CSG Review - Submission by Bruce Robertson

Bruce and Belinda Robertson to: csg.review 26/04/2013 09:14 PM

History: This message has been replied to and forwarded.

Dear Sir/ Madam,
Please find attached my submission on the health and environmental impacts of CSG using the example of AGL's Gloucester Gas project.
Yours Faithfully,

Bruce Robertson Chief Scientists Submission by Bruce Robertson 260413.docx

Bruce and Belinda Robertson
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Submission to the NSW Chief Scientist on AGL's Gloucester Gas Project

Author : Bruce Robertson – bio-dynamic beef farmer, Burrell Creek. Our farm is located on the Manning River. AGL's Gloucester Gas project is located on the Avon River a tributary of the Manning River.

Introduction

AGL's Gloucester Gas Project will have massive social, environmental and economic consequences to the existing community, industry, agriculture and tourism sectors in the Manning Valley and surrounding areas.

We have recently seen at the ICAC hearings just how mining approvals are gained in the state of NSW and it is a process that gives little comfort to the citizens of this State. AGL's Gloucester Gas project was approved in the dying days of the last Labour government. The science on which it was based is at best questionable. This is particularly alarming as not only will it affect the ecology, river flows, turbidity and health of the river but it is also the water supply for 75,000 people.

What is at Risk

The following stakeholders will be at severe risk if this project proceeds:

1. The tourism industry – this is a large local industry, $28m in Gloucester and $140m in Taree and $140m in Great Lakes.

In his testimony to the Legislative Council Coal Seam Gas enquiry Thomas Davey, Chairperson, Tourism Advancing Gloucester Stated that:

"Coal seam gas equals ugliness, equals risks, it is not sustainable and it is divisive. In conclusion I want you to remember only three words today—mining kills tourism. I hope you enjoy your stay."

The Manning Valley has run a successful tourism campaign based around the tag line "The Manning Valley - Naturally". The Coal Seam Gas industry does not fit this image that has been carefully cultivated.

2. Agriculture – The Manning Valley is home to some of the best agricultural land in the state. It contains many hectares of rich river flat soil, is blessed with a moderate climate and has high rainfall that unusually for Australia is not seasonal. Rainfall averages are high at generally over 1m pa. Indeed, much of AGL's stage two development will be located on land that is in the top 1% for fertility and rainfall of any country in the Nation. As will be shown it is highly likely that AGL's project will affect base flows for the river especially in dry times when base flow is most valuable.

3. Households – The project poses significant risks to the water supply. There is no alternative supply.

4. Community – the Gloucester area is not Roma or Chinchilla with its large

stations. It is a densely settled region with small average farm sizes. There are substantial rural/ residential subdivisions adjacent to the proposed Gas fields. The effects of fugitive emissions, light and noise pollution on these people cannot be under-estimated. These effects were highlighted by the recent decision to exclude CSG mining within 2km of towns. Gloucester is grandfathered from this political decision as its approval was granted just weeks before that announcement. The people of Gloucester will be subjected to risks deemed unsuitable for the people of Western Sydney. How is this scientific?

5. The Ecology

The Approval process has been entirely deficient in its assessment of the risks to potentially threatened species such as the Manning River Turtle. This species appears from all evidence that I have seen to be in decline and may well be threatened with extinction. Craig Latta from turtles.net.au holds grave fears for this species and an extensive report on the Manning River Turtle was front page news in the Wingham Chronicle our local paper. AGL's Gloucester Gas project may well result in reduced base flows in the Manning River increased turbidity and the potential for contamination due to inadequate planning. All these factors will affect the viability of this Species.

6. Fishing and Oyster industries – The lower Manning River is one of the few true delta river systems in Australia. It flows out to the ocean at Harrington and much further south at Old Bar. It is an extensive system and a substantial fish nursery. Changes in base flows and increased turbidity will have a devastating effect on the oyster industry and the fishery.

Inadequate Approval Process

The deficiencies in the mining approval process are no more clearly illustrated than in the fact that Mid Coast Water, the local water authority charged with providing water to its 75,000 customers in the Manning and Great Lakes Shires was not consulted. The reasons outlined by an AGL spokesperson to the Gloucester Advocate were that:

"AGL said the environmental assessment did not consider impacts on drinking water quality because the Manning District water supply scheme was too far downstream to be considered at risk from the project. "
(Source:http://www.gloucesteradvocate.com.au/story/1419270/agl-dismisses-water-quality-threat/?cs=435)

It does not inspire confidence in our community that AGL does not understand that if some problem occurs at the top of a catchment it is only a matter of time before the effects are felt at the bottom of the catchment.

Selective Science

The science surrounding this particular project is questionable at best. It

would appear that the science is based on a bankable outcome rather than a true assessment of the risks of the project.

Professor Pells, a well respected hydro- geologist, peer reviewed AGL's scientific report that justified the approval and found alarming deficiencies.

In essence, amongst other criticisms Professor Pells pointed out that AGL could not draw the conclusions that they had drawn from the data that they had presented. They simply had inadequate data. They had not done the requisite work.

