

LETTER TO THE MEDIA

The Water and Other Legislation Amendment Bill 2010 ("WOLA") must not become law in its current form. Its the worst possible approach to regulating the gas industry's inevitable impact on our vital underground water. It will be a disaster for the people of Queensland if it is enacted without amendment in critical areas.

Has the government's enthusiasm to encourage the industry become so blind (and so twisted by its conflict of interest) that it has resorted to letting the industry dictate the legislation or has it been so poor in its drafting it has set itself up for an enormous legal trap.

The effect of the Bill, if passed, will mean that the gas companies will be given a legal right to poison our water and have no liability at all – except in the remote circumstance where it can be proven to have arisen as a result of the drop in the water table (and even then liability is severely limited). In effect they can otherwise damage our water quality and be immune from liability.

It is inevitable that water quality will be damaged for a host of reasons other than a drop in the water table. You need look no further than the experience of extracting coal bed methane in the United States for evidence of that. In fact it is already happening here without trigger thresholds being exceeded. We only have domestic wells at present. What will happen when we have the explosion of numbers that will come with the export industry?

It is simply not good enough for the companies to meet criticism by vague allegations that they are being heavily regulated and conditioned. Nor is it good enough for government to use the same response.

We all get driver's licenses. They come with plenty of "conditions" attached. We know for instance we shouldn't speed but how often does it happen? Regulation is only as good as the monitoring that goes with it and the will of the license holder to obey the condition. This Bill will so severely limit the gas companies' liability that they will have immunity where water quality damage occurs in most instances. What incentive will they have to be careful?

I am not the only lawyer that considers the Bill to have that effect but if industry or government disagrees then I challenge them to join with all stakeholders to get an independent experienced environmental lawyer to resolve the issue.

Until these companies are made to face up to, and assume, the financial responsibility of damaging underground water quality, civil disobedience might just be the beginning.

This is a bad law that corrupts our usual legal checks and balances. It must be amended significantly to make it absolutely clear, within the Bill, that liability for damage to water quality is not limited, that such liability is secured by money or appropriate bonds held by government, and that ensure risk is reposed in the gas companies and not the people of Queensland.

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Re: The WOLA Bill

To me there is an extremely important issue flying under the radar here. I cannot overstate its relevance.

The problem arises because I think there is a genuine intention in the drafting of this legislation to minimise the exposure of the companies to liability for damage to water quality and quantity and shift that risk onto the people of Queensland.

Lets be clear, the gas companies have readily disclosed in their EIS's that they will be sucking out enormous quantities of water from the under ground aquifers. They have then received their approvals notwithstanding that disclosure. The Coordinator-General has imposed various conditions but on my reading of them they are completely inadequate to address under ground water (as opposed to above ground water). In particular a combination of these conditions, the amendments proposed in the WOLA Bill and the existing provisions have the end result of shifting risk as I have indicated.

The Coordinator-General obviously thinks that the issue of underground water will be addressed in the WOLA Bill – in fact he says as much in his report (see the second attachment to this email).

The existing conditions he has imposed don't adequately address under ground water presumably because of that attitude. Take for instance Condition 9 which lumps a very general obligation to provide an assessment of intended "mitigation measures". It places some emphasis on above ground water and vaguely refers to the under ground water by asking the proponent to advise, before they start production:

"Mitigation measures that address the potential impacts on the quality and quantity of supply to existing users including make good options such as reinjection, reconfiguration of extraction regimes, use of offsets (such as replacing other water users' take with associated water from the project), and rehabilitation of existing bores to address potential induced inter-aquifer leakage (that could be a result of depressurisation caused by the project)."

Given the attitude in the second attachment presumably all the proponent need do is say that it will comply with the "demanding" provisions of the WOLA Bill.

There is another general obligation to monitor etc but no clear direction not to pollute or damage the quality of under ground water. This is an essential requirement that is simply missing. It shouldn't be a condition issue anyway – it is so important that it should be reflected in the legislation given that the rest of the legislation focuses so heavily on drops in the water table.

Assuming however that the Coordinator-General has made it clear he will be satisfied with the new provisions of the WOLA Bill the critical question is – does the WOLA Bill therefore provide any adequate protection for landholders or for the people of Queensland? It clearly does not and what's worse it creates open slather for the companies.

In particular, the WOLA Bill is woeful in how it addresses damage to water quality and its affect will be to limit the companies' liability at law dramatically.

