

Northern Territory Government: Inquiry into Hydraulic Fracturing:



EDO Northern Territory Report – Executive Summary + Recommendations Best Practice Regulatory Frameworks for Hydraulic Fracturing Operations.

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ENVIRONMENTAL
DEFENDERS OFFICE (NT) INC.

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Executive summary

Recently, the pros and cons of having an intensified natural gas industry in the Northern Territory (NT) have been widely debated throughout the community. Central to this debate has been the controversial process of hydraulic fracturing 'fracking'. Community division over the issue and concerns about the practices potential impacts on public health, the environment and water resources led the NT Minister for the Environment, The Hon Peter Chandler, to recommend an independent inquiry. In March 2014 the NT Hydraulic Fracturing Inquiry was established.

This report provides a comparative analysis of regulatory regimes for 'fracking' operations used throughout other jurisdictions in Australia and highlights some examples from the United States of America and Canada. This report does not indicate that the Environmental Defenders Office NT (EDONT) supports the use of 'fracking' in the NT. On the contrary, EDONT believes that the NT Government should be supporting renewable energy options wherever possible. Having said that, if 'fracking' operations are to occur in the NT they should be overseen by the strongest possible regulatory regime, learning from the experiences in other jurisdictions. It has become clear during the research and analysis presented in this report that any assertion that the NT has a 'best practice' or 'strong' regulatory regime cannot be maintained. The NT's regulatory regime is characterised by strong reliance on operator self-management, subjective regulator or Ministerial decisions and a lack of transparency. In EDONT's view, the NT's regulatory regime fails to establish international best practice in relation to permitting, well construction, water management and monitoring, chemical use and disclosure and public participation.

Overall conclusion

Having completed an extensive review of regulatory regimes, both in Australia and internationally, which apply to operations utilising hydraulic fracturing it is our overarching conclusion that the Northern Territory regulatory regime applying to petroleum requires a complete overhaul. The regime in the Northern Territory, as it currently stands, is apt to be flouted by any unscrupulous operators that are granted a permit.

Given the above, it is our strong recommendation that a moratorium on petroleum operations, utilising hydraulic fracturing, be put in place until such time as a new regulatory regime is put in place. In our view, the benefits of waiting until strong regulatory protections are put in place, far outweigh any economic benefits that may be derived from pushing ahead with the current weak regulatory regime.

The recommendations below, are recommended amendments to current legislation, however, they are equally applicable to any new legislation created as an overhaul of the regime for petroleum exploration and production in the Northern Territory.

Specific concerns:

- The *Petroleum Act*'s objects seek to place economic interests above environmental protection. Most jurisdictions in Australia now recognise that environmental protection should be an object of petroleum legislation. Additionally, there is no specific requirement for the Minister to consider the need to preserve and protect the environment.
- The absence of a mandated requirement in the NT for operators to undertake baseline testing and post operation testing. Best practice jurisdictions in the United States, like Colorado now mandate this kind of sampling, detail how sampling is to be undertaken and at what timeframes.
- The absence of a defined policy dealing with the protection of underwater water resources. In NSW the *Aquifer Interference Policy* (AIP) sets out objective factors to assess potential impacts on aquifers. For projects assessed under the NSW Gateway process, reports under the AIP are to be made public.

