

Submission re the Narrabri Gas Project: Response to Santos

May 2018



67 Payneham Road
College Park SA 5069
P 0422 974 857
E admin@dea.org.au
W www.dea.org.au

Healthy planet, **healthy people.**

DEA Scientific Committee

Prof Peter Doherty AC
Prof Stephen Leeder AO
Prof Lidia Morawska
Prof Hugh Possingham
Dr Rosemary Stanton OAM

Prof Stephen Boyden AM
Prof Michael Kidd AM
Prof Ian Lowe AO
Prof Peter Newman AO
Prof Lawrie Powell AC
Dr Norman Swan

Prof Emeritus Chris Burrell AO
Prof David de Kretser AC
Prof Robyn McDermott
Prof Emeritus Sir Gustav Nossal AC
Prof Fiona Stanley AC

Doctors for the Environment Australia (DEA) is an independent, self-funded, non-governmental organisation of medical doctors in all Australian States and Territories. Our members work across all specialties in community, hospital and private practice. We work to minimise the public health impacts and address the diseases caused by damage to our natural environment.

Comments on the Santos response to submissions on the Narrabri Gasfield EIS

In May 2017, DEA provided a submission <https://www.dea.org.au/wp-content/uploads/2017/05/Narrabri-Gas-Project-Submission-Final-05-17.pdf> commenting on the Santos Narrabri EIS. We noted a number of deficiencies, unsupported assumptions, known and unknown risks in relation to the project such that we recommended rejection of the proposal on the basis that it cannot sufficiently guarantee the safety of human health and ecosystems supporting health.

Concerns relating to this proposed development included the use of chemicals, impacts on water quantity, impacts to the quality of ground and surface water, impacts to soil and implications for crops and livestock as food sources, air pollution, climate risks, road safety and adequacy of monitoring and safeguards.

On major issues, we assert that the responses by the company are still inadequate.

The assessment of health risks by the Santos response

The Santos assessment did not consider the full extent of the now considerable scientific literature on the health impacts of unconventional gas operations. Their argument that health studies are not applicable as many come from the USA and are associated with hydraulic fracturing in shale is not a valid one, as there are many commonalities including chemicals and processes used and risks.

A recent peer reviewed study confirms our concerns. The author' of this study state: *"Our results indicate that there is substantial overlap between the chemicals used in well stimulation and those used in routine oil and gas development activities. Similarities were observed in the numbers of chemicals used, the masses in which they were applied, the frequency of use, and their toxicological profiles. Our analysis*

*shows that hydraulic fracturing is just one of many applications of hazardous chemicals on oil and gas fields”.*¹

As we have previously noted, a list of some of the proposed drilling fluids show many compounds that have potential human toxicity. The EIS itself notes the toxicity of some of these, for example: glutaraldehyde (skin sensitiser, respiratory sensitiser, corrosive, respiratory irritant) and glyoxal (skin sensitiser, skin/eye/respiratory irritant). Deficiencies noted in the EIS chemical risk assessment have not been addressed by Santos.

The statement by the company that studies do not prove causality displays a total lack of understanding of the scientific method, whereby a range of studies accumulate evidence over time and hypotheses are disproved rather than proven. For example, the connection between tobacco smoking and lung cancer took many years of research to establish. By the time the strength of the casual association was demonstrated, a great deal of damage had already been done to people’s health.

The company points to the Queensland Health investigation showing a lack of definitive outcomes but the deficiencies of this investigation have been well established. The Queensland Health report has been identified as failing to meet HIA international best practice because 7 of 9 key steps were omitted.²

Produced water composition

Produced water from this project is estimated to comprise 10 megalitres per day at peak production and 37.5 gigalitres over the life of the project. Waste water with chemical additives used in drilling returns to the surface and poses problems with treatment, disposal and storage. This produced water can contain a wide range of compounds of concern. The company has responded to these concerns by using produced water quality data from ponds at its facility at Leewood. However, it is not clear how many samples were used to provide the data and if they were independently assessed. It is also not obvious if these results can be accurately extrapolated to future operations.

¹ Stringfellow WT, Camarillo MK, Domen JK, Shonkoff SBC (2017) Comparison of chemical use between hydraulic fracturing, acidizing, and routine oil and gas development. PLoS ONE 12(4): e0175344. <https://doi.org/10.1371/journal.pone.0175344>

² Claudio F, de Rijke K, Page A. The CSG Arena: a critical review of unconventional gas development and best-practice health impact assessment in Queensland, Australia. Journal of Impact Assessment and Project Appraisal 2017;36; 105-114.

Risk of spills and leaks

We note that recent history as previously described would indicate the risk of spills, leaks and accidents is much greater than the company indicates. In the past monitoring of compliance and safety has been inadequate, and regulators have struggled to address compliance in a timely matter. We note there is no third party independent environmental audit for 3 years- during which time much damage could be done to the environment. Only this year, another gas company, Linc Energy, has been fined \$4.5 million for causing serious environmental harm at its site in Queensland's western Darling Downs. The district court heard that the company was aware it was causing environmental damage but allowed operations to continue. This shows how important it is to have early and frequent independent assessment of gas operations.

Risks from waste salt going to landfill

Many submissions noted great concern about the massive amounts of salt to be produced, stored, transported and disposed of in landfill. At peak periods, there will be 117 tonnes a day of salt taken to landfill which equates to 2.5 B-double truckloads of salt per day (or 9,348 loads of a B-double truck full of salt to landfill to be generated by the project). What measures are in place to monitor the impacts of burying all this salt? What guarantees are there that this salt will not leach into waterways and damage soils, destroying habitat? Santos is asked multiple times re the specifics of salt waste disposal and repeatedly fails to give any specifics. Their vague response to this important issue is unacceptable.

Air pollution monitoring

Given the company admits that there is no ambient air quality monitoring station with publicly available data in the Narrabri region the importance of independent assessment of air quality is paramount.

Conclusion

In summary, DEA considers the response of the company to the range of concerns expressed in submissions to be inadequate, particularly in relation to potential human health risks.