Submission to Narrabri Gas Project
Objection

10 Aug 2020

My name is Laura Hartley.
I wish to object to the Dept's Assessment/Draft Approval of the Project in the strongest possible terms.

I have lived in Coonabarabran for 44 years and The Pilliga Forest is part of Coonabarabran's background. The Santos PEL around Coonabarabran is PEL 462. I made a spoken presentation to the hearing (day 2)(Laura Hartley, 22.07.2020) and I attach those speaking notes for the record and for adjustments to the transcript should such an opportunity exist.

In my spoken submission I said I found the Departments framing of community's concerns within a puzzling 'dichotomy' (Executive Summary p.ix) utterly disingenuous, unacceptably biased and an improper attempt to belittle both the communities concerns and capacity to make valid criticism. At the very least it is patronising and inappropriate. I also said I believed it would be abundantly clear by the end of the hearing that the community understood only too well the uncertainties, ambiguities and risks adhering specifically to the technology and science of the Narrabri Gas Project.

In both spoken and written submissions, to date in this hearing, eminent and fully credentialed experts have examined major concerns of the community in relation to the Department's draft approval, and not only upheld, but in some instances amplified, those concerns. Local stakeholders have spoken with intelligence, clarity and passion about those concerns. Community alliances have meticulously responded to the Department's assessment and documented omissions, misrepresentations and factual errors. I particularly commend the 20200827 Lock The Gate submission in this regard, bringing together the full range of community concerns and rigorously interrogating the Department's response to each one.

I am completely opposed to any further fossil fuel development, but I *do* want good governance. I want to have trust that government bodies are using the best tool kit possible to negotiate stakeholders through the conflict ridden scenarios that Australia's gas rush has presented.

I understand the NSW Chief Scientists Recommendations arising from the Review of the Gas Industry are intended to be just such a toolkit. In this assessment of the Narrabri Gas project, NSW DPEI has squandered the opportunity to use those tools, not only to restore the community's confidence,

but to protect it's own, and other government agencies, capacity to be effective regulators.

When the then Deputy Premier and Nationals' leader, Andrew Stoner, heralded in the 2012 release of NSW Strategic Regional Land Use Policy, and its intention to allow renewal and reactivation of exploration licences in the North West (including PEL12 and PEL462 at Coonabarabran; PEL238 in the Pilliga; PEL427 near Moree; PEL459 at Barraba; PEL464 near Boggabri; and PEL470 covering Bellata and Gurley), he claimed a new regime had been put in place. In his video launch, Sep 13, 2012. he said

> "Those exploration licences will be made active again, but they will be subject to the nation's, if not the world's, toughest and most comprehensive set of regulations around protecting prime agriculture land and water resources."

From then on, through the Chief Scientist's Review of the Coal Seam Gas Industry, many expert contributors to issues papers and the DPIE's own appraisal statements, the importance of robustness, stringency, strictness in regulation setting, oversight and enforcement has been consistently stressed.

The Department has already failed to have authoritative influence on the proponents behaviour. Santos has failed or refused to provide adequate information on a number of counts critically important to the appraisal process.

- The Department's Water Expert Panel noted that the Chief Scientist urged that "**drilling is only allowed in areas where the geology and hydrogeology can be characterised adequately**. The WEP is not confident that Santos has provided adequate information in that regard.

- Santos has used the most basic level of groundwater model, and that has been described by the Government's own water agency has having a "**High level of inaccuracy"** and "**not able to provide output at the scale and accuracy to assess the project's impact**s against the minimal impact considerations of the Aquifer Interference Policy". The Water Expert Panel said it was concerned the model "**may have poor predictive capacity in relation to the impact of production of the surrounding impacted water sources**".

- The shortcomings of the Class 1 groundwater model have been known for at least 6 years and the proponent was urged at that time to upgrade the model. The proponent has not been persuaded to do this. There is some data already existing that could be used to do this. Santos declines to use

its years of data from the appraisal wells, although it can be reasonably assumed that this is exactly one of the purposes of appraisal wells.

- The proponent has declined to do work on faulting and tectonic processes, which is considered an essential part of an adequate groundwater mode. This is despite the fact that it has its own historical data (from Eastern Star Gas) that it could apply if it chose, and the fact that there are relevant contemporary studies it could consider.

- Santos has also declined to release any information about gas composition, especially carbon dioxide, which the Lock the Gate submission points out is "material to the environmental impacts of the gasfields, especially groundwater impacts, and material to commercial justification".

  (Andrew Grogin in his submission has dramatically drawn attention to disparities between Santos' claims for gas that is extremely methane rich, and his analyses of thousand samples from across the gasfield area, which suggest a very different profile with high levels of carbon dioxide.)

