



Professor Mary O’Kane  
NSW Chief Scientist and Engineer  
Level 47, MLC Centre  
19 Martin Place  
Sydney, NSW 2000

22 September 2014

**RE: Context**

Dear Professor,

Further to your 1 September 2014 meeting with industry representatives, we agree with you that it is important that future reports on the gas industry put the industry into “context”. We feel that it would be highly appropriate, if not necessary to comply with your terms of reference, for your final report to put the coal seam gas industry in context by making a feature of the following:

- There are currently more than 1,000,000 oil and gas wells producing in the USA today, not including the wells that have been drilled in the last 100 years and are no longer producing. All industries and activities have some degree of risk. There is no indication that associated risks with these 1,000,000 wells are not managed to acceptable levels. The IPAA document, attached, provides testimony to the environmental safety of these wells.
- More than 1,000,000 wells have been fracked in the USA, with limited if any confirmed cases of water contamination or health problems. We note in particular recent US reports about well integrity and groundwater contamination.
- Oil and gas wells are and can be maintained to a very high level – they are not a major source of groundwater contamination. The number of integrity failures is very small (e.g.: 0.004% for new wells). Groundwater contamination is very low compared to other activities. Refer to the attached SPE paper (eg; Figure 14).
- 3000 conventional oil and gas wells have been drilled in Queensland over the last 50 years and about 5,000 CSG wells have been drilled in Queensland over the last 20 years. Like the USA experience, there is no indication that the risks are not managed safely. Indeed, there is no confirmed indication of water contamination or health impacts.
- CSG is essentially just methane. Methane is not toxic, nor does it smell. There is no reason for the community to be concerned about the health impacts of methane. Furthermore, independent, long term health studies show that the health of people exposed to more volatile and dangerous hydrocarbons can be managed safely (AIP Refinery study, attached).
- Methane and other hydrocarbons are referred to as natural gas because they occur naturally. It is quite normal to find methane at different concentrations occurring in

aquifers. I understand that your office has previously advised that 90% of Great Artesian Basin bores have some methane content.

- The volume of water used by the CSG industry compared to overall water resources and other uses is very low. For example, Liz Webb's analysis of the Clarence Moreton Basin shows that Metgasco's CSG activity is likely to take very little water from aquifers compared with other users (one page of Ms Webb's presentation is attached). Furthermore, it should be noted that few users would compete for water from Metgasco's coal seams because of the water's salinity.
- Water produced from coal seam gas operations can be used for a range of different purposes, sometimes without the need for treatment. For example, following a detailed analysis of the water and receipt of studies, including a veterinarian assessment (a copy can be provided), the NSW EPA and Office of Water have accepted Metgasco's untreated CSG water being used for stock purposes.

We strongly recommend that the term "industry best practice" is not used because it lacks definition. Does it mean that Australian industry must employ the extremes, the most risk adverse practices of operations around the world, or does best practice mean the most considered and intelligent management of risks? Applying the most extreme measures could prevent the industry proceeding, or at least dampen its chances.

We also strongly recommend against using words such as "gaps" and "unknowns". All industries and scientific / engineering endeavours have gaps and unknowns, areas in which there are opportunities for research and improvement. The CSG industry should not be taken out of context and expected to meet standards which these other endeavours are not expected to meet.

As per our 18 December 2013 letter to you, we believe there is ample justification for the CSG review to conclude:

"CSG is an industry, which like most other industries has safety, health and environmental risks that can be managed effectively, regulations are in place, and there is no reason from a science or engineering perspective that the CSG industry should not proceed -now."

Regards



Peter J Henderson  
Managing Director and CEO