Statement of Frances Hayter

September 2011

COMMISSION OF INQUIRY (QUEENSLAND FLOODS INQUIRY)

STATEMENT OF FRANCES HAYTER

I, **FRANCES HAYTER**, Director Environment and Social Policy, Queensland Resources Council (**QRC**), Level 13, 133 Mary Street, Brisbane, in the State of Queensland, solemnly and sincerely affirm and declare:

1. I was engaged by QRC in my current position (although differently described) in 2003. Since then, I have been directly responsible for most of QRC's advocacy and consultation with State Government on behalf of QRC's members in relation to environmental issues during the period of my employment, with the relevant exception that QRC's chief executive Michael Roche has taken a lead role on some issues relevant to this statement which have involved consultation with the Premier and Treasurer and some senior departmental officers.

2. At the date of this statement, Michael Roche is currently overseas on annual leave. I believe that Michael Roche kept me fully informed at the time of all relevant discussions and correspondence on which he took a lead role and in several cases I also attended key meetings.

3. In my statement, for ease of reference, I have grouped together those questions which appear to be on related topics, from the Requirement to Provide Statement to the Commission of Inquiry dated 6 September 2011 (a copy of which is set out in **Annexure A**), structured as follows:

   (a) The nature of 'model conditions' generally and the history of the Fitzroy model water conditions 2009 (and minor amendments in November 2010);
   (b) The history and nature of the improvements made by the revised Fitzroy model water conditions endorsed 2011 and the topics on which QRC considers that further improvements could be made;
   (c) Transitional environmental programs;
   (d) Emergency directions powers; and
   (e) DERM resourcing issues.

4. **Annexure B** contains a bundle of correspondence between the QRC and the Queensland Floods Commission of Inquiry dated 2 September 2011. Item 1 of the bundle is a letter from Greg Lane, Acting Chief Executive of QRC to the Commission, which, in summary, advised that an important change since QRC's submission to the Commission on 11 March 2011 was that the Queensland Department of Environment and Resource Management (DERM) has worked through an intensive process of consultation with QRC to improve the 'Fitzroy model water conditions' significantly, with the consequence that the chronology and deficiencies of the previous version of those conditions has become less relevant to ongoing planning for the region. Although this letter was signed by Greg Lane, I personally contributed to the drafting of the letter and the opinions expressed in the letter are consistent with my opinions. In its response of the same date, the Commission acknowledged that some of the matters to be examined under this heading may now be of limited or historical interest, but noted that the Commission's terms of reference still require the Commission to examine this history.

[redacted]

Responses to questions relating to the history of the Fitzroy model water conditions 2009 and minor amendments during 2010 (Questions 1, 2a and 2b)

Question 2a – *'further detail on QRC's opinion as to a. the approach of having model conditions for mines'*

5. So as to provide context for the history of the Fitzroy model water conditions in this statement, question 2a is addressed first, in relation to the general approach of 'model conditions'.

6. Although there is no statutory mechanism for 'model conditions' as such under the *Environmental Protection Act 1994* (Qld), the Department of Environment and Resource Management (DERM) has published on its website model or standard conditions for a range of industries, usually in the form of either a 'guideline' or 'code'. Examples include the 'guideline' for '*Maintenance dredging undertaken by a port authority—ERA 16*' and the 'guideline' for '*Sewage pumping stations ERA 63 (3)*'. The mining industry is not unusual in this regard and has often worked closely with DERM on developing these conditions, notwithstanding that the contents may not always be aligned with industry thinking.

7. A series of 'codes of environmental compliance' is normally available on DERM's website (although I noticed that the link was not working when I checked it on 6 September 2011), at http://www.derm.qld.gov.au/ecoaccess/codes_of_environmental_compliance/mining.html for 'Level 2' mining activities, including most exploration and mineral development projects and most small-scale mining projects such as gemfields operations. Chapter 12 Part 1 of the *Environmental Protection Act 1994* (Qld) provides for approval of these codes and then applications for these types of projects are able to be processed in a way which I would describe as 'streamlined' under Chapter 5 Part 3 of the *Environmental Protection Act 1994*. This includes provision for variation of the code conditions subject to justification and an environmental management plan.

8. In about 2001, before I commenced my employment at QRC [redacted] who was then Executive Director of Environmental Operations with the then Environmental Protection Agency (EPA) approached my predecessor, [redacted] to consult with the then Queensland Mining Council (**QMC**) about developing a set of 'streamlined' or 'model' conditions for Level 1 mining projects, that is, essentially for the large projects on mining leases, as opposed to exploration and mineral development tenures. Although I was not present at the meetings between QMC and the former EPA, I have been informed by members who were present (such as [redacted] of BMA, [redacted] who then represented Anglo Coal and [redacted] who then represented Minter Ellison Lawyers) that:

   (a) The consultation process was regarded by them as constructive and cooperative;
   (b) That it was clear that the joint intention of the parties was essentially to develop 'template' conditions as a baseline or starting point for negotiations of level 1 mining project environmental authority conditions, which could then be tailored to the individual circumstances of each mining project and the individual circumstances of the environment for that mining project, based on analysis of relevant data and reasoning set out in supporting documentation for the application, such as in the environmental impact statement for the project;
   (c) [redacted] suggested to QRC that processing of applications was likely to be generally quicker and simpler (that is, 'streamlined') if applicants would be able to commit to meeting these 'streamlined conditions', but a key element of his proposal

[redacted]

was that the conditions were nevertheless intended to be able to be adapted to individual circumstances;

(d) [redacted] emphasised frequently at the meetings with QMC that the template conditions were intended to be 'outcomes-based' (for example, setting noise standards measured at 'sensitive places' in response to any complaints, rather than restricting innovation about how those standards would be achieved in individual circumstances from time to time); and

(e) He advised that it was intended to provide for a 'level playing field' for the industry in terms of reporting, other paperwork requirements and the drafting approach to the conditions.

9. These 'streamlined conditions' were then adopted as part of a 'guideline' for environmental management planning for Level 1 mining projects which was published on the Department's website at that time, but which has since been removed.

10. My opinion is that the general approach of consulting with an industry to prepare codes for less complex projects such as exploration and mineral development, and using a guideline with a set of 'template' or 'model' conditions for more complex projects, remains a useful approach, provided that both the drafting and implementation of those conditions is in accordance with the intentions which I understand to have been originally proposed by [redacted]

11. In my opinion, for the reasons explained below, the version of the Fitzroy model water conditions developed and imposed on all Fitzroy company environmental authorities in the period June 2009 to January 2010 were not in accordance with those original intentions. However, the revised version of the Fitzroy model water conditions endorsed by DERM on 10 August 2011, as explained below, are reasonably in accordance with those original intentions.

Question 1 – 'a detailed chronology of the QRC's involvement in: a. the process of the Department of Environment and Resource Management (DERM) drafting and finalising the Fitzroy model conditions in response to the Hart report' and
Question 3 b. 'further detail on QRC's opinion as to: b. the process of negotiating the Fitzroy model conditions' *(which I understand as a reference to the version of the Fitzroy model conditions as ot 2009).*

12. Below is a detailed chronology, together with my opinions where relevant, about the process of DERM's preparation and imposition of the first version of the Fitzroy model conditions upon coal mines in the Bowen Basin region of Queensland:

Date	Steps and any comments
Pre-January 2008	Conditions of environmental authorities for mining projects varied widely from site to site. The 2008 floods came after many years of drought when mine sites had taken care to ensure that sufficient water was being stored to provide adequate supply. So extreme were the water supply issues that in 2006 / 2007, the industry funded, at a cost of $300M, an additional water supply pipeline to the northern Bowen Basin from the Burdekin Dam.
January 2008	A coal mine owned by Ensham Resources Pty Ltd (Ensham) was flooded.4 The mine is located near Emerald in central Queensland. The former Environmental Protection Agency (**EPA**) (now part of DERM), approved a transitional environmental program (**TEP**), permitting Ensham to discharge 138

[redacted]

	GL of mine-affected water into the Nogoa River.
November 2008	This was the date of a report to the Premier by Professor Barry Hart, entitled *Review of the Fitzroy River Water Quality Issues* (November 2008), although the discharge did not cause any serious health effects or problems for agriculture, it did result in *'discomfort to the residents of Tieri, Blackwater, Bluff, Middlemount and Dysart, due to the poor drinking water quality'* and he also found that Stanwell Power Station needed to make a range of plant modifications and obtain approval of a TEP for management of its water discharges, as a result of the Ensham discharge. The Hart report made numerous criticisms of the former EPA throughout the report, which in summary were primarily in relation to: • its poor assessment processes when approving the TEP for Ensham; • its poor communication with other government agencies, downstream users and the general public; • 'tardy' assessment of the impact of the Ensham release on riverine biota; and • generally, a lack of scientific data for making decisions, both in terms of inadequate baseline data and environmental impact data.
17 April 2009	The former EPA provided to me a copy of a draft version of its report entitled *"A study of the cumulative impacts on water quality of mining activities in the Fitzroy River Basin'* for any comments.
23 April 2009	I forwarded an e.mail to [redacted] and [redacted] of the former EPA with my detailed comments on the draft report, a copy of which is included as item 1 in the bundle of documents at **Annexure C.** In my opinion, those comments were not addressed in the final version of the EPA's report described below, which was issued shortly afterwards.
End April 2009	Following on from the recommendations of the Hart report, the former EPA published *'A study of the cumulative impacts on water quality of mining activities in the Fitzroy River Basin'* in April 2009. All of the operating coal mines in the Fitzroy River Basin cooperated in providing data to assist with this study. The most significant recommendation from this study was to *'standardise environmental authority conditions relating to water discharges...across the Fitzroy River Basin'* (page 1). The report was explicit that if the industry did not agree to the changes, then they would be imposed compulsorily (page 6). There were several options for imposing the conditions compulsorily, in particular, it was implied in the report (and subsequently stated by EPA officers more explicitly during meetings that I attended) that probably the approach would have been to rely on the power under the *Environmental Protection Act 1994* enabling amendments to be imposed compulsorily if *'the environmental authority was issued on the basis of a miscalculation of the environmental values affected or likely to be affected, by the relevant mining activity; or...the effects of the release of a quantity or quality of contaminant authorised to be released into the environment.'* (This would have been under Section 292(2) of the *Environmental Protection Act 1994* (Qld). It may be arguable that each company could have legally challenged that basis for compulsory amendment, if that had been the only threat. However, as a fallback, the report also threatened that the Government would have been prepared to go so far as to impose amendments statutorily if necessary (on p6). I believe that that this threat to circumvent the normal merits appeal process was a real threat, because the approach of amending conditions by statute was in fact carried

[redacted]

	out more recently for the coal seam gas (CSG) industry under the *Natural Resources and Other Legislation Amendment Act 2011.* In the circumstances, based on the concerns expressed to me by numerous members about the seriousness of the threat of compulsory amendment, I formed the opinion, which I still hold, that there was no choice at the time but to 'negotiate' at a peak industry level in accordance with the Government's timetable, and to accede quickly to numerous provisions which both QRC's members and I personally considered to be largely unworkable, poorly drafted and likely to lead to higher practical risks. Item 2 of the bundle of documents in **Annexure C** is a copy of page 6 of this report.
28 May 2009	Item 3 of the bundle of documents in **Annexure C** is a copy of meeting notes which I prepared, setting out the issues discussed at the first meeting between representatives of DERM and representatives of the mining industry. At this meeting, DERM representatives outlined the timeframe and scope of the proposed conditions but a draft was not yet available. As far as I am aware, DERM did not produce notes of this meeting.
2 June 2009	Item 4 of the bundle of documents in **Annexure C** is a copy of a letter which I prepared and sent to Lindsay Delzoppo of DERM on 2 June 2009 summarising my understanding of the timeframe, process and topics to be discussed.
5 June 2009	Item 5 of the bundle of documents in **Annexure C** is a copy of a letter dated 5 June 2009 which I received from Lindsay Delzoppo of DERM.
18 June 2009	Item 6 of the bundle of documents in **Annexure C** is a copy of meeting notes prepared by [redacted] of DERM, setting out issues discussed at the second meeting between representatives of DERM and representatives of the mining industry. Note that one of the issues raised from the mining industry was about emergency discharges, but the DERM response was that 'the purpose of this workshop is to focus on revised conditions for controlled discharges' (page 2 of the meeting notes). My recollection is not clear which industry member raised this issue, although I believe it was [redacted] who was employed by Anglo American at that time.
19 June 2009	Item 7 of the bundle of documents in **Annexure C** is a copy of an e.mail which I sent to [redacted] and [redacted] of DERM on 19 June 2009 setting out comments on the first draft of the Fitzroy model water conditions. I prepared the comments in consultation with the group mining company representatives who had attended the previous workshop.
31 July 2009	Item 8 of the bundle of documents in **Annexure C** is a copy of a pro forma letter dated 31 July 2009 to coal mining companies operating in the Bowen Basin region from [redacted] of DERM. Notably, instead of the original approach to 'model conditions' which [redacted] of the former EPA had discussed with QMC in 2001 allowing for 'tailoring' of conditions to individual circumstances and receiving environments, this letter refers to any changes to the conditions as 'deviations' which will be 'limited'.
18 September 2009	Item 9 of the bundle of documents in **Annexure C** is a copy of the final version of the 'Fitzroy Model Water Conditions for Coal Mines in the Fitzroy Basin'.
December 2009 to January 2010	All coal mining companies in the Bowen Basin region received amended environmental authorities which imposed the Fitzroy Model Water Conditions for Coal Mines in the Fitzroy Basin, with changes which I would describe as only 'limited' (consistent with the letter from [redacted] dated 31 July 2009 referred to above). As far as I am aware, these conditions did not include any

[redacted]

	transitional provisions for any mine in the region.

13. In my opinion, the consultation process for this first version of the Fitzroy model conditions was:
    (a) A forced process, with the consequence that only a small proportion of the mining industry's concerns about the conditions were addressed;
    (b) Not supported by adequate scientific data in relation to receiving environments or the impacts of mine affected water; and
    (c) Clearly intended to achieve a pre-determined outcome in relation to severely restricting releases of water from mines, without regard to the environmental risks of that approach, as expressed for example in my e.mail to [redacted] of the former EPA dated 23 April 2009.

14. Below is a detailed chronology, together with my opinions where relevant, about the process of consultation with DERM during 2010 about minor amendments to the Fitzroy model conditions just before the 2010/11 wet season, in response to question 1c of the Requirement:

Date	Steps and comments
18 May 2010	Item 1 of the bundle of documents in **Annexure D** is a copy of minutes of the DERM/QRC quarterly meeting which I attended, at which both QRC's chief executive Michael Roche and I sought a broad review of the Fitzroy model water conditions in light of their failings revealed during the 2009/2010 wet season. In summary, DERM was only prepared to consider particular issues and was reluctant to undertake a broad review in that year.
11 June 2010	Item 2 of the bundle of documents in **Annexure D** is a copy of an e.mail I prepared and sent to [redacted] of DERM on 11 June 2010, requesting a meeting to discuss amendments to the Fitzroy model water conditions.
8 October 2010	QRC's Chief Executive, Michael Roche met with DERM Director-General John Bradley. Following the meeting, I was informed by Michael Roche and I believe, that in relation to the Fitzroy model water conditions, the discussion had covered: *'he [JB] will write ond propose workshop on 25/10 to work through our list of points (from June). I [MR] soid we would wont to prioritise items to be addressed in near term. I [MR]ron him through my feor scenorio of Lo Nina, early wet season, lots of woter in mines, how do we get it out without environmental harm (meaning reloxotion of end of pipe measurement)'.*
13 October 2010	Item 3 of the bundle of documents in **Annexure D** is a copy of a letter from John Bradley, Director-General of DERM to Michael Roche, QRC, agreeing to a meeting to discuss the minor changes.
November 2010	Item 4 of the bundle of documents in **Annexure D** is a copy of the agenda for the November workshop prepared by DERM. An attachment to the agenda is a discussion paper which had been prepared by a number of QRC members with input from myself, explaining the need for the conditions to make a distinction between mine-affected water and other water, so as to allow mines to release clean water instead of being forced into ever-increasing storages. This discussion paper related to item 5e) of the agenda.
3 November 2010	Item 5 of the bundle of documents in **Annexure D** is a copy of meeting notes of the 'workshop' between QRC representatives and DERM representatives of 3 November 2010. These meeting notes were prepared by DERM representatives and provided as a draft to me for QRC's comments. I consider

[redacted]

the meeting notes to be an accurate record of the meeting. In relation to the 2010/11 wet season, I believe that the most important part of this meeting was the following (final paragraph on p2 through to first 5 paragraphs of page 3):

> *'Industry representatives outlined their concern that they were retaining excessive volumes of good quality water given the restrictions on discharge dilutions with the receiving water flows, because the conditions prevent mines from releasing that water in a timely way during the current 'window of opportunity' before the wet season is fully underway, as natural flow rates are not sufficiently high yet. If the industry cannot take the current 'window of opportunity', then day by doy, the quality of the accumulating water is gradually deteriorating. By the time that natural flow rates are sufficiently high for releases to be permitted under the conditions, there will be a very large volume of water that will be released and the quality will be significantly worse.*
>
> *It was confirmed that this is seen as an industry-wide issue and there were comments that nearly every mine is concerned about this issue.*
>
> *Jon Womersley suggested that each mine should negotiate different flow rates on a case by case basis. One industry representative commented thot they had been told that the 20% figure was a Cabinet decision and could not be varied, notwithstanding that the DERM officers involved said that they accepted that the scientific data provided would otherwise have been relevant.*
>
> *Other industry representatives explained that negotiation of upstream natural flow rates is particularly difficult if a mine happens to be locoted at the top of a catchment..*
>
> ***Action agreed** – there was agreement to reposition the explanatory notes in the condition (extended W9) to outline the case specific requirements when a 1:4 dilution cannot be achieved. It was proposed to relocate the paragraph within the existing explanatory note #4 'under certain circumstances.....'. There was discussion on how this would be reviewed on a case by case negotiation basis, although each ond every submission would need to be supported by a charocterisation of the quality of the water to be discharged, in particular the electrical conductivity values.'*

[redacted] of BMA was the industry representative referred to above who raised the concern that *'If the industry cannot take the current 'window of opportunity', then day by day, the quality of the accumulating water is groduolly deteriorating. By the time that natural flow rates are sufficiently high for releoses to be permitted under the conditions, there will be a very lorge volume of water that will be released and the quality will be significantly worse'*.

[redacted] of Ensham was the industry representative referred to above who commented that Ensham had been told that *'the 20% figure was a Cobinet decision and could not be varied'*.

[redacted]

	Attached to the meeting notes is a copy of a powerpoint presentation by Dr Sue Vink of the University of Queensland's Centre for Water in the Minerals Industry Sustainable Minerals Institute, which she presented at the beginning of the workshop.
12 November 2010	Item 6 of the bundle of documents in **Annexure D** is a copy of an e.mail from Jon Womersley of DERM to me dated 12 November 2010, deferring a response.
24 November 2010	Item 7 of the bundle of documents in **Annexure D** is a copy of a letter that I received from Jon Womersley of DERM on 24 November 2010, together with an attached version of the Fitzroy model conditions making minor amendments only. The letter proposed to address the issue of excessive water accumulations at mines only through allowing mines to apply for transitional environmental programs and not through amendments to the conditions. The letter declined at that stage to address the issue that the conditions did not distinguish between release of mine-affected water and other water, deferring this to a later stage. (The letter also attached a copy of the finalised meeting notes of 3 November 2010, set out above.)
6 December 2010	Item 8 of the bundle of documents in **Annexure D** is a copy of a letter that I prepared and sent to [redacted], Acting Assistant Director-General of DERM on 6 December 2010, in which I expressed the view that the DERM letter dated 24 November 2010 did not *'match the understanding that industry had of the outcomes'* of the 3 November 2010 workshop, for the reasons expressed in that letter. In particular, in this letter I advised that: *'As advised by one member at the review workshop who had undertaken a review of environmental authorities across the catchment, although numerous companies have sought variations to the 20% rule and although the existing explanatory notes had suggested that there was some room for variation, this has not been occurring in practice.* *It is also noted that there are still particular issues for mines located at or near the top of a catchment, where downstream users are reliant on receipt of water and the current approach to conditions effectively means that the tap is turned off for those downstream users who were quite happy with the water quality for their purposes.* *At the time of the review workshop, we had already reached a stage where numerous mines throughout the catchment ought to be making releases prior to minimum flow rates being reached, so that the quality of water does not deteriorate in the meantime. The suggestion that this should be addressed through a multitude of individual TEPs is not an efficient approach. The model condition itself (and the literal interpretation of district officers) was not supported by data. TEPs are treated by DERM as punitive, for example, this leads to downgrading of financial assurance discount.'* I remain of the opinions expressed in that letter.

15. I am informed by numerous members of QRC and I believe, that the reasons why mines did not apply to adopt the minor amendments agreed by DERM on 24 November 2011 were:

[redacted]

(a) The letter was received too late to be able to expect to process amendment applications prior to the 2010/11 wet season;
(b) Some members expressed concerns to me that if they applied for amendments, DERM was likely to take the opportunity to impose other amendments relating to 'regulated dams', which is another set of draft model conditions and a draft manual that has not been agreed by QRC, but which has already been imposed on numerous environmental authorities for mining projects, often when they applied for unrelated amendments;
(c) The amendments to the model conditions approved by DERM on 24 November 2010 were too minor to justify the process of applying for the amendments, given the risk of unrelated conditions being imposed; and
(d) The amendments to the model conditions were so minor that they would not have made a substantive difference to the restrictions on water releases for the impending wet season, compared with the existing conditions.

16. In my opinion, the process of consultation for the minor amendments to the Fitzroy model conditions of November 2010 was:

(a) Delayed for too long;
(b) Inadequate in addressing the substantive concerns raised by the mining industry about the need to prepare for the 2010/11 wet season; and
(c) Generally ineffective.

17. Nevertheless, as can be ascertained from the minutes of the 'workshop' of 3 November 2010, there was a marginal improvement in the DERM consultation process in November 2010 compared with the 2009 consultation process, in that there was recognition from some particular DERM officers attending that meeting, notably [redacted] of the significance of the substantive issues raised by QRC members, particularly in relation to the need to tailor flow and dilution conditions to the circumstances of individual mines and their receiving environments, and the need to authorise mines to release clean water outside of high flow conditions. I believe that this paved the way for a more constructive consultative approach, starting with TEPs during the 2010/11 wet season and continuing into the consultation process for the revised Fitzroy conditions in 2011.

The history and nature of the improvements made by the revised Fitzroy model water conditions endorsed 2011 and the topics on which QRC considers that further improvements could be made

18. Below is a detailed chronology of the consultation process for the revised Fitzroy model water conditions 2011, in response to question 1c of the Requirement:

Date	Steps and any comments
28 February 2011	Item 1 of the bundle of documents in **Appendix E** is a copy of an e.mail to Michael Roche from Mike Birchley, then Acting Assistant Director-General, Regional Service Delivery for DERM, following a meeting on 21 February with the Director-General of DERM, John Bradley, in which QRC was advised that in light of the recent wet season, the review of Fitzroy model water conditions would be brought forward and was intended to be completed by the end of July 2011. The email also noted that this process was to be run by Andrew Brier, General Manager Coal & CSG Operations.
12 May 2011	This was the date on which I received the *Terms of Reference for the Fitzroy Model Water Conditions Review* (prepared by DERM, taking into account

[redacted]

	various comments received from QRC members during April 2011), including topics for discussion, a proposed timetable and details of the broader consultation process with government agencies and other stakeholders. A copy of this document is item 2 of the bundle of documents in **Appendix E.**
31 May 2011	Item 3 of the bundle of documents in **Appendix E** is a copy of the agenda for the workshop between DERM representatives and QRC on 31 May 2011 together with attachments to the agenda (other than the terms of reference of 12 May 2011 previously provided at item 1). The attachments included a series of proposals by DERM to address issues previously raised by QRC. The agenda was essentially prepared jointly by DERM and QRC representatives, with numerous people having input. Item 4 of the bundle of documents in **Appendix E** is a copy of the minutes for the workshop between DERM representatives and QRC on 31 May 2011, prepared by DERM representatives, taking into account most of the comments on the minutes from QRC representatives.
15 June 2011	Item 5 of the bundle of documents in **Appendix E** is a copy of a file note that I prepared of an update from Andrew Briers of DERM about the process to finalise the review, at the DERM/QRC quarterly forum held on 15 June, which I attended together with QRC chief executive, Michael Roche.
22 June 2011	Item 6 of the bundle of documents in **Appendix E** is a copy of a response to action items from the workshop of 31 May 2011, which I received from Andrew Brier of DERM on 22 June 2011 together with a marked-up version of the draft revised model conditions.
29 June 2011	Item 7 of the bundle of documents in **Appendix E** is a copy of the agenda for the workshop between DERM representatives and QRC on 29 June 2011 together with DERM's attached marked-up version of the draft revised model conditions. (The attachments also included the response to action items from the workshop of 31 May 2011, previously provided at item ##).
1 July 2011	Item 8 of the bundle of documents in **Appendix E** is a copy of an e.mail that I forwarded to [redacted] and Andrew Brier of DERM on 1 July 2011 together with attached notes on drafting issues relating to the definition of 'mine-affected water' and conditions W1 and W2 prepared by QRC's lawyer, [redacted] (with input from various other members).
1 July 2011	Item 9 of the bundle of documents in **Appendix E** is a copy of an e.mail that I received in response from [redacted] of DERM, mentioning the next step in DERM's consultation process with a community group.
14 July 2011	Item 10 of the bundle of documents in **Appendix E** is a copy of an e.mail update from [redacted] of QRC to various members, in my absence on leave overseas.
27 July 2011	Item 11 of the bundle of documents in **Appendix E** is a copy of an e.mail series between [redacted] of DERM and myself about various drafting issues in the revised draft model conditions.
29 July 2011	Item 12 of the bundle of documents in **Appendix E** is a copy of an e.mail series between [redacted] of DERM and myself about various further drafting issues in the revised draft model conditions.
10 August 2011	Item 13 of the bundle of documents in **Appendix E** is a copy of an e.mail from [redacted] of DERM confirming that DERM's General Manager for Coal and Coal Seam Gas had endorsed the revised model conditions.
25 August 2011	An industry training workshop was conducted by DERM for the coal mining industry and consultants, to assist them with preparing applications for amendment of Fitzroy conditions in time to prepare for the next wet season.

[redacted]

	In my opinion, this was a practical and helpful workshop.

Comparison between the original (2009) version of the model conditions and the revised (2011) version of the model conditions

19. A series of questions in the Requirement to Provide Statement to the Commission of Inquiry dated 6 September 2011 relates to the deficiencies in the original (2009) version of the Fitzroy model water conditions, the changes that were made to those conditions and which further changes QRC would like to see. Generally, the simplest method of explaining the deficiencies in the original (2009) version is by way of comparison with the revised version (2011). Accordingly, it is proposed to group together the responses to this series of questions, as follows:

Question 4 – *'an elaboration of the parts of the Fitzroy model conditions (in the form they were in before the 2010/2011 wet season) that the QRC considers to be inadequate, including:*

a. high flow conditions for releases;

b. dilution as the measure of environmental acceptability;

c. releases of mine-affected water in advance of expected rainfall events or flooding'.

Question 5 – *'details of the amendments to the model conditions QRC considers would deal with the problems raised by it in its submission or in the statement'.*

Question 7 – *'elaboration of what a 'wet season preparation plan' as proposed in its submission would entail, the type of provisions it would include and the outcomes expected'*

Question 11 – *'an explanation of the changes to the model conditions arising out of the process of negotiation following the 2010/2011 wet season and QRC's opinion as to each of those changes'.*

Question 12 – *'QRC's opinion as to:*

a. the efficacy of the process undertaken since the 2010/2011 wet season

b. the advantages and disadvantages of the outcome of that process

c. how the revisions affect the likelihood that TEPs will be required in the 2011/2012 wet season;

d. any areas where the model conditions continue to require improvement.'

20. In response to Question 12a *'the efficacy of the process undertaken since the 2010/2011 wet season'*, in my opinion, the process of consultation undertaken by DERM with QRC and other stakeholders for the purpose of preparing the revised 2011 version of the Fitzroy model conditions has been exemplary, in particular:
    (a) The relevant DERM officers have listened to the concerns of mining industry representatives and have offered opportunities for the mining industry to suggest solutions and options;
    (b) The process has been reasonably prompt and in generally accordance with the intended timetable, allowing mines to engage in a thorough process of consultation with DERM about individual tailoring to particular circumstances, prior to the 2011/12 wet season;
    (c) The process has been iterative, rather than being simply imposed;
    (d) The changes to conditions relating to water quality parameters and flow requirements have been based on sound analysis of data; and
    (e) The training workshop to assist companies and their expert consultants to prepare suitable supporting information for their applications was practical and helpful.

21. Given the excellence of the consultation process in this instance, I would like to draw particular attention to the team of DERM officers who have been involved throughout the 2011 process: Andrew Brier (General Manager for Coal and Coal Seam Gas), [redacted] (Acting Director, Coal Operations) [redacted] (Chief Scientist, Aquatic Ecosystem Risk &

[redacted]

Decision Support), [redacted] (Regional Manager, Environmental Services Mining – Rockhampton Central West Region) and Chris Loveday (Regional Director – Central Region).

22. The key deficiencies in the original (2009) version of the model conditions, which I consider to have been reasonably addressed (or at least significantly improved) in the revised 2011 version are as follows:

(a) Increased flexibility to tailor conditions and in particular to prepare for heavy wet seasons on a site-by-site basis –

There is a completely new set of explanatory notes on p5 of the revised model conditions, as follows:

> *'Model conditions do not preclude applicants from proposing alternative or additional conditions, nor restrict the administering authority from using alternative conditions where the case warrants. However, applications proposing alternative approaches will need to be supported by sufficient environmental risk assessment and contingency planning information to allow the administering authority to adequately consider the proposal.*
>
> *There may be instances where case-by-case proposals can be considered for conditions to address management of particularly heavy rainfall and flooding that is similar to previous events, where there is sufficient information available based on: previous transitional environmental programs, monitoring and analysis, the environmental values of the receiving environment together with the experience of impacts on those environmental values, rigorous contingency and disaster response planning, and with particular regard to actual and potential cumulative impacts. For example, there may be potential to tailor a schedule of conditions to be triggered upon reaching nominated thresholds of rainfall, flow, flooding (or a combination) based on learning from an event that has occurred in the past; possibly adopting a similar framework to previous discharge permissions granted in similar circumstances, provided the framework was demonstrated to adequately address environmental risk to the satisfaction of the delegate.'*

In response to question 7, ***'elaboration of what a 'wet season preparation plan' as proposed in its submission would entail, the type of provisions it would include and the outcomes expected'***, in my opinion, the revised conditions essentially capture this approach through a combination of:

(i) The above advice that: *'For example, there may be potential to tailor a schedule of conditions to be triggered upon reaching nominated thresholds of rainfall, flow, flooding (or a combination) based on learning from an event that has occurred in the past; possibly adopting a similar framework to previous discharge permissions granted in similar circumstances, provided the framework was demonstrated to adequately address environmental risk to the satisfaction of the delegate,'* and

(ii) The series of amendments to conditions authorising releases under the mine's water management plan and erosion and sediment control plan (as described and explained in the correspondence included in Annexure E).

(b) There is a new, tailored approach to authorising different volumes of releases, based on water quality, the receiving environment and different flow conditions in receiving waters

[redacted]

The new explanatory notes are set out on pages 5 to 6 of the revised conditions, under the headings 'No/low flow stream conditions (best quality / low EC mine affected water)', Medium flow stream conditions (medium quality mine affected water)' and 'High flow stream conditions (poorer quality water)'. The scientific rationale is explained in detail in the paper prepared by [redacted] of DERM, which is an attachment to the agenda for the workshop between DERM representatives and QRC on 31 May 2011 in Annexure E. Together with the explanatory notes quoted in paragraph (a) above, this more nuanced approach to matching water quality with flow reasonably addresses the concerns which QRC expressed in our submission of March 2011 and summarised in the Requirement, about:

'a. high flow conditions for releases;
b. dilution as the measure of environmental acceptability;
c. releases of mine-affected water in advance of expected rainfall events or flooding'.

In particular, one of the explanatory notes in relation to 'no/low flow stream conditions' which should enable many mines to prepare for wet seasons by releasing water in advance is the note: *'The focus of this is to allow "good" quality water to be released when collected rather than having it stored over long durations resulting in deteriorating water quality.'*

(c) Safety and accessibility of nominated monitoring points

A frequent issue for mines during the 2010/11 wet season was that, not only were normal monitoring points under the environmental authority conditions unsafe or inaccessible, but also monitoring points nominated under TEP conditions were overtaken by flooding and became unsafe or inaccessible. Examples are referenced in the statement of Mark Heaton of Anglo American Metallurgical Coal dated 6 September 2011 at sections 10 and 11.

A new explanatory note on page 10 of the revised conditions now notes that: *'Other considerations include accessibility, particularly during wet weather conditions.'*

(d) Turbidity/Total suspended solids

A practical difficulty with the 2009 version of the conditions imposed on mines was the requirement for monitoring results for the water quality parameter of 'suspended solids' in order to be permitted to release water. Given that there is normally a delay in obtaining laboratory analytical results for suspended solids, this meant that the opportunity for release was often lost before the results were received. The revised Table 2 and the explanatory notes will allow mines the flexibility to apply for substitution of a parameter for turbidity, based on a demonstrated correlation.

(e) Beneficial re-use conditions

The 2009 version of the model conditions does include a series of conditions authorising water reuse (conditions W23 to W27) but drafting errors in these conditions severely restricted the ability of mines to rely on these conditions. Drafting improvements in this series of conditions will provide new opportunities for mines to supply water to their neighbours and communities. For example, the 2009 version of the stockwater and irrigation conditions are as follows:

'W24 *Water contaminated by mining activity may be piped or trucked or transferred by some other means that does not contravene the conditions of this authority during periods of dry weather for the purpose of supplying stock water to properties directly adjoining properties*

[redacted]

owned by the environmental authority holder or a third party and subject to compliance with the quality release limits specified in Table 9 Stock Water Release Limits.

Table 9 Stock Water Release Limits

Quality characteristic	Units	Minimum	Maximum
– pH	– pH units	– 6.5	– 8.5
– Electrical Conductivity	– µS/cm	– N/A	– 5000

This contrasts with the 2011 version as follows:

'W25 *Water contaminated by mining activity may be piped or trucked or transferred by some other means that does not contravene the conditions of this authority during periods of dry weather for the purpose of supplying irrigation water to properties directly adjoining properties owned by the environmental authority holder or a third party and subject to compliance with quality release limits in Table 10 Irrigation Water Release Limits.*

Table 10 Irrigation Water Release Limits

Quality characteristic	Units	Minimum	Maximum
– pH	– pH units	– 6.5	– 8.5
– Electrical Conductivity	– µS/cm	– N/A	– Site specific value to be determined in accordance with ANZECC & ARMCANZ (2000) Irrigation Guidelines and provided through an amendment process –

W26 *Mine affected water may be piped or trucked or transferred by some other means that does not contravene the conditions of this environmental authority and deposited into artificial water storage structures, such as farm dams or tanks, or used directly at properties owned by the environmental authority holder or a third party for the purpose of:*

i) supplying stock water subject to compliance with the quality release limits specified in Table 9; or

ii) supplying irrigation water subject to compliance with quality release limits in Table 10; or

iii) supplying water for construction and/or road maintenance in accordance with the conditions of this environmental authority.

Table 9 (Stock Water Release Limits)

Quality characteristic	Units	Minimum	Maximum
– pH	– pH units	– 6.5	– 8.5
– Electrical Conductivity	– µS/cm	– N/A	– 5000

[redacted]

Table 10 (Irrigation Water Release Limits)

Quality characteristic	Units	Minimum	Maximum
– pH	– pH units	– 6.5	– 8.5
– Electrical Conductivity	– µS/cm	– N/A	– Site specific value to be determined in accordance with ANZECC & ARMCANZ (2000) Irrigation Guidelines

In summary, the drafting improvements are:

(i) A wider range of properties may be benefited, due to the deletion of the term 'directly adjoining properties'. Not only does this allow water to be transported further afield, but it also allows water to be used on the mining lease holders' own land, for example, where cattle are agisted within a mining lease.

(ii) The nature of the acceptable types of discharge point is now described.

(iii) There is a new explanatory note encourages flexibility, for example, in relation to other types of businesses who may be interested in receiving the water and other modes of transportation.

(iv) In my experience, many companies were unable to irrigate at all, because they were concerned that if they applied for amendments to include site specific values for electrical conductivity (the measure of salinity), DERM may take the opportunity to impose unrelated conditions. However, during the 2011 consultation process, Andrew Brier has assured QRC that DERM will not do this when applications are made to adopt the revised Fitzroy model water conditions.

(f) Separation of 'mine affected water' from other water and specific authorisations for mines to release water which is not 'mine affected water'.

These changes and the reasons for them are explained in detail in the series of correspondence in Annexure E and the discussion paper on this topic annexed to the agenda for the meeting of 31 May 2011 in Annexure E.

(g) There are numerous other changes, largely in relation to paperwork requirements.

23. In response to question 12c (*'c.* **how the revisions affect the likelihood that TEPs will be required in the 2011/2012 wet season'**), in my opinion: provided that the applications for amendment adopting and tailoring the revised conditions for each individual mine in the region are processed expeditiously and in the same spirit of cooperation as the revised model conditions were negotiated, and also provided that adequate quantities of water that are currently remaining on sites from the 2010/11 wet season are able to be addressed appropriately in time, there should be a significantly reduced need for TEPs to be required if there is a similar heavy wet season in 2011/12 as occurred in 2010/11. During the workshop of 29 June 2011, [redacted] of DERM indicated that according to DERM's analysis the new conditions would have reduced the need for TEPs by approximately 50%, so it seems that this analysis is reasonably consistent, although possibly DERM may have underestimated the amount of water which could have been used for beneficial re-use purposes under the revised conditions.

[redacted]

24. However, Andrew Brier of DERM specifically commented at the workshop on 29 June 2011 that it was not DERM's intention to 'look in a crystal ball' to be able to foresee every possible type of future emergency situation which might arise at mines. The explanatory notes for the revised conditions are only intended to facilitate conditions which would allow mines to prepare for and respond to reasonably similar conditions. That, in itself, is clearly a very significant advance.

25. However, I agree with the point by Andrew Brier that it is impossible to foresee every type of emergency and that there will accordingly always be a need for an emergency mechanism. DERM's view (expressed to QRC in many documents set out in the Annexures and discussed further below) is that the appropriate emergency mechanism is a TEP, but QRC would like DERM to consider emergency directions in some situations.

26. In response to question 12d (***'any areas where the model conditions continue to require improvement'***), some of the comments which I have received from members include:

    (a) After the consultation process with QRC, Queensland Health required DERM to include a monitoring parameter for sodium, but members have raised the question whether this was mistaken and the intention was to monitor for a particular sodium compound;
    (b) Members had hoped to delete the requirement to monitor for sulphate as there is a correlation between sulphate and EC, but DERM has required each mine to demonstrate its own individual correlation between sulphate and EC first;
    (c) There still appears to be a grammatical error in condition W1, where the phrase 'as a result of the authorised mining activities' is located after the words 'released directly or indirectly to any waters', consequently appearing to qualify those words rather than the word 'contaminants'.

27. In response to question 12b (*'the advantages and disadvantages of the outcome of that process'*), overall my opinion is that the advantages of this constructive consultation process vastly outweighed the remaining issues with the conditions, which are either relatively minor or ought to be capable of negotiation with DERM on a site by site basis.

Responses to questions about transitional environmental programs (TEPs) (Questions 1b, 2, 3c and 6)

Response to question 1b – *'any other government response to the Hart report'*.

28. Major recommendations of the Hart report related to improving the contents and assessment of transitional environmental programs.

29. I received from [redacted] of DERM an exposure draft of the *Environmental Protection and Other Legislation Amendment Bill 2010* at about the end of October 2010, which contained a series of amendments to the provisions addressing transitional environmental programs.

30. I was too busy at that time to make any comments in the short timeframe offered by DERM, but I was aware that the Queensland Law Society (**QLS**) had also received an exposure draft and that they were making further inquiries and providing comments to Elisa Nicholls of DERM, so I asked the QLS simply to keep me informed.

[redacted]

31. I was informed by [redacted] of the QLS on about 12 November 2011, and I believe, that he was making further enquiries with DERM, and subsequently that he had ascertained that [redacted] was away, but that he had asked the question, *'Is it the intention of the TEP amendments to implement the recommendations of the Hart report, or have there been further policy decisions flowing from the recommendations? (The QLS tries to assist with comments about whether or not it appears that the drafting actually succeeds in implementing policy objectives, so it is useful to ascertain what the policy objectives are, rather than just making assumptions.)'* The response he received was that, *'The DERM officer managing the TEP amendments has stated that the amendments were made in response to operational issues that had been identified with the TEP provisions. The amendments are not in response to the Hart report, and he has no knowledge re have there been further policy decisions flowing on from these recommendations.'*

32. A copy of the QLS submission to the Scrutiny of Legislation Committee (refer to the Scrutiny website) is included in Annexure F and pages 3 to 4 of that submission deal with amendments to the TEP provisions. It does not appear that the QLS submission was addressed in the final version of the Act.
33. On 3 December 2010, I received from [redacted] of DERM a consultation draft of a guideline for assessing draft Transitional Environmental Programs (TEP) prepared in response to Recommendation 1 of the Hart Report (copy in Annexure F). On 14 December 2010, I provided comments to DERM on the consultation draft (copy in Annexure F). On 6 September 2011, I received an e.mail from [redacted] of DERM advising that the guideline had been finalised (copy in Annexure F).

Question 3c *'further detail on QRC's opinion as to c. the process of DERM granting TEPs both generally and particularly during the 2010/2011 wet season'*

34. My opinions in response to this question are accurately reflected in QRC's submission dated 11 March 2011 on page 3, as follows:

'It was due to [the] gap in [the original version of the Fitzroy model water] conditions that the Queensland Department of Environment and Resource Management (DERM) required the industry to engage in an inefficient and high-risk process of requiring 'transitional environmental programs' (TEPs) prior to allowing urgent water releases. TEPs were also used for the coal seam gas (CSG) industry, although the issues are somewhat different for that industry as it is not regulated by the same conditions.

QRC acknowledges and appreciates that many officers of DERM gave up their vacations and worked hard throughout the flood crisis to assess appropriate conditions for mine water releases immediately before and during the crisis. However, this should not have been necessary if appropriate conditions and plans had been in place in advance, as had been sought by QRC and our members for a lengthy period in advance of the 2010/11 wet season.'

35. The only mechanism offered by DERM to enable mines to release water in preparation for the 2010/11 wet season (but after this wet season was already significantly advance) was the 'transitional environmental program' (TEP) process. This was set out in an e-mail from Terry Wall of DERM to a group-list of mines dated 6 December 2010. Annexure F contains a bundle of documents setting out the DERM approach to issuing TEPs during the 2010/11 wet season.

36. These TEPs were not proposed to be assessed on the basis of the normal content requirements and assessment criteria under the *Environmental Protection Act 1994*, but rather there was an additional

[redacted]

informal set of contents and criteria advised. Experience has shown that the TEPs which have been approved most quickly have tended to relate to mines which are able to discharge directly to major rivers, so that there is a very high dilution rate, particularly given that the flow rates in those rivers are already high. The *pro forma* guide for preparing TEPs provided by DERM in December 2010 headed 'DRAFT TRANSITIONAL ENVIRONMENTAL PROGRAM UNDER SECTION 333 OF THE *ENVIRONMENTAL PROTECTION ACT 1994*' includes model conditions requiring minimum flow rates, similar to the Fitzroy conditions themselves.

37. The difficulties with using TEPs as a mechanism to deal with inadequate conditions were set out in Appendix E to QRC's submission of 11 March 2011. A copy of that document is included in **Annexure G** to this statement. This document accurately reflects my opinions.

38. In response to question 2 (***'a list of issues raised in discussions with DERM regarding the Transitional Environmental Program (TEP) process)***, the series of issues which have most frequently been raised in discussions with DERM at or before the time of the wet season were generally along the lines set out in: section 2.1 of Annexure G (the statutory purpose of a TEP is not supposed to be to overcome a gap in inadequate conditions but to bring a business into compliance with conditions), 2.3 (normally TEPs take time to assess properly and the experience of mines in the region was variable, leading to the loss of 'windows of opportunity' and 2.6 (In the past, DERM has sometimes reported on, or otherwise used TEPs as if they were evidence of poor environmental performance by a company). I do not recall specifically raising the other points in the Annexure in discussions with DERM at that time. However, subsequently, I am aware that some companies have experienced difficulties with seeking amendments to TEPs (for example to relocate monitoring points or gauges) for the reasons explained in section 2.5. For example, refer to the submission and statement to the Commission from Anglo American.

Question 6 – 'details of changes to the process of issuing TEPs which the QRC considers necessary for the decision to grant a TEP:
a. to be made on a whole-of-government basis
b. to take into account all relevant considerations
c. to strike an appropriate balance between environmental concerns and public safety

39. First, I adopt as my opinions the submission by the QLS to the Scrutiny of Legislation Committee contained in Annexure F.

40. QRC's comments on balancing environmental considerations and other important considerations such as safety in section 4 of Appendix E to our submission (Annexure G to this statement) were not intended to be restricted to TEPs, but rather to decisions under the *Environmental Protection Act 1994* generally.

41. As stated in QRC's submission, the *Environmental Protection Act 1994*, as it currently stands, 'does not prevent human considerations from being given priority' but, as explained in our submission:

'(a) That the list [in section 23] is limited and in particular does not include mine safety legislation or general workplace health and safety legislation.
(b) This list of safety Acts only prevails to the extent of a conflict with the EP Act. There may be many situations when a human safety issue conflicts with an ecological issue in practical terms, but that does not mean that the conflict is spelled out in the Act. The general principle of statutory interpretation is that, if there is argued to be any inconsistency between statutes, the courts will try

[redacted]

to read both statutes together so that it is necessary to comply with both, rather than to give priority to one over the other.
(c) The section only refers to conflict with an 'Act', not with instruments issued under the Act, such as directions and notices.
Consequently, the various correspondence from DERM to QRC inviting TEPs has been careful to restrict this to situations where the environmental impacts would be 'acceptable' (particularly in the context of overall dilution).'

Emergency directions
Question 8 – *'elaboration of how the QRC considers the emergency direction power under the Environmental Protection Act should be used, including the circumstances where it would be appropriate by reference to particular examples from the 2010/2011 wet season'*

42. First, it should be clarified that it was not QRC's opinion that the emergency direction power should be the preferred mechanism to address preparation and response to a heavy (but not unprecedented) wet season, such as the 2010/11 wet season. My opinion (which I understand to be consistent with that of QRC's chief executive, Michael Roche) is that the best approach for this type of purpose is a schedule of environmental conditions with provision for flood conditions and also including provision for water management planning, release of water in advance of the wet season (matching water quality parameters appropriately with receiving waters flow) and diversion of good quality water away from disturbed areas. The revised Fitzroy model water quality conditions have made significant improvements in this regard.

43. The primary reason why a question arose for consideration whether the TEP mechanism or the emergency directions power was more suitable for individual circumstances during the 2010/11 wet season was that adequate environmental authority conditions were not in place. In that situation, some (but not all) mines lost a 'window of opportunity' to release water before the quality of the water deteriorated significantly and accordingly they are still holding that poor quality water. The TEP mechanism was not appropriate to address that situation for the reasons explained in Annexure G. Site-by-site emergency directions would have cut through the paperwork, so that the 'window of opportunity' could have been used. Particular examples have been provided in QRC's letter to the Commission dated 5 September 2011.

44. Once appropriate environmental authority conditions are in place, these should be able to address foreseeable events similar to the 2010/11 wet season. However, there may be other types of more extraordinary emergencies, such as a tsunami or severe cyclone, which would still justify an emergency response rather than the paperwork of a TEP.

Question 9 - refusal by the Department of Environment and Resource Management or any Minister to invoke emergency direction powers

45. **Annexure H** sets out the letter from Michael Roche, chief executive of QRC to the Premier dated 28 January 2011 and the Premier's response to him (undated but received on 4 February 2011).
46. From recollection, Michael Roche also discussed the issue with senior DERM personnel, but I have not been able to locate a record of this in the time available.

[redacted]

Question 10 – 'an overview of any meeting, discussion or negotiation involving the QRC and any relevant Minister or Director-General regarding the Fitzroy model conditions, environmental authorities, transitional environmental programs and emergency directions since 1 January 2010'

47. Other than the correspondence between Michael Roche of QRC and the Premier contained in Annexure H, I am aware that Michael Roche also met with the then Environment Minister, the Hon Kate Jones MLA in early 2011 to discuss the need to progress the review of the Fitzroy model water conditions, but in the absence of Michael Roche on annual leave, I have not been able to locate a record of this.

48. For 2010, I was informed by Michael Roche and I believe that, following the discussion between Michael Roche and Terry Wall of DERM at the February 2010 QRC / DERM quarterly Forum, Michael Roche subsequently confirmed this with the then Environment Minister the Hon Kate Jones MLA.

49. I was informed by Michael Roche and believe that he has also discussed the issues of excess water being retained at mines with the Treasurer, the Hon Andrew Fraser MLA, but I have not been able to locate a record of this in the absence of Michael Roche on leave.

DERM resourcing issues

50. In response to question 3d, ***'DERM's ability and expertise (as a department) to take into account all relevant considerations when approving TEPs, including opinion as to the statutory criteria set and resourcing issues',*** QRC was not involved in individual applications by mines for TEPs and is unable to comment on the work of individual DERM officers in that regard.

51. However, in general terms, it would be unsurprising to find that the more highly qualified, senior and experienced DERM officers are more likely to be capable of making expert practical judgments reasonably expeditiously, contrasted with more junior, less qualified officers.

52. The capacity of any employer to attract and retain the services of highly qualified and experienced personnel, on average, tends to bear some relationship to reasonable rewards and conditions of employment, although in some individual cases there may be an additional element of altruism involved.

53. It is well-known that Australia has a 'two-speed economy'. Not only the mining industry, but also various other successful industries, often make offers to the more highly qualified and experienced personnel from DERM, which are significantly more attractive than their positions with DERM. In my opinion, the answer is not to suggest that highly qualified and experienced personnel should remain in relatively low-paid employment, nor is the answer for DERM to fill the gaps with relatively inexperienced and relatively poorly qualified personnel.

54. To the extent that there are constraints on budget, in my opinion, the community would be better served by focussing resources on significantly better salaries and conditions to attract and retain highly qualified and experienced staff, as a higher priority than filling chairs with less qualified and experienced personnel. This is particularly an issue outside of Brisbane. I have frequently discussed resourcing issues in the regions with senior DERM management.

55. To fill short-term needs or gaps, another option is for DERM to engage specialist independent consultants from time to time, for example, I am aware that DERM has recently adopted this approach for the purpose of seeking advice from senior independent professional engineers, for the

purpose of a comprehensive review and re-write of a draft 'regulated dams conditions and manual' and I believe that is a useful approach.

56. I have already commented on statutory criteria in the section of my statement addressing transitional environmental programs.

I make this solemn declaration conscientiously believing the same to be true, and by virtue of the provisions of the *Oaths Act 1867*.

Signed..[redacted].....
FRANCES HAYTER

Taken and declared before me at Brisbane this 7th day of September 2011

.....[redacted]
Solicitor

[redacted]

Appendix A
Statement of Frances Hayter

Our ref: Doc 1695328

6 September 2011

Mr Greg Lane
Acting Chief Executive
Queensland Resources Council
Level 13, 133 Mary Street
BRISBANE QLD 4000

Dear Mr Lane

Please find enclosed two Requirements to Provide Statements addressed to:
1. Mr Greg Lane, Acting Chief Executive
2. Ms Frances Hayter, Director Environment and Social Policy.

The return date for both requirements is 5 pm, Tuesday, 6 September 2011.

If you require further information or assistance, please contact [redacted] on telephone [redacted] or [redacted] on telephone [redacted].

We thank you for your assistance.

Yours sincerely

[redacted]
Jane Moynihan
Executive Director

Encl.

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Our ref: Doc 1695252

6 September 2011

Ms Frances Hayter
Director Environment and Social Policy
Queensland Resources Council
Level 13, 133 Mary Street
BRISBANE QLD 4000

REQUIREMENT TO PROVIDE STATEMENT TO COMMISSION OF INQUIRY

I, Justice Catherine E Holmes, Commissioner of Inquiry, pursuant to section 5(1)(d) of the *Commissions of Inquiry Act 1950* (Qld), require Ms Frances Hayter, Director Environment and Social Policy, Queensland Resources Council, to provide a written statement, under oath or affirmation, to the Queensland Floods Commission of Inquiry, in which the said Ms Hayter provides the following:

1. a detailed chronology of the QRC's involvement in:
    a. the process of the Department of Environment and Resource Management (DERM) drafting and finalising the Fitzroy model conditions in response to the Hart Report
    b. any other government response to the Hart Report
    c. negotiations about amendments to the model conditions in the lead up to, and after, the 2010/2011 wet season

2. a list of issues raised in discussions with DERM regarding the Transitional Environmental Program (TEP) process

3. further detail on QRC's opinion as to:
    a. the approach of having model conditions for mines
    b. the process of negotiating the Fitzroy model conditions
    c. the process of DERM granting TEPs, both generally and particularly during the 2010/2011 wet season
    d. DERM's ability and expertise (as a department) to take into account all relevant considerations when approving TEPs, including opinion as to the statutory criteria set and resourcing issues

4. an elaboration of the parts of the Fitzroy model conditions (in the form they were in before the 2010/2011 wet season) that the QRC considers to be inadequate, including:
    a. high flow conditions for releases
    b. dilution as the measure of environmental acceptabili

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c. releases of mine-affected water in advance of expected rainfall events or flooding

5. details of the amendments to the model conditions QRC considers would deal with the problems raised by it in its submission or in the statement

6. details of changes to the process of issuing TEPs which the QRC considers necessary for the decision to grant a TEP:
   a. to be made on a whole-of-government basis
   b. to take into account all relevant considerations
   c. to strike an appropriate balance between environmental concerns and public safety

7. elaboration of what a 'wet season preparation plan' as proposed in its submission would entail, the type of provisions it would include and the outcomes expected

8. elaboration of how the QRC considers the emergency direction power under the Environmental Protection Act should be used, including the circumstances where it would be appropriate by reference to particular examples from the 2010/2011 wet season

9. refusal by the Department of Environment and Resource Management or any Minister to invoke emergency direction powers

10. an overview of any meeting, discussion or negotiation involving the QRC and any relevant Minister or Director-General regarding the Fitzroy model conditions, environmental authorities, transitional environmental programs and emergency directions since 1 January 2010

11. an explanation of the changes to the model conditions arising out of the process of negotiation following the 2010/2011 wet season and QRC's opinion as to each of those changes

12. QRC's opinion as to:
    a. the efficacy of the process undertaken since the 2010/2011 wet season
    b. the advantages and disadvantages of the outcome of that process
    c. how the revisions affect the likelihood that TEPs will be required in the 2011/2012 wet season
    d. any areas where the model conditions continue to require improvement

In addressing these matters, Ms Hayter is to:

- provide all information in his possession and identify the source or sources of that information;
- make commentary and provide opinions she is qualified to give as to the appropriateness of particular actions or decisions and the basis of that commentary or opinion.

Ms Hayter may also address other topics relevant to the Terms of Reference of the Commission in the statement, if she wishes.

The statement is to be provided to the Queensland Floods Commission of Inquiry by 5 pm, Tuesday, 6 September 2011.

The statement can be provided by post, email or by arranging delivery to the Commission by emailing info@floodcommission.qld.gov.au.

C. Holmes

Commissioner
Justice C E Holmes

Annexure B. Statement of Frances Hayter

B

2 September 2011

QUEENSLAND resources COUNCIL

Ms Jane Moynihan
Executive Director
Queensland Floods Commission of Inquiry
GPO Box 1783
Brisbane QLD 4001

By email: [redacted]

Dear Ms Moynihan

Clarification - requirement for statement – your ref: Doc 1690639
The Queensland Resources Council (QRC) appreciates the opportunity to provide a statement providing further details of the issues raised in our submission lodged on 11 March 2011.

Revised Fitzroy model water conditions
However, there has been a significant change of circumstances in the intervening months since our submission was provided to the Commission of Inquiry. A major focus of our submission was that the 'Fitzroy model water conditions' imposed on coal mines in the 'Fitzroy catchment' during the period December 2009 to January 2010 created difficulties for those companies both in preparing for, and responding to, the 2010/11 wet season and consequently there was a major concern that this experience could be repeated in the event of a similar wet season in 2011/12.

