QUEENSLAND PARLIAMENT

Infrastructure, Planning and Natural Resources Committee

Inquiry

Water Legislation Amendment Bill 2015

Referred 10th November 2015

SUBMITTER

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My submission focuses on the groundwater framework – particularly as to mine dewatering. The Honourable the Minister, Dr Lynham, confirmed in his First Reading speech for the Bill and in his Media Release of 10th November 2015 that, apart from matters amended by the Bill, the Government will proclaim the previous government's WROLA Act which, *inter alia*, grants groundwater rights to miners.

That proclamation would give miners what is politely called a statutory right to take unlimited groundwater. I call it open slather.

That proposed deregulation of mine dewatering contrasts with the present approval system where a water licence is required for dewatering by miners, and interested parties have a right to appeal in the Land Court against grant of that licence. Viewed in isolation we currently have a basically sound dewatering approval system - but in the bigger picture nothing has been done to address the fact it is under a separate Act, effectively quarantined from and not synchronised with the overall environmental assessment of proposed mining. Together with the way it is administered, those drawbacks downgrade it to a rubber-stamping process.

There is a critical need for change, but I seek to persuade the Committee that in respect of mine dewatering the WROLA Act's groundwater framework is not the answer – it is deeply misguided and should never be proclaimed. It gives extravagant and unwarranted privilege to miners while being extremely bad for landholders, other bore water users and the environment.

This comes at a time when all around us are signs that our grazing and cropping industries have their best-ever prospects of growing markets in Asia. Over recent decades these industries have extended their harvesting and efficient usage of surface water – they will have to look more to groundwater for the next, bigger expansion. In that context it beggars belief that the State Government intends to give miners open slather to take and dispose of as much of the available groundwater as they wish.

Parliament should amend this Bill to give appropriate control by upgrading the present dewatering licence (under the Water Act) and harmonising it with environmental impact assessment under the Environmental Protection Act as explained in this submission.

SUMMARY

It is submitted:

(1) Dewatering by a Mineral Development Licence (MDL) holder occurs infrequently and is short-lived, with a legislative background that is different to mine dewatering. It should be treated separately in the Bill. Provision should be made for continuation of the present water licence for MDL dewatering administered by DNRM, the grant of which should be subject to a recommendation of DEHP.

(2) Approval of mine dewatering must be coordinated and harmonised with the overall environmental authority approval process. DNRM should decide a dewatering licence application subject to a recommendation from the Land Court (where there are objections) and from DEHP (where there are no objections). With that change as set out in paragraph 20 below, it would be appropriate to abolish the current provision for interested parties to appeal to the Land Court against grant of a dewatering licence.

(3) Parliament should create an effective, credible and unbiased groundwater make good framework that is technically and legally adequate and enforceable. That can be done

by upgrading the make good provisions of the existing Water Act Chapter 3 as proposed in the attached proposal – then (and only then) the make good framework should be extended to mine dewatering.

Mineral Development Licence (MDL)

1. I'm not sure why dewatering by an MDL holder is included in the proposed framework. I believe it only occurs infrequently, on a smaller scale and for shorter time periods than mine dewatering – usually when a bulk sample of, say 5,000 tonnes of coal is required for testing, and if the area to be excavated contains groundwater. I submit that the Bill should amend the WROLA Act for the reasons, and by the methods, as follows:

    a. I think it has been included not because there is any practical need for it but because, like holders of a mining lease, MDL holders are defined in the Water Act as 'owners' and require a water licence for dewatering.

    b. It is a vastly different situation than dewatering by the holder of a mining lease, for example because:
        (i) there is no public notice or provision for objections, hence the Land Court is not involved;
        (ii) there is no prerequisite requirement for compensation to the affected landowner to be agreed or determined;
        (iii) owners of nearby land whose water bores may be affected are not notified, have no right to object and no entitlement to compensation.

    c. bulk sampling under an MDL typically requires, among other things, an agreement with the landowner and specific authorisation in the environmental authority;

Amend the WROLA Act framework for MDL dewatering so that:

(a) DEHP has a recommendatory role as the body responsible for assessment of environmental impacts;

(b) when dewatering by an MDL holder is proposed anywhere in the State, a water licence should be required, and:

    (i) DEHP should make a recommendation to the Chief Executive of DNRM on grant or refusal of a licence;

    (ii) DNRM should consider any favourable licence recommendation;

    (iii) DNRM should act in accordance with any unfavourable recommendation.