- The proponent has had years to develop and submit a serious plan for the environmentally safe disposal of produced salts waste and has not yet done so.

(I also note here my own parallel frustration that the Department does not seem to have responded, as it is required to do, to some requests by the Commission for information. The Department was reminded in a letter of 29 June that its response was expected by 10 July. Again, on 3 August the Department asked for the Department to respond and added further questions, to be replied by 7 August. There is no record on the IPC website that this has been forthcoming. This may be due to an administrative hitch, but is none the less extremely disappointing.)

This lack of information from Santos should be enough to reject the project out of hand, but instead the Department has chosen to permit the proponent to carry out necessary baseline studies, fieldwork and analysis *after* approval. The list of issues with outstanding work is extensive - groundwater characteristics, faulting, methane, biodiversity and air quality. Santos has openly resisted doing this work and providing this information in the years available to it, and I can see no reason why or how it can be compelled to do it after approval, no matter how many phased stages the Department constructs for the Project.

There are multiple issues arising from the Department's proposal that essential data can be included in management plans post-approval, not the least worrying, the observation that the EPA, despite being designated as the lead regulator, appears to be somewhat sidelined. The Lock the Gate submission enumerates instances where the EPA's contribution to meaningful measureable and robust regulation is declined. The Department completely misses the opportunity to strengthen its own conditions, and to support and strengthen the EPA. Anomalies, contradictions and omissions abound in the Departments Conditions of Consent and these are comprehensively covered in the Lock The Gate Submission.

"Standard engineering practice and imposing strict conditions"

I want to draw attention to one scenario that emerges during this hearing process. It concerns well integrity and the future of abandoned wells.

On the 5 June 2020 Mr Steven O'Donoghue, Director of Resources Assessment, requesting that the Water Expert Panel provide supplementary advice via a letter on the post production / decommissioning risks associated with long term well integrity related to the Narrabri Gas Project. Narrabri Council, for one, has concerns about deterioration of CSG wells, and asks that assessing the impact of abandoned CSG wells over extended time frames be undertaken to the satisfaction of the NSW Chief Scientist & Engineer.

WEP replies

"... the primary strategy must be to ensure that the wells are plugged and abandoned using the best available technology and to the satisfaction of the Regulator. The NSW regulations (NSW 2012, page 13) provide the basis for doing just this and are designed to guarantee the safe and environmentally sound production of CSG by:

· "preventing any interconnection between hydrocarbon-bearing formations and aquifers;
· ensuring that gas is contained within the well and associated pipework and equipment without leakage;
· ensuring zonal isolation between different aquifers and water bearing zones is achieved; and
· not introducing substances that may cause environmental harm."

Bearing these regulations in mind, it could be deemed that the long-term risk of failure is so small, that the only strategy necessary, is to have a robust plan in place for dealing promptly and effectively with the rare case of failure as soon as it happens. **The problem with such a strategy is that, as pointed out earlier, little is known about long-term durability of abandoned wells.**

But it would be quite impractical to put the onus on a Project or Government to monitor all plugged and abandoned wells indefinitely.

The strategy cannot be to monitor every well for evermore. If a system is to be put in place, it needs to be graded temporally and perhaps spatially, so that as the risk of well failure is progressively quantified, the extent of monitoring can be adjusted to reflect that risk (an example of adaptive management.) This will require some practical means of assessing the likely performance of wells over time. One possible option might be for the Regulator to monitor a representative selection of wells for say 5-10 years after abandonment. At the end of that time a small number of sentinel wells could be selected for monitoring over a further 10-20 years. Provided no failures are encountered during that time and the risk of well failure is better understood, then monitoring could reasonably be terminated at that point."(my emphasis)

It should be clear by now that there exists significant uncertainty about interconnection between hydrocarbon-bearing formations and aquifers; about models being produced to adequately acknowledge those uncertainties, and the risks attached to not refining an appropriate model.
WEP seems to believe that past a certain age a well is not likely to go on deteriorating, and there is absolutely no information about what remedial action, if any, can be taken. There is a large body of data from the US's established industry and its thousands of wells. There is convincing evidence that most wells will leak at some point in their lifetime. That any of this is being discussed in this manner at this point of the approval process is very disappointing.

I believe that the Project must be rejected. Consideration of Climate Change alone warrants this. The significant risks to some of the best quality groundwater in Australia warrants this. The dangers from the extremely poor, contaminated quality of produced warrants this. The debunking of the lower gas prices myth, and that of gas shortages, warrant this.

Laura Hartley