The important change since then is that the Queensland Department of Environment and Resource Management (DERM) has subsequently worked through an intensive process of consultation with the Queensland Resources Council and our members (as well as DERM consultation with other stakeholders such as Queensland Health) to revise the 'Fitzroy model water conditions' substantially. It was clear that the revision of the conditions was soundly based on an extensive and detailed analysis by senior DERM officers of water quality and flood data from the region. QRC was informed by DERM that the revised conditions were endorsed by DERM on 10 August 2011 and mining companies in the region were invited to apply for amendments to their environmental authority conditions to adopt the revised conditions, with individual variations tailored to the particular circumstances of each mine able to be negotiated. **Attached** is a copy of the revised model conditions.

Although QRC did not succeed in negotiating every drafting change that our members would perhaps have liked, I am satisfied that the remaining issues with the conditions are either relatively minor or are capable of being addressed on a site-by-site basis. The team of senior DERM officers involved in the analysis of scientific data and the review of conditions have devoted an outstanding effort to resolving this issue in time for implementation prior to the next wet season.

This does not mean that all of the issues raised in our submission have been addressed yet. In particular, we welcome the opportunity to provide further details of our concerns in relation to:

- Transitional environmental programs;
- Emergency directions;
- The need to deal with water that still remains at mines as a result of the last wet season;
- The relationship between the Fitzroy model water conditions and other 'model' conditions in relation to water management on mine sites;
- Road and rail infrastructure questions.

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However, we thought it appropriate to provide you with this update on the Fitzroy model water conditions in advance of providing a statement, because we believe that the changes are likely to impact quite substantively on the direction of some (but not all) of the questions raised in your letter dated 26 August 2011. QRC is concerned to avoid wasting the Commission's limited time on dealing with those particular issues which have subsequently been resolved satisfactorily since the date of our March submission.

QRC would also prefer not to pursue a 'blame game' in relation to the historic version of the Fitzroy model water conditions, as we do not believe that a useful purpose would be served by this.

In the table annexed to this letter, we have set out a list of the questions from your letter dated 26 August 2011, together with our comments on how we believe these questions are affected by the change of circumstance outlined above. Could you please advise whether you agree with our analysis.

Copies of documents
Your letter dated 26 August 2011 also requested a copy of 'all documents listed in Appendix C to your submission'. QRC originally provided a full copy of these documents with the copy of our submission which was delivered by post. On 27 April, QRC noted that these documents had not been included in the version of our submission which was published on the Commission's website. Attached is a copy of the series of emails in which we raised this with you and you confirmed that the documents had been located and published.

Please let us know if there is a reason why you need a further copy of these documents. Otherwise, we would prefer not to have to provide again, within the limited timeframe.

Form of statement
Your notice dated 30 August 2011 is directed personally to QRC's Chief Executive Michael Roche to provide a statement (as he was the signatory to the submission on behalf of the QRC).

In fact, negotiations on behalf of QRC in relation to road and rail transport issues were managed by myself, with the assistance of other staff. Mr Roche had limited personal involvement in the day-to-day management of those issues.

He was personally involved in discussions with DERM and the Premier on the particular issue of the problems with attempting to use the transitional environmental program mechanism as an emergency mechanism. However, other environmental issues were managed by QRC's Director of Environment and Social Policy, Frances Hayter.

Should we take the notice dated 30 August 2011 as directing QRC to provide statements from appropriate personnel or do you require a single statement from myself as Acting Chief Executive with Mr Roche currently on annual leave overseas?

QRC would appreciate an urgent response to these questions, noting that your correspondence requires statements by 6 September 2011.

Yours faithfully

Greg Lane
Acting Chief Executive

Final Model Water Conditions for Coal Mines in the Fitzroy Basin

Note:
Explanatory notes are in green. DELETE prior to issue of EA.
Insertions required by applicants and or the administering authority are in blue. DELETE prior to issue.

Contaminant Release

W1 Contaminants that will, or have the potential to cause environmental harm must not be released directly or indirectly to any waters as a result of the authorised mining activities, except as permitted under the conditions of this environmental authority.

W2 Unless otherwise permitted under the conditions of this environmental authority, the release of mine affected water to waters must only occur from the release points specified in Table 1 and depicted in Figure 1 <this would be a plan or plans locating all monitoring (water quality and flow) and release points> attached to this environmental authority.

W3 The release of mine affected water to internal water management infrastructure that is installed and operated in accordance with a water management plan that complies with conditions W33 to W38 inclusive is permitted.

Table 1 (Mine Affected Water Release Points, Sources and Receiving Waters)

EXPLANATORY NOTES – Determining Mine Affected Water Release Points:
Mine affected water release points should be specified in Table 1 where they represent a potential source of water contaminated by the mining activity. Release points associated with erosion and sediment control structures that have been installed in accordance with the standards and requirements of an Erosion and Sediment Control Plan to manage run-off containing sediment only that is not likely to contain contaminants or have properties that would cause environmental harm, do not need to be separately identified in Table 1.

Release Point (RP)	Latitude (decimal degree, GDA94)	Longitude (decimal degree, GDA94)	Mine Affected Water Source and Location	Monitoring Point	Receiving waters description
RP 1	XXXX	XXXX	e.g. Stormwater Dam Spillway Overflow	Dam Spillway	Wet Creek
RP 2	XXXX	XXXX	e.g. Dam overflow pipe	Sampling Tap on pipe where the pipe enters Sandy Creek	Sandy Creek

W4 The release of mine affected water to waters in accordance with condition W2 must not exceed the release limits stated in Table 2 when measured at the monitoring points specified in Table 1 for each quality characteristic.

Table 2 (Mine Affected Water Release Limits)

Quality Characteristic	Release Limits	Monitoring frequency	Comment
Electrical conductivity (uS/cm)	Release limits specified in Table 4 for variable flow criteria	Daily during release (the first sample must be taken within 2 hours of commencement of	

		release)	
pH (pH Unit)	6.5 (minimum) 9.0 (maximum)	Daily during release (the first sample must be taken within 2 hours of commencement of release)	
Turbidity (NTU)	Current limit or limit derived from suspended solids limit and demonstrated correlation between turbidity to suspended solids historical monitoring data for dam water*	Daily during release* (first sample within 2 hours of commencement of release)	Turbidity is required to assess ecosystems impacts and can provide instantaneous results.
Suspended Solids (mg/L)	Limit to be determined based on receiving water reference data and achievable best practice sedimentation control and treatment*	Daily during release* (first sample within 2 hours of commencement of release)	Suspended solids are required to measure the performance of sediment and erosion control measures.
Sulphate (SO_4^{2-}) (mg/L)	Release limits specified in Table 4 for variable flow criteria.	Daily during release* (first sample within 2 hours of commencement of release)	Drinking water environmental values from NHMRC 2008 guidelines OR ANZECC.

*Note: *Limit for suspended solids can be omitted if turbidity limit is included. Limit for turbidity not required if suspended solids limit included. Both indicators should be moesured in all cases.*

W5 The release of mine affected water to waters from the release points must be monitored at the locations specified in Table 1 for each quality characteristics and at the frequency specified in Table 2 and Table 3.

Note: the administering authority will take into consideration any extenuating circumstances prior to determining an appropriate enforcement responso in the evont condition W5 is contravened due to a temporary lack of safo or practical access. The administering authority expects the environmental authority holder to teke all reasonable and practicable measures to maintain safe and practical access to designated monitoring locations.

Table 3 (Release Contaminant Trigger Investigation Levels) Potential Contaminants

EXPLANATORY NOTES – Table 3 Potential Contaminants:

The quality characteristics listed below should be assessed on a site by site basis by each mine prior to finalisation of amendment applications. Based on this assessment, the quality characteristic should be either disregarded if below trigger levels; or included as priority contaminants in Table 3 if above trigger levels. Assessment should involve comparison of representative data from dams that have historically been discharged or likely to be discharged from contaminant release points in Table 1. Data may include historical results or sampling undertaken for this specific purpose. The intent here is that not all dams on site would need to be sampled but those that would make up the majority of water in dams with release points. It could also be demonstrated based on existing water quality information that the water source and relative water quality of some dam are the same, in which case such dams may not need to be sampled individually. For metals and metalloids, trigger levels apply if dissolved results exceed trigger levels. However, total (unfiltered) results for metals and metalloids can be used to disregard a characteristic for inclusion in Table 3. Terms include SMD – slightly moderately disturbed level of protection, guideline - refers ANZECC & ARMCANZ (2000), LOR – typical reporting for method stated. ICPMS/CV FIMS – analytical methods required to achieve LOR

Table 3 (Release Contaminant Trigger Investigation Levels) Potential Contaminants

Quality Characteristic	Trigger Levels (µg/L)	Comment on Trigger Level	Monitoring Frequency
Aluminium	65	*For aquatic ecosystem protection, based on SMD guideline*	Commencement of release and thereafter

Arsenic	13	*For aquatic ecosystem protection, based on SMD guideline*	weekly during release
Cadmium	0.2	*For aquatic ecosystem protection, based on SMD guideline*	
Chromium	1	*For aquatic ecosystem protection, based on SMD guideline*	
Copper	2	*For aquatic ecosystem protection, based on LOR for ICPMS*	
Iron	300	*For aquatic ecosystem protection, based on low reliability guideline*	
Lead	4	*For aquatic ecosystem protection, based on SMD guideline*	
Mercury	0.2	*For aquatic ecosystem protection, based on LOR for CV FIMS*	
Nickel	11	*For aquatic ecosystem protection, based on SMD guideline*	
Zinc	8	*For aquatic ecosystem protection, based on SMD guideline*	
Boron	370	*For aquatic ecosystem protection, based on SMD guideline*	
Cobalt	90	*For aquatic ecosystem protection, based on low reliability guideline*	
Manganese	1900	*For aquatic ecosystem protection, based on SMD guideline*	
Molybdenum	34	*For aquatic ecosystem protection, based on low reliability guideline*	
Selenium	10	*For aquatic ecosystem protection, based on LOR for ICPMS*	
Silver	1	*For aquatic ecosystem protection, based on LOR for ICPMS*	
Uranium	1	*For aquatic ecosystem protection, based on LOR for ICPMS*	
Vanadium	10	*For aquatic ecosystem protection, based on LOR for ICPMS*	
Ammonia	900	*For aquatic ecosystem protection, based on SMD guideline*	
Nitrate	1100	*For aquatic ecosystem protection, based on ambient Qld WQ Guidelines (2006) for TN*	
Petroleum hydrocarbons (C6-C9)	20		
Petroleum hydrocarbons (C10-C36)	100		
Fluoride (total)	2000	*Protection of livestock and short term irrigation guideline*	
Sodium	TBA		
Include additional contaminants as required	Include additional contaminants as required		

Note:

1. All metals and metalloids must be measured as total (unfiltered) and dissolved (filtered). Trigger levels for metal/metalloids apply if dissolved results exceed trigger.

2. The quality characteristics required to be monitored as per Table 3 can be reviewed once the results of two years monitoring data is available, or if sufficient data is available to adequately demonstrate negligible environmental risk, and it may be determined that a reduced monitoring frequency is appropriate or that certain quality characteristics can be removed from Table 3 by amendment.

3. SMD – slightly moderately disturbed level of protection, guideline refers ANZECC & ARMCANZ (2000).

4. LOR – typical reporting for method stated. ICPMS/CV FIMS – analytical method required to achieve LOR.

W6 If quality characteristics of the release exceed any of the trigger levels specified in Table 3 during a release event, the environmental authority holder must compare the down stream results in the receiving waters to the trigger values specified in Table 3 and:

1. where the trigger values are not exceeded then no action is to be taken; or
2. where the down stream results exceed the trigger values specified Table 3 for any quality characteristic, compare the results of the down stream site to the data from background monitoring sites and;
   (a) if the result is less than the background monitoring site data, then no action is to be taken; or
   (b) if the result is greater than the background monitoring site data, complete an investigation into the potential for environmental harm and provide a written report to the administering authority in the next annual return, outlining:
      (i) details of the investigations carried out; and
      (ii) actions taken to prevent environmental harm.

Note: Where an exceedance of a trigger level has occurred and is being investigated, in accordance with W6 2(b) of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.

W7 If an exceedance in accordance with condition W6 2(b) is identified, the holder of the authority must notify the administering authority within 14 days of receiving the result.

Mine Affected Water Release Events

W8 The holder must ensure a stream flow gauging station/s is installed, operated and maintained to determine and record stream flows at the locations and flow recording frequency specified in Table 4.

W9 Notwithstanding any other condition of this environmental authority, the release of mine affected water to waters in accordance with condition W2 must only take place during periods of natural flow events in accordance with the receiving water flow criteria for discharge specified in Table 4 for the release point(s) specified in Table 1.

W10 The release of mine affected water to waters in accordance with condition W2 must not exceed the Electrical Conductivity and Sulphate release limits or the Maximum Release Rate (for all combined release point flows) for each receiving water flow criteria for discharge specified in Table 4 when measured at the monitoring points specified in Table 1.

Table 4 (Mine Affected Water Release during Flow Events)

EXPLANATORY NOTES – Table 4

Gauging station description:

The intent here is that every release point in Table 1 is associated with a gauging station that measures flow upstream of the discharge point. More than one discharge point may be associated with the same gauging station. The gauging station should be at a minimum distance from the discharge point such that water flow under trigger flow events will not significantly diminish by the time it reaches the discharge point. The location of the gauging station should ideally be such that it is not significantly affected by other upstream point source releases or times of discharge are limited to periods of 'natural' flow.

Under certain circumstances it may be appropriate to have a downstream gauging station in addition to or in replace of an upstream gauging station. The location should ideally not be affected by the discharge (e.g. be measured off the main waterway). The need for this must be demonstrated on a case by case basis to show why an upstream gauging station is insufficient. This may be the case when mines are located in the upper parts of catchments or near the downstream confluence or a major waterway. Similarly, the gauging station should be at a distance from the discharge point such that water flow during triggered flow events will not significantly diminish between the discharge point and the measuring point (or the confluence with the creek being measured). For downstream flow triggers, some changes to calculation for flow triggers and maximum release flows would typically be required based on the relative sizes of the waterways involved

Flow Triggers and EC Quality Criteria:

The intent for flow triggers is that the times of discharge are limited to times around natural flow events only. Different flow regime methodologies are used to define mine affected water release opportunities, provide flexibility for site operators and to protect identified environmental values within receiving waters. The expectation

is that where flow gauging data is available, it is used to calculate flow triggers. Where gauging data is not available or is insufficient, flow triggers should be based on runoff/stream flow estimates using appropriate hydrological calculations or models and known catchment area, rainfall estimations etc

Separate methodologies for discharges which occur to local waterways rather than regional waterways will be applied as part of this revised approach. Due to the increased flexibility of the revised approach and consideration of a wider range of local factors the application of these model conditions to individual sites will require case-by case assessment and require sufficient background information to be provided. For example, it should be noted that discharges upstream of dams or lakes may require special considerations and generally stricter controls. Also, where multiple mines discharge to the same or closely connected waterways consideration of cumulative impacts will be necessary as part of the assessment process.

Model conditions do not preclude applicants from proposing alternative or additional conditions, nor restrict the administering authority from using alternative conditions where the case warrants. However, applications proposing alternative approaches will need to be supported by sufficient environmental risk assessment and contingency planning information to allow the administering authority to adequately consider the proposal.

There may be instances where case-by-case proposals can be considered for conditions to address management of particularly heavy rainfall and flooding that is similar to previous events, where there is sufficient information available based on: previous transitional environmental programs, monitoring and analysis, the environmental values of the receiving environment together with the experience of impacts on those environmental values, rigorous contingency and disaster response planning, and with particular regard to actual and potential cumulative impacts. For example, there may be potential to tailor a schedule of conditions to be triggered upon reaching nominated thresholds of rainfall, flow, flooding (or a combination) based on learning from an event that has occurred in the past; possibly adopting a similar framework to previous discharge permissions granted in similar circumstances, provided the framework was demonstrated to adequately address environmental risk to the satisfaction of the delegate.

<u>No/low flow stream conditions (best quality / low EC mine affected water):</u>

Discharge water quality will need to meet or be better than water quality objectives (or long term background reference 75th / 80th percentile) for EC and will only be permitted for temporary periods after periods of significant flow. The focus of this is to allow "good" quality water to be released when collected rather than having it stored over long durations resulting in deteriorating water quality. Any discharges made under no/low flow stream conditions must not contribute to or cause erosion and due consideration should be given to road/rail access, stock crossings etc (particularly in relation to multiple mines discharging under no/low flow stream conditions on connected waterways). General principles include:

- Release at times when flow is on tail end of flow event only i.e. following a flow above specified event flow trigger and when the flow reduces below the flow trigger again. This trigger will commence a discharge window of 4-6 weeks for good quality water only.
- End of pipe WQ ≤ WQO (or long term background reference 75th/80th percentile). May require assessment of downstream environmental values where WQO is more stringent (e.g. drinking water supply).
- Duration of release is limited (dry ephemeral stream, 4 weeks after flow event ceases, use time after flow trigger for below – add additional time).
- Volume/rate will be considered on a case by case basis.

<u>Medium flow stream conditions (medium quality mine affected water):</u>

A flow trigger for the stream is required and will be set to avoid discharge of medium quality water during periods of no or low flow. General principles include:

- Requires the use of a stream flow trigger above which release can occur. The stream flow trigger must be representative of event flow and be above base/low flow (typically determined from hydrographs, historical flow/water quality data and/or modeling).

- End-of pipe EC <3500uS/cm. Options for either <1500us/cm and <3500uS/cm as maximum limits can be considered which will result in different maximum discharge rates for different quality water. The better the quality of water to be released, the greater the volume that can be permitted.
- The design dilution/maximum discharge rate should be based on a site specific risk assessment. These should be designed to achieve an in-stream EC based on the location – upper (Zone 1), mid (Zone 2) or lower (Zone 3) catchment. The EC $_{WQO\ high\ flow}$ should be adopted as background EC for design calculations.

    - Zone 1, upper catchment mines, approximately <10km from top of waterway catchment
      $EC_{in\ stream}$ = 1000uS/cm (toxicity guideline).

    - Zone 2, mid catchment mines, zones not within Zone 1 or Zone 3
      $EC_{in\ stream}$ = 700uS/cm

    - Zone 3, lower catchment mines (All regional waterways are considered Zone 3 from distance >50km from top of waterway catchment, refer to Zone 3 map) –
      $EC_{in\ stream} = EC_{high\ flow\ WQO}$ + multiplier x ($EC_{WQO\ low\ flow} - EC_{WQO\ high\ flow}$)

      e.g. multiplier = 0.2 for Isaac, Nogoa, Dawson

- $EC_{in\ stream}$ for calculations may vary according to other locally relevant environmental values that may need to be considered

High flow stream conditions (poorer quality water):

This option might be used in some cases for mines that need to discharge higher EC wastewater than is allowable under medium flow stream conditions. Any discharge is required to have a higher level of dilution than with medium flow cases but still achieve a maximum incremental increase in the waterway. This option is most feasible for mines situated on regional waterways as the window for discharge is likely to be limited for local waterways. Some additional considerations on management of mixing zones and acute/chronic toxicity may be required in this case. General principles include:

- Requires the use of a stream flow trigger above which release can occur. The stream flow trigger must be representative of high event flow and be above medium flow (typically determined from hydrographs, historical flow/water quality data and/or modeling).
- End-of pipe EC must be > 3500uS/cm (but <10,000uS/cm). The better the quality of water to be released, the greater the volume that can be permitted.
- The design dilution/maximum discharge rate should be based on a site specific risk assessment. These should be designed to achieve an in-stream EC based on the location – upper (Zone 1), mid (Zone 2) or lower (Zone 3) catchment as described above. .
- May need some additional indicators/requirements and requires case by case assessment
- This option is likely to be less feasible for Zone 1 and 2 mines.

Receiving waters/ stream	**Release Point (RP)**	**Gauging station**	**Gauging Station Latitude (decimal degree, GDA94)**	**Gauging Station Longitude (decimal degree, GDA94)**	**Receiving Water Flow Recording Frequency**	**Receiving Water Flow Criteria for discharge (m^3/s)**	**Maximum release rate (for all combined RP flows)**	**Electrical Conductivity and Sulphate Release Limits**
e.g. Wet Creek	Insert all release points that will release based on this gauging station flow, e.g. RP1, RP2 & RP3	e.g. Gauging station 1	XXXX	XXXX	**Continuous (minimum daily)**	Low Flow **<XX m3/s for a period of** <insert number of days> **after natural flow events that exceed XX m3/s** (where XX is a specified event flow trigger)	Insert < xx ML/day or < xx m3/s Volume/rate to be determined on case by case basis	**Electrical conductivity (uS/cm):** <insert water quality objective or 75th percentile of long term background reference data> Sulphate (SO_4^{2-}): 250 mg/L
						Medium Flow **> XX m3/s** (where XX is specified event flow trigger)	**< XX m3/s** (where XX is the maximum release rate determined on case by case basis)	**Electrical conductivity (uS/cm)** <insert value determined on case specific basis but typically <1500 Sulphate (SO_4^{2-}) (mg/L) <insert limit to be determined based on achieving downstream target of 250 (Maximum) >
							< YY m3/s (where YY is the maximum release rate determined on case by case basis)	**Electrical conductivity (uS/cm)** <insert value determined on case specific basis but typically <3500 Sulphate (SO_4^{2-}) (mg/L) <insert limit to be determined based on achieving downstream target of 250 (Maximum)>
						High Flow **> ZZ m3/s** (where ZZ is a specified high flow event trigger)	< ZZ m3/s (where ZZ is the maximum release rate determined on case by case basis)	**Electrical conductivity (uS/cm)** <insert value determined on case specific basis but typically within a range of <3500 to <10,000 Sulphate (SO_4^{2-}) (mg/L) <insert limit to be determined based on achieving downstream target of 250 (Maximum)>

W12 The daily quantity of mine affected water released from each release point must be measured and recorded at the monitoring points in Table 1.

W13 Releases to waters must be undertaken so as not to cause erosion of the bed and banks of the receiving waters, or cause a material build up of sediment in such waters.

Notification of Release Event

W14 The environmental authority holder must notify the administering authority as soon as practicable and no later than 24 hours after commencing to release mine affected water to the receiving environment. Notification must include the submission of written advice to the administering authority of the following information:

a) release commencement date/time;
b) expected release cessation date/time;
c) release point/s;
d) release volume (estimated);
e) receiving water/s including the natural flow rate; and
f) any details (including available data) regarding likely impacts on the receiving water(s).

Note: Notification to the administering authority must be addressed to the Manager and Project Manager of the local Administering Authority via email or facsimile.

W15 The environmental authority holder must notify the administering authority as soon as practicable (nominally within twenty-four (24) hours after cessation of a release event) of the cessation of a release notified under Condition W14 and within 28 days provide the following information in writing:
a) release cessation date/time;
b) natural flow volume in receiving water;
c) volume of water released;
d) details regarding the compliance of the release with the conditions of Agency Interest: Water of this environmental authority (i.e. contamination limits, natural flow, discharge volume);
e) all in-situ water quality monitoring results; and
f) any other matters pertinent to the water release event.

Note: Successive or intermittent releases occurring within twenty-four (24) hours of the cessation of any individual release can be considered part of a single release event and do not require individual notification for the purpose of compliance with conditions W14 and W15, provided the relevant details of the release are included within the notification provided in accordance with conditions W14 and W15.

Notification of Release Event Exceedance

W16 If the release limits defined in Table 2 ere exceeded, the holder of the environmental authority must notify the edministering authority within twenty-four (24) hours of receiving the results.

W17 The authority holder must, within twenty-eight (28) days of a release that exceeds the conditions of this authority, provide a report to the administering authority detailing:
a) the reason for the release;
b) the location of the release;
c) all water quality monitoring results;
d) any general observations;
e) all calculations; end
f) any other matters pertinent to the water release event.

EXPLANATORY NOTES – Water storage monitoring conditions:

Note: Conditions W18 and W19 can be removed if already conditioned in the authority or in the event that model conditions for regulated dams are finalised and they include relevant replacement conditions

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Monitoring of Water Storage Quality

W18 Water storages stated in Table 5 which are associated with the release points must be monitored for the water quality characteristics specified in Table 6 at the monitoring locations and et the monitoring frequency specified in Table 5.

Table 5 (Water Storage Monitoring)

Water Storage Description	Latitude (decimal degree, GDA94)	Longitude (decimal degree, GDA94)	Monitoring Location	Frequency of Monitoring
XXXX	XXXX	XXXX	To be negotiated- will depend on the individual storage structure volume. This will deal with stratification - depth profiles and be appropriate to in situ quality characteristics.	Quarterly

W19 In the event that waters storages defined in Table 5 exceed the contaminant limits defined in Table 6, the holder of the environmental authority must implement measures, where practicable, to prevent access to waters by all livestock.

Table 6 (Onsite Water Storage Contaminant Limits)

Quality Characteristic	Test Value	Contaminant Limit
pH (pH unit)	Range	Greater than 4, less than 9[2]
EC (µS/cm)	Maximum	5970[1]
Sulphate (mg/L)	Maximum	1000[1]
Fluoride (mg/L)	Maximum	2[1]
Aluminium (mg/L)	Maximum	5[1]
Arsenic (mg/L)	Maximum	0.5[1]
Cadmium (mg/L)	Maximum	0.01[1]
Cobalt (mg/L)	Maximum	1[1]
Copper (mg/L)	Maximum	1[1]
Lead (mg/L)	Maximum	0.1[1]
Nickel (mg/L)	Maximum	1[1]
Zinc (mg/L)	Maximum	20[1]

Note:

[1] Contaminant limit based on ANZECC & ARMCANZ (2000) stock water quality guidelines.

[2] Page 4.2-15 of ANZECC & ARMCANZ (2000) "Soil and animal health will not generally be affected by water with pH in the range of 4–9". Note: Total measurements (unfiltered) must be taken and analysed

Receiving Environment Monitoring and Contaminant Trigger Levels

W20 The quality of the receiving waters must be monitored at the locations specified in Table 8 for each quality characteristic and at the monitoring frequency stated in Table 7.

Table 7 (Receiving Waters Contaminant Trigger Levels)

Quality Characteristic	Trigger Level	Monitoring Frequency
pH	6.5 – 8.5	Daily during the release
Electrical Conductivity (µS/cm)	1000 Note: for protection against toxicity this may need to be reduced in some circumstances e.g. where in close proximity upstream of a drinking water dam or regional waterway	
Suspended solids (mg/L)	To Be Determined. Turbidity may be required to assess ecosystems impacts and can provide instantaneous results	
Sulphate (SO_4^{2-}) (mg/L)	250 (Protection of drinking water Environmental Value)	
Sodium (mg/L)	TBA	

Table 8 (Receiving Water Upstream Background Sites and Down Stream Monitoring Points)

EXPLANATORY NOTES – Selection of monitoring sites:

The intent here is that that each discharge point has both an upstream and downstream monitoring point associated with it. These monitoring points should be located as close as practicable to the release point and the distances should be defined in the footnotes in Table 8. The location of flow monitoring points should also be considered in selecting upstream monitoring points. Other considerations include accessibility, particularly during wet weather conditions.

Monitoring Points	Receiving Waters Location Description	Latitude (decimal degree, GDA94)	Longitude (decimal degree, GDA94)
Upstream Background Monitoring Points			
Monitoring Point XX	XXXX Creek XX metres upstream of RP XX	XXXX	XXXX
Monitoring Point XX	XXXX Creek XX metres upstream of RP XX	XXXX	XXXX
Downstream Monitoring Points			
Monitoring Point XX	XXXX Creek XX metres downstream of RP XX	XXXX	XXXX
Monitoring Point XX	XXXX Creek XX metres downstream of RP XX	XXXX	XXXX

Notes:

a) The upstream monitoring point should be within Xkm the release point.

b) the downstream point should not be greater than Xm from the release point.

c) The data from background monitoring points must not be used where they are affected by releases from other mines.

W21 If quality characteristics of the receiving water at the downstream monitoring points exceed any of the trigger levels specified in Table 7 during a release event the environmental authority holder must compare the down stream results to the upstream results in the receiving waters and:

1. where the downstream result is the same or a lower value than the upstream value for the quality characteristic then no action is to be taken; or
2. where the down stream results exceed the upstream results complete an investigation into the potential for environmental harm and provide a written report to the administering authority in the next annual return, outlining:

(i) details of the investigations carried out; and
(ii) actions taken to prevent environmental harm.

Note: Where an exceedance of a trigger level has occurred and is being investigated, in accordance with W21(2) of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.

Receiving Environment Monitoring Program (REMP)

EXPLANATORY NOTES – Designing a REMP:

Generally the Receiving Environment Monitoring Program (REMP) should be used to assess the local receiving waters for the specified discharge locations. The monitoring should not be specifically designed to assess compliance of the release – this is covered by other conditions. The key purpose of the REMP is to assess the overall condition of the local receiving waters and assessment should be against water quality objectives and relevant guidelines. Note that in some cases where discharge occurs to ephemeral streams, there may be a need to include downstream sensitive receiving waters or environmental values outside of the specified REMP area. An example of this would be where there are no semi-permanent /permanent waterholes in the specific area but one is located further downstream prior to the confluence with the next major waterway. For further guidance on what to include in a REMP, please refer to the Draft DERM REMP Document for Fitzroy Coal Mines and Additional Information.

There is a potential for beneficial linkages of REMP monitoring to regional waterway monitoring programs, such as the Fitzroy Partnership monitoring program. For example DERM intends to maintain monitoring information compiled through individual REMP programs through an internal database under development. Industry has indicated its willingness to see this data shared with the Fitzroy Partnership for the purpose of a regional water monitoring program. Likewise it is possible for environmental authority holders to utilise relevant and available water monitoring information collected by other parties, such as the Fitzroy Partnership, as reference data for the purposes of the REMP required by this section.

W22 The environmental authority holder must develop and implement a Receiving Environment Monitoring Program (REMP) to monitor, identify and describe any adverse impacts to surface water environmental values, quality and flows due to the authorised mining activity. This must include monitoring the effects of the mine on the receiving environment periodically (under natural flow conditions) and while mine affected water is being discharged from the site.

For the purposes of the REMP, the receiving environment is the waters of the XX and connected or surrounding waterways within XX (e.g. Xkm) downstream of the release. The REMP should encompass any sensitive receiving waters or environmental values downstream of the authorised mining activity that will potentially be directly affected by an authorised release of mine affected water.

W23 The REMP must:

a) Assess the condition or state of receiving waters, including upstream conditions, spatially within the REMP area, considering background water quality characteristics based on accurate and reliable monitoring data that takes into consideration temporal variation (e.g. seasonality); and
b) Be designed to facilitate assessment against water quality objectives for the relevant environmental values that need to be protected; and
c) Include monitoring from background reference sites (e.g. upstream or background) and downstream sites from the release (as a minimum, the locations specified in Table 8); and
d) Specify the frequency and timing of sampling required in order to reliably assess ambient conditions and to provide sufficient data to derive site specific background reference values in accordance with the *Queensland Water Quality Guidelines* 2006. This should include monitoring during periods of natural flow irrespective of mine or other discharges; and
e) Include monitoring and assessment of dissolved oxygen saturation, temperature and all water quality parameters listed in Table 2 and 3); and

f) Include, where appropriate, monitoring of metals/metalloids in sediments (in accordance with ANZECC & ARMCANZ 2000, BATLEY and/or the most recent version of AS5667.1 *Guidance on Sampling of Bottom Sediments*); and
g) Include, where appropriate, monitoring of macroinvertebrates in accordance with the AusRivas methodology, and
h) Apply procedures and/or guidelines from ANZECC & ARMCANZ 2000 and other relevant guideline documents; and
i) Describe sampling and analysis methods and quality assurance and control; and
j) Incorporate stream flow and hydrological information in the interpretations of water quality and biological data.

W24 A REMP Design Document that addresses each criterion presented in Conditions W22 and W23 must be prepared and submitted to the administering authority no later than 3 months after the date of issue of this environmental authority (include for new sites or expansion projects, remove for existing mine sites which already have REMP Design Documents). Due consideration must be given to any comments made by the administering authority on the REMP Design Document and subsequent implementation of the program.

W26 A report outlining the findings of the REMP, including all monitoring results and interpretations in accordance with conditions W22 and W23 must be prepared annually and made available on request to the administrating authority. This must include an assessment of background reference water quality, the condition of downstream water quality compared against water quality objectives, and the suitability of current discharge limits to protect downstream environmental values.

Water Reuse

EXPLANATORY NOTES – Water reuse conditions

Mine affected water reuse conditions acknowledge that there is beneficial potential for using mine affected water. The conditions below provide examples of how such authorisation can be conditioned. The examples are not exhaustive and there may be valid proposals received to supply water to other industry types, or using different methods of transportation. In such cases it is important to consider any environmental risk associated with a proposal by considering what environmental values may be impacted by a given proposal, using an approach that accords with current criteria for environmental management decisions made by the administering authority, prior to presenting a recommendation to the relevant delegate for the decision.

W26 Mine affected water may be piped or trucked or transferred by some other means that does not contravene the conditions of this environmental authority and deposited into artificial water storage structures, such as farm dams or tanks, or used directly at properties owned by the environmental authority holder or a third party for the purpose of:
i) supplying stock water subject to compliance with the quality release limits specified in Table 9; or
ii) supplying irrigation water subject to compliance with quality release limits in Table 10; or
iii) supplying water for construction and/or road maintenance in accordance with the conditions of this environmental authority.

Table 9 (Stock Water Release Limits)

Quality characteristic	Units	Minimum	Maximum
pH	pH units	6.5	8.5
Electrical Conductivity	µS/cm	N/A	5000

Table 10 (Irrigation Water Release Limits)

Quality characteristic	Units	Minimum	Maximum
pH	pH units	6.5	8.5
Electrical Conductivity	µS/cm	N/A	Site specific value to be determined in accordance with ANZECC & ARMCANZ (2000) Irrigation Guidelines

W27 Mine affected water may be piped or trucked or transferred by some other means that does not contravene the conditions of this environmental authority and deposited into artificial water storage structures, such as dams or tanks, for the purpose of supplying water to <name adjoining mine>. The volume, pH and electrical conductivity of water transferred to <name adjoining mine> must be monitored and recorded.

W28 If the responsibility for mine affected water is given or transferred to another person in accordance with conditions **W26 or W27:**

a) the responsibility for the mine affected water must only be given or transferred in accordance with a written agreement (the third party agreement); and

b) the third party agreement must include a commitment from the person utilising the mine affected water to use it in such a way as to prevent environmental harm or public health incidents and specifically make the persons aware of the General Environmental Duty (GED) under section 319 of the *Environmental Protection Act 1994*, environmental sustainability of the water disposal and protection of environmental values of waters; and

c) the third party agreement must be signed by both parties to the agreement.

Water General

W29 All determinations of water quality and biological monitoring must be:

a) performed by a person or body possessing appropriate experience and qualifications to perform the required measurements;

b) made in accordance with methods prescribed in the latest edition of the Department of Environment and Resource Management's Monitoring and Sampling Manual;

Note: Condition W29 requires the Monitoring and Sampling Manual to be followed and where it is not followed because of exceptional circumstances this should be explained and reported with the results.

c) collected from the monitoring locations identified within this environmental authority, within XX hour of each other where possible;

d) carried out on representative samples; and

e) analysed at a laboratory accredited (e.g. NATA) for the method of analysis being used.

W30 The release of any contaminants as permitted by this environmental authority, directly or indirectly to waters, other than internal water management infrastructure that is installed and operated in accordance with a water management plan that complies with conditions W33 to W38 inclusive:

a) must not produce any visible discolouration of receiving waters; and

b) must not produce any slick or other visible or odorous evidence of oil, grease or petrochemicals nor contain visible floating oil, grease, scum, litter or other objectionable matter.

Annual Water Monitoring Reporting

W31 The following information must be recorded in relation to all water monitoring required under the conditions of this environmental authority and submitted to the administering authority in the specified format with each annual return:

a) the date on which the sample was taken;

b) the time at which the sample was taken;
c) the monitoring point at which the sample was taken;
d) the measured or estimated daily quantity of mine affected water released from all release points;
e) the release flow rate at the time of sampling for each release point;
f) the results of all monitoring and details of any exceedances of the conditions of this environmental authority; and
g) water quality monitoring data must be provided to the administering authority in the specified electronic format upon request.

Temporary interference with waterways

W32 Temporarily destroying native vegetation, excavating, or placing fill in a watercourse, lake or spring necessary for and associated with mining operations must be undertaken in accordance with Department of Environment and Resource Management *Guideline - Activities in a Watercourse, Lake or Spring associated with Mining Activities.*

Water Management Plan

W33 A Water Management Plan must be developed by an appropriately qualified person and implemented by XX/XX/XXXX (WITHIN 3 MONTHS OF THE DATE OF ISSUE).

W34 The Water Management Plan must:

a) provide for effective management of actual and potential environmental impacts resulting from water management associated with the mining activity carried out under this environmental authority; and
b) be developed in accordance with Department of Environment and Resource Management guideline *Preparation of water management plans for mining activities* and include:
   i. a study of the source of contaminants;
   ii. a water balance model for the site;
   iii. a water management system for the site;
   iv. measures to manage and prevent saline drainage;
   v. measures to manage and prevent acid rock drainage;
   vi. contingency procedures for emergencies; and
   vii. a program for monitoring and review of the effectiveness of the water management plan.

W35 The Water Management Plan must be reviewed each calendar year and a report prepared by an appropriately qualified person. The report must:

a) assess the plan against the requirements under condition W34;
b) include recommended actions to ensure actual and potential environmental impacts are effectively managed for the coming year; and
c) identify any amendments made to the water management plan following the review.

W36 The holder of this environmental authority must attach to the review report required by condition W35, a written response to the report and recommended actions, detailing the actions taken or to be taken by the environmental authority holder on stated dates:

a) to ensure compliance with this environmental authority; and
b) to prevent a recurrence of any non-compliance issues identified.

W37 The review report required by condition W35 and the written response to the review report required by condition W36 must be submitted to the administering authority with the subsequent annual return under the signature of the appointed signatory for the annual return.

W38 A copy of the Water Management Plan must be provided to the administering authority on request.

Saline Drainage

W39 The holder of this environmental authority must ensure proper and effective measures are taken to avoid or otherwise minimise the generation and/or release of saline drainage.

Acid Rock Drainage

W40 The holder of this environmental authority must ensure proper and effective measures are taken to avoid or otherwise minimise the generation and/or release of acid rock drainage.

Stormwater and Water sediment controls

W41 An Erosion and Sediment Control Plan must be developed by an appropriately qualified person and implemented for all stages of the mining activities on the site to minimise erosion and the release of sediment to receiving waters and contamination of stormwater.

W42 Stormwater, other than mine affected water, is permitted to be released to waters from:

i) erosion and sediment control structures that are installed and operated in accordance with the Erosion and Sediment Control Plan required by condition W41; and

ii) water management infrastructure that is installed and operated, in accordance with a Water Management Plan that complies with conditions W33 to W38 inclusive, for the purpose of ensuring water does not become mine affected water.

W43 The maintenance and cleaning of any vehicles, plant or equipment must not be carried out in areas from which contaminants can be released into any receiving waters.

W44 Any spillage of wastes, contaminants or other materials must be cleaned up as quickly as practicable to minimise the release of wastes, contaminants or materials to any stormwater drainage system or receiving waters.

All Dams

EXPLANATORY NOTES – Dam conditions:

Note: Conditions W45 and W46 to be removed if already conditioned in the authority or in the event that model conditions for regulated dams are finalised and relevant replacement conditions are to be included into the EA.

W45 The hazard category of each dam must be determined by a suitably qualified and experienced person at least once in each two year period.

W46 Dams having a hazard category determined to be significant or high, must be specifically authorised by an environmental authority.

Definitions:

"acid rock drainage" means any contaminated discharge emanating from a mining activity formed through a series of chemical and biological reactions, when geological strata is disturbed and exposed to oxygen and moisture as a result of mining activity.

"administering authority" means the Department of Environment and Resource Management or its successor.

"appropriately qualified person" means a person who has professional qualifications, training, skills or experience relevant to the nominated subject matter and can give authoritative assessment, advice and analysis on performance relative to the subject matter using the relevant protocols, standards, methods or literature.

"dam" means a land-based structure or a void that is designed to contain, divert or control flowable substances, and includes any substances that are thereby contained, diverted or controlled by that land-based structure or void and associated works. However; a dam does *not* mean a fabricated or manufactured tank or container designed to a recognised standard, *nor* does a dam mean a land-based structure where that structure is designed to an Australian Standard. In case there is any doubt, a levee (dyke or bund) is a dam, but (for example) a bund designed for spill containment to AS1940 is *not* a dam.

"environmental authority" means an environmental authority granted in relation to an environmentally relevant activity under the *Environmental Protection Act 1994*.

"environmental authority holder" means the holder of this environmental authority.

"flowable substance" means matter or a mixture of materials which can flow under any conditions potentially affecting that substance. Constituents of a flowable substance can include water, other liquids fluids or solids, or a mixture that includes water and any other liquids fluids or solids either in solution or suspension.

"hazard" in relation to a dam as defined, means the potential for environmental harm resulting from the collapse or failure of the dam to perform its primary purpose of containing, diverting or controlling flowable substances.

"hazard category" means a category, either low significant or high, into which a dam is assessed as a result of the application of tables and other criteria in "Manual for Assessing Hazard Categories and Hydraulic Performance of Dams", prepared by the Department of Environment and Resource Management, as amended from time to time.

"mine affected water" means the following types of water:

i) pit water, tailings dam water, processing plant water;
ii) water contaminated by a mining activity which would have been an environmentally relevant activity under Schedule 2 of the *Environmental Protection Regulation 2008* if it had not formed part of the mining activity;
iii) rainfall runoff which has been in contact with any areas disturbed by mining activities which have not yet been rehabilitated, excluding rainfall runoff discharging through release points associated with erosion and sediment control structures that have been installed in accordance with the standards and requirements of an Erosion and Sediment Control Plan to manage runoff containing sediment only, provided that this water has not been mixed with pit water, tailings dam water, processing plant water or workshop water;
iv) groundwater which has been in contact with any areas disturbed by mining activities which have not yet been rehabilitated;
v) groundwater from the mine's dewatering activities;
vi) a mix of mine affected water (under any of paragraphs i)-v)) and other water.

"natural flow" means the flow of water through waters caused by nature.

"receiving environment" means all groundwater, surface water, land, and sediments that are not disturbed areas authorised by this environmental authority.

"receiving waters" means all groundwater and surface water that are not disturbed areas authorised by this environmental authority.

"representative" means a sample set which covers the variance in monitoring or other data either due to natural changes or operational phases of the mining activities.

"saline drainage" The movement of waters, contaminated with salt(s), as a result of the mining activity.

"waters" includes river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined natural or artificial watercourse, bed and bank of any waters, dams, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, and groundwater and any part thereof.

Attachment B – Table of questions from the letter of the Queensland Floods Commission of Inquiry dated 26 August 2011 and comments about the suggested impact on these questions of the revised Fitzroy model conditions endorsed 10 August 2011

Questions from the letter of the Queensland Floods Commission of Inquiry dated 26 August 2011	Comments about the suggested impact on these questions of the revised Fitzroy model conditions endorsed 10 August 2011
1. a detailed chronology of the QRC's involvement in: a) the process of the Department of Environment and Resource Management (DERM) drafting and finalising the Fitzroy model conditions in response to the Hart Report	A reasonably detailed chronology was provided in QRC's submission dated 11 March 2011 (Appendix B), together with copies of relevant documents (Appendix D). Given DERM endorsed revised model conditions on 10 August 2011, through a consultation process which QRC considered to be exemplary, QRC is concerned that it may not be a good use of the Inquiry's time to pursue in any further detail the history of the previous version of these conditions which QRC considered to be unsatisfactory. QRC would prefer not to pursue this question further, if the Commission agrees.
1. a detailed chronology of the QRC's involvement in: b) any other government response to the Hart Report	QRC will provide this further information, to the extent that it is within our power. However, for some steps which have been taken by government, QRC is unsure whether or not they were intended to be in response to the Hart report, so our statement will need to be qualified in that regard.
1. a detailed chronology of the QRC's involvement in: c) negotiations about amendments to the model conditions in the lead up to the 2010/2011 wet season	As above for item 1a).
1. a detailed chronology of the QRC's involvement in: d) discussions with DERM regarding the Transitional Environmental Program (TEP) process	A reasonably detailed chronology was provided in QRC's submission dated 11 March 2011 (section 5), together with copies of relevant documents (Appendix D), in relation to the question of the TEP mechanism in the context of the 2010/11 wet season. There have been many other discussions and correspondence with DERM over a lengthy period of time about more general issues with the TEP process but it would be impracticable to collate such a chronology or copies of documents within the timeframe. It is unclear to QRC what further information the Commission is seeking on this point, which has not already been provided.
2. further detail on QRC's opinion as to: a) the approach of having model conditions for mines.	Our statement will address this question.

2. further detail on QRC's opinion as to: b) the process of negotiating the Fitzroy model conditions	Given DERM endorsed revised model conditions on 10 August 2011, through a consultation process which QRC considered to be exemplary, QRC is concerned that it may not be a good use of the inquiry's time to pursue in any further detail the history of the previous version of these conditions which QRC considered to be unsatisfactory. QRC would prefer not to pursue this question further, if the Commission agrees.
2. further detail on QRC's opinion as to: c) the process of DERM granting TEPs, both generally and particularly during the *2010/2011* wet season	QRC personnel were not directly involved in the applications for TEPs by individual mines. QRC's opinion about the process was already expressed in some detail in section 5 of our March submission and also in the first 3 paragraphs on p3 of our submission. While we will try to provide further general opinion comments, it would be necessary for the Commission to obtain any further factual information directly from those members who lodged submissions.
2. further detail on QRC's opinion as to: d) DERM's ability and expertise to take into account all relevant considerations when approving TEPs	QRC would be happy to provide further details of our opinion about the statutory criteria for TEPs and how the statutory criteria were not well adapted to addressing the circumstances of a heavy wet season. QRC is also able to comment on resourcing issues generally. QRC personnel were not directly involved in the applications for TEPs by individual mines and would prefer not to comment on the ability and expertise of individual DERM officers involved in assessing TEPs.
3. an elaboration of the parts of the Fitzroy model conditions that the QRC considers.to be inadequate, including: a) high flow conditions for releases b) dilution as the measure of environmental acceptability c) releases of mine-affected water in advance of expected rainfall events or flooding 4. details of the amendments to the model conditions QRC considers would deal with the problems raised by it in its submission or in the statement 6. elaboration of what a 'wet season preparation plan' as proposed in its submission would entail, the type of provisions it would include and the outcomes expected	QRC considers that the purpose of these questions has now been entirely superseded by DERM's endorsement of revised Fitzroy model conditions. QRC would instead be happy to provide comments explaining why the revised model conditions are considered to be an outstanding improvement on the previous version, in preparing for and responding to future wet seasons, with particular focus on the topics raised in this set of questions, if that approach would be acceptable to the Commission?
5. details of changes to the process of issuing TEPs which the QRC considers necessary for the decision to grant a TEP: a) to be made on a whole-of-government basis	Our statement will address these related issues.

b) to take into account all relevant considerations c) to strike an appropriate balance between environmental concerns and public safety 7. elaboration of how the QRC considers the emergency direction power under the Environmental Protection Act should be used, including the circumstances where it would be appropriate by reference to particular examples from the *2010/2011* wet season	
8. an elaboration on the problems faced by mine operators by the effect of floods on road and rail infrastructure, including: a) specific examples of mines affected by road and rail lines being out of operation b) the effect on those mines 9. further details of the one-stop road freight permitting office of the Department of Transport and Main Roads and the experience of the QRC in dealing with it, including by reference to particular examples 10. a detailed account of any advocacy by the QRC to the Queensland government, including the Department of Transport and Main Roads, or to Queensland Rail or QR National regarding the road and rail lines used by mines being out of operation.	Our statement will address these related issues, while noting that, after the 'one-stop shop' had been established and was seen to be operating effectively, QRC ceased to be directly involved on a day-to-day basis and our experience of the process after that was largely based indirectly on information from our member companies who remained directly involved.
All documents relevant to the above topics including reports, briefing notes, papers, meeting minutes, submissions and correspondence should be attached to the statement.	QRC has previously provided copies of the documents indexed in Appendix D. We propose to provide copies of all further documents which are referenced in our statements, which we have not previously provided. Given that QRC would prefer not to pursue further the history of the unsatisfactory previous version of the Fitzroy model conditions, we would also prefer not to descend to a further level of detail in relation to the documentary history of the consultation process relating to those conditions which we also considered to be entirely unsatisfactory, if that is acceptable to the Commission?

2 September 2011

QUEENSLAND resources COUNCIL

Ms Jane Moynihan
Executive Director
Queensland Floods Commission of Inquiry
GPO Box 1783
Brisbane QLD 4001

By email: [redacted]

Dear Ms Moynihan

Clarification requested for your Requirement dated 2 September 2011 – your ref 1693411
As discussed between QRC's Director, Environment and Social Policy and [redacted] this afternoon, there has been an error by the Commission in your letter dated 2 September 2011, enclosing a Requirement dated 1 September 2011, which is attached (for ease of reference), together with a copy of the covering email.

The letter accidentally required a response by '12 noon, Friday, 2 September 2011' of the examples of specific mine sites which are known to QRC as relevant to the concerns set out in our submission lodged on 11 March 2011. The Commission's email attaching this letter and Requirement was received at 12.42pm on 2 September 2011. As discussed, it is physically impossible to comply with this request. We appreciate [redacted] suggestion that this timeframe should be revised to Monday 5 September 2011. Could you please formally confirm this.

As mentioned in our letter which has previously been emailed to you today, it is also not possible for Mr Michael Roche, Chief Executive, personally to respond to your previous Requirement received late on 30 August 2011 by Tuesday 6 September 2011, partly because Mr Roche is currently on annual leave in Europe and partly because Mr Roche was not personally involved in most of the issues set out in our submission, but rather other QRC personnel were responsible for the day-to-day management of those issues. The same applies to your Supplementary Requirement which has just been received. Could you please also revise the supplementary Requirement (Doc 1693407) accordingly?

Yours faithfully

[redacted]

Greg Lane
Acting Chief Executive

ABN 59 050 486 952
Level 13 133 Mary St Brisbane Queensland 4000
T 07 3295 9560 F 07 3295 9570 E info@qrc.org.au
www.qrc.org.au

From: [redacted]
To: "Greg Lane" [redacted]
Subject: FW: Correspondence re: Requirement to Provide Statement - Queensland Resources Council Michael Roche about meetings with Minister Ref: 1693407

-----Original Message-----
From: [redacted] On Behalf Of Admin Flood Commission
Sent: Friday, 2 September 2011 12:42 PM
To: [redacted] QRC Information
Cc: [redacted]
Subject: Correspondence re: Requirement to Provide Statement - Queensland Resources Council Michael Roche about meetings with Minister Ref: 1693407

Attention: Michael Roche

Dear Mr Roche

Please find attached correspondence from the Queensland Floods Commission of Inquiry. Hard copy will be mailed.

Regards

Queensland Floods Commission of Inquiry

In@floodcommission.qld.gov.au

Our ref: Doc 1693411

2 September 2011

Mr Michael Roche
Chief Executive
Queensland Resources Council
Level 13, 133 Mary Street
BRISBANE QLD 4000

Dear Mr Roche

Please find enclosed a Requirement directed to Mr Michael Roche to provide a statement. This Requirement is additional to Requirement No. 1690628, but one statement dealing with the topics covered by both Requirements can be provided, if convenient. The statement is returnable to the Commission no later than by 5 pm, Tuesday, 6 September 2011.

The Commission is interested in any specific mine sites which are known to the Queensland Resources Council as particular examples of the concerns set out in its submission. If the Council could advise the Commission of such examples, if any, by 12 noon, Friday, 2 September 2011, it would be much appreciated.

If you require further information or assistance, please contact [redacted] on telephone 3405 9767.

We thank you for your assistance.

Yours sincerely

[redacted]
Jane Moynihan
Executive Director

Encl.

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Our ref: Doc 1693407

1 September 2011

Mr Michael Roche
Chief Executive
Queensland Resources Council
Level 13, 133 Mary Street
BRISBANE QLD 4000

REQUIREMENT TO PROVIDE STATEMENT TO COMMISSION OF INQUIRY

I, Justice Catherine E Holmes, Commissioner of Inquiry, pursuant to section 5(1)(d) of the *Commissions of Inquiry Act 1950* (Qld), require Mr Michael Roche, Chief Executive, Queensland Resources Council, to provide a written statement, under oath or affirmation, to the Queensland Floods Commission of Inquiry, in which the said Mr Roche gives an account of:

1. refusal by the Department of Environment and Resource Management or any Minister to invoke emergency direction powers
2. an overview of any meeting, discussion or negotiation involving the Queensland Resources Council and any relevant Minister or Director-General regarding the Fitzroy model conditions, environmental authorities, transitional environmental programs and emergency directions since 1 January 2010.

In addressing these matters, Mr Roche is to:

- provide all information to which he has access and identify the source or sources of that information;
- make commentary and provide opinions he is qualified to give as to the appropriateness of particular actions or decisions and the basis of that commentary or opinion.

Mr Roche may also address other topics relevant to the Terms of Reference of the Commission in the statement, if he wishes.

The statement is to be provided to the Queensland Floods Commission of Inquiry by 5pm, Tuesday, 6 September 2011.

The statement can be provided by post, email or by arranging delivery to the Commission by emailing info@floodcommission.qld.gov.au.

C. Holmes

Commissioner
Justice C E Holmes

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Our ref: Doc 1694609

2 September 2011

Mr Greg Lane
Chief Executive
Queensland Resources Council
Level 13, 133 Mary Street
BRISBANE QLD 4000

Dear Mr Lane

I refer to two letters sent by you to the Commission this afternoon. I further refer to two telephone conversations between Ms Hayter of the Council and [redacted] of the Commission today.

First, the Commission apologises for the administrative oversight which caused you to receive the letter requesting examples of mines by 12 noon today after that time had passed. The Commission would appreciate it if you were able to provide those examples by 5 pm, Monday, 5 September 2011.

Second, in respect to the two requirements issues to Mr Michael Roche, the Commission will issue a requirement to you covering the topics in both requirements. Ms Hayter of the Queensland Resources Council (QRC) advised Ms Hedge that this was the appropriate course. Please find enclosed that new requirement, although please note that the return date for the statement remains 5 pm, Tuesday, 6 September 2011.

In terms of the topics that the requirement covers, the Commission is grateful for the information you have provided in your letter.

However, the Commission's terms of reference require it to examine 'the preparation and planning by federal, state and local governments; emergency services and the community for the 2010/2011 floods in Queensland'. It is accepted that some of the matters which are to be examined under this heading may now be of limited or historical interest, and it has never been the business of the Commission to pursue a 'blame game'. Nevertheless, the information requested is considered necessary in order to ensure that matters relevant to this term of reference have been fully documented. The Commission has added a topic to the requirement, being the further negotiations and agreements regarding the revised Fitzroy model conditions so that the statement covers those topics also.

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In reply to the other points you make in Attachment B to your letter sent today, the Commission provides the following response:

- Where the QRC submission provides the information sought by any of the topics contained in the requirement, you may simply insert the information provided from the submission into the statement. The Commission requires the information to be provided in statement form.
- Where the statement will be based on information given to the QRC by its members or officers of QRC other than Mr Lane, the statement should clearly reference those sources.
- For topic 1(b), the QRC should identify any measures it believes are responses of the government to the Hart Report.
- Topic 1(d) has been amended to seek only a list of the issues raised by QRC in discussions with DERM regarding the Transitional Environmental Program regime; it is now topic 1A.
- Topic 2(d) has been amended to add your suggested topics. The Commission is interested in QRC's opinion as to the ability and expertise of DERM, as a department, not individual officers. The topic has been amended to make this point clear.
- The Commission remains interested in information the subject of topic 3, but has added a topic to the requirement to obtain information about the revision of the model conditions finalised in August 2011.
- The Commission remains interested in receiving all reports, briefing notes, papers, meeting minutes, submissions and correspondence regarding the process of negotiating the Fitzroy model conditions up to the 2010/2011 wet season, and the process of revising them following the 2010/2011 wet season.

Third, the Commission has located the documents listed in Appendix D of your submission. Thank you for assisting us in locating them.

If you require further information or assistance, please contact Ms Susan Hedge on telephone 3405 9767.

We thank you for your assistance.