Dewatering of Mines

2. This submission seeks to show there is an obligation on Members of Parliament to ensure that the impacts of dewatering on landowners, on other groundwater users and on

groundwater-dependent ecosystems are fully, fairly and openly identified and tested as part of the mining approval process.

3. I ask whether Members are prepared to insist that the process for approval of dewatering be designed in accordance with the principles of sustainable management consistent with the Purposes of the Water Act as amended by the Bill (Clause 12) - or is that just a motherhood statement that can be conveniently ignored when it suits ?

4. Many coal mines, whether open cut or underground, and some other mines need to dewater their sites and surrounding areas to allow extraction of the coal or mineral. I understand that about 60 mines are currently in that group – 30 for which water licences have been issued and around the same number that require no licence as they are located outside of groundwater management areas.

5. In dewatering, groundwater inflow is pumped from the pit and groundwater moving towards the pit is intercepted via bores located around the site. The pit acts as a sink (ultimately a permanent sink in the final void) into which all the aquifers that are intersected discharge. Depending upon interconnections such as geological faults and relative pressures in the aquifers, the deeper aquifers may also give up water to the dewatering process. Impacts on water bores can begin soon after dewatering commences, but will take a long time – centuries in some cases - to reach finality.

6. Open cut mines now go as deep as 400 metres in specific cases, and longwall mines deeper still. Any aquifers so intersected will be affected by dewatering. At current dewatering sites, many are suffering progressive deterioration right now.

7. Dewatering creates a cone of depression radiating outwards, drawing down the water level of the intersected aquifers and any water bores tapping into them. The radial extent of drawdown depends mainly on the geology of the site, but one expert estimated a radius of 30km in the Galilee Basin.

<u>Dewatering Affects Bore Owners</u>

8. It is certain that each mine that is dewatering poses a threat to water bores in its surrounding area, as well as to any groundwater-dependent ecosystem (eg. where an aquifer discharges into a watercourse or via springs). It is surely not too much to ask that the predicted extent of that drawdown, and its effects on bore owners, on other groundwater users and on groundwater-dependent ecosystems, be assessed and taken into account as a fully-fledged part of the mining approval process.

9. The rural landowners and town residents who depend on those aquifers for stock, domestic and in some cases irrigation supply are suffering loss or partial loss of their water supplies – only a few are protected by effective make good agreements and some of the major coal companies have fulfilled their make good obligations in good faith.

10. On the other hand, some mining companies and most, if not all, CSG companies use the flawed make good framework in Chapter 3 of the Water Act as a shield – they assert they do not have to undertake the more rigorous and detailed process that is the minimum standard for an effective make good agreement. In reality, only the relatively few bore owners who, by their own efforts, manage to generate sufficient bargaining power can achieve an effective,

enforceable make good agreement. And for reasons explained above, it has to be achieved in spite of the biased role played by the Government.

11. Few if any aspects of the environmental impact of mining are more environmentally significant and more geographically extensive or more thoroughly investigated than the impacts of dewatering. The scope of each EIS is dictated by Terms of Reference set in accordance with the Environmental Protection Act or State Development Act, and groundwater impacts are invariably a major component. The EIS typically costs the applicant millions and often takes some 4 years to complete. Both miners, and the objectors who commit their resources to challenging the EIS, have legitimate grounds for complaint when their efforts, as well as any relevant conclusions of the Land Court are overlooked (as currently happens in respect of dewatering licenses) – or bypassed by statute (as in if the WROLA Act is proclaimed).

12. Queensland Parliament's objective should be to establish, for the first time as an integrated component of overall mine approvals, a balanced and environmentally responsible system for approving and managing mine dewatering. If the WROLA Act (as it currently provides in respect of dewatering) is proclaimed, the Queensland Parliament will have squandered its opportunity to fix this glaring gap in the legislation, and worse still, abdicated its responsibility to protect the environment.

