost local environment, a complex domestic regulatory framework and the potential for other countries to attract market opportunities will continue to make it challenging for Australia to capture the next wave of global investment in the industry. Nonetheless, significant opportunities still exist and the potential rewards for Australia are immense.

APPEA's previous publication; *Cutting Green Tape – streamlining major oil and gas project environmental approvals processes in Australia*[2] is a comprehensive analysis of the regulatory challenges faced by the Australian oil and gas industry. The publication provides an explanation of the challenges associated with the environmental regulatory framework, consequences, recommendations for improvement and an array industry case studies that are still relevant today.

[1] IEA, *World Energy Outlook 2017*, November 2017, p. 107, Paris.

[2] See: www.appea.com.au/wp-content/uploads/2013/04/APPEA_Cutting-Green-Tape.pdf

The Fraser Institute's Global Petroleum Survey 2018, released in November 2018[3], ranked 80 jurisdictions on 'barriers to investment' to oil and gas exploration and production. The survey results are summarised in Table 1. below.

Australian Jurisdiction	Perception Score	International Ranking 2018
New South Wales	40.37	73/80
Northern Territory	51.35	68/80
Queensland	62.60	50/80
South Australia	78.17	20/80
Tasmania	26.11	78/80
Victoria	31.52	77/80
Western Australia	71.96	35/80
Australia - Offshore	69.86	39/80

TABLE 1. FRASER INSTITUTE POLICY PERCEPTION INDEX

Jurisdictions that have banned or restricted onshore gas development in Australia have the dubious distinction of joining Venezuela, Libya and Iraq in the 10-least attractive oil and gas investment destinations in the world. With bans on conventional and unconventional onshore gas exploration, Victoria has fallen from being Australia's most attractive jurisdiction in 2011 to one of the least attractive in 2018.

The Australian upstream oil and gas industry

Reliable, secure and competitively priced energy is crucial to our everyday lives in Australia. Oil and gas plays a key role in meeting many of our energy needs. Gas-fired electricity generation is a cost-effective technology which combines reliability and rapid ramp-up times to complement intermittent renewable energy technologies. Gas is a key fuel for many industrial processes and an essential feedstock for producing items such as fertilisers, cleaners, polymers and refrigerants.[4]

The Australian oil and gas industry directly employs 26,100 people - double the employment from a decade ago.

Liquefied natural gas (LNG) is Australia's third largest commodity export after iron ore and coal. According to the Department of Industry, Innovation and Science (DIIS), LNG exports earnings were estimated at $50 billion, an increase of 61 per cent over the previous year[5].

[3] See www.fraserinstitute.org/studies/global-petroleum-survey-2018

[4] See www.appea.com.au/oil-gas-explained/benefits/gas-and-manufacturing.

[5] See www.industry.gov.au/data-and-publications/resources-and-energy-quarterly-september-2019 for more information.

Direct Responses to Information Requests

Study Scope & Key Concepts

Is the Commission's proposed scope for this study appropriate? Is it too broad or too narrow?

How should the proposed scope be adjusted?

Should the Commission's definitions of the concepts of broader impediments and community engagement and benefit sharing be refined? If so, how?

Are there other relevant reviews that the Commission should be aware of, including ones being conducted overseas?

The Issues Paper states the study focus is on regulations/impediments with a material impact on investment. Consistent with this, the paper emphasises planning and project development assessment and approvals issues. The paper also states the study will focus on the four stages in the life cycle of a resources project: exploration and evaluation, development, production and processing, and site rehabilitation.

APPEA recommends that the Commission should clarify if it wants to address all stages of the life cycle equally, or is it primarily interested in the initial development and investment stage.

The Commission's definition of regulation (including any laws, government policies, rules, ministerial orders, standards, guidelines and codes of conduct) is very broad. There is a very long list of subjects covered by laws and codes of conduct that impact on resources sector (environment, health and safety, consumer protection, royalties, taxation, competition, accounting, discrimination, labour, etc.). APPEA suggests that the review might be more effective if it narrows this definition to some degree, either limited to legal instruments, or to a defined list of subjects.

APPEA notes the review's section on broader impediments to investment is open-ended. APPEA suggests that the Commission could possibly limit the range investigated so it is more manageable. For example, restrict to matters that the federal/state governments are willing and able to directly influence. This may also be useful in managing expectations among stakeholders.

The Commission is seeking feedback on whether the criteria outlined in **Table 2** are appropriate for assessing whether regulation is best practice

Assessment criteria for best-practice regulation

Regulatory design	*Regulatory governance*	*Regulator conduct*
▪ Consultation during regulation making is sufficient ▪ Objectives of regulation are clearly defined and consistent across different regulations ▪ Regulation is not overly complex or excessively prescriptive ▪ Regulation is regularly reviewed	▪ Roles, responsibilities and requirements of different regulatory agencies are clear and duplication is avoided ▪ Decision makers are accountable ▪ Regulators are independent ▪ Regulators are adequately resourced and have necessary capabilities	▪ Regulators' processes are clear, predictable, open and transparent ▪ Regulatory outcomes are consistent with objectives ▪ Administrative costs are no higher than necessary

TABLE 2. ASSESSMENT CRITERIA FOR BEST-PRACTICE REGULATION

APPEA strongly advocates for objective-based regulatory frameworks that are made effective with clear outcomes in mind. These outcomes being:

- to maximise the net benefits to constituents from the nation/state's ownership of the rights to petroleum; and
- to gain and sustain public and investor trust in oil and gas operations.

Experience has demonstrated that successful strategies to acheive these outcomes are evolutionary, interlocked and most efficiently delivered with effect through a one-stop-shop (lead agency) for the life cycle of upstream oil and gas exploration and production operations. The high-performance indicators of a high-quality lead agency are:

- resilient bi-partisan public support for case-by-case, objective-based (forward-focussed) approvals;
- certainty and efficiency for investment without taint of regulatory capture; and
- successive high ratings for regulatory and investment frameworks in national, regional and global surveys, such as the Fraser Institute's survey of the upstream petroleum industry.[6]

The importance of regulatory stability should be included in best practice criteria by the Commission. For example, regulations that are reviewed and or revised too frequently that result

[6] Barry A Goldstein, "Accelerating oil and gas investment and reserves by design" The APPEA Journal 2018, Vol.58, 557-561 (https://doi.org/10.1071/AJ17115)

in constantly changing regulations is not best practice as it lends to uncertainty that negatively impacts decision making by companies, increasing project risk and costs.