- The absence of a strategic planning assessment of areas of land in the NT which may be unsuitable for 'fracking' operations. This can be compared with the approach taken in NSW under the *Strategic Regional Land Use Policy*.
- The absence of mandated requirements for emissions and air quality from 'fracking' operations in the NT. Best practice jurisdictions in the United States, like North Dakota and Colorado place explicit requirements on operators with relation to fugitive emissions, ambient air quality testing and flaring requirements. (see North Dakota 'Air Pollution Control Rules').
- That operators in the NT are required to act in accordance with 'good oilfield practice', rather than mandated codes of practice or regulations.
- The absence of mandated requirements for chemical disclosure. EDONT notes that a chemical disclosure list is found on the Department of Mines and Energy website, however, this would appear to be a policy of the government, rather than a legislative requirement.
- The fact that application documents, technical programmes (or at least environmental management plans) are not publically available. This can be compared with the comprehensive requirements for public information in Western Australia, which requires public disclosure of all environmental management plans. In Illinois, all documents submitted as part of an application are viewable by the public.
- The fact there are no third party appeal rights in relation to any permits or licences granted under the *Petroleum Act*.
- That evaporation pits are able to be used in the NT, despite the obvious challenges associated with large parts of the NT being subject to wet season high rainfall activity. We note that this practice has been banned in NSW and the STRONGER guidelines encourage a move away from this practice.
- The absence of mandated and specific technical requirements for the construction of any pit, tank or other facility designed to store produced or waste water. In most other jurisdictions, these requirements are detailed at great length. For example, see section 1-75 of the *Illinois Hydraulic Fracturing Regulatory Act*.
- The failure to take any steps in the NT to classify operators and activities by their level of risk. This can be compared with the procedure under the South Australian *Petroleum and Geothermal Energy Act* (2000) which regulates both operators and activities differently, according to their assessed level of risk.
- The fact that the NT regulatory regime does not appear to have specifically designed requirements to manage the impacts of the NT's unique climatic features on fracking operations. These conditions, if imposed, are done so via permit or licence conditions. This is at odds with the recommendations in the STRONGER guidelines.
- The fact the NT regulatory regime, particularly, the *Petroleum Act* does not require consideration of cultural matters. This can be compared with the NSW approach, at section 74, which requires the Minister to consider certain matters, including features of Aboriginal interest, before granting a permit.

Context and Recommendations

Definition of 'environment'

EDONT considers the definition or concept of 'environment' to include:

- a) ecosystems (whether marine or terrestrial) and their constituent parts, including people and communities;
- b) the ecosystems existing within a bioregion or sub-bioregion¹;
- c) natural and physical resources; and
- d) the qualities and characteristics of locations, places and areas; and
- e) heritage values of places; and
- f) the social, economic and cultural aspects of a thing mentioned in (a)(b)(c)(d) and (e) above.²

EDONT notes the particular importance of taking a bioregional approach to assessments for activities involving hydraulic fracturing.

A bioregional assessment is a scientific analysis of a particular area including its ecology, hydrology, geology and hydrogeology, with explicit assessment of potential direct, indirect and cumulative impacts of coal seam gas and large coal mining development on water resources.³

Recommendations

1. OBJECTS OF THE ACT

The Act's objectives be amended completely to shift the priority of the Act from economic development to environmental protection: This should be achieved by:

- a. Making the primary object of the Act to provide for development of petroleum resources in the Territory in a way that ensures the Territory's unique environment is not adversely affected.
- b. Requiring that the Minister and all agencies and persons involved in the administration of the Act must have to, and seek to further, the primary objective.
- c. Explicitly requiring decision makers to take into account the principles of ecologically sustainable development.
- d. Requiring that decision makers take into account cumulative impacts, or potential cumulative impacts of petroleum operations.

2. INTEGRATED APPROVAL PROCESS

The Act should be amended to specifically reference the relevant provisions of the associated legislation with which approvals must comply.

3. AIR QUALITY

¹ <http://www.environment.gov.au/topics/land/national-reserve-system/science-maps-and-data/australias-bioregions-ibra>

² definition of environment adapted from the definition in s 528 of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth)

³ <http://www.csiro.au/Organisation-Structure/Flagships/Water-for-a-Healthy-Country-Flagship/Water-Resource-Assessment/Bioregional-Assessments.aspx>

Regulations or a Code of Practice⁴, with legislative force, must be incorporated into the regulatory regime and provide for permissible standards of air quality. The Code should set out standards of equipment required to be used and methods and requirements for monitoring and testing of air quality. The Code or Regulation should provide objective (enforceable) measures for:

- a. fugitive emissions;
- b. ambient air-quality; and
- c. flaring.

4. PROTECTION OF GROUNDWATER

Regulations or a Code of Practice⁵, with legislative force, must be incorporated into the regulatory regime and provide for greater protection of groundwater resources. The Code should:

- a. set out objective factors in relation to groundwater that must be considered prior to the issue of a petroleum permit;
- b. ban the use of open evaporation pits as a method of disposing of waste water;
- c. set out permissible proximity of wells to underground water sources;
- d. set out the type, frequency and location of baseline water sampling and its reporting and periodic monitoring requirements; and
- e. mandate case-by-case assessment of the implications of proposed fracking on groundwater quality and quantity. This assessment should take into account hydrogeological conditions at a site and then specify the level of engineering and oversight required to manage, monitor and maintain well integrity and zonation throughout the life of the operation.