13. We need, and are entitled to expect, a framework for dewatering approval which actually implements sustainable management and ecologically sustainable development while ensuring the groundwater resources are allocated and used efficiently for the wellbeing of Queenslanders but with ecosystems preserved.

14. The WROLA Act's groundwater framework (which the Government intends to proclaim) fails all of those tests.

<u>The Minister's Statements</u>

15. Minister Lynham, in a media release of 10th November 2015, was apparently trying to justify adopting the WROLA Act framework for mine dewatering with these remarks:

    a. Minister Lynham stated: *The framework does not affect the amount of underground water the resource sector uses, or affect the Great Barrier Reef.*

- Firstly, the primary concern is the damage which the taking typically causes to surrounding aquifers at an individual site, as well as to private bores and groundwater-dependent ecology - the total volume of water taken by resource projects is just an outcome of the system overall.

- In any case, of course the proposed framework affects the amount of water taken by the resource sector – how could it not when it grants an unlimited statutory right to take or interfere with groundwater. And, I ask: *no effect as compared to what* – the current water licence is capable of controlling the volume taken, although neither DNRM nor the Coordinator General (in coordinated projects) exercise that power.

    b. Minister Lynham stated: *This framework will give landholders the protection of a statutory obligation on miners to make good any impact on their water bores.*

- Strenuous efforts by various people including myself have gone into informing the Government of the deplorable inadequacy and pro-resource operator bias of the official groundwater make good provisions of the Water Act, Chapter 3 (which, upon proclamation of the WROLA Act, will extend to mine dewatering). That framework was designed by bureaucrats to give them the data they wanted at minimum inconvenience and cost to resource operators. They had the deeper CSG bores in mind rather than shallower mine dewatering operations.

- They apparently thought their 5-metre universal trigger value for declining water level in an aquifer (not in the individual bore) suited those typical CSG aquifers. Even in that context they gambled on a very speculative and unscientific trigger. They elected to ignore the availability of well-proven baseline testing and monitoring methods to define actual yield and pumping capacity. They showed they were ignorant of the fact that trigger values should be set, individually for each bore, first as interim by assessment of baseline data and, when sufficient monitoring data has accrued - say over 2 years - as final. Even if their 5-metre aquifer fall had some merit as a universal trigger for deeper CSG aquifers (it doesn't), it is seriously inappropriate and very misleading for the shallower aquifers affected by mine dewatering.

- If those authors of Chapter 3 had any knowledge of, or regard for the technical and legal facts of life confronting those affected by dewatering, and of the critical need for factual evidence on the individual bore, they gave no hint of it in their plan. And their lack of worldly awareness was further exposed when they assumed their framework would properly equip their Chief Executive to identify damage to private bores and to ensure the perpetrator makes it good. In fact the onus of proof ultimately rests with the bore owner and any successful make good scheme must make quality data available to the two parties.

- The Chapter 3 make good framework is so badly designed that in a contested claim, make good will most likely prove unenforceable, with likely catastrophic effects on the bore owner and severe embarrassment for the Government which assures bore owners they are protected.

- In recent years a number of large proposed coal mines – such as Alpha Coal, Adani, Kevin's Corner etc. - have proceeded as coordinated projects with an EIS conducted by the Coordinator General. Typically the Coordinator General has recommended to DNRM the conditions for any water licence authorising dewatering.

- Each such set of conditions includes make good conditions and, while somewhat more purposeful than the very basic make good conditions DNRM has applied in the past, the Coordinator General's recommended conditions still fail the tests of technical and legal adequacy.