Where regulation is regularly reviewed, it is critical to include practices as standard that enable appropriate consultation and engagement with affected stakeholders. Consultation and transparency during the establishment/review of proposed legislative changes ensures engagement with all stakeholders and is aligned with best practice. As part of this, it is important that the regulator provides clear response and/or acknowledgement of the submissions made by stakeholders. Recent oil and gas industry experience with Commonwealth regulators has been positive with both the Department of Industry, Innovation and Science (DIIS) and the National Offshore Petroleum Safety and, Environmental Management Authority (NOPSEMA) taking the time to provide responses and provide feedback on how it considered comments made during our submissions, how it has addressed the comments or why it was not going to address comments. This has been a valuable process and encourages good interaction and engagement between regulators and stakeholders.

An example of poor consultation occurred as part of the Northern Territory regulatory reform. The Northern Territory regulatory review comments submitted as part of the consultation process were not directly addressed in any way and on review of the final regulations, it wasn't clear whether or how the regulator had considered or addressed the comments. This lack of acknowledgement of comments can undermine the process and lead to a reduction in meaningful engagement in future submissions as well as trust in the regulations put in place.

Consultation during regulatory reform should also include the way the agency intends to apply the legislation and how significant changes to operational policies / guidelines will occur. Additionally, there should be reflection on whether the efficiency and success of regulatory design is measured for the initial regulatory impact assessments e.g. plan, do, check, act. What measures are in place to ensure regulatory design reflects appropriate cost benefit for stakeholders and environmental outcomes.

To what extent are current regulatory processes consistent with best practice?

The Commission is seeking feedback on how jurisdictions design regulation that affects the resources sector. Information and examples, including case studies, of effective and best-practice approaches and those that are problematic would be appreciated.

In particular, the Commission is interested in whether:

- approaches to consultation are amenable to best-practice community engagement
- regulatory objectives are clearly defined and articulated, and conflicting objectives are minimised or managed across different regulations
- regulatory 'creep' occurs
- regulation is overly complex or prescriptive
- regulations are subject to rigorous assessment and effective review processes.

What are the consequences of identified instances of poor regulatory design for regulatory outcomes, investment in the sector and broader community outcomes?

The Australian Government Guide to Regulation[7] provides for robust criteria and principles for Australian Government policy makers that provides a more fundamental review and assessment for new regulation. The ten principles include:

1. Regulation should not be the default option for policy makers: the policy option offering the greatest net benefit should always be the recommended option.
2. Regulation should be imposed only when it can be shown to offer an overall net benefit.
3. The cost burden of new regulation must be fully offset by reductions in existing regulatory burden.
4. Every substantive regulatory policy change must be the subject of a Regulation Impact Statement.
5. Policy makers should consult in a genuine and timely way with affected businesses, community organisations and individuals.
6. Policy makers must consult with each other to avoid creating cumulative or overlapping regulatory burdens.
7. The information upon which policy makers base their decisions must be published at the earliest opportunity.
8. Regulators must implement regulation with common sense, empathy and respect.
9. All regulation must be periodically reviewed to test its continuing relevance.
10. Policy makers must work closely with their portfolio Deregulation Units throughout the policy making process.

APPEA would support the wider adoption and implementation of this guide to other Australian jurisdictions as an integral part of policy and legislative drafting processes.

[7]See: www.pmc.gov.au/sites/default/files/publications/Australian_Government_Guide_to_Regulation.pdf

The Australian oil and gas industry is significantly impacted by multiple legislative and regulatory instruments across multiple jurisdictions administered by multiple regulators. As such, oil and gas projects are typically subject to a wide range of regulations where there is a real risk of non-compliance if companies do not provide significant resources to keep abreast of regulatory change.

CONSULTATION AND COMMUNITY ENGAGEMENT

APPEA understands that regulators and policy makers are expected to make unbiased, wise decisions, which are based on facts and evidence. These decisions should consider the net interest of constituents, without capture by special interests focussed on just a narrow part of the public good. Effective engagement requires respect for, and empathy with, people with deeply felt concerns.[8]

The petroleum industry has identified some ongoing issues with consultation with 'relevant persons' currently required under the Offshore Petroleum and Greenhouse Gas Storage Act (OPGGSA) Environment Regulations. The requirement for every proponent to capture the views of 'relevant persons' (who are generally the same people for multiple projects) may be resulting in an overly burdensome requirement for industry and consultation fatigue with relevant persons who are being approached by multiple companies about different projects.

By taking a lighter touch and undertaking engagement on activities and not linking it to a specific activity, the consultation burden on relevant persons and titleholders could be significantly reduced. This could be achieved by an 'opt in' engagement approach platform where relevant persons self-identify for specific activity types within certain offshore areas of Australia

REGULATORY OBJECTIVES

An example of where regulatory objectives are unclear and where objectives appear to be conflicting across agencies occurs under the OPGGS Act. NOPSEMA is required to regulate the Environment Protection and Biodiversity Conservation (EPBC) Act related to offshore petroleum activities in Commonwealth waters (rather than the Department of the Environment and Energy (DoEE) which is usually the case). While this arrangement is good, it is not working as well as it could be at a practical level. For instance, most recently industry has observed differences in considerations of climate change impacts and greenhouse gas emissions. NOPSEMA and DoEE have had different views on the policy/guidance required for titleholders on this matter and it has created inefficiencies and inconsistencies during the assessment process of recent project applications. More specifically, NOPSEMA has changed its advice to some operators on how to address greenhouse gas emissions on projects several times after discussions with DoEE on the topic of climate change. Industry has also observed instances of NOPSEMA taking interpretations of DoEE guidance and policy which has not been applied in the spirit or intent of the policy.

[8] Barry A Goldstein, "Accelerating oil and gas investment and reserves by design" The APPEA Journal 2018, Vol.58, 557-561 (doi.org/10.1071/AJ17115)

NOPSEMA should play no role in greenhouse gas conditions, which are properly the remit of the Commonwealth Government through DoEE and the Clean Energy Regulator (CER).

Conflicts in application of regulation has and can result in delayed approval by several months at significant costs to the operator. A possible solution to this issue would likely need to be a legislative or regulatory change for greater clarity in the roles and responsibilities of NOPSEMA and DoEE.

