

2 February 2015

Dear Mr Dupont

Re: Unconventional Gas (Fracking) Inquiry

The Environmental Defenders Office (SA) Inc (“the EDO”) is an independent community legal centre with over twenty years of experience specialising in environmental and planning law. EDO functions include legal advice and representation, law reform and policy work and community legal education.

We appreciate the opportunity to provide a submission to this Inquiry. Many callers to our service have expressed concerns regarding the practice of hydraulic fracturing (“ fracking”), particularly the potential for its use in the State’s South East. These concerns include:

- **High use of limited water resources**
- **Water and air contamination caused by fracking chemicals and gases released from underground reserves and surface spillage**
- **Fracking induced seismic activity**
- **Climate change:** potential for excess methane gas to be released into the atmosphere which contributes to global warming.
- **Clearance of vegetation and consequent loss of biodiversity**
- **Noise pollution**
- **Social impacts on communities**

The key issue with fracking is that it can produce pathways that allow fracking fluid to migrate into groundwater or for gas to leak particularly into the atmosphere. Underground connectivity can cause loss of groundwater. The risks can be greatest if there is incomplete knowledge regarding the underlying geology and groundwater in a region where fracking may be carried out. The risks can be reduced by careful planning and testing. However if damage is done it is most likely to be irreversible.

Much research into these risks has occurred particularly in the United States and Europe. However there are gaps in our knowledge and there may be further risks that we are currently unaware of. This submission will focus on the effectiveness of key aspects of the South Australian regulatory scheme, rather than the scientific issues arising out of the fracking process.

Executive Summary

Any fracking operations undertaken in South Australia should be subject to the strongest possible regulatory regime, learning from the experiences of other jurisdictions. In our view the South Australian scheme, primarily under the *Petroleum and Geothermal Energy Act 2000* (the Act) and associated Regulations, has significant flaws. This submission focusses on the Act but acknowledges that other legislation such as the *Environment Protection Act 1993* also has application.

In addition a number of policies and guidelines have been developed since the introduction of the Act to guide its operation. There are also several Administrative Agreements in place between the Department of State Development (the lead regulator) and Department of Planning, Transport and Infrastructure, Department of Environment, Water and Natural Resources, SafeWork SA and the South Australian Environment Protection Authority (EPA).

In our view the South Australian regulatory regime is too strongly reliant on operator self-management, has a conflicted lead regulator and lacks transparency. The regime fails to establish international best practice in relation to permitting, well construction, water management and monitoring, chemical use and disclosure and public participation.

Given the weaknesses in the regulatory regime, potential environmental and health risks effects and gaps in our knowledge base about these risks the EDO is of the strong view that the precautionary principle should be applied with the result that there is an immediate moratorium on petroleum operations utilising hydraulic fracturing.

The 1992 Intergovernmental Agreement on the Environment (IGAE) signed by the Commonwealth, State and Territory governments states that ;

“In the application of the precautionary principle, public and private decisions should be guided by;

- (I) Careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment; and
- (II) An assessment of the risk-weighted consequences of various options.

A moratorium will enable a careful evaluation to be undertaken of all aspects and possible impacts of the fracking process. Moratoriums have been implemented recently in Germany and France. In January this year a committee of British lawmakers strongly recommended a national moratorium on fracking due to environmental concerns ahead of a vote on legislation designed to further promote unconventional gas extraction. The cross-party Environmental Audit Committee examined the effect of government policy on the environment. Their report found the extraction and burning of more fossil fuels was contrary to Britain's pledge to cut greenhouse gas emissions. The Committee warned that fracking posed uncertain risks to public health, air quality, and water supplies. Locally moratoriums have been implemented in Victoria and Tasmania.

1. DECISION MAKING

The Act should have as its primary objective the sustainable development of the petroleum industry. Whilst the Act does provide that the Minister must have regard to and seek to further the objects of the *Natural Resources Management Act 2004*¹ we recommend amendment to require the Minister and their delegates when making decisions to act consistently with these objects and the environmental objectives in Parts 1 and 12 of the Act.

The Minister and their delegates should also make decisions based on objective or criteria based tests for environmental outcomes. The Minister should also have regard to the climate change and cumulative impacts of proposals. Strategic decisions must be made on a whole of catchment or aquifer scale.

Finally, but very importantly the Minister is currently not required to consult any other Minister or Ministers when making their decisions. We recommend a consultative process as set out in the *Environment, Protection and Biodiversity Act 1999* (Cth). Furthermore the Environment Minister should have a right of veto in relation to high impact proposals.