Inadequate Records Used

His other major criticism was that the rainfall records used were post 1976, and not the full records that are available since 1889.

On page six the Pells report states:

It is clear that the rainfall record used by PB does not cover the quite substantial variations that have occurred since 1889. Therefore, it is reasonable to think that conclusions drawn by PB from the post-1976 records are not appropriate, even down to factual matters such as average annual rainfall.

To a pretty basic person such as myself this is particulary alarming. It would appear from the figures presented in the Pells report that this could lead to under engineering of the project. It is likely that tailings dam wall heights will be too low, tailings dams will be located too low on the floodplain and will flood pouring toxic water into the river system. If one takes into account climate change and the possibility of larger rainfall events, a margin for error on top of historical records should be used. AGL have chosen to use inadequate records that do not reflect the full historical picture let alone the possibility of larger rainfall events due to climate change.

The Coal Seam Gas industry in Australia has been principally conducted in semi arid zones. The Manning Valley as no doubt you have seen in the press, is subject to regular flooding. This year already we have had two floods both of which qualified as natural disasters. I would hasten to add that on the Bureau of meteorology web site they only registered as Moderate floods which gives some indication of the destruction that can be wrought if the floods get to Heavy.

Base River Flows will be Impacted

Professor Pells has gone even further in his criticism of the AGL project in the recent 4 corners program on Coal Seam Gas. In this interview he clearly outlines how the project will affect the base flows of the river:

PROFESSOR PHILIP PELLS:" It's a very complicated geology and therefore it's very difficult to get an accurate picture of the geology and what controls the groundwater systems."

MATTHEW CARNEY:" Professor Pells has studied AGL's report, which found

there was no evidence of natural connectivity - or movement - between shallow and deep groundwater systems.

He ran the numbers through his own computer.

The data indicated that even after one year there could be impacts to ground water, which could diminish base flows to the rivers - particularly in times of drought. After 10 years, the impacts could be "substantial".”

PROFESSOR PHILIP PELLS (indicating a graph on the screen):” The groundwater system has now substantially depressurised.

We took their conceptual model exactly how they presented it - with their geometry, with their parameters - and we put it in standard software that you can buy from the US of A, or anywhere you like, and we ran the model.

And it simply shows that they are connected. And I'm just disappointed that a conclusion was reached which clearly isn't supported by their own model.

The big issue is that the groundwater regime feeds into the rivers. If that water is now no longer- is now going downwards, in a downwards direction towards depressurisation, then it's not feeding the river - so we are losing base flow to the rivers and that's a big ticket item.”

Source: http://www.abc.net.au/4corners/stories/2013/04/01/3725150.htm

The change in base flows will affect the ability of all the wildlife of the Manning system to survive, affect irrigators on the river system unable to use the river at times that it is most needed, affect the fisheries and oyster industries on the lower Manning, affect the amenity of the river for all its recreational users, affect the tourism industry and may ultimately render the river useless as a water supply.

Surface Water Effects

The last issue with AGL’s project that is particularly concerning to me is the surface water effects of the project. Each of AGL’s 110 gas wells will be linked via all weather dirt roads across the floodplain of the Avon River in the most ecologically sensitive part of the river, its headwaters. This area is not Roma, it is not Chinchilla it is the coastal area of the Manning catchment and it rains here and sometimes it rains in massive rainfall events. The dirt necessary to build these roads will wash off into the Manning during our not infrequent rainfall events. The dirt will settle in the deep pools of the Manning and will cause increased turbidity. The ANZECC guidelines on water clarity are already being exceeded from time to time and this project will have major effects on turbidity of the river.

I have extensive turbidity records for the Manning River that I can supply you with if you require them.

Mid Coast water cannot pump water from the Manning River if it is too dirty. Despite spending $82 million in 2010 on a new treatment plant it still relies on

a relatively clean river to be able to supply its 75,000 customers.

The Manning River system, on which AGL's Gloucester Gas Project sits, is the main water supply for Mid Coast Water. The Manning River supplies 90% of Mid Coast Water's customers in areas such as Taree, Wingham, Forster, Tuncurry, Pacific Palms, Nabiac, Dyers Crossing, Harrington, Coopernook, Hallidays Point and Lansdowne. There is no alternative supply. Mid Coast Water is actively trying to develop the Nabiac borefield as an alternative however the effects of AGL's Gloucester Gas project on the Nabiac borefield are wholly unknown.

The surface water effects alone should render AGL's Gloucester gas project uneconomic if viewed from a total cost/ benefit to the community.

Summary and Conclusion

The science behind AGL's Gloucester Gas project is at best questionable. Good Science relies on using all available data.

AGL has consistently selectively used data. This is not scientific and ultimately leads to the conclusion that AGL is more concerned with a bankable outcome rather than good science.

I urge you to recommend in the strongest possible terms that this project is not something that should proceed based on any reasonable assessment of the science, the cost to the economy and the cost to existing industries of the Manning Valley.

I am happy to provide sources of all information, this submission is based on sound facts not conjecture. If you wish to contact me I am only too happy to help.

Yours Faithfully,

Bruce Robertson

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