Another recent example highlights inefficiencies between the Commonwealth NOPSEMA's regulation of the EPBC Act and state environment regulators, the Western Australian Environmental Protection Authority (WA EPA). Both NOPSEMA and WA EPA have sought to impose conditions on projects in relation to greenhouse gas emissions which can result in onerous costs and conditions to industry[9].

In its submission to the WA EPA's revision of its greenhouse gas assessment guidelines, APPEA noted:

- Consistent with APPEA's *Climate Change Policy Principles*, APPEA supports a national climate change policy that delivers greenhouse gas emissions reductions at least cost and facilitates broad-based investment decisions consistent with an international price on carbon.
- APPEA also supports a global response to climate change and management of greenhouse gas emissions. Within the Australian context, the Australian Government is best placed to lead a nationally consistent response that will ensure Australia meets its international commitments (through the Paris Agreement).
- State-based policies should focus on state responsibilities including adaptation, planning and managing localised transitional needs whilst supporting a national framework. State policies should not duplicate or be non-complementary to the national framework.
- Industry and the broader economy are best served by a stable policy framework that has bipartisan support. Investment decisions in the industry are for long-lived (multi-decade) projects. The continued policy uncertainty and frequent framework shocks that have occurred in Western Australia and Australia more broadly have greatly increased investment uncertainty and risk which must be (negatively) factored into business decisions.
- As the global appetite for energy, particularly electricity, continues to grow, the process of substituting LNG for more emissions-intensive fuels allows importing countries to satisfy growing demand while reducing emissions.
- When replacing other fuels, LNG can cut emissions by around 50 per cent. LNG also helps developing countries, including across Asia, to reduce air pollution, a major cause of millions of premature deaths.

The Commission should reinforce the APPEA position that both NOPSEMA and the WA EPA (and other EPAs around the nation) should not focus on greenhouse gas emissions conditions, which is the focus of the Commonwealth through the DoEE and CER.

REGULATORY CREEP

[9] WA EPA Greenhouse Gas Assessment Guidance, available at: www.epa.wa.gov.au/media-statements/submissions-epa's-greenhouse-gas-assessment-guidance-now-available

The oil and gas industry is continually experiencing regulatory creep, both in how NOPSEMA s interpreting the Offshore Petroleum and Greenhouse Gas Storage (Act) (OPGGS) regulations and the level of detail it expects to see in approvals documents. While stating assessment is outcome based and based on the nature and scale of an activity, titleholders instead finding that once one titleholder commits to a particular control or environmental commitment (which may be above normal requirements) that NOPSEMA then expects all titleholders to commit to the same level. This is not consistent with an outcome-based regime, nor does it take into account nature and scale of different activities. The regulator needs to be willing to actually regulate based on its experience and be less risk averse as to how it will be perceived by stakeholders.

To address this, APPEA and NOPSEMA are engaging to improve the environmental approvals process, for example the development and assessment of Environment Plans (EPs), and industry is currently working towards developing a more standardised approach, for example how it evaluates and sets discharge thresholds, limits etc. However, for this to result in tangible benefits, there needs to be alignment between titleholders and regulators as to what the science and evidence provides. In the absence of this alignment, titleholders will likely continue to experience the shifting of goalposts from the regulator resulting in ever more complexity and development timeframes for developing EPs. If alignment could be reached, a lot of resources from both titleholders and regulators could be better redirected to more productive activities, such as industry-government collaborative data collection/research and dissemination to stakeholders and the development of technologies to improve/reduce environmental footprint.

Other examples of regulatory creep include NOPSEMA's proposed Operational Risk Assessment guideline[10] or its push to have industry prepare and gain acceptance of Safety Cases for capping stack and relief well operations prior to undertaking the activity. This would present additional regulatory burden on titleholders and supporting services like drilling and vessel operators without clear benefits, other than to take NOPSEMA off the critical path for assessing a Safety Case in the event that one is submitted to undertake relief well activities in the unlikely event of an incident. With NOPSEMA making it clear that it will not accept generic Safety Cases, how is industry to gain pre-approval of Safety Cases as proposed by NOPSEMA when it is unworkable to try and develop a Safety Case for every rig that might be available for relief well operations during a particular drilling campaign?

Facility operator (Rig Contractor) safety case submissions have experienced continued creep in interpretation of management of MAE's requiring the facility operator to verify aspects of operations beyond good practice in comparable regulatory jurisdictions. Recently this has included:

- requirement for third party validation of title holder contracted services that previously were not considered safety critical. (Eg Gravel Packing equipment)

[10] See https://www.nopsema.gov.au/assets/Guidance-notes/A639100.pdf

- requirement for rig contractors to ensure compliance of title holders (Operators) well design practices in addition to title holders complying with their regulatory accepted WOMPs.

These changes have added duplication of duties outside traditional core competencies for facility owners (rig contractors) longer approval periods and considerable cost to conducting operations. They have regularly been a distraction to the core engineering and focus on well operations.

COMPLEX AND PRESCRIPTIVE REGULATION

The Environment Regulations under the OPGGS Act currently drive over emphasis on very low risk/low impact areas. Due to the long/complex nature of Environment Plans, this generally results in sacrifice in quality on the higher risk/impact areas of activities. For example, focusing on basic controls such as MARPOL (the International Convention for the Prevention of Pollution from Ships) needs on vessels (waste, sewage etc), or on seabed disturbance, where in the majority of offshore open water environment are commonly represented habitats occurring extensively throughout regions. These focus areas can require significant attention during assessments and inspections. All are complied with as standard and should not have compliance requirements against them. Instead, we believe focus would be better spent on the higher risk items such as key discharges, air emissions and greenhouse gas optimisation and continuous improvements. It would be beneficial to allow industry to focus on higher risk items under the Environment Regulations rather than low risk/impact areas.

Safety legislation and regulations also provide an example for over prescription and complexity. Safety legislation and regulations are fragmented within and amongst jurisdictions with most having overlapping regimes in Health and Safety, Energy/Resources. In some cases regulators are co-operating, for example joint audits by Queensland WorkSafe and the Department of Natural Resources, Mines and Energy (DNRM). APPEA would suggest that there is a need for these regimes to be streamlined and integrated to improve effectiveness and efficiency.