Much has been made of the "make good" provisions in the Bill. The make good obligation contained in the Act in respect of damage to water quality – the most critical concern of all – only arises where there is a decline in the aquifer and a breach of the trigger thresholds etc. It provides in section 412 the circumstances in which liability arises as follows:

(1) *An existing water bore has an **impaired capacity** if—*
(a) ***there is a decline in the water level** of the aquifer at the location of the bore because of the exercise of underground water rights; and*

(b) because of the decline, the bore can no longer provide a reasonable quantity or quality of water for its authorised use or purpose.

The American experience makes clear that quality can be affected by methane transfer through aquifers, mobilisation of dangerous compounds, increased salinity etc. and all that can arise purely as a result of the lawful extraction of unlimited quantities of water.

There is absolutely no reason to tie affect on quality specifically to a reduction in the water table and even then to a drop below the trigger thresholds. Quality could well be affected before that occurs anyway. It is illogical to have isolated damage to quality in this manner.

Further, there is in fact a specific provision in the Petroleum and Gas Act which allows these companies to interfere with and take water in unlimited quantities as follows:

185 Underground water rights

(1) A petroleum tenure holder may do any of the following in relation to underground water in the area of the tenure—

(a) take or interfere with the water if taking or interference happens during the course of, or results from, the carrying out of another authorised activity for the tenure;

Examples—

1 underground water necessarily or unavoidably taken during the drilling of a petroleum well or water observation bore

2 underground water necessarily or unavoidably taken during petroleum production authorised under section 32 or 109

(b) use water mentioned in paragraph (a) for carrying out of another authorised activity for the tenure;

(c) take or interfere with the water for use in the carrying out of another authorised activity for the tenure.⁹⁸

*(2) The rights under subsection (1) are the **underground water rights** for the petroleum tenure.*

*(3) There is no limit to the volume of water that may be taken under the **underground water rights**.*

*(4) Underground water taken or interfered with, under subsection (1)(a), from a petroleum well is **associated water**.*

There could be no clearer authority to pump out the water than section 185(3) of the P & G Act. What they do with it after it is extracted may be regulated but the affect on the water under the ground is a completely different matter.

There is no general right at law to sue someone who impacts on your business or property when they have the legal right to do what they are doing. Landowners often think there's someone out there looking after them and surely no one could be allowed to cause them loss or damage and not have to compensate them.

The way the law usually caters for this situation (ie the obvious threat of impending damage to water quality by methane transfer, the increased salinity, the loss of access to water all together etc.) is through the Environmental Protection Act. It has provisions such as:

319 General environmental duty

(1) A person must not carry out any activity that causes, or is likely to cause, environmental harm unless the person takes all reasonable and practicable measures to prevent or minimise the harm (the general environmental duty).

(2) In deciding the measures required to be taken under subsection (1), regard must be had to, for example—

(a) the nature of the harm or potential harm; and

(b) the sensitivity of the receiving environment; and

(c) the current state of technical knowledge for the activity; and

(d) the likelihood of successful application of the different measures that might be taken; and

(e) the financial implications of the different measures as they would relate to the type of activity.

This section is often relied on by both the EPA and members of the public when environmental harm arises.

If the EPA don't prosecute, then any member of the public can take prosecution themselves and a breach of the general environmental duty would be prima facie evidence of negligence.

However, that is not the case when it comes to activities authorised by an environmental authority as will be the case with the gas industry. The *Environmental Protection Act* also specifically provides as follows:

493A When environmental harm or related acts are unlawful

(1) This section applies in relation to any of the following acts (relevant acts)—

(a) an act that causes serious or material environmental harm or an environmental nuisance;

(2) A relevant act is unlawful unless it is authorised to be done under—

(d) an environmental authority; or

This makes clear how critical the terms of any environmental authority for the gas industry is (both for export and domestic I add).

Even if the damage isn't authorised by the activity (and there is clear case authority to say that the authorisation doesn't have to be expressed) there is still a defence available under that section that the damage was just an incident or inevitability of extracting water from the underground aquifer (i.e. that they weren't negligently doing that which they are expressly able to do). Under section 185(3) of the P&G Act they clearly can extract the water. Just pumping water out and drilling wont be grounds to prosecute.

So where quality damage arises the only protection will be where it can be shown to be purely due to a drop in the water table and that will be rare indeed. Even then the full extent of liability will be under the limited "make good" provisions applicable to each individual landowner and not the community at large. There will be no general environmental duty and any attempt to sue for negligence etc (where indeed negligence can be proven) will face the argument that the Act effectively 'codifies' all liability. See for instance the wording of s361:

361 Purpose of ch 3

(1) The purpose of this chapter is to provide for the management of impacts on underground water caused by the exercise of underground water rights by petroleum tenure holders.