Recommendations:

The Act be amended to:

- a. Make the primary object of the Act the development of the petroleum industry in a way that ensures South Australia's unique environment is not adversely affected***
- b. Require the Minister and all agencies and persons involved in the administration of the Act to;***
 - act consistently with the objects in Parts 1 and 12 of the Act and the objects of the Natural Resources Management Act 2004;***
 - take into account climate change impacts;***
 - take into account cumulative impacts, or potential cumulative impacts of petroleum operations and;***
 - use objective criteria when making a decision whether or not to approve a project.***
- c. Provide that the Minister consult other relevant Ministers be consulted with respect to and the Environment Minister to have the power of veto and;***
- d. Change the definition of "environment" to include:***
 - ecosystems (whether marine or terrestrial) and their constituent parts, including people and communities;***
 - the ecosystems existing within a bioregion or sub-bioregion²;***
 - natural and physical resources;***

¹S95

² <http://www.environment.gov.au/topics/land/national-reserve-system/science-maps-and-data/australias-bioregions-ibra>

- *the qualities and characteristics of locations, places and areas;*
- *heritage values of places; and*
- *the social, economic and cultural aspects of those matters referred to above.*³

2. REGULATORY AUTHORITY

A key issue in South Australia is the lack of an independent regulator. Currently everything from the approvals of exploration licenses through to production and environmental regulation is conducted by the Department of State Development (DSD) albeit in consultation with other bodies such as the EPA where relevant. This is also the case in other states, but has attracted wide criticism due to the ‘inherent conflict of interest (with having the license issuer) also acting as a de-facto environmental regulator.’⁴ This issue of regulatory capture does not assist with transparency and community confidence in the regulatory system.

The Act does not clearly define the roles, responsibilities and powers of the DSD, other relevant departments and the EPA. This issue is somewhat covered in the various Administrative Arrangements referred to earlier. However broadly speaking these documents refer to other departments and the EPA only having the power to make comments and recommendations on proposals.

In addition, the DSD/EPA Administrative Agreement does not state what is to happen if the EPA disagrees with a low impact categorisation by the DSD. Clause 4.2 provides that the EPA can write to the DSD with its concerns but in the end it appears that the final word rests with the DSD. This reinforces our concerns in relation to regulatory capture as classification determines the level of environmental impact assessment (EIA) to be carried out including public consultation as detailed below.

For these reasons the EDO recommends that the EPA have responsibility for the assessment process, approval of environmental plans and enforcement,

In addition, given the significant knowledge gaps that remain relating to underground water resources, the impacts of climate change and the long term impacts of hydraulic fracturing operations, the State government should have recourse to an independent scientific advisory body to ensure decisions are informed by the best available science.

Finally, the EDO recommends the creation of a Land and Water Commissioner which would have unfettered oversight and community advisory role with respect to exploration across the State. The Commissioner would have the ability to review any exploration approval and

³ definition of environment adapted from the definition in s 528 of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth)

⁴ Draft Gas Fracking regulations fall well short of protecting the environment, water and public health – Conservation Council of Western Australia: <http://ccwa.org.au/media/draft-gas-fracking-regulations-fall-well-short-protecting-environment-water-and-public-health-0>

advise the State government and the community whether projects have been assessed in accordance with the regulatory and legislative framework.

Recommendations:

The Act be amended to;

- a. Transfer to the EPA responsibility for environmental assessments, approval of environmental management plans and compliance actions in relation to breach of environmental obligations;**
- b. Provide for the establishment of an independent scientific body similar to the Independent Expert Scientific Committee on Coal Seam Gas and Large Mining Development, to provide expert, independent scientific advice to decision makers on the impact of unconventional gas projects that may impact on South Australia's water resources; and**
- c. Provide for the establishment of an independent South Australian Land and Water Commissioner to assist the State Government in the periodic review of the regulatory regime for petroleum. The first task of this multi stakeholder body would be to undertake a comprehensive review of the current regulatory regime for petroleum operations.**

3. ASSESSMENT AND OPERATOR REQUIREMENTS

The EDO is of the view that the regulatory processes in the Act are not sufficient to adequately protect communities and the environment. The EDO recommends that operators be required to act in accordance with mandated codes of practice or regulations instead of the current non prescriptive process of operator led preparation of Environmental Impact Reports (EIR) , Statements of Environmental Objectives or other EIA documents.