Regulators place heavy emphasis on major hazard facility Safety Cases and demand extensive detail and content, with less attention paid to core duties, such as the day-to-day operation of the safety management system. Subsequently, the cost and complexity of Safety Cases is high. The timeframe, cost and complexity of producing and acquiring regulator acceptance of a Safety Case for a new facility may be bearable for multi-year development projects, however this regime is not well suited to small projects to be brought online within a shorter timeframe (a year or less).

In some instances, design of regulations has resulted in overly cumbersome and complex outcomes. For example, the Maritime Transport and Offshore Facilities Security Act and Regulations are 400 pages in total. Work Health and Safety Act and Regulations are commonly

over 1,000 pages in total in jurisdictions[11]. The challenges presented for operators maintaining full compliance is self-evident particularly so for those with operations crossing multiple jurisdictions.

APPEA also notes that assessment of submissions for well abandonment and decommissioning as exercised under the OPPGS Act and subsidiary regulations is prescriptive without consideration of risk assessment or management of change, no matter how inconsequential. This is out of step with other international regulatory jurisdictions and has lead to an impasse such that title holders cannot resolve existing issues nor proceed in accordance with good practice. Further, APPEA notes that there is no consideration of operational change control in well operations management plan (WOMP) regulation that allows progression of critical path in accordance with appropriate risk assessment and good practice where the stated well design envelope has been exceeded. A resubmission and revision with up to 30 days turnaround is required in such circumstances holding operations on critical path at considerable cost. Alternatively well operations may choose not to proceed limiting testing of geological objectives. This has driven title holder behaviours to define a conservative design envelope and open encouragement to include every conceivable contingency in the base submission with associated documentation growth.

[11] Queensland Work Health & Safety Act and regulations available at - https://www.worksafe.qld.gov.au/laws-and-compliance/workplace-health-and-safety-laws/laws-and-legislation/work-health-and-safety-act-2011

Case Study - Hazardous Area Requirements and Electrical Wiring Standards – Gas Compression Packages

Natural gas compression packages are often sourced by the Australian oil and gas industry from Canadian and other North American packagers, due to their expertise, and also lack of options in the Australian market.

Electrical design aspects of Canadian packages are based on the Canadian Electrical Code (CEC) and CSA standards, which cover hazardous area and electrical wiring requirements.

The Canadian oil and gas industry has a large installed base of gas compression equipment, with a long history of safe operation.

The Queensland Petroleum and Gas (Safety) regulation nominates AS/IEC 60079 as a preferred standard for equipment installed in hazardous areas in oil and gas facilities in Queensland.

This requirement results in significant electrical/instrumentation component and electrical wiring modifications to comply with this standard. In some cases, components are not able to be supplied in accordance with the IEC standard, and as such a rigorous "conformity assessment" process is required to assess each component against the AS/IEC requirements. In other cases, non-standard components are selected on the basis of compliance with AS/IEC standards, which actually introduces reliability risk (as these non-standard components have not been proven in long term service, as is the case with standard componentry). Further, there is no evidence to suggest that the mandated compliance with IEC/AS standards results in equipment with a higher level of safety/lower risk compared to the Canadian standards.

Although the Canadian packager's are becoming increasingly familiar with the above process and requirements, the requirement adds significant cost and risk to the supply of the packages. A conservative assessment is the cost to modify a compressor package to comply with IEC/AS requirements is ~5% of the total package. Across multiple compressor packages, this additional cost becomes significant. In addition, the requirement adds to delivery time due to the selection of non-standard components and increases reliability risk as noted above.

A significant cost reduction/competitiveness enhancement opportunity exists for the Australian oil and gas industry around acceptance of Canadian/North American standards for equipment sourced offshore. Ideally, compression packages sourced from Canada/North America should be acceptable, without modification, on the basis they are designed and fabricated in accordance with the equivalent hazardous/wiring installation standards (CEC/CSA/NFPA). This will provide a significant cost and schedule benefit, with no reduction in equipment integrity or safety, while reducing risk of reliability due to the use of non-standard and unproven componentry.

CASE STUDY 1: HAZARDOUS AREA REQUIREMENTS AND ELECTRICAL WIRING STANDARDS – GAS COMPRESSION PACKAGES

Efficiency, transparency and accountability of decision-making

The Commission is seeking feedback on approaches to regulator governance in jurisdictions in Australia and overseas. Information and examples, including case studies, of both effective and best practice approaches as well as those that are problematic would be appreciated.

For example, the Commission is interested in whether:

- the roles, responsibilities and requirements of different regulatory agencies are clear and duplication is avoided, including through
  - models for coordination, or aspects thereof, and strategic assessments (in particular, their feasibility and how they can best be used to improve efficiency)
- decision makers are accountable, including through
  - review processes that avoid unnecessarily long delays in approval processes
- regulators are independent, for example:
  - decision-making models (in particular, whether (and why) resources approvals are best determined by an independent body or at Ministerial level)
- regulators are adequately resourced and have necessary capabilities (in particular, the extent to which any under-resourcing of regulatory agencies is contributing to approval delays).

What have been the consequences of identified instances of poor regulatory governance, including unnecessary duplication, for regulatory efficacy and efficiency and for investment in the sector?

How could identified shortcomings be remedied?

The Commission is also interested in the different approaches agencies have taken to recover costs. Should 'user pays' be applied more broadly?

REGULATORY DUPLICATION – INTRA-JURISDICTIONAL

APPEA notes that many of the Australian states and territories have an array of agencies, acts and regulations to which petroleum operators must apply and adhere to. For example, in Queensland, there are multiple petroleum and gas Acts and multiple regulations. New and amended Acts and subordinate legislation are regularly issued without an apparent link to existing legislation; i.e. creep in amount of Acts and regulations, in some instances with no clear link to purpose or principles, some are out of date or lack currency.

APPEA members advise of the growing need to consult multiple Acts and Regulations that increases the chance of non-compliance. By way of example, in the case of Queensland this includes the need to consult and apply a large and diverse range of legislative and regulatory instruments that include and are not limited to; the *Petroleum and Gas (Production and Safety) Act 2004, Work Health and Safety Act 2011, Petroleum Act 1923, Transport Operations (Road Use*

Management) Act 1995, Biosecurity Act 2014, Environmental Protection Act 1994, Native Title (Queensland) Act 1993, Queensland Heritage Act 1992, Water Act 2000, National Gas (Queensland) Act 2008, Energy and Water Ombudsman Act 2006 and subsidiary legislation.