Yours sincerely

[redacted]

Jane Moynihan
Executive Director

Encl.

Our ref: Doc 1694659

2 September 2011

Mr Greg Lane
Acting Chief Executive
Queensland Resources Council
Level 13, 133 Mary Street
BRISBANE QLD 4000

REQUIREMENT TO PROVIDE STATEMENT TO COMMISSION OF INQUIRY

I, Justice Catherine E Holmes, Commissioner of Inquiry, pursuant to section 5(1)(d) of the *Commissions of Inquiry Act 1950* (Qld), require Mr Greg Lane, Acting Chief Executive, Queensland Resources Council, to provide a written statement, under oath or affirmation, to the Queensland Floods Commission of Inquiry, in which the said Mr Lane provides the following:

1. a detailed chronology of the QRC's involvement in:
    a. the process of the Department of Environment and Resource Management (DERM) drafting and finalising the Fitzroy modal conditions in response to the Hart Report
    b. any other government response to the Hart Report
    c. negotiations about amendments to the model conditions in the lead up to, and after, the 2010/2011 wet season

1A. a list of issues raised in discussions with DERM regarding the Transitional Environmental Program (TEP) process

2. further detail on QRC's opinion as to:
    a. the approach of having model conditions for mines
    b. the process of negotiating the Fitzroy model conditions
    c. the process of DERM granting TEPs, both generally and particularly during the 2010/2011 wet season
    d. DERM's ability and expertise (as a department) to take into account all relevant considerations when approving TEPs, including opinion as to the statutory criteria set and resourcing issues

3. an elaboration of the parts of the Fitzroy model conditions (in the form they were in before the 2010/2011 wet season) that the QRC considers to be inadequate, including:
    a. high flow conditions for releases
    b. dilution as the measure of environmental acceptability

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c. releases of mine-affected water in advance of expected rainfall events or flooding

4. details of the amendments to the model conditions QRC considers would deal with the problems raised by it in its submission or in the statement

5. details of changes to the process of issuing TEPs which the QRC considers necessary for the decision to grant a TEP:
   a. to be made on a whole-of-government basis
   b. to take into account all relevant considerations
   c. to strike an appropriate balance between environmental concerns and public safety

6. elaboration of what a 'wet season preparation plan' as proposed in its submission would entail, the type of provisions it would include and the outcomes expected

7. elaboration of how the QRC considers the emergency direction power under the Environmental Protection Act should be used, including the circumstances where it would be appropriate by reference to particular examples from the 2010/2011 wet season

8. an elaboration on the problems faced by mine operators by the effect of floods on road and rail infrastructure, including:
   a. specific examples of mines affected by road and rail lines being out of operation
   b. the effect on those mines

9. further details of the one-stop road freight permitting office of the Department of Transport and Main Roads and the experience of the QRC in dealing with it, including by reference to particular examples

10. a detailed account of any advocacy by the QRC to the Queensland government, including the Department of Transport and Main Roads, or to Queensland Rail or QR National regarding the road and rail lines used by mines being out of operation

11. refusal by the Department of Environment and Resource Management or any Minister to invoke emergency direction powers

12. an overview of any meeting, discussion or negotiation involving the QRC and any relevant Minister or Director-General regarding the Fitzroy model conditions, environmental authorities, transitional environmental programs and emergency directions since 1 January 2010

13. an explanation of the changes to the model conditions arising out of the process of negotiation following the 2010/2011 wet season and QRC's opinion as to each of those changes

14. QRC's opinion as to:
    a. the efficacy of the process undertaken since the 2010/2011 wet season
    b. the advantages and disadvantages of the outcome of that process
    c. how the revisions affect the likelihood that TEPs will be required in the 2011/2012 wet season
    d. any areas where the model conditions continue to require improvement

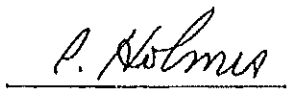
In addressing these matters, Mr Lane is to:

- provide all information in his possession and identify the source or sources of that information;
- make commentary and provide opinions he is qualified to give as to the appropriateness of particular actions or decisions and the basis of that commentary or opinion.

Mr Lane may also address other topics relevant to the Terms of Reference of the Commission in the statement, if he wishes.

The statement is to be provided to the Queensland Floods Commission of Inquiry by 5pm, Tuesday, 6 September 2011.

The statement can be provided by post, email or by arranging delivery to the Commission by emailing info@floodcommission.qld.gov.au.



Commissioner
Justice C E Holmes

C

Annexure C
Statement of Frances Hayter
Item 1.

[redacted]

From: Frances Hayter [redacted]
Sent: Thursday, 23 April 2009 9:03 AM
To: [redacted]
Cc: [redacted]
Subject: QRC comments on revised Fitzroy cumulative report recommendations
Attachments: draft recommendations - AL.pdf

Importance: High

Dear [redacted]

Despite the significantly short time you have given QRC and our members to provide feedback on the revised draft recommendations in relation to the Fitzroy Cumulative Report provided to us on Friday 17 April 2009, QRC does appreciate that there has been a significant attempt to address some industry concerns through the revision, particularly the removal of the original zero discharge recommendation, as well as the actual opportunity to provide comments on the revised proposed recommendations.

Attached please find our comments on the draft revised recommendations as received.
You will see that I have added the risk assessment methodology review as you further suggested on Friday.
In addition you will see that QRC has suggested a restructure of the order of the recommendations in a table format which also contains further commentary on defining the core issues that the recommendations are trying to address ie actually show a clear link to the proposed recommendations. The table also notes some of the timeframe issues we have already discussed as well as suggesting that there should actually be two smaller groups, one focussing on the monitoring program and the science and another to focus on the regulatory review.

I would like to restate the industry view that there is no need to change the Act itself, as we consider that the Act already allows for the regulatory proposals in the report, however there should be a discussion on how they might need to be better implemented.

Generally companies are interested in contributing to, and being involved in, the development of a comprehensive water quality management plan for the Fitzroy River Basin. It is expected that such a management plan would include other key stakeholders in the region, and particularly other industries or activities with potential to impact water quality, such as agricultural use.

While we have not provided detailed comments on the actual report owing to the tight timeframe, please find below a summary of industry concerns about the scientific integrity and contents of the report itself which are substantial in nature.

Our overarching comments are:

- The whole exercise appears to be driven by 'public attention' (as mentioned several times in the report) – in other words, this is the driver not water quality objectives as it should be. While QRC recognises the political reality of this whole exercise, it does not mean we find this populous focus acceptable.
- The report actually doesn't have a clear cumulative impacts framework /model. This is a serious flaw in the document. The "we all know what we mean" defence is not really acceptable. Upfront there should be a statement of the need for a framework. It is very difficult to comprehend what the EPA / DERM is referring to as a cumulative effect.
- The definition seems to be something like "a cumulative effect potentially exists where salty discharge happens from more than mine around the same locations". But what effects are cumulative and why? How does this relate to salt concentrations at a particular point in time?
- The risk assessment is flawed in that it appears to be based solely on 2008 (salinity) data (although this is not clear), and it is known that this data is non-representative. A major flood event was experienced during

- There is little general acknowledgement of the variability of seasons. The importance of long dry periods including occasional smaller creek flows must be understood. If not, the analysis becomes far too weighted towards short duration and infrequent events and their consequences, ie, mainly downstream aesthetic drinking water impacts going on available evidence.
- The report seems to have a flavour that CQ climate is regular and periodic. This is presumably at least part of logic behind using only 5 years of data. The report ignores the fact that the region has been really wet in the last 15 years only twice. History tells us that mines will be forced to discharge in such events. Zero discharge is not a policy it is an invitation for future problems when the inevitable occurs. There is an important connected issue here that is about "reverse direction" cumulative impacts (again we come to the lack of a framework). If large discharge events are rare but smaller creek flows are far less rare, then what is the capability of the system to clear salt from previous discharge events? Answer – not known.
- The document does not discuss likelihood of discharge expect in too simplistic a fashion, ie, hydrological and mine water reality can be judged from the last 5 years of discharge data. This is very naïve. The likelihood that a mine will discharge depends on how full it is compared to its cycle time/use and how large the local and upstream precipitating events are. Obviously the sequence of events is critical. If the wet events had have occurred more in the south in the last 5 years and less in the north then this EPA risk assessment would have reversed the risks. No-one would agree that is sensible. It is simply necessary to take into account historical events across the region and from that forecast the likelihood, magnitude and potential salinity of discharges. This is an example of where significant research carried out for quite a few mines in the region has not even been cited let alone used.
- An overall flawed 'risk assessment' – for example, it uses the maximum EC reported for all releases when the EC was variable in releases. Therefore the assessment maximises salt discharge for each site. Some of the releases included in this maximising assessment are in fact stream flows straight through the mine and not 'contaminated' by mine water.
- There is no acknowledgement of the fact that the catchment is already moderately disturbed, and has been receiving saline water (variable) and so is evolving / adapting to changes in salinity.
- It is agreed that more consistent water discharge criteria would be warranted across the region, but this should be underpinned by background values from the natural receiving ecosystem (which the report says several times does not really exist). As is recognised, river systems in the region are strongly ephemeral, and at many times of the year, there is zero base stream flow so that establishing an accurate baseline may be logistically difficult, and may require a number of wet season events to pass.
- The report has no data on ecosystem effect. This type of assessment/data is needed to make sound scientific judgements on impact. One of the preliminary findings from this assessment is that cattle grazing is having a greater impact on the health of the streams then mining is.
- Given the severe flooding events – potentially if decisions to grant TEP's were more rapid then it is plausible that salinity affect downstream would have been minimised ie less time for the water to degrade.
- Questionable that it is an 'independent' assessment as it is the department responding to their own Ministers request.
- I have been given several cases of errors in the table and misinterpretations that have led to a wrong risk status. But we can work through these in the risk methodology discussion.
- We do not argue that the mines identified as having discharged water actually did so. However, to rate them as high risk because others did not recently is not a sound basis for policy development. The work on modelling has to be done and it is by no means impossible - even within only a few months.

Please let me know if you have any questions.

I look forward to further detailed discussions and consultation on how the report and its recommendations can be taken forward in a true spirit of shared responsibility and am very happy to arrange a meeting of QRC and its members as soon as possible to start the engagement on the next steps in implementing the recommendations.

Kind regards,
Frances

Item 2

each mine (frequency, duration, volume and the water quality of the discharge and immediate receiving environment) and the relative location of mines in Fitzroy sub-catchments.

All mine discharges are likely to contribute to cumulative impacts to some degree. This study suggests that there are particular arees in the Fitzroy River Basin catchment of concern. Using the risk assessment matrix, six mines were identified as the highest contributors to potential cumulative impacts. Five of these were in the northern Isaac-Connors sub-catchment. In addition, six mines in the northern sub-catchments were identified as medium contributors, which add to the potential for cumulative impacts for this area. In the southern sub-catchments (e.g. Nogoa, Dawson, Mackenzie), the majority of mines were rated as low contributors, except for one mine.

Recommendations

After considering the findings of this study and following consultation on the draft study with key stakeholders, including Queensland Resources Council; the Technical Working Group; the Queensland Conservation Council and Agforce, the following recommendations are made.

1. **Develop appropriate conditions in environmental authorities for mine water discharges**

The aim of this recommendation is to standardise environmental authority conditions relating to water discharges so that consistent and appropriate conditions exist across the Fitzroy River Basin.

The aim is to work with mining companies to achieve this by convening a small working group comprising DERM and mining company technical specialists that would consider how discharge limits are set, what limits are accepteble and what this should be based on, when discharges may occur and what monitoring should occur. This is to occur by the end of June 2009.

The preferred option for implementing changes is via voluntary agreement with mining companies. If this is not possible, then it may be necessary to implement chenges after requiring and reviewing an environmental audit or by changes to the EP Act to allow for the immediate review and amendment of coal mining authority conditions using the issues identified in this study. Changes to environmental authorities are to occur by the end of December 2009.

2. **Develop local water quality guidelines**

The aim of this recommendation is establish a collaborative project that enables the setting of local water quality guidelines. This would include mining companies and other stakeholder groups to identify current data and monitoring occurring throughout the region as well as developing a suitable monitoring program to complement the current information. The project plan for this project is to be developed by June 2009.

3. **Develop a model for assessing cumulative impacts across the region**

The aim of this recommendation is to understand full extent of cumulative impacts of mine water discharges which will be only known once a model is developed to determine the capacity of the catchment in terms of all inputs. This is likely to take at least two years to develop.

Industry feedback on the process proposed and general meeting discussion –

- Need to recognise that some data necessary to determine the numbers within the conditions will not be available. Data for other sites may not be suitable, as they operate within different environments with different conditions (e.g. streams). It was also suggested that numbers within the existing conditions may be most appropriate as interim numbers, as these were based on best available science and no further data may be available.
- Suggest additional involvement –
  - Independent expertise [redacted] Centre for Water in the Mining Industry recommended – *QRC to provide contact details to DERM*) – particularly in relation to mine site water balances, other sources of salinity / metals etc, and reasonable indicators, objectives.
  - access DNR stream data – this should provide a good understanding of the Fitzroy River dynamics prior to the flood, and may provide the basis for modelling, determining some appropriate numbers, and monitoring.
  - related licencing/permitting sections within DERM – particularly former DNR division dealing with dams, river diversions etc. It is important that the new conditions align where appropriate etc for relevant structures, and consider engineering implications. Further industry expertise in this particular area may also be sought
- In some cases changes necessary to meet new requirements may take some time to implement. Options to manage this issue may include TEPs however this could have other implications such as impact to category rating.
  - Preferred approach – phase in period. *DERM agreed that a phase in period may be a suitable option, and a timeframe for implementation could be written into the licence.*
- While conditions will be normalised / consistent, there will be some flexibility to consider site specific characteristics, such as environmental matters and other constraints such as area.
- Industry concerns with conditions that have recently been imposed / proposed by DERM:
  - process being undertaken – when a site requests a change to the EA (often minor, and often unrelated to water), regional DERM officers are taking the opportunity to make significant changes to the water conditions
  - a very large and often unrealistic list of metals are being included within the EA. Many of these are simply not present in the Bowen Basin / coal, and some are either largely not able to be measured or exceptionally expensive to monitor. This shows a lack of understanding of the region, and puts the onus on the company to argue why they are not present, rather than DERM explaining why they are necessary.
    Due to operational timeframes, a number of sites have had to simply accept the new conditions, although they remain concerned with the necessity and practical implementation.
    DERM agreed that the scope of metals being included in EA conditions would be reconsidered during the normalisation process. It was discussed that a basic standard suite of metals could be developed and additional metals added for each site as demonstrated as necessary.

Interim arrangements – Industry highlighted concerns with ongoing EA amendments to water conditions while the process of normalisation is occurring.

- Where a new EA or EA amendment is required (e.g. finalisation of EIS, necessary change in operations), DERM would continue business as usual – i.e. EA would work through current processes. *When the standardisation of the water conditions is complete, the relevant sections of the EA will be reconsidered and amended as appropriate.*
- Where there are no immediate time imperatives, timeframes should be extended and EA's not finalised until standardisation process for water conditions completed. *DERM agreed to relay this directive to the regional officers, and inform QRC when notification has occurred.*
- Where an EA amendment is being sought for an aspect unrelated to water, no changes will be made to the water conditions until the consistency process is complete. *DERM agreed to relay this directive to the regional officers, and inform QRC when notification has occurred.*

Item 4

QUEENSLAND resources COUNCIL

Working together for a shared future

2 June 2009

Lindsay Delzoppo
A/Executive Director, Environmental Services
Department of Environment and Natural Resource Management
Floor 11, 160 Ann St, Brisbane

Email: [redacted]

Re: Normalising Conditions for Fitzroy River Mining Operations

The mining industry acknowledges that the 2008 floods revealed the need for some improvements in the water management systems of particular mines and to make additional contributions to the level of knowledge about water quality in the Fitzroy River.

The Queensland Resources Council (QRC) and individual mining companies are committed to addressing these shortcomings, and commends the Fitzroy Basin Cumulative Impacts Study for canvassing input from stakeholders to develop an action plan for improvement.

However, we emphasise that QRC does not agree with all of the processes or inferences contained within the Study report. With regard to developing normalised EA conditions as outlined in recommendation 1 of the Study report, QRC strongly disagrees with the assertion – implied and explicit – that <u>all</u> water discharges from mines are environmentally harmful and undesirable, and that they have anywhere near the greatest impact on Fitzroy water quality. The physical reality of Bowen Basin coal deposits means that mines inevitably have some effects on catchments by reducing the size and/or frequency of downstream flows. Sound management of water discharges from minesites, in accordance with well-reasoned quality and event conditions, can potentially enhance downstream environmental values and avoid material environmental harm.

Despite this fundamental difference, QRC is committed to working with the Department of Environment and Resource Management (DERM) to implement the findings of the study, initially focussing on the first recommendation of the Cumulative Impact Study, '*Develop appropriate conditions in environmental authorities for mine water discharges*', as effectively as possible and will strive to meet the ambitious timeframes adopted.

Following the QRC / Industry / DERM meeting on 28 May 2009, at which the Study recommendations and the process going forward were discussed, QRC would like to place on the record our summary of the outcomes from the meeting with a particular focus on the action items (which are identified in italics, with relevant dates in bold / underlined)

Of the three recommendations outlined in the Study Report, recommendation 1 will be the first to be actioned, with a completion date by **June 2009** and implementation date of **December 2009**. The recommendation will be implemented by DERM, with industry (Fitzroy Basin coal companies plus QRC) participating in a working group.

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- propose complementary policy options to lessen cumulative land-use impacts on the Fitzroy River, for example salinity trading.

- In some cases the changes necessary to meet new requirements may take some time to implement. Options to manage this issue may include TEPs, however, this could have other implications such as impact on performance category ratings. The industry's preferred approach is a phase-in period. *DERM agreed that a phase in period may be a suitable option and a timeframe for implementation could be written into EAs.*
- While conditions will be normalised / consistent, there will need to be some flexibility to consider local / site specific characteristics such as geography and local land uses.

Industry also raised the following concerns with EA conditions that have recently been imposed / proposed by DERM:

- process being undertaken – when a site requests a change to the EA (often minor, and often unrelated to water), regional DERM officers are taking the opportunity to make significant changes to the water conditions
- a very large and often irrelevant list of water quality parameters, including a suite of metals, are being included within draft EA conditions. Many of these are simply not present in Bowen Basin coal mines, are below detection limits, and / or are exceptionally expensive to monitor for little identified environmental benefit. The list of water quality parameters to be monitored should be based on a sound understanding of the water quality at the mine and the receiving water. It is not reasonable to put the onus on the company to argue why the parameters do not need to be monitored, rather than DERM explaining why they need to be monitored.

- Due to operational timeframes, a number of sites have been unreasonably pressured into accepting new conditions containing a large suite of monitoring parameters, even though they are not necessary and have concerns about practical implementation / unreasonable cost. *DERM agreed that the scope of metals being included in EA conditions would be reconsidered during the normalisation process.* It was discussed that a basic standard suite of metals could be developed and additional metals may be added or some deleted if it is demonstrated to be appropriate for specific sites.

Interim arrangements – Industry highlighted concerns with ongoing EA amendments to water conditions while the process of normalisation is occurring, and the following scenarios and interim arrangements were agreed:

- Where a new EA or EA amendment is required (e.g. finalisation of EIS, necessary change in operations), DERM will continue business as usual – i.e. the EA would work through current processes. *When the normalisation of the water conditions is complete, the relevant sections of the EA will be reconsidered and amended as appropriate.*
- Where there is no immediate time imperative, timeframes should be extended and EA not finalised until the normalisation process for water conditions is completed. *DERM (Central Office – Brisbane) agreed to relay this directive ie. the timetable and transitioning points to the regional officers (specifically Rockhampton, Mackay and Emerald) so companies do not need to debate over what can and cannot be done, and inform QRC when notification has occurred.*
- Where an EA amendment is being sought for an aspect unrelated to water, no changes will be made to the water conditions until the consistency process is complete. *DERM (Central Office – Brisbane) agreed to relay this directive ie the timetable and transitioning points to the regional officers (specifically Rockhampton, Mackay and Emerald) so companies do not need to debate over what can and cannot be done, and inform QRC when notification has occurred.*

Item 5

Queensland Government

Enquiries Les Bevis
Telephone (07) 4722 5200
Your reference
Our reference BNE2009/5027

Department of
Environment and Resource Management

5 June 2009

Ms Frances Hayter
Director, Environment and Social Policy
Queensland Resources Council
Level 13, 133 Mary Street
BRISBANE QLD 4000

Dear Ms Hayter Frances

RE: CONDITIONS FOR THE FITZROY BASIN COAL MINES

Thank you for your letter of 2 June 2009 summarising the outcomes of the meeting held on 28 May 2009 regarding recommendation one of the *Study of cumulative impacts on water quality of mining activities in the Fitzroy River Basin,* April 2009. The mining industry's commitment to working with the Department to implement findings of the Cumulative Impact Study and recent decisions of the Government are appreciated, particularly given the tight timeframes of the project.

The Department generally agrees with your summary of the meeting. We only emphasise the point that six months for water quality data collection may not be sufficient to determine limits in some cases, and interim release limits may be required based on the best available information in such circumstances. The data collection will be dependent on the receiving environment, the sampling events possible and the ability to develop a statistically appropriate dataset.

We are confident you will see sound principles and objectives implemented in the draft conditions that will be provided on 10 June 2009. We are also confident that the workshop being held at the Sebel & Citigate King George Square, Brisbane on 18 June 2009 will provide the opportunity for these conditions to be further developed with input from all parties involved.

If you wish to discuss this matter further, please contact me on telephone [redacted] or [redacted] Regional Manager Townsville, on [redacted]

Yours sincerely

[redacted]

Lindsay Delzoppo
Senior Director
Environmental Services
Department of Environment and Resource Management

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How does a company know if it is in compliance or not when you have trigger values?	Compliance relates to limit numbers in licences. Trigger values are not compliance related but are related to environmental harm and trigger the need for investigation to see whether harm has occurred.
There may be compliance issues with sampling trace elements. Many mines have very remote locations and use sampling processes that are not totally adequate so it's not always possible to guarantee quality assurance of monitoring. Site access can be a problem for monitoring, e.g. getting to a creek in the middle of a floodplain and relying on the goodwill of neighbours to access land.	This is a valid point and it was agreed some approaches to monitoring are not currently appropriate.
The issue of needing to discharge should be addressed as mines should be able to discharge if this will not cause environmental harm. Therefore receiving water should be the limit point not end of pipe. Mine discharge water can be a resource to the receiving environment. Does DERM understand that you can't make end-of-pipe and receiving point monitoring the same limits?	End-of-pipe is needed to determine compliance and as proof of who is responsible for contaminants.
What is the relevance of this process to emergency discharges. How do we manage uncontrolled discharges when all this talk is about controlled discharges. Many of the mines have water storages built on waterways so is this about discharges occurring deliberately or storm events as that needs to be part of the consideration as to how you frame conditions.	The purpose of this workshop is to focus on revised conditions for controlled discharges
Is there an expectation suspended solids would be treated before release?	Yes, through a sediment treatment dam.
The issue of far field monitoring was raised but held for later discussion	

[redacted] *DERM – Regional Manager Townsville, and Steven Tarte, DERM – Principal Environmental Officer, gave a presentation on the Draft model water conditions for coal mines in the Fitzroy Basin - Parts A and B.*

A summary of the points raised for clarification follows.

Question/Issue	Clarification
Part A specific	
As amendments are needed by the end of December 2009, why are future amendments being introduced over the next 2 years. An explicit statement on how this process will work is needed as condition W39 does not explain it	

monitoring and data collection is needed.	
Other comments	
List of metals currently need 4 monitoring sites for 1 release.	
Why are dam conditions regulated in Part A when there is still only a draft policy for dams that hasn't been finalised.	This is so that monitoring of water storage occurs so you know what is in your dams
Is this for all dams or just those with a release point.	Intent is just to relate to water storages for which there is a release.
Cannot comply with W18 – should be where practicable and perhaps this should go into dam conditions instead.	

It was agreed that copies of all presentations given at the workshop would be made available to all attendees.

Summary of morning session

[redacted] summed up the morning session with the following key points.

- Will convey concerns to Minister Jones about TEPs being used as a transition process.
- Clarified that TWG/Taskforce intent is current TWG will finish and that a commitment has been made to reconstitute a new group.
- Regarding end-of-pipe, quite wedded to end-of-pipe emissions as most licensing is done at point of release.
  (Comment from group – then discussion needs to be about the numbers)
- Regarding far field monitoring – there is an opportunity to move away from conditioning and embrace a Healthy Waterways type of project. With commitment from mines this could be a good news item for all stakeholders.
- Deferred on Part B but noted DERM needs to see water management plans in place.

The following questions were put to [redacted]

Q. We need to see some commitment on how issues should be dealt with and the process needs to be documented.
A: Agree to put a fence around amendments to water conditions in EAs in the Fitzroy Basin while this process continues until the end of 2009.
Q. Are the model conditions going to be opened up to community objection?
A: That is not the intent.

Frances Hayter then asked for a letter from Minister Jones stating that conditions were not open to community objection.

Following the presentations and summing up, the participants broke into groups to discuss 1) strategic issues, 2) condition specific issues, and 3) operational issues with a request to identify issues and possible solutions. A summary of the smaller group discussions follows.

Some mines don't have access to upstream and downstream sites for sampling/monitoring.	Mines may need to share data.
24 hour prior notice of discharge is not practical but need a suitable period after discharge.	2 hours notice after discharge for example.
Concerns about period of transition, particularly for older sites.	Milestones in EAs is a solution.
Concerns about far field monitoring.	Participating in a broader regional process.
Need extra conditions to deal with stock water, irrigation water, construction water and transfer of water to adjoining mines.	
DERM needs a dedicated team to process revised EAs.	

Summing up of where to from here?

- Talked about representatives for working group with industry representative being determined as [redacted] and [redacted]
- Talked about rapidly assembling data from the mines to help in the individual mine assessment process. This would involve DERM advising what information they currently hold and what further information from mines would be helpful. It was determined this process would occur after 30 June 2009.
- Talked about how the assessment process would be managed and how changes from the workshop would be incorporated into the model conditions for further revisions.
- It was agreed DERM would incorporate comments from the workshop into Version 1.1 of the model conditions by COB 24/6/09. This version would be distributed to the working group members for further refining. It was also agreed that version revised by the working group needed to go back to the wider group present at the workshop for further comment.
- DERM agreed to investigate establishing a dedicated team to develop the new EAs for each mine site.
- In relation to meeting the 30 June 2009 deadline for finalising consistent and appropriate licence conditions it was discussed that it may be necessary to report to Minister Jones that agreement has been reached on xx number of conditions but xx number are still to be determined.

	Apparent intent	Issues	Suggestions
W3 Table 2	End of pipe with fixed numbers to make it 'easier' for government and industry.	Should be based on environmental harm in the receiving environment, not end of pipe which does not consider, for example, a range of dilution factors.	If the end of pipe principle is to remain then the trigger levels should remain blank until they have been negotiated with industry ie will not be finalised by 30 June 2009.
W4	Specifies again compliance contaminants and monitoring frequency and adds a large list of other contaminants to monitor for at a different frequency	Both W3 and W4 specify monitoring in accordance with Table 2 The metals listed in Table 3 should be reduced to the key 10 already sent to DERM. If the full list are monitored then the additional cost of sampling to the ten proposed would be 4 to 5 times.	Only refer to Table 3 monitoring in this condition Conditions amended to only have the 10 proposed metals with the proposed trigger levels (linked to limits of detection). Industry and government should share the 'onus of proof' for their inclusion or otherwise.
W5	Sets out response procedure whenever any of the trigger levels are exceeded at the release point	Refers to downstream monitoring of contaminants in Table 3 but the scope of the monitoring is specified by Condition W24 not by Table 3 Also b) and c) refer to reference sites that do not yet exist (unless an upstream measuring point is able to be used) which should be therefore included in the regional monitoring program – see comments in relation to W26 to W33 and W19.	Cross-reference between W5 and W24 to make them consistent with regard to analytes and frequency
W8	Release may only occur when receiving flow is >4 time release flow	More information is required on how 1:4 was arrived at and its scientific basis. Also doesn't allow for mines in upper catchments with low receiving flows.	Relate to actual impacts and gauging station measurements. As a minimum add a note to accommodate mines in upper catchments.
W9	Specifies a single maximum "quantity of contaminants" to apply to all release points	It says "quantity of contaminants" but the units of measure are (quantity of) flow. In this format it doesn't allow for different flows to different receiving waters (eg a creek vs a river) Including "divided by 4" in the condition wording again excludes upper catchment locations NB W9 to W11 use the word contaminants inappropriately, they should be replaced by the word 'flow', 'waters' or similar.	Call it quantity of flow; and incorporate into Table 4 to allow for different quanta in different receiving waters.

	Apparent intent	Issues	Suggestions
W19 Table 7 and Table 8	Limits for receiving environment for the selected characteristics. Establish reference sites to allow evaluation of impact from discharges	These numbers have not been developed via a complete / comprehensive monitoring / research data set. Reference sites should be included as part of the regional monitoring program and should be allocated based on all industry releases to the environment.	Link to the revised 39. Delete requirements in Table 8 which refer to Reference Sites and Down Stream Monitoring points (as they are really receiving environment points).
W22 and W23	REMP to cover both NFMP and FFMP	FFMP should be removed as should be part of regional studies through a multi-stakeholder partnership as this is a cross basin issue involving all stakeholders and impactors.	Once conditions W26 to W33 are removed, W22 to W25 can be combined.
W25	Specify the deadline to submit the NF Monitoring Program (not the results of the program)	The NFMP i.e. monitoring plan does not have to be specified until 1 October 2010 but the revised release limits have to be applied from December 2010 (W3)	Revise W3 *[see previous]*
W34	Some requirements for water quality analyses	Given the remote locations of some monitoring sites and the distance from mines to analytical labs, it will not always be possible to be in accordance with the EPA Water Quality Sampling Manual	Change to either: b) as far as practicable, made in accordance...OR b) ...prescribed in the Mine Water Quality Sampling Manual
		Similarly, it will often not be possible to collect all the samples specified in the EA within 1 hour of each other	Change to c) collected...authority, within a small a time period as practical
		In sampling methodology a 'representative' sample is obtained by mixing several individual samples with the intention of obtaining result that reflects 'average behaviour'. It is generally not a desirable method of sampling if is intended to perform statistical analyses on the results	Change to d) carried out on unbiased random samples
		Need to recognise practicalities of actually accessing monitoring sites during flood events and gaining landholder permission / s to do so.	
W35	Specify that records must be kept	No time limit	Records must be kept for a minimum of five years
W37 d)	Clarification sought of intent.		

<table>
<tr><th></th><th>Apparent intent</th><th>Issues</th><th>Suggestions</th></tr>
<tr><td></td><td>Irrigation water releases</td><td colspan="2">Water may be piped or trucked during periods of dry weather for the purpose of supplying irrigation water to properties directly adjoining properties owned by the Environmental Authority holder in accordance with the conditions of this Environmental Authority.

Process water and storm water contaminated by mining activities must only be released to a third party for the purpose of supplying irrigation water from the authorised discharge locations detailed in Table 1 (Discharge Locations) and in compliance with the release limits defined within Table ## (Irrigation water release limits).

Table ## (Irrigation water release limits)
<table><tr><th>Quality characteristic</th><th>Units</th><th>Minimum</th><th>Maximum</th></tr><tr><td>pH</td><td>pH units</td><td>??</td><td>??</td></tr><tr><td>Electrical Conductivity</td><td>µS/cm</td><td>N/A</td><td>???</td></tr></table></td></tr>
<tr><td></td><td>Construction water use</td><td colspan="2">Process water and storm water may be piped or trucked for the purpose of supplying water for purpose of construction and/or road maintenance in accordance with the conditions of this Environmental Authority.</td></tr>
<tr><td></td><td>Transfers to adjoining mines</td><td colspan="2">Process water and storm water may be piped or trucked for the purpose of supplying water to {name adjoining mine} in accordance with the conditions of this Environmental Authority. The volume, pH and electrical conductivity of water transferred to {name adjoining mine} must be recorded.</td></tr>
</table>

Other:

- Part B – to be removed with a statement in Part A that a Water Management Plan must be developed for each site based on Guideline X (to be developed) or "a Water Management Plan that demonstrates: a) the site's ability to comply with the conditions of this EA; and b) the site's response to major events". This would take the pressure off doing a guideline as well.
  (this would therefore mean that the conditions would not be divided as Part A and B – but just one set).

- upper limit for pH must be 9. The Fitzroy often operates with a higher pH.

The assessment of the applications will be prioritised according to the discharge risk levels in the *Study of the cumulative impacts on water quality of mining activities in the Fitzroy River Basin.*

An internal training package will be undertaken in early August with DERM officers to ensure pre-lodgement meetings, advice and assessment of the amendment applications is efficient and in context with the history of this project.

If you have any questions in relation to this process or would like to arrange a pre-lodgement meeting please contact your sites DERM Project Manager.

If you have any questions in relation to this letter don't hesitate to contact me on [redacted] or [redacted]

Yours sincerely

[redacted]
Regional Manager (Whitsunday Coalfields)

Enc.

1. **'Model' Water Conditions**
2. **Flow Chart**
3. **Amendment Application Form**

Quality Characteristic	Interim Release Limits for all mines (limits to apply from the date of issue)	Future Release Limits from XX/XX/XXXX (negotiated date) **Note: These future limits will apply from a yet to be negotiated date using alternative numbers that will be derived from the information gathered by any combination of the following:** **(1) the results of near field monitoring,** **(2) any studies or investigations carried out in accordance with recommendations 2 & 3 of the Cumulative Impact Study on water quality in the Fitzroy River Basin,** **(3) any review of the QLD Water Quality Guidelines,** **(4) other relevant information.** ***Note: This information should be available by the end of 2011 if not before and when it becomes available limits will be determined for each mine site based on the environmental values to be protected and in accordance with criteria below***	Monitoring frequency	Comment
Electrical conductivity (uS/cm)	Hierarchy for determining limits in priority order starting with (a): (a) for mines that do not release contaminants to waters - no conditions are required for release authorisation, then conditions W2, to W15 inclusive, W18, W19 and W43 can be deleted. (b) Current limit for those mine sites not under a TEP or 1500 EC (Maximum)* which ever is lower or (c) a negotiated higher limit value that does not result in the contaminant release exceeding a maximum 1000 EC in the receiving waters and where the mine site demonstrates to DERM that it is unreasonable and impractical to immediately comply with the 1500 EC limit in (b) above and supported by a business case and commitment to ongoing environmental improvement on the mine site and with nominated timeframes. *Note: If the current limit is lower than a limit determined as above then the current limit would initially apply.* (d) for those other mines which cannot immediately achieve (b) or (c) above a stepped approach within the interim period ending 2011 to achieve (b) or (c) will be	**Aquatic ecosystem protection (no drinking water value):** An end-of-pipe limit to achieve in the range 0 to 1000 EC in the receiving waters. (Must have natural flow i.e. the 20th percentile flow trigger and achieve a 1:4 dilution **OR** for mines in the upper catchments must have natural flow i.e. the 20th percentile flow trigger. **OR** **Drinking water protection:** An end-of-pipe limit to achieve 0 to 750 EC in the receiving waters. (Must have natural flow, either 1:4 dilution and only release where a 20th percentile flow trigger occurs; OR for mines in the upper catchment must have a natural flow i.e. 20th percentile trigger.	Daily during release (the first sample must be taken within 2 hours of commencement of release)	

Table 3 (Release Contaminant Trigger Investigation Levels)

Quality Characteristic	Trigger Levels (µg/L)	Comment on Trigger Level	Monitoring Frequency
Aluminium	100	*For aquatic ecosystem protection, based on LOR for ICPMS*	Commencement of release and thereafter weekly during release
Arsenic	13	*For aquatic ecosystem protection, based on SMD guideline*	
Cadmium	0.2	*For aquatic ecosystem protection, based on SMD guideline*	
Chromium	1	*For aquatic ecosystem protection, based on SMD guideline*	
Copper	2	*For aquatic ecosystem protection, based on LOR for ICPMS*	
Iron	300	*For aquatic ecosystem protection, based on low reliability guideline*	
Lead	10	*For aquatic ecosystem protection, based on LOR for ICPMS*	
Mercury	0.2	*For aquatic ecosystem protection, based on LOR for CV FIMS*	
Nickel	11	*For aquatic ecosystem protection, based on SMD guideline*	
Zinc	8	*For aquatic ecosystem protection, based on SMD guideline*	
Include additional contaminants as required	Include additional contaminants as required		

EXPLANATORY NOTES – Table 3 Potential Contaminants:

The quality characteristics listed below should be assessed on a site by site basis by each mine prior to finalisation of amendment applications. Based on this assessment, the quality characteristic should be either disregarded if below trigger levels; or included as priority contaminants in Table 3 if above trigger levels. Assessment should involve comparison of representative data from dams that have historically been discharged or likely to be discharged from contaminant release points in Table 1. Data may include historical results or sampling undertaken for this specific purpose. The intent here is that not all dams on site would need to be sampled but those that would make up the majority of water in dams with release points. It could also be demonstrated based on existing water quality information that the water source and relative water quality of some dam are the same, in which case such dams may not need to be sampled individually. For metals and metalloids, trigger levels apply if dissolved results exceed trigger levels. However, total (unfiltered) results for metals and metalloids can be used to disregard a characteristic for inclusion in Table 3. Terms include SMD – slightly moderately disturbed level of protection, guideline - refers ANZECC & ARMCANZ (2000), LOR – typical reporting for method stated, ICPMS/CV FIMS – analytical methods required to achieve LOR.

Table 3 (Release Contaminant Trigger Investigation Levels) Potential Contaminants

Quality Characteristic	Trigger Levels (µg/L)	Comment on Trigger Level
Boron	370	*For aquatic ecosystem protection, based on SMD guideline*
Cobalt	90	*For aquatic ecosystem protection, based on low reliability guideline*
Manganese	1900	*For aquatic ecosystem protection, based on SMD guideline*
Molybdenum	34	*For aquatic ecosystem protection, based on low reliability guideline*
Selenium	10	*For aquatic ecosystem protection, based on LOR for ICPMS*
Silver	1	*For aquatic ecosystem protection, based on LOR for ICPMS*
Uranium	1	*For aquatic ecosystem protection, based on LOR for ICPMS*

Table 4 (Contaminant Release during Flow Events)

EXPLANATORY NOTES – Table 4

Gauging station description:

The intent here is that every release point in Table 1 is associated with a gauging station that measures flow upstream of the discharge point. More than one discharge point may be associated with the same gauging station. The gauging station should be at a minimum distance from the discharge point such that water flow under trigger flow events will not significantly diminish by the time it reaches the discharge point. The location of the gauging station should ideally be such that it is not significantly affected by other upstream point source releases or times of discharge are limited to periods of "natural" flow.

Under certain circumstances it may be appropriate to have a downstream gauging station in addition to or in replace of an upstream gauging station. The location should ideally not be affected by the discharge (e.g. be measured off the main waterway). The need for this must be demonstrated on a case by case basis to show why an upstream gauging station is insufficient. This may be the case when mines are located in the upper parts of catchments or near the downstream confluence or a major waterway. Similarly, the gauging station should be at a distance from the discharge point such that water flow during triggered flow events will not significantly diminish between the discharge point and the measuring point (or the confluence with the creek being measured). For downstream flow triggers, some changes to calculation for flow triggers and maximum release flows would typically be required based on the relative sizes of the waterways involved.

Minimum Flow Trigger:

The intent for the minimum flow trigger is that the times of discharge are limited to times of natural flow events only (for ephemeral receiving waters). Ideally, the flow trigger should be chosen such that it represents, for example, a 20th percentile average daily flow (in m^3/s) of a minimum ten year period. This or a similar approach should aim to eliminate discharges during "low flow" periods. The maximum discharge volume can then be calculated by dividing the upstream flow trigger by 4. The intent here is that a minimum dilution 1:4 is always maintained (20% of downstream flow). In some situations, this will not allow the mine to release sufficient quantities of water. Therefore, it is possible to propose more than one flow trigger. For example, a 40th percentile average daily flow trigger may also be used in addition to the initial 20th percentile flow trigger such that above the 40th percentile average daily flow trigger a higher release volume will be allowed during periods of higher in-stream flow (while still maintaining a 1:4 dilution ratio).

The expectation is that where flow gauging data is available, it is used to calculate flow triggers. Where gauging data is not available or is insufficient, flow triggers should be based on runoff/stream flow estimates using appropriate hydrological calculations or models and known catchment area, rainfall estimations etc.

Under certain circumstances, such as where a mine is in the upper part of the catchment, achieving a 1:4 dilution with receiving waters as described above may not allow the mine to discharge sufficient volumes. In such a case, a lower flow trigger must still be proposed but the discharge volume will also need to be linked to some downstream flow measure with sufficient dilution (ideally much greater than 1:4). The need for this must be demonstrated on a case by case basis and be supported by various flow calculations to demonstrate feasibility and show minimal environmental impacts.

Other special cases include discharges to creeks below water reservoirs or dams and these should be dealt with on a case by case basis to address the intent described above.

Receiving water description	Release Point	Gauging station description	Latitude or northing (GDA94)	Longitude or easting (GDA94)	Minimum Flow in Receiving Water Required for a Release Event	Flow recording Frequency
Wet Creek		Gauging station 1	XXXX	XXXX	Depending on individual catchment this minimum flow trigger will be either the release comprising less than 20% of the natural flow or any natural flow in the receiving environment. The volume of flow can be determined by height of water or flow. The actual flow must be a quantifiable measure. Example: > (i.e. 6 m^3/sec	Continuous (minimum daily)

Table 5 (Water Storage Monitoring)

Water Storage Description	Latitude or northing (GDA94)	Longitude or easting (GDA94)	Monitoring Location	Frequency of Monitoring
XXXX	XXXX	XXXX	To be negotiated- will depend on the individual storage structure volume. This will deal with stratification – depth profiles and be appropriate to in situ quality characteristics.	Quarterly

W17 In the event that waters storages defined in Table 5 exceed the contaminant limits defined in Table 6, the holder of the environmental authority must implement measures, where practicable, to prevent access to waters by all livestock.

Table 6 (Onsite Water Storage Contaminant Limits)

Quality Characteristic	Test Value	Contaminant Limit
pH (pH unit)	Range	Greater than 4, less than 9[2]
EC (µS/cm)	Maximum	5970[1]
Sulphate (mg/L)	Maximum	1000[1]
Fluoride (mg/L)	Maximum	2[1]
Aluminium (mg/L)	Maximum	5[1]
Arsenic (mg/L)	Maximum	0.5[1]
Cadmium (mg/L)	Maximum	0.01[1]
Cobalt (mg/L)	Maximum	1[1]
Copper (mg/L)	Maximum	1[1]
Lead (mg/L)	Maximum	0.1[1]
Nickel (mg/L)	Maximum	1[1]
Zinc (mg/L)	Maximum	20[1]

Note:

[1] Contaminant limit based on ANZECC & ARMCANZ (2000) stock water quality guidelines.

[2] Page 4.2-15 of ANZECC & ARMCANZ (2000) "Soil and animal health will not generally be affected by water with pH in the range of 4–9". Note: Total measurements (unfiltered) must be taken and analysed

Receiving Environment Monitoring and Contaminant Trigger Levels

W18 The quality of the receiving waters must be monitored at the locations specified in Table 8 for each quality characteristic and at the monitoring frequency stated in Table 7.

2. where the down stream results exceed the upstroam results complete an investigation in accordance with the ANZECC & ARMCANZ 2000 methodology, into the potential for environmental harm and provide a written report to the administering authority in the next annual return, outlining:
    (i) details of the investigations carried out; and
    (ii) actions taken to prevent environmental harm.

Note: Where an exceedance of a trigger level has occurred and is being investigated, in accordance with W19 2(ii) of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.

Receiving Environment Monitoring Program (REMP)

EXPLANATORY NOTES – Designing a REMP:

The intent here is that the REMP will be designed for specific requirements of the mine's releases and the receiving environment. The monitoring within the REMP should not be the primary basis for compliance but will be essential for providing supporting information when incidents may occur or for deriving future license limits. The focus should also be on reporting against water quality objectives for relevant waterways affected by the discharge and be on a longer term basis compared to compliance reporting. The intent is that the REMP is to provide condition assessment of near-field areas, ie. local areas likely to be significantly affected by the mine's releases. To do this, it is necessary that monitoring data is collected during times of natural flow outside of times of release in addition to time of release. The REMP is likely to include monitoring sites and indicators in addition to what is presented in the tables of these conditions. The intent is that far-field areas and cumulative impacts will be monitored as part of regional monitoring described in Condition W43 and assist in providing regional condition assessment and regionally specific reference information.

W20 A REMP must be developed and implemented by XX/XX/XXXX (WITHIN 3 MONTHS OF THE DATE OF ISSUE) to monitor and record the effects of the release of contaminants on the receiving environment periodically and whilst contaminants are being discharged from the site, with the aims of identifying and describing the extent of any adverse impacts to local environmental values, and monitoring any changes in the receiving water. A copy of the REMP must be provided to the administering authority prior to its implementation and due consideration given to any comments made on the REMP by the administering authority.

For the purposes of the REMP, the receiving environment is the waters of the XX and connected waterways within XX (e.g. Xkm) downstream of the release.

W21 The REMP must address (but not necessarily be limited to) the following:

a) Description of potentially affected receiving waters including key communities and background water quality characteristics based on accurate and reliable monitoring data that takes into consideration any temporal variation (e.g. seasonality); and

b) Description of applicable environmental values and water quality objectives to be achieved (i.e. as scheduled pursuant to the Environmental Protection (Water) Policy 1997); and

c) Any relevant reports prepared by other governmental or professional research organisations that relate to the receiving environment within which the REMP is proposed; and

d) Water quality targets within the receiving environment to be achieved, and clarification of contaminant concentrations or levels indicating adverse environmental impacts during the REMP.

e) Monitoring for any potential adverse environmental impacts caused by the release;

f) Monitoring of stream flow and hydrology;

g) Monitoring of toxicants should consider the indicators specified in Table 3 to assess the extent of the compliance of concentrations with water quality objectives and/or the ANZECC & ARMCANZ 2000 guidelines for slightly to moderately disturbed ecosystems;

h) Monitoring of physical chemical parameters as a minimum those specified in Table 2 (in addition to dissolved oxygen saturation and temperature);

i) Monitoring biological indicators (for macroinvertebrates in accordance with the AusRivas methodology) and metals/metalloids in sediments (in accordance with ANZECC & ARMCANZ 2000, BATLEY and/or the most recent version of AS5667.*1 Guidance on Sampling of Bottom Sediments*) for permanent, semi-permanent water holes and water storages;

b) include in the third party agreement a commitment from the person utilising the water to use water in such a way as to prevent environmental harm or public health incidences and specifically make the persons aware of the General Environmental Duty (GED) under section 319 of the *Environmental Protection Act 1994*, environmental sustainability of the water disposal and protection of environmental values of waters.

Water General

W28 All determinations of water quality must be:

a) performed by a person or body possessing appropriate experience and qualifications to perform the required measurements;

b) made in accordance with methods prescribed in the latest edition of the Environment Protection Agency Water Quality Sampling Manual;

Note: Condition W28 requires the Water Quality Manual to be followed and where it is not followed because of exceptional circumstances this should be explained and reported with the results.

c) collected from the monitoring locations identified within this environmental authority, within XX hour of each other where possible; and

d) carried out on representative samples.

e) laboratory testing must be undertaken using a laboratory accredited (e.g. NATA) for the method of analysis being used.

W29 The release of contaminants directly or indirectly to waters:

a) must not produce any visible discolouration of receiving waters; nor

b) must not produce any slick or other visible or odorous evidence of oil, grease or petrochemicals nor contain visible floating oil, grease, scum, litter or other objectionable matter.

Annual Water Monitoring Reporting

W30 The following information must be recorded in relation to all water monitoring required under the conditions of this environmental authority and submitted to the administering authority in the specified format with each annual return:

a) the date on which the sample was taken;

b) the time at which the sample was taken;

c) the monitoring point at which the sample was taken;

d) the measured or estimated daily quantity of the contaminants released from all release points;

e) the release flow rate at the time of sampling for each release point;

f) the results of all monitoring and details of any exceedences with the conditions of this environmental authority; and

g) water quality monitoring data must be provided to the administering authority in the specified electronic format upon request.

Temporary Interference with waterways

W31 Temporarily destroying native vegetation, excavating, or placing fill in a watercourse, lake or spring necessary for and associated with mining operations must be undertaken in accordance with Department of Natural Resources and Water *Guideline - Activities in a Watercourse, Lake or Spring associated with Mining Activities.*

Water Management Plan

W32 A Water Management Plan must be developed and implemented by XX/XX/XXXX (WITHIN 3 MONTHS OF THE DATE OF ISSUE) that provides for the proper and effective management of the actual and potential environmental impacts resulting from the mining activity and to ensure compliance with the conditions of this environmental authority.

W33 The Water Management Plan must be developed in accordance with DERM Guideline for Preparing a Water Management Plan 2009 (to be developed by 1 October) or any updates that become available from time to time and must include at least the following components:

The aim of the consultation shall be the meaningful review of the contaminant release limits imposed in this authority having regard to:

a) the study results;
b) near field monitoring results;
c) QLD Water Quality Guidelines; and
d) best practice environmental management.

If this review leads to a change in the requirements on this environmental authority holder, this shall be advanced by way of an authority amendment or a Transitional Environmental Program and as is necessary or desirable.

Annexure D - Statement of Frances Hayter Item 1

Department of Environment and Resource Management

DERM / QRC Stakeholder Meeting

Minutes

Date: 18 May 2010 **Venue:** QRC – Floor 13, 133 Mary Street
Start: 2.00pm **Chairperson:** Michael Roche - QRC
DERM Participants: John Bradley, Terry Wall, [redacted] Damien Brown, [redacted] Jon Womersley, [redacted]
QRC Participants: Michael Roche, Frances Hayter, [redacted]
DERM Apologies: [redacted]
QRC Apologies: [redacted]

Item No.	Topic	Actions	By Whom	Due Date
1.	**Previous meeting minutes & actions** Chair	Michael Roche updated the status of actions from the 25 February meeting and noted that many of the actions from the last meeting were going to be covered on the current agenda. [redacted] undertook to give QRC advice around likely timeframes for commencement of new EIS processing fees.	[redacted]	ASAP
New Items				
2.	**Machinery of Government (MOG) Changes to Native Title and Mining**	[redacted] advised that the MOG changes to native title responsibilities relative to mining tenements are now in place after going through executive council. Responsibility for native title and mining is now with DEEDI, and DERM continue to provide high level policy advice regarding native title issues, such as claims, other than mining.		
3.	**Progress on Indigenous Cultural Heritage Acts Review**	[redacted] advised that the paper was fairly self explanatory, and that Frances Hayter has been involved in recent stakeholder consultation. Frances was concerned that the paper didn't mention an on-going consultation process on the final recommendations and any proposed legislative changes to the Act as had been assured in the past, including to the government's consultation committee. Proposed legislative changes are due to be considered by cabinet in June and [redacted] undertook to speak to QRC following any government commitment to expose a consultation draft of the revised legislation. Frances noted that QRC was also looking for feedback on what the government's final position on the review's recommendations were, prior to seeing any draft legislation	[redacted]	Following cabinet consideration (June 2010)

Annexure D - Statement of Frances Hayter Item 1

4.	**Review of the Fitzroy Model EA Conditions**	Michael Roche informed the group of QRC's discussions with Minister Jones, which involved general agreement that once the wet season was over, that a retrospective discussion of the wet season's effects and how the model conditions had worked, or otherwise, would take place. QRC is meeting with mining companies on Thursday 20 May to commence internal discussions and would like to work with DERM following this to look at potentially modifying conditions to make them more effective and usable for both industry and DERM. [redacted] advised that companies have the opportunity to advise DERM if they are having problems complying with any conditions. In respect to the broad spectrum issues, as part of DERM's formal compliance plan, DERM is undertaking compliance investigations in regards to minesite water management over a two year period and this is due to be complete in October 2011. Regarding any fundamental issues with the Fitzroy model conditions, while DERM will take these on board and review, Dean advised that given they are only just completed, DERM is not keen to review the entire Fitzroy water conditions. Michael Roche advised of anecdotal evidence of time having influence over the level of conditions that were imposed, on a first in best dressed basis. There were also instances of some conditions in practice creating more environmental harm than good. Damien Brown advised that a number of companies are in discussion with DERM regarding some site specific considerations and that DERM are happy to look at processing of applications and any claims that time had influence over what sort of conditions were imposed. QRC undertook to give feedback following the Thursday 20 May meeting with mining companies and then discuss a consultation process with DERM going forward. Frances Hayter asked [redacted] to provide a copy of the Mine Water Management Stage 1 Compliance Project Plan – October 2009.	QRC Dean Ellwood	Late May/Early June ASAP

5.	**Strategic Cropping Land**	Michael Roche spoke of recent Strategic Cropping Land Stakeholder Advisory Committee workshops and recent meetings. It was agreed that the meetings were productive, and provided a good opportunity to hear a range of views. [redacted] acknowledged that the maps are the best available to DERM at present and will improve over time. Frances Hayter raised that it may be possible to make minor amendments to regulations without having to change the legislation and would like to put together a proposal for DERM's consideration. DERM & QRC to liaise to set up a meeting to discuss regulatory changes as opposed to legislative changes. It was agreed it was critical that the introduction of the policy was got right, rather than simply meeting a process timeframe.	Frances Hayter/[redacted]	ASAP
6.	**Industry Review of Queensland's Exploration and Development Approval Processes**	Michael Roche advised of the report produced by QRC on the 3rd of April and sent to the Premier as the prime recipient in that she announced the exercise. QRC are interested in the reactions of DERM with regard to how to progress from here. John Bradley indicated that he is yet to discuss feedback with Ministers Robertson and Jones about the report as DERM is currently digesting the issues raised in the report. In relation to the comment in QRC's report of intimidation of mining companies, this matter has been referred to the CMC. Terry Wall advised it would be helpful for DERM & QRC to convene a meeting in the near future with a view to resolving these issues. It was noted that several of the DERM operational recommendations such as completing the revised model conditions and the review of EIS triggers could (re) commence quickly. [redacted] and Frances Hayter agreed to liaise to set up a meeting to discuss DERM specific issues, particularly those directly of an operational nature.	[redacted]/Frances Hayter	ASAP.
7.	**Valuations Reform Reference Group**	[redacted] advised that [redacted] has been attending reference group meetings and has been talking directly to consultants. Andrew acknowledged that it is a difficult process and DERM have been clear and transparent through each step and the process has been managed well.		

Operational Issues	
8.	Financial Assurar
9.	Regulated Dams
10.	Model Conditions
11.	Environmental O
	Other Busines
12.	**Protected Wet land owned by**
	Wild Rivers/W Update
	Next Meeting

Operational Issues				
8.	Financial Assurance	Covered in previous meeting's minutes update.		
9.	Regulated Dams	Terry Wall advised that DERM is currently working on guidelines for coal seam gas water and dams and are consulting with industry. [redacted] advised that the document should be ready for circulation in the last week of May and that there is one more round of comments before the final decision.		
10.	Model Conditions	Covered in previous meeting's minutes update.		
11.	Environmental Offsets	[redacted] advised that the Queensland Biodiversity Offsets Policy will be considered by Government mid 2010, to seek approval for stakeholder consultation. A metric is currently being developed by DERM staff at the Herbarium, to measure the biodiversity losses at a development site and gains at an offset site. Peter outlined broadly the direction the policy was taking. Michael Roche noted that [redacted] recently advised timeframe was August 2010. [redacted] indicated that DERM would still meet that timeline. Frances Hayter reminded the meeting that QRC had made a submission during the consultation period and asked that those comments be discussed in the planned consultation period in August. [redacted] advised that there had been some changes in direction since receiving those comments; however he would be happy to provide commentary to QRC during the consultation period.		
12.	**Other Business**			
	Protected Wetlands on land owned by QRC	[redacted] raised the issue of notifications being received by companies regarding protected wetlands on mine sites, advising that in some cases dams have been listed as naturally occurring protected wetlands. Damien Brown undertook to liaise with [redacted] on how to navigate these issues.	Damien Brown	1 - 2 weeks
	Wild Rivers/Wenlock Update	Michael Roche queried if DERM could provide any update in relation to the declaration of the Wenlock. John Bradley advised that no insight could be given at this point but that Minister Robertson met with Cape Alumina and Australia Zoo last week and the declaration will be finalised in a matter of weeks.		
	Next Meeting	**Tuesday 17 August, 2.00 – 4.00pm (DERM)**		

Item 2

From: Frances Hayter [redacted]
Sent: Friday, 11 June 2010 9:55 AM
To: [redacted]
Cc: 'Jon Womersley'; Damien.Brown [redacted] 'Evans Mark'; 'Delzoppo Lindsay'
Subject: Fitzroy model conditions

Importance: High

Dear [redacted]

As discussed at the last DERM /QRC meeting, QRC has now had a discussion with our members about where we see improvements can be made to the Fitzroy conditions, and also some processes / understanding prior to the next wet season.