(2) This purpose is achieved primarily by—

(a) providing a regulatory framework to—

(i) require petroleum tenure holders to monitor and assess the impact of the exercise of underground water rights on water bores and to enter into make good agreements with the owners of the bores; and

(ii) require the preparation of underground water impact reports **that establish underground water obligations, including obligations to monitor and manage impacts on aquifers and springs; and**

(ii) manage the cumulative impacts of the exercise of 2 or more petroleum tenure holders' underground water rights on underground water; and

(b) giving the chief executive and the commission functions and powers for managing underground water.

My concerns are also aggravated by DERM's disclosure that DERM did not consider itself (and therefore the EPA as well) as having any jurisdiction over underground water. Further, the model conditions for level 1 EA's make no mention about underground water but do talk about surface water etc.

All this leads to a few absolutely critical factors in my book:

1 WOLA must state that the provisions of the EPA still apply to damage to aquifers, that any other rights at law are not compromised AND specifically the EA's must state that they do NOT authorise any damage to underground water **quality**

2 the make good obligations must be expanded to allow review of any make good agreement by the court at large where equity requires it and to make clear landowners or anyone else that would have standing under the EPA can still take other action under the EPA in the event of damage to water quality at large AND that the make good obligations do not restrict other rights at law

3 the Dept MUST have the right to cease all operations at any time where water quality is compromised or reasonably suspected of being compromised

4 very significant security bonds for the specific potential of water damage Must be held by the government AND not just insurance bonds where they have get out clauses in the case of a company breaching its EA etc

5 assigning a PL a PPL or any other relevant tenure does not exclude a company from liability for damage done during its time

6 the company will be presumed to have caused contamination unless it can prove otherwise

I am also concerned by the apparent lack of clear power in the Chief Executive to suspend activities if they breach the provisions etc and I am not sure he could do so anyway. It is obvious that they still don't quite know how they are going to go about the management because they have place so much discretionary power in the CE to decide what's required of them.

Above all however, we must make sure that the make good obligations aren't the only recourse that Landowners have or for that matter, the government itself, to protect the water.

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Condition 8

The proponent and its contractor must include in any final Environmental Management Plan for gas field planning an objective that bioregional corridors be considered and maintained to the greatest extent practicable in the field development plan. A draft of this clause of the EMP shall be submitted to DERM with any application for environmental authority for gas field development.

Conditions 9 – Groundwater assessment, mitigation and monitoring

The proponent must provide to the CG for review an assessment of the environmental values, monitoring program, regional groundwater model and mitigation measures. The assessment must address, but not be limited to:

- An assessment of the potential impact on the environmental values detailed in the former Department of Natural Resources and Mines publication *Great Artesian Basin Water Resource Plan: Ecological Assessment of GAB springs in Queensland* (Fensham & Fairfax 2005) and *The AGE Report* (2005) on potential river base flow and springs from aquifers of the Great Artesian Basin, including in the springs register established under the Great Artesian Basin Resource Operations Plan.
- An assessment of the potential impacts on recharge springs and baseflow watercourses.
- Mitigation measures that address the potential impacts on river base flow and springs including a monitoring program, trigger points and actions that would be taken to avoid or minimise the impacts.
- Mitigation measures that address the potential impacts on the quality and quantity of supply to existing users including make good options such as reinjection, reconfiguration of extraction regimes, use of offsets (such as replacing other water users' take with associated water from the project), and rehabilitation of existing bores to address potential induced inter-aquifer leakage (that could be a result of depressurisation caused by the project).
- A detailed monitoring strategy that provides objectives and rationale for how potential impacts on groundwater values will be identified including linkages with the hydrogeological conceptualisation, model validation, trigger points and actions that will be taken to avoid or minimise the impacts.

The groundwater assessment is to be submitted to the Coordinator-General for review prior to the commencement of petroleum activities in the gas fields.

Condition 10 – Springs assessment, mitigation and monitoring

The proponent must provide to the CG for review an assessment of groundwater dependant ecosystems. The assessment of the groundwater dependant ecosystems must include, but not be limited to:

- subterranean ecosystems
- phreatophytic terrestrial and riparian vegetation
- springs and other wetlands
- stream communities dependent on baseflow
- EPBC-listed community of native species dependent on natural discharge of groundwater from the Great Artesian Basin
- estuarine and submarine systems dependent on groundwater discharge.

The groundwater monitoring plan for the gas fields must include monitoring of the main aquifers between the CSG operational areas and the springs.

The groundwater monitoring plan should include, but not be limited to:

- A program to validate and calibrate the regional groundwater model.
- The monitoring sites chosen to detect the impacts to environmental values.
- Suitable mitigation measures to be implemented to deal with impact to spring flows.

The springs assessment is to be submitted to the Coordinator-General for review prior to the commencement of petroleum activities in the gas fields.