APPEA members note that it is very difficult to stay on top of legislative change, when so many acts, regulations and codes are applicable to your activities. APPEA would suggest that greater coordination is warranted between jurisdictional agencies and legislative rationalisation and simplification should be implemented. APPEA members note that the South Australian regulatory framework demonstrates elements of best practice regulatory design, where there is one petroleum and gas Act and one set of Regulations. The legislation is short, succinct, easy to follow and not overly prescriptive.

The OPPGS environment regulations which apply on Commonwealth offshore areas require titleholders to evaluate all impacts and risks associated with a petroleum activity and to implement controls that reduce impacts and risks to as low as reasonably practicable and acceptable levels. APPEA notes some of the controls presented in the EP refer to legislation regulated by other regulators, for example MARPOL (the international convention for the prevention of pollution from ships) is regulated by the Australian Marine Safety Authority (AMSA) in Australia. Having NOPSEMA also regulating those aspects of an oil and gas activity is redundant and inefficient.

APPEA would suggest that the Commonwealth review offshore regulation for the purpose to identify and remove overlapping regulatory requirements that currently apply.

REGULATORY DUPLICATION – MULTI-JURISDICTIONAL

An issue of particular importance to APPEA members is the duplication of groundwater impact conditions as part of EPBC Act approvals where the Queensland Government has an existing robust monitoring and compliance regime in place. APPEA would suggest as a solution that Commonwealth regulators are able to accept the groundwater conditions imposed on operators by the Queensland Office of Groundwater Impact Assessment and where there is a cumulative management area in place.

APPEA has noted inefficiencies between the Commonwealth (e.g. NOPSEMA's regulation of the EPBC Act) and state environment regulators (e.g. WA EPA). Greenhouse gas management is currently being addressed under the OPGGS regulations, State/Territory regulations and the Clean Energy regulations, which leads to regulatory burden and in some cases different expectations from different regulators. This also provides for a decrease in efficiency within the resource industry for greenhouse gas assessment and approvals.

Having a single regulator across offshore and onshore (or at least for offshore projects operating in both state and commonwealth waters) could create significant efficiencies.

APPEA notes Work Health and Safety/Occupational Health and Safety regulators across jurisdictions work towards a consistent application of regulatory oversight through national forums but, in practice, regulatory approaches are not consistent from one jurisdiction to

another. Regulatory resources, cost recovery through fees from permittees and regulatory effectiveness are highly variable across jurisdictions and in some cases, resources are below the level to deliver outcomes in a consistently timely fashion. In some cases, the regulatory approach is dependent on the individual regulator. A significant efficiency and effectiveness gain could be achieved by adopting a national integrated regulator model such as UK HSE.

CAPABILITY OF REGULATORS

Industry has observed some significant differences in the capability and consequent resourcing of agencies and regulators as they relate to the petroleum industry. This difference in capability can at times be drawn into stark contrast in situations where differing agencies are administrating the same Act and subsidiary legislation. This point is highlighted when comparing the administration of the EPBC Act by NOPSEMA in Commonwealth Offshore areas in comparison to the administration of this act in non-Commonwealth areas by DoEE. These differences in capabilities is typically expressed as disparities in timeliness of approvals, which has resulted in project approval delays and timing uncertainty for industry. A potential solution would be to delegate approvals functions to state regulators or NOPSEMA, or ensure government agencies are resourced and managed so that regulatory services can be provided in a reasonable time-period to a high standard.

Industry views NOPSEMA as a skilled regulator. However, some potential opportunities for improvement in carrying out regulatory functions could be pursued. For example, although NOPSEMA staff are recognised as highly skilled, there should be flexibility to contract specialist skills on offshore petroleum development, construction and operations on an 'as needed' basis when required. This capability may be useful for NOPSEMA to better manage short-term peaks in regulatory workload as these arise from time to time.

CONSEQUENCES OF DUPLICATION AND POOR REGULATOR PERFORMANCE

The main consequences of duplication of regulatory efforts across agencies is an increased exposure to non-compliance or ineffective application of the legislation (that often does not match the purpose of the legislation). Increased compliance, particularly where it is implemented in a punitive way exposes individuals (supervisors) to prosecution. This can lead to regulatory outcomes not being achieved and a decrease in business' appetite to invest or expand in a particular sector.

The Fraser Institute's annual survey on petroleum (Table 1.) highlights the variability amongst Australian jurisdictions for attractiveness for business to invest, particularly in regards to the extent to which government policies encourage or deter exploration and investment is an important point.

The main issues and consequences of regulatory duplication and regulator inefficiency are:

- Overly burdensome processes (time, cost, resources) without added or improved environmental outcomes.

- Variation in legislative requirements for different stakeholders (e.g. landholders, agriculture, mining, renewables) as the rules are different for each party leading to confusion, conflict, inequitable and unnecessary burden (e.g. cost) to some parties for similar activities.
- Difficulty and delays associated with navigating the overly complex and sometimes conflicting assessment processes.
- Insecurity associated with changing or potentially shifting processes, changing interpretation of legislation, changing government attitudes towards resource projects and future regulatory positions.
- High turnover in regulatory officers leads to inconsistency in outcomes and potentially time delays in bringing new officers up to speed on a project.
- Poor regulatory design and variability between officers leads to variation in interpretation of legislation again leading to different decisions and inconsistency/uncertainty of outcomes.
- Positive environmental benefits of an action are rarely considered by regulators or factored as part of an assessment processes.
- Lack certainty of target timelines approval paths.
- In lack of a shared goal to process approvals within a specified timeline and lack of mechanisms for proponents to hold regulators to defined timeframes can contribute to sub-optimal levels of certainty for proponents and risks to projects.

Governments should ensure that regulator resourcing and commitment to timeframes is not a cause for undue uncertainty and delay. Appointment of case officers with pan-government reach to support proponents through approval processes would greatly improve project certainty and provide a single point of escalation for proponents where process or bureaucratic barriers are encountered.

Feasibility of strategic assessments and how best they can be used have not been considered in an offshore petroleum context for at least the last 10 years. However, if they were applied and used correctly, they would have the potential to address some of the issues outlined in this submission. That is, they could address all the low risks and impacts across the sector so the focus of project approvals moving forward could be on the site-specific issue to be considered for an activity.