These matters include:

1. Notification timeframes
2. Flow rates – need to discuss alternatives to the simple one flow, one quality condition currently being used by DERM
3. Suspended Solids – it is not possible for this 'quality characteristic' to be measured in the timeframes required for this to be part of Table 2 but is acceptable as part of Table 7.
4. End of pipe numbers generally – options for downstream measurement points which actually work out less than the conditions
5. Passive flows, uncontrolled releases and controlled releases
6. Recognition of the link to the work on regulated dams
7. Resourcing – industry remains concerned at the resourcing of DERM to consider more dams, REMPs etc.
8. There are also a range of smaller (probably editorial errors) amendments - they include the pH in Table 7, W25 and off lease in relation to Irrigation Water Releases, W10 and the use of the word 'contaminants' rather than 'water'.

We would like to meet with DERM about these ASAP.

Is either the 28th or 29th of June possible?

However I also understand that you may be away – so should we suggest a later time on your return or can such a meeting be established in your absence? Should Ian Ramsay also attend?

A reminder that I am still looking to obtain a copy of the Mine Water Management compliance project plan which was also discussed at the May DERM / QRC meeting.

Kind regards,
Frances

Frances Hayter
Director Environment and Social Policy
Queensland Resources Council
t [redacted]
f [redacted]
Level 13 133 Mary Street Brisbane Queensland 4000
www.qrc.org.au

Please consider the environment before printing this e-mail

Item 3

13 OCT 2010

Queensland Government

Ref OTB 18099/10

Department of
Environment and Resource
Management

Mr Michael Roche
Chief Executive Officer
Queensland Resources Council
Level 13
133 Mary Street
BRISBANE QLD 4000

Dear Michael

I refer to the Queensland Resource Council's (QRC) submission, raising a number of concerns with the implementation of the Fitzroy environmental authority amendments for all coal mines operating in the Fitzroy Basin, and our meeting of 8 October 2010.

As you would be aware, the Fitzroy model conditions were developed and implemented from mid to late 2009, based on the negotiated amendment of those conditions of coal mine environmental authorities (EAs) dealing with the discharge of mine water to streams in the Fitzroy Basin. I understand the model conditions were developed jointly by a working group comprising DERM staff and technical representatives from a number of the mines, and that these were then adapted and applied according to the circumstances facing individual mines. The co-operation by industry in this process is acknowledged and I also appreciate the facilitative role of the QRC during this time.

When the new conditions were implemented, it was foreshadowed that they would be reviewed in detail for all mines in October 2011 – based on consideration of the new monitoring data for each of the coal mines, as well as the outcomes of DERM's Mine Water Management Project.

Whilst the detailed review in October 2011 remains the Department's preferred approach, I have reviewed the list of issues raised by QRC and I have asked my Department to convene a workshop at a mutually convenient time during the week of 25-29 October to work through QRC's concerns with QRC and its members. Topics for consideration as tabled by QRC could include:

- Notification timeframes
- Dilutions and flow rates
- Suspended solid limits
- End of pipe quality requirements
- Passive and controlled releases of wastewater
- Progressing minor amendments to Environmental Authorities

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It is also proposed that this workshop serve as a forum for discussion of proposed amendments to s320 of the *Environmental Protection Act 1994*, relating to duty to notify environmental harm.

Should you or your members wish to meet with DERM to progress the proposed workshop, please call Mr Lindsay Delzoppo, General Manager Operations on [redacted] to arrange a mutually convenient time.

Yours sincerely

[redacted]

John Bradley
Director-General

Item 4

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

MODEL CONDITIONS FOR MINE WATER MANAGEMENT

WORKSHOP

VENUE: Auditorium 1
Primary Industries Building
80 Anne Street, Brisbane

TIME: 9:00am to 3:00pm

NOTES: Morning tea, lunch and afternoon tea will be provided

DRAFT AGENDA

1. Welcome and Introductions
2. Purpose of the Workshop
3. General Background to the Issues Raised by QRC
4. Presentation – [redacted] SMI

   The presentation will review mine site water and salt modelling previously conducted for mines in the Bowen Basin, illustrating the freshwater saving afforded by increasing water re-use on sites and the consequent compromise to salinity. The implications of the model conditions for sustainable water management in the Basin can then be discussed.
5. Discussion of Specific Issues
   a) Notification timeframes
   b) Dilutions and flow rates
   c) Suspended solid limits
   d) End of pipe water quality limits
   e) Distinctions between different types of water releases
   f) Other issues
6. Arrangements for implementing changes to the Model Conditions
7. Arrangements for review of Model Conditions post 2011 wet season
8. Meeting close

Discussion notes on the demarcation line between mine worked water and other water (eg, overland flow) for the Fitzroy model water conditions

This discussion note is intended as a background paper for item 5(e) of the proposed agenda for a workshop reviewing the Fitzroy model conditions on Wednesday 3 November 2010.

1. Background and summary of recommendations

There is a key issue about separation of different types of water at mines, which needs to be addressed more clearly in the Fitzroy model water conditions. Essentially, this is a question about where the demarcation line should be drawn between:

(a) those mine-affected water (worked water) discharges for which monitoring for Table 2 parameters at Table 1 authorised discharge points is warranted; and
(b) a variety of other water which should not reasonably need to be addressed under the model conditions tables, but which happen to be released at the boundaries of the mining tenement land (eg, overland flow contaminated by adjoining agriculture).

There is a mix of practical issues and legal drafting issues involved in looking at this separation. In more detail, from a legal perspective, it would be desirable to clarify the model conditions, so as to address separately:

(a) 'Worked water' from the mining activities - (eg: pitwater, tailings dam water, processing plant water, water contaminated by workshop activities) which should only be released to waters at authorised discharge points which are subject to monitoring for relevant water quality parameters. (Generally, it is efficient to keep this worked water separate from other water (except for dilution purposes), but if there is a mix, then the mixed water would also fall under this heading.)

(b) Other water:
    (i) Run-off and diverted water which is not from the mining activities - The mine should expressly not be responsible for the quality of water which passes around the perimeter of the mining activities and is kept separate from worked water, whether this water has been actively diverted or is flowing naturally around the mining activities (eg, water from adjoining agricultural activities); and
    (ii) Run-off from mining activities where the practical issue is minimising erosion and sediment, rather than other water quality parameters. There are also hundreds of other minor releases of water which are technically from within the boundaries of a mining tenement but which do not realistically justify the same monitoring and reporting requirements suitable for worked water, although this water does need to be managed and kept separate from work water. An example would be stormwater passing through rehabilitated areas, which is kept physically separate from worked water. Technically, the rehabilitated area is a 'mining activity' and the run-off would, strictly speaking, be capable of being defined as 'contaminants', but an appropriate way to manage this water is through plans under the conditions, such as the erosion and sediment control plan, rather than by exhaustively defining, authorising and monitoring each seepage point or drainage. There are many other examples, some of which are discussed later in this paper.

The conditions as currently drafted do not literally provide for this framework, but they could be adjusted to achieve this demarcation with only quite minor amendments.

A note on terminology : Various different terminology has been used by both DERM and the industry to talk about these distinctions in the past. Sometimes the terminology itself has led to unintended confusion. For example:

- The distinction between 'controlled' and 'uncontrolled' does not literally address the above categories. A deliberate release of dirty worked water would literally be 'controlled' but also a diversion to keep stormwater clean would be 'controlled'. Conversely, overland flow located away from the mining activities may be literally uncontrolled, but that does not mean that it is relevant to EA release parameters or that it needs an authorised discharge point.
- The distinction is not between 'clean' and 'dirty'. For example, this would not take account of the relationship with mining activities or whether water just happens to be flowing across the mining tenement but contaminated by external activities.
- The distinction is not really between 'passive' and 'active' water either. For example, there are active steps involved in managing 'other water', to keep it separate from mine worked water, or to minimise erosion and sediment releases.

2. The relevant Fitzroy model water conditions

The key drafting difficulties are with conditions W1 and W2 of the Fitzroy model water conditions. For ease of reference, we have highlighted particular words in bold, for further discussion below:

> *W1 Contaminant release*
>
> *Contaminants that will, or have the potential to cause environmental harm must not be released directly or indirectly to any waters except as permitted under the conditions of this environmental authority.*
>
> *W2 The release of contaminants to waters must only occur from the release points specified in Table 1...and depicted on Figure 1...*

These conditions do not mean what an ordinary reasonable person might think they should mean, primarily because the terms used in the conditions rely on a series of definitions and these definitions are quite different from the everyday meaning of the terms.

(It is recognised that this form of conditions is not restricted to the Fitzroy model water conditions, but the implications of the drafting problems are more significant for Fitzroy, in the context of other conditions. The drafting issues should also be re-considered on a wider basis.)

3. Definition of "Contaminant"

The term 'contaminant' does not mean either 'dirty' worked water or 'water which is worse than the standards set out in the water quality parameters for water at monitored authorised discharge points'.

The term 'contaminant' is defined in section 11 of the *Environmental Protection Act 1994* (Qld) which is as follows:

> *'Contominants' –*
> *A contominont con be—*
> *(a) o gas, liquid or solid; or*
> *(b) on odour; or*
> *(c) on organism (whether olive or dead), including a virus; or*
> *(d) energy, including noise, heat, radioactivity and electromagnetic radiation; or*
> *(e) o combination of contominants.*

Strictly speaking, pristine stormwater is 'a gas, liquid or solid'. There have been examples of cases in other jurisdictions where clean water (ie, of drinking water standard) has been treated as a 'contaminant', although we are not aware of a Queensland example so far.

4. Definition of 'environmental harm'

The term 'environmental harm' is not restricted to material or serious environmental harm. It does not mean 'pollution'. It does not necessarily mean anything worse than impacts from other land uses such as grazing.

Section 14 of the Environmental Protection Act 1994 defines 'environmental harm':

> *'Environmental harm*
> *(1) Environmental harm is any adverse effect, or potential adverse effect (whether temporary or permanent and of whatever magnitude, duration or frequency) on an environmental value, and includes environmental nuisance.*
> *(2) Environmental harm may be caused by an activity—*
> *(a) whether the harm is a direct or indirect result of the activity; or*
> *(b) whether the harm results from the activity alone or from the combined effects of the activity and other activities or factors.'*

As can be seen from the highlighted words, the term specifically includes 'whatever magnitude'. To avoid absurd results, the Queensland Planning and Environment Court and the NSW Land and Environment Court have 'read down' the term 'environmental harm' in various cases, so as to try to achieve the presumed intention of conditions. In particular, in *Murphey v Beaudesert Shire Council [2002] QDC 292*, Skoien DCJ held that 'environmental harm' should not be interpreted either as applying to an impact which *'remains within and does not escape the limits of'* the premises; or as minor impacts just outside the boundaries (eg, *'if a passer by were to be exposed, even briefly, to an unpleasant smell or a puff of dust'*) because this would *'offend the de minimus concept of the law'*. However, the experience with mining companies has been that DERM compliance officers do not necessarily apply this court interpretation in practice and that the Fitzroy conditions themselves tend to confuse the issue because of: (a) the extremely broad definition of 'waters' (including artificial storages both on and off premises), combined with (b) the drafting of conditions W1 and W2, which does not include any reference to the concepts of reasonableness or 'minimising' environmental harm, which Skoien DCJ was able to rely on in the *Murphey* case.

5. Definition of "waters"

The definition of 'waters' has become more and more long-winded over the years, so that it is no longer restricted to impacts on groundwater, natural watercourses, lakes and oceans, and now includes even internal drainage pipes, dams and channels, which do not necessarily lead to any off-site impacts at all.

The Fitzroy model water conditions standard definition of 'waters' is as follows:

> *"waters" includes –*
> *(a) river, creek, stream in which water flows permonently or intermittently either:*
> *(i) in a natural channel, whether artificially improved or not; or*
> *(ii) (ii)in an artificial channel that has changed the course of the river, creek or stream; or*
> *(b) lake, lagoon, pond, swamp, wetland, dam; or*
> *(c) unconfined surface water; or*
> *(d) storm water channel, storm water drain, roadside gutter; or*
> *(e) bed and banks and any other element of a river, creek stream, lake, lagoon, pond, swamp, wetland, stormwater channel, storm water drain, roadside gutter or dam confining or containing water; or*
> *(f) groundwater; or*
> *(g) non-tidal or tidal waters (including the sea); or*
> *(h) any part-thereof.*

If DERM did not intend to require authorised discharge points (with associated monitoring) for each *internal artificial* drainage pipeline, or from one internal dam to another, then it should be clarified that releases to artificial storages are only intended to be covered where this leads to impacts 'beyond the boundaries of the mining tenement' (or potentially to particular identified on-tenement features of high ecological value). That way, DERM could still regulate discharges to artificial drainage pipes which lead off-site, while avoiding the absurd result of literally prohibiting internal transfers from one artificial storage to another.

This ought to be a separate issue from the regulation of impacts to ecologically valuable *natural* features on-tenement, such as a natural wetland with high ecological value.

6. Should be restricted to water affected by mining activities

There is nothing restricting the requirements of conditions W1 and W2 to either:

(a) water affected by mining activities (eg, as opposed to contaminated water flowing across the mining tenement from an agricultural use); or
(b) water that is not already covered by other conditions, such as the erosion and sediment control plan or third party beneficial re-use conditions.

Conditions W1 and W2 should be expressed to be 'unless authorised by other conditions of this environmental authority' and should be restricted to worked water from the mining activities (as opposed to external sources).

Condition W1 currently contains the proviso *'except as permitted under the conditions of this environmental authority'*, which would appear to have been intended to allow for water management through other conditions such as through the erosion and sediment control plan, but unfortunately, this proviso was not repeated in condition W2, which is unfortunately expressed in absolute terms.

7. Erosion and Sediment Control

Another condition of the Fitzroy model water conditions already provides a sound mechanism to address sediment management, and the steps to minimise release of sediment to waters:

> *W38: An Erosion and Sediment Control Plan must be developed by an appropriately qualified person and implemented for all stages of the mining activities on the site to minimise erosion and the release of sediment to receiving waters and contamination of stormwater.*

The only difficulties with this condition are:

(a) That it is not recognised in at all in condition W2 (which should be expressed to be 'subject to' this condition and also any beneficial re-use conditions involving transfers through what technically constitutes 'waters' such as a water pipeline or channel); and
(b) There is no exemption for release of sediment to the 'waters' that the sediment is actually intended to be released into, that is, on-site sediment dams and the channels leading to sediment dams etc.

There seems to be reasonable potential to develop the mechanism of the Erosion and Sediment Control Plan (ESCP) further, so as to regulate issues such as run-off from rehabilitated areas, haulage routes and dump spoil. The crux will be to reach an agreed understanding about what constitutes an appropriate level of 'minimisation', which waters we mean by 'receiving waters' (presumably not the on-site sediment dams, pipes and channels etc), and what is an appropriate level of management for these items (presumably not the same extent of parameters as for mine worked water such as tailings). A possible discussion point is that a guideline might be a way of working through some of these practical issues.

However, one reason why the ESCP mechanism has stronger potential for addressing the myriad of different types of relatively minor releases from mining tenements is that it has flexibility to adapt to the individual circumstances of particular mines, including different management options, different receiving environments etc. A guideline which provides examples of successful management, rather than prescriptive solutions, would be helpful.

Solutions

There would be many possible drafting solutions for the above set of issues. The suggestion below is just one possible option, combining W1 and W2:

> *W1 Releases to waters which are required to be authorised*
>
> *Unless authorised by another condition of this environmental authority, neither solid waste nor worked water from the mining activities may be released directly or indirectly to any waters beyond the boundaries of the mining project or to ground waters within the boundaries of the mining project, except at the authorised release points specified in Table 1...and depicted on Figure 1...*
>
> Then define worked waters, so as to cover tailings, pit water, processing plant water and workshop water, but so as not to cover the 'other water' outlined above which is kept separate from worked water in accordance with an ESCP (or other plan).

Item 5

Meeting Notes - Final
DERM / QRC Meeting
Model Water Conditions (3 November 2010)

Discussion of Specific Issues

a) Notification timeframes

This item related to model condition W12 which outlined the requirements for the initial notification timeframe and content requirements. Industry representatives indicated that the specified limit of 'no later than 6 hours of having commenced releasing mine affected water' was impractical due to the following reasons:

- Discharges often from overflowing rather than from turning on a valve (eg, from dam spillway or stormwater) – therefore the timing of the discharge not necessarily during business hours or immediately known.. There are also many types of minor 'passive' releases which are not necessarily located at authorised discharge points [as discussed in relation to item (e)].
- Size of some mine sites – some mines are extensive in area and can take best part of an hour or more to drive from one end to the other. In rainfall events, some roads may be inaccessible and therefore total time from commencement of discharge to notification time is likely to be more than 6 hours. In addition, there may be health and safety reasons during or just after severe storm events when personnel either cannot or should not access particular locations (eg, if there has been a landslip).
- When rainfall events commence overnight, this compromises ability to notify within 6 hours given the shortage of appropriately qualified or authorised staff to make a decision whether the condition is triggered or to prepare and issue correspondence.
- It is often impracticable to ascertain all of the content requirements for the notice immediately, for example, it may be difficult to ascertain estimated volume in poor lighting at night, it may be difficult to predict a release cessation timeframe for an overflow when it is uncertain whether a rainfall event will stop, ease or increase and impacts are often not immediately known. It has often not been the experience that DERM officers have been satisfied with initial 'rough estimates' and companies are concerned about appearing to give false and misleading information if they turn out to be incorrect in their forecasts of cessation time (due to uncertainty of forecast), volume or impacts. In addition, the term 'verification' in the condition appears to have led some DERM officers to take a stringent view of the content requirements.

Industry commented that the 6 hour requirement was perceived to be driven by a requirement that the Department receive notification about the discharge in order to 'meet the news cycle and brief the Minister'.

It was clarified that industry did not mean by this that they expected someone else to notify DERM first, but rather, that a 6 hour requirement is not practicable in terms of the content requirements.

Industry also emphasised that this is not a condition about notification of breaches or serious/material environmental harm, but rather, would normally apply to authorised releases. It is seen as unjustifiable to impose a more stringent period of notification for authorised releases, than in relation to the normal standard for notification of breaches or serious/material environmental harm.

Solutions Proposed:

- Industry representatives requested a 24 hour notification timeframe
- Another suggestion was to encourage a staged approach, including:
    - 1st stage :Notification within 6 hours, but without any supporting information [i.e. items for which information is known within 6 hours
    - 2nd stage: Completed notification within 24 hours complete with supporting information [i.e. items W12 a) through to f)]
- Another suggestion was for a 12 hours initial notification period.
- Leaving aside the question of timeframe, it was suggested that the potential for unnecessary over-notification could be minimised by more clearly defining the scope of which releases need to be notified and removing the term 'verification'. Although not included in the model conditions, the actual conditions received by many mines include an ambiguous definition of 'mine water' described as 'process water and contaminated water'. Potentially, this could include a greater range of types of water releases than intended [discussed in more detail at item (e) of the agenda].

Action agreed - there was agreement that DERM would give consideration to a 12 hour timeframe for reporting. The question about definitions was 'parked' until item (e) of the agenda was reached.

- It is noted that use of the word 'verification' in condition W12 has led some DERM officers and industry representatives to be particularly concerned about the extent of information required, particularly in relation to item (f). *'any details (including available data) regarding likely impacts on the receiving water (s).'*

b) Dilutions and flow rates

This issue is primarily about condition W9 of the model conditions: 'Contaminant release flow must not exceed 20% of receiving water flow rate.'

[redacted] explained that, at the time the original model conditions were prepared, there was insufficient scientific data about what rate would be reasonable as a baseline (or in individual circumstances). DERM's intention had been for individual mines to negotiate appropriate flow rates, based on their particular circumstances. The intention to allow for variation in the 20% rate was supposed to be covered by the explanatory notes before Table 4.

Industry commented that this did not appear to have been the way that condition W9 was addressed in practice.

Industry representatives outlined their concern that they were retaining excessive volumes of good quality water given the restrictions on discharge dilutions with the receiving water flows, because the conditions prevent mines from releasing that water in a timely way during the current 'window of opportunity' before the wet season is fully underway, as natural flow rates are not sufficiently high yet. If the

industry cannot take the current 'window of opportunity', then day by day, the quality of the accumulating water is gradually deteriorating. By the time that natural flow rates are sufficiently high for releases to be permitted under the conditions, there will be a very large volume of water that will be released and the quality will be significantly worse.

It was confirmed that this is seen as an industry-wide issue and there were comments that nearly every mine is concerned about this issue.

Jon Womersley suggested that each mine should negotiate different flow rates on a case by case basis. One industry representative commented that they had been told that the 20% figure was a Cabinet decision and could not be varied, notwithstanding that the DERM officers involved said that they accepted that the scientific data provided would otherwise have been relevant.

Other industry representatives explained that negotiation of upstream natural flow rates is particularly difficult if a mine happens to be located at the top of a catchment..

Action agreed – there was agreement to reposition the explanatory notes in the condition (extended W9) to outline the case specific requirements when a 1:4 dilution cannot be achieved. It was proposed to relocate the paragraph within the existing explanatory note #4 *'under certain circumstances.....'*. There was discussion on how this would be reviewed on a case by case negotiation basis, although each and every submission would need to be supported by a characterisation of the quality of the water to be discharged, in particular the electrical conductivity values.

c) **Suspended solid limits**

Industry representatives outlined concern over the requirements in Table 2 (Contaminant Release Limits) for suspended solids. It is understood that analytical tests for Suspended Solids have a longer laboratory turnaround time given the nature of the test and currently there is no reliable field based test to measure suspended solids.

Industry representatives concerned over inability to ensure compliance prior to discharge. This is because the contaminant release point is at 'end of pipe' and given the restrictions associated with turnaround time and field methods, there is no way to ensure prior to discharge that the suspended solids limit is met.

It was confirmed that this is seen as an industry-wide issue and there were comments that nearly every mine is concerned about this issue.

Solutions proposed included:

- DERM suggested looking at relationship between suspended solids results and turbidity and internally correlating results so that an empirical relationship is developed between two parameters for particular storages; and
- Introduce turbidity limit in place of suspended solids limit; and
- Measure suspended solids concentration, but not have this as part of the Contaminant Release Limits.

Action agreed – that DERM would give consideration to swapping turbidity for suspended solids, so that in table 2 'suspended solids' is 'n/a'. (Industry had no objection to continuing to monitor for suspended solids, provided that this is not a table 2 parameter preventing release.)

d) **End of pipe water quality limits**

Concern expressed over absence of recognised 'mixing zones' for discharges.

High EC water is being accumulated given restriction on mixing zones.

Preferred DERM position is:

- 'no mixing zone' for acute toxic contaminants;
- No amendment to the model conditions regarding a mixing zone, but that individual mines may still propose a case by case mixing zone, other than for acute toxic contaminants.

Solutions proposed included:

- Review case by case for sites that require mixing zone;
- DERM to provide guidance on toxicity assessment for end of pipe; and
- Consider use of diffusers.
- There was some suggestion by DERM that sites may create their own internal mixing zones, prior to 'end of pipe' discharge. Industry representatives responded that the low water quality parameter for EC means that some mines have had to mix salty water with fresh water on site to create adequate internal dilution, that is, an on-site mixing zone. A number of representatives commented that this leads to (a) very large storages involving significant additional disturbance and the need for additional mining leases (infrastructure); and (b) high use of fresh water (such as overland flow), which could perhaps be more efficiently used for other purposes. DERM [redacted] noted the difficulties this is likely to create for water resource management, and that this is the reason for the current exemption for mining EAs under WRP's. There was some suggestion that this could compromise the new Water Resource Plan (due out soon) and also that ultimately applications to harvest fresh water could lead to forced retrenchment of water allocations (from pastoral). QRC suggested that this is an issue for DERM to resolve in a policy sense, between its environment arm and its water resources arm.

Action agreed – that DERM would give consideration to the issues raised and any possible solution.

e) **Distinctions between different types of water releases**

Industry provided some pre-prepared discussion notes on this matter (refer to these)

Industry concern over:

- confusion in industry and government over existing definitions, and that it would be preferred to have a demarcation with definitions of worked water and other waters;
- need to separate management of authorised releases versus waterflows managed under an erosion and sediment control plan
- too many structures being recognised as a contaminant release point within a mine's catchment. The majority of these releases could be managed via the Erosion and Sediment Control Plan if the water meets standards/outcomes

defined in the Erosion and Sediment Control Plan. The remaining discharge points need separate management that would be specified in Table 1.

- If each minor release (eg, sumps, levees, seepages, 'true' sediment dams) are required to be monitored under Table 2, the unintended consequence would be for mines to consolidate these items into larger storages, but it is better management to have smaller storages and releases.

Action agreed – that DERM would give consideration to the issues raised and propose a solution having:

- worked through QRC discussion notes and come back to QRC with response
- developed a ready reckoner of definitions to avoid confusion around terminology e.g. Passive versus Active, Mine Affected Water, Worked Water
- provided undertaking to provide communication to staff on the issue of 'over-regulating/ over-prescribing' too many discharge points on each and every structure. Instead that the intent of the authorised release points was only to cover controlled discharges, and it was accepted in discussion that this included spillways associated with controlled releases. In particular, the original practical intention was that 'true' sediment dams were intended to function under ESCPs, rather than under authorised discharge points and associated tables.
- Consideration should be given to the requirements for ESCPs, in particular, that sediment dams are properly located, cleaned out and properly maintained.

6. Arrangements for implementing changes to the Model Conditions

DERM committed to providing response to QRC by Friday 11 November 2010. DERM indicated that it would advise QRC if an extra week was needed to prepare the response.

QRC invited DERM to continue to discuss any questions with QRC in the meantime, for example, if further information would be of assistance, or to discuss terminology and definitions.

7. Arrangements for review of Model Conditions post 2011 wet season

DERM indicated that a review of the model conditions would be undertaken following the 2011 wet season once more monitoring data was available and a review of performance against conditions was completed. DERM indicated that it would develop and agree with QRC on a project plan (including terms of reference) for the conduct of that review, and that this would be done mid 2011.

DERM invited the industry to provide interim results in about March/April 2011.

Item 6

From: Womersley Jon [redacted]
Sent: Friday, November 12, 2010 05:26 PM
To: Frances Hayter
Cc: [redacted]
Subject: Fitzroy Model Conditions for Mine Water Management

Dear Frances

I know that it is late in the week but I did promise to get back to you this week about the outcome of the workshop with QRC representatives on areas of concern with the Model Conditions for Mine Water Management. While there has been work done in the Department and we have a draft formal proposal that we will put back to QRC I am unable to deliver that to you until late next week. I hope that you will bear with me as we go through our processes.

Regards

Jon Womersley
Director Regulatory Support & Practice
Environment and Natural Resource Regulation
Email: [redacted]
Telephone: [redacted] **Facsimile:** [redacted]
Mobile: [redacted]

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Item 7

Queensland Government

File/Ref CTS 21349/10

Department of Environment and Resource Management

24 November 2010

Ms Frances Hayter
Director
Environment and Social Policy
Queensland Resources Council
Level 13
33 Mary Street
BRISBANE QLD 4000

Dear Frances

I refer to the work that the Department of Environment and Resource Management and the Queensland Resources Council heve jointly undertaken with respect to the Fitzroy River Basin Model Conditions for Mine Water Management.

Enclosed are two documents - the agreed record of the workshop with the QRC, and the model conditions with amendments that DERM intends to make included in "track changes".

The following is a summary of the changes that have been made to the model conditions in reference to the particular issues identified in the Final Meeting Notes:

(a) Notification timeframes

Condition W12 has been amended as follows:

The authority holder must notify the administering authority as soon as practicable (within no later than 6 hours of having commenced deliberately releasing mine affected water to the receiving environment from an authorised discharge point, and no later than 12 hours after any uncontrolled release from an authorised discharge point). Notification must include the submission of written advice to the administering authority of the following information:

(b) Dilutions and flow rates

Condition W9 and Teble 4 have been amended as a result of consultation with [redacted] of Environment and Natural Resource Science who attended the workshop.

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The modified explanations to Table 4 and the amendments to Table 4 and condition W9 are believed by DERM to satisfactorily address the issues raised by QRC for the purposes of the model conditions. Condition W9 has been amended as follows:

The volume released through the release point(s) must not exceed the maximum allowable flow at any time determined by multiplying the recorded receiving water flow at the corresponding gauging station in Table 4 with the corresponding percentages for maximum release in Table 4.

As a matter of principle there can not be releases where there is no flow in a river. However the revised provisions give greater flexibility with respect to the calculation of the proportion of that flow that can be taken up by a mine discharge.

(c) Suspended solid limits

Table 2 has been amended to allow for the monitoring of turbidity as a measure of compliance where there is evidence of a correlation between turbidity and suspended solids.

The modified requirements of Table 2 are believed by DERM to satisfactorily address the issues raised by QRC for the purposes of the model conditions.

(d) End of pipe water quality limits

In essence the QRC position on this came down to a request that the model conditions provide for mixing zones in the rivers as a means of achieving water quality outcomes.

No changes have been made to the model conditions in relation to this matter. On review DERM considers that it is open to individual sites to make a case based on toxicity assessment at the end of pipe to deal with this issue.

(e) Distinctions between different types of water releases

QRC provided a detailed paper about ways in which it may be possible to define different types of water on mine sites – worked water and non-worked water. The paper sought to differentiate water that has been affected by mining activities from water that was unaffected.

This is a complex issue that DERM does not believe can be resolved by simple variations to the model conditions. DERM has gone some way towards dealing with part of this matter by including in the explanation to Table 1 some guidance about the exclusion as release points of sediment traps and dams that have been installed in accordance with the standards and requirements of an Erosion and Sediment Control Plan.

Revision of the way in which water on a mine site is classified and regulated should await the further review of the model conditions in the second half of 2011.

It is the responsibility of individual mines to be planning for the management of water in a timely fashion and with sufficient foresight to anticipate what impacts the accumulation and discharge of water may have. There are a range of measures that mines can take through amendments to environmental authorities and Transitional Environmental Programs that can be used to ensure that their operations are compliant with the *Environmental Protection Act 1994*.

DERM has recently approved a Transitional Environmental Program for Xstrata Coal's Rolleston Mine that goes further than the model conditions and under particular circumstances allows that mine to discharge water held on site thereby providing greater

capacity for the forthcoming wet season. DERM has had discussions with both Macarthur Coal and BMA about a similar approach for their mines. DERM will continue to respond to these issues in a timely and practical way.

I am aware that there is often a reluctance to go down the path of using a Transitional Environmental Program. It is nevertheless an effective lawful mechanism that is available to companies that may have difficult circumstances to manage, and wish to seek some dispensation in the way in which the normal environmental authority conditions apply.

With respect to these revised conditions taking effect, DERM intends to issue a 'letter of comfort' for the notification timeframes in order to minimise amendment application processes for this minor change. This will remain in effect until such time as a company makes an amendment application for other matters. The remaining changes to the model conditions will require evidence based applications and therefore will require an amendment application to be made in the normal way, that is it will be for each company to decide when/if they wish to have any changes made via an application for an amendment to their environmental authority.

Yours sincerely

[redacted]

Acting Assistant Director-General
Environment and Natural Resource Regulation

Encl.

Final Model Water Conditions for Coal Mines in the Fitzroy Basin

Note:
Explanatory notes are in green. DELETE prior to issue of EA.
Insertions required by applicants and or the administering authority are in blue. DELETE prior to issue.

Contaminant Release

W1 Contaminants that will, or have the potential to cause environmental harm must not be released directly or indirectly to any waters except as permitted under the conditions of this environmental authority.

W2 The release of contaminants to waters must only occur from the release points specified in Table 1 and depicted in Figure 1 <this would be a plan or plans locating all monitoring (water quality and flow) and release points> attached to this environmental authority.

Table 1 (Contaminant Release Points, Sources and Receiving Waters)

EXPLANATORY NOTES – Determining Contaminant Release Points:
Contaminant release points should be specified in Table 1 where they represent a potential source of water contaminated by the mining activity. Release points associated with erosion and sediment control structures that have been installed in accordance with the standards and requirements of an Erosion and Sediment Control Plan to manage run-off containing sediment only that is not likely to contain contaminants or have properties that would cause environmental harm, do not need to be separately identified in Table 1.

Release Point (RP)	Latitude or northing (GDA94)	Longitude or easting (GDA94)	Contaminant Source and Location	Monitoring Point	Receiving waters description
RP 1	XXXX	XXXX	e.g. Stormwater Dam Spillway Overflow	Dam Spillway	Wet Creek
RP 2	XXXX	XXXX	e.g. Dam overflow pipe	Sampling Tap on pipe where the pipe enters Sandy Creek	Sandy Creek

W3 The release of contaminants to waters must not exceed the release limits stated in Table 2 when measured at the monitoring points specified in Table 1 for each quality characteristic.

Table 2 (Contaminant Release Limits)

EXPLANATORY NOTES – Setting interim release limits for EC:
Option (c) – To negotiate a higher value for end-of-pipe EC limits, it will be necessary to have sufficient background water quality data from historical flow events, ideally above each discharge point. This data should be used to demonstrate that there is sufficient "assimilative capacity" in receiving waters to receive mine discharges of the proposed higher EC levels and maximum flows specified in condition W9. In other words, the limits should be such that the predicted in-stream water quality downstream will always remain below 1000 µS/cm EC (for example, using all historical data and assumptions of complete dilution). Consideration should also be given to the potential impact on any drinking water reservoirs immediately downstream of the discharge and the need to keep in-stream water quality below 750 µS/cm.
Option (d) – To negotiate a stepped approach to achieve Option (b) or (c) it will be necessary to predict the likely downstream receiving water EC as a result of the proposed limits for each step proposed. It will be necessary to

have sufficient background water quality data from historical flow events, ideally for each discharge point. The data should be used to demonstrate that there is sufficient assimilative capacity to receive mine discharges of the proposed higher EC levels and maximum flows specified in condition W8. The limits should be such that predicted the in-stream water quality downstream is not likely to result in environmental harm from high salinity impacts. Ideally, in-stream EC s should remain below 1000 µS/cm EC (for example, using all historical data and assumptions of complete dilution). Where in-stream EC is likely to be above 1000 µS/cm then a case should be put forward as to why this is required and comments about the likelihood and potential extent of impacts. Consideration should also be given to the potential impact on any drinking water reservoirs immediately downstream of the discharge and the need to keep in-stream water quality below 750 µS/cm.

Quality Characteristic	Interim Release Limits for all mines (limits to apply from the date of issue)	Future Release Limits from XX/XX/XXXX (negotiated date) **Note: These future limits will apply from a yet to be negotiated date using alternative numbers that will be derived from the information gathered by any combination of the following:** **(1) the results of near field monitoring.** **(2) any studies or investigations carried out in accordance with recommendations 2 & 3 of the Cumulative Impact Study on water quality in the Fitzroy River Basin.** **(3) any review of the QLD Water Quality Guidelines.** **(4) other relevant information** ***Note: This information should be available by the end of 2011 if not before and when it becomes available limits will be determined for each mine site based on the environmental values to be protected and in accordance with criteria below***	Monitoring frequency	Comment
Electrical conductivity (uS/cm)	Hierarchy for determining limits in priority order starting with (a): (a) for mines that do not release contaminants to waters - no conditions are required for release authorisation, then conditions W2, to W15 inclusive, W18, W19 and W43 can be deleted. (b) Current limit for those mine sites not under a TEP or 1500 EC (Maximum)* which ever is lower or (c) a negotiated higher limit value that does not result in the contaminant release exceeding a maximum 1000 EC in the receiving waters and where the mine site demonstrates to DERM that it is unreasonable and impractical to immediately comply with the 1500 EC limit in (b) above	Aquatic ecosystem protection (no drinking water value): An end-of-pipe limit to achieve in the range 0 to 1000 EC in the receiving waters. (Must have natural flow i.e. the 20th percentile flow trigger and achieve a 1:4 dilution OR for mines in the upper catchments must have natural flow i.e. the 20th percentile flow trigger. OR Drinking water protection: An end-of-pipe limit to achieve 0 to 750 EC in the	Daily during release (the first sample must be taken within 2 hours of commencement of release)	

	and supported by a business case and commitment to ongoing environmental improvement on the mine site and with nominated timeframes *Note: If the current limit is lower than a limit determined as above then the current limit would initially apply.* (d) for those other mines which cannot immediately achieve (b) or (c) above a stepped approach within the interim period ending 2011 to achieve (b) or (c) will be required *Note: some of these mines may already be under an approved TEP and EO limits and compliance timeframes in the TEP need to be taken into account with the stepped approach* To support a stepped approach DERM will require a business case and commitment to ongoing environmental improvement on the mine site to ensure that all reasonable and practicable measures are being will be taken to prevent and/or minimise environmental harm.	receiving waters. (Must have natural flow, either 1:4 dilution and only release where a 20th percentile flow trigger occurs; OR for mines in the upper catchment must have a natural flow i.e. 20th percentile trigger.		
pH (pH Unit)	6.5 (minimum) 9.0 (maximum)	6.5 (minimum) 9.0 (maximum)	Daily during release (the first sample must be taken within 2 hours of commencement of release)	
Turbidity (NTU)	Current limit or limit derived from suspended solids limit and demonstrated correlation between turbidity to suspended solids historical monitoring data for dam water*	Limit derived from suspended solids limit and demonstrated correlation of turbidity to suspended solids historical monitoring data for dam water*	Daily during release* (first sample within 2 hours of commencement of release)	Turbidity is required to assess ecosystems impacts and can provide instantaneous results.
Suspended Solids (mg/L)	Current Limit *	Limit to be determined based on receiving water reference data and achievable best practice sedimentation control and treatment*	Daily during release* (first sample within 2 hours of commencement of release)	Suspended solids are required to measure the performance of sediment and erosion control measures.
Sulphate (SO_4^{2-}) (mg/L)	Current limit or 1000 (maximum) which ever is the lower	250 (Maximum) (Protection of drinking water Environmental Value) OR 1000 (Maximum) (Protection of irrigation environmental value)	Daily during release* (first sample within 2 hours of commencement of release)	Drinking water environmental values from NHMRC 2008 guidelines OR ANZECC & ARMCANZ 2000 stock water quality guidelines.

*Note: *Limit for suspended solids can be omitted if turbidity limit is included. Limit for turbidity not required if suspended solids limit included. Both indicators should be measured in all cases.*

W4 The release of contaminants to waters from the release points must be monitored at the locations specified in Table 1 for each quality characteristics and at the frequency specified in Table 2 and Table 3.

Table 3 (Release Contaminant Trigger Investigation Levels)

Quality Characteristic	Trigger Levels (µg/L)	Comment on Trigger Level	Monitoring Frequency
Aluminium	100	*For aquatic ecosystem protection, based on LOR for ICPMS*	Commencement of release and thereafter weekly during release
Arsenic	13	*For aquatic ecosystem protection, based on SMD guideline*	
Cadmium	0.2	*For aquatic ecosystem protection, based on SMD guideline*	
Chromium	1	*For aquatic ecosystem protection, based on SMD guideline*	
Copper	2	*For aquatic ecosystem protection, based on LOR for ICPMS*	
Iron	300	*For aquatic ecosystem protection, based on low reliability guideline*	
Lead	10	*For aquatic ecosystem protection, based on LOR for ICPMS*	
Mercury	0.2	*For aquatic ecosystem protection, based on LOR for CVFIMS*	
Nickel	11	*For aquatic ecosystem protection, based on SMD guideline*	
Zinc	8	*For aquatic ecosystem protection, based on SMD guideline*	
Include additional contaminants as required	Include additional contaminants as required		

Table 3 (Release Contaminant Trigger Investigation Levels) Potential Contaminants

EXPLANATORY NOTES – Table 3 Potential Contaminants:

The quality characteristics listed below should be assessed on a site by site basis by each mine prior to finalisation of amendment applications. Based on this assessment, the quality characteristic should be either disregarded if below trigger levels; or included as priority contaminants in Table 3 if above trigger levels. Assessment should involve comparison of representative data from dams that have historically been discharged or likely to be discharged from contaminant release points in Table 1. Data may include historical results or sampling undertaken for this specific purpose. The intent here is that not all dams on site would need to be sampled but those that would make up the majority of water in dams with release points. It could also be demonstrated based on existing water quality information that the water source and relative water quality of some dam are the same, in which case such dams may not need to be sampled individually. For metals and metalloids, trigger levels apply if dissolved results exceed trigger levels. However, total (unfiltered) results for metals and metalloids can be used to disregard a characteristic for inclusion in Table 3. Terms include SMD – slightly moderately disturbed level of protection, guideline - refers ANZECC & ARMCANZ (2000), LOR – typical reporting for method stated: ICPMS/CV FIMS – analytical methods required to achieve LOR.

Quality Characteristic	Trigger Levels (µg/L)	Comment on Trigger Level
Boron	370	*For aquatic ecosystem protection, based on SMD guideline*
Cobalt	90	*For aquatic ecosystem protection, based on low reliability guideline*
Manganese	1900	*For aquatic ecosystem protection, based on SMD guideline*
Molybdenum	34	*For aquatic ecosystem protection, based on low reliability guideline*
Selenium	10	*For aquatic ecosystem protection, based on LOR for ICPMS*
Silver	1	*For aquatic ecosystem protection, based on LOR for ICPMS*
Uranium	1	*For aquatic ecosystem protection, based on LOR for ICPMS*
Vanadium	10	*For aquatic ecosystem protection, based on LOR for ICPMS*
Ammonia	900	*For aquatic ecosystem protection, based on SMD guideline*
Nitrate	1100	*For aquatic ecosystem protection, based on ambient Qld WQ Guidelines (2006) for TN*
Petroleum hydrocarbons (C6-C9)	20	
Petroleum hydrocarbons (C10-C36)	100	
Fluoride (total)	2000	*Protection of livestock and short term irrigation guideline*

Note:

1. All metals and metaloids must be measured as total (unfiltered) and dissolved (filtered). Trigger levels for metal/metalloids apply if dissolved results exceed trigger.

2. The list of quality characteristics required to be monitored as per Table 3 will be reviewed once the results of the monitoring data is gathered for the interim period until 31 December 2011 or an earlier date if the data is, or becomes, available and if it is determined that there is no need to monitor for certain individual quality characteristics these can be removed from Table 3.

3. SMD – slightly moderately disturbed level of protection, guideline refers ANZECC & ARMCANZ (2000).

4. LOR – typical reporting for method stated: ICPMS/CV FIMS – analytical method required to achieve LOR.

W5 If quality characteristics of the release exceed any of the trigger levels specified in Table 3 during a release event, the environmental authority holder must compare the down stream results in the receiving waters to the trigger values specified in Table 3 and:

1. where the trigger values are not exceeded then no action is to be taken; or
2. where the down stream results exceed the trigger values specified Table 3 for any quality characteristic, compare the results of the down stream site to the data from background monitoring sites and;
   (a) if the result is less than the background monitoring site data, then no action is to be taken; or
   (b) if the result is greater than the background monitoring site data, complete an investigation in accordance with the ANZECC & ARMCANZ 2000 methodology, into the potential for environmental harm and provide a written report to the administering authority in the next annual return, outlining;
      (i) details of the investigations carried out; and
      (ii) actions taken to prevent environmental harm.

Note: Where an exceedance of a trigger level has occurred and is being investigated, in accordance with W5 2(b)(ii) of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.

W6 If an exceedance in accordance with condition W5 2(b)(ii) is identified, the holder of the authority must notify the administering authority within 14 days of receiving the result.

Contaminant Release Events

W7 The holder must install, operate and maintain a stream flow gauging station to determine and record stream flows at the locations upstream of each Release Point as specified in Table 4 for any receiving water into which a release occurs.

W8 Notwithstanding any other condition of this environmental authority, the release of contaminants to waters must only take place during periods of natural flow events specified as minimum flow in Table 4 for the contaminant release point(s) specified in Table 1.

Table 4 (Contaminant Release during Flow Events)

EXPLANATORY NOTES – Table 4

Gauging station description:

The intent here is that every release point in Table 1 is associated with a gauging station that measures flow upstream of the discharge point. More than one discharge point may be associated with the same gauging station. The gauging station should be at a minimum distance from the discharge point such that water flow under trigger flow events will not significantly diminish by the time it reaches the discharge point. The location of the gauging station should ideally be such that it is not significantly affected by other upstream point source releases or times of discharge are limited to periods of 'natural' flow.

Under certain circumstances it may be appropriate to have a downstream gauging station in addition to or in replace of an upstream gauging station. The location should ideally not be affected by the discharge (e.g. be measured off the main waterway). The need for this must be demonstrated on a case by case basis to show why an upstream gauging station is insufficient. This may be the case when mines are located in the upper parts of catchments or near the downstream confluence or a major waterway. Similarly, the gauging station should be at a distance from the discharge point such that water flow during triggered flow events will not significantly diminish between the discharge point and the measuring point (or the confluence with the creek being measured). For downstream flow triggers, some changes to calculation for flow triggers and maximum release flows would typically be required based on the relative sizes of the waterways involved.

Minimum Flow Trigger:

The intent for the minimum flow trigger is that the times of discharge are limited to times of natural flow events only (for ephemeral receiving waters). Ideally, the flow trigger should be chosen such that it represents, for example, an 80th percentile average daily flow (in m^3/s) of a minimum ten year period. This or a similar approach should aim to eliminate discharges during 'low flow' periods. The maximum discharge volume can then be calculated by dividing the upstream flow trigger by 4. The intent here is that a minimum dilution 1:4 is always maintained (20% of downstream flow). In some situations, this will not allow the mine to release sufficient quantities of water. Therefore, it is possible to propose more than one flow trigger. For example, a 40th percentile average daily flow trigger may also be used in addition to the initial 20th percentile flow trigger such that above the 40th percentile average daily flow trigger a higher release volume will be allowed during periods of higher in-stream flow (while still maintaining a 1:4 dilution ratio).

The expectation is that where flow gauging data is available, it is used to calculate flow triggers. Where gauging data is not available or is insufficient, flow triggers should be based on runoff/stream flow estimates using appropriate hydrological calculations or models and known catchment area, rainfall estimations etc.

Under certain circumstances, such as where a mine is in the upper part of the catchment, achieving a 1:4 dilution with receiving waters as described above may not allow the mine to discharge sufficient volumes. In such a case, a lower flow trigger must still be proposed but the discharge volume will also need to be linked to some downstream flow measure with sufficient dilution (ideally much greater than 1:4 or 20%). The minimum flow trigger would typically be based on a proportional catchment area between the local receiving catchment and the larger downstream catchment. In this case, an additional line is added in Table 4. Note that some flow must be measured in the local stream to permit release. The need for this must be demonstrated on a case by case basis and be supported by various flow calculations to demonstrate feasibility and show minimal environmental impacts.

Other special cases include discharges to creeks below water reservoirs or dams and these should be dealt with on a case by case basis to address the intent described above.

Comment [r1]: This number has caused a lot of confusion. The reality is that for a number of local streams close to high flow events which 80th percentile is more representative of. It is just an example anyway.

Receiving water description	Release Point	Gauging station description	Latitude or northing (GDA94)	Longitude or easting (GDA94)	Minimum Flow in Receiving Water Required for a Release Event	Percentage for maximum release	Flow recording Frequency
Wet Creek		Gauging station 1	XXXX	XXXX	The minimum flow trigger should limit discharge to periods outside of no or low natural flow. The volume of flow can be determined by height of water or flow. The actual flow must be a quantifiable measure. Example: > or = 5 m^3/sec	20% of flow in receiving water	Continuous (minimum daily)

Downstream Leper Creek (Delete if not in upper catchment)*	Gauging station 2	XXXX	XXXX	To be included for upper catchment mines only. The minimum flow trigger should limit discharge to periods outside of no or low natural flow The volume of flow can be determined by height of water or flow. The actual flow must be a quantifiable measure. Example: > ex = 5 m³/sec	XX% of flow in receiving water (value will be typically much less than 20%)

Note: Flow must also be measured at the Wet Creek gauging station for release to be permitted based on this flow trigger.

W9 The volume released through the release point(s) must not exceed the maximum allowable flow at any time determined by multiplying the recorded receiving water flow at the corresponding gauging station in Table 4 with the corresponding percentages for maximum release in Table 4.

W10 The daily quantity of contaminants released from each release point must be measured and recorded at the monitoring points in Table 1.

W11 Releases to waters must be undertaken so as not to cause erosion of the bed and banks of the receiving waters, or cause a material build up of sediment in such waters.

Notification of Release Event

W12 The authority holder must notify the administering authority as soon as practicable (within no later than 6 hours of having commenced deliberately releasing mine affected water to the receiving environment from an authorised discharge point, and no later than 12 hours after any uncontrolled release from an authorised discharge point). Notification must include the submission of written advice to the administering authority of the following information:

a) release commencement date/time;
b) expected release cessation date/time;
c) release point/s;
d) release volume (estimated);
e) receiving water/s including the natural flow rate; and
f) any details (including available data) regarding likely impacts on the receiving water(s).

Note: Notification to the administering authority must be addressed to the Manager and Project Manager of the local Administering Authority via email or facsimile.

W13 The authority holder must notify the administering authority as soon as practicable,(nominally within twenty-four (24) hours after of cessation of a release) of the cessation of a release notified under Condition W12 and within 28 days provide the following information in writing:

a) release cessation date/time;
b) natural flow volume in receiving water;
c) volume of water released;
d) details regarding the compliance of the release with the conditions of Agency Interest: Water of this environmental authority (i.e. contamination limits, natural flow, discharge volume);
e) all in-situ water quality monitoring results; and
f) any other matters pertinent to the water release event.

Notification of Release Event Exceedance

W14 If the release limits defined in Table 2 are exceeded, the holder of the environmental authority must notify the administering authority within twenty-four (24) hours of receiving the results.

W15 The authority holder must, within twenty-eight (28) days of a release that exceeds the conditions of this authority, provide a report to the administering authority detailing:

a) the reason for the release;
b) the location of the release;
c) all water quality monitoring results;

d) any general observations;
e) all calculations; and
f) any other matters pertinent to the water release event.

Monitoring of Water Storage Quality

W16 Water storages stated in Table 6 which are associated with the release points must be monitored for the water quality characteristics specified in Table 6 at the monitoring locations and at the monitoring frequency specified in Table 6.

Table 6 (Water Storage Monitoring)

Water Storage Description	Latitude or northing (GDA94)	Longitude or easting (GDA94)	Monitoring Location	Frequency of Monitoring
XXXX	XXXX	XXXX	To be negotiated- will depend on the individual storage structure volume. This will deal with stratification – depth profiles and be appropriate to in the quality characteristics	Quarterly

W17 In the event that waters storages defined in Table 6 exceed the contaminant limits defined in Table 6, the holder of the environmental authority must implement measures, where practicable, to prevent access to waters by all livestock.

Table 6 (Onsite Water Storage Contaminant Limits)

Quality Characteristic	Test Value	Contaminant Limit
pH (pH unit)	Range	Greater than 4, less than 9[1]
EC (µS/cm)	Maximum	6970[1]
Sulphate (mg/L)	Maximum	1000[1]
Fluoride (mg/L)	Maximum	2[1]
Aluminium (mg/L)	Maximum	5[1]
Arsenic (mg/L)	Maximum	0.5[1]
Cadmium (mg/L)	Maximum	0.01[1]
Cobalt (mg/L)	Maximum	1[1]
Copper (mg/L)	Maximum	1[1]
Lead (mg/L)	Maximum	0.1[1]
Nickel (mg/L)	Maximum	1[1]

Zinc (mg/L)	Maximum	20[1]

Note:
[1] Contaminant limit based on ANZECC & ARMCANZ (2000) stock water quality guidelines
[2] Page 4.2-15 of ANZECC & ARMCANZ (2000) "Soil and animal health will not generally be affected by water with pH in the range of 4-9".
Note: Total measurements (unfiltered) must be taken and analysed

Receiving Environment Monitoring and Contaminant Trigger Levels

W18 The quality of the receiving waters must be monitored at the locations specified in Table 8 for each quality characteristic and at the monitoring frequency stated in Table 7.

Table 7 (Receiving Waters Contaminant Trigger Levels)

Quality Characteristic	Trigger Level	Monitoring Frequency	Comments
pH	6.5 – 8.0	Daily during the release	See Table 2 comments
Electrical Conductivity (µS/cm)	1000		
Suspended solids (mg/L)	To be Determined. Turbidity may be required to assess ecosystem impacts and can provide instantaneous results		
Sulphate (SO_4^{2-}) (mg/L)	250 (Protection of drinking water Environmental Value) OR 1000 (Protection of irrigation environmental value)		

Table 8 (Receiving Water Upstream Background Sites and Down Stream Monitoring Points)

EXPLANATORY NOTES – Selection of monitoring sites:
The intent here is that that each discharge point has both an upstream and downstream monitoring point associated with it. These monitoring points should be located as close as practicable to the release point and the distances should be defined in the footnotes in Table 8. The location of flow monitoring points should also be considered in selecting upstream monitoring points. Other considerations include accessibility, particularly during wet weather conditions.

Monitoring Points	Receiving Waters Location Description	Latitude or northing (GDA94)	Longitude or easting (GDA94)
Upstream Background Monitoring Points			
Monitoring Point XX	XXXX Creek XX metres upstream of RP XX	XXXX	XXXX
Monitoring Point XX	XXXX Creek XX metres upstream of RP XX	XXXX	XXXX
Downstream Monitoring Points			

Monitoring Point XX	XXXX Creek XX metres downstream of RP XX	XXXX	XXXX
Monitoring Point XX	XXXX Creek XX metres downstream of RP XX	XXXX	XXXX

Notes

a) The upstream monitoring point should be within Xkm the release point

b) The downstream point should not be greater than Xm from the release point

c) The data from background monitoring points must not be used where they are affected by releases from other mines.

W19 If quality characteristics of the receiving water at the downstream monitoring points exceed any of the trigger levels specified in Table 7 during a release event the environmental authority holder must compare the down stream results to the upstream results in the receiving waters and;

1. where the downstream result is the same or a lower value than the upstream value for the quality characteristic then no action is to be taken; or
2. where the down stream results exceed the upstream results complete an investigation in accordance with the ANZECC & ARMCANZ 2000 methodology, into the potential for environmental harm and provide a written report to the administering authority in the next annual return, outlining:
   (i) details of the investigations carried out; and
   (ii) actions taken to prevent environmental harm.

Note: Where an exceedance of a trigger level has occurred and is being investigated, in accordance with W19 2(ii) of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.

Receiving Environment Monitoring Program (REMP)

EXPLANATORY NOTES – Designing a REMP:

The intent here is that the REMP will be designed for specific requirements of the mine's releases and the receiving environment. The monitoring within the REMP should not be the primary basis for compliance but will be essential for providing supporting information when incidents may occur or for deriving future license limits. The focus should also be on reporting against water quality objectives for relevant waterways affected by the discharge and be on a longer term basis compared to compliance reporting. The intent is that the REMP is to provide condition assessment of near-field areas, ie. local areas likely to be significantly affected by the mine's releases. To do this, it is necessary that monitoring data is collected during times of natural flow outside of times of release in addition to time of release. The REMP is likely to include monitoring sites and indicators in addition to what is presented in the tables of these conditions. The intent is that far-field areas and cumulative impacts will be monitored as part of regional monitoring described in Condition W43 and assist in providing regional condition assessment and regionally specific reference information.

W20 A REMP must be developed and implemented by XX/XX/XXXX (WITHIN 3 MONTHS OF THE DATE OF ISSUE) to monitor and record the effects of the release of contaminants on the receiving environment periodically and whilst contaminants are being discharged from the site, with the aims of identifying and describing the extent of any adverse impacts to local environmental values, and monitoring any changes in the receiving water. A copy of the REMP must be provided to the administering authority prior to its implementation and due consideration given to any comments made on the REMP by the administering authority.

For the purposes of the REMP, the receiving environment is the waters of the XX and connected waterways within XX (e.g. Xkm) downstream of the release.

