

From: Vanessa Huesges
To: info@frackinginquiry.wa.gov.au
Subject: Submission for the Fracking Inquiry
Date: Sunday, 18 March 2018 2:16:34 PM

To the Scientific Panel,

I'm highly concerned about the unconventional gas mining and fracking industry in Western Australia for the following reasons.

Serious health effects have been experienced by communities living near gasfields in the USA and QLD following the commencement of unconventional gas operations—including respiratory ailments; nose, throat and eye irritations; and neurological illnesses[1].

The report from the Concerned Health Professionals of NY and Physicians for Social Responsibility, a group of highly qualified health professionals and scientists, based on findings from the scientific and medical literature, government and industry reports, and journalistic investigation, shows, that fracking is not safe for public health or the climate and cannot be made safe by any regulatory framework. [2]

Based on this scientific evidence, the Concerned Health Professionals of NY and Physicians for Social Responsibility concluded: 'Findings to date from scientific, medical, and journalistic investigations combine to demonstrate that fracking poses significant threats to air, water, health, public safety, climate stability, seismic stability, community cohesion, and long-term economic vitality. Emerging data from a rapidly expanding body of evidence continue to reveal a plethora of recurring problems and harms that cannot be averted or cannot be sufficiently averted through regulatory frameworks. There is no evidence that fracking can operate without threatening public health directly or without imperilling climate stability upon which public health depends'. [2]

The latest edition of this Compendium highlighted the following emerging trends [2]:

- Growing evidence shows that regulations are simply not capable of preventing harm.
- Fracking threatens drinking water.
- Drilling and fracking emissions contribute to toxic air pollution and smog (ground-level ozone) at levels known to have health impacts.
- Public health problems associated with drilling and fracking, including reproductive impacts and occupational health and safety problems, are increasingly well documented.
- Natural gas is a threat to the climate.
- Earthquakes are a consequence of drilling and fracking-related activities in many locations.
- Fracking infrastructure poses serious potential exposure risks to those living near it.
- Drilling and fracking activities can bring naturally occurring radioactive materials to the surface.
- The economic instabilities of fracking further exacerbate public health risks.
- Fracking raises issues of environmental justice.
- Health care professionals are increasingly calling for bans or moratoria until the full range of potential health hazards from fracking are understood.

Due to the unacceptable risks that the onshore unconventional gas fracking industry poses to a community's rights to water and health, I urge the Inquiry to recommend a complete ban on gas fracking and all unconventional gas mining activities across Western Australia.

[1] Haswell M, Bethmont A (2016) Health concerns associated with unconventional gas mining in rural Australia. *Rural and Remote Health* 16, 1–36. <https://www.rrh.org.au/journal/article/3825> Last accessed: 22/1/2018

[2] Concerned Health Professionals of New York & Physicians for Social Responsibility. (2018, March). Compendium of scientific, medical, and media findings demonstrating risks and harms of fracking (unconventional gas and oil extraction) (5th ed.).

concernedhealthny.org/compendium/ and psr.org/resources/fracking-compendium.html

Yours sincerely,

Vanessa Huesges

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From: Vanessa Huesges
To: info@frackinginquiry.wa.gov.au
Subject: Submission for the Fracking Inquiry
Date: Sunday, 18 March 2018 2:41:51 PM

To the Scientific Panel,

I'm highly concerned about the unconventional gas mining and fracking industry in Western Australia.

One of my main concerns is the contamination of ground water. Our drinking water is more valuable than any other resource and cannot be measured in monetary value. It should be the highest priority of everyone, but especially of the government, to keep the ground water and our drinking water uncontaminated - now and for the future - and ban any industries which could endanger this valuable resource.

Unconventional gas mining and fracking does not only require large amount of water [1], but also produce huge quantities of contaminated waste water [2 & 3].

- WA's vital water resources are at risk of contamination and depletion from fracking operations due to water and chemical use, and wastewater production[4].
- Our unique flora and fauna are threatened due to habitat fragmentation, wastewater leaks and accidents during transportation.
- Current, weak WA fracking regulations[5] don't limit pollution or make mandatory independent, long-term monitoring of environmental factors like water and air quality.
- Fracking contaminates the drinking water [6]
- Fracking is a water-intensive practice (1). A single shale gas frack uses 11-34 million litres of water, and wells are often fracked on multiple occasions, sometimes up to ten times, multiplying overall water use.
- In Australia, BTEX chemicals have been found in 5 out of 14 monitoring wells at Arrow Energy's gas fields, near Dalby, Queensland. Benzene was detected at levels 6 and 15 times the Australian drinking water standard (0.001 milligram per litre /1ppb) (7). Toluene and methane have been detected in a private drinking water bore in Queensland (8).
- In 2014, the Council of Canadian Academies identified inherent problems with well integrity as one of its top concerns about unconventional drilling and fracking. According to one expert panel, 'the greatest threat to groundwater is gas leakage from wells from which even existing best practices cannot assure long-term prevention.' Cement may crack, shrink, or become deformed over time, thereby reducing the tightness of the seal around the well and allowing the fluids and gases to escape into the annulus between casing and rock and thus to the surface (9).
- A scalded area in NSW's Pilliga Forest has not recovered almost 10 years after a wastewater spill by Eastern Star Gas. Wastewater leaking from a pond in the Pilliga (on tenements that Santos bought from Eastern Star Gas) resulted in the contamination of groundwater with uranium and arsenic.

There are numerous examples of peer-reviewed literature showing serious unconventional gas impacts on groundwater in the USA, regardless of the industry's insistence that there are no impacts. This should provide a warning to Western Australia that impacts do occur and are usually found by third parties (4).

The gas industry claims that because shale and tight gas extraction involves deeper rock layers, they are safer than gas extraction from shallow coal seams. But according to a European Commission Report (10) there is an overall high risk of ground and surface water contamination resulting from fracking.

- Aquifers can be contaminated by fracking:
- through water seeping from leaking wells
 - from faults induced by fracking
 - from surface spills of produced water involved in the fracking process
 - contaminated water from the gas source per se. (11, 12, 13, 14).

After fracking at each well, the large volumes of hazardous flow back fluid must be stored and disposed of. Surface water pollution can occur:

- when there are accidental spills of fluids or solids at the surface
- when well blow outs occur
- through discharge of waste water onto land surfaces or into waterways (11, 12, 13, 14).

Flowback fluids contain hazardous fracking chemicals as well as naturally occurring toxic substances released from target geological zones such as:

- methane
- BTEX (benzene, toluene, ethylbenzene, xylene)
- polycyclic aromatic hydrocarbons (PAHs)
- naturally occurring radioactive materials (NORMs)
- heavy metals and other volatile organic compounds (VOCs) (15,16,17,18).

Due to the unacceptable risks that the onshore unconventional gas fracking industry poses to a community's rights to water and health, I urge the Inquiry to recommend a complete ban on gas fracking and all unconventional gas mining activities across Western Australia.

References:

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[17] NTN: Toxic Chemicals in the Exploration and Production of Gas from Unconventional Sources; http://www.karooplaces.com/wp-content/uploads/2011/06/coop_shale_gas_report_final_200111.pdf

[18] Fracking: a serious concern for surface water as well as groundwater: <http://ec.europa.eu/environment/integration/research/newsalert/pdf/275na3.pdf>

Yours Sincerely,

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