

fracking inquiry

From: Peter Dart [REDACTED]
Sent: Friday, 19 January 2018 10:08 PM
To: fracking inquiry
Subject: Draft Final Report NT Fracturing Inquiry
Attachments: Dart Submission to the Draft Final Report NT Fracturing Inquiry.docx

From: Peter Dart
Sent: Friday, 19 January 2018 10:23 PM
To: 'fracking.inquiry@nt.gov.au.' <fracking.inquiry@nt.gov.au.>
Subject: Draft Final Report NT Fracturing Inquiry

Dear Inquiry Secretariate, please find my comments on the Draft Final Report of the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory. I would be happy to dialogue/expand upon the points I raise if this would be of any assistance to the Inquiry. Thanks for giving me the opportunity to be involved in the process. The draft report is an excellent and very thorough and fair appraisal of the situation.

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Submission to the Draft Final Report of the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory.

Associate Professor Peter Dart (BscAgr; PhD), University of Queensland.

The Report has very clearly and comprehensively dealt with the issues involved. My comments deal with the issue of monitoring any shale gas and fracturing process by the industry and Government to ensure that the process operates in the manner intended by this Inquiry Report which rightly is based on the precautionary principle when evaluating the potential risks to the environment.

As well as technical competence of the drilling companies, the major issue in ensuring damage to the environment is minimised, is appropriate Government regulation and adequate technical staff capacity to assess mandated self reporting by the UCG companies of “incidents” and the data from any required regular monitoring of the well integrity, water and contaminant movement and methane fugitive emissions. As well as staff capacity to *assess and regulate* EIS issues and reports from the shale gas companies, the NT Government also needs the costly and difficult to obtain expertise to *monitor* the shale gas and oil field operations.

The Inquiry lists the Technical Communication on “Onshore Gas Integrity” of the Gasfields Commission Queensland (GCQ 2015) as does the CSIRO “Report into the shale gas well life cycle and well integrity” as the basis for the risk assessment around UCG wells. The GCQ report deals with incident self reporting by the CSG companies for wells which are much less than 1km deep. The Environment Institute of Australia and New Zealand (of which I was a member) at this time expressed their concern about the lack of capacity within the Queensland Department of Environment and Heritage Protection to undertake any on-site or even desk based evaluation of the technical reporting by the CSG Companies. The Director of the Environment and Heritage Protection Department at this time said in a presentation to the EIANZ “It’s not our job to worry about whether a client can achieve the outcomes that EHP would set”. This led to the use of consultant support to evaluate reports. Consultants were often associated with CSG companies and the relevant Government Department did not even have the technical capacity to evaluate consultants’ competence.

The issue of Government capacity to monitor the UCG development in the NT is critical. Establishing the required technical and professional capacity to first of all develop appropriate legislation and then operate to ensure compliance is going to be very difficult for the NT Government because of cost and availability of the needed skills. It cannot be done adequately even in Queensland with a mining activity level and human population many times greater than that in the NT. As part of the Newman LNP Government policy c. 14,000 public servant positions were terminated with a considerable loss of senior people who were required to administer the regulations around the CSG developments. The GCQ has lost its technical staff and its funds have been reduced. The Petroleum and Gas Inspectorate was renamed, reduced in size and moved from Toowoomba to Brisbane to the Department of Natural Resources and Mines.

Some well casings will fail in time and the issue is what level of failure is acceptable and how should potential resulting environmental damage be remediated. The risk to groundwater sources from shale gas well integrity failures in the USA has been clearly outlined by Jackson et al (2014). Will NT Shale Gas drilling operations be better conducted than in the USA?

A relevant issue is the competence of well drilling contractors to the UCG companies. This was/is a major issue with CSG wells in Queensland. Anecdotal evidence from the owner (20 years) of the drilling company ACM Exploration with 25 years experience operating in Queensland mainly in the Bowen Basin and who was an industry trainer, and from colleagues in the School of Chemical

Engineering at UQ, is that there were not enough drilling companies with relevant expertise and availability even in Queensland to consistently drill and case CSG wells to the required standard. This has reportedly improved but it took time.

However finding enough competent trainers for CSG well drilling is also an issue. It takes a minimum of 4 to 5 years for staff to gain the experience needed for the drilling procedures required to manage shale gas well drilling to the standards required. A major issue as also admitted by Origin is the integrity of the cement casing and the joins between metal pipes and their specification regarding pressure tolerance. Fracturing puts the pipe system under an increased pressure and hence potential to fail. It is a very complicated procedure to case a well properly. The regular monitoring of the casing should be required and needs appropriate equipment and skills to interpret the data.

It is of interest that unconventional Gas extraction in the Cooper Basin is proposed to be undertaken without fracturing by Senex Energy Ltd in their joint venture partnership with Origin (Senex Annual Report 2017).

Jackson, RB, Vengosh A, Carey JW, Davies RJ, Darrah TH, O'Sullivan F, Petron G. 2014. The environmental costs and benefits of fracking. *Annu Rev. Environ. Resour.* 39, 327-62