W21 The REMP must address (but not necessarily be limited to) the following:

a) Description of potentially affected receiving waters including key communities and background water quality characteristics based on accurate and reliable monitoring data that takes into consideration any temporal variation (e.g. seasonality); and

b) Description of applicable environmental values and water quality objectives to be achieved (i.e. as scheduled pursuant to the Environmental Protection (Water) Policy 1997); and

c) Any relevant reports prepared by other governmental or professional research organisations that relate to the receiving environment within which the REMP is proposed; and

d) Water quality targets within the receiving environment to be achieved, and clarification of contaminant concentrations or levels indicating adverse environmental impacts during the REMP.
e) Monitoring for any potential adverse environmental impacts caused by the release;
f) Monitoring of stream flow and hydrology;
g) Monitoring of toxicants should consider the indicators specified in Table 3 to assess the extent of the compliance of concentrations with water quality objectives and/or the ANZECC & ARMCANZ 2000. guidelines for slightly to moderately disturbed ecosystems;
h) Monitoring of physical chemical parameters as a minimum those specified in Table 2 (in addition to dissolved oxygen saturation and temperature);
i) Monitoring biological indicators (for macroinvertebrates in accordance with the AusRivas methodology) and metals/metalloids in sediments (in accordance with ANZECC & ARMCANZ 2000, BATLEY and/or the most recent version of AS5667.*1 Guidance on Sampling of Bottom Sediments*) for permanent, semi-permanent water holes and water storages;
j) The locations of monitoring points (including the locations specified in Table 8 which are background and downstream impacted sites for each release point);
k) The frequency or scheduling of sampling and analysis sufficient to determine water quality objectives and to derive site specific reference values within 2 years (depending on wet season flows) in accordance with the *Queensland Water Quality Guidelines* 2006. For ephemeral streams, this should include periods of flow irrespective of mine or other discharges;
l) Specify sampling and analysis methods and quality assurance and control;
m) Any historical datasets to be relied upon;
n) Description of the statistical basis on which conclusions are drawn, and
o) Any spatial and temporal controls to exclude potential confounding factors.

W22 A report outlining the findings of the REMP, including all monitoring results and interpretations in accordance with conditions W20 must be prepared and submitted in writing to the administering authority by 1 October 2011. This should include an assessment of background water quality, any assimilative capacity for those contaminants monitored and the suitability of current discharge limits to protect downstream environment values.

Water Reuse

W23 Water contaminated by mining activity may be piped or trucked or transferred by some other means that does not contravene the conditions of this authority during periods of dry weather for the purpose of supplying stock water to properties directly adjoining properties owned by the environmental authority holder or a third party and subject to compliance with the quality release limits specified in Table 9.

Table 9 (Stock Water Release Limits)

Quality characteristic	Units	Minimum	Maximum
pH	pH units	6.5	8.5
Electrical Conductivity	µS/cm	N/A	5000

W24 Water contaminated by mining activity may be piped or trucked or transferred by some other means that does not contravene the conditions of this authority during periods of dry weather for the purpose of supplying irrigation water to properties directly adjoining properties owned by the environmental authority holder or a third party and subject to compliance with quality release limits in Table 10.

Table 10 (Irrigation Water Release Limits)

Quality characteristic	Units	Minimum	Maximum
pH	pH units	6.5	8.5
Electrical Conductivity	µS/cm	N/A	Site specific value to be determined in accordance with

			ANZECC & ARMCANZ (2000) Irrigation Guidelines

W25 Water contaminated by mining activity may be piped or trucked off the mining lease for the purpose of supplying water to a third party for purpose of construction and/or road maintenance in accordance with the conditions of this environmental authority.

W26 Water contaminated by mining activity may be piped or trucked for the purpose of supplying water to <name adjoining mine> in accordance with the conditions of this environmental authority. The volume, pH and electrical conductivity of water transferred to (*name adjoining mine*) must be monitored and recorded.

W27 If the responsibility of water contaminated by mining activities (the water) is given or transferred to another person in accordance with conditions **W23, W24, W26 or W26:**

a) the responsibility of the water must only be given or transferred in accordance with a written agreement (the third party agreement); and

b) include in the third party agreement a commitment from the person utilising the water to use water in such a way as to prevent environmental harm or public health incidences and specifically make the persons aware of the General Environmental Duty (GED) under section 319 of the *Environmental Protection Act 1994*, environmental sustainability of the water disposal and protection of environmental values of waters.

Water General

W28 All determinations of water quality must be:

a) performed by a person or body possessing appropriate experience and qualifications to perform the required measurements;

b) made in accordance with methods prescribed in the latest edition of the Environment Protection Agency Water Quality Sampling Manual;

Note: Condition W28 requires the Water Quality Manual to be followed and where it is not followed because of exceptional circumstances this should be explained and reported with the results.

c) collected from the monitoring locations identified within this environmental authority, within XX hour of each other where possible; and

d) carried out on representative samples.

e) laboratory testing must be undertaken using a laboratory accredited (e.g. NATA) for the method of analysis being used.

W29 The release of contaminants directly or indirectly to waters:

a) must not produce any visible discolouration of receiving waters; and

b) must not produce any slick or other visible or odorous evidence of oil, grease or petrochemicals nor contain visible floating oil, grease, scum, litter or other objectionable matter.

Annual Water Monitoring Reporting

W30 The following information must be recorded in relation to all water monitoring required under the conditions of this environmental authority and submitted to the administering authority in the specified format with each annual return:

a) the date on which the sample was taken;

b) the time at which the sample was taken;

c) the monitoring point at which the sample was taken;

d) the measured or estimated daily quantity of the contaminants released from all release points;

e) the release flow rate at the time of sampling for each release point;

f) the results of all monitoring and details of any exceedences with the conditions of this environmental authority; and

g) water quality monitoring data must be provided to the administering authority in the specified electronic format upon request.

Temporary Interference with waterways

W31 Temporarily destroying native vegetation, excavating, or placing fill in a watercourse, lake or spring necessary for and associated with mining operations must be undertaken in accordance with Department of Natural Resources and Water *Guideline - Activities in a Watercourse, Lake or Spring associated with Mining Activities*

Water Management Plan

W32 A Water Management Plan must be developed and implemented by XX/XX/XXXX (WITHIN 3 MONTHS OF THE DATE OF ISSUE) that provides for the proper and effective management of the actual and potential environmental impacts resulting from the mining activity and to ensure compliance with the conditions of this environmental authority.

W33 The Water Management Plan must be developed in accordance with DERM Guideline for Preparing a Water Management Plan 2009 (to be developed by 1 October) or any updates that become available from time to time and must include at least the following components:

a) Contaminant Source Study;
b) Site Water Balance and Model;
c) Water Management System;
d) Saline Drainage Prevention and Management Measures;
e) Acid Rock Drainage Prevention and Management Measures (if applicable);
f) Emergency and Contingency Planning;
g) Monitoring and Review.

W34 Each year the holder of the environmental authority must undertake a review of the Water Management Plan prior to the wet season (i.e. by 1 November) and a further review following the wet season (i.e. by 1 May the following year) to ensure that proper and effective measures, practices or procedures are in place so that the mine is operated in accordance with the conditions of this environmental authority and that environmental harm is prevented or minimised.

W35 A copy of the Water Management Plan and/or a review of the Water Management Plan must be provided to the administering authority on request.

Saline Drainage

W36 The holder of this environmental authority must ensure proper and effective measures are taken to avoid or otherwise minimise the generation and/or release of saline drainage.

Acid Rock Drainage

W37 The holder of this environmental authority must ensure proper and effective measures are taken to avoid or otherwise minimise the generation and/or release of acid rock drainage.

Stormwater and Water sediment controls

W38 An Erosion and Sediment Control Plan must be developed by an appropriately qualified person and implemented for all stages of the mining activities on the site to minimise erosion and the release of sediment to receiving waters and contamination of storm water.

W39 The maintenance and cleaning of any vehicles, plant or equipment must not be carried out in areas from which contaminants can be released into any receiving waters.

W40 Any spillage of wastes, contaminants or other materials must be cleaned up as quickly as practicable to minimise the release of wastes, contaminants or materials to any stormwater drainage system or receiving waters.

All Dams

EXPLANATORY NOTES – Dam conditions:

Note: Conditions W41 and W42 to be removed if already conditioned in the authority

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W41 The hazard category of each dam must be determined by a suitably qualified and experienced person at least once in each two year period.

W42 Dams having a hazard category determined to be significant or high, must be specifically authorised by an environmental authority.

Fitzroy River Basin Study

W43 The administering authority and the holder of this environmental authority both acknowledge that the conditions for release of contaminants to the XX River in this environmental authority have been calculated without the benefit of the findings of projects proposed to be undertaken as per recommendations 2 and 3 of the *Study of cumulative impacts on water quality of mining activities in the Fitzroy River Basin* (April 2009). The administering authority may, based on the information provided in the study report when it becomes available, all relevant information available at the time and the regulatory framework applicable at that time, consult with the holder of this environmental authority about the conditions in the environmental authority concerning the treatment and disposal of waste water.

The aim of the consultation shall be the meaningful review of the contaminant release limits imposed in this authority having regard to:

a) the study results;
b) near field monitoring results;
c) QLD Water Quality Guidelines, and
d) best practice environmental management.

If this review leads to a change in the requirements on this environmental authority holder, this shall be advanced by way of an authority amendment or a Transitional Environmental Program and as is necessary or desirable.

Definitions:

"20th percentile flow" means the 20th percentile of all daily flow measurements (or estimations) of daily flow over a 10 year period for a particular site. The 20th percentile calculation should only include days where flow has been measured (or estimated), i.e. not dry weather days.

"acid rock drainage" means any contaminated discharge emanating from a mining activity formed through a series of chemical and biological reactions, when geological strata is disturbed and exposed to oxygen and moisture as a result of mining activity.

"administering authority" means the Department of Environment and Resource Management or its successor.

"appropriately qualified person" means a person who has professional qualifications, training, skills or experience relevant to the nominated subject matter and can give authoritative assessment, advice and analysis on performance relative to the subject matter using the relevant protocols, standards, methods or literature.

"dam" means a land-based structure or a void that is designed to contain, divert or control flowable substances, and includes any substances that are thereby contained, diverted or controlled by that land-based structure or void and associated works. However, a dam does *not* mean a fabricated or manufactured tank or container designed to a recognised standard, *nor* does a dam mean a land-based structure where that structure is designed to an Australian Standard. In case there is any doubt, a levee (dyke or bund) is a dam, but (for example) a bund designed for spill containment to AS1940 is *not* a dam.

"environmental authority" means an environmental authority granted in relation to an environmentally relevant activity under the *Environmental Protection Act 1994*.

"environmental authority holder" means the holder of this environmental authority.

"flowable substance" means matter or a mixture of materials which can flow under any conditions potentially affecting that substance. Constituents of a flowable substance can include water, other liquids fluids or solids, or a mixture that includes water and any other liquids fluids or solids either in solution or suspension.

"hazard" in relation to a dam as defined, means the potential for environmental harm resulting from the collapse or failure of the dam to perform its primary purpose of containing, diverting or controlling flowable substances.

"hazard category" means a category, either low significant or high, into which a dam is assessed as a result of the application of tables and other criteria in the Manual for Assessing Hazard Categories and Hydraulic Performance of Dams (Version 2.0, 2009) published by the Environmental Protection Agency on its website.

"natural flow" means the flow of water through waters caused by nature.

"receiving environment" means all groundwater, surface water, land, and sediments that are not disturbed areas authorised by this environmental authority.

"receiving waters" means all groundwater and surface water that are not disturbed areas authorised by this environmental authority.

"representative" means a sample set which covers the variance in monitoring or other data either due to natural changes or operational phases of the mining activities.

"saline drainage" The movement of waters, contaminated with salt(s), as a result of the mining activity.

"waters" includes river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined water natural or artificial watercourse, bed and bank of any waters, dams, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, and groundwater and any part thereof.

Item 8

QUEENSLAND resources COUNCIL

Working together for a shared future

6 December 2010

Ms [redacted]
Acting Assistant Director-General
Environment and Natural Resource Regulation
Department of Environment and Resource Management
GPO Box 2454
Brisbane QLD 4001

Dear [redacted]

Re: Fitzroy River Basin Model Conditions for Mine Water Management

Thank you for your letter dated 24 November 2010 regarding the Queensland Resources Council (QRC) and Fitzroy member discussions with the Department of Environment and Resource Management (DERM) on the Fitzroy model conditions.
QRC appreciates the opportunity given to hold the workshop with DERM on 3 November and discuss in detail some of the key matters related to the Fitzroy model conditions as they currently stand.

Unfortunately we do not feel that the letter received from DERM matched the understanding that industry had of the outcomes (as verified in the minutes of the workshop attached to the letter) of the workshop.

As per DERM's correspondence with QRC, this letter is structured to follow the order of the issues discussed at the workshop.

Notification timeframes – QRC appreciates that DERM has made a step forward with this condition, by acknowledging that for 'uncontrolled releases' (that is, releases which are not deliberate), DERM is prepared to change the current 6 hours period to 12 hours. We also appreciate the change of the term 'verification' to 'advice', with the intention of acknowledging that it is often difficult for companies to be sure of all relevant information under this condition, within either 6 or 12 hours.
QRC would just like to place on record again the point that was noted in the minutes:
'Industry also emphasised that this is not a condition about notification of breaches or serious/material environmental harm, but rather, would normally apply to authorised releases. It is seen as unjustifiable to impose a more stringent period of notification for authorised releases, than in relation to the normal standard for notification of breaches or serious/material environmental harm.'
The reason why this point was emphasised at the review workshop is that, for any other industry, the relevant notification timeframe for a breach is 24 hours, not 6 or 12. When the mining industry is not even in breach of conditions, that is, when water quality parameters are acceptable and the minimum flow rate is acceptable, a more stringent period of notification is imposed, singling out the mining industry.

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Even if the release is deliberate, 6 hours is a very short period in which to satisfy the content requirements of this condition, bearing in mind that there is a maximum penalty of 2 years' imprisonment, not just for providing 'false or misleading' information, but even for providing 'incomplete' information (or to know whether or not the information is 'incomplete').
At this stage, it does not appear that DERM has fully understood the concerns of the industry about this issue and we look forward to discussing further.

Dilutions and flow rates – In an e.mail dated 26 November 2010, Jon Womersley provided QRC with the further clarification of DERM's intentions. In summary, amendments have been made to the relevant condition and table and Condition W9 has been modified to remove the "20% of receiving water flow rate" and replaced with a reference to Table 4.
Table 4 has been modified to include an additional column that specifies the "percentage for maximum release" which will either be 20% or a lower percentage in the case of a downstream gauging station. An additional row is now included to allow monitoring from a downstream gauging station (usually on the next major waterway) where the release point (RP) is in the upper part of the catchment. This would allow releases to occur from that RP when flow is determined at either location. This will provide a greater opportunity for release.
While a direct release to a tributary stream continues to have a maximum release trigger of 20% of the flow in the receiving water, the importance of the change in Table 4 is that it now also allows for the percentage (or dilution) to be determined based on the monitoring from a gauging station downstream of the release point on a larger waterway. The local catchment is measured for the whole waterway catchment to the confluence with the major waterway, and not just the area upstream of the release point. This will provide a potentially greater release flow than would be the case if just the receiving flow at the release point were to be considered.

QRC appreciates that these are steps in the right direction, but they do not go far enough.

As advised by one member at the review workshop who had undertaken a review of environmental authorities across the catchment, although numerous companies have sought variations to the 20% rule and although the existing explanatory notes had suggested that there was some room for variation, this has not been occurring in practice.

It is also noted that there are still particular issues for mines located at or near the top of a catchment, where downstream users are reliant on receipt of water and the current approach to conditions effectively means that the tap is turned off for those downstream users who were quite happy with the water quality for their purposes.

At the time of the review workshop, the industry had already reached a stage where numerous mines throughout the catchment ought to be making releases prior to minimum flow rates being reached, so that the quality of water did not deteriorate in the meantime. The suggestion that this should be addressed through a multitude of individual TEPs is not an efficient approach. The model conditions themselves (and the literal interpretation of district officers) was not supported by data. TEPs are treated by DERM as punitive, for example, this leads to downgrading of financial assurance discount.

Suspended solid limits – At the workshop, what was agreed (subject to internal DERM consideration) was that the model conditions would be amended so that TSS is no longer a parameter under Table 2 and instead, this would be swapped for turbidity. According to our recollections, it was accepted by all parties that there is known to be a correlation between TSS and turbidity and that turbidity is simply quicker and easier to measure. Instead, the response from DERM requires each individual company to demonstrate that there is a correlation between TSS and turbidity, in order to obtain an amendment.

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We understand that companies would need to include an amount for turbidity, but there was no suggestion at the meeting that a 'correlation' would be required.

End of pipe water quality limits – industry maintains its view that DERM should give greater consideration to the end of pipe and mixing zones to identify release limits, however, we note that this will not occur until the larger review in 2011.

Distinctions between different types of water releases – we acknowledge the changes to the explanatory notes for Table 1 that sediment traps and dams that have been installed in accordance with the standard requirements of an Erosion and Sediment Control Plan should be excluded from the Table, however are disappointed that any further discussion on the way in which water on a mine site is classified and regulated is to be held over until the 'further review' of the model conditions in the second half of 2011. This was not the understanding of the meeting and it is unclear why this is so difficult. QRC offered a simple drafting solution at the end of the paper we provided, and we would be happy to discuss drafting further. . The conditions as currently drafted are simply incorrect, as they currently stand.

We have an overriding concern that while DERM will be issuing a 'letter of comfort' in relation to the notification changes so that the EA amendment process is not needed in the first instance for a 'minor' change, all of the other, even partial improvements, will only be made to EAs following the receipt of 'evidence based applications' and then processed in the normal EA amendment way.

We look forward to seeing individual amendment applications being treated on their merits, as suggested by DERM at the workshop of 3 November, as unfortunately this has not been the experience to date. Perhaps a directive could be issued to district offices in this regard
QRC would also like to take this opportunity to raise further the issue of the immediate need that a significant number of Fitzroy sites now have relating to the amount of water stored on site, due to the early arrival of the wet season and the limitations of the current flow rate discharge conditions.
QRC has raised this issue extensively with your Director-General who has indicated that he is prepared to 'fast-track' TEP applications for releases to two weeks rather than the allowed 20 working days. While it is disappointing that the conditions have assisted with bringing on a situation where the only avenue for a company to pursue is the regulatory action of a TEP, we would ask that DERM adhere to the agreement made with John Bradley.

In addition at a meeting with QRC's Chief Executive on 29 November 2010, it was indicated by Mr Bradley and Damian Brown that, despite the wording of DERM's 24 November letter which states that, 'As a matter of principle there can not be releases where there is no flow in a river', DERM would be prepared to consider pre releases provided it is possible to predict that the creeks will run soon. Again, we would ask that DERM adhere to the meeting outcomes. We would also suggest that continuing to release, for a short defined period, after creeks stop flowing naturally would help in the longer term.

Yours sincerely

[redacted]

Frances Hayter
Director, Environment and Social Policy

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Annexure E - Statement of Frances Hayter Item 1

From: Michael Roche
Sent: Monday, 28 February 2011 3:00 PM
To: Birchley Michael
Cc: Bradley John; Wall Terry; Brier Andrew; Frances Hayter; [redacted]
Subject: RE: Review of Model Conditions

Thanks Mike. We may have to get another time for the meeting you have tried to set up for 10/3 as at present Frances Hayter is unavailable.

In addition to the matters you mention, we may want to speak further about work on a salinity trading scheme.

Michael Roche
Chief Executive
Queensland Resources Council

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f: [redacted]
Level 13 133 Mary Street Brisbane Queensland 4000
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Working together for a **shared future**

From: Birchley Michael [mailto:[redacted]
Sent: Monday, 28 February 2011 2:10 PM
To: Michael Roche
Cc: Bradley John; Wall Terry; Brier Andrew
Subject: Review of Model Conditions

Michael

Following up from your meeting with John Bradley and I last Monday, I would like to provide an indication of the proposed timeframe regarding the review of the Fitzroy Model Conditions.

As you are aware, a review was initially planned for the second half of 2011. In light of the recent wet season this will be brought forward and it is intended that the review will be completed by the end of July 2011. In order for this to occur, draft terms of reference will be prepared by the department and distributed to key stakeholders for comment in early April with the aim of finalising the TOR and commencing the review early May.

This timeframe will provide for the completion of the current wet season and TEP processing and allow these recent experiences to be incorporated into the review. Finalisation by July 2011 will ensure that sufficient time is allowed for subsequent processing and amendment of environmental authorities prior to the commencement of the 11/12 wet season.

Andrew Brier, General Manager Coal & CSG Operations will be leading this review and will be in contact with key stakeholders over the coming weeks. If you have any queries or concerns please feel free to contact Andrew on [redacted]

I also noted your interest in a further meeting in the near future to discuss this and other mine water related issues such as data management and the regulatory aspects of RO water treatment. A separate meeting proposal will be forwarded to you shortly.

Please don't hesitate to phone me if you have any queries regarding the above advice.

Regards

Mike Birchley
Acting Assistant Director-General
Regional Service Delivery
Dept of Environment and Resource Management
Telephone: [redacted]
Mobile: [redacted]
Email: [redacted]

+----------+

Think B4U Print

1 ream of paper = 6% of a tree and 5.4kg CO2 in the atmosphere

3 sheets of A4 paper = 1 litre of water

+----------+

2 September 2011

QUEENSLAND resources COUNCIL

Ms Jane Moynihan
Executive Director
Queensland Floods Commission of Inquiry
GPO Box 1783
Brisbane QLD 4001

By email: [redacted]

Dear Ms Moynihan

Clarification requested for your Requirement dated 2 September 2011 – your ref 1693411
As discussed between QRC's Director, Environment and Social Policy and [redacted] this afternoon, there has been an error by the Commission in your letter dated 2 September 2011, enclosing a Requirement dated 1 September 2011, which is attached (for ease of reference), together with a copy of the covering email.

The letter accidentally required a response by '12 noon, Friday, 2 September 2011' of the examples of specific mine sites which are known to QRC as relevant to the concerns set out in our submission lodged on 11 March 2011. The Commission's email attaching this letter and Requirement was received at 12.42pm on 2 September 2011. As discussed, it is physically impossible to comply with this request. We appreciate Ms Hedge's suggestion that this timeframe should be revised to Monday 5 September 2011. Could you please formally confirm this.

As mentioned in our letter which has previously been emailed to you today, it is also not possible for Mr Michael Roche, Chief Executive, personally to respond to your previous Requirement received late on 30 August 2011 by Tuesday 6 September 2011, partly because Mr Roche is currently on annual leave in Europe and partly because Mr Roche was not personally involved in most of the issues set out in our submission, but rather other QRC personnel were responsible for the day-to-day management of those issues. The same applies to your Supplementary Requirement which has just been received. Could you please also revise the supplementary Requirement (Doc 1693407) accordingly?

Yours faithfully

[redacted]

Greg Lane
Acting Chief Executive

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Fitzroy Model Water Conditions Review

Item 2

TERMS OF REFERENCE

1.0 Abbreviations Used

Department of Environment and Resource Management	DERM
Electrical Conductivity	EC
Environmental Authority	EA
Environment and Natural Resource Regulation	ENRR
Environment and Resource Sciences	ERS
Fitzroy Water Quality Advisory Group	FWQAG
Queensland Resources Council	QRC
Receiving Environment Monitoring Program	REMP
Regional Service Delivery	RSD
Transitional Environmental Program	TEP
Water Management Plan	WMP

2.0 Background

DERM proactively works with mining companies to improve the management of water on mine sites and reduce the risk of contaminated discharges. The improvements have focussed on areas such as:

- improvements to on-site storages to better handle large rainfall events
- diversion of clean water around sites so as to prevent mixing with contaminants
- management of water so that any release is of the best quality water and occurs during periods of high flow in the receiving waters
- contingency and response plans to account for various scenarios and provide clear, staged actions for the mining company in the event of above average rainfall
- emergency response plans which detail how the site will respond in the event of a contamination incident.

It is recognised that due to the nature of mining and the unpredictability of the wet seasons it is impossible to eliminate the risks of discharges from mine sites. To effectively manage environmental impacts of mine water releases it is necessary to control and limit discharges in a manner that considers both local and cumulative effects of mine releases on relevant environmental values of downstream receiving waters (ref Environmental Protection (Water) Policy 2009).

In 2009 DERM worked closely with coal mines and QRC to introduce the new water discharge management and monitoring requirements in the Fitzroy Basin. The new Fitzroy Water Model Conditions set limits for the quality of water discharged, including salinity levels, and restrict the volume of water discharged to a percentage of the flow in the receiving waters.

DERM has also prepared a draft report on environmental values and water quality objectives for Fitzroy sub-catchments, including locally specific water quality guidelines

based on DERM reference monitoring. The draft report was publicly released for consultation in December 2010.

Recent wet season events have highlighted the importance of the model conditions in managing mine discharges. Monitoring data collected during the last two years provides an opportunity to review the model conditions and ensure that the conditions are suitable in relation to the key objective of maximising the ability of mines to discharge water while ensuring the protection of the environment and downstream water users.

DERM is therefore undertaking a review of the methodologies and specifications relating to the objectives of the model conditions in conjunction with the mining sector.

3.0 Objective

The objective of the review is to:

- evaluate the methodologies and conditions relating to the objectives of the conditions
- evaluate the conditions in light of recent wet seasons and collected data
- ensure the conditions are outcome based
- avoid repeated and ongoing use of TEPs as a method of authorising discharges.

4.0 Key Considerations

In particular the review will focus on:

- In the context of the ability to achieve water quality objectives and avoid detrimental impacts on environmental values of receiving waters, a comparative study of:
  - old EAs and new (2009) EA lower end of pipe limits and their justification; and
  - EAs vs recent TEPs
- High and low flow discharge conditions/emergency releases to avoid future TEPs
- Defining 'mine affected water'
- Passive (ie. spillway) and active discharges and the requirement to notify
- Linkages with WMPs
- Populating the right parameters and limits for releases based on the latest data and information (including release point and environment monitoring undertaken by mines, reference monitoring undertaken by DERM and relevant environmental values, water quality objectives and guidelines.)
- Monitoring and reporting requirements
- Use of gullies/depressions/diversion drains as a conduit on site for mine affected water
- Notification requirements
- Evaluating receiving water flow rate specifically in relation to dilution ratios and location of flow gauges.

The review will involve examination of the monitoring data for the last two years from mines in the Fitzroy Basin. The data is required to evaluate the performance of the existing model conditions in achieving key environmental objectives and will consequently form the basis of any proposed or considered changes to the key water quality parameters in the Fitzroy Model Water Conditions. The data includes:

- Site and monitoring location information

- All discharge water quality and quantity/flow data from these sites for the last two years (EA and TEPs)
- All environmental water quality data for the last two years (EA, TEP and REMP)
- All creek flow data from gauging stations for the last two years (EA, TEP and REMP)
- Site representative contact details
- Spatial coordinates.

The collated data will be used in the scientific process of reviewing the model conditions. With sufficient high quality data readily available in excel format, the review of the model conditions may include an assessment of the "triggers" table, that is, to ascertain whether certain indicators may not be needed in future routine monitoring. A review of EC will also be undertaken.

A formal request for the data was sent to QRC by DERM on 30 March 2011. QRC is collating this information for provision to DERM by 5 May 2011. QRC's assistance in gathering this information is appreciated and will be critical to the success of the review.

A report will not be produced at the completion of the review. Any outcomes from the review will be reflected in an update to the model conditions, as necessary.

5.0 Methodology

The review methodology will comprise DERM internal and DERM/QRC workshops and consultation with relevant Mayors and the FWQAG. Details for timing of these activities are as follows:

- The first DERM internal workshop is to be held on 9/10 May in Brisbane (confirmed date) and will concentrate on licensing conditions. Workshop participants are to include nominees from RSD, ENRR and ERS.
- A working draft document of the model conditions from the first DERM internal workshop is to be developed and circulated to QRC for review one week (23 May) prior to the first DERM/QRC workshop (31 May).
- The first DERM/QRC workshop is to be held on 31 May in Brisbane (date to be confirmed with QRC) and will discuss the conditions working draft of the model conditions.
- The second DERM internal workshop is to be held on 8/9 June in Brisbane (confirmed date) and will concentrate on parameters, limits, flow triggers and dilution rates based on a review of available monitoring data and guidelines. Dr Ian Ramsay, Chief Scientist and his team will develop and present potential licensing approaches for review by workshop participants. Technical officers only are required to attend this workshop - other nominees are optional.
- The working draft of the model conditions from the second internal DERM meeting to be circulated to QRC for review one week (20 June) prior to the second QRC workshop (week commencing 27 June).
- The second DERM/QRC workshop is to be held in the week commencing 27 June (tentative date) and will focus on the science data in the working draft of the model conditions. Relevant expertise and company technical staff will be invited to attend.

- The working draft of the model conditions from these workshops is to be circulated to the FWQAG for comment (30 June) one week prior to the FWQAG meeting set for 7 July. Andrew Brier to attend the FWQAG in July to finalise the working draft of the model conditions with FWQAG.
- Relevant Mayors are to be briefed at the same time as the FWQAG (via email).
- Final comments/amendments on the working draft of the model conditions to be finalised with appropriate Industry representatives (via email) by 22 July.
- Final model conditions to be circulated by 31 July.
- The first DERM internal and DERM/QRC workshops will be set dates and will not change. The workshops are not the only opportunity for interaction/consultation and additional meetings and correspondence will be organised as required. Any further clarification or amendments required to be undertaken to the draft working documents will be done out of session via email.
- The second DERM internal and DERM/QRC workshops are tentative and may be subject to change dependant on nominee availability and development of adequate working drafts of the model conditions.

6.0 Management Arrangements

The review will be managed by the General Manager, Coal and CSG Operations, RSD. The General Manager will be supported in conducting the review by staff from:

- RSD, Environmental Services, Central West Region, DERM
- ENRR, DERM
- ERS, DERM

The panel will draw on expert advice as required.

7.0 Approach

The review will consult internally, across government and with non-government agencies, relevant industry representatives and key stakeholders.

The review will incorporate the following key stakeholders:

- Appropriate Industry representatives
- QRC
- FWQAG, whose membership includes:
  - AgForce
  - Banana Regional Council
  - Capricorn Conservation Council
  - Central Highlands Regional Council
  - Central Queensland University
  - Department of Employment, Economic Development and Innovation
  - Fitzroy Basin Association
  - Fitzroy Basin Elders Committee
  - Fitzroy Food and Fibre
  - Fitzroy River Fish Stocking Association
  - Isaac Regional Council
  - Queensland Conservation Council
  - Queensland Health

- Rockhampton Regional Council/Fitzroy River Water
- Stanwell Corporate Limited
- SunWater

8.0 Timing

The review is to commence in May 2011 and be completed by 31 July 2011 in order to enable time for processing of EA amendments prior to the 2011/12 wet season.

Prepared by: General Manager, Coal & CSG Operations, Regional Service Delivery, DERM
Date: 11 May 2011
Version: 1.2

Item 3

Fitzroy Model Water Conditions Review
DERM / QRC Workshop 1
31 May 2011
(Licensing Conditions)

Venue: 80 George Street, Brisbane – Room 4

Participants:

31 May

Time:	Issue:
8:30am	*Arrive – Coffee / Tea on arrival*
9:00am	**Welcome & Introduction** - Objective and timing of review - Role of Model Conditions - Changing TEP framework
9.15am	**QRC Perspective on Review and Objectives – Frances Hayter**
9:30am	**Model Conditions and Key Points of Interest for Review** - Key Considerations for Review - Brief discussion on ToR and how activities will be achieved - Workshop Structure
9.45am	**Key Considerations** - EAs, TEPs and discharge permissions - Mine affected water
10.30am	*Morning Tea*
11.00am	**Discharge Conditions – Proposed Direction** - High and low flow discharge conditions / emergency releases to avoid future TEPs - Populating the right parameters / monitoring data review
12.00pm	**Receiving Water Flow Rate – Location of Flow Gauges**
12.30pm	**Monitoring and Reporting Requirements** - Proposed changes to REMP conditions
1.00pm	*Lunch*
2.00pm	**Water Management Plans**
2.30pm	**Notification requirements** - passive vs active discharges - Compliant vs non-compliant notification timeframes
3:30pm	*Afternoon Tea*
3:45pm	**Any additional considerations, wrap up and forward timetable**
4.30pm	*Close*

[redacted] presenter

DERM Discussion Paper: Revision of Fitzroy Coal Mine Model Conditions – Review of Licensing Approach

In June 2009, DERM produced a document called "Conditions for Coal Mines in the Fitzroy Basin - Approach to Discharge Licensing". This document sets out the approach that DERM promoted for assessing and regulating licensed discharges to waters in Queensland and was used as a basis to develop the Model Water Conditions for Coal Mines in the Fitzroy Basin in late 2009. A key objective of the approach is to ensure the protection of both local and regional environmental values while allowing mines to release water. The approach to licensing was considered interim given the significant lack of data at the time. The approach is now being reviewed based on more recent experience and monitoring data collected since that time.

The key elements of the original proposed licensing approach included (i) having an electrical conductivity (EC) end-of-pipe limit that ideally did not exceed 1500 µS/cm but which may have been increased up to 2250 µS/cm in some situations, (ii) having a maximum discharge rate that did not exceed 20% of the minimum natural receiving environment flow rate (i.e. 1:4 – 1 part discharge wastewater : 4 parts natural flow), and (iii) using a minimum natural receiving environment flow (m3/s) trigger above which discharge was permitted. Other considerations included not allowing discharge to ephemeral streams during periods of no flow as well as adopting a universal downstream EC trigger of 1000µS/cm, regardless of the waterway. Because of the conservative nature of the approach and paucity of background data, there was no specific assessment of cumulative impacts, as these were unlikely.

The revised approach is considering separate methodologies for discharges which occur to local waterways when compared to discharges to regional waterways*. Furthermore, release criteria under different natural stream flow conditions (e.g. no/low flow, medium flow and high flow) are also being considered. The proposal is as follows:

(i) For no/low flow stream conditions, discharge water quality would need to meet water quality objectives for EC and would only be permitted for temporary periods over the wet season. The focus of this would be to allow "good" quality to be released when collected rather than having it stored over long durations resulting in deteriorating water quality.

(ii) For medium flow stream conditions, a flow trigger for the stream would be required and would be set so as to avoid discharge during periods of no or low flow. In this case, the maximum end-of-pipe EC of 1500µS/cm and minimum dilution of 20% could be revised. The discharge flows and EC concentrations could be designed in the future considering a maximum incremental increase in EC in the receiving water. One option is to allow a larger incremental increase in EC concentrations in local waterways compared to regional waterways given the differences in stream flow experienced. Another option could be to limit the "load" of EC that can be released by any mine, regardless of the waterway. Regardless, the maximum EC concentrations in a local waterway should not exceed 750µS/cm as a default to protect potential downstream drinking water users. Although the EC concentration end-of-pipe in such a case could be higher than the 1500µS/cm originally proposed, the end-of-pipe EC is likely to be limited to a few thousand µS/cm, particularly for discharges to local waterways. Furthermore, the discharge limits should be

designed for a worse case incremental increase in EC concentration (probably to only a 1 or 2 percent increase based on the minimum flow trigger for the regional waterway).This will similarly limit the EC concentration end-of-pipe for this case.

(iii) For high flow stream conditions, a flow trigger for the stream would need to be set at an $80^{th}/90^{th}$ percentile of natural stream flow. This option might be used in some cases for mines that need to discharge higher EC wastewater than is allowable under medium flow stream conditions. The discharge would be required to have a higher level of dilution than with medium flow cases but still achieve a minimum incremental increase in the waterway. It is likely that this option would only be available to mines situated on major waters as the window for discharge is likely to be limited in the case of local waterways. Some additional considerations on management of mixing zones and acute/chronic toxicity may be required in this case

* note: discharge above dams or lakes will require special considerations and generally stricter controls.

DRAFT REMP Conditions: to replace conditions W20 to W22:

[EXPLANATORY NOTES: Generally the Receiving Environment Monitoring Program (REMP) should be used to assess the local receiving waters for the specified discharge locations. The monitoring should not be specifically designed to assess compliance of the release – this is covered by other conditions. The key purpose of the REMP is to assess the overall condition of the local receiving waters and assessment should be against water quality objectives and relevant guidelines. Note that in some cases where discharge occurs to ephemeral streams, there may be a need to include downstream sensitive receiving waters or environmental values outside of the specified REMP area. An example of this would be where there are no semi-permanent /permanent waterholes in the specific area but one is located further downstream prior to the confluence with the next major waterway. For further guidance on what to include in a REMP, please refer to the Draft DERM REMP Document for Fitzroy Coal Mines and Additional Information.

(W20) The environmental authority holder must develop and implement a Receiving Environment Monitoring Program (REMP) to monitor, identify and describe any adverse impacts to surface water environmental values, quality and flows due to the authorised mining activity. This must include monitoring the effects of the release of contaminants on the receiving environment periodically (under natural flow conditions) and whilst contaminants are being discharged from the site.

For the purposes of the REMP, the receiving environment is the waters of the XX and connected or surrounding waterways within XX km downstream of the release. The REMP should encompass any sensitive receiving waters or environmental values downstream of the authorised mining activity that will potentially be directly affected by an authorised release of mine affected water.

(W21) The REMP must:

a) Assess the condition or state of receiving waters, including upstream conditions, spatially within the REMP area, considering at least background water quality characteristics based on accurate and reliable monitoring data that takes into consideration any temporal variation (e.g. seasonality); and
b) Be designed to facilitate assessment against water quality objectives for the relevant environmental values that need to be protected; and
c) Apply procedures and/or guidelines from ANZECC & ARMCANZ 2000 and other relevant guideline documents; and
d) Include monitoring and assessment of dissolved oxygen saturation, temperature and all water quality parameters listed in Table 2 and 3); and
e) Include, where appropriate, monitoring of macroinvertebrates in accordance with the AusRivas methodology, and
f) Include, where appropriate, monitoring of metals/metalloids in sediments (in accordance with ANZECC & ARMCANZ 2000, BATLEY and/or the most recent version of AS5667.*1 Guidance on Sampling of Bottom Sediments*); and
g) Include monitoring from background reference sites (e.g. upstream or background) and downstream sites from the release (as a minimum, the locations specified in Table 8); and
h) Specify the frequency and timing of sampling required in order to reliably assess ambient conditions and to provide sufficient data to derive site specific background reference values in accordance with the *Queensland Water Quality Guidelines* 2006. This should include monitoring during periods of natural flow irrespective of mine or other discharges; and
i) Describe sampling and analysis methods and quality assurance and control; and
j) Incorporate stream flow and hydrological information in the interpretations of water quality and biological data.

(W22) A REMP Design Document that addresses each criterion presented in Condition W20 and W21 must be prepared and submitted to the administering authority no later than 3 months after the date of issue [include for new sites or expansion projects, remove for existing mine sites which already have REMP Design Documents]. Due consideration must be given to any comments made by the administering authority on the REMP Design Document and subsequent implementation of the program.

(W23) A report outlining the findings of the REMP, including all monitoring results and interpretations in accordance with conditions W20-W22 must be prepared annually and made available on request to the administrating authority. This should include an assessment of background reference water quality, the condition of downstream water quality compared against water quality objectives, and the suitability of current discharge limits to protect downstream environmental values.

(WXX) The methods of water and biological sampling and all determinations of surface water quality and biological monitoring required by this approval must comply with those set out in the latest edition of the Department of Environment and Resource Management's Monitoring and Sampling Manual.

Item 4.

Fitzroy Model Water Conditions Review
DERM/QRC Internal Workshop 1
31 May 2011
(Licensing Conditions)

Participants: Andrew Brier (RSD – CCSG), [redacted] (RSD – CCSG), Chris Loveday (RSD – ES CW), [redacted] (RSD – ES SW), [redacted] (ERS), [redacted] (RSD – CCSG), Frances Hayter and [redacted] (QRC), [redacted] (Anglo), [redacted] (Xenocoal), [redacted] (Ison Environmental), [redacted] (Peabody), [redacted] and [redacted] (BMA), [redacted] (BMC), [redacted] (RTCA), [redacted] (Xstrata Coal), [redacted] (Macarthur Coal)

Issue:	Discussion:
Coordinator	[redacted] A/Director, Coal Operations is managing coordination of the review.
Introduction	Andrew Brier opened the workshop and advised that: ▪ Model conditions provide a minimum set of standards that are acceptable to the administering authority and will not replace EAs and TEPs ▪ EAs are the appropriate tool for authorising discharges ▪ The model conditions are a basic tool. If companies need consideration of options outside what the model conditions provide, then they are to negotiate conditions in their EA, or alternatively submit a detailed TEP outlining appropriate water management strategies and a transition to compliance with the EA.
EAs vs TEPs	Discussion by the group considered the following: ▪ Andrew Connor provided an overview of the background context leading to this review, the development of water quality objectives, use of TEPs and DERM's forward strategy continuing to be based on protecting identified environmental values within the Fitzroy Basin waterways and the need to consider cumulative effects. ▪ Industry was concerned that it was not possible to discharge water ahead of the wet season flows and TEPs did not provide management options at all sites. ▪ There was concern that the end of pipe limit does not provide flexibility to discharge low volumes of water containing high EC while still maintaining the desired dilution outcome. ▪ While it was acknowledged that TEPs would have been of greater value if they had been in place ahead of the wet season, Industry noted that there were some restrictions to this occurring eg in some cases TEPs submitted before the wet season may not have had the information necessary (such as quantities and qualities based on actual rainfall) to allow the TEPs to be approved. Also TEP's not deemed to be 'high priority' took noticeably longer to approve. ▪ The key advantage of the TEP approach was the flexibility it provided to release higher concentrations of EC based on achieving downstream limits. ▪ It was considered that TEPs helped overall but the review should focus on attempting to avoid the need for future use in similar circumstances. ▪ Claire Cote (Anglo) commented that TEPs provided little relief in their situation because the current EA conditions amount to zero discharge conditions. While the sites can manage this most of the time, with the extreme nature of rainfall received over the wet season, zero discharge conditions pose serious challenges. ▪ Participants agreed that the objective is the need to maximise options for water disposal whilst achieving environmental objectives. The preference is for EAs to include conditions that provide greater flexibility for managing extreme rainfall events to reduce reliance on the TEP mechanism for discharge proposals. 1 **Action: [redacted] to circulate a copy of DERM's PowerPoint presentation to workshop participants.**
Mine Affected Water – Definition	Discussion by the group considered the following: ▪ DERM acknowledged QRC's submission from the November 2010 workshop which proposed mine affected water should include pitwater, tailings dam water, processing plant water, water contaminated by workshop activities but not stormwater passing around the perimeter of activity, rehabilitation areas where activities are covered by an Erosion and Sediment Control Plan. ▪ In relation to condition W2, it was agreed that definitions for "mine affected water" and "waters" needed to be developed including as the alternative to 'contaminants'. ▪ Industry commented that the commonwealth was adopting 'worked water' terminology but said the specific term used was not the priority here, rather that it is well defined. Industry also mentioned that in view of the number of activities occurring at federal level (National Water Initiative, as implemented by Bureau of Meteorology) DERM should familiarise themselves with emerging federal requirements. ▪ Industry also requested that condition W1 be reviewed as the term 'contaminants' and 'environmental harm' when defined are sufficiently broad so as to make most activities on site, or even activities occurring adjacent to the site, to be prohibited by a literal interpretation of the condition. ▪ Diversions are being used as a key water management strategy and the model conditions need to clearly define what can be diverted. ▪ The number of plans required for different authorisations, e.g. sediment control plan / water management plan is a requirement under the model conditions. These plans should be key documents to identify 'clean' water over land flow vs mine affected water. ▪ DERM suggested that these plans could include maps which had been certified by a third party. The plans would then be required to be reviewed annually and also available upon request. ▪ Industry questioned the use of third party certification in this context and instead suggested that there should be consideration of alignment with the Plan of Operations submission process. Another option could be that a statement is provided in the EA annual return advising that a certified map has been produced and is available on request, rather than sending the maps to DERM. 2 **Action: DERM to review conditions W1 and W2 and a definition for 'mine affected water' to provide a draft for consideration at the next workshop.** 3 **Action: DERM to consider the certification issue and provide advice for discussion at the next workshop.**
Discharge	Discussion by the group considered the following:

Conditions	▪ [redacted] provided an overview of the intended focus for the review which is to look at both the 2009 Fitzroy model conditions (which were developed on limited data and were subsequently conservative) and the contents of the 2010/11 TEPs (which were less conservative but approved for restricted durations and based on achieving longer term draft water quality objectives) and revise the conditions based on data collected since 2009 to provide flexible options closer to the TEPs approved but based on ongoing protection of identified environmental values as per the Environmental Protection Act. The key concepts under development for revised model discharge conditions, including low/no flow, medium and high flow discharge options were presented. ▪ DERM advised that from analysing applications it was found that TEPs submitted by coal mines contained very little information demonstrating an assessment of the environmental risk and impact on nearby environmental values for each individual proposal and this made the decision making process difficult. ▪ Industry raised its concern over the current rigid end of pipe limit approach promoted by the existing model conditions. An approach providing greater flexibility to use smaller volumes of higher concentration water during flow events based on achieving the in stream dilution objective would aid effective on-site water management. ▪ DERM commented that from a compliance perspective it is important to have a measurable limit on discharge, but the point raised was valid and would be considered further prior to the next workshop.

Issue:	Discussion:
Data Review Use	DERM is reviewing the data provided by Industry and is compiling TEP information (with a focus on EC rather than metals at this stage) to: ▪ analyse completeness ▪ analyse environmental risks ▪ analyse difference between local and regional waterways ▪ develop case studies to test licensing approach. The results from this data analysis will be discussed in more detail at the next workshop.
Emergency Releases	▪ DERM advised of legal advice obtained about the use of the emergency provisions in the Environmental Protection Act 1994 with respect to requests to discharge water from mine sites. ▪ QRC has differing legal advice. ▪ Industry acknowledged it would prefer to deal with release options through the conditions of the EA but had sought emergency directions on the basis the EA did not provide options. ▪ It was agreed to work forward from here and attempt to identify solutions that minimise the need for considering discharges that do not accord with EA conditions. ▪ DERM advised its view that requests for exercising emergency powers would only be necessary if there was an imminent risk of dam failure that could cause an even greater amount of environmental harm or public risk than a controlled release would. ▪ Industry maintains that there is a need to give consideration to how EAs might deal with extraordinary rainfall events. ▪ A case point was raised about a mine in the headwaters that has 5-10,000 EC water on-site. DERM restated that the model conditions would only provide so much but that if a mine operator presented a well reasoned argument including a risk assessment demonstrating that identified environmental values could be protected using an alternative approach, DERM would consider it. ▪ DERM also acknowledged that each mine site would have its own set of environmental constraints to work within and that any proposal should include a full analysis of alternative options, such as water treatment. ▪ Industry raised the point that water treatment options are extremely energy intensive. In the context of climate change and carbon-constrained economies, they may not offer satisfying solutions. It is important to balance the need to minimise environmental harm at local level with broader e.g. global environmental harm. 4 **Action: DERM to give consideration to whether model conditions could be structured to deal with extraordinary events.**
Monitoring Point	Discussion by the group considered the following: ▪ In relation to condition W19, Industry raised an issue in an investigation being triggered even where the downstream value of EC was only 1 uS/cm higher than the upstream. The comment being that on-site Environmental Officers were tied up doing investigations into small variations rather than applying themselves to maximise water management effectiveness. ▪ Industry suggested that condition W19 be reworded to be more pragmatic. ▪ DERM noted the condition only triggers an investigation to determine whether the mine is causing the elevated receiving environment levels and discussed difficulties in setting a percentage increase. A industry representative also commented that there would still be occasion to question what to do when you are only 1uS/cm over the new limit. 5 **Action: DERM to review condition W19 and provide a response for the next workshop.** ▪ With regard to monitoring locations, Industry considers wording needs to be included along the lines of "as long as the location is safely accessible and practical". ▪ DERM will consider the argument out of session, but noted that selection of monitoring points and making provisions for access also remain a responsibility of the mine operator and are typically defined through agreement with DERM during EA assessment. 6 **Action: DERM to consider accessibility issue between workshops.**
Parameters and Receiving Water Flow Rate	Discussion by the group considered the following: ▪ Regarding TSS/turbidity QRC suggested that a turbidity measurement be used as the default measurement. It was noted this had been discussed previously and it was agreed that mines could present information to demonstrate the correlation for their sites for TSS and turbidity for DERM to consider the appropriate limit. ▪ Industry also raised correlation between EC and sulphate and questioned why the need to measure sulphate. Ian Ramsay said the sulphate was an indicator of mine water in the area. DERM did note there was a possibility to remove the end of pipe sulphate limit on the basis of including a revised downstream number for

sulphate.

- For Metals, Industry believe frequency is too often. DERM acknowledged that where adequate data exists (i.e. two years monitoring data) then on a case by case basis the frequency of metals monitoring could be evaluated. This is addressed in the foot note to Table 3. It was proposed that DERM review the footnote to Table 3 to clarify the possibility of reducing monitoring frequency following submission of two years data demonstrating no issues with particular metals.

7 **Action: DERM to consider relevant conditions and explanatory text in internal workshop and provide a draft for consideration at the next QRC workshop.**

8 **Action: DERM to review footnotes for Table 3 and provide a draft for consideration at the next workshop.**

Proposed Changes to REMP Conditions

Industry advised that there was confusion as to whether there is a final version of the draft REMP template.

9 **Action: DERM to clarify the status of the REMP template and advise accordingly.**

Ian Ramsay discussed a paper titled "Draft REMP conditions to replace conditions W20 to W22".
Discussion by the group considered the following:

- The word "contaminants" should be replaced by "mine affected water" (or a similar definition once developed) in W20.
- There was concern that the order of condition W21 was confusing and should be revised.
- Condition WXX should be removed as it was similar to condition W28.
- QRC emphasised the need for DERM to capture data submitted over time for future reference to avoid requests for information. Ian Ramsay discussed a system for collecting data that should be ready by the end of the year. QRC stated its preference was that mines hold off on submitting required reports in the interim while this system is developed. DERM said that in the interim mine companies should comply with their EA requirements and submit reports when necessary.

10 **Action: DERM to consider above suggestions and review conditions W20-W22 and provide a draft for consideration at the next workshop.**

Issue:	Discussion:

Link with Regulated Dam Requirements

Discussion by the group considered the following:

- There was discussion about how the regulated dam guideline and model conditions relate and/or overlap and whether each regulated dam needed to be listed as a release point.
- DERM explained that the regulated dam guideline relates to minimum design, operational and decommissioning requirements for the dam structures and the model conditions are designed to protect environmental values from water discharged to the receiving environment.
- There was concern about the potential to capture dams managed under the erosion and sediment control plans through the risk assessment for regulated dams.
- Industry was seeking final clarity around whether the spillway of every dam, including internal dams going to internal dams (potentially via open conduits), have to be authorised release points as technically such events will be a release to waters as per EP Act definitions of contaminants and waters. Also the distinction between sediment dams under the ESCPs and the regulated dams guideline ie clarification of how dam design regulations have been / will be included/incorporated into the EAs as different from the water conditions.
- Industry also noted that discharge should only refer to discharges off lease or to a water course within the ML defined under the WRAct and with ecological values

11 **Action: DERM to clarify how model conditions can provide a clear framework for internal dam to dam transfers and how sediment control dams are to be dealt with under the regulated dams guideline – links to defined release points in model conditions but may be more a consideration for regulated dams guideline.**

Timing of Current TEPs

Discussion by the group considered the following:

- TEPs seeking a straight discharge with no additional transition to a new standard will no longer be accepted by DERM.
- Industry enquired about interim release arrangements for low/no flow events while the model conditions review is being completed. DERM replied that industry can apply for extensions to current TEPs which will be considered on a case by case basis by DERM in the context of risk to environmental values.
- Industry will be required to provide detailed information in TEP applications regarding transition to appropriate water management strategies to manage a sustainable water cycle.

Water Management Plans

- Industry clearly stated its view that what is currently in the conditions is acceptable and there is no requirement for third party certification of WMPs.
- It was discussed that where sites had failed to do enough with their WMPs they now had to deal with the consequences of excessive water on-site.
- DERM commented that this included seeking permission to discharge. Industry said that this was true of all mines given the extreme rainfall experienced and not just those that may have been tardy with WMPs.
- DERM discussed the advantages it could see in third party certification of WMPs, including comfort in defining the separation of waters from mine affected waters.
- Industry strongly opposed third-party certification of WMPs as these are mainly internal management tools that can be very complex and require in-depth understanding of site conditions and infrastructure. Industry members extended to DERM an invitation to review a "real" site WMP so that they could better understand their nature and complexities.
- DERM agreed to consider this further out of session in light of Industry's views on the topic.

Notification Requirements

Discussion by the group considered the following:

- There was concern regarding the requirement of two different timeframes for compliant releases, both of which are more stringent than the 24 hours provided for notifying of a breach of conditions.
- DERM pointed out that the timeframes for notification applied to both compliant and non-compliant water discharges (i.e. any water discharge).

- Industry suggested that water releases should have a 24 hour notification requirement to be consistent with other industries and EA conditions.
- Issues around practical site considerations (e.g. mobile coverage) were discussed in the context of complying with 6 hours.
- There was concern that some breaches identified and being considered by DERM for enforcement action were for failure to meet the notification requirement rather than for a compliance issue (e.g. breach due to environmental harm).
- It was suggested that condition W12 be reviewed to clearly define notification timeframes for compliant/non compliant activities and notification requirement times.

12 Action: **DERM to review condition W12 and provide a draft for consideration at the next workshop.**

Other Drafting Considerations

- There was agreement to review the need for condition W43 in the model conditions.
- In relation to water re-use, conditions W23-W24 need to ensure that supply of water to a third party is not constrained.
- Industry proposed the wording "other than a natural watercourse" needs to be added to conditions W23-W24.
- The wording "dry weather" in conditions W23-W24 needs to be clarified/defined.

13 Action: **DERM to review conditions W23, W24 and W43 and provide a draft for consideration at the next workshop.**

General

It is anticipated that the next DERM/QRC Workshop will be held on Wednesday 29 June and will focus on the science data in the model conditions. Venue to be confirmed.

Item 5

15 June 2011 File note of Fitzroy issues discussed at the DERM/QRC quarterly forum

At the DERM / QRC quarterly forum on 15 June, Andrew Brier provided a summary of the outcomes of the second internal DERM workshop on the Fitzroy conditions on 8 and 9 June. He indicated that the general approach would be a set of conditions that considered upper, middle and lower catchment characteristics, and within those the treatment of EC in no flow / low flow / medium flow (probably in two parts) and high flow scenarios.
Upon a question from QRC's Chief Executive, DERM confirmed that the intent was for the conditions to be operational by 1 August so that companies can start applying for any relevant amendments to their EAs as soon as possible after that date. It was noted that presuming there are no fundamental concerns from industry and the FWQAG (due to see the draft conditions for the next meeting on 7 July 2011), then a parallel ministerial and potentially cabinet approval process can be undertaken. Andrew Brier also indicated that there were already several company applications underway and that it is envisaged that the outcomes of these amendments will be consistent with what is being negotiated on the revised model conditions.

Frances Hayter

DERM / QRC WORKSHOP 1 – ACTION ITEMS AND CONSIDERATIONS
** SORTED **

ACTION ITEM 1		
Brief -	DERM Consideration -	Modification to Model Conditions: Yes/No – Explain
[redacted] to circulate a copy of DERM's PowerPoint presentation to workshop participants.	Action completed.	No

ACTION ITEM 2		
Brief -	DERM Consideration -	Modification to Model Conditions Completed: Yes/No – Explain
Review of Conditions (W1 + W2) – DERM to review conditions W1 and W2 and a definition for 'mine affected water' to provide a draft for consideration at the next workshop.	Review considerations: - Definition of 'contaminants' is defined by EP Act. No amendment to this definition is proposed but excluding the term from condition W2 is accepted with the insertion of 'mine affected water' and an associated definition. - Definition of 'waters' is deliberately broad and acknowledge argument that current definition can capture on-site water management infrastructure in a literal sense. Propose to specifically exclude identified on-site infrastructure from definition of 'waters' through amendment to condition W2. - This may not be as problematic within W1 as it would be in combination with the original W2 given the reference here to 'except otherwise permitted . . .' There remains a need from DERM's perspective to ensure other contaminants are captured here. Original proposal to include only mine	W1 No change. There remains a need from DERM's perspective to ensure other contaminants are captured here. QRC proposal to include only mine affected water and solid waste in one definition is not sufficient to capture other possible contamination sources such as diesel / oil / other chemical spills from contained storages. Given the reference in W1 to 'except otherwise permitted by the EA", the solution to condition W2 should deal with drafting concerns raised. W2 Modified. Replacement of the word 'contaminants' with 'mine affected water'. This negates the argument about the broad definition of contaminants within the EP Act and the restrictive nature of the former condition in a very literal sense. Also included explanatory text to provide specific 'exclusions' from the 'waters' definition for the purposes of condition W2.