Recommendations:

1. EIA should be undertaken by independent assessors overseen by the EPA. An EIA fund could be set up with contributions from proponents.
2. A Code of Practice be developed for Unconventional Gas Fracture Stimulation Activities and a Code of Practice for Shale Gas Well Integrity. These should set out the most up to date proven, cost-effective technology, practices and requirements for the industry both nationally and internationally. The Codes should cover mandatory requirements in relation to;

- Management Plans
- Stakeholder Consultation and Access to Information
- Fracture Stimulation Design
- Risk Assessment
- Safety
- Use of Chemicals in Fracture Stimulation
- Water Resource Protection
- Management of Flowback Water
- Monitoring
- Incident and Emergency Response (including prompt and appropriate notification to the community)
- Completion Reports
- Record Keeping
- Workers' qualifications and skills

Key matters to be included;

- case-by-case assessment of the implications of proposed operations on groundwater quality and quantity which takes into account hydrogeological conditions at a site and then specifies the level of engineering and oversight required to manage, monitor and maintain well integrity and zonation throughout the life of the operations.
- objective factors for consideration when decisions impact on groundwater.
- Prior to any activity proceeding there is to be full disclosure of the composition and disposition of well stimulation fluids which includes , but is not limited to, hydraulic fracturing fluids, acid well stimulation fluids, and flowback fluids.
- community rights to object to use of components in fracking fluids
- community rights to challenge trade secret protection
- ban on the use of additives containing BTEX compounds
- ban on the use of evaporation ponds and injection wells for the disposal of extracted water.
- permissible proximity of wells to underground water sources;
- the type, frequency and location of baseline water sampling(pre and post operations);
- public reporting and periodic monitoring requirements of baseline water sampling;
- public reporting on all incidents
- public reporting on all completed activities, detailing the actual amount of water used, and the methods used to dispose of waste water

- objective specifications for wells and well casings to ensure their integrity, and the geologic and hydrologic isolation of the oil and gas formation during and following well stimulation treatments,
- objective specifications for well monitoring and reporting, pressure testing and reporting, reporting of seismic activity, tank specifications, well abandonment specifications and well and operation area rehabilitation requirements.
- publicly available water management plans detailing the expected quantity of water required, location of the water source to be used, details of the groundwater extraction licence held by the company, details (prior to commencement of operation) of how waste water will be dealt with during and on completion of a well.
- standards of equipment required to be used and methods and requirements for monitoring and testing of air quality and;
- objective measures for fugitive emissions, ambient air quality, flaring and monitoring and reporting of data to demonstrate compliance with emission standards.

4. COMMUNITY ENGAGEMENT AND LANDHOLDER RIGHTS

Community Engagement

Community engagement is an issue of concern for many of our clients. One of the objectives of the Act is to “establish appropriate consultative processes involving people directly affected by regulated activities and the public generally”⁵. Giving affected members of the public meaningful rights recognises the often high level of impact that operations under the Act can have on a community’s wellbeing. Operators make profit by exploiting a public resource. It is therefore appropriate that the community has rights to participate in decisions and ensure decisions are accountable. As a minimum there should be clear and open communication at all times.

The Act only requires formal consultation with respect to medium and high impact proposals⁶. There is no consultation on low impact proposals, licence applications nor the appropriate impact classification of a proposal.

Notification of proposals is problematic. With respect to medium and high impact proposals notice need only be in newspapers circulating generally throughout the State. This is an out of date method of notifying the public. The Act should incorporate more up to date methods of communication with the public in order to improve public confidence in the regulation of proposals under the Act.

The Act does not provide for public rights to appeal decisions made on proposals nor enforcement of project conditions. The type of projects assessed under the Act potentially pose grave risks to the environment and therefore it is in the public interest that there is full scrutiny of such proposals. Appeal rights enable the costs and benefits of proposed

⁵ S3(e) of the Act

⁶ S102, 103 of the Act and Part 8 of the Development Act 1993

operations to be reviewed in a transparent manner in the State's Environment, Resources and Development Court. With such appeals the rule that each party bears their own costs should apply.

Recommendations;

- 1. Develop an effective community participation involvement program which includes parties whose rights may be directly and adversely affected by the nature and extent of a proposed activity**
- 2. Establish a multi stakeholder advisory committee which assists consultation and allows community recommendations to be considered and implemented**
- 3. Develop a Landholder Information Package – to be provided to landowners, occupants and land managers likely to be affected by proposed activities**
- 4. All proposals be subject to public consultation not just those classified as medium or high impact**
- 5. Notification of proposals to proceed by way of up to date methods of communication**
- 6. Third party merits review rights of decisions made under the Act in the Environment, Resources and Development Court with the rule that each party bear their own costs to apply for private prosecutions; and**
- 7. Third party enforcement rights**

Landowner Rights

Landowners have limited rights to oppose activities that have been lawfully approved. Proponents have to provide a notice of entry to a landowner. A notice of entry must meet certain criteria. Landowners can object to entry by providing a "notice of objection" within 14 days of notice of entry. Mediation may occur or disputes are resolved in court. Landowners have a right to compensation in relation to certain matters.

A key problem with this system is that once the 14 day period has expired, a land owner no longer has any say in the activities which are carried out on their land. More concerning is that if landowners have serious concerns about proposed activities they have no right of veto.