5. TECHNICAL SPECIFICATIONS

The technical specifications in the *NT Schedule of Onshore Petroleum Exploration and Production Requirements* should be updated, expanded and put into a code of practice or regulations with legislative force. Objective specifications should be set for:

- a. well casings;
- b. well monitoring and reporting;
- c. pressure testing and reporting;
- d. reporting of seismic activity;
- e. tank specifications (and pond specifications for use in emergency only);
- f. well abandonment specifications; and
- g. well and operation area rehabilitation requirements.

⁴ Regulations and Codes of Practice with specific requirements should replace the ambiguous and unenforceable requirement to act in accordance with 'good oilfield practice.

⁵ As above, at 4.

6. WATER USE & WASTEWATER MANAGEMENT

Petroleum activities should be more strictly regulated and transparent in terms of their water use, this should be achieved by:

- a. amending the *Water Act* to remove Petroleum activities exemption from the requirement to obtain groundwater extraction licences;
- b. mandatory requirements for all Petroleum applications to include a publicly available water management plan detailing:
 - i. the expected quantity of water required;
 - ii. location of the water source to be used;
 - iii. details of the groundwater extraction licence held by the company;
 - iv. details (prior to commencement of operation) of how waste water will be dealt with during and on completion of a well.
- c. requiring public reporting on all completed activities, detailing the actual amount of water used, and the methods used to dispose of waste water.

7. STRATEGIC LAND-USE PLANNING

The regulatory regime should identify areas of high value land where petroleum operations should not be permitted, or are required to undergo additional / more stringent assessment. This should be achieved by:

- a. Developing objective criteria for the assessment of high value reserved areas; this will avoid subjective Ministerial decision-making;
- b. Permitting members of the public and other local councils to make applications for certain areas to be reserved from petroleum activities.

8. INDEPENDENT SCIENTIFIC EXPERTISE

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 Northern Territory government should have recourse to an independent scientific advisory body to ensure decisions are informed by the best available science. We recommend:

- a. That an independent scientific body be established, 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 shale gas projects that may impact on the Northern Territory's water resources;⁶ and
- b. The establishment of an independent Northern Territory Petroleum Commission which, similar to the State Review of Oil and Gas Regulation, should be a multi stakeholder body which should assist the Northern Territory Government in the periodic review of the regulatory regime for petroleum in the Northern Territory. Its first task would clearly be to assist in the complete overhaul of the current regulatory regime for petroleum operations.

⁶ The most sensible way to achieve this may be via an amendment to the Commonwealth *Environment Protection and Biodiversity Act* 1999 to expand the water trigger at s 24D to include shale gas projects.

9. TRANSPARENCY

Measures should be put in place to ensure that the regulation of petroleum operations in the Northern Territory is a transparent process. The EDONT recommends that:

- a. the Act be amended to provide rights for third parties to seek merits review of decisions made under the Act at the Northern Territory Civil and Administrative Tribunal;
- b. that the Act be amended to mandate that all environmental management plans, and all parts of technical programmes that are not commercial in confidence be made available to the public;
- c. the the Act be amended to require the Department of Mines and Energy to keep a publicly available register of the security held for the rehabilitation of each well; and
- d. that the Act be amended to provide for mandatory reporting of chemicals used and their quantities.

10. REGULATION AND ENVIRONMENTAL COMPLAINCE

The environmental compliance regime under the Act should be completely overhauled by:

- a. amending the Act to give the Northern Territory Environmental Protection Authority (NTEPA) responsibility for:
 - i. environmental assessments and approval of environmental management plans;
 - ii. compliance actions in relation to breach of environmental obligations.

The NTEPA should be given sufficient resources to effectively oversee these new powers and responsibilities.

- b. providing for private prosecutions; and
- c. by including a provision which provides that a petroleum operator bears the onus of proving that any water contamination/pollution within a certain proximity of its operations were not caused by it.

11. OPERATOR STANDARDS

The Act should provide stronger provisions for the assessment of operator suitability by:

- a. requiring an assessment by the Minister of whether an applicant is a fit and proper person. The test should set objective criteria that must be assessed by the Minister in coming to his conclusion about whether an applicant is a fit and proper person; and
- b. classifying operators as either low or high risk (with a corresponding level of regulatory oversight/scrutiny), depending on their experience and track record. EDONT notes that a provision of this kind will only be effective if the regulator is adequately resourced.