Strategic assessments may also be able to provide clarity across a broader region to assist in determining what types of activities are acceptable and in what areas, which could streamline the Environment Plan assessment process. It would also be useful in highlighting where certainty in information was low and where potentially future baseline environmental studies for example, should focus.

Case Study – Environmental Approvals under the OPGGS Act

In light of the changes made to the OPGGS(E) Regulations this year to improve consultation and transparency for offshore oil and gas activities, it is suggested that there is now an opportunity to reduce the regulatory burden on operators and improve the environmental approvals process for offshore oil and gas projects without reducing environmental protection. Recognising that the introduction of the Offshore Project Proposal (OPP) process in 2014 provided an opportunity for public comment on proposed offshore oil and gas projects at a time when Environment Plans (EPs) had no public comment period, the way the OPP process is being regulated and the fact that all EPs are now published has resulted in operators questioning whether there is any real value in having both an OPP and EP assessment process.

Based on our experience being the first titleholder to gain acceptance of an Offshore Project Proposal (the Barossa Area Development OPP, accepted in March 2018),), ConocoPhillips experienced firsthand the shift in NOPSEMA's expectations for what the intent of an OPP is, what level of detail should be included and how it will be assessed and regulated by NOPSEMA. ConocoPhillips is now submitting development EPs under the accepted OPP and believes that it is being asked by the regulator to again justify decisions presented and previously accepted in the OPP. As it was, the detail required by the regulator to be presented in the OPP was nearing EP level detail and if we have to re-iterate details from the OPP in the EP, it raises the question as to what value there is in having both the OPP and EP processes and whether there is any real increase in environmental protection.

It is suggested that the original intent of the OPP be re-instated and NOPSEMA be directed to regulate it as such so that it becomes an assessment of the acceptability of the project made at an early stage where public comment can be taken into consideration and incorporated into the project design, rather than being an assessment based on EP level project detail and content.

CASE STUDY 2: ENVIRONMENTAL APPROVALS UNDER THE OPGGS ACT

Issues with regulator conduct

The Commission is seeking feedback on regulator conduct in jurisdictions in Australia and overseas. Information and examples, including case studies, of both effective and best-practice approaches, as well as those that are problematic, would be appreciated.

For example, the Commission is interested in whether:

- regulators' processes are clear, predictable, open and transparent
- regulatory outcomes are consistent with their intended objectives, including whether compliance and enforcement mechanisms have been effective, for example
    - with respect to: compliance effort; the use of information to test compliance with approval conditions; rehabilitation processes; and the design and monitoring of offsets
- unnecessary costs and delays have been minimised and how this has been achieved (for example, through statutory timelines)

What have been the consequences of identified instances of poor regulator conduct, including inconsistency, inadequate enforcement and unduly protracted processes, for investment in the sector?

In Australian regulatory jurisdictions there are a number of examples of poor regulatory conduct and performance and instances of exceptional conduct and performance. By way of example the South Australian petroleum regulator provides a good reference of leading regulatory practices and conduct. The South Australian regulator ensures regulatory processes are clear, predictable, open and transparent. If needed an operator can easily get in contact with the right people and communication and advice is consistent, where the purpose and goals are always clear. It is apparent to industry stakeholders that regulator decisions are made that support the purpose of State legislation and that Ministerial discretion under the South Australian law is broad enough to enable this. As such the South Australian regulator has established a high level of trust and reputation with its petroleum industry stakeholders.

APPEA members advise that communication with regulators in Queensland has improved significantly in the past 2-3 years. Central to this improvement has been regulators assigning key departmental personnel to operators (like account managers). This means operators know the right person to speak with and the 'account manager' has an opportunity to learn about your business. This has resulted in regular meetings that enable effective consultation prior to lodging applications or undertaking activities, which minimises costs and delays.

By contrast to the above, APPEA members advise that they have noted inconsistency in decision making and in the interpretation of legislation in Queensland. Consequently, this has made planning for industry difficult as internal departmental policy and interpretation of legislation is not consistent over time. This uncertainty is aggravated by a perceived reluctance by the Queensland regulator, in many instances, to put policy and legislative interpretation advice in writing which makes relying on their advice difficult.

APPROVALS TIMELINES

A number of petroleum State, Commonwealth and Territory regulators around Australia have an established system of statutory timeframes for regulatory approvals. APPEA member companies have noted a trend of an increasing number of incidences where statutory timeframes have been exceeded, in some cases excessively so or where the regulator has sought extensions to approval timelines. Uncertain and overly long approvals timelines are an issue for the Australian petroleum industry. Petroleum projects typically require detailed planning and careful project management. Much of this planning is time critical, where overly long delays in approvals can impose significant escalation to project costs.

Where regulators exceed statutory approvals timelines, there is no apparent consequence to regulators and therefore no substantial incentive to adhere to these requirements. Further, the performance reporting of regulators as applied to timeliness of approvals can vary significantly across departments and jurisdictions. APPEA would suggest that regulators consider the adoption of clear, consistent performance reporting around common key performance indicators to enhance visibility to stakeholders of agency performance. If this is undertaken, agencies that struggle to meet statutory approval timelines can be clearly identified and appropriate, targeted measures can be employed to resolve any issues.

APPLICATION & GROWTH OF GUIDELINES

APPEA is concerned by the rapidly expanding catalogue of guidelines that have been introduced by a number of regulators. These guidelines are applied as de facto regulatory instruments in addition to de jure regulatory instruments such as schedules, regulations and acts. The principal issue lies in the rigour and process that is implicit in the creation of legislation, regulation and statutory schedules compared to guidance. Changes to regulation and legislation and statutory schedules are subject to Parliamentary oversight and processes that are consultative and well established. In contrast, the process of creating guidance material can vary quality and consultation. APPEA would recommend that guidance material be developed consultatively and provided sparingly and should not be applied as defacto regulatory instruments by regulators.

Case Study – Operations Safety Case

Current arrangement

Formal submission of an Operations Safety Case, is currently required once all design, technical and operational integrity controls are known. This is typically submitted 6 - 12 months before a large petroleum production facility comes into Australia and hence significantly down the construction / commissioning path. There is an opportunity for an 'Early Engagement' Safety Case, but this is not considered a formal submission, and hence carries no bearing on being able to 'finalise' the design integrity controls and confirm an ALARP (as low as reasonably practical) design.

Issue

Assessing design integrity controls when the (final) 'Operations' Safety Case is submitted misses on potentially significant risk reduction opportunities. Also, if there is a design issue at the final Operations Safety Case stage of assessment which requires rectification, this erodes significant value to the project.

Impact

Given the Safety Case is only submitted significantly down the construction/commissioning path, if NOPSEMA finds an issue at this late stage, the potential cost on projects is a rejection of the Safety case, which in extreme cases could result in the cancellation of the project. Alternatively, significant design changes could also result in a multi-million-dollar cost associated with design changes and consequential loss due to project delays. All these issues could be managed with the adoption of a formalised Design Safety Case. Cost implications of changes to a recent safety case for a recent industry project was approximately $1 million.

Solution

Adopt a Design Safety Case or design notification process, submitted during the design phase of a project. Such a process enables a formal technical engagement between Operators and the regulator acting as an opportunity for sharing of best practices and ultimately in an acceptance of the design. The success of this change depends on whether the Regulator accepts this as a formal submission, with a view to accepting (or rejecting) the design.

The next submission, being the Operations Safety Case, would then be more focussed on the technical and operational integrity controls, unless there has been a significant design change from the Design Safety Case.

Benchmarking

This process of design notification exists in the UK under the jurisdiction of the Health & Safety Executive. Facilities to be installed on the UK Continental Shelf have to get an accepted Design and Operations Safety Case, with the former submitted at the design phase. There have been examples where significant design changes have occurred at this design notification phase, resulting in significant risk reduction, and still at a stage when a significant design shift was achievable. If the safety case is separated and accepted at different stages with focus on the relevant stage, this will deliver benefits to the operator, the regulator and the workforce.

Broader impediments materially affecting investment

The Commission is seeking examples of government activity beyond resources sector-specific regulation that influences investment, particularly where that activity represents a major impediment. How important for investment are these impediments?

How could the impact of these impediments be reduced?

APPEA is concerned with inconsistencies between state and federal policies in relation to petroleum development. Of concern is the misalignment and non-complementary policy approaches to management of greenhouse gas emissions (most recently being seen between the EPA, WA State Government and the Federal Government) that will likely create uncertainty and unintended consequences for resource developments. Many of the resources projects that these guidelines would apply to are multi-billion investments and have a lifespan of over 30 years; consistency and clarity on policy and regulatory approaches as far as possible is paramount and should present as a priority for governments.

Australia's onshore oil and gas prospectivity, including oil and gas from shales and tight rocks, presents a significant opportunity to the nation through a vast, world-scale prospective resource base. Table 3 below provides an estimate from Geoscience Australia of shale and tight oil resources in selected basins.

Basin Resource	Estimated oil-in-place (Bbbl)				Potentially recoverable oil resource*
	P90	P50	P10	Mean	
Gippsland Basin					
Shale resources	10.1	22.4	46.0	25.8	1.1
Perth Basin					
Shale resources	26.1	60.6	127.2	70.3	3.0
Cooper Basin					
Shale resources	5.8	8.9	12.9	9.2	0.4
Tight resources	253.9	490.2	956.3	559.9	24.5
Total					24.9
Canning Basin					
Shale resources	15.4	20.7	27.2	21.1	1.0
Tight resources	5.9	8.8	13.5	9.3	0.4
Total					1.5

*5% of P50; Bbl
Bbbl = billion barrels; P50 = 50% confidence interval

TABLE 3: SHALE AND TIGHT OIL ASSESSMENT RESULTS IN SELECTED BASINS[12]

[12] Geoscience Australia onshore unconventional resource assessments, available at: https://aera.ga.gov.au/#!/oil

In addition to a substantial prospective unconventional oil potential, Australia is also endowed with a significant unconventional gas potential, detailed in Table 4.

Basin Resource	Estimated gas-in-place (tcf) P90	P50	P10	Mean	Potentially recoverable gas resource*
Gippsland Basin					
Shale resources	66.5	111.7	189.2	121.7	5.6
Tight resources	98.0	271.9	558.7	307.3	13.6
Total					19.2
Perth Basin					
Shale resources	133.9	220.9	348.3	232.6	11.0
Cooper Basin					
Shale resources	94.2	138.3	197.1	142.8	6.9
Tight resources	718.1	1019.0	1538.9	1096.4	50.9
Total					57.9
Canning Basin					
Shale resources	5305.6	7799.4	12,013.0	8339.7	390.0
Tight resources	246.8	969.1	2520.8	1213.4	48.5
Total					452.3
Otway Basin					
Shale resources	24.3	31.8	40.8	32.2	1.6
Tight resources	26.7	115.2	421.6	180.0	5.8
Total					7.3

*5% of P50; tcf
tcf = trillion cubic feet; P50 = 50% confidence interval

APPEA would note that significant unconventional oil and gas potential also lies outside of those areas detailed in Tables 3 and 4, particularly areas in onshore Northern Territory, which are presently being actively explored.

TABLE 4: SHALE AND TIGHT GAS ASSESSMENT RESULTS IN SELECTED BASINS[13]

APPEA notes that there have been 14 inquiries into onshore unconventional oil and gas amongst Australia's states and territories in recent years, with the most recent inquiry being the Independent Scientific Panel Inquiry into Hydraulic Fracture Stimulation in Western Australia that

[13] Geoscience Australia onshore unconventional resource assessments, available at: aera.ga.gov.au/#!/gas

reported in November 2018[14]. These inquiries have broadly found the development and production of onshore unconventional oil and gas can be conducted in an environmentally safe manner with appropriate controls. This summary is reflected by Australia's Chief Scientist, Dr Alan Finkel observing that; "*The evidence is not there that it's dangerous. In fact, the evidence is that, if properly regulated, it's completely safe*."[15]

In spite of numerous inquiries and reports, a number of Australian jurisdictions prevail with blanket bans and moratoria. For example, an open-ended moratorium on hydraulic fracture stimulation (HFS) is in place in Western Australia on areas of the state that were not covered by petroleum permits and titles as at November 2018. This means Western Australia currently has a moratorium that applies to approximately 98% of the state's land area. Additionally, bans and severe restrictions apply in Victoria, NSW and the Northern Territory. Arbitrary bans and restrictions on unconventional oil and gas developments in Australia's states and territories, driven for political purposes, pose the largest obstacle to onshore oil and gas development in the nation.

Best-practice community engagement and benefit sharing

The Commission is seeking examples of both effective and best-practice community engagement and benefit-sharing practices, including with Indigenous communities, in Australia and internationally, and examples that are problematic.

What are key drivers of good or poor outcomes? How could identified shortcomings be

APPEA notes there are a number of legislative and regulatory requirements on the petroleum industry to engage communities in which they operate in or propose to operate in. The Australian petroleum industry understands the importance of engaging communities and is heavily focused on this area and ensuring that the benefits of our industry are shared.

ABORIGINAL ENGAGEMENT

The Australian petroleum industry and the resources industry more broadly is subject to a suite of state/territory and Commonwealth native title and heritage laws. Petroleum companies who operate in areas subject to aboriginal claims must obtain native title agreements prior to any activity occurring. Many of APPEA's member companies choose to go beyond legislative and

[14] Independent Scientific Panel Inquiry into Hydraulic Fracture Stimulation in Western Australia report available at: frackinginquiry.wa.gov.au/sites/default/files/final_report.pdf

[15] ABC Lateline, 27 January 2017

regulatory requirements, to enable aboriginal communities to gain longer term benefits from the industry and operations on their land. For example:

- Pathways to jobs
  Offer employment opportunities either as direct staff, with contractors, or as a trainee or apprentice. Assisting Indigenous Australians with work readiness, job skills and job placement.
- Strong culture
  To ensure Aboriginal culture remains strong through the generations in areas such as history, language, caring for country, connecting young people to country and their elders.
- Good governance
  Supporting indigenous community boards to participate in good governance courses, so that Indigenous groups are well run, stable and effective.

Case study four provides some detail of Buru Energy's engagement with its aboriginal stakeholders as part of its exploration and appraisal of tight gas in the Kimberley region in Western Australia.

Case Study – Buru Engagement with the Yawuru and Nookanbah Communities

Buru Energy started engaging with the Yawuru and Noonkanbah communities in 2012 and 2013 regarding potential tight gas projects at Yulleroo and Asgard/Valhalla, respectively. The first step in the engagement process was the development of a 'Gas Roadmap' document with each group. This document sought to set environmental, cultural/ social and economic objectives for Buru Energy and the respective Native Title group. The Gas Roadmap process was tied to key milestones in the appraisal and development of the tight gas resource.

When engaging with Native Title groups, a number of environmental concerns regarding fraccing were raised, particularly by members of the Yawuru community. To be in a position to make an informed decision on fraccing, it was recognised that Native Title groups needed access to advice on fraccing from independent experts. To support Traditional Owners to make informed decisions on fraccing, the Buru Energy/ Mitsubishi Corporation JV supported three independent specialist reviews on fraccing for the Noonkanbah community (Yungngora and Warlangurru people), Yawuru people and KRED Enterprises Pty Ltd (representing the Nyikina Mangala people, Karajarri people and Ngurrara people.

For each review process, each Traditional Owner group selected their own independent specialists to advise them on Buru Energy's hydraulic fracturing activities. The final panels included 11 specialists from four different universities and the CSIRO, as well as various consultants. Buru Energy provided funding for the independent experts to review proposed activities and hydraulic fracturing in general, and also made available all relevant approvals documentation during the process. The reviews were undertaken independent of Buru Energy, although Buru Energy attended collaborative risk workshops, community meetings and information sessions upon request. At the end of the process, written reports from the independent specialists were provided to the Native Title group and Buru Energy.

In 2015, the Buru Energy/ Mitsubishi Corporation JV fracced the Asgard 1 and Valhalla North 1 wells on EP 371. The frac program was undertaken with the full support of the Noonkanbah community (Yungngora and Warlangurru) Native Title groups.

Operations associated with the frac program started in June 2015 with intensive operations occurring at site for approximately 15 weeks. During that period, 33 workers from the community worked more than 14,000 hours on the program. Work was in the following areas:

- Security and Access Control – Noonkanbah community members were responsible for providing security and access control at all sites for the whole frac program, in partnership with security specialists. This involved maintaining a 24-hour ranger presence across operational areas.
- Frac Spread – Noonkanbah workers were seconded to service companies during the program and worked alongside service company personnel doing equipment maintenance, loading sand, refuelling and related jobs.
- Civil Works – Noonkanbah community members were responsible for maintaining the access tracks and well sites during the frac program. This included watering of operational areas for dust suppression.
- Camp Services – Community members worked in the temporary camp during the frac program.

Kimberley Training Institute were on site during the operations to train, assess and certify community members. Fifteen people were trained and ticketed in security, the operation of excavators, water carts, dump trucks, front end loaders and bobcats with 32 tickets awarded during the frac program.

Buru Energy supported an environmental cadet program which was undertaken at Kimberley Training Institute in Broome in 2013 and 2014. The environmental cadetship program was created in partnership with KTI with the cadets trained in Conservation and Land Management (Certificate II) during the program. All four cadets from Noonkanbah community graduated from the program and became the Noonkanbah rangers.

Groundwater monitoring at the Asgard 1 and Valhalla North 1 well sites was undertaken with the Noonkanbah rangers. This provided transparency in groundwater monitoring. As results of the groundwater monitoring became available, these were provided to the Noonkanbah rangers and were also made available to the general public via the Company's website.

In addition to the cultural inductions provided to all contractors as described in Section 7, site visits were also provided for all interested community members during the fraccing operation. Buru Energy provided buses to transfer people from the community to the well sites where they received refreshments and a tour of operations where they could ask questions about the operations occurring on site. During this time, operations were shut down and people were restricted to safe areas. A return bus trip then transferred people home.

A videographer was on site during the fraccing program and collected footage of the fraccing operations and community engagement in the program. The footage was made into a short film on the frac program called "Noonkanbah – Proper Way". The film is available on YouTube:

www.youtube.com/watch?reload=9&v=RoQpeZBl2fg

CASE STUDY 4: BURU ENGAGEMENT WITH THE YAWURU AND NOOKANBAH COMMUNITIES[16]

[16] Buru Energy Submission to the Scientific Inquiry into Hydraulic Fracture Stimulation in Western Australia 2018, available at: https://frackinginquiry.wa.gov.au/sites/default/files/webform/submissions/buru_energy_submission_scientific_inquiry_fraccing_wa_final.pdf