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Hydraulic Fracturing Inquiry
GPO Box 4396,
Darwin, NT 0801

Submission to Inquiry into Hydraulic Fracturing in the Northern Territory

I make this submission to the scientific inquiry into unconventional gas and hydraulic fracturing in the Northern Territory.

Congratulations on undertaking this. I hope that many of the questions and controversy on this important issue will be resolved.

My background

I am a retired chemical engineer with a second degree in economics. Since the early 1970's, my job was to evaluate the viability of projects – to see whether they “worked” from a technical, environmental and commercial viewpoint, to get the good ones approved and the bad ones rejected.

In the 1960s and early 1970s, I worked in chemical manufacturing in Australia and New Zealand, but from 1977 to 2006, I was employed in the upstream oil and gas industry. This was primarily in onshore and offshore Australia, with some work on Asian and north African projects.

Since retirement, I have consulted on Australian petroleum projects, including tight gas in the NT, lectured at university, and have given training courses around Australia, in Indonesia, and currently to Bangladeshi government officials.

Comments on Fracture Stimulation of Tight Gas

Your background paper provides a good summary assessment of shale gas: it is in low permeability rock that needs to be treated to flow, and it is deep and well away from potable water resources. The very presence of gas in an accumulation, whether it be unconventional or conventional, is evidence that the structure has been stable over geological periods.

In drilling and developing any well, there are changes to the geological system: a hole is drilled through the layers of rock, the reservoir may need to be fractured using introduced fluids, and production lowers the reservoir pressure.

Good oilfield practice requires cementing between the rock and steel casing to prevent fluid leakage around the casing. It is essential that loss of fluids to the surrounding rock be minimised during drilling and fracturing, and that the fluids not be harmful, whether by chemicals or by introduction of bacteria. Reduction in reservoir pressure needs to be monitored and managed.

It is true that there is some risk in production of gas and oil – both in conventional and unconventional reservoirs. No human activity is completely risk-free. However, there is overwhelming history from millions of oil and gas wells showing that good engineering and good governance has resulted in very few problem projects.

Overlying the efforts of the drillers and producers of gas, there must be a robust and effective regulator to look after the interests of the community and the environment.

Economic Impact of Uncertainty About Fracturing

In addition to the obvious loss of energy security and economic benefits from reduced production of petroleum, there is a serious impact on construction of infrastructure such as processing facilities and pipelines. This has already impacted on the pipeline being built by Jemena from Tennant Creek to Mt Isa: its diameter was reduced from nominal 14 inch to nominal 12 inch. Allowing for corrosion, that diameter reduction reduced the capacity by 30%. Not only did the capacity decrease but also, due to loss of economies of scale, the cost per unit of throughput increased by 20%!

Jemena's decision to lower the pipeline size was because there were "not enough NT gas producers who (were) ready to commit to delivering gas to customers to be able to economically justify a larger pipeline". The producers' lack of support was because the ALP had proposed a moratorium on fracking if elected to government: there was a financial risk to the producers that they would not be able to develop tight gas resources. Jemena's decision was totally rational. The explorers could not afford to explore.

The result is that the Jemena pipeline now being built will be a bottleneck on future production and will damage the economics of exploration and production of gas in the NT. Companies, their employees and service providers will lose income, and the NT and Commonwealth governments will lose royalty and taxation income.

Was the ALP's caution justified, or was it driven by attempting to gain votes from an emotional and uninformed public? Your inquiry will collate and provide the necessary information.

I have no problem with governments strongly regulating the industry, provided that their decisions about the risks are based on scientific evidence. I look forward to seeing the results of the inquiry.

Yours faithfully,

John Wilson