Item 6 att1

	affected water and solid waste in one definition is not sufficient to capture other possible contamination sources such as diesel / oil / other chemical spills.	
ACTION ITEM 3		
Brief -	DERM Consideration -	Modification to Model Conditions Completed: Yes/No – Explain
DERM to consider the certification issue and provide advice for discussion at the next workshop.	DERM's main interest here is to achieve a robust process of review and improvement through on-site actions to achieve compliance with EA conditions. Considerations include annual third party review of water management plans and certification of recommended actions to improve site water management practices. DERM notes industry opposition and request for further discussion. Draft WMP conditions are included in the working draft document for discussion purposes.	Yes – modification to conditions W32 to W35 for further discussion at next workshop.
ACTION ITEM 4		
Brief -	DERM Consideration -	Modification to Model Conditions Completed: Yes/No – Explain
DERM to give consideration to whether model conditions could be structured to deal with extraordinary events.	Both industry and DERM agree that a desirable outcome of the model conditions review is to reduce the need for future TEP applications in similar circumstances. DERM's review of data provided by mines to date, while incomplete, indicates the proposed approach to providing low/no flow, medium and high flow discharge options would have reduced the need for TEPs this wet season, but would not have eliminated it entirely.	No – there is no particular condition drafted to cater for unknown extraordinary events, however the proposed changes to the discharge conditions attempt to minimise the need for future TEP applications by providing greater windows of opportunity for discharges to occur while aiming to protect environmental values within the system.

	It is also apparent that there are technological options available to better manage mine water to effectively maximise discharge opportunities for mines, including water treatment. Given this there exists a potential to transition to a new standard of water management which would suit the intent of a future TEP for reduced numbers of mines faced with similar circumstances in the future. Model conditions do not appear to be an appropriate place to provide discharge options in exceptional circumstances, given the inability to give prior consideration to factors only relevant to the unknown circumstance. DERM must consider possible impacts on water quality objectives and cumulative effects, which are important and obligatory considerations for making an environmental management decision, including imposing EA conditions.	
ACTION ITEM 5		
Brief -	DERM Consideration -	Modification to Model Conditions Completed: Yes/No – Explain
DERM to review condition W19 and provide a response for the next workshop	The key industry concern with this condition is the perceived sensitivity in the trigger for the upstream / downstream variation in water quality, in particular given the measurement of a quality parameter just one unit higher than an upstream measurement would trigger a 2 year water quality investigation. In DERM's internal discussion it was agreed that there is little benefit in continuing such lengthy investigations for small variations, however it was acknowledged the previous condition was drafted in order to add to data collections for broader consideration of cumulative impacts. It is noted that an exceedance only triggers one investigation	Yes – remove reference to investigation in accordance with ANZECC methodology in conditions W5 and W19.

	i.e. multiple exceedances do not trigger separate investigations if one is already occurring, but DERM agreed to remove reference to ANZECC methodology to provide greater flexibility to scale the size of an investigation according to the nature of the trigger exceedance.	
ACTION ITEM 6		
Brief -	DERM Consideration -	Modification to Model Conditions Completed: Yes/No – Explain
DERM to consider accessibility issue between workshops.	Industry raised an issue about safely accessing defined monitoring locations during extreme events and proposed to have words such as "so long as the location is safely accessible and practical" inserted into condition W4 and any other monitoring location requirement. While acknowledging this issue was raised in good faith and following real access issues resulting from recent disaster events, consideration of inserting the words proposed or any alternative wording raises unintended risk areas for DERM as follows: 1. Shifts onus of proof onto DERM to demonstrate that access is safe if failure to monitor occurs. 2. While unlikely, could provide incentive for an operator to neglect maintenance of safe access i.e. reduce maintenance and monitoring costs and still achieve compliance. DERM agrees it is possible to include a note under condition W4 about considering circumstances around safe access prior to determining enforcement action in response to any perceived contravention of the condition.	No – however a proposed note is included under condition W4 to address the issue raised.

ACTION ITEM 7		
Brief -	DERM Consideration -	Modification to Model Conditions Completed: Yes/No – Explain
DERM to consider relevant conditions and explanatory text in internal workshop and provide a draft for consideration at the next QRC workshop	Review considerations – **TSS / Turbidity:** Industry suggested that a turbidity measurement be used as the default measurement as opposed to TSS. The existing Table 2 and footnote provide for a turbidity limit to be derived from TSS correlation. The footnote already states clearly that a limit for suspended solids can be omitted if a turbidity limit is included. No further action required. **EC / sulphate:** Industry also raised correlation between EC and sulphate and questioned why the need to measure both. At DERM's internal workshop it was concluded that there is insufficient data to provide a blanket approach through model conditions for an EC / sulphate correlation. In addition to this, DERM's review of water quality data provides cause to ensure the end of pipe limit for sulphate is maintained and this will be discussed further at the next workshop. It was determined that the limit can be reviewed based on achieving a downstream target of 250 mg/L to ultimately protect downstream drinking water values. Amend Table 2 to this effect. **Metals:** Industry believes the monitoring frequency is too often. DERM acknowledges that where adequate data exists (i.e. two years monitoring data) then on a case by case basis the frequency of metals monitoring can be evaluated. This issue is essentially agreed. The outcome of the review is to amalgamate both 'Table 3s' in the existing model conditions and call them all 'potential contaminants', including and	**TSS / Turbidity:** No change required. **EC / sulphate:** Yes - Table 2 amended to provide for review of sulphate EoP limit based on achieving downstream target of 250 mg/L. Table 2 also amended generally to remove references to 'interim' limits and 'future limits'. **Metals:** Yes - Amalgamation of previous 'two' Table 3s and amendments to foot notes to Table 3. Review has also determined that the trigger levels for Aluminium and Lead do not currently match the accepted LOPs, an amendment has been proposed accordingly.

	amendment to footnotes to capture the 2 year data collection which can lead to reduced frequency and / or removal of monitoring requirements for particular parameters – considered on a case by case basis.	
ACTION ITEM 8		
Brief -	DERM Consideration -	Modification to Model Conditions Completed: Yes/No – Explain
DERM to review footnotes for Table 3 and provide a draft for consideration at the next workshop.	As above for Action 7.	Yes – Agreed and to be modified as per above
ACTION ITEM 9		
Brief -	DERM Consideration -	Modification to Model Conditions Completed: Yes/No – Explain
DERM to clarify the status of the REMP template and advise accordingly.	DERM has not produced a template for REMP documents. The draft documents referred to in the explanatory text for updated REMP conditions are two existing 'draft' documents produced in March and October of 2010, which were intended to provide additional guidance to mining companies for the production of REMP documents. The reference to these documents will not be replicated in the EA conditions, it only occurs in explanatory text.	No

ACTION ITEM 10		
Brief -	DERM Consideration -	Modification to Model Conditions Completed: Yes/No – Explain
DERM to consider above suggestions and review conditions W20-W22 and provide a draft for consideration at the next workshop.	Comments made related to draft REMP condition package. The revisions to the REMP conditions are not material in nature but where instead an attempt to clarify the pre-existing requirements of the REMP. The following comments were made: 1. The word "contaminants" should be replaced by "mine affected water" (or a similar definition once developed) in W20. Agreed. 2. There was concern that the order of condition W21 was confusing and should be revised. DERM has revised the order of W21. 3. Condition WXX should be removed as it was similar to condition W28. Agreed, however there is a resultant need to amend condition W28 to ensure all monitoring, including biological monitoring, carried out under the water schedule is captured.	Yes – 1. W20 removed 'contaminants' and inserted 'mine affected water'. 2. W21 Order revised in working draft. 3. W28 Included 'biological monitoring' and general tidy up e.g. reference to former department's name amended.

ACTION ITEM 11		
Brief -	DERM Consideration -	Modification to Model Conditions Completed: Yes/No – Explain
DERM to clarify how model conditions can provide a clear	Clarification on internal dam transfers will be achieved by excluding on-site water management infrastructure from the definition of 'waters'. There is no requirement for a regulated dam to be defined as a release point for the purpose of an ES.	Yes – included provision for excluding on-site water management infrastructure from the definition of 'waters' in condition W2 to ensure allowance made for dam to dam transfers etc.

framework for internal dam to dam transfers and how sediment control dams are to be dealt with under the regulated dams guideline – links to defined release points in model conditions but may be more a consideration for regulated dams guideline.	Release points will only be included where the dam is intended to form part of a normal operation release management framework e.g. a tailings dam at a gold mine will be a regulated dam, however EA conditions will not authorise a release from such a dam, despite the safety requirement for the dam to contain a spillway. For such dams operators must manage the structure not to discharge – in exceptional circumstances where a discharge occurs from such a structure DERM would investigate the circumstances and likely determine the company had breached its EA conditions.	
ACTION ITEM 12		
Brief -	DERM Consideration -	Modification to Model Conditions Completed: Yes/No – Explain
DERM to review condition W12 and provide a draft for consideration at the next workshop.	This issue is due to perceived inconsistency in approach to mining as opposed to other industries and also the complexity created by having different notification timelines for deliberate vs uncontrolled releases. There is adequate justification for the initial decision to impose more stringent timeframes on notifications of water discharges, particularly where considerations of cumulative impacts are critical to DERM's decision making processes in times where releases are occurring and the period of data collection that has occurred now since 2005. DERM has already accepted arguments presented about the practicality of complying with 6 hours for uncontrolled release in the November 2010 review. That acceptance resulted in the two tiered approach of 6 and 12 hours and is adequate justification to not revert to a single 6 hour notification window.	Yes – W12 modified to remove two tier notification requirements and include 24 hour maximum notification timeframe.

	In practice the revised condition is not adequately clear and enforceable and given the risk associated with a non-deliberate release is higher than that of a deliberate release in accordance with EA conditions, there is no environmental risk based justification for a tighter timeframe to exist for deliberate releases. It is arguable that all releases from authorised discharge points are controlled given they are designed to release when full. An uncontrolled release is not defined. A 12 hour limit on email notification as opposed to 24 hour limit as applied in most other industries is unlikely to yield any great benefit to DERM as regulator. It is accepted that for email notification the vast majority will be made or received during business hours. Other industry standards currently require notification as soon as practicable and no later than 24 hours after commencement. To remove uncertainty and complexity, and to improve consistency DERM proposes to restore the maximum notification timeframe to a single duration of 24 hours, while maintaining the requirement to notify as soon as practicable and reinforcing the message that same day notification will continue to be expected from the regulator where it is practical to do so.	

ACTION ITEM 13		
Brief -	DERM Consideration -	Modification to Model Conditions Completed: Yes/No – Explain
DERM to review conditions W23, W24 and W43 and provide a draft for consideration at	DERM agreed to review conditions W23 and W24 to improve clarity of the conditions and provide for reuse options in accordance with water quality limits. DERM also agreed to consider the ongoing need for condition	Yes W23 and W24 amended. W43 deleted from model condition package.

the next workshop.	W43	

Item 7

Fitzroy Model Water Conditions Review
DERM / QRC Workshop 1
29 June 2011
(EA Conditions)

Venue: 80 George Street, Brisbane – Room 4

Participants: Andrew Brier (RSD – CCSG), [redacted] (RSD – CCSG), [redacted] (RSD – CCSG), Chris Loveday (RSD – ES CW), [redacted] and [redacted] (RSD – ES CW), [redacted] (ERS), [redacted] (RSD – CCSG), (DERM Frances Hayter [redacted]

29 June

Time:	Issue:
8:45am	*Arrive – Coffee / Tea on arrival*
9:00am	**Welcome & Introduction**
9.15am	**Review of workshop 1 action items** - Conditions W1, W2, 'mine affected water' and 'waters' (Action item 2) - Water Management Plan conditions (Action item 3) - Model conditions and extraordinary events (Action item 4) - Investigation triggers (Action item 5) - Monitoring point accessibility (Action item 6) - TSS / Turbidity, EC / Sulphate, Metals (Action item 7 & 8)
10.30am	*Morning Tea*
10.45am	**Action items continued** - REMP template status (Action item 9) - REMP revised conditions (Action item 10) and links to Fitzroy Partnership monitoring - Internal dam to dam transfers (Action item 11) - Condition W12, notification requirements (Action item 12) - Conditions W23 and W24 reuse conditions (Action item 13) - Dams references e.g. cattle access
12.00pm	*Lunch*
1.00pm	**Revised discharge conditioning: the science**
2.30pm	**Revised discharge condition structure**
3:00pm	*Afternoon Tea*
3.15pm	**Revised discharge condition structure – continued**
3.45pm	**Forward plan / implementation and dealing with the here and now**
4.00pm	**Salinity Trading Scheme – a brief comment from Frances**
4.30pm	*Close*

Final Model Water Conditions for Coal Mines in the Fitzroy Basin

Note:
Explanatory notes are in green. DELETE prior to issue of EA.
Insertions required by applicants and or the administering authority are in blue. DELETE prior to issue.

Contaminant Release

W1 Contaminants that will, or have the potential to cause environmental harm must not be released directly or indirectly to any waters except as permitted under the conditions of this environmental authority.

W2 The release of mine affected water to waters must only occur from the release points specified in Table 1 and depicted in Figure 1 <this would be a plan or plans locating all monitoring (water quality and flow) and release points> attached to this environmental authority. For the purpose of this condition only, 'waters' does not include:

a) <list any on-site water management infrastructure that for the purpose of effective site water management in accordance with the conditions of the EA should not be prohibited from receiving mine affected water>;

b) <e.g. internal dam to dam transfer for managing internal dam free board. Infrastructure needs to be clearly identified as per site plans e.g. Dam 1, Dam 2>;

c) <e.g. internal stormwater channel used to transfer mine affected water on-site>; etc

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EXPLANATORY NOTES –EXCLUSIONS FROM THE 'WATERS' DEFINITION FOR CONDITION W2

The need for including specific exclusions from the 'waters' definition for the release condition acknowledges that the deliberately broad definition of 'waters' can literally capture on-site water storage and transfer infrastructure. Reasonable consideration should be given to the need for practical on-site management. Exclusions from the 'waters' definition should not include natural waterways, stormwater channels that will flow directly to natural waterways, or other waters with identified environmental values requiring protection.

Table 1 (Mine Affected Water Release Points, Sources and Receiving Waters)

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EXPLANATORY NOTES – Determining Mine Affected Water Release Points:

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Mine affected water release points should be specified in Table 1 where they represent a potential source of water contaminated by the mining activity. Release points associated with erosion and sediment control structures that have been installed in accordance with the standards and requirements of an Erosion and Sediment Control Plan to manage run-off containing sediment only that is not likely to contain contaminants or have properties that would cause environmental harm, do not need to be separately identified in Table 1.

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Release Point (RP)	Latitude or northing (GDA94)	Longitude or easting (GDA94)	Contaminant Source and Location	Monitoring Point	Receiving waters description
RP 1	XXXX	XXXX	e.g. Stormwater Dam Spillway Overflow	Dam Spillway	Wet Creek
RP 2	XXXX	XXXX	e.g. Dam overflow pipe	Sampling Tap on pipe where the pipe enters Sandy	Sandy Creek

sampling undertaken for this specific purpose. The intent here is that not all dams on site would need to be sampled but those that would make up the majority of water in dams with release points. It could also be demonstrated based on existing water quality information that the water source and relative water quality of some dam are the same, in which case such dams may not need to be sampled individually. For metals and metalloids, trigger levels apply if dissolved results exceed trigger levels. However, total (unfiltered) results for metals and metalloids can be used to disregard a characteristic for inclusion in Table 3. Terms include SMD – slightly moderately disturbed level of protection, guideline - refers ANZECC & ARMCANZ (2000), LOR – typical reporting for method stated. ICPMS/CV FIMS – analytical methods required to achieve LOR.

Table 3 (Release Contaminant Trigger Investigation Levels) Potential Contaminants

Quality Characteristic	Trigger Levels (µg/L)	Comment on Trigger Level	Monitoring Frequency
Aluminium	~~55~~	*For aquatic ecosystem protection, based on SMD guideline*	Commencement of release and thereafter weekly during release
Arsenic	13	*For aquatic ecosystem protection, based on SMD guideline*	
Cadmium	0.2	*For aquatic ecosystem protection, based on SMD guideline*	
Chromium	1	*For aquatic ecosystem protection, based on SMD guideline*	
Copper	2	*For aquatic ecosystem protection, based on LOR for ICPMS*	
Iron	300	*For aquatic ecosystem protection, based on low reliability guideline*	
Lead	~~4~~	*For aquatic ecosystem protection, based on SMD guideline*	
Mercury	0.2	*For aquatic ecosystem protection, based on LOR for CV FIMS*	
Nickel	11	*For aquatic ecosystem protection, based on SMD guideline*	
Zinc	8	*For aquatic ecosystem protection, based on SMD guideline*	
Boron	370	*For aquatic ecosystem protection, based on SMD guideline*	
Cobalt	90	*For aquatic ecosystem protection, based on low reliability guideline*	
Manganese	1900	*For aquatic ecosystem protection, based on SMD guideline*	
Molybdenum	34	*For aquatic ecosystem protection, based on low reliability guideline*	
Selenium	10	*For aquatic ecosystem protection, based on LOR for ICPMS*	
Silver	1	*For aquatic ecosystem protection, based on LOR for ICPMS*	
Uranium	1	*For aquatic ecosystem protection, based on LOR for ICPMS*	
Vanadium	10	*For aquatic ecosystem protection, based on LOR for ICPMS*	
Ammonia	900	*For aquatic ecosystem protection, based on SMD guideline*	
Nitrate	1100	*For aquatic ecosystem protection, based on ambient Qld WQ Guidelines (2006) for TN*	
Petroleum hydrocarbons (C6-C9)	20		
Petroleum hydrocarbons (C10-C36)	100		
Fluoride (total)	2000	*Protection of livestock and short term irrigation guideline*	

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Under certain circumstances it may be appropriate to have a downstream gauging station in addition to or in replace of an upstream gauging station. The location should ideally not be affected by the discharge (e.g. be measured off the main waterway). The need for this must be demonstrated on a case by case basis to show why an upstream gauging station is insufficient. This may be the case when mines are located in the upper parts of catchments or near the downstream confluence or a major waterway. Similarly, the gauging station should be at a distance from the discharge point such that water flow during triggered flow events will not significantly diminish between the discharge point and the measuring point (or the confluence with the creek being measured). For downstream flow triggers, some changes to calculation for flow triggers and maximum release flows would typically be required based on the relative sizes of the waterways involved.

Flow Triggers and EC Quality Criteria:

The intent for flow triggers is that the times of discharge are limited to times around natural flow events only. Different flow regime methodologies are used to define mine affected water release opportunities, provide flexibility for site operators and to protect identified environmental values within receiving waters. The expectation is that where flow gauging data is available, it is used to calculate flow triggers. Where gauging data is not available or is insufficient, flow triggers should be based on runoff/stream flow estimates using appropriate hydrological calculations or models and known catchment area, rainfall estimations etc.

Separate methodologies for discharges which occur to local waterways rather than regional waterways will be applied as part of this revised approach. Due to the increased flexibility of the revised approach and consideration of a wider range of local factors the application of these model conditions to individual sites will require case-by case assessment and require sufficient background information to be provided. For example, it should be noted that discharges upstream of dams or lakes may require special considerations and generally stricter controls. Also, where multiple mines discharge to the same or closely connected waterways consideration of cumulative impacts will be necessary as part of the assessment process

No/low flow stream conditions (best quality / low EC mine affected water):

Discharge water quality will need to meet or be better than water quality objectives (or long term background reference 75th / 80th percentile) for EC and will only be permitted for temporary periods over the wet season. The focus of this is to allow "good" quality water to be released when collected rather than having it stored over long durations resulting in deteriorating water quality. Any discharges made under no/low flow stream conditions must not contribute to or cause erosion and due consideration should be given to road/rail access crossings (particularly in relation to multiple mines discharging under no/low flow stream conditions on connected waterways). General principles include:

- Release when below 20th percentile flow is on tail end of flow event only i.e. following a flow above 20th percentile the trigger is when the flow reduces below the 20th percentile again. This trigger will commence a discharge window of 4-6 weeks for good quality water only.
- End of pipe WQ ≤ WQO (or long term background reference 75th/80th percentile). May require assessment of downstream environmental values where WQO is more stringent (e.g. drinking water supply).
- Duration of release is limited (dry ephemeral stream, 4 weeks after flow event ceases, use time after flow trigger for below – add additional time)
- Volume/rate will be considered on a case by case basis.

Medium flow stream conditions (medium quality mine affected water):

A flow trigger for the stream is required and will be set to avoid discharge of medium quality water during periods of no or low flow. General principles include:

- Require flow trigger > 20th percentile flow (above base flow).
- End-of pipe EC <3500uS/cm. Options for <1500us/cm and <3500uS/cm can be considered which will result in different maximum discharge rates for different quality water.
- The better the quality of water to be released, the greater the volume that can be permitted.
- Design dilution/maximum discharge rate based on risk assessment and should achieve in-stream EC for design based on location – upper (Zone 1), mid (Zone 2) or lower (Zone 3) catchment. All regional waterways are considered Zone 3.

Receiving waters description	Release Point	Gauging station	Latitude or northing (GDA94)	Longitude or easting (GDA94)	Electrical Conductivity Release Limits (uS/cm)	Receiving Water Flow Criteria	Volume / Percentage for maximum release	Flow recording Frequency
e.g. Wet Creek	e.g. RP1	e.g. Gauging station 1	XXXX	XXXX	<insert water quality objective or 75th / 80th percentile of long term background reference>	Following a natural flow event that exceeds the 20th percentile flow, mine affected water meeting this quality limit is permitted to be released for a period of <insert 4 – 6 weeks depending on mine location / receiving water characteristics> following the day that the natural flow recedes below the 20th percentile flow volume. The volume of flow can be determined by height of water or flow. The actual flow must be a quantifiable measure. Example: > or = 5 m^3/sec	Volume to be determined on case by case basis	Continuous (minimum daily)
					Quality determined on case specific basis but typically <1500	Greater than 20th percentile flow (above base flow)	% to be determined on case by case basis	
					Quality determined on case specific basis but typically <3500	Greater than 20th percentile flow (above base flow)	% to be determined on case by case basis	
					Quality determined on case specific basis but typically within a range of <3500 to <10,000	Greater than 80th percentile flow (above base flow)	% to be determined on case by case basis	

Note: Flow must also be measured at the Wet Creek gauging station for release to be permitted based on this flow trigger.

W9 The volume of mine affected water released through the release point(s) must not exceed:

a) the maximum allowable flow at any time determined by multiplying the recorded receiving water flow at the corresponding gauging station in Table 4 with the corresponding percentages for maximum release in Table 4; or

b) the stated volume for maximum release where specified in Table 4.

W10 The daily quantity of contaminants released from each release point must be measured and recorded at the monitoring points in Table 1.

W11 Releases to waters must be undertaken so as not to cause erosion of the bed and banks of the receiving waters, or cause a material build up of sediment in such waters.

Notification of Release Event

W12 The environmental authority holder must notify the administering authority as soon as practicable and no later than 24 hours after commencing to release mine affected water to the receiving environment. Notification must include the submission of written advice to the administering authority of the following information:

a) release commencement date/time;

b) expected release cessation date/time;

c) release point/s;

d) release volume (estimated);

e) receiving water/s including the natural flow rate; and

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Table 5 (Water Storage Monitoring)

Water Storage Description	Latitude or northing (GDA94)	Longitude or easting (GDA94)	Monitoring Location	Frequency of Monitoring
XXXX	XXXX	XXXX	To be negotiated- will depend on the individual storage structure volume. This will deal with stratification – depth profiles and be appropriate to in situ quality characteristics.	Quarterly

W17 In the event that waters storages defined in Table 5 exceed the contaminant limits defined in Table 6, the holder of the environmental authority must implement measures, where practicable, to prevent access to waters by all livestock.

Table 6 (Onsite Water Storage Contaminant Limits)

Quality Characteristic	Test Value	Contaminant Limit
pH (pH unit)	Range	Greater than 4, less than 9[2]
EC (µS/cm)	Maximum	5970[1]
Sulphate (mg/L)	Maximum	1000[1]
Fluoride (mg/L)	Maximum	2[1]
Aluminium (mg/L)	Maximum	5[1]
Arsenic (mg/L)	Maximum	0.5[1]
Cadmium (mg/L)	Maximum	0.01[1]
Cobalt (mg/L)	Maximum	1[1]
Copper (mg/L)	Maximum	1[1]
Lead (mg/L)	Maximum	0.1[1]
Nickel (mg/L)	Maximum	1[1]
Zinc (mg/L)	Maximum	20[1]

Note:

[1] Contaminant limit based on ANZECC & ARMCANZ (2000) stock water quality guidelines.

[2] Page 4.2-15 of ANZECC & ARMCANZ (2000) "Soil and animal health will not generally be affected by water with pH in the range of 4–9". Note: Total measurements (unfiltered) must be taken and analysed

Receiving Environment Monitoring and Contaminant Trigger Levels

W19 If quality characteristics of the receiving water at the downstream monitoring points exceed any of the trigger levels specified in Table 7 during a release event the environmental authority holder must compare the down stream results to the upstream results in the receiving waters and:

1. where the downstream result is the same or a lower value than the upstream value for the quality characteristic then no action is to be taken; or
2. where the down stream results exceed the upstream results complete an investigation into the potential for environmental harm and provide a written report to the administering authority in the next annual return, outlining:
   (i) details of the investigations carried out; and
   (ii) actions taken to prevent environmental harm.

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Note: Where an exceedance of a trigger level has occurred and is being investigeted, in accordance with W19(2) of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.

Receiving Environment Monitoring Program (REMP)

EXPLANATORY NOTES -- Designing a REMP:

Generally the Receiving Environment Monitoring Program (REMP) should be used to assess the local receiving waters for the specified discharge locations. The monitoring should not be specifically designed to assess compliance of the release – this is covered by other conditions. The key purpose of the REMP is to assess the overall condition of the local receiving waters and assessment should be against water quality objectives and relevant guidelines. Note that in some cases where discharge occurs to ephemeral streams, there may be a need to include downstream sensitive receiving waters or environmental values outside of the specified REMP area. An example of this would be where there are no semi-permanent /permanent waterholes in the specific area but one is located further downstream prior to the confluence with the next major waterway. For further guidance on what to include in a REMP, please refer to the Draft DERM REMP Document for Fitzroy Coal Mines and Additional Information.

W20 The environmental authority holder must develop and implement a Receiving Environment Monitoring Program (REMP) to monitor, identify and describe any adverse impacts to surface water environmental values, quality and flows due to the authorised mining activity. This must include monitoring the effects of the mine on the receiving environment periodically (under natural flow conditions) and while mine affected water is being discharged from the site.

For the purposes of the REMP, the receiving environment is the waters of the XX and connected or surrounding waterways within XX (e.g. Xkm) downstream of the release. The REMP should encompass any sensitive receiving waters or environmental values downstream of the authorised mining activity that will potentially be directly affected by an authorised release of mine affected water.

W21 The REMP must:

a) Assess the condition or state of receiving waters, including upstream conditions, spatially within the REMP area, considering background water quality characteristics based on accurate and reliable monitoring data that takes into consideration temporal variation (e.g. seasonality); and
b) Be designed to facilitate assessment against water quality objectives for the relevant environmental values that need to be protected; and
c) Include monitoring from background reference sites (e.g. upstream or background) and downstream sites from the release (as a minimum, the locations specified in Table 8); and
d) Specify the frequency and timing of sampling required in order to reliably assess ambient conditions and to provide sufficient data to derive site specific background reference values in accordance with the *Queensland Water Quality Guidelines* 2006. This should include monitoring during periods of natural flow irrespective of mine or other discharges; and
e) Include monitoring and assessment of dissolved oxygen saturation, temperature and all water quality parameters listed in Table 2 and 3); and

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W25 Mine affected water may be piped or trucked off the mining lease for the purpose of supplying water to a third party for purpose of construction and/or road maintenance in accordance with the conditions of this environmental authority.

W26 Mine affected water may be piped or trucked for the purpose of supplying water to <name adjoining mine> in accordance with the conditions of this environmental authority. The volume, pH and electrical conductivity of water transferred to <name adjoining mine> must be monitored and recorded.

W27 If the responsibility for mine affected water is given or transferred to another person in accordance with conditions **W23, W24, W25 or W26:**

a) the responsibility for the mine affected water must only be given or transferred in accordance with a written agreement (the third party agreement); and

b) include in the third party agreement a commitment from the person utilising the mine affected water to use it in such a way as to prevent environmental harm or public health incidents and specifically make the persons aware of the General Environmental Duty (GED) under section 319 of the *Environmental Protection Act 1994*, environmental sustainability of the water disposal and protection of environmental values of waters.

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Water General

W28 All determinations of water quality and biological monitoring must be:

a) performed by a person or body possessing appropriate experience and qualifications to perform the required measurements;

b) made in accordance with methods prescribed in the latest edition of the Department of Environment and Resource Management's Monitoring and Sampling Manual;

Note: Condition W28 requires the Monitoring and Sampling Manual to be followed and where it is not followed because of exceptional circumstances this should be explained and reported with the results.

c) collected from the monitoring locations identified within this environmental authority, within XX hour of each other where possible;

d) carried out on representative samples; and

e) analysed at a laboratory accredited (e.g. NATA) for the method of analysis being used.

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W29 The release of mine affected water directly or indirectly to waters:

a) must not produce any visible discolouration of receiving waters; and

b) must not produce any slick or other visible or odorous evidence of oil, grease or petrochemicals nor contain visible floating oil, grease, scum, litter or other objectionable matter.

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Annual Water Monitoring Reporting

W30 The following information must be recorded in relation to all water monitoring required under the conditions of this environmental authority and submitted to the administering authority in the specified format with each annual return:

a) the date on which the sample was taken;

b) the time at which the sample was taken;

c) the monitoring point at which the sample was taken;

d) the measured or estimated daily quantity of the contaminants released from all release points;

e) the release flow rate at the time of sampling for each release point;

f) the results of all monitoring and details of any exceedences with the conditions of this environmental authority; and

g) water quality monitoring data must be provided to the administering authority in the specified electronic format upon request.

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Temporary Interference with waterways

W31 Temporarily destroying native vegetation, excavating, or placing fill in a watercourse, lake or spring necessary for and associated with mining operations must be undertaken in accordance with Department of Environment and Resource Management *Guideline - Activities in a Watercourse, Lake or Spring associated with Mining Activities.*

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Stormwater and Water sediment controls

W38 An Erosion and Sediment Control Plan must be developed by an appropriately qualified person and implemented for all stages of the mining activities on the site to minimise erosion and the release of sediment to receiving waters and contamination of storm water.

W39 The maintenance and cleaning of any vehicles, plant or equipment must not be carried out in areas from which contaminants can be released into any receiving waters.

W40 Any spillage of wastes, contaminants or other materials must be cleaned up as quickly as practicable to minimise the release of wastes, contaminants or materials to any stormwater drainage system or receiving waters.

All Dams

EXPLANATORY NOTES – Dam conditions:

Note: Conditions W41 and W42 to be removed if already conditioned in the authority.

W41 The hazard category of each dam must be determined by a suitably qualified and experienced person at least once in each two year period.

W42 Dams having a hazard category determined to be significant or high, must be specifically authorised by an environmental authority.

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W43 . The administering authority and the holder of this environmental authority both acknowledge that the conditions for release of contaminants to the XX River in this environmental authority have been calculated without the benefit of the findings of projects proposed to be undertaken as per recommendations 2 and 3 of the *Study of cumulative impacts on water quality of mining activities in the Fitzroy River Basin* (April 2009). The administering authority may, based on the information provided in the study report when it becomes available, all relevant information available at the time and the regulatory framework applicable at that time, consult with the holder of this environmental authority about the conditions in the environmental authority concerning the treatment and disposal of waste water.¶
The aim of the consultation shall be the meaningful review of the contaminant release limits imposed in this authority having regard to:¶
<#>the study results;¶
<#>near field monitoring results;¶
<#>QLD Water Quality Guidelines; and¶
<#>best practice environmental management.¶
If this review leads to a change in the requirements on this environmental authority holder, this shall be advanced by way of an authority amendment or a Transitional Environmental Program and as is necessary or desirable.¶

"waters" includes river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined natural or artificial watercourse, bed and bank of any waters, dams, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, and groundwater and any part thereof.

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[redacted]

Item 8

From: Frances Hayter [redacted]
Sent: Friday, 1 July 2011 1:51 PM
To: [redacted] Brier Andrew
Cc: [redacted]
Subject: proposed wording for W1 and W1 etc
Attachments: Notes on the drafting issues relating to the separation of mine affected water from other water.doc

Importance: High

Hi Andrews,

This is what [redacted] has put together with as a result of Wednesday's discussions.
Also I stand ready and waiting to look at the redrafted WMP section before I head off on Friday.

Can you please let me know what you think ASAP so that I can circulate the changes to the conditions to my members (obviously we would like to get agreement before the document goes to the FWQAG).

Oh, one other thing, if we can get speedy confirmation that EA amendments sought for the purposes of inserting the new Fitzroy conditions will not trigger the automatic insertion of the new dams conditions, that would be very much appreciated.

Cheers!
Frances

Frances Hayter
Director Environment and Social Policy
Queensland Resources Council
[redacted]
Level 13 133 Mary Street Brisbane Queensland 4000
www.qrc.org.au

Please consider the environment before printing this e-mail

Notes on the drafting issues relating to the separation of mine affected water from other water

Issue 1 – The options for a definition of 'mine affected water'

Background

DERM and QRC have agreed in principle that it is appropriate for discharge points under condition W2 only to be required in relation to 'mine affected water'.

DERM has suggested the following draft definition:

> *"**mine affected water**" means:*
> *i) water that has been used for a task in the mining activity (e.g. pit water, tailings dam water, processing plant water and water contaminated by workshop activities); and*
> *ii) rainfall runoff contacting any disturbed and non-rehabilitated areas of the mining activity; and*
> *iii) groundwater that has contacted disturbed and non-rehabilitated areas of the mining activity; and*
> *iv) groundwater from dewatering activities.*

The difficulty with this definition is that the term 'mining activity' is defined very broadly in Section 147 *Environmental Protection Act 1994* (Qld). The term 'task' is not a statutory term and does not narrow down the definition of 'mining activity'. The definition includes:

> *'(d) rehabilitating or remediating environmental harm because of a mining activity under paragraphs (a) to (c);*
> *(e) action taken to prevent environmental harm because of an activity mentioned in paragraphs (a) to (d)...'*

An example of an action taken to prevent environmental harm under paragraph (e) would include diverting clean overland flow around disturbed areas. An example of a rehabilitation task under paragraph (d) would be watering plants in a rehabilitated area. These are intended to be addressed under the water management plan.

It was also QRC's understanding, from our November workshop with DERM, that it was not DERM's intention to pick up in W2 various minor seepages, run-off from haulage roads, clean water from sumps and sediment dams and the like. These are intended to be addressed under the erosion and sediment control plan instead. (Note that it is the intention to pick up sediment dam discharges if this water is mixed with pit water, processing water etc.)

As discussed, there are drafting alternatives for creating a more specific definition, which would avoid these unintended consequences:

(a) An exhaustive positive definition, which specifically lists all the activities intended to be covered (ie, not just a general inclusive definition); or
(b) A more general inclusive definition, which specifically excludes and itemises all activities which are not intended to be covered; or
(c) Sometimes, a combined approach may be used, which has the disadvantages of being double the length and perhaps over-the-top for the purpose, but it is extremely clear.

On balance, QRC would tend to prefer option (a), but we are happy to work with any of the three approaches.

The options

(a) An example of a positive definition would be:

*"mine **affected water**" means the following types of water from the mining lease area:*

i) pit water, tailings dam water, processing plant water;
ii) water contaminated by a mining activity which would have been an environmentally relevant activity under Schedule 2 of the Environmental Protection Regulation 2008 (Qld) if it had not formed part of the mining activity;
iii) rainfall runoff which has been in contact with any areas disturbed by mining activities which have not yet been rehabilitated;
iv) groundwater which has been in contact with any areas disturbed by mining activities which have not yet been rehabilitated;
v) groundwater from the mine's dewatering activities;
vi) a mix of mine affected water (under any of paragraphs i)-v)) and other water.

(b) Alternatively, an example of a negative definition would be:

*"mine **affected** water" means water which has been in contact with or used for the mining activities (or this water mixed with other water) other than:*

i) the mere diversion of water (which has not been in contact with disturbed areas or processing activities) around the disturbed areas in accordance with the water management plan;
ii) irrigation of rehabilitated areas;
iii) water from sediment dams from which discharge is authorised under condition W### (erosion and sediment control plan) provided that this water has not been mixed with pit water, tailings dam water, processing plant water or workshop water;
iv) water from haulage roads, sumps relating to haulage road management, and minor or trivial seepages.

(c) An example of the combined approach would be:

*'mine **affected water**' means the following types of water from the mining lease area:*

i) pit water, tailings dam water, processing plant water;
ii) water contaminated by a mining activity which would have been an environmentally relevant activity under Schedule 2 of the Environmental Protection Regulation 2008 (Qld) if it had not formed part of the mining activity;
iii) rainfall runoff which has been in contact with any areas disturbed by mining activities which have not yet been rehabilitated;
iv) groundwater which has been in contact with any areas disturbed by mining activities which have not yet been rehabilitated;
v) groundwater from the mine's dewatering activities; and
vi) a mix of mine affected water (under any of paragraphs i)-v)) and other water.

The term excludes:

i) *the mere diversion of water (which has not been in contact with disturbed areas or processing activities) around the disturbed areas in accordance with the water management plan;*
ii) *irrigation of rehabilitated areas;*
iii) *water from sediment dams from which discharge is authorised under condition W## (erosion and sediment control plan) provided that this water has not been mixed with pit water, tailings dam water, processing plant water or workshop water;*
iv) *water from haulage roads, sumps relating to haulage road management, and minor or trivial seepages.*

Relationship between this definition and beneficial re-use conditions

It would be an unintended consequence, if a more specific definition of 'mine affected water' (for the purposes of discharges to waters) narrows down the options for beneficial re-use by third parties. Mine-affected water is often mixed with clean water for the purpose of meeting appropriate standards for delivery to third parties. To avoid the inference that only the dirty water can be given to third parties, it is particularly important that the definition of 'mine-affected water' must specifically include mixed water.

Issue 2 – The need to authorise the release of non-mine affected water

Background

The approach that DERM would like to take under conditions W1 and W2 is to retain a general prohibition in condition W1 relating to all releases, then provide specific authorisations for releases:

(a) in condition W2 in relation to authorised discharges of mine affected water; and
(b) elsewhere in the conditions for releases of other water.

So far, draft condition W2 does provide the authorisation to release mine affected water, but the other conditions have not yet provided the authorisations to release the non-mine affected water.

The current drafts of conditions W1 and W2 are as follows:

W1 Contaminants that will, or have the potential to cause environmental harm must not be released directly or indirectly to any waters except as permitted under the conditions of this environmental authority.

W2 The release of mine affected water to waters must only occur from the release points specified in Table 1 and depicted in Figure 1 <this would be a plan or plans locating all monitoring (water quality and flow) and release points> attached to this environmental authority. For the purpose of this condition only, 'waters' does not include:

a) <list any on-site water management infrastructure that for the purpose of effective site water management in accordance with the conditions of the EA should not be prohibited from receiving mine affected water>;
b) <e.g. internal dam to dam transfer for managing internal dam free board. Infrastructure needs to be clearly identified as per site plans e.g. Dam 1, Dam 2>;
c) <e.g. internal stormwater channel used to transfer mine affected water on-site>; etc

In more detail, the reasons why condition W1 picks up releases of clean water are:

(a) that the term '**contaminants**' is defined in the *Environmental Protection Act 1994* so as to include any 'gas, liquid or solid'. It is not defined by reference to whether the substance has any contaminating impact; and

(b) The term **'environmental harm'** is not limited to material, serious or unlawful environmental harm, so that the impact picked up by condition W1 could be very minor;

A suggested solution

The authorisation could be drafted something along the following lines:

The release of contaminants other than mine affected water from the mining lease areas to waters is permitted, where this comprises any of the following:

a) Releases in accordance with a water management plan which complies with conditions W32 to W35 inclusive;
b) Releases in accordance with an erosion and sediment control plan which complies with condition W38.

It would probably be easiest to follow, if this general authorisation is inserted in or around conditions W1 and W2, that is, it would then be immediately apparent how both mine affected water and non-mine affected water is authorised to be dealt with.

However, a possible alternative would be to insert this authorisation in the water management plan section, then separately in the ESMP section.

Issue 3 – Relationship with Reuse conditions

Background

The release of mine affected water for beneficial reuse purposes is already authorised under a series of reuse conditions. An example of the standard format of these conditions is set out below.

Water Reuse

W23 *Mine affected water may be piped or trucked or transferred by some other means that does not contravene the conditions of this environmental authority for the purpose of supplying stock water to properties owned by the environmental authority holder or a third party and subject to compliance with the quality release limits specified in Table 9.*

Table 9 (Stock Water Release Limits)

Quality characteristic	Units	Minimum	Maximum
pH	*pH units*	*6.5*	*8.5*
Electrical Conductivity	*µS/cm*	*N/A*	*5000*

The issues

The remaining difficulties only relate to the method of transfer and the delivery point.

(a) Given that open artificial channels may be caught by the definition of 'waters', these need to be specifically authorised, so that the industry is not restricted to piping or trucking; and
(b) The delivery point on the third party land may be unintentionally caught by the definition of 'waters'. Presumably, the intention is to permit delivery to the third party in their dam, pipe, open channel, tank or whatever, but just not in a natural watercourse, lake etc.

The water reuse conditions are highly repetitive and it would be great if they could be compressed so as to avoid all the duplication. We would hesitate to suggest drafting solutions which would only

add to the duplication, within the existing framework. For example, it would not be an elegant drafting solution to have a special definition of 'waters' appearing in conditions W2 and each of the reuse conditions. Better options would include:

(a) Re-working the definition of 'waters' in the Definitions, as it is still not clear to QRC why such a broad definition is useful; or

(b) Re-working the structure of the re-use conditions, so as to consolidate the common requirements and then only have separate sub-paragraphs for the water quality parameter issues.

Issue 4 – Relationship with condition W29

W29 The release of mine affected water directly or indirectly to waters:

a) must not produce any visible discolouration of receiving waters; and

b) must not produce any slick or other visible or odorous evidence of oil, grease or petrochemicals nor contain visible floating oil, grease, scum, litter or other objectionable matter.

Which definition of 'waters' is intended here – presumably the definition under condition W2?

Item 9

[redacted]

From: [redacted]
Sent: Friday, 1 July 2011 2:54 PM
To: Frances Hayter; Brier Andrew
Cc: [redacted]
Subject: RE: proposed wording for W1 and W1 etc
Attachments: Working draft - Model Water Conditions for Coal Mines in the Fitzroy Basin - 2011 V3.docm

Thank you Frances,

I have not had a chance to take a look at this yet but will ASAP.

Given your availability beyond this afternoon and the fact I am about to head into a meeting that could take some time, I have attached the working draft to allow you to have a look at the WMP conditions . Conditions W32 to W35 are the only current modifications to the working draft for you to take a look at here. I am still working through comments from the workshop on Wednesday so this remains a work in progress but I suspect the WMP conditions are those of particular interest to you.

In terms of providing the working draft to the FWQAG, I hope to get it in a form for delivery by the end of today. I don't see too many items of great contention and intend to provide the document as a draft for discussion purposes only with the same condition for you previously that it will need to be reviewed internally before sign off on final wording. Following my meeting now I will review Leanne's comments and work on the document accordingly.

Cheers,

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From: Frances Hayter [redacted]
Sent: Friday, 1 July 2011 1:51 PM
To: [redacted] Brier Andrew
Cc: [redacted]
Subject: proposed wording for W1 and W1 etc
Importance: High

Hi Andrews,

This is what [redacted] has put together with as a result of Wednesday's discussions.
Also I stand ready and waiting to look at the redrafted WMP section before I head off on Friday.

Can you please let me know what you think ASAP so that I can circulate the changes to the conditions to my members (obviously we would like to get agreement before the document goes to the FWQAG).

Oh, one other thing, if we can get speedy confirmation that EA amendments sought for the purposes of inserting the new Fitzroy conditions will not trigger the automatic insertion of the new dams conditions, that would be very much appreciated.

Cheers!
Frances

Frances Hayter
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Item 10

[redacted]

From: [redacted]
Sent: [redacted]
To: [redacted]

Cc:
Subject: Latest version of Fitzroy Model Conditions - Urgent comment required by 22 July
Attachments: image004.jpg; image003.jpg; Working draft - Model Water Conditions for Coal Mines in the Fitzroy Basin - 2011 V3.docm

Dear all,

Please find attached the latest version of the working draft (received from DERM tonight) for review and comment by 22 July 2011.

In this version, all previous changes that have been agreed are accepted and only new modifications to conditions are included. This still ends up being quite a few, most of which attempt to address actions from the 29 June workshop.

DERM advised that options drafted by [redacted] have been very useful and hope the latest amendments reflect a reasonable outcome for those efforts. One thing not addressed in the working draft is the matter of dams where mine affected water is deposited for reuse are still potentially captured by the broad definition of 'waters'. DERM advise that this will not be an issue for the EA holder provided that a third party agreement has been settled to transfer responsibility for the water to the third party before it is deposited in their dam etc. It also doesn't address transfer through open channels off site - I wouldn't expect this to be widespread and think that kind of transfer should be considered on a case by case basis rather than being generally covered by a model condition / definition.

Other points DERM have noted are as follows:

*

DERM have removed the sulphate limit from Table 2 and inserted it into Table 4 (with EC) to be based on variable flow criteria like EC. This should not be of major consequence and will provide greater flexibility than having a single limit for sulphate in Table 2 only (it would become the limiting factor for certain discharge scenarios);

*

following feedback received from stakeholders at the Fitzroy Water Quality Advisory Group, monitoring for sodium has been included in Table 4 (potential contaminants) and Table 7 (receiving environment monitoring). DERM is still awaiting advice from QLD Health and Fitzroy Water on what an appropriate trigger limit would be - for consideration;

*

The explanatory text for the discharge scenarios has been revised. This section does not contain complete tracking for changes as it got a bit messy, but the changes seek to review a bit of the rigidity about what flow percentile would trigger an 'event' in the receiving waters, while continuing to provide appropriate guidance for the design approach.

*

There are a couple of definitions at the back about dams that have been left highlighted as being in need of review or removal. DERM advise that they will seek to work them out over the next week but either way they will not have a material impact on the conditioning outcomes.

It is asked that you please review the revised draft and provide any comments to Frances by 22 July.

Thank you,
[redacted]

[redacted]
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From: Frances Hayter
Sent: Friday, 1 July 2011 1:51 PM
To: [redacted] Brier Andrew
Cc: [redacted]
Subject: proposed wording for W1 and W1 etc
Importance: High

Hi Andrews,

This is what [redacted] has put together with as a result of Wednesday's discussions.
Also I stand ready and waiting to look at the redrafted WMP section before I head off on Friday.

Can you please let me know what you think ASAP so that I can circulate the changes to the conditions to my members (obviously we would like to get agreement before the document goes to the FWQAG).

Oh, one other thing, if we can get speedy confirmation that EA amendments sought for the purposes of inserting the new Fitzroy conditions will not trigger the automatic insertion of the new dams conditions, that would be very much appreciated.

Cheers!
Frances

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Item 11

From: [redacted]
Sent: Wednesday, July 27, 2011 06:20 PM
To: Frances Hayter
Subject: RE: QRC comments on the latest Fitzroy model conditions

Hi Frances,

The current working draft is attached. I appreciate your feedback on this and acknowledge you raised a number of valid points. I have attempted to address the matters of concern as much as possible. I am also working up some more detailed responses to specific issues raised for your information and will send them through tomorrow when completed.

Key points in relation to the issues outlined in your earlier email below are:

1. I am now proposing an approach in W1 and W2 that is more aligned with providing 'permissions' for particular releases (i.e. into internal water management infrastructure) rather than taking the approach of excluding certain infrastructure from the 'waters' definition. This approach is carried on into the stormwater runoff through ESCP and WMP infrastructure, and the reuse conditions permitting transfer into third party artificial storage - I will just flag with you now that I am not yet satisfied with the wording in the reuse conditions and will review again tomorrow. The intent is right and I will gladly accept any comments on them.

2. I am not comfortable with a proposal to provide a specific condition to permit a 'release' of other general types of water in condition W41 and this condition remains restricted to stormwater. I don't see a stream diversion or groundwater moving through a lease etc as being something 'released' by the EA holder. I don't particularly agree with the concern about an EA holder being held liable for contamination caused by an upstream activity, given that the EA conditions are only relevant to the activities authorised by the EA, but to provide absolute clarity I have made an insertion into W1 to ensure the link to the mining activity is clear.

3. Acknowledging the unintended exclusion of 'true' sed dam releases in W41 due to the exclusion of 'mine affected water', the solution I am proposing is to amend the definition for mine affected water to maintain the previous intent to exclude true sed dam releases from the W2 authorised discharges. This authorises true sed dam releases through W41. There should be no need to broaden this permission past 'stormwater' given the other amendment to W1 as stormwater is the type of water a true sed dam is installed to manage.

Happy to discuss this further tomorrow as suits.

Cheers,

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From: Frances Hayter [redacted]
Sent: Wednesday, 27 July 2011 10:32 AM
To: [redacted]

Subject: FW: QRC comments on the latest Fitzroy model conditions
Importance: High
Hi [redacted]

As promised, below are our responses to your questions. Apologies for the delay.
You will note that this response deals with question 2 first, because our answer to question 2 is intended to provide a broader framework for understanding the example mentioned in your question 1.

Apologies for the length of the legal detail, but I think we are both interested in getting this right – and judging from our conversation on Monday, we were both looking for a bit more explanation of how to approach the W41, W1, W2 interaction.

Please give me another call if you find anything else unclear.

Oh and is the process from here that you are going to send me a final marked up version and I give my companies a 24 hour turn around for comment ie by Thursday afternoon and they are then finalised on Friday to meet the predicted timeframe?
If that is the case) – my Chief Executive is very keen to know the final authorisation process for the conditions and when companies can start applying for the amendments ie does the Minister need to give approval or will they start straight away once Andrew B says they are good to go?
Michael has offered to give any assistance necessary to get the use of the conditions underway if you think that might be needed.

Cheers!
Frances

Frances Hayter
Director Environment and Social Policy
Queensland Resources Council


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Question 2 – You asked: 'I would also appreciate any clarification you can provide about the comment in the document against W41. After talking this through with you I think the concern, while aimed at W41, more broadly is about the definition of 'mine affected water' in that it captures the stormwater previously implied to be ok for release through ESCP sed dam structures, which can currently discharge passively without necessarily triggering the minimum flow window in the release point discharge conditions. I note the explanatory text below 'Table 1' on the first page of the working draft provides an intent not capture all sed dams that are primarily installed to manage run-off containing sediment only - perhaps I need to consider exclusion terms in the 'mine affected water' definition as per the document 'Notes on the drafting issues relating to the separation of mine affected water from other water' with definition options for consideration that you provided following workshop 2 to resolve this concern.'

QRC is quite happy with the proposed definition of 'mine affected water'. Legal advice is that the proposed W41 about stormwater is also quite workable, as far as it goes (ie, to the extent that it just covers stormwater from undisturbed areas). W41 still doesn't cover a few other types of releases which we had intended to cover. DERM could either choose to add those issues to W41 or these could instead be added to W2 (or just after W2). The additional types of releases that we would like DERM to think about are:

(a) Internal transfers - There is no authorisation anywhere for releases of mine affected water from one internal storage to another, but W1 still prohibits these internal transfers because it relies on the wider definition of 'waters'. The second part of W2 currently provides that these types of releases do not need to be authorised under W2, but it does not go on to provide that they are positively authorised by some other provision. (In passing, could we also mention that the example given in item (b) '<e.g. internal dam to dam transfer for managing internal dam free board' could be interpreted too literally as only being intended 'to manage internal dam freeboard'. There are various reasons for internal dam to dam transfer. Could you please delete the words 'for managing internal dam free board'?)
(b) Clean water other than 'stormwater' which is released from the mining lease, whether this has been actively diverted around the disturbed areas or not, eg, diverted watercourses are not exactly 'stormwater'.
(c) Water contaminated by upstream users which is just passing through the mining lease, not necessarily as 'stormwater';
(d) How would DERM like to deal with rrelatively minor releases of 'mine affected waters' such as run-off from haul roads? We assume that you do not want these individually listed under W2 and comprehensively monitored on the same scale as tailings dams. On the other hand, this is not 'stormwater other than mine affected water', so is not covered by W41 as currently drafted.
(e) Releases from 'true' sediment dams. QRC is comfortable with describing this water as 'mine affected', because in fact it is, strictly speaking, 'mine affected' if it includes water from areas stripped in advance of mining or from rehabilitation works that are underway (as opposed to completed). Once the dam picks up the sediment and the sediment is allowed to settle, the dam has done its job. We just need a condition which authorises the clean releases from this type of 'true' sediment dam, which we would like to see under the standards and requirements of the ESCP. However, these releases are not strictly "stormwater, other than mine affected water".

Question 1 was about whether the conditions currently unintentionally regulate releases of waters that are just passing through a mining lease, which was just one of our examples above. You asked:

'In the text below I don't see the issue about the watercourse contaminated by an upstream farm, given that the farm chemicals were not 'released' to waters by the EA holder. The fact they are in 'waters' on a mining lease does not point to a contravention by the EA holder unless there was an associated 'release' of contaminants to waters by the EA holder in contravention of condition W1.'
In our November paper, we gave an example of water contaminated upstream by a farmer, but the principle is the same whether or not the water is actually contaminated by anyone; the water quality parameters could be background and the water would still be a 'liquid, gas or solid' as defined by the definition of 'contaminant' (noting that there have been examples

where background parameters have been about the same or higher than the parameters in the 2009 conditions).

QRC's legal advice is that, in the event of prosecution for 'causing unlawful environmental harm' (Chapter 8 Part 3), it would be quite clear that the holder could not be prosecuted for contaminants which are just passing through, because there is a series of cases to the effect that the word 'cause' means that there must be an element of control. (Contrast the position in NSW, where legislation that has used the words 'causes or permits' has been interpreted as meaning that it was not necessary to prove the same degree of control as where the word 'causes' is used.) Similarly, wilful contravention would require proof of intention.

However, the offence of contravention of a condition of an environmental authority condition (Section 430(3)) does not involve either the word 'cause' or the word 'wilfully', so it just comes down to the drafting of the conditions. Condition W1 is expressed in the passive voice, as opposed to the active voice, ie, it does not start: 'The environmental authority holder must not...'; but rather 'Contaminants must not be released...'. It is quite normal to draft conditions using the passive voice, because it is normal to try to ensure that conditions cannot be avoided just because someone other than the environmental authority holder caused a contravention, eg, a contractor, consultant etc. Conditions drafted in the passive voice cannot be interpreted as being restricted personally to the environmental authority holder.

W1 is also not limited anywhere by reference to contaminants from the mining activities, or contaminants in any way caused by or controlled by the holder.

W1 uses the loose term 'release', rather than more active terminology such as 'discharge' (which is fine, because an over-topping is a type of passive release too, which is intended to be regulated).

Although the holder would have a defence if he/she does not know about upstream contamination, really, with the amount of monitoring required both at the EIS stage and at the operational stage, the holder may know but it still should not be the holder's responsibility to do anything about it.

QRC's legal advice is that there is nothing wrong in principle with W1 being expressed in terms of a very comprehensive prohibition on all kinds of passive and active releases from a site subject to specific authorisations, provided that the balance of the conditions then specifically positively authorises every type of release apart from the ones that were really intended to be prevented. However, it would just be easier to read if W1 itself included some limitations, such as 'from the mining activities' because it would then not be necessary to include specific authorisations for a range of releases which were never really intended to be picked up by W1 in the first place.

We can assist with further drafting options if you could let us know in principle:

(a) whether DERM is happy to include authorisations for each of the types of releases mentioned above,
(b) whether or not you are prepared to consider any change to condition W1; and

(c) whether you are keen for W41 itself to be restricted to 'stormwater other than mine affected water' or whether you would be willing to consider covering further issues under the W41 umbrella.

From: [redacted]
Sent: Monday, 25 July 2011 4:39 PM
To: Frances Hayter
Cc: Brier Andrew; [redacted]
Subject: RE: QRC comments on the latest Fitzroy model conditions

Hi Frances,

As discussed, I am having a little trouble working through point 2 below (noting the additional comment that was included in the working draft adjacent to condition W41). I just want to be sure that I fully comprehend any concerns expressed here.

