

SUB 64

Environment and Public Affairs Committee

From: Andrew Thompson <Andrew.Thompson@minterellison.com>
Sent: Friday, 20 September 2013 11:32 AM
To: Environment and Public Affairs Committee
Subject: Fracing Restrictions Around Australia
Attachments: Shale Gas Coal Seam Gas - Fracing Restrictions Around Australia.pdf

Dear Ms Lobeto-Ortega,

I refer to the Inquiry into the Implications for Western Australia of Hydraulic Fracturing for Unconventional Gas. We have just released a survey of fracing restrictions around Australia, which your Committee may find as a helpful reference. I attach a copy.

Kind regards

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Shale Gas Fracking Restrictions Around Australia

Introduction

- Shale gas is the world's new energy phenomenon. It has in the space of 5 years turned the USA from a net importer to a net exporter of energy, particularly in the form of shale gas sourced LNG.
- As a result of increased supply, prices of gas in the USA domestic market have halved in the space of 5 years.
- Shale gas is typically located more than 2000 metres below the surface, whereas coal seam gas (**CSG**) is generally found between 600 – 1000 metres below the surface.
- It is trapped in tight sands with limited permeability. To be "untrapped" it requires the tight sands to be fractured by vertical and/or horizontal drilling and injection of water under pressure to allow the gas to be released. This process is called "fracking" (sometimes termed "fracking" or "fracturing").
- According to the COAG's Standing Council on Energy and Resources (**SCER**), Australia's resources of shale gas are almost two and a half times larger than its resources of conventional gas.
- An assessment of the world shale gas resources by the United States Energy Information Agency has estimated that Western Australia holds the world's fifth largest reserves of shale gas in the Canning and Perth Basins; at 228 tcf representing about twice Western Australia's offshore gas reserves.
- Furthermore, the Cooper Basin is estimated to hold 85 tcf of shale gas.
- The technical aspects and environmental impacts of fracking in an Australian context have been thoroughly canvassed recently in a Report by the Australian Council of Learned Academies, released in June 2013.

Commonwealth

- On 31 May 2013, the SCER endorsed the *National Harmonised Regulatory Framework for Natural Gas from Coal Seams* (**Framework**). SCER is established by the Council of Australian Governments (**COAG**), and its members are the relevant Ministers for energy and resources from the Commonwealth, States, Territories and New Zealand.
- The Framework does not have any statutory force. Rather it is designed to set standards for State and Territory Governments within their respective jurisdictions. Therefore, the key relevance of the Framework is how it will affect future regulation of fracking activities at a State and Territory level..

- The Framework applies to fracking activities in general, not just fracking related to CSG. The Framework will therefore affect participants in the broader shale and tight gas industries, as well as CSG. Particularly it provides guidance as to leading practice in four core areas of: well integrity; water management and monitoring; hydraulic fracking; and chemical use.
- Participants in the sector should expect that any future fracking activities, nation-wide, will only be approved if they accord with the Framework. Regulatory responses at State and Territory level could be via existing water access use and disposal legislation or environmental regulation or direct regulation or a combination of the foregoing.
- The Framework identifies 18 leading practices to be followed across all Australian jurisdictions to implement streamlined, transparent and consistent processes. Four of the leading practices are overarching and apply to all of the core areas covered in the Framework, whilst the remainder are specific to each of those areas.
- It should be expected that drilling and development approvals will incorporate these "leading practices" as minimum conditions.

New South Wales

- Moratorium on fracking lifted following the publication in September 2012 of two codes of practice developed by the NSW Government in consultation with the CSG industry as part of the *NSW Government's Strategic Regional Land Use Policy*:
 - *NSW Code of Practice for Coal Seam Gas Fracture Stimulation Activities (Fracture Stimulation Code)*
 - *NSW Code of Practice for Coal Seam Gas Well Integrity (Well Integrity Code)*.
- Both Codes have been subject to an independent review coordinated by the NSW Chief Scientist and Engineer and approved by the Minister for Resources and Energy, the minister responsible for the *Petroleum (Onshore) Act 1991*.
- Fracking activities will attract the application of both Codes.
- Fracture Stimulation Code provides a framework covering:
 - approved Fracture Stimulation Management Plans
 - fracture stimulation design
 - risk assessment
 - use of chemicals in fracture stimulation
 - management of flowback water in place before undertaking fracking activities
 - safety and incident and emergency response
 - stakeholder consultation.
- Well Integrity Code provides a framework covering:

- water sourcing and protection of aquifers
- well design
- risk management planning
- drilling fluids
- well monitoring, maintenance, suspension and abandonment.
- A ban on use of BTEX^A chemicals came into effect from March 2012 and it is confirmed in the Fracture Stimulation Code.
- Exploration and production title holders must comply with the Codes to ensure any activities relating to CSG fracture stimulation and CSG well integrity are compliant with their title conditions.
- The Codes may also be relevant in the *Review of Environmental Factors* to be submitted to the Office of Coal Seam Gas as part of an activity approval application.
- Compliance with the Codes will be relevant also for operators to comply with their environmental protection licences relating to exploration and production activities that are subject to oversight by the NSW Environment Protection Agency.
- Failure to comply with the Codes, being a failure to comply with conditions of title, can result in enforcement action being taken against the titleholder, including prosecution or title suspension or cancellation.
- The *Petroleum (Onshore) Amendment Bill 2013*, amongst other things, will further strengthen enforcement of the Codes by extending the powers of inspectors for compliance purposes and empowering the Director-General or an inspector to give directions to titleholders to comply with title conditions, extending the range of offences for breach of conditions of title to officers of a title holder as well as a title holder.
- The NSW Government commissioned the NSW Chief Scientist and Engineer to undertake a comprehensive independent review of the CSG industry. Professor O'Kane released her initial report on 30 July 2013. That initial report found the CSG industry can be "effectively managed through high standards of engineering, rigorous monitoring, and supervision of operations". It calls for further research into environmental impacts.
- The report recommends commitment to CSG extraction, under the following conditions:
 - the NSW Government commits to establishing a world class regime for CSG extraction that requires the industry to follow world's-best practice
 - a comprehensive and accessible data-repositories for environmental data (providing information and transparency) be established and maintained
 - a pre-major CSG subsidence baseline be calculated
 - industry participants must be trained and certified
 - the NSW Government should continue and extend its role as champion of research into the difficult under earth issues.
- The final report is due in 2014.

- While there is no specific regulation of fracking for shale gas purposes, any exploration for shale gas in NSW would be subject to the same licensing and regulatory regime under the *Petroleum (Onshore) Act 1991* and the associated environmental and project development approval process. *The Fracture Stimulation Code* states that it does not apply to fracture stimulation for the purposes of shale gas except at the discretion of the department. We consider that should shale gas exploration commence in NSW in earnest, then that participants in this sector should expect that it is likely the Codes and many of the other conditions being developed around fracking for CSG will apply.

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Victoria

- On 24 August 2012, the then State Energy and Resources Minister Michael O'Brien announced a moratorium on fracking and a halt on the granting of new CSG exploration licences.
- A ban on the use of BTEX[^] chemicals in hydraulic fracking was announced on the same date.
- At the time of the announcement it was intended the moratorium would remain in place until the Framework had been presented, and the Victorian Government had considered and responded to the Framework.
- To date, the Victorian Government has not lifted the moratorium. The current Minister for Energy and Resources, Nicholas Kotsiras, has indicated that the Victorian Government will maintain the moratorium until it has considered the Victorian Government's regulatory response to the Framework.

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South Australia

- No specific ban currently.
- Greens have introduced the *Petroleum and Geothermal Energy (Hydraulic Fracturing) Amendment Bill* to ban fracking on:
 - any land used for the "business of primary production" which includes agriculture, pasturage, horticulture, viticulture, apiculture, poultry and dairy farming, forestry and any other business consisting of the cultivation of soils, the gathering in of crops or the rearing of livestock;
 - any "designated zone", including residential land and conservation areas,
 and impose a two-year moratorium on CSG extraction in other parts of the State until health and environmental impacts are investigated.

- No specific separate licensing for fracking for shale gas.

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Western Australia

- No specific ban currently.
- APPEA has published the *WA Onshore Guide for Hydraulic Fracking* (http://wa-onshoregas.info/sites/wa-onshoregas.info/files/APPEA_Code_of_Practice.pdf)
- Department of Mines and Petroleum (**DMP**) commissioned Report on Regulation of Shale, Coal Seam and Tight Gas Activities in WA to analyse capacity of the Petroleum and *Geothermal Energy Act 1967 (WA)* (**PGERA**) to regulate these activities.
- Report released in July 2011 and concluded that PGERA is effective to regulate these activities.
- In September 2011, *Environmental Protection Authority (EPA WA)* released its *Environmental Protection Bulletin No.15 on Hydraulic Fracking of Gas Reserves*. Bulletin lays out possible environmental impacts of fracking and notes role of DMP in regulating these and its interface with EPA WA.
- In May 2012, DMP produced an Information Sheet (Chemical and other substance disclosure details) to explain amendments to the *PGER (Environment) Regulations 2012*. These requirements cover products, additives, chemicals and other substances used for drilling, fracking or other "down-well" petroleum related activities. They are to be incorporated in the environmental plan to be submitted by the operator.
- The use of BTEX chemicals for these activities has also been restricted.
- On 7 August 2013, Standing Committee on Environmental and Public Affairs of WA Parliament established an enquiry into fracking and its environmental impacts.

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Queensland

- No specific ban.
- Fracking stimulation activity required an "environmental authority" under the *Environmental Protection Act 1994 (Qld)* (**EPA QLD**).
- Use and disposal of flowback fluids and water is regulated under the EPA QLD, the *Water Act 2000 (QLD)*, the *Water Supply (Safety and Reliability) Act 2008 (QLD)* and (for CSG) under the CSG *Water Management Policy*. Where drilling/fracking activity results in 'impaired capacity' of a bore, 'make good' measures must be taken

by the tenure holder in agreement with the landholder.

- A 'Code of Practice for Constructing and Abandoning Coal Seam Gas Wells' regulates CSG well design, construction and fluid inputs.
- A ban on the use of BTEX[^] chemicals was introduced in 2010 by amendment to EPA QLD.

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Northern Territory

- No specific ban
- Hydraulic fracturing is considered as a form of exploration for unconventional oil and gas, which requires government approval under the Petroleum Act and Regulations.

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Footnotes

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[^] **BTEX** is Benzene, toluene, ethyl benzene and xylene

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