- The technical inadequacy of make good government-style is well illustrated in the Coordinator General's conditions for the Adani EIS. No baseline or monitoring tests of a bore's yield are required. A bore is unduly affected if, in the opinion of the Chief Executive, **water level** has declined **due to dewatering**, and that decline in water level has caused a material reduction in the **supply of water** (ie the yield) or in the **quality of water**. (copy of the Adani conditions **attached**)

- While declining water level is usually associated with declining yield, in practice the relationship between the two is highly variable between bores. The 5-metre decline in water

level of aquifers (ie. the Chapter 3 trigger) would be associated with drastic yield and/or quality reduction in some bores, while other bores would be relatively unaffected. Without baseline and monitoring yield data for each bore it is very doubtful whether the Chief Executive could satisfy a Court that dewatering caused declining water level which in turn caused reduced supply or quality to a specified extent. There are myriad alternative conclusions which could be derived from such limited, circumstantial evidence.

- Legal inadequacy is also illustrated in the Adani EIS. Assuming the Chief Executive has deemed a bore unduly affected as above, if the miner and the landholder cannot agree on make good despite all reasonable efforts to agree, the Chief Executive may give the miner notice to provide the necessary data for determination of make good measures, and will in consultation with the parties determine those measures.

- But in practice in a contested make good claim, the miner would be entitled to challenge the Chief Executive's directives in court – it goes without saying that the Chief Executive will need to meet a high standard of proof as to the evidence from which he derived that belief. I believe such a challenge is likely to succeed because:

  a. the notice is founded on:
     (i) a belief, based only on circumstantial evidence, that water supply and/or water quality are materially affected, and
     (ii) a belief, also based only on circumstantial evidence, that those perceived material effects are caused by a reduction in the water level of the bore; and
     (iii) a belief, also based only on circumstantial evidence, that the perceived reduction in water level is caused by the mine dewatering.

  b. Because yield has not been measured either in baseline or monitoring tests, the required standard of proof of the bore's baseline yield or even its current yield will be not be met. Monitoring data tracing the decline in yield relative to the progress of mine dewatering and changing water level will be non-existent.

  c. That is, the Chief Executive will not have the essential evidence for proving a material reduction in the water supply due to dewatering. Water level and water quality data, some of it for a subject bore, will be available but it will not provide the necessary proof of cause and effect – on the contrary, there will be scope for a wide divergence of interpretation of the data that is available.

  d. And, the Coordinator General's make good and the Chapter 3 make good both leave the bore owner dependent upon that Chief Executive actually taking the enforcement steps when a bore is unduly affected. But those same dysfunctional provisions which fail to ensure baseline measurement of yield, etc. for the subject bore will also mean that if the Chief Executive fails to act, it is unlikely a bore owner will have the evidence needed to win a court order requiring the Chief Executive to do so.

  e. I **attach** a proposal for upgrading the Chapter 3 make good framework, as previously given to the relevant Ministers. In a nutshell, the prerequisites for a make good framework to be reliably enforceable include:

     (a) Thorough and independent baseline testing of each individual bore – water level and water quality are just not enough. A recognised pumping test to ascertain yield such as specific capacity, then water quality, water level and the extent of gas intrusion are required.

(b) Regular monitoring of all baseline parameters of the individual bore including yield.

(c) Scientifically-based interim trigger levels to be independently set at the outset for each individual bore, then replaced by final trigger levels once sufficient monitoring data is available.

(d) A process for consulting on and resolving the action to be taken if one or more trigger levels is reached or exceeded.

(e) Dispute resolution process is required for each step of the process.

(f) Minister Lynham stated: *Mines will continue to be subject to rigorous impact assessments and landholders' rights will be protected.*

- What on earth is the purpose of rigorous environmental impact assessments if, on this watershed issue of properly managing the impacts on landholders of mine dewatering, no regard is paid to the very considerable body of relevant environmental assessment, or to the certain knowledge that environmental harm will be caused.

- How can the Minister on the one hand remove existing controls so as to give miners unlimited right to take the water on which landholders depend, yet still honour this promise that their rights will be protected ?

<u>Existing Dewatering Licence</u>

16. Another reason for decisive action now is that in practice the existing (pre-WROLA Act) water licence system fails to deliver any meaningful control of mine dewatering – partly because it is deliberately operated that way, which is just another example of official pro-mining bias. Another glaring deficiency is that mines located outside of the declared groundwater areas are not even required to have a licence for dewatering.