In New South Wales, SANTOS, AGL and landholder representatives have come to the *Agreed Principles of Land Access*⁷ whereby landowners are at liberty to veto operations on their land without criticism, pressure, harassment or intimidation. Gas companies have confirmed that they will respect the clearly expressed view that operations on their property would be unwelcome; and that third party interference with any agreed operations is unwelcomed. This ultimately provides the individual land owner with the right to determine which activities are carried out on their land. Similarly in Western Australia rather than just giving

⁷ http://www.csg.nsw.gov.au/_data/assets/pdf_file/0006/41928/Anthony-Roberts-med-rel-NSW-Government-Welcomes-Agreed-Principles-of-Land-Access-2.pdf

notice, operators proposing exploration or production activities on private land must negotiate a land access agreement, containing the consent in writing of the land owner before approval is granted by DMP.⁸ This ensures that the land owner is aware of the implications of such activities being carried out on their land.

Rather than relying on enforcement of licence conditions, we recommend legislative amendment such that landholder consent via a land access agreement is a prerequisite for applying for both a licence and carrying out activities. We also recommend that operators compensate landholders for reasonable legal costs incurred in negotiating a land access agreement.⁹

Recommendations:

The Act be amended to require:

- 1. landholder's consent to:***
 - drill a well prior to the commencement of any activity and***
 - enter property for the purposes of exploration or production if a relevant court has made a compensation order.***
- 2. operators to compensate landholders for reasonable legal costs in negotiating land access agreements***

8. INVESTIGATION AND ENFORCEMENT

The task of enforcement rests with DSD. The key concept underlying the regulatory scheme is that the basic responsibility for detecting and rectifying non-compliance lies with the licensee or individual, not the regulator. It is essential that any protective measures put in place are both complied with and enforced.

We recommend a precautionary approach be taken in this area such that the onus of proof is on the operator to demonstrate that they were not responsible for any damage to the environment or property.

Recommendation:

The Act be amended to provide for a presumption that any damage from activities regulated under the Act is caused by the operator.

9. RELATIONSHIP WITH THE PLANNING SYSTEM

A key question for this Review is whether regulation of these projects under the Act (and indeed all proposals in the extractive industries sector) should be more fully dealt with in the planning system rather than in separate legislation. This means that different systems apply for this sector compared to other developments in important areas such as

⁸ *Petroleum and Geothermal Energy Resources Act 1967* (PGER Act)

⁹ As recommended by the Productivity Commission Draft Report on Mineral and Energy Resource Exploration

environmental impact assessment, community rights and enforcement except with respect to EIA of high impact proposals as noted earlier. In our view consistent planning regulation should apply across all industry. We also note that the Act does not have exempt land provisions as are provided for in the *Mining Act 1971(SA)*¹⁰ .

Currently land access and land use decisions are made on a case by case basis. We recommend that South Australia specify mandatory exclusion zones and adopt a Strategic Regional Land Use Policy¹¹ approach as has been used in New South Wales. With this policy Strategic Agricultural Land (SAL) is defined as highly productive land with unique features such as fertile soil, reliable rainfall, high productivity, infrastructure availability or access to markets. There are two categories of SAL; Biophysical Strategic Agricultural Land, which is categorised based on the inherent qualities of the land; and Critical industry clusters, categorised based on the land's importance to a highly significant and clustered industry such as wine making and horse breeding.

Once land has been identified as SAL land, this triggers the independent Gateway process, which is undertaken by an independent panel and solely focused on the scientific assessment of land and water impacts on the land, without any consideration of potential socio economic benefits of land development. This Gateway Panel can either issue an Unconditional Gateway certificate if the proposal meets the criteria, whereby it proceeds to the development assessment stage for merit assessment and public consultation or issue a Conditional Gateway Certificate if the proposal does not meet the criteria, and the attached conditions will relate to these failures. Proposals still proceed to the development assessment stage for a merit assessment. Identifying areas as Significant Agricultural land elevates both the perceived value of protection and the level of regulation of such land.

Recommendations:

- 1. Specify mandatory exclusion zones with offence provisions in relation to prime agricultural land***
- 2. Identify areas of high value land where petroleum operations should not be permitted, or are required to undergo additional / more stringent assessment. This could be achieved by:***
 - a. Developing objective criteria for the assessment of high value reserved areas;***
 - b. Permitting members of the public and local councils to make applications for certain areas to be reserved from petroleum activities and;***
 - c. Establishing a task force, which includes community representatives, to resolve land use conflicts over the siting of gas extraction facilities***

¹⁰ S9AA

¹¹ http://www.nsw.gov.au/sites/default/files/strategicregionallandusepolicy-brochure_sd_v01.pdf

Please advise if you require clarification on any of the issues raised in this submission.

Yours faithfully

A handwritten signature in cursive script that reads "M Ballantyne". The signature is written in dark ink on a light-colored background.

Melissa Ballantyne - Coordinator/Principal Solicitor- Environmental Defenders Office (SA)
Inc.