In the text below I dont see the issue about the watercourse contaminated by an upstream farm, given that the farm chemicals were not 'released' to waters by the EA holder. The fact they are in 'waters' on a mining lease does not point to a contravention by the EA holder unless there was an associated 'release' of contaminants to waters by the EA holder in contravention of condition W1.

I would also appreciate any clarification you can provide about the comment in the document against W41. After talking this through with you I think the concern, while aimed at W41, more broadly is about the definition of 'mine affected water' in that it captures the stormwater previously implied to be ok for release through ESCP sed dam structures, which can currently discharge passively without necessarily triggering the minimum flow window in the release point discharge conditions. I note the explanatory text below 'Table 1' on the first page of the working draft provides an intent not capture all sed dams that are primarily installed to manage run-off containing sediment only - perhaps I need to consider exclusion terms in the 'mine affected water' definition as per the document 'Notes on the drafting issues relating to the separation of mine affected water from other water' with definition options for consideration that you provided following workshop 2 to resolve this concern.

Any further clarification you can provide on this point, or confirmation that I have captured the issue above, would be appreciated.

Cheers,

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From: Frances Hayter [redacted]
Sent: Friday, 22 July 2011 4:16 PM
To: [redacted]

Cc: Brier Andrew; [redacted] Michael Roche
Subject: QRC comments on the latest Fitzroy model conditions
Importance: High
Dear Andrews,

Please find attached QRC's comments on the latest model conditions as received by QRC on 14 July. We very much appreciate how they have progressed as a result of the workshops.

As you will see, we only have a few major comments and would be very happy to work with you further on these.

These are (and also repeated in the text of the document) :

- While we are pleased that DERM has included an explanatory note that 'alternative approaches' can be proposed, but on the face of it this appears just to relate to site-specific conditions to deal with normal weather. At our meeting on 29 June, item 3 was specifically about 'model conditions and extraordinary events'. When DERM agreed to insert an explanatory note about the ability to consider site-specific cases, obviously in the context of the agenda item no-one understood this as just being generally about the ability to negotiate different conditions from the model conditions, but rather, we were talking specifically about planning upfront for extraordinary events. [redacted] agreed that there had been learnings from the last wet season which could be applied to site-specific negotiations for conditions to deal with extraordinary events, so as to avoid the need for TEPs. Industry said that there could be an explanatory note that, if specified weather or flooding thresholds were reached, this would trigger a schedule of overriding conditions (obviously based on what was previously negotiated site-by-site for TEPs). This would not cater to all types of possible future events (which would be impossible, as none of us has a crystal ball), but it would at least prevent a repetition of the TEPs process if the next wet season is fairly similar to the last one. Conditions would have the advantage of kicking in straight away, enabling prompt and suitably staged releases, rather than diverting government and industry resources unnecessarily, during the height of an emergency, to negotiating paperwork.
- The authorisation of releases under condition W41 is a little more narrow than we had in mind for the water management plan and ESMP, because it is restricted to 'stormwater'. The types of clean water which are released from a mining lease, but which do not pass through unrehabilitated disturbed areas are obviously not just restricted to stormwater, unless we take an extremely broad definition of 'stormwater', including groundwater emerging into springs etc. An example we gave at the November workshop was a watercourse contaminated by agricultural chemicals from an upstream farm, passing through the perimeter of a mining lease. This was why our original suggestion was that the simplest solution to this broader problem would be to amend condition W1 to refer to 'Contaminants from the mining activities', but if condition W1 remains completely unreconstructed, then we need to have specific authorisations for every conceivable category of water passing through the mining lease.
- Another problem is that, because condition W2 is not required to authorise releases of mine affected water from one internal storage to another, there is currently no authorisation anywhere in the conditions for these types of internal transfers but condition W1 still prohibits them (given that W1 uses a different definition of 'waters').

Again, there would be various drafting options for these problems. Assuming that we stay with the restriction in condition W41 for 'stormwater', QRC's recommended solution would be along the following lines:

- W1 – Add '*from the mining activities*', after 'contaminants'. We acknowledge that this suggestion has been previously rejected, but it still has the advantage of simplicity, in dealing with waters other than stormwaters which are just 'passing through'.

- W2 Add a second part to this condition: '*The release of mine affected water to internal water management infrastructure that is installed and operated in accordance with a water management plan that complies with conditions W32 to W37 inclusive is permitted.*'

- We are still missing an authorisation for re-use water to be delivered to the third party in the third party's artificial storage structure. Presumably, the intention is that it is not ok to deliver the mine affected water to the third party's natural watercourse, lake, lagoon, groundwater, swamp or wetland, but the conditions do not mention this anywhere (other than generally under W1), and they do not draw a specific distinction between this and the fact that it is ok to deliver to a farm dam, tank, artificial channel etc (which is also generally prohibited by condition W1).

  This is not just a minor technical point. There are in fact third parties out there who have asked for mine affected water to be delivered to natural watercourses on their properties, and the mines cannot point to anything in their conditions which makes a specific distinction in this regard, which places the mines in a difficult position in dealing with their communities.

- We would still like to see a reference to delivery by artificial open channel. If DERM is not keen to include this in the model condition, then we would at least like to see an explanatory note to the effect that site-specific modes of delivery other than piping or trucking may be specifically authorised. The explanatory notes could also mention that conditions may authorise delivery to types of businesses other than those referenced in the model conditions. (Many existing conditions have already replaced the 'adjoining mines' reference in W26 with more general references to 'other businesses' or government agencies, which is useful for mines located within a reasonable distance of industrial areas.)

Could you please advise me of the final steps in the process for considering the above points and finalising the conditions so that we can work to get companies to make their EA amendment applications ASAP. NB this will mean resolving the dams exemption.

Kind regards,
Frances

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+----------+
Think B4U Print
1 ream of paper = 6% of a tree and 5.4kg CO2 in the atmosphere
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+----------+

Item 12.

From: Connor Andrew [redacted]
Sent: Friday, 29 July 2011 3:59 PM
To: Frances Hayter
Subject: RE: QRC comments on the latest Fitzroy model conditions - one more thing at this stage

Hi Frances,

I have just now bundled the docs up to provide to Andrew and will send through what we come up with when he has had a chance to take a look.

For info regarding your comments below:

- In condition W1, the words 'as a result of the authorised mining activities' should be positioned so as to qualify the word 'contaminants', rather than the words 'any waters', eg: 'Contaminants that are a result of the authorised mining activities, and that also will, or have the potential to, cause environmental harm, must not be released directly or indirectly to any waters, except...'

I am recommending we retain the proposed wording in the last draft as 'contaminants that are a result of the mining activity' would imply that the contaminants were created by the mining activity. A more likely scenario is that contaminants already existed but are relatively immobile - they have the potential to be mobilised by the mining activities. The current placement of the wording is intended to clarify that contaminants must not be released to waters specifically as a result of the mining activity (i.e. they must not be mobilised by the activity and released to waters at levels capable of causing environmental harm), to address any concern that previous wording could cause the EA holder to be penalised for contaminants in waters passing through the lease that were put there by an upstream third party. I have provided your alternative view for consideration.

- In W2, it would be easier to read if you could break this up into sub-clauses.

Agreed - I included it as a new condition (and then had to renumber all conditions from W3 on!!).

- Also, we are still not sure where you are planning to address runoff from private haul roads, which do form part of the 'mining activities', so this is 'mine affected water'. (Public haul roads are not part of the 'mining activities'.)

Haul roads can present different levels of risk depending on how well they are managed. There is a possibility for other types of contamination in these areas, e.g. hydrocarbons. Haul roads should not be excluded specifically from mine affected water definition, but where companies can demonstrate areas are maintained clean and sediment is the only parameter of concern to manage, and appropriate infrastructure is installed to manage risks through ESCPs then they will achieve compliance with conditions as drafted. I will highlight in the request from approval that QRC has presented a different view here.

I also thought your proposed wording for the explanatory note around extraordinary events is quite good, but I have shortened up the second paragraph. I think our understanding of the potential to predict extraordinary events is a little different. My view is that it is reasonable to predict that wet seasons that are out of the ordinary will occur in future, the difficulty in drafting model conditions is the ability to consider all possible variables thrown up by the situation due to the influences from other mines or different activities, or other

environmental effects throughout the catchment, such as saline groundwater recharge. Due to the need to consider cumulative effects, any attempt to standardise an approach through model conditions is likely to be overly conservative to the point that the objective of reducing the need for future TEPs in such circumstances will only be achieved to the point we have made it to with the model conditions. Acknowledging that there may be sites that can demonstrate a robust approach based on their own surroundings that goes further than the model conditions is ok. So the paras is question read:

"Model conditions do not preclude applicants from proposing alternative or additional conditions, nor restrict the administering authority from using alternative conditions where the case warrants. However, applications proposing alternative approaches will need to be supported by sufficient environmental risk assessment and contingency planning information to allow the administering authority to adequately consider the proposal.

There may be instances where case-by-case proposals can be considered for conditions to address management of particularly heavy rainfall and flooding that is similar to previous events, where there is sufficient information available based on: previous transitional environmental programs, monitoring and analysis, the environmental values of the receiving environment together with the experience of impacts on those environmental values, rigorous contingency and disaster response planning, and with particular regard to actual and potential cumulative impacts. For example, there may be potential to tailor a schedule of conditions to be triggered upon reaching nominated thresholds of rainfall, flow, flooding (or a combination) based on learning from an event that has occurred in the past; possibly adopting a similar framework to previous discharge permissions granted in similar circumstances, provided the framework was demonstrated to adequately address environmental risk to the satisfaction of the delegate."

I have to firm up a couple of things early next week around the possible industry workshop dates and process from here on amendments (although I note some have started through engagement with the regional office) and will be in touch.

Regards,

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From: Frances Hayter [redacted]
Sent: Friday, 29 July 2011 9:10 AM
To: [redacted]
Subject: RE: QRC comments on the latest Fitzroy model conditions - one more thing at this stage
Importance: High

Hi [redacted]

Yes, you read it here first - I have not received any further comments from my crew.

Therefore take yesterday's feedback / improvement suggestions as all that you have to work on today.

The guys are now particulary anxious to know how the amendment process itself will work eg will a new Plan of Ops / Water Management Plan also need to be submitted etc etc

I have told them that I will let them know these details early next week - so I hope that is okay.

Will I get to see today's final final draft to see how you have managed to merge our comments from yesterday?

Cheers!
Frances

From: [redacted]
Sent: Thursday, 28 July 2011 12:11 PM
To: Frances Hayter
Subject: RE: QRC comments on the latest Fitzroy model conditions - one more thing at this stage

Thanks Frances.

I will take another look at this and will await any further comments from you in the morning before I provide a final draft to Andrew B for consideration.

Cheers,

[redacted]

From: Frances Hayter [redacted]
Sent: Thursday, 28 July 2011 11:27 AM
To: [redacted]
Subject: RE: QRC comments on the latest Fitzroy model conditions - one more thing at this stage

Hi [redacted]

On thinking about it, I would also like to raise now that we still have concerns about the re-drafted explanatory note relating to 'extraordinary events'. While we understand your concerns about the difficulties of foreseeing all possible types of 'extraordinary events' and also the issues with cumulative impacts, we are hoping that you can express this explanatory note a little more positively in terms of addressing similar types of events to those that have already occurred and some guidance on a methodology for drafting those tailored conditions. This is the kind of wording we have in mind:

Model conditions do not preclude applicants from proposing alternative or additional conditions, nor restrict the administering authority from using alternative conditions where the case warrants. However, applications proposing alternative approaches will need to be supported by sufficient environmental risk assessment and contingency planning information to allow the administering authority to adequately consider the proposal.

In particular, there may be instances where case-by-case proposals can be considered far conditions to address management of particularly heavy rainfall and flooding that is similar to previous events, where there is sufficient information available based on: previous transitional environmental programs, monitoring and analysis, the environmental values of the receiving environment in those

circumstances together with the experience of impacts on those environmental values, rigorous contingency and disaster response planning, and with particular regard to actual and potential cumulative impacts. For example, there would be potential to tailor a schedule of conditions to be triggered upon reaching nominated thresholds of rainfall, flow, flooding (or a combination) similar to a an event that has occurred in the past, generally adopting a similar framework to the content requirements for a previous TEP, but adapted so as to take account of any relevant infarmation obtained through a previous TEP process. However, it is not possible to predict all possible 'extraordinary events' which may occur in the future, so these model conditions have not attempted to provide a 'catch-all' condition for 'extraordinary events' in general. Each application to address flood events needs to be assessed on its individual merits.

As this is one of the most critical issues for my members, I hope that we can at least meet somewhere in the middle on this one.

Cheers!
Frances

From: Frances Hayter
Sent: Thursday, 28 July 2011 10:05 AM
To: [redacted]
Subject: RE: QRC comments on the latest Fitzroy model conditions
Importance: High

Hi [redacted]

A very few comments as they currently stand – I will have any others to you by 9am tomorrow based on the version you sent to me yesterday, but I have made it very clear to members that they are not to suddenly surprise me with big ticket items.

We are happy with your general approach to resolving the questions about 'mine-affected water'. A few very minor drafting suggestions:

- In condition W1, the words 'as a result of the authorised mining activities' should be positioned so as to qualify the word 'contaminants', rather than the words 'any waters', eg: 'Contaminants that are a result of the authorised mining activities, and that also will, or have the potential to, cause environmental harm, must not be released directly or indirectly to any waters, except...'
- In W2, it would be easier to read if you could break this up into sub-clauses.
- Also, we are still not sure where you are planning to address runoff from private haul roads, which do form part of the 'mining activities', so this is 'mine affected water'. (Public haul roads are not part of the 'mining activities'.)

One further suggestion is for the explanatory notes to also be provided as a stand-alone document so that everyone has ready access to them after the EA is finalised – maybe they can be sent out with the amended EA (when it is finalised of course).

I am off to chair, ironically, a conference about permit approvals, so I won't be sitting at my desk for much longer today – I am hoping though that this email is quite clear.
I look forward to getting the absolutely final draft version and to the end of this process tomorrow!

Cheers!
Frances

From: [redacted]
Sent: Wednesday, 27 July 2011 6:21 PM
To: Frances Hayter
Subject: RE: QRC comments on the latest Fitzroy model conditions

Hi Frances,

The current working draft is attached. I appreciate your feedback on this and acknowledge you raised a number of valid points. I have attempted to address the matters of concern as much as possible. I am also working up some more detailed responses to specific issues raised for your information and will send them through tomorrow when completed.

Key points in relation to the issues outlined in your earlier email below are:

1. I am now proposing an approach in W1 and W2 that is more aligned with providing 'permissions' for particular releases (i.e. into internal water management infrastructure) rather than taking the approach of excluding certain infrastructure from the 'waters' definition. This approach is carried on into the stormwater runoff through ESCP and WMP infrastructure, and the reuse conditions permitting transfer into third party artificial storage - I will just flag with you now that I am not yet satisfied with the wording in the reuse conditions and will review again tomorrow. The intent is right and I will gladly accept any comments on them.

2. I am not comfortable with a proposal to provide a specific condition to permit a 'release' of other general types of water in condition W41 and this condition remains restricted to stormwater. I don't see a stream diversion or groundwater moving through a lease etc as being something 'released' by the EA holder. I don't particularly agree with the concern about an EA holder being held liable for contamination caused by an upstream activity, given that the EA conditions are only relevant to the activities authorised by the EA, but to provide absolute clarity I have made an insertion into W1 to ensure the link to the mining activity is clear.

3. Acknowledging the unintended exclusion of 'true' sed dam releases in W41 due to the exclusion of 'mine affected water', the solution I am proposing is to amend the definition for mine affected water to maintain the previous intent to exclude true sed dam releases from the W2 authorised discharges. This authorises true sed dam releases through W41. There should be no need to broaden this permission past 'stormwater' given the other amendment to W1 as stormwater is the type of water a true sed dam is installed to manage.

Happy to discuss this further tomorrow as suits.

Cheers,

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GPO Box 2454 Brisbane Q 4001

From: Frances Hayter [redacted]
Sent: Wednesday, 27 July 2011 10:32 AM
To: [redacted]
Subject: FW: QRC comments on the latest Fitzroy model conditions
Importance: High

Hi [redacted]

As promised, below are our responses to your questions. Apologies for the delay.
You will note that this response deals with question 2 first, because our answer to question 2 is intended to provide a broader framework for understanding the example mentioned in your question 1.

Apologies for the length of the legal detail, but I think we are both interested in getting this right – and judging from our conversation on Monday, we were both looking for a bit more explanation of how to approach the W41, W1, W2 interaction.

Please give me another call if you find anything else unclear.

Oh and is the process from here that you are going to send me a final marked up version and I give my companies a 24 hour turn around for comment ie by Thursday afternoon and they are then finalised on Friday to meet the predicted timeframe?
If that is the case) – my Chief Executive is very keen to know the final authorisation process for the conditions and when companies can start applying for the amendments ie does the Minister need to give approval or will they start straight away once Andrew B says they are good to go?
Michael has offered to give any assistance necessary to get the use of the conditions underway if you think that might be needed.

Cheers!
Frances

Frances Hayter
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Question 2 – You asked: 'I would also appreciate any clarification you can provide about the comment in the document against W41. After talking this through with you I think the concern, while aimed at W41, more broadly is about the definition of 'mine affected water' in that it captures the stormwater previously implied to be ok for release through ESCP sed dam structures, which can currently discharge passively without necessarily triggering the minimum flow window in the release point discharge conditions. I note the explanatory text below 'Table 1' on the first page of the working draft provides an intent not capture all sed dams that are primarily installed to manage run-off containing sediment only - perhaps I need to consider exclusion terms in the 'mine affected water' definition as per the document 'Notes on the drafting issues relating to the separation of mine affected water from other water' with definition options for consideration that you provided following workshop 2 to resolve this concern.'

QRC is quite happy with the proposed definition of 'mine affected water'. Legal advice is that the proposed W41 about stormwater is also quite workable, as far as it goes (ie, to the extent that it just covers stormwater from undisturbed areas). W41 still doesn't cover a few other types of releases

which we had intended to cover. DERM could either choose to add those issues to W41 or these could instead be added to W2 (or just after W2). The additional types of releases that we would like DERM to think about are:

(a) Internal transfers - There is no authorisation anywhere for releases of mine affected water from one internal storage to another, but W1 still prohibits these internal transfers because it relies on the wider definition of 'waters'. The second part of W2 currently provides that these types of releases do not need to be authorised under W2, but it does not go on to provide that they are positively authorised by some other provision. (In passing, could we also mention that the example given in item (b) '<e.g. internal dam to dam transfer for managing internal dam free board' could be interpreted too literally as only being intended 'to manage internal dam freeboard'. There are various reasons for internal dam to dam transfer. Could you please delete the words 'for managing internal dam free board'?)
(b) Clean water other than 'stormwater' which is released from the mining lease, whether this has been actively diverted around the disturbed areas or not, eg, diverted watercourses are not exactly 'stormwater'.
(c) Water contaminated by upstream users which is just passing through the mining lease, not necessarily as 'stormwater';
(d) How would DERM like to deal with rrelatively minor releases of 'mine affected waters' such as run-off from haul roads? We assume that you do not want these individually listed under W2 and comprehensively monitored on the same scale as tailings dams. On the other hand, this is not 'stormwater other than mine affected water', so is not covered by W41 as currently drafted.
(e) Releases from 'true' sediment dams. QRC is comfortable with describing this water as 'mine affected', because in fact it is, strictly speaking, 'mine affected' if it includes water from areas stripped in advance of mining or from rehabilitation works that are underway (as opposed to completed). Once the dam picks up the sediment and the sediment is allowed to settle, the dam has done its job. We just need a condition which authorises the clean releases from this type of 'true' sediment dam, which we would like to see under the standards and requirements of the ESCP. However, these releases are not strictly "stormwater, other than mine affected water".

Question 1 was about whether the conditions currently unintentionally regulate releases of waters that are just passing through a mining lease, which was just one of our examples above. You asked:

'In the text below I don't see the issue about the watercourse contaminated by an upstream farm, given that the farm chemicals were not 'released' to waters by the EA holder. The fact they are in 'waters' on a mining lease does not point to a contravention by the EA holder unless there was an associated 'release' of contaminants to waters by the EA holder in contravention of condition W1.'
In our November paper, we gave an example of water contaminated upstream by a farmer, but the principle is the same whether or not the water is actually contaminated by anyone; the water quality parameters could be background and the water would still be a 'liquid, gas or solid' as defined by the definition of 'contaminant' (noting that there have been examples where background parameters have been about the same or higher than the parameters in the 2009 conditions).

QRC's legal advice is that, in the event of prosecution for 'causing unlawful environmental harm' (Chapter 8 Part 3), it would be quite clear that the holder could not be prosecuted for contaminants which are just passing through, because there is a series of cases to the effect that the word 'cause' means that there must be an element of control. (Contrast the position in NSW, where legislation that has used the words 'causes or permits' has been interpreted as meaning that it was not

necessary to prove the same degree of control as where the word 'causes' is used.) Similarly, wilful contravention would require proof of intention.

However, the offence of contravention of a condition of an environmental authority condition (Section 430(3)) does not involve either the word 'cause' or the word 'wilfully', so it just comes down to the drafting of the conditions. Condition W1 is expressed in the passive voice, as opposed to the active voice, ie, it does not start: 'The environmental authority holder must not...'; but rather 'Contaminants must not be released...'. It is quite normal to draft conditions using the passive voice, because it is normal to try to ensure that conditions cannot be avoided just because someone other than the environmental authority holder caused a contravention, eg, a contractor, consultant etc. Conditions drafted in the passive voice cannot be interpreted as being restricted personally to the environmental authority holder.

W1 is also not limited anywhere by reference to contaminants from the mining activities, or contaminants in any way caused by or controlled by the holder.

W1 uses the loose term 'release', rather than more active terminology such as 'discharge' (which is fine, because an over-topping is a type of passive release too, which is intended to be regulated).

Although the holder would have a defence if he/she does not know about upstream contamination, really, with the amount of monitoring required both at the EIS stage and at the operational stage, the holder may know but it still should not be the holder's responsibility to do anything about it.

QRC's legal advice is that there is nothing wrong in principle with W1 being expressed in terms of a very comprehensive prohibition on all kinds of passive and active releases from a site subject to specific authorisations, provided that the balance of the conditions then specifically positively authorises every type of release apart from the ones that were really intended to be prevented. However, it would just be easier to read if W1 itself included some limitations, such as 'from the mining activities' because it would then not be necessary to include specific authorisations for a range of releases which were never really intended to be picked up by W1 in the first place.

We can assist with further drafting options if you could let us know in principle:

(a) whether DERM is happy to include authorisations for each of the types of releases mentioned above,
(b) whether or not you are prepared to consider any change to condition W1; and
(c) whether you are keen for W41 itself to be restricted to 'stormwater other than mine affected water' or whether you would be willing to consider covering further issues under the W41 umbrella.

From: [redacted]
Sent: Monday, 25 July 2011 4:39 PM
To: Frances Hayter
Cc: Brier Andrew; [redacted]
Subject: RE: QRC comments on the latest Fitzroy model conditions

Hi Frances,

As discussed, I am having a little trouble working through point 2 below (noting the additional comment that was included in the working draft adjacent to condition W41). I just want to be sure that I fully comprehend any concerns expressed here.

In the text below I dont see the issue about the watercourse contaminated by an upstream farm, given that the farm chemicals were not 'released' to waters by the EA holder. The fact they are in 'waters' on a mining lease does not point to a contravention by the EA holder unless there was an associated 'release' of contaminants to waters by the EA holder in contravention of condition W1.

I would also appreciate any clarification you can provide about the comment in the document against W41. After talking this through with you I think the concern, while aimed at W41, more broadly is about the definition of 'mine affected water' in that it captures the stormwater previously implied to be ok for release through ESCP sed dam structures, which can currently discharge passively without necessarily triggering the minimum flow window in the release point discharge conditions. I note the explanatory text below 'Table 1' on the first page of the working draft provides an intent not capture all sed dams that are primarily installed to manage run-off containing sediment only - perhaps I need to consider exclusion terms in the 'mine affected water' definition as per the document 'Notes on the drafting issues relating to the separation of mine affected water from other water' with definition options for consideration that you provided following workshop 2 to resolve this concern.

Any further clarification you can provide on this point, or confirmation that I have captured the issue above, would be appreciated.

Cheers,

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From: Frances Hayter [redacted]
Sent: Friday, 22 July 2011 4:16 PM
To: [redacted]
Cc: Brier Andrew; [redacted] Michael Roche
Subject: QRC comments on the latest Fitzroy model conditions
Importance: High

Dear Andrews,

Please find attached QRC's comments on the latest model conditions as received by QRC on 14 July. We very much appreciate how they have progressed as a result of the workshops.

As you will see, we only have a few major comments and would be very happy to work with you further on these.

These are (and also repeated in the text of the document) :

- While we are pleased that DERM has included an explanatory note that 'alternative approaches' can be proposed, but on the face of it this appears just to relate to site-specific conditions to deal with normal weather. At our meeting on 29 June, item 3 was specifically about 'model conditions and extraordinary events'. When DERM agreed to insert an explanatory note about the ability to consider site-specific cases, obviously in the context of the agenda item no-one understood this as just being generally about the ability to negotiate

different conditions from the model conditions, but rather, we were talking specifically about planning upfront for extraordinary events. [redacted] agreed that there had been learnings from the last wet season which could be applied to site-specific negotiations for conditions to deal with extraordinary events, so as to avoid the need for TEPs. Industry said that there could be an explanatory note that, if specified weather or flooding thresholds were reached, this would trigger a schedule of overriding conditions (obviously based on what was previously negotiated site-by-site for TEPs). This would not cater to all types of possible future events (which would be impossible, as none of us has a crystal ball), but it would at least prevent a repetition of the TEPs process if the next wet season is fairly similar to the last one. Conditions would have the advantage of kicking in straight away, enabling prompt and suitably staged releases, rather than diverting government and industry resources unnecessarily, during the height of an emergency, to negotiating paperwork.

- The authorisation of releases under condition W41 is a little more narrow than we had in mind for the water management plan and ESMP, because it is restricted to 'stormwater'. The types of clean water which are released from a mining lease, but which do not pass through unrehabilitated disturbed areas are obviously not just restricted to stormwater, unless we take an extremely broad definition of 'stormwater', including groundwater emerging into springs etc. An example we gave at the November workshop was a watercourse contaminated by agricultural chemicals from an upstream farm, passing through the perimeter of a mining lease. This was why our original suggestion was that the simplest solution to this broader problem would be to amend condition W1 to refer to 'Contaminants from the mining activities', but if condition W1 remains completely unreconstructed, then we need to have specific authorisations for every conceivable category of water passing through the mining lease.
- Another problem is that, because condition W2 is not required to authorise releases of mine affected water from one internal storage to another, there is currently no authorisation anywhere in the conditions for these types of internal transfers but condition W1 still prohibits them (given that W1 uses a different definition of 'waters').

  Again, there would be various drafting options for these problems. Assuming that we stay with the restriction in condition W41 for 'stormwater', QRC's recommended solution would be along the following lines:

  - W1 – Add '*from the mining activities*', after 'contaminants'. We acknowledge that this suggestion has been previously rejected, but it still has the advantage of simplicity, in dealing with waters other than stormwaters which are just 'passing through'.

  - W2 Add a second part to this condition: '*The release of mine affected water to internal water management infrastructure that is installed and operated in accordance with a water management plan that complies with conditions W32 to W37 inclusive is permitted.*'

- We are still missing an authorisation for re-use water to be delivered to the third party in the third party's artificial storage structure. Presumably, the intention is that it is not ok to deliver the mine affected water to the third party's natural watercourse, lake, lagoon, groundwater, swamp or wetland, but the conditions do not mention this anywhere (other than generally under W1), and they do not draw a specific distinction between this and the fact that it is ok to deliver to a farm dam, tank, artificial channel etc (which is also generally prohibited by condition W1).

This is not just a minor technical point. There are in fact third parties out there who have asked for mine affected water to be delivered to natural watercourses on their properties, and the mines cannot point to anything in their conditions which makes a specific distinction in this regard, which places the mines in a difficult position in dealing with their communities.

- We would still like to see a reference to delivery by artificial open channel. If DERM is not keen to include this in the model condition, then we would at least like to see an explanatory note to the effect that site-specific modes of delivery other than piping or trucking may be specifically authorised. The explanatory notes could also mention that conditions may authorise delivery to types of businesses other than those referenced in the model conditions. (Many existing conditions have already replaced the 'adjoining mines' reference in W26 with more general references to 'other businesses' or government agencies, which is useful for mines located within a reasonable distance of industrial areas.)

Could you please advise me of the final steps in the process for considering the above points and finalising the conditions so that we can work to get companies to make their EA amendment applications ASAP. NB this will mean resolving the dams exemption.

Kind regards,
Frances

Frances Hayter
Director Environment and Social Policy
Queensland Resources Council

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Item 18

From: [redacted]
Sent: Wednesday, 10 August 2011 5:21 PM
To: Frances Hayter
Cc: Brier Andrew
Subject: RE: Fitzroy process from here

Hi Frances,

As discussed, I can confirm that DERM's General Manager for Coal and Coal Seam Gas has endorsed the model conditions as provided last week and the attached represent the final version. I am having all sorts of trouble trying to get some tracked format changes to stay out of the document and will have to seek assistance on this tomorrow (apologies) but these conditions will not change.

DERM is arranging a workshop for 25 August to provide some additional training on preparing applications that fit the methodology within and I will provide further details on that shortly.

Cheers,

[redacted]
A/Director, Coal Operations
Regional Service Delivery Division
Telephone [redacted]
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www.derm.qld.gov.au
Department of Environment and Resource Management
400 George Street, Brisbane Q
GPO Box 2454 Brisbane Q 4001

From: Frances Hayter [redacted]
Sent: Wednesday, 10 August 2011 10:15 AM
To: [redacted]
Cc: Brier Andrew
Subject: RE: Fitzroy process from here
Importance: High

And now I'm getting questions from my Chief Executive – could you please give me something I can tell him as soon as there is a spare moment?

Cheers!
Frances

From: Frances Hayter
Sent: Monday, 8 August 2011 11:20 AM
To: [redacted]
Cc: Brier Andrew
Subject: RE: Fitzroy process from here

Sorry to be a complete pain (yes, Andrew B, more than usual) – but my members are still hassling me to know when there will be the final final approval of the conditions.
Any update would be much appreciated.

Cheers!
Frances

From: [redacted]
Sent: Wednesday, 3 August 2011 2:30 PM
To: Frances Hayter
Cc: Brier Andrew
Subject: RE: Fitzroy process from here

Hi Frances,

Forgive us, but things can get a little hectic around here.

FYI - I have attached the version of the model conditions that were provided to Andrew B for endorsement. At this stage I don't see any great prospect of significant change for these conditions, although it is important that we satisfy internal communication needs before formally announcing their endorsement.

In terms of process from here, at our last consultation workshop we discussed the possibility of an industry/consultant workshop in August to provide some technical training on the methodology behind developing new discharge conditions. I have locked in [redacted] time on the 25 August for this workshop and would appreciate it if you can seek expressions of interest from your members for attendance. I need to confirm location details and time but initially we envisage a 10am - 3pm session with lunch provided.

In the interim there is nothing stopping your industry members from making contact with regional officers to arrange pre-lodgment discussions. I will be updating all central west mining officers on the key changes in the conditions on Friday and there is a well established expectation that amendment applications will start to ramp up shortly.

You asked last week whether a new Plan of Ops / Water Management Plan also need to be submitted with amendment applications. Requirements for amendment may depend on what possible impact any changes might have on EM Plans, if any, but generally speaking the amendment if approved might lead to a later need to amend the Plan of Ops or WMP and this will not necessarily be required to support an amendment application. Supporting information will typically take a more technical focus based on presenting arguments about how proposed discharge regimes will meet the objectives of the model conditions and ensure protection of the identified environmental values within receiving waters.

I hope this helps provide some direction while we finalise the formal adoption of the model conditions.

Cheers,

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GPO Box 2454 Brisbane Q 4001

From: Frances Hayter [redacted]
Sent: Wednesday, 3 August 2011 8:47 AM
To: [redacted] Brier Andrew

Subject: Fitzroy process from here
Importance: High

Hi Andrews.

I am now fielding questions from members about the process from here in terms of approved finalisation of the conditions and the requirements for applications.

Would you mind letting me know ASAP so that I can get the information out.

Cheers!
Frances

Frances Hayter
Director Environment and Social Policy
Queensland Resources Council

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Final Model Water Conditions for Coal Mines in the Fitzroy Basin

Note:
Explanatory notes are in green. DELETE prior to issue of EA.
Insertions required by applicants and or the administering authority are in blue. DELETE prior to issue.

Contaminant Release

W1 Contaminants that will, or have the potential to cause environmental harm must not be released directly or indirectly to any waters as a result of the authorised mining activities, except as permitted under the conditions of this environmental authority.

W2 Unless otherwise permitted under the conditions of this environmental authority, the release of mine affected water to waters must only occur from the release points specified in Table 1 and depicted in Figure 1 <this would be a plan or plans locating all monitoring (water quality and flow) and release points> attached to this environmental authority.

W3 The release of mine affected water to internal water management infrastructure that is installed and operated in accordance with a water management plan that complies with conditions W33 to W38 inclusive is permitted.

Table 1 (Mine Affected Water Release Points, Sources and Receiving Waters)

EXPLANATORY NOTES – Determining Mine Affected Water Release Points:
Mine affected water release points should be specified in Table 1 where they represent a potential source of water contaminated by the mining activity. Release points associated with erosion and sediment control structures that have been installed in accordance with the standards and requirements of an Erosion and Sediment Control Plan to manage run-off containing sediment only that is not likely to contain contaminants or have properties that would cause environmental harm, do not need to be separately identified in Table 1.

Release Point (RP)	Latitude (decimal degree, GDA94)	Longitude (decimal degree, GDA94)	Mine Affected Water Source and Location	Monitoring Point	Receiving waters description
RP 1	XXXX	XXXX	e.g. Stormwater Dam Spillway Overflow	Dam Spillway	Wet Creek
RP 2	XXXX	XXXX	e.g. Dam overflow pipe	Sampling Tap on pipe where the pipe enters Sandy Creek	Sandy Creek

W4 The release of mine affected water to waters in accordance with condition W2 must not exceed the release limits stated in Table 2 when measured at the monitoring points specified in Table 1 for each quality characteristic.

Table 2 (Mine Affected Water Release Limits)

Quality Characteristic	Release Limits	Monitoring frequency	Comment
Electrical conductivity (uS/cm)	Release limits specified in Table 4 for variable flow criteria.	Daily during release (the first sample must be taken within 2 hours of commencement of	

		release)	
pH (pH Unit)	6.5 (minimum) 9.0 (maximum)	Daily during release (the first sample must be taken within 2 hours of commencement of release)	
Turbidity (NTU)	Current limit or limit derived from suspended solids limit and demonstrated correlation between turbidity to suspended solids historical monitoring data for dam water*	Daily during release* (first sample within 2 hours of commencement of release)	Turbidity is required to assess ecosystems impacts and can provide instantaneous results.
Suspended Solids (mg/L)	Limit to be determined based on receiving water reference data and achievable best practice sedimentation control and treatment*	Daily during release* (first sample within 2 hours of commencement of release)	Suspended solids are required to measure the performance of sediment and erosion control measures.
Sulphate (SO_4^{2-}) (mg/L)	Release limits specified in Table 4 for variable flow criteria.	Daily during release* (first sample within 2 hours of commencement of release)	Drinking water environmental values from NHMRC 2006 guidelines OR ANZECC.

*Note: *Limit for suspended solids can be omitted if turbidity limit is included. Limit for turbidity not required if suspended solids limit included. Both indicators should be measured in all cases.*

W5 The release of mine affected water to waters from the release points must be monitored at the locations specified in Table 1 for each quality characteristics and at the frequency specified in Table 2 and Table 3.

Note: the administering authority will take into consideration any extenuating circumstances prior to determining an appropriate enforcement response in the event condition W5 is contravened due to a temporary lack of safe or practical access. The administering authority expects the environmental authority holder to take all reasonable and practicable measures to maintain safe and practical access to designated monitoring locations.

Table 3 (Release Contaminant Trigger Investigation Levels) Potential Contaminants

EXPLANATORY NOTES – Table 3 Potential Contaminants:

The quality characteristics listed below should be assessed on a site by site basis by each mine prior to finalisation of amendment applications. Based on this assessment, the quality characteristic should be either disregarded if below trigger levels; or included as priority contaminants in Table 3 if above trigger levels. Assessment should involve comparison of representative data from dams that have historically been discharged or likely to be discharged from contaminant release points in Table 1. Data may include historical results or sampling undertaken for this specific purpose. The intent here is that not all dams on site would need to be sampled but those that would make up the majority of water in dams with release points. It could also be demonstrated based on existing water quality information that the water source and relative water quality of some dam are the same, in which case such dams may not need to be sampled individually. For metals and metalloids, trigger levels apply if dissolved results exceed trigger levels. However, total (unfiltered) results for metals and metalloids can be used to disregard a characteristic for inclusion in Table 3. Terms include SMD – slightly moderately disturbed level of protection, guideline - refers ANZECC & ARMCANZ (2000), LOR – typical reporting for method stated. ICPMS/CV FIMS – analytical methods required to achieve LOR.

Table 3 (Release Contaminant Trigger Investigation Levels) Potential Contaminants

Quality Characteristic	Trigger Levels (µg/L)	Comment on Trigger Level	Monitoring Frequency
Aluminium	55	*For aquatic ecosystem protection, based on SMD guideline*	Commencement of release and thereafter

Arsenic	13	*For aquatic ecosystem protection, based on SMD guideline*	weekly during release
Cadmium	0.2	*For aquatic ecosystem protection, based on SMD guideline*	
Chromium	1	*For aquatic ecosystem protection, based on SMD guideline*	
Copper	2	*For aquatic ecosystem protection, based on LOR for ICPMS*	
Iron	300	*For aquatic ecosystem protection, based on low reliability guideline*	
Lead	4	*For aquatic ecosystem protection, based on SMD guideline*	
Mercury	0.2	*For aquatic ecosystem protection, based on LOR for CV FIMS*	
Nickel	11	*For aquatic ecosystem protection, based on SMD guideline*	
Zinc	8	*For aquatic ecosystem protection, based on SMD guideline*	
Boron	370	*For aquatic ecosystem protection, based on SMD guideline*	
Cobalt	90	*For aquatic ecosystem protection, based on low reliability guideline*	
Manganese	1900	*For aquatic ecosystem protection, based on SMD guideline*	
Molybdenum	34	*For aquatic ecosystem protection, based on low reliability guideline*	
Selenium	10	*For aquatic ecosystem protection, based on LOR for ICPMS*	
Silver	1	*For aquatic ecosystem protection, based on LOR for ICPMS*	
Uranium	1	*For aquatic ecosystem protection, based on LOR for ICPMS*	
Vanadium	10	*For aquatic ecosystem protection, based on LOR for ICPMS*	
Ammonia	900	*For aquatic ecosystem protection, based on SMD guideline*	
Nitrate	1100	*For aquatic ecosystem protection, based on ambient Qld WQ Guidelines (2006) for TN*	
Petroleum hydrocarbons (C6-C9)	20		
Petroleum hydrocarbons (C10-C36)	100		
Fluoride (total)	2000	*Protection of livestock and short term irrigation guideline*	
Sodium	TBA		
Include additional contaminants as required	Include additional contaminants as required		

Note:

1. All metals and metalloids must be measured as total (unfiltered) and dissolved (filtered). Trigger levels for metal/metalloids apply if dissolved results exceed trigger.

2. The quality characteristics required to be monitored as per Table 3 can be reviewed once the results of two years monitoring data is available, or if sufficient data is available to adequately demonstrate negligible environmental risk, and it may be determined that a reduced monitoring frequency is appropriate or that certain quality characteristics can be removed from Table 3 by amendment.

3. SMD – slightly moderately disturbed level of protection, guideline refers ANZECC & ARMCANZ (2000).

4. LOR – typical reporting for method stated. ICPMS/CV FIMS – analytical method required to achieve LOR.

W6 If quality characteristics of the release exceed any of the trigger levels specified in Table 3 during a release event, the environmental authority holder must compare the down stream results in the receiving waters to the trigger values specified in Table 3 and:

1. where the trigger values are not exceeded then no action is to be taken; or
2. where the down stream results exceed the trigger values specified Table 3 for any quality characteristic, compare the results of the down stream site to the data from background monitoring sites and;
   (a) if the result is less than the background monitoring site data, then no action is to be taken; or
   (b) if the result is greater than the background monitoring site data, complete an investigation into the potential for environmental harm and provide a written report to the administering authority in the next annual return, outlining:
      (i) details of the investigations carried out; and
      (ii) actions taken to prevent environmental harm.

Note: Where an exceedance of a trigger level has occurred and is being investigated, in accordance with W6 2(b) of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.

W7 If an exceedance in accordance with condition W6 2(b) is identified, the holder of the authority must notify the administering authority within 14 days of receiving the result.

Mine Affected Water Release Events

W8 The holder must ensure a stream flow gauging station/s is installed, operated and maintained to determine and record stream flows at the locations and flow recording frequency specified in Table 4.

W9 Notwithstanding any other condition of this environmental authority, the release of mine affected water to waters in accordance with condition W2 must only take place during periods of natural flow events in accordance with the receiving water flow criteria for discharge specified in Table 4 for the release point(s) specified in Table 1.

W10 The release of mine affected water to waters in accordance with condition W2 must not exceed the Electrical Conductivity and Sulphate release limits or the Maximum Release Rate (for all combined release point flows) for each receiving water flow criteria for discharge specified in Table 4 when measured at the monitoring points specified in Table 1.

Table 4 (Mine Affected Water Release during Flow Events)

EXPLANATORY NOTES – Table 4

Gauging station description:

The intent here is that every release point in Table 1 is associated with a gauging station that measures flow upstream of the discharge point. More than one discharge point may be associated with the same gauging station. The gauging station should be at a minimum distance from the discharge point such that water flow under trigger flow events will not significantly diminish by the time it reaches the discharge point. The location of the gauging station should ideally be such that it is not significantly affected by other upstream point source releases or times of discharge are limited to periods of "natural" flow.

Under certain circumstances it may be appropriate to have a downstream gauging station in addition to or in replace of an upstream gauging station. The location should ideally not be affected by the discharge (e.g. be measured off the main waterway). The need for this must be demonstrated on a case by case basis to show why an upstream gauging station is insufficient. This may be the case when mines are located in the upper parts of catchments or near the downstream confluence or a major waterway. Similarly, the gauging station should be at a distance from the discharge point such that water flow during triggered flow events will not significantly diminish between the discharge point and the measuring point (or the confluence with the creek being measured). For downstream flow triggers, some changes to calculation for flow triggers and maximum release flows would typically be required based on the relative sizes of the waterways involved.

Flow Triggers and EC Quality Criteria:

The intent for flow triggers is that the times of discharge are limited to times around natural flow events only. Different flow regime methodologies are used to define mine affected water release opportunities, provide flexibility for site operators and to protect identified environmental values within receiving waters. The expectation

is that where flow gauging data is available, it is used to calculate flow triggers. Where gauging data is not available or is insufficient, flow triggers should be based on runoff/stream flow estimates using appropriate hydrological calculations or models and known catchment area, rainfall estimations etc.

Separate methodologies for discharges which occur to local waterways rather than regional waterways will be applied as part of this revised approach. Due to the increased flexibility of the revised approach and consideration of a wider range of local factors the application of these model conditions to individual sites will require case-by case assessment and require sufficient background information to be provided. For example, it should be noted that discharges upstream of dams or lakes may require special considerations and generally stricter controls. Also, where multiple mines discharge to the same or closely connected waterways consideration of cumulative impacts will be necessary as part of the assessment process.

Model conditions do not preclude applicants from proposing alternative or additional conditions, nor restrict the administering authority from using alternative conditions where the case warrants. However, applications proposing alternative approaches will need to be supported by sufficient environmental risk assessment and contingency planning information to allow the administering authority to adequately consider the proposal.

There may be instances where case-by-case proposals can be considered for conditions to address management of particularly heavy rainfall and flooding that is similar to previous events, where there is sufficient information available based on: previous transitional environmental programs, monitoring and analysis, the environmental values of the receiving environment together with the experience of impacts on those environmental values, rigorous contingency and disaster response planning, and with particular regard to actual and potential cumulative impacts. For example, there may be potential to tailor a schedule of conditions to be triggered upon reaching nominated thresholds of rainfall, flow, flooding (or a combination) based on learning from an event that has occurred in the past; possibly adopting a similar framework to previous discharge permissions granted in similar circumstances, provided the framework was demonstrated to adequately address environmental risk to the satisfaction of the delegate.

<u>No/low flow stream conditions (best quality / low EC mine affected water):</u>

Discharge water quality will need to meet or be better than water quality objectives (or long term background reference 75th / 80th percentile) for EC and will only be permitted for temporary periods after periods of significant flow. The focus of this is to allow "good" quality water to be released when collected rather than having it stored over long durations resulting in deteriorating water quality. Any discharges made under no/low flow stream conditions must not contribute to or cause erosion and due consideration should be given to road/rail access, stock crossings etc (particularly in relation to multiple mines discharging under no/low flow stream conditions on connected waterways). General principles include:

- Release at times when flow is on tail end of flow event only i.e. following a flow above specified event flow trigger and when the flow reduces below the flow trigger again. This trigger will commence a discharge window of 4-6 weeks for good quality water only.
- End of pipe WQ ≤ WQO (or long term background reference 75th/80th percentile). May require assessment of downstream environmental values where WQO is more stringent (e.g. drinking water supply).
- Duration of release is limited (dry ephemeral stream, 4 weeks after flow event ceases, use time after flow trigger for below – add additional time).
- Volume/rate will be considered on a case by case basis.

<u>Medium flow stream conditions (medium quality mine affected water):</u>

A flow trigger for the stream is required and will be set to avoid discharge of medium quality water during periods of no or low flow. General principles include:

- Requires the use of a stream flow trigger above which release can occur. The stream flow trigger must be representative of event flow and be above base/low flow (typically determined from hydrographs, historical flow/water quality data and/or modeling).

- End-of pipe EC <3500uS/cm. Options for either <1500us/cm and <3500uS/cm as maximum limits can be considered which will result in different maximum discharge rates for different quality water. The better the quality of water to be released, the greater the volume that can be permitted.
- The design dilution/maximum discharge rate should be based on a site specific risk assessment. These should be designed to achieve an in-stream EC based on the location – upper (Zone 1), mid (Zone 2) or lower (Zone 3) catchment. The $EC_{WQO\ high\ flow}$ should be adopted as background EC for design calculations.

    - Zone 1, upper catchment mines, approximately <10km from top of waterway catchment.
      $EC_{in\ stream}$ = 1000uS/cm (toxicity guideline).

    - Zone 2, mid catchment mines, zones not within Zone 1 or Zone 3
      $EC_{in\ stream}$ = 700uS/cm

    - Zone 3, lower catchment mines (All regional waterways are considered Zone 3 from distance >50km from top of waterway catchment, refer to Zone 3 map) –
      $EC_{in\ stream} = EC_{high\ flow\ WQO} + multiplier \times (EC_{WQO\ low\ flow} - EC_{WQO\ high\ flow})$

      e.g. multiplier = 0.2 for Isaac, Nogoa, Dawson

- $EC_{in\ stream}$ for calculations may vary according to other locally relevant environmental values that may need to be considered.

<u>High flow stream conditions (poorer quality water):</u>

This option might be used in some cases for mines that need to discharge higher EC wastewater than is allowable under medium flow stream conditions. Any discharge is required to have a higher level of dilution than with medium flow cases but still achieve a maximum incremental increase in the waterway. This option is most feasible for mines situated on regional waterways as the window for discharge is likely to be limited for local waterways. Some additional considerations on management of mixing zones and acute/chronic toxicity may be required in this case. General principles include:

- Requires the use of a stream flow trigger above which release can occur. The stream flow trigger must be representative of high event flow and be above medium flow (typically determined from hydrographs, historical flow/water quality data and/or modeling).
- End-of pipe EC must be > 3500uS/cm (but <10,000uS/cm). The better the quality of water to be released, the greater the volume that can be permitted.
- The design dilution/maximum discharge rate should be based on a site specific risk assessment. These should be designed to achieve an in-stream EC based on the location – upper (Zone 1), mid (Zone 2) or lower (Zone 3) catchment as described above. .
- May need some additional indicators/requirements and requires case by case assessment.
- This option is likely to be less feasible for Zone 1 and 2 mines.

Receiving waters/ stream	**Release Point (RP)**	**Gauging station**	**Gauging Station Latitude (decimal degree, GDA94)**	**Gauging Station Longitude (decimal degree, GDA94)**	**Receiving Water Flow Recording Frequency**	**Receiving Water Flow Criteria for discharge (m^3/s)**	**Maximum release rate (for all combined RP flows)**	**Electrical Conductivity and Sulphate Release Limits**
e.g. Wet Creek	Insert all release points that will release based on this gauging station flow. e.g. RP1, RP2 & RP3	e.g. Gauging station 1	XXXX	XXXX	Continuous (minimum daily)	**Low Flow** <XX m3/s for a period of <insert number of days> after natural flow events that exceed XX m3/s (where XX is a specified event flow trigger)	Insert < xx ML/day or < xx m3/s Volume/rate to be determined on case by case basis	**Electrical conductivity (uS/cm):** <insert water quality objective or 75th percentile of long term background reference data> Sulphate (SO_4^{2-}): 250 mg/L
						Medium Flow > XX m3/s (where XX is specified event flow trigger)	< XX m3/s (where XX is the maximum release rate determined on case by case basis)	**Electrical conductivity (uS/cm)** <insert value determined on case specific basis but typically <1500 Sulphate (SO_4^{2-}) (mg/L) <insert limit to be determined based on achieving downstream target of 250 (Maximum) >
							< YY m3/s (where YY is the maximum release rate determined on case by case basis)	**Electrical conductivity (uS/cm)** <insert value determined on case specific basis but typically <3500 Sulphate (SO_4^{2-}) (mg/L) <insert limit to be determined based on achieving downstream target of 250 (Maximum)>
						High Flow > ZZ m3/s (where ZZ is a specified high flow event trigger)	< ZZ m3/s (where ZZ is the maximum release rate determined on case by case basis)	**Electrical conductivity (uS/cm)** <insert value determined on case specific basis but typically within a range of <3500 to <10,000 Sulphate (SO_4^{2-}) (mg/L) <insert limit to be determined based on achieving downstream target of 250 (Maximum)>

W12 The daily quantity of mine affected water released from each release point must be measured and recorded at the monitoring points in Table 1.

W13 Releases to waters must be undertaken so as not to cause erosion of the bed and banks of the receiving waters, or cause a material build up of sediment in such waters.

Notification of Release Event

W14 The environmental authority holder must notify the administering authority as soon as practicable and no later than 24 hours after commencing to release mine affected water to the receiving environment. Notification must include the submission of written advice to the administering authority of the following information:

a) release commencement date/time;
b) expected release cessation date/time;
c) release point/s;
d) release volume (estimated);
e) receiving water/s including the natural flow rate; and
f) any details (including available data) regarding likely impacts on the receiving water(s).

Note: Notification to the administering authority must be addressed to the Manager and Project Manager of the local Administering Authority via email or facsimile.

W15 The environmental authority holder must notify the administering authority as soon as practicable (nominally within twenty-four (24) hours after cessation of a release event) of the cessation of a release notified under Condition W14 and within 28 days provide the following information in writing:

a) release cessation date/time;
b) natural flow volume in receiving water;
c) volume of water released;
d) details regarding the compliance of the release with the conditions of Agency Interest: Water of this environmental authority (i.e. contamination limits, natural flow, discharge volume);
e) all in-situ water quality monitoring results; and
f) any other matters pertinent to the water release event.

Note: Successive or intermittent releases occurring within twenty-four (24) hours of the cessation of any individual release can be considered part of a single release event and do not require individual notification for the purpose of compliance with conditions W14 and W15, provided the relevant details of the release are included within the notification provided in accordance with conditions W14 and W15.

Notification of Release Event Exceedance

W16 If the release limits defined in Table 2 are exceeded, the holder of the environmental authority must notify the administering authority within twenty-four (24) hours of receiving the results.

W17 The authority holder must, within twenty-eight (28) days of a release that exceeds the conditions of this authority, provide a report to the administering authority detailing:

a) the reason for the release;
b) the location of the release;
c) all water quality monitoring results;
d) any general observations;
e) all calculations; and
f) any other matters pertinent to the water release event.

EXPLANATORY NOTES – Water storage monitoring conditions:

Note: Conditions W18 and W19 can be removed if already conditioned in the authority or in the event that model conditions for regulated dams are finalised and they include relevant replacement conditions.

Monitoring of Water Storage Quality

W18 Water storages stated in Table 5 which are associated with the release points must be monitored for the water quality characteristics specified in Table 6 at the monitoring locations and at the monitoring frequency specified in Table 5.

Table 5 (Water Storage Monitoring)

Water Storage Description	Latitude (decimal degree, GDA94)	Longitude (decimal degree, GDA94)	Monitoring Location	Frequency of Monitoring
XXXX	XXXX	XXXX	To be negotiated- will depend on the individual storage structure volume. This will deal with stratification – depth profiles and be appropriate to in situ quality characteristics.	Quarterly

W19 In the event that waters storages defined in Table 5 exceed the contaminant limits defined in Table 6, the holder of the environmental authority must implement measures, where practicable, to prevent access to waters by all livestock.

Table 6 (Onsite Water Storage Contaminant Limits)

Quality Characteristic	Test Value	Contaminant Limit
pH (pH unit)	Range	Greater than 4, less than 9[2]
EC (µS/cm)	Maximum	5970[1]
Sulphate (mg/L)	Maximum	1000[1]
Fluoride (mg/L)	Maximum	2[1]
Aluminium (mg/L)	Maximum	5[1]
Arsenic (mg/L)	Maximum	0.5[1]
Cadmium (mg/L)	Maximum	0.01[1]
Cobalt (mg/L)	Maximum	1[1]
Copper (mg/L)	Maximum	1[1]
Lead (mg/L)	Maximum	0.1[1]
Nickel (mg/L)	Maximum	1[1]
Zinc (mg/L)	Maximum	20[1]

Note:

[1] Contaminant limit based on ANZECC & ARMCANZ (2000) stock water quality guidelines.

[2] Page 4.2-15 of ANZECC & ARMCANZ (2000) "Soil and animal health will not generally be affected by water with pH in the range of 4–9". Note: Total measurements (unfiltered) must be taken and analysed

Receiving Environment Monitoring and Contaminant Trigger Levels

W20 The quality of the receiving waters must be monitored at the locations specified in Table 8 for each quality characteristic and at the monitoring frequency stated in Table 7.

Table 7 (Receiving Waters Contaminant Trigger Levels)

Quality Characteristic	Trigger Level	Monitoring Frequency
pH	6.5 – 8.5	Daily during the release
Electrical Conductivity (µS/cm)	1000 Note: for protection against toxicity this may need to be reduced in some circumstances e.g. where in close proximity upstream of a drinking water dam or regional waterway	
Suspended solids (mg/L)	To Be Determined. Turbidity may be required to assess ecosystems impacts and can provide instantaneous results.	
Sulphate (SO_4^{2-}) (mg/L)	250 (Protection of drinking water Environmental Value)	
Sodium (mg/L)	TBA	

Table 8 (Receiving Water Upstream Background Sites and Down Stream Monitoring Points)

EXPLANATORY NOTES – Selection of monitoring sites:

The intent here is that that each discharge point has both an upstream and downstream monitoring point associated with it. These monitoring points should be located as close as practicable to the release point and the distances should be defined in the footnotes in Table 8. The location of flow monitoring points should also be considered in selecting upstream monitoring points. Other considerations include accessibility, particularly during wet weather conditions.

Monitoring Points	Receiving Waters Location Description	Latitude (decimal degree, GDA94)	Longitude (decimal degree, GDA94)
Upstream Background Monitoring Points			
Monitoring Point XX	XXXX Creek XX metres upstream of RP XX	XXXX	XXXX
Monitoring Point XX	XXXX Creek XX metres upstream of RP XX	XXXX	XXXX
Downstream Monitoring Points			
Monitoring Point XX	XXXX Creek XX metres downstream of RP XX	XXXX	XXXX
Monitoring Point XX	XXXX Creek XX metres downstream of RP XX	XXXX	XXXX

Notes:

a) The upstream monitoring point should be within Xkm the release point.

b) the downstream point should not be greater than Xm from the release point.

c) The data from background monitoring points must not be used where they are effected by releases from other mines.

W21 If quality characteristics of the receiving water at the downstream monitoring points exceed any of the trigger levels specified in Table 7 during a release event the environmental authority holder must compare the down stream results to the upstream results in the receiving waters and:

1. where the downstream result is the same or a lower value than the upstream value for the quality characteristic then no action is to be taken; or
2. where the down stream results exceed the upstream results complete an investigation into the potential for environmental harm and provide a written report to the administering authority in the next annual return, outlining:

(i) details of the investigations carried out; and
(ii) actions taken to prevent environmental harm.

Note: Where an exceedance of a trigger level has occurred and is being investigated, in accordance with W21(2) of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.

Receiving Environment Monitoring Program (REMP)

EXPLANATORY NOTES – Designing a REMP:

Generally the Receiving Environment Monitoring Program (REMP) should be used to assess the local receiving waters for the specified discharge locations. The monitoring should not be specifically designed to assess compliance of the release – this is covered by other conditions. The key purpose of the REMP is to assess the overall condition of the local receiving waters and assessment should be against water quality objectives and relevant guidelines. Note that in some cases where discharge occurs to ephemeral streams, there may be a need to include downstream sensitive receiving waters or environmental values outside of the specified REMP area. An example of this would be where there are no semi-permanent /permanent waterholes in the specific area but one is located further downstream prior to the confluence with the next major waterway. For further guidance on what to include in a REMP, please refer to the Draft DERM REMP Document for Fitzroy Coal Mines and Additional Information.

There is a potential for beneficial linkages of REMP monitoring to regional waterway monitoring programs, such as the Fitzroy Partnership monitoring program. For example DERM intends to maintain monitoring information compiled through individual REMP programs through an internal database under development. Industry has indicated its willingness to see this data shared with the Fitzroy Partnership for the purpose of a regional water monitoring program. Likewise it is possible for environmental authority holders to utilise relevant and available water monitoring information collected by other parties, such as the Fitzroy Partnership, as reference data for the purposes of the REMP required by this section.

W22 The environmental authority holder must develop and implement a Receiving Environment Monitoring Program (REMP) to monitor, identify and describe any adverse impacts to surface water environmental values, quality and flows due to the authorised mining activity. This must include monitoring the effects of the mine on the receiving environment periodically (under natural flow conditions) and while mine affected water is being discharged from the site.

For the purposes of the REMP, the receiving environment is the waters of the XX and connected or surrounding waterways within XX (e.g. Xkm) downstream of the release. The REMP should encompass any sensitive receiving waters or environmental values downstream of the authorised mining activity that will potentially be directly affected by an authorised release of mine affected water.

W23 The REMP must:

a) Assess the condition or state of receiving waters, including upstream conditions, spatially within the REMP area, considering background water quality characteristics based on accurate and reliable monitoring data that takes into consideration temporal variation (e.g. seasonality); and
b) Be designed to facilitate assessment against water quality objectives for the relevant environmental values that need to be protected; and
c) Include monitoring from background reference sites (e.g. upstream or background) and downstream sites from the release (as a minimum, the locations specified in Table 8); and
d) Specify the frequency and timing of sampling required in order to reliably assess ambient conditions and to provide sufficient data to derive site specific background reference values in accordance with the *Queensland Water Quality Guidelines* 2006. This should include monitoring during periods of natural flow irrespective of mine or other discharges; and
e) Include monitoring and assessment of dissolved oxygen saturation, temperature and all water quality parameters listed in Table 2 and 3); and

f) Include, where appropriate, monitoring of metals/metalloids in sediments (in accordance with ANZECC & ARMCANZ 2000, BATLEY and/or the most recent version of AS5667.*1 Guidance on Sampling of Bottom Sediments*); and
g) Include, where appropriate, monitoring of macroinvertebrates in accordance with the AusRivas methodology, and
h) Apply procedures and/or guidelines from ANZECC & ARMCANZ 2000 and other relevant guideline documents; and
i) Describe sampling and analysis methods and quality assurance and control; and
j) Incorporate stream flow and hydrological information in the interpretations of water quality and biological data.

W24 A REMP Design Document that addresses each criterion presented in Conditions W22 and W23 must be prepared and submitted to the administering authority no later than 3 months after the date of issue of this environmental authority [include for new sites or expansion projects, remove for existing mine sites which already have REMP Design Documents]. Due consideration must be given to any comments made by the administering authority on the REMP Design Document and subsequent implementation of the program.

W25 A report outlining the findings of the REMP, including all monitoring results and interpretations in accordance with conditions W22 and W23 must be prepared annually and made available on request to the administrating authority. This must include an assessment of background reference water quality, the condition of downstream water quality compared against water quality objectives, and the suitability of current discharge limits to protect downstream environmental values.

Water Reuse

EXPLANATORY NOTES – **Water reuse conditions**

Mine affected water reuse conditions acknowledge that there is beneficial potential for using mine affected water. The conditions below provide examples of how such authorisation can be conditioned. The examples are not exhaustive and there may be valid proposals received to supply water to other industry types, or using different methods of transportation. In such cases it is important to consider any environmental risk associated with a proposal by considering what environmental values may be impacted by a given proposal, using an approach that accords with current criteria for environmental management decisions made by the administering authority, prior to presenting a recommendation to the relevant delegate for the decision.

W26 Mine affected water may be piped or trucked or transferred by some other means that does not contravene the conditions of this environmental authority and deposited into artificial water storage structures, such as farm dams or tanks, or used directly at properties owned by the environmental authority holder or a third party for the purpose of:
i) supplying stock water subject to compliance with the quality release limits specified in Table 9; or
ii) supplying irrigation water subject to compliance with quality release limits in Table 10; or
iii) supplying water for construction and/or road maintenance in accordance with the conditions of this environmental authority.

Table 9 (Stock Water Release Limits)

Quality characteristic	Units	Minimum	Maximum
pH	pH units	6.5	8.5
Electrical Conductivity	µS/cm	N/A	5000

Table 10 (Irrigation Water Release Limits)

Quality characteristic	Units	Minimum	Maximum
pH	pH units	6.5	8.5
Electrical Conductivity	µS/cm	N/A	Site specific value to be determined in accordance with ANZECC & ARMCANZ (2000) Irrigation Guidelines

W27 Mine affected water may be piped or trucked or transferred by some other means that does not contravene the conditions of this environmental authority and deposited into artificial water storage structures, such as dams or tanks, for the purpose of supplying water to <name adjoining mine>. The volume, pH and electrical conductivity of water transferred to <name adjoining mine> must be monitored and recorded.

W28 If the responsibility for mine affected water is given or transferred to another person in accordance with conditions **W26 or W27:**

a) the responsibility for the mine affected water must only be given or transferred in accordance with a written agreement (the third party agreement); and

b) the third party agreement must include a commitment from the person utilising the mine affected water to use it in such a way as to prevent environmental harm or public health incidents and specifically make the persons aware of the General Environmental Duty (GED) under section 319 of the *Environmental Protection Act 1994,* environmental sustainability of the water disposal and protection of environmental values of waters; and

c) the third party agreement must be signed by both parties to the agreement.

Water General

W29 All determinations of water quality and biological monitoring must be:

a) performed by a person or body possessing appropriate experience and qualifications to perform the required measurements;

b) made in accordance with methods prescribed in the latest edition of the Department of Environment and Resource Management's Monitoring and Sampling Manual;

Note: Condition W29 requires the Monitoring and Sampling Manual to be followed and where it is not followed because of exceptional circumstances this should be explained and reported with the results.

c) collected from the monitoring locations identified within this environmental authority, within XX hour of each other where possible;

d) carried out on representative samples; and

e) analysed at a laboratory accredited (e.g. NATA) for the method of analysis being used.

W30 The release of any contaminants as permitted by this environmental authority, directly or indirectly to waters, other than internal water management infrastructure that is installed and operated in accordance with a water management plan that complies with conditions W33 to W38 inclusive:

a) must not produce any visible discolouration of receiving waters; and

b) must not produce any slick or other visible or odorous evidence of oil, grease or petrochemicals nor contain visible floating oil, grease, scum, litter or other objectionable matter.

Annual Water Monitoring Reporting

W31 The following information must be recorded in relation to all water monitoring required under the conditions of this environmental authority and submitted to the administering authority in the specified format with each annual return:

a) the date on which the sample was taken;

b) the time at which the sample was taken;
c) the monitoring point at which the sample was taken;
d) the measured or estimated daily quantity of mine affected water released from all release points;
e) the release flow rate at the time of sampling for each release point;
f) the results of all monitoring and details of any exceedances of the conditions of this environmental authority; and
g) water quality monitoring data must be provided to the administering authority in the specified electronic format upon request.

Temporary Interference with waterways

W32 Temporarily destroying native vegetation, excavating, or placing fill in a watercourse, lake or spring necessary for and associated with mining operations must be undertaken in accordance with Department of Environment and Resource Management *Guideline - Activities in a Watercourse, Lake or Spring associated with Mining Activities.*

Water Management Plan

W33 A Water Management Plan must be developed by an appropriately qualified person and implemented by XX/XX/XXXX (WITHIN 3 MONTHS OF THE DATE OF ISSUE).

W34 The Water Management Plan must:

a) provide for effective management of actual and potential environmental impacts resulting from water management associated with the mining activity carried out under this environmental authority; and
b) be developed in accordance with Department of Environment and Resource Management guideline *Preparation of water management plans for mining activities* and include:
   i. a study of the source of contaminants;
   ii. a water balance model for the site;
   iii. a water management system for the site;
   iv. measures to manage and prevent saline drainage;
   v. measures to manage and prevent acid rock drainage;
   vi. contingency procedures for emergencies; and
   vii. a program for monitoring and review of the effectiveness of the water management plan.

W35 The Water Management Plan must be reviewed each calendar year and a report prepared by an appropriately qualified person. The report must:

a) assess the plan against the requirements under condition W34;
b) include recommended actions to ensure actual and potential environmental impacts are effectively managed for the coming year; and
c) identify any amendments made to the water management plan following the review.

W36 The holder of this environmental authority must attach to the review report required by condition W35, a written response to the report and recommended actions, detailing the actions taken or to be taken by the environmental authority holder on stated dates:

a) to ensure compliance with this environmental authority; and
b) to prevent a recurrence of any non-compliance issues identified.

W37 The review report required by condition W35 and the written response to the review report required by condition W36 must be submitted to the administering authority with the subsequent annual return under the signature of the appointed signatory for the annual return.

W38 A copy of the Water Management Plan must be provided to the administering authority on request.

Saline Drainage

W39 The holder of this environmental authority must ensure proper and effective measures are taken to avoid or otherwise minimise the generation and/or release of saline drainage.

Acid Rock Drainage

W40 The holder of this environmental authority must ensure proper and effective measures are taken to avoid or otherwise minimise the generation and/or release of acid rock drainage.

Stormwater and Water sediment controls

W41 An Erosion and Sediment Control Plan must be developed by an appropriately qualified person and implemented for all stages of the mining activities on the site to minimise erosion and the release of sediment to receiving waters and contamination of stormwater.

W42 Stormwater, other than mine affected water, is permitted to be released to waters from:

i) erosion and sediment control structures that are installed and operated in accordance with the Erosion and Sediment Control Plan required by condition W41; and

ii) water management infrastructure that is installed and operated, in accordance with a Water Management Plan that complies with conditions W33 to W38 inclusive, for the purpose of ensuring water does not become mine affected water.

W43 The maintenance and cleaning of any vehicles, plant or equipment must not be carried out in areas from which contaminants can be released into any receiving waters.

W44 Any spillage of wastes, contaminants or other materials must be cleaned up as quickly as practicable to minimise the release of wastes, contaminants or materials to any stormwater drainage system or receiving waters.

All Dams

EXPLANATORY NOTES – Dam conditions:

Note: Conditions W45 and W46 to be removed if already conditioned in the authority or in the event that model conditions for regulated dams are finalised and relevant replacement conditions are to be included into the EA.

W45 The hazard category of each dam must be determined by a suitably qualified and experienced person at least once in each two year period.

W46 Dams having a hazard category determined to be significant or high, must be specifically authorised by an environmental authority.

Definitions:

"acid rock drainage" means any contaminated discharge emanating from a mining activity formed through a series of chemical and biological reactions, when geological strata is disturbed and exposed to oxygen and moisture as a result of mining activity.

"administering authority" means the Department of Environment and Resource Management or its successor.

"appropriately qualified person" means a person who has professional qualifications, training, skills or experience relevant to the nominated subject matter and can give authoritative assessment, advice and analysis on performance relative to the subject matter using the relevant protocols, standards, methods or literature.

"dam" means a land-based structure or a void that is designed to contain, divert or control flowable substances, and includes any substances that are thereby contained, diverted or controlled by that land-based structure or void and associated works. However; a dam does *not* mean a fabricated or manufactured tank or container designed to a recognised standard, *nor* does a dam mean a land-based structure where that structure is designed to an Australian Standard. In case there is any doubt, a levee (dyke or bund) is a dam, but (for example) a bund designed for spill containment to AS1940 is *not* a dam.

"environmental authority" means an environmental authority granted in relation to an environmentally relevant activity under the *Environmental Protection Act 1994*.

"environmental authority holder" means the holder of this environmental authority.

"flowable substance" means matter or a mixture of materials which can flow under any conditions potentially affecting that substance. Constituents of a flowable substance can include water, other liquids fluids or solids, or a mixture that includes water and any other liquids fluids or solids either in solution or suspension.

"hazard" in relation to a dam as defined, means the potential for environmental harm resulting from the collapse or failure of the dam to perform its primary purpose of containing, diverting or controlling flowable substances.

"hazard category" means a category, either low significant or high, into which a dam is assessed as a result of the application of tables and other criteria in "Manual for Assessing Hazard Categories and Hydraulic Performance of Dams", prepared by the Department of Environment and Resource Management, as amended from time to time.

"mine affected water" means the following types of water:

i) pit water, tailings dam water, processing plant water;
ii) water contaminated by a mining activity which would have been an environmentally relevant activity under Schedule 2 of the *Environmental Protection Regulation 2008* if it had not formed part of the mining activity;
iii) rainfall runoff which has been in contact with any areas disturbed by mining activities which have not yet been rehabilitated, excluding rainfall runoff discharging through release points associated with erosion and sediment control structures that have been installed in accordance with the standards and requirements of an Erosion and Sediment Control Plan to manage runoff containing sediment only, provided that this water has not been mixed with pit water, tailings dam water, processing plant water or workshop water;
iv) groundwater which has been in contact with any areas disturbed by mining activities which have not yet been rehabilitated;
v) groundwater from the mine's dewatering activities;
vi) a mix of mine affected water (under any of paragraphs i)-v)) and other water.

"natural flow" means the flow of water through waters caused by nature.

"receiving environment" means all groundwater, surface water, land, and sediments that are not disturbed areas authorised by this environmental authority.

"receiving waters" means all groundwater and surface water that are not disturbed areas authorised by this environmental authority.

"representative" means a sample set which covers the variance in monitoring or other data either due to natural changes or operational phases of the mining activities.

"saline drainage" The movement of waters, contaminated with salt(s), as a result of the mining activity.

"waters" includes river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined natural or artificial watercourse, bed and bank of any waters, dams, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, and groundwater and any part thereof.

Annexure F- Statement of Frances Huyter Item 1

Queensland Law Society

Law Society House, 179 Ann Street, Brisbane Qld 4000, Australia
GPO Box 1785, Brisbane Qld 4001
Tel [redacted]
ABN 33 423 389 441
Office of the President

Your Ref:

Quote in reply: Planning and Environment Law Committee

15 November 2010

F

[redacted]
Team Leader, Environment Regulation
Ecosystem Outcomes
Department of Environment and Resource Management

[redacted]

Dear [redacted]

COMMENTS ON THE DRAFT AMENDMENTS TO THE *ENVIRONMENTAL PROTECTION ACT 1994* IN THE *ENVIRONMENTAL PROTECTION AND OTHER LEGISLATION AMENDMENT BILL 2010*

Thank you for the opportunity to provide comments on the draft *Environmental Protection and Other Legislation Amendment Bill 2010* (and associated draft explanatory notes).

We apologise for the delay in providing this response to you but appreciate the short one day extension of time to provide our comments, so as to take into consideration your responses to our preliminary questions received on Friday 12 November.

Offences and orders

The Queensland Law Society's key concerns under this heading relate to the false, misleading and incomplete documents provisions and also the proposed new types of court orders.

Sections 480 and 480A

Essentially, the amendments split the offence of providing incomplete documents from the existing offence of providing false or misleading documents, and then for each of these offences inserts a new element 'or ought reasonably to know'.

As a matter of legal drafting, we would support the splitting of Section 480 into Sections 480 and 480A, as this makes the provisions easier to read.

However, the creation of a power to prosecute people for inaccurate documents which they do not even know are inaccurate is a different matter, particularly with a penalty of 2 years' imprisonment. The draft explanatory notes state:

> *'The new offence and penalty potentially breach the fundamental legislative principle in relation to whether the legislation has sufficient regard to the rights and liberties of individuals, however the offence is necessary to improve the operation of the Environmental Protection Act 1994 and*

the penalty is appropriate for the nature of the offence in comparison to other equivalent offences.'

The Queensland Law Society would agree that the provision breaches the fundamental legislative principle cited, but does not agree that this is justified having regard to a maximum penalty of 2 years' imprisonment for an unintentional paperwork oversight (which is one of the highest available penalties under the Act and is equivalent to penalties under the *Criminal Code* for offences such as threatening violence, forcible entry, discharging firearms with intent to intimidate etc). The amendment would obviously reduce the cost and effort involved for the prosecuting authority in establishing evidence that the defendant was aware of the inaccuracy, but it would be an overstatement to describe this breach of an FLP as 'necessary'.

Leaving aside the question of an offence of providing inaccurate or incomplete information which the submitter did not know to be inaccurate or incomplete, the Society also has a more general concern about the existing offence of providing 'incomplete' information which the submitter does believe to be incomplete (that is, incomplete without falling into the category of 'misleading' which is a separate issue). Nearly every document which DERM requires will necessarily be 'incomplete' due to a combination of:

(a) the complexity and ambiguity of the content required; and
(b) the onerous timeframes for providing the information.

For example, Section 320 of the Act requires a notice within 24 hours and there are even more extreme examples in conditions (such as a 6 hours' notice requirement following lawful water releases under the 'Fitzroy model water conditions').

We would be happy to work with DERM to suggest a more structured approach to these types of offences, for example, a series of offences with different levels of penalties, depending on factors such as wilfulness. If you would like to consult further on these issues, we would suggest a meeting.

Section 502 – new types of court orders

The QLS has no difficulty with 'monetary benefit orders', 'notification orders' or 'rehabilitation orders', but is opposed to the inclusion of 'education orders' and 'public benefit orders' in the amendments.

An 'education order' is defined as '*an order requiring the person against whom it is made to conduct a stated advertising or education campaign to promote compliance with this Act.*'

We appreciate the punitive intent of the inclusion of such an order, however reflection on such a policy would indicate that an environmental offender is surely not a particularly well qualified person to be educating others about appropriate compliance. Conversely, this would appear to be an unfair imposition on the citizens subject to this 'education campaign'.

While we support rehabilitation and restoration orders, which relate to the environment which was adversely affected by the offence, it is not clear why 'public benefit' orders should be available in addition to, or as an alternative to, rehabilitation and restoration orders. These 'public benefit' orders would be for the purpose of restoring or enhancing public places (or other places for the public benefit), which are unrelated to the offence. This type of order seems to be getting too far away from the damage caused by the offence. In other words, if an offence caused damage to a place, it makes sense for that place to

be restored, not some other unconnected place where Government may be intent on carrying out 'enhancements'. If the offence did not cause damage (for example, a record-keeping offence), then the appropriate sentence would presumably be a fine, rather than a 'public benefit order'. Apart from this, it is unclear whether the State has thought through the legal difficulties of ordering people to carry out works on land they do not own, such as the need to obtain consents and approvals which are not under the control of the offender. There may also be pertinent issues associated with workers' compensation and civil liability where injury or damage is caused in the process of carrying out a 'public benefit order'.

Application for registration to carry out Chapter 4 activity (Clause 62 – section 73D)

The QLS supports the policy that persons should not be able to obtain registration certificates for assessable development, until they have obtained the corresponding development permit. However, we would suggest some refinement of the drafting:

- The current drafting does not even allow lodgement of the application for the registration certificate in the meantime. This prevents the two applications from being processed simultaneously and instead requires that the entire processing period for the registration certificate must occur after the processing period for the development permit, significantly slowing down overall project approval timeframes, for no apparent benefit. The section should be redrafted so that the application for registration certificate may still be lodged, but the registration certificate may not be issued until the corresponding development permit has taken effect;
- The drafting currently refers to 'a development permit for the activity'. This is ambiguous because normally there are numerous types of development permit required for any given activity, only one of which is the material change of use for the environmentally relevant activity; and
- Similarly, the drafting referring to 'if a chapter 4 activity is assessable development' is unintentionally misleading. Presumably, the section is just intended to exclude mobile and temporary activities. However, the way the section is drafted, it could accidentally pick up mobile and temporary activities, which are assessable for reasons other than being environmentally relevant activities, for example if they are assessable under a planning scheme or for operational work. Also, it is unclear whether a new registration certificate would be required for material increases or amendments.

Mobile and temporary activities – Work diaries – Section 73PB

QLS has no comments in principle relating to work diaries. However, we have a concern about the broad wording of new subsection (3)(c) 'any other information prescribed under a regulation for this section'. The further information required should either be expressed in the Act or the types of further information which may be required by regulation should be expressed.

Transitional environmental programs (TEPs)

In principle, the QLS supports clarification of the content requirements and assessment of TEPs.

However, we have some concerns about drafting issues and also about the missed opportunity to make further clarifications, including addressing some of the issues raised in relation to TEPs by the Report to the Queensland Premier – Review of the Fitzroy River Water Quality Issues by Professor Barry Hart

dated November 2008 (the Hart report). Professor Hart noted a number of deficiencies in the former EPA's process for determining the Ensham TEP, which are explained on pp11-12. While Professor Hart's suggested solution was a guideline, we are concerned that this would not legally overcome the deficiencies in the TEP contents list or assessment process which he identified. The correct solution would be legislative amendment. Given that the TEP contents list is now proposed to be amended anyway, this would be the obvious opportunity.

One issue which was raised by Professor Hart which is partly addressed by the amendments is the need for data about the impacts of interim measures. Specifically, Professor Hart was concerned to ensure that there was an assessment of which downstream users and which environmental values were likely to be affected by interim measures and to what extent. However, the proposed drafting is inadequate to address this concern. Refer to draft section 331(c) 'state how any environmental harm that may be caused by the activity will be prevented or minimised, including any interim measures that are to be implemented.' Instead, we think what is intended is that the TEP should state:

- What interim standard or series of standards is proposed to be met during the period of the TEP;
- What environmental values are likely to be impacted by those interim standards, including impacts on persons or property beyond the boundaries of the premises; and
- What interim measures are proposed to be taken to meet the interim standards.

The question of 'any environmental harm that may be caused by the activity' is not sufficiently specific as a content requirement. For example, if the 'activity' is dredging, the environmental harm caused by the activity would literally be all of the impacts from the activity of dredging, rather than focussing on interim impacts from the particular standard that is being overridden. Also, the term 'interim measures' does not go far enough to cover the cover the concerns raised by Professor Hart about the impacts of reduced standards on downstream users.

Another concern raised by Professor Hart was that the former EPA's assessment of the Ensham TEP was inadequate and lacking in transparency. Again, the process concern could be addressed in part by statutory amendment:

- Assessment criteria should be stated, specifically with regard to the content requirements of TEPs, rather than just the standard criteria under the Act;
- The power to impose 'any other conditions the administering authority considers appropriate' has always been too broad and ambiguous. These should be reasonable or relevant requirements, similar to the *Sustainable Planning Act*; and
- The power to state any period at all for the TEP under s339(3) is too broad, and could potentially create absurdities in the TEP if the period is different from that proposed.

With respect to proposed section 341, we support a provision consolidating the contents of an approved TEP. For the purpose of commercial due diligence, it would be helpful if this includes removing the word 'draft' from approved TEPs. It is very difficult to explain to international or interstate financiers that in Queensland the word 'draft' appears on approved TEPs.

Entry of land – clause 82

The words 'from the land' should be inserted at the end of subsection (1).

Errors in explanatory notes

As mentioned in our previous series of e.mails, there is an error on p10 of the explanatory notes, which refers to clause 76 – Amendment of s332. The draft Bill does not amend Section 322, so this section needs to be removed from the explanatory notes.

We have subsequently noticed that the explanatory notes also do not match the draft Bill with regard to the list of definitions amended for schedule 4. In particular, there is an explanation in the draft explanatory notes about a proposed amendment to the term 'anniversary day' and this does not appear in the Bill. The changes suggested by the explanatory notes actually appeared to be quite useful, using as a baseline the date when environmental authorities took effect, rather than when they were issued. Could you please let us know if something along these lines is still intended?

Thank you once again for providing the QLS the opportunity to provide comments with respect to these parts of the draft Bill.

Yours faithfully

[redacted]

[redacted]
President

Environmental Protection Act 1994

F Item 2

Assessing draft Transitional Environmental Programs

The following administrative practice is to be followed when assessing draft Transitional Environmental Programs under the Environmental Protection Act 1994. *In the Report of November 2008 by Professor Barry Hart to the Queensland Premier a recommendation was made that the procedures used to develop TEPs be reviewed. This administrative practice note is the outcome of that review.*

Background

A Transitional Environmental Program (TEP) is an environmental compliance program, drafted by the holder of a development approval for an environmentally relevant activity or an environmental authority, for which approval is applied for to the administering authority.

The administering authority may require the preparation of a TEP or a person or public authority may voluntarily submit a TEP.

In circumstances where a person has given the administering authority a Program Notice about an act or omission that has caused or threatened environmental harm in the carrying out of an activity by the person and the activity is lawful apart from the provisions of the *Environmental Protection Act 1994*, the administering authority is required to give the person a notice nominating a day by which a draft TEP must be submitted.

The information given in a Program Notice is privileged and can not be used in evidence by the administering authority.

A TEP is similar to a contract, in which the contents of the program are legally binding on its approval.

A person will make an application for approval of a TEP for some or all of the following reasons:

- An approved TEP can result in a person being provided immunity from charges specifically related to an incident which is the subject of a Program Notice;
- An approved TEP can result in a person being given a period of time in which to carry out certain specified activities that will enable them to comply with the conditions of an environmental authority or achieve an environmental standard. The person can not be prosecuted for non-compliance while the matters are being addressed in accordance with the requirements of the TEP.

A TEP especially when combined with a Program Notice is an extremely powerful tool so its approval should always be approached with care and due diligence as to the consequences of the shield that it may provide with respect to activities that may cause or potentially cause environmental harm.

Duties of the administering authority

Requiring a draft TEP to be prepared

The administering authority can require a TEP be drafted by a person if it is satisfied that the following events have occurred:

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Assessing draft Transitional Environmental Programs

- The activity currently being carried out, or proposed to be carried out, is or may cause unlawful environmental harm;
- It is impractical for a person to comply with any policy or regulation on its commencement;
- That a condition of an environmental authority is or has been contravened;
- That a standard environmental condition of a Code of Environmental Compliance for a Chapter 4 activity is or has been contravened; or
- A development condition of a development approval is or has been contravened.

The administering authority may make this requirement as a condition of an environmental authority or development approval or by issuing a statutory notice.

Where a statutory notice is issued it must state:

- The grounds on which the requirement to prepare a draft TEP is made;
- The matters that are to be addressed by the TEP. These must be stated with sufficient particularity for the person to whom the notice is issued to understand and supply a draft document that meets these requirements;
- The period over which the TEP is to be carried out;
- The day by which the draft TEP must be prepared and submitted; and
- The review and appeal details that apply to the decision to require the submission of a draft TEP.

If the statutory notice clearly sets out the matters to be addressed (particularly in terms of setting up what will ultimately be the objectives or outcomes to be achieved through the TEP), then the negotiation of an approved TEP is more likely to result in the objectives or outcomes sought.

In drafting the statutory notice the administering authority should have regard to the matters that it is required to give consideration to in deciding to approve or refuse a draft TEP. These matters are set out in the *Environmental Protection Act 1994*, and the *Environmental Protection Regulation 2008*. Inclusion of details about relevant information that should be submitted as part of the draft TEP in the statutory notice will assist in the assessment of a draft TEP and avoid requests for additional information.

Assessing a draft TEP

General

The decision whether to approve or refuse a draft TEP is an "environmental management decision". In assessing a TEP the administering authority must comply with the regulatory requirements for making an environmental management decision, consider the standard criteria, any additional information that has been given in relation to the draft TEP, and the views that have been expressed at any conference called by the administering authority to help it decide whether to approve or refuse a draft TEP.

If the administering authority considers that the submitted draft TEP will not achieve the objectives or outcomes specified in the statutory notice then it is critically important that all changes required by the administering authority to ensure that the TEP achieves the required objectives or outcomes are incorporated into the TEP before it is approved.

The assessment of a draft TEP must result in the preparation of an assessment report that is sufficiently detailed to demonstrate that all mandatory aspects have been considered. The assessment report must be

provided to the delegate of the administering authority to assist with decision making and must be kept on the permanent file record to document the decision making process.

Where the assessment requires specific environmental and / or environmental knowledge or skills, and these are not available within the office with the responsibility for assessing the application, these shall be sought to assist with the assessment and the advice or information documented as part of the assessment report.

Risk Assessment

Undertaking a review of all the matters that must be statutorily considered will provide an informal risk assessment.

Notwithstanding the matters for consideration set out in the statute, should the nature of a proposed TEP be significantly complex and / or the nature of the receiving environment (including the potential impacts on people) be significantly sensitive, consideration must be given to undertaking a formal risk assessment in accordance with the Australian Standard AS/NZS ISO 31000:2009 Risk management –Principles and guidelines.

When deciding whether to undertake a formal risk assessment to assist with consideration of whether to approve or refuse a draft TEP the administering authority will consider the importance, including, but not limited to, aspects such as:

- The nature and quantity of any contaminants proposed to be released;
- The nature (e.g. pristine or otherwise) of the receiving environment;
- The number of people potentially affected by any release and the manner in which they may be affected.

Context of draft TEP

When assessing the draft TEP against the regulatory requirements set out in the *Environmental Protection Regulation 2008*, the requirements must be considered in the context of the proposal e.g. if the proposal is for a release to surface waters, assessment against subsections (1) (d) and (e) must be considered along with the additional requirements for the release of water, other than stormwater, to surface water, in the context of the nature of the waterway and the impact of the release on users of the waterway such as irrigators, local governments and others who draw water supplies from the waterway.

Community Interest

Where there is, or there is expected to be, significant public interest in the draft TEP and any decision to approve it, the administering authority will consider seeking comment from the public (or other interested parties) prior to making a decision. This will, if necessary, be done under the relevant provisions of the *Environmental Protection Act 1994*. Where this action is proposed by the administering authority, comments will be sought at least through a public notice in local newspapers.

Such information may also be sought by the administering authority directly contacting interested persons or organisations which may be able to contribute to the assessment process (e.g. local governments, other government departments).

Information obtained by such means must be considered by the administering authority when making a decision to approve or refuse a draft TEP.

Where there is likely to be ongoing community interest in the progress of the implementation of a TEP during its life, the administering authority will consider requiring the applicant to include community consultation as part of the TEP.

Assessing draft Transitional Environmental Programs

Approval of a TEP

A draft TEP may be approved, approved with conditions, or refused.

A draft TEP must only be approved if the administering authority is satisfied that it covers all of the matters and includes a program of specific actions that will allow it when complete to achieve the objectives or outcomes specified in the TEP.

A certificate of approval for a TEP may contain conditions, those conditions are not enforceable, therefore it is critically important that the draft TEP contains all of the matters that the administering authority considers are required to achieve the objective or outcomes of the TEP. The administering authority must negotiate variations to the draft TEP and not rely on the certificate of approval to vary or modify a draft TEP.

Delegation for decision making

The responsibility for decision making with respect to approving or refusing a draft TEP must be in accordance with the current Environmental Protection Delegation. Where it is appropriate, due to the technical complexity of the assessment and / or the potential impacts of the decision, the decision may be made by a delegate with greater seniority in the organisation.

Refusal of a TEP

If the administering authority is not satisfied with a draft TEP, and is unable to negotiate a satisfactory TEP, it may refuse an application for approval.

If a decision on whether to approve or refuse a draft TEP is not given within the statutory time, the decision is deemed to have been a refusal.

If the administering authority refuses a draft TEP it must provide an information notice about the decision.

Fees for assessment of a TEP

The *Environmental Protection Act 1994* provides for the administering authority to charge a person or public authority, the fee prescribed by regulation, for submitting a draft TEP for approval. For further information on the charging of fees for the assessment of a TEP refer to Operational Policy titled, *Transitional Environmental Program (TEP) fees.*

Amending a TEP

The administrative authority must give the same consideration to an application to amend an approved TEP as it would an original application for approval of a draft TEP.

If the amendment of an approved TEP would extend the period in which the TEP is carried out to longer than 5 years then the applicant must give public notice of the application to amend the approved TEP. In assessing the amendment application, the administering authority will look for evidence that these requirements have been complied with.

The administering authority may only approve an amendment application if it is reasonably satisfied that it will not result in increased environmental harm being caused by the carrying out of the activity under the amended approval than the environmental harm that would be caused were the approval not granted.

Annual Return

The holder of an approved TEP must, within 22 days of the anniversary day of the approval of the TEP, give to the administering authority an annual return in the approved form.

Assessing draft Transitional Environmental Programs

The administering authority should discuss the requirements for the content of the annual return at the time that the TEP is applied for and include in the draft TEP the form and content of the information that is to be provided in the annual return.

Notice of disposal of the benefit of a TEP

If the holder of an approved TEP proposes to dispose of the place or business to which the TEP relates to another person they must give written notice to the buyer of the place or business of the existence of the TEP. The importance of any failure of the holder of a TEP to give such notice is that it is a statutory grounds for rescinding any agreement.

The holder of an approved TEP must give the administering authority written notice within 10 days of the disposal of a place or business that is subject to an approved TEP.

Enforcing a TEP

If the holder of an approved TEP does not comply with the requirements of the TEP, as distinct from the requirements of a certificate of approval, the administering authority may prosecute the holder for a breach of the TEP.

Where the TEP contains defined milestones that are clear and quantifiable, the administering authority may also prosecute the holder of an approved TEP for breach of those milestones. Given the time and effort required to compile a brief of evidence, it is, in the face of an investigation and action for breach, possible for the holder of an approved TEP to bring themselves into compliance, and thereby frustrate or mitigate the action for breach of the TEP.

Where the holder of an approval is recalcitrant in performing the obligations imposed through the approved TEP, action for breach of milestones should be considered, especially where the approved TEP has a period of more than a year.

All non-compliances with an approved TEP must be responded to in a timely and appropriate manner keeping in mind that the approval of a TEP is already a mechanism for dealing with an inability for the holder to comply with environmental requirements.

Approved by:

X
X
Department of Environment and Resource Management

Date: xx/mm/2010

Enquiries:

Permit and Licence Management
Ph: **1300 368 326**
Fax: (07) 3115 9600
Email:
eco.access@derm.qld.gov.au

F item 3

Attachment – Comments and suggestions on the draft *Administrative Practice Note for Assessing draft Transitional Environmentol Programs*

Draft text:

> *'A Transitional Environmental Program (TEP) is an environmental compliance program, drafted by the holder of a development approval for an environmentally relevant activity or an environmental authority, for which approval is applied for to the administering authority.'*

It is suggested that this opening paragraph should be rephrased to avoid inadvertently leading people to believe that TEPs are restricted to persons holding existing approvals, or that the subject matter is restricted by reference to approvals. TEPs are not restricted to holders of development approvals or environmentally relevant activities and they are commonly sought to address 'relevant events', rather than necessarily relating to conditions. A TEP may be drafted by any person, including a consultant or agent. A TEP is not an 'environmental compliance program', within the normal meaning of that term, because, during the term of a TEP, it is normal for interim standards to be different from compliance with either nominated EA conditions or other standards. The meaning of the term TEP is set out in Section 330 of the *Environmental Protection Act*. To avoid confusion, it may be simplest to stay with the statutory meaning.

Draft text:

> *'In circumstances where a person has given the administering authority a Program Notice about an act or omission that has caused or threatened environmental harm in the carrying out of an activity by the person and the activity is lawful apart from the provisions of the Environmental Protection Act 1994, the administering authority is required to give the person a notice nominating a day by which a draft TEP must be submitted.'*

Some points that should be made here:

(a) There is an exception if the administering authority has obtained a court order setting aside the program notice;
(b) It may be helpful to mention here that the notice should be given within 10 business days and that the TEP should be provided in a maximum of 3 months;
(c) It may be worth highlighting here that, with the exception of TEPs required to address an imminent emergency, in most cases, it is desirable to allow the TEP to be prepared within a period as close to 3 months as practicable, so that it is properly prepared and funded, bearing in mind the scarcity of consulting resources in particular specialist areas. It is not in the interests of the environment to force TEPs to be rushed, so that the actions proposed do not turn out to be the best measures to achieve the proposed outcome.

Draft text

> *'The information given in a Program Notice is privileged and can not be used in evidence by the administering authority.'*

This statement could be inadvertently misleading, unless it is qualified with further information. The program notice, together with any documents submitted with it, are not admissible in evidence against the person who gave the notice, in a prosecution for the original offence (by anyone, not just the administering authority), unless a Court order is obtained to set aside the program notice.

Draft text:

> *'A TEP is similar to a contract, in which the contents of the program are legally binding on its approval.'*

A TEP is a statutory document, rather than a private contract. There is a possible risk that describing a TEP as being like a private contract may inadvertently give the perception that DERM understands the assessment and pre-lodgement discussions to be similar to a contractual negotiation, which would seem to be precisely the type of approach that the Hart report was trying to discourage. There is no problem with saying that the program is binding, but it would be prudent to remove the reference to 'similar to a contract'.

Draft text:

> *'A TEP especially when combined with a Program Notice is an extremely powerful tool so its approval should always be approached with care and due diligence as to the consequences of the shield that it may provide with respect to activities that may cause or potentially cause environmental harm.'*

QRC would not disagree that every decision made under the *Environmental Protection Act* should be approached with care and due diligence. However, each decision should be made on its merits. This paragraph, together with the previous paragraph, impliedly appears to discourage approval of TEPs because of a concern that this may prevent DERM from notching up prosecutions, that is, because TEPs provide 'a shield' and are 'an extremely powerful tool'. More often than not, it is in the interests of environmental protection to provide for a series of capital works over a timetable to achieve improved standards, rather than just to prosecute against changing standards. In fact, DERM officers often expressly encourage TEPs, for example, when conditions have been changed and it would be impossible to implement the changes overnight. We would like to see the emphasis more positively on achieving the best approach to environmental protection, rather than on 'the consequences of the shield'.

Draft text:

> *'The administering authority can require a TEP be drafted by a person if it is satisfied that the following events have occurred...'*

It is noted that these triggers for a compulsory TEP are <u>in addition to</u> the trigger for a compulsory TEP in Section 352, that is, upon receipt of a program notice. It is suggested that the practice note should make this clear.

Draft text:

> *'If the statutory notice clearly sets out the matters to be addressed (particularly in terms of setting up what will ultimately be the objectives or outcomes to be achieved through the TEP), then the negotiation of an approved TEP is more likely to result in the objectives or outcomes sought.'*

QRC supports this point. It is noted that a notice requiring a TEP under Section 352 is currently not required to include these details and commonly no guidance is given. It would be desirable if guidance for a TEP under Section 352 is provided in the same way as under Section 332(4).

In this section, could we also suggest that, if a TEP applicant requests an opportunity to discuss the form and contents of the TEP, either at the pre-lodgement stage or in a covering letter with the draft TEP, the administrative practice note should encourage officers to agree to these requests. Experience has shown that some district offices have been regularly rejecting these requests.

Draft text:

> *'If the administering authority considers that the submitted draft TEP will not achieve the objectives or outcomes specified in the statutory notice then it is critically important that all*

changes required by the administering authority to ensure that the TEP achieves the required objectives or outcomes are incorporated into the TEP before it is approved.'

QRC supports this comment. It is suggested that this would be an appropriate place in the administrative practice note to mention that there is an opportunity for DERM to work with the applicant to make amendments to the draft TEP before it is approved, under Section 339. Also there is an opportunity to impose conditions. If there are aspects of a TEP which an officer is not satisfied with, these opportunities should be considered and perhaps a conference called. This may lead to better environmental outcomes than outright rejection based on dissatisfaction with minor aspects of the TEP, such as formatting issues.

Draft text:

'Undertaking a review of all the matters that must be statutorily considered will provide an informal risk assessment.'

It is suggested that this line should be rephrased, to avoid a perception of inadequate risk assessment due to 'informality'. A statutory assessment is not literally informal anyway. Perhaps what is intended here is something along the lines of: *'The extent of risk assessment required will depend on factors such as the sensitivity of the receiving environment and the extent of departure from normal standards.'*

Draft text:

'Information obtained by such means must be considered by the administering authority when making a decision to approve or refuse a draft TEP.'

Care should be taken to avoid the risk of appearing to impose an unlawful fetter on statutory discretion. It may be appropriate in some circumstances for DERM to obtain information from third parties, but DERM should exercise its own discretion about what weight to give to that information, or whether it is incorrect.

Draft text:

'A draft TEP may be approved, approved with conditions, or refused.'

A draft TEP may also be amended with the agreement of the applicant, prior to approval. This option appears to have been frequently disregarded in recent decisions, so perhaps needs emphasising.

Draft text:

'A certificate of approval for a TEP may contain conditions, those conditions are not enforceable, therefore it is critically important that the draft TEP contains all of the matters that the administering authority considers are required to achieve the objective or outcomes of the TEP. The administering authority must negotiate variations to the draft TEP and not rely on the certificate of approval to vary or modify a draft TEP.'

Surely, this is an error in the offence provisions, which there is an opportunity to correct right now with EPOLA?

Draft text:

'The administrative authority must give the same consideration to an application to amend an approved TEP as it would an original application for approval of a draft TEP...

The administering outhority may only approve an amendment applicatian if it is reasonably satisfied that it will not result in increased environmentol harm being caused by the corrying out of the activity under the amended approvol than the environmental harm that would be caused were the approval not granted.'

It is suggested that the consideration of an amended TEP is different from the original TEP for the very reason that an amendment can only be approved if it would not result in increased environmental harm. Therefore, to be strictly correct, the first sentence should continue, 'except that...'

It would be helpful if the administrative practice note gives some common examples of approaches to amendments. For example, what is the DERM position on an application for amendment of a TEP to extend a timeframe for an action under the TEP?

Draft text:

'Given the time and effort required to compile a brief of evidence, it is, in the face of an investigation and action for breach, possible for the holder of an approved TEP to bring themselves into compliance, and thereby frustrate or mitigate the action for breach of the TEP.'

This seems an odd comment. Surely, the objective ought to be for people to bring themselves into compliance, in the interests of environmental protection. This should not be a cause of complaint.

F item 4

From: [redacted]
Sent: Tuesday, 6 September 2011 7:35 PM
To: Frances Hayter
Cc: Womersley Jon; [redacted] Brier Andrew; [redacted]
Subject: TEP Guideline

G'day Frances,

Just a quick email to let you know that the attached TEP Guideline has now been loaded on the web at:
http://www.derm.qld.gov.au/environmental_management/planning_and_guidelines/environmentally_relevant_activities/documents/gl-bi-transitional-environmental-program-em287.pdf

This Guideline was developed as an outcome of the Hart Report on the Fitzroy River discharges, following consultation with the Fitzroy River Water Quality Advisory Committee.

Thanks,

[redacted]

[redacted]
A/General Manager, Operations
Environment and Natural Resource Regulation, DERM
3330 5627
0402 329 144

F Item 5

From: Wall Terry [redacted]
Sent: Monday, 6 December 2010 4:37 PM
To: [redacted]
Subject: Water management

I understand that many of your sites in Central West Queensland may have been in contact with Department of Environment and Resource Management (DERM) regional staff, or DERM staff may have made contact with sites, in relation to the situation of your mines with respect to water management as a result of the recent heavy rains.

I am advised that many mines are operating within their existing Environmental Authority or under previously approved Transitional Environmental Programs. A number of mines have already approached DERM with a view to managing the mine associated water through a Transitional Environmental Program.

While DERM expects mines to operate within the terms of their Environmental Authorities, where Authority conditions are not able to be met, and where impact on the receiving environment can be demonstrated as being acceptable, DERM will assess any applications for TEPs as quickly as possible to allow sites to take advantage of the current large flows in receiving waters. To ensure speedy processing, companies are requested to ensure that the information provided to DERM is comprehensive for the purpose of assessing the adequacy of the transitional arrangements sought.

Individual sites should make contact with their DERM Project Manager in the first instance if they have any queries in relation to their current situation. Alternatively Mr Ed Donohue, Regional Manager, Environmental Services Mining, on [redacted] should be contacted.

Terry Wall

Associate Director-General

Operations and Environmental Regulator

DRAFT TRANSITIONAL ENVIRONMENTAL PROGRAM UNDER SECTION 333 OF THE *ENVIRONMENTAL PROTECTION ACT 1994*

Principal Holder: XXXXXXXX
XXXXXXXX
XXXXXXXX

EA Number: XXXXXXXX

Title: XXXXXXXXXXXXXX

Date: XXXXXXXX

Finish Date: *NOTE: The 'End Date' should be approximately 2 months after the lodgement date of the completion report.*

BACKGROUND

Explains why a TEP is required, as a result of an incident, breach, emergency. i.e. what went wrong – keep the submission and the discharge plan to a scale, based on the company's immediate and urgent priorities, that will allow timely consideration.

NOTE: Include relevant reporting requirements, monitoring locations and discharge limits from EA conditions, rainfall data, pits and water management structures affected, quantity of water proposed to be discharged, pumping/discharge rates and locations, creeks/rivers to be discharged to, whether creeks/rivers are still flowing naturally, water quality monitoring locations and downstream limits in creeks/rivers during discharge, results of previous sampling, ongoing reporting requirements to the administering authority, downstream water uses and affected properties. Also include contingency plans for possibility of having to cease discharge due to poor water quality or significant flow path erosion etc. Include whether there are other permits involved and status of the applications.

SUPPORTING INFORMATION

The *Environmental Protection Regulation 2008* commenced on 1 January 2009. The regulation consolidated considerations that must be made when meking a range of decisions including TEPs into Chapter 4 of the regulation. This has resulted in making the range of matters to be considered clearer to decision makers. These include, but are not limited to:

s51(1) (a) requires the consideration of the management hierarchy, environmental values, quality objectives and management intent specified in an EPP. The *Environmental Protection (Water) Policy 2009* lists a range of values that includes the biological integrity, the agricultural value, the drinking water value, the recreation value and the value for industrial purposes. If these values are correctly identified, the 'beneficial uses' of the waterway will be identified.

s51(1) (d) requires consideration of the impact of the release of contaminants on the environment including the cumulative impact

s51(1) (f) the order of occupancy between the person carrying out the activity and the affected person

s51(1) (g) the remaining capacity of the receiving environment to accept contaminants while protecting the environmental values.

s52(1) (a) requires consideration of imposing a condition requiring the implementation of a system for managing risks to the environment

S52(1) (g) requires consideration of imposing a condition on the way in which contaminants are released for example a condition restricting the release of a contaminant at a particular temperature, velocity or rate or during particular meteorological conditions or water flows.

s53(1) requires consideration of whether to impose monitoring conditions about the release

s56 (2) requires consideration of any available toxicity data relevant to the release and the receiving environment.

Note: Section 330 of the EP Act defines a TEP as:

A transitional environmentel program is a specific program that, when approved, achieves compliance with this Act for the matters deelt with by the program by:
(a) reducing environmentel harm; or
(b) detailing the transition to an environmental standard.

OBJECTIVES
NOTE: As required under section 331 the transitional environmental program must state the objectives to be achieved and meinteined under the program.

The objectives of the TEP must relete to the time fremes for mines returning to operation in accordance with / compliance with the EA conditions, end must also include the prevention or re-occurrence in the short, medium and long term of the situetion that gave rise to the epproval of en TEP

HOW OBJECTIVES ARE TO BE ACHIEVED
NOTE: As required under section 331 the TEP must state how the objectives ere to be echieved, and provide e timetable to achieve the objectives, teking into account the applicetion of best practice environmental manegement end the risks of environmental harm being ceused by the activity. The timeteble must state appropriete performence indicetors that can be measured at various intervels.

As an approved TEP cen protect the holder from enforcement action for non-compliances with the Act, the commitments or terms of the TEP made by the client need to be clearly drafted, unambiguous end easily auditable. Please note that e failure to comply with the terms of a TEP is en offence so the terms outlined within the document act in a similar way to conditions contained within an EA.

Table 1 – achieving TEP objectives

OBJECTIVE	ACTION	RESPONSIBILITY	TIME FRAME	PERFORMANCE INDICATOR
XXXXX		Nominate officer/person responsible for fulfilling objective.		
XXXXX				
XXXXX				
XXXXX				

If the table above is not sufficient in size please use in the landscape format.
If the table is insufficient due to the quentity of deteil required utilise subheadings e.g. objective, action, responsibility, timefreme end performance indicator with detailed information included below each heeding. This information can then be modified in the reporting for successes, issues, incidents and failures.

MONITORING
NOTE: As required under section 331 –
Also include specific upstream and downstream monitoring locations and detailed supporting aeriel photographs and meps defining discharge points and monitoring locetions.

The following tables ere provided es an example on providing the required data and how to apply varying limits to different monitoring points. If you are proposing to meet a specific water quelity downstream (i.e. as a compliance point, approximately 500m is acceptable – receiving water monitoring locetions should not be utilised), compliance will need to be monitored at both the 'end of pipe' location and the 'compliance point'. Justification of the discharge actions proposed need to be provided in the documentation, considering Chapter 4 of the Environmental Protection Regulation 2008.

Table 2 - Contaminant release points, sources and receiving waters

Release point (TEP RP)	Easting (GDA94)	Northing (GDA94)	Contaminant source and location	Monitoring point	Receiving waters
TEP RP 1	xxxx	xxxx	xxxx	TEP MP 1	xxxx
TEP RP 2	xxxx	xxxx	xxxx	TEP MP 2	xxxx
				TEP MP 3	

Table 3 - Contaminant release monitoring points

Monitoring point (TEP MP)	Easting (GDA94)	Northing (GDA94)	Contaminant source and location	Monitoring point location	Receiving waters
TEP MP 1	xxxx	xxxx	xxxx	xxx dam spillway	xxxx
TEP MP 2	xxxx	xxxx	xxxx	xxx dam spillway	xxxx
TEP MP 3	xxxx	xxxx	xxxx	500m downstream of junction of xxx dam spillway on the xxx receiving waters	xxxx

Table 4 - Contaminant release limits

Quality characteristic	Release Limit	Monitoring Frequency	Sample Type	Monitoring Point
Electrical conductivity (uS/cm)	xxxx (e.g. 1500)	Daily during release (the first sample must be taken within 2 hours of commencement of release)	*In situ*[1]	TEP MP 1
				TEP MP 3
			Samples require laboratory analysis[2]	TEP MP 1
				TEP MP 3
	xxxx (e.g. 3000)	Daily during release (the first sample must be taken within 2 hours of commencement of release)	*In situ*[1]	TEP MP 2
			Samples require laboratory analysis[2]	TEP MP 2
pH (pH Unit)	6.5 (minimum) 9.0 (maximum)	Daily during release (the first sample must be taken within 2	*In situ*[1]	TEP MP 1
				TEP MP 2

		hours of commencement of release)		TEP MP 3
			Samples require laboratory analysis[2]	TEP MP 1
				TEP MP 2
				TEP MP 3
Turbidity (NTU)	xxxxx	Daily during release (the first sample must be taken within 2 hours of commencement of release)	*In situ*[1]	TEP MP 1
				TEP MP 2
				TEP MP 3
			Samples require laboratory analysis[2]	TEP MP 1
				TEP MP 2
				TEP MP 3
Sulphate (SO_4^{2-}) (mg/L)	xxxxx	Daily during release (the first sample must be taken within 2 hours of commencement of release)	*In situ*[1]	TEP MP 1
				TEP MP 2
				TEP MP 3
			Samples require laboratory analysis[2]	TEP MP 1
				TEP MP 2
				TEP MP 3

[1] In situ samples can be taken using electronic sampling equipment.
[2] Samples are required to be analysed at a NATA accredited facility in accordance with this Transitional Environmental Program.

Table 5 - Release contaminant trigger investigation levels

Quality characteristic	Trigger levels (µg/L)	Monitoring frequency	Monitoring Point
Aluminium	55	Commencement of release and thereafter weekly during release	TEP MP 1 TEP MP 2
Arsenic	13		
Cadmium	0.2		
Chromium	1.0		
Copper	2.0		

Iron	300		
Lead	10		
Mercury	0.2		
Nickel	11		
Zinc	8.0		
Boron	370		
Cobalt	90		
Manganese	1900		
Molybdenum	34		
Selenium	10		
Silver	1.0		
Uranium	1.0		
Vanadium	10		
Ammonia	900		
Nitrate	1100		
Petroleum hydrocarbons (C6-C9)	20		
Petroleum hydrocarbons (C10-C36)	100		
Fluoride (total)	2000		

Table 6 - Contaminant release during flow events

Receiving waters	Release point (TEP RP)	Gauging station description	Easting (GDA94)	Northing (GDA94)	Minimum flow in receiving water required for a release event	Flow recording frequency
XXXX Creek	TEP RP1	WX	XXXXX	XXXXX	= > XXm^3/sec	Continuous (minimum daily)
XXXX Creek	TEP RP2	WX	XXXXX	XXXXX	= > XXm^3/sec	Continuous (minimum daily)

Table 7 - Receiving water downstream monitoring points

Monitoring points (TEP MP)	Receiving waters location description	Easting (GDA94)	Northing (GDA94)
TEP MP X	CX – XXXX Creek XXX metres downstream of RP X	XXXX	XXXX
TEP MP X	CX - XXXX Gully XXXX metres downstream of RP X	XXXX	XXXX

REPORTING

NOTE: The department will require daily reporting of insitu water quality parameters.

Progress reports will be required to be submitted to the department (i.e. monthly) describing activities and issues from previous month and proposed activities for next month and a final report defining how the objectives of the TEP have been achieved.

A final report is required to be submitted to the report upon completion of all actions, and at least 2 months prior to the end date of the TEP.

CONDITIONS

In carrying out this Transitional Environmental Program, 'Client Name (i.e. principal EA holder)' will undertake all activities in accordance with the following conditions.

Undertaking the release of mine affected water

1 Contaminants that will, or have the potential to cause environmental harm must not be released directly or indirectly to any waters except as permitted under this Transitional Environmental Approval.

2 The release of contaminants to waters must only occur from the release points specified in Table 2 and depicted in Figure 1 attached to this Transitional Environmental Program.

3 The release of contaminants to waters must not exceed the release limits stated in Table 4 at the monitoring points specified in Table 2 and Table 3 of this Transitional Environmental Program.

4 The release of contaminants to waters from the release points must be monitored at the locations specified in Table 2 and Table 3 for each quality characteristic and at the frequency specified in Table 4 and Table 5 of this Transitional Environmental Program.

5 If quality characteristics of the release exceed any of the trigger levels specified in Table 5 during a release event, the Transitional Environmental Program holder must compare the downstream results in the receiving waters identified in Table 7 to the trigger values specified in Table 5 and:

   a) where the trigger values are not exceeded then no action is to be taken

   b) where the downstream results exceed the trigger values specified Table 5 for any quality characteristic, compare the results of the downstream site to the data from background monitoring sites and

      i) if the result is less than the background monitoring site data, then no action is to be taken or

      ii) if the result is greater than the background monitoring site data, complete an investigation in accordance with the ANZECC & ARMCANZ 2000 methodology, into the potential for environmental harm and provide a written report to the administering authority in the next annual return, outlining

1) details of the investigations carried out

2) actions taken to prevent environmental harm.

6 If an exceedance in accordance with condition 5(a)(ii)(2) is identified, the holder of the Transitional Environmental Program must notify the administering authority within 24 hours of receiving the result. The notification must include written verification of the exceedance forwarded to the administering authority either via facsimile (INSERT LOCAL OFFICE NUMBER) or email to Manager.MiningCWR@derm.qld.gