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Date: 03/02/2014 10:16 AM  
Subject: Scientific Evidence for Claims Regarding the Safety of the CSG Industry

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To Professor Mary O'Kane  
NSW Chief Scientist & Engineer

Dear Prof O'Kane,

I understand that the time for submissions on CSG operations has passed, but I am writing to ask that you and your colleagues please consider the attached paper in your deliberations.

My report arises from a 14 November 2013 meeting I attended in which Mr Peter Henderson, the CEO of Metgasco, a CSG mining company with PELs in the Northern Rivers, pitched his business to Kyogle's Mayor Danielle Mulholland. Mr Henderson depicted the CSG industry as in all ways safe and beneficial, and made a series of claims presented as fact regarding the nature and safety of the gas mining industry.

Afterwards, Mr Henderson offered to follow up on "health concerns" that I raised at the meeting.

I asked Mr Henderson if he would provide the scientific evidence for his specific claims that CSG operations have been proved to be safe, CSG mined in the Northern Rivers is pure methane and contains no impurities, and there is no benzene in coal seams. I also asked Mr Henderson if he would reconcile the documented situation in Queensland gas fields with his claim that any future local processing of CSG would produce no significant pollution.

My ensuing correspondence with Mr Henderson began a much needed evidence-based public discussion of the potential health impacts of CSG industrialisation in populated areas. The attached paper, "Is CSG Safe? A Failed Debate", reports and comments on Mr Henderson's responses to my questions.

Unfortunately, in my opinion, Mr Henderson did not provide any appropriate scientific evidence to support his claims. If Mr Henderson's five pages of response represent the gas industry's "best scientific case" that their operations are proven to be safe, then they have no real evidence.

In his response, Mr Henderson added the claim that with no processing at all, Metgasco's CSG produced water meets "Australian Drinking Water Guidelines, apart from its salt levels" and "after some salt removal, is suitable for irrigation" and "is suitable for stock watering, even without salt removal." Mr Henderson did not provide any data on local produced water, beyond reassurances that assays in his possession cause him no

concern, but he directed me to AGL's Environmental Health Impact Statement. This showed that in AGL's Camden waste water, arsenic, barium, benzene, and Total Petroleum Hydrocarbons exceeded Australian Drinking Water standards by 10 or more times, and strontium, nickel, lead, bromine, iodine, fluoride, methane, naphthalene, benzo(b)fluoranthene, and benzo(a)pyrene also exceeded guidelines.

As explained in my attached paper, the industry has not undertaken the basic controlled pre- to post-test research on health effects that is essential to establish the safety and efficacy of a new product or process.

There is a glaring inconsistency between pharmaceutical companies having to demonstrate the safety of a new medication with health data obtained from real people, with the approach of the gas industry that eschews the collection of baseline health data and instead relies on "desktop" EIS analyses.

In my opinion, EIS methodology and assumptions might be appropriate for most industrial developments, but they become problematic when applied to proposals to establish industrialised gas fields across large areas of populated, previously rural landscape.

The use of inadequate health guidelines to examine, one at a time, the likely health impacts of each of a large number of pollutants that will be newly released into a rural environment, takes no account of the likely cumulative, synergistic and subtle effects of pollutants which can affect physiological functioning even in minute doses, well below toxic levels.

Your coming report on the CSG industry is going to be hugely important for the long term well-being of rural communities at risk of being exposed to extensive gas field industrialisation.

I respectfully request that you consider my attached paper in your deliberations.

Please do not hesitate to contact me if you require more information, or if I can be of any further assistance.

Yours faithfully,

**Wayne Somerville**

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