17. The existing dewatering licence requirement only amounts to a pointless paper-shuffling formality because:

    a. Timing of the water licence application always lags approval of the mining lease and environmental authority – ie. the water licence application is only made after a mining lease has already been granted and dewatering is to commence, which may not be until mining has been underway for some time. The benefits of the relevant mine (eg. jobs and royalties) will have already been well and truly factored in and are being relied upon by government and the public.

        - that makes it extremely unlikely a water licence will be refused by DNRM (I believe there never has been a refusal, nor has a grant of licence been quashed by an appeal to the Land Court).

        - I believe there are some 30 dewatering licenses in force, and there is a similar number of mines outside of declared groundwater management zones where dewatering is occurring but no licence is required.

        - It is DNRM's practice to issue dewatering licences with no volume limit and there is usually no obligation to report or record the volumes of water taken in dewatering at those 60 or so mines.

- If the current licence system was managed so it actually works instead of being dumbed down to just a rubber-stamping process, refusal of a licence could retrospectively negate mining and environmental approvals and stop the project, which would severely disadvantage the miner.

18. The present framework is artificially fragmented and dysfunctional. The Land Court, as the independent assessor hearing objections then making recommendations to the Mines and Environment Ministers, is limited to matters covered by those two Acts and, despite hearing considerable evidence relevant to dewatering, cannot recommend in respect of water licence applications.

    a. Typically, dewatering licences have a simplistic condition purporting to impose an obligation to make good in the event a water bore is damaged by dewatering:

        - that is just a façade, because that condition is not backed by any process for gathering of relevant evidence or establishment of the comprehensive technical and legal process required to prove the bore is damaged and why, then ensure make good is enforceable in a worthy but disputed claim.

<u>Comparison with CSG Dewatering</u>

19. When the WROLA Act was debated in 2014, the government of the day claimed that a statutory right for miners to take water by dewatering was needed to put them on an equal footing with CSG operators. I submit that was, and still is, wrong because:

    a. The statutory right of CSG operators to take water was first created a decade or more ago, at a time when the impacts of dewatering were very poorly understood and when, in particular, both the fledgling CSG operators and the then EPA proclaimed that CSG dewatering only affected deeper aquifers and posed no threat to users of bore water.

    b. It is now a well established and accepted fact that such assertions were wrong – there can be and there are situations where CSG dewatering adversely affects water bores, including where destabilisation of water pressures permits water from aquifers that are both above and below the target coal seam to migrate and be pumped out.

    c. At least CSG operators face strict controls on disposal of their 'produced water' - they are no longer allowed to evaporate it and have invested vast sums in piping, storage and reverse osmosis plants – with strictly controlled beneficial use regulations covering the treated water. No such discipline is proposed over mine dewatering and miners will be able to dispose of the water in any way they choose.

    d. It is certain and inevitable that mine dewatering will adversely affect any aquifers that are intersected, any other aquifers that are interconnected with intersected aquifers, and any water bores that are within the cone of depression at a particular site. But with CSG dewatering, such adverse impacts are possible depending on conditions at individual sites, but are neither certain nor inevitable.

Proposed Solution

20. I submit that it is a simple matter, by way of relevant amendments, to integrate and harmonise mine dewatering with the existing overall environmental assessment and approval system:

    a. all mine dewatering anywhere must be authorised by a water licence.

    b. where objections to an environmental authority application are lodged:

        (i) if mine dewatering is proposed, DNRM is to be a statutory party in the objections hearing (as is the case with DEHP now);
        (ii) the Land Court is to make recommendations to the NRM Minister:

    c. as to application to DNRM for a dewatering licence:

        (i) DNRM has discretion but must consider any favourable Land Court recommendation; and
        (ii) DNRM is bound by any unfavourable Land Court recommendation.

    d. where there are no objections and DEHP has sole discretion over the environmental authority application, DEHP must make a recommendation on grant of a dewatering licence to the Chief Executive, DNRM who:

        (i) has discretion but must consider any favourable DEHP recommendation;

        (ii) is bound by any unfavourable DEHP recommendation.

SIGNED: ……..

[redacted]

DATE: …… December 2015