7.7.2 Groundwater legislation and policy

The Queensland Government's proposed new arrangements (from August 2010) to protect groundwater resources in CSG extraction areas are outlined in the DERM information sheet '*New arrangements to protect groundwater resources in coal seam gas extraction areas*'. Under the new arrangements, the trigger threshold values for impacts on bores will be a 5 m drop for consolidated aquifers, and a 2 m drop for shallow aquifers. These figures are proposed to be set by forthcoming amendments to the *Water Act 2000*.

Under the new arrangements, at the location of a water supply bore, if the impact on water levels exceeds the trigger threshold, and the bore has suffered a significant reduction in its capacity to supply water for the intended purpose, then the bore owner will be able to ask the CSG producer to investigate the situation. The bore owner would need to provide information to the CSG producer in relation to the extent of reduction. If the bore owner is dissatisfied with the outcomes of the negotiations with the CSG producer in relation to impacts on bore supply, the bore owner will be able to appeal to the Land Court.

Under the new arrangements, CSG producers will be required to periodically prepare and submit underground water impact reports to the Queensland Government for approval. The reports will be required to contain: the results of monitoring; projections of the extent of water level impacts; an inventory of springs where impacts on water levels in underlying aquifers are projected to exceed trigger threshold values, and an assessment of the risk to those springs having regard to matters such as the connectivity of the springs to the underlying aquifers; and a proposal for managing impacts.

In addition, the Queensland Government has committed to develop a cumulative underground water management regime, to manage 'cumulative management areas' where water level impacts of CSG

¹³² EIS Vol 9 Ch 2 p18

¹³³ SEIS Vol 9 Ch 2 p7



producers overlap. I note DERM advises that the Surat Basin is likely to be a single 'cumulative management area'.

Coordinator General's response

I understand that the proponent submitted a draft Groundwater Monitoring Plan to DERM prior to announcement of the new policy arrangements for CSG water. DERM point out that since submission, the new Trigger Thresholds Policy has been introduced and DERM require the plan to be revised in accordance with these new criteria.

Drawdown of the CSG aquifer is integral with development of the gasfield and extraction of CSG. However, the effects that this may have on other aquifers are largely unknown. For this reason monitoring of all aquifers likely to be affected is an essential component of the environmental management of the gas fields.

The proponent has estimated the quantity of CSG water that will be extracted would peak at 180 ML/d in 2013-2014 and at 160 ML/d between 2015 and 2025, assessing the effects of supplying a 2-train LNG plant. The total volume is estimated to be 1,200 GL; however, the according to the EIS the volume estimate could vary by as much as 50%. With 3 trains it is estimated that the average volume of CSG water would be 1,800 GL. If the Walloon coal measures are inter-connected to higher alluvial strata, then the potential for long term changes to land uses that rely on groundwater must be considered. Further, drawdown of the aquifers in the alluvial strata might induce change in surface water percolation rates in groundwater recharge areas.

These points are raised because there is insufficient information available in the EIS and SEIS to confirm the effects one way or the other.

CSG water management options discussed in the previous chapter may involve dilution to reduce the salinity of the CSG water to permit application for a range of beneficial uses including irrigation and dust suppression. If the irrigation option is adopted, groundwater from upper strata may be used to dilute the CSG water at a ratio of 4:1 (alternatively, desalination could be used to reduce salinity to less than 1,000 mg per litre).

The key issue associated with the potential for CSG activities to adversely affect existing groundwater use is monitoring. With historical information and current monitoring data the proponent will be well placed to act before failure of quantity or quality of water supplies that are essential to some land uses.

Appropriate action will be determined by the nature of the impact and could extend to provision of alternative water supplies where total failure of a bore is attributable to the proponent's activities. If demonstrably significant drawdown occurs due to CSG water extraction, restoration of aquifers may require injection of treated water with the appropriate water chemistry.

The groundwater monitoring data will also provide input to auditable reports to confirm the effectiveness of operational activities.

Where deep well recharge of CSG water is an adopted practice, groundwater monitoring of the receiving aquifer should be undertaken to confirm that the injected CSG water is quarantined from other aquifers.

With the above issues in mind I confirm the need to monitor all aquifers likely to be affected as an essential part of an adaptive Environmental Management Plan for the CSG field that will form part of the application for the Environmental Authority. In this regard relevant conditions are contained in Appendix 2 Part 2 (Conditions 8 and 9).

I also emphasise that the volume of CSG water extracted is very large (possibly as much as 1,800 gigalitres over the life of the project) and that monitoring of groundwater levels and other changes where they occur will be an essential part of the long term land use strategies for the gas fields.