

Briefing: “Blank cheque” for coal seam gas pollution

The Environment Protection Agency is the subject of a parliamentary inquiry by the Legislative Council. Public submissions to this inquiry close on 29 August. The inquiry is charged with investigating, among other matters, the management of coal seam gas exploration in the Pilliga forest in north-west New South Wales.

One matter that has so far not received public attention is the unlimited licence to emit harmful and carcinogenic chemicals into the air from coal seam gas flaring sites that the EPA has given to Santos in the Pilliga and AGL in Gloucester in recent months. The EPA have issued three Environment Protection Licences for coal seam gas assessment and production. Two of these, Santos’ EPL for exploration in the Pilliga and AGL’s EPL for Gloucester, cover activities associated with extracting gas from coal seam gas wells.

AGL in Gloucester

- The EPL given to AGL (EPL no. 20358) for the Gloucester gas Waukivory project on 6 August covers fracking at five wells and irrigation of a property owned by AGL with produced water from the exploration.
- It gives approval for four flaring locations that will discharge pollution into the air and lists over 90 groundwater, surface water and soil monitoring locations.
- Clause L2.2 of the licence lists a number of harmful pollutants that will be discharged into the air at the flaring points, but **fails to put any limit on the concentration or total volume of these contaminants that will be released**. These include Benzene, Benzo(a)pyrene, Nitrogen oxides, and volatile organic compounds.
- Within the terms of the licence, this amounts to an unlimited licence to produce and emit these chemicals.
- Inquiries with the EPA reveal that the authority has declined to place quantitative limits on these pollutants pending reports by AGL from monitoring how much they emit.
- AGL are due to submit their next report to the EPA on the Waukivory project and the Tiedman irrigation experiment on 30 August. Meanwhile, preparation is underway on site for the fracking of the five wells.

Santos in the Pilliga

- Santos’ EPL for their Pilliga coal seam gas exploration covers five flaring sites. This EPL was issued to Santos on 1 May 2014, prior to the Planning and Assessment Commission assessment of the proposed project and the consent which Santos obtained from the Planning and Assessment Commission last month.
- Similarly to AGL, there are a list of hazardous chemicals that the EPL gives open approval to Santos to emit, with no limits imposed. These include Benzene, Benzo(a)pyrene, fine particulates, Hydrogen sulphides, Nitrogen oxides, Sulfur oxides and volatile organic compounds.
- Santos have recently been given PAC consent for the Dewhurst and Bibblewindi exploration activities, but need to resubmit their groundwater modelling before work can begin.
- Like the Gloucester licence, no monitoring sites for air pollution are specified other than the point of pollution itself.

AGL in Camden

- Of the three coal seam gas assessment and production licences issued by the EPA, only one, the licence for AGL’s Camden coal seam gas field, imposes load limits on air pollutants.

- That licence (EPL12003), issued in December 2004, limits Benzene emissions, Nitrogen oxides (NOX), Benzo(a)pyrene and Hydrogen sulphide, but provides for unlimited pollution of arsenic, lead, mercury, volatile organic compounds.
- There have been non-compliance incidents in AGL's annual return for this licence every year for the nine reporting years it has been in force.
- A compliance audit was released in June 2014 which revealed that AGL had exceeded the NOX emission limit at two discharge points in November the previous year and was not monitoring the required pollutants or monitoring continuously at three discharge points.
- The recent non-compliance history of AGL's Camden gasfield and processing plant includes a \$1,500 fine in March 2013 for a breach of the nitrogen oxide limit, a \$1,000 fine in July 2013 for failing to publish monitoring data, a finding in August 2013 that AGL had not complied with several conditions relating to air pollution monitoring between 2009 to 2012 and a \$1,500 fine and caution in December 2013 for exceeding air pollution levels.
- The EPA is now investigating an incident that occurred on 31 August, where gas was heard by residents leaking from a well just 200m from the nearest home.

The pollutants involved

- Australia has national air quality standards for some of the pollutants in question, because many of them are highly hazardous to human health.
- Benzene and Benzo(a)pyrene are genotoxic carcinogens and are listed in the National Environment Protection (Air Toxics) measure. This measure does not establish standards, but "investigation levels" for both those contaminants.
- The European Union air quality standard for benzene is 5µg/m³ averaged over a year. It breaks down relatively quickly, but rain can capture it from the air and deposit it in surface water, and soils, where it can migrate to groundwater.¹
- In October 2010, 17 drilling rigs at an Origin coal seam gas fracking site in Queensland had to be shut down after benzene was discovered in nearby water at six and ten times the Australian drinking water guidelines.² This occurred despite BTEX not being used as a fracking fluid in the operation, which is now banned in New South Wales.
- In November 2010, benzene was detected in water in three coal seam gas wells at Arrow Energy's Moranbah gas project, in the Bowen Basin. Again, in this instance, BTEX had not been used as a fracking fluid.³
- In 2013, Queensland Health reported on the health complaints of residents of the Tara estate, where coal seam gas operations are underway. Dozens of residents reported health problems, most commonly headaches, sore, itchy eyes, nosebleeds and skin rashes.
- The report identified that air quality monitoring at Tara undertaken by the government recorded one exceedance of the NEPM standard for benzene - more than twice the NEPM value, but could not find a cause of the health problems being suffered by Tara residents.
- A year later, residents of Tara have had their properties bought by the gas company and have moved away from the area. They have all signed confidentiality agreements to prevent them talking about their experience.

¹ See National Environmental Health forum Benzene monograph 1997.

[https://www.health.gov.au/internet/main/publishing.nsf/Content/85C88D467A3EC31BCA257BF00019171C/\\$File/benzene.pdf](https://www.health.gov.au/internet/main/publishing.nsf/Content/85C88D467A3EC31BCA257BF00019171C/$File/benzene.pdf)

² Sydney Morning Herald story by Ben Cubby 21 October 2010. <http://www.smh.com.au/environment/energy-smart/origin-stops-coal-seam-gas-drilling-after-chemicals-found-in-water-20101020-16ud7.html>

³ Brisbane Times article 9 November 2010. <http://www.brisbanetimes.com.au/queensland/new-coal-seam-gas-chemical-scare-20101109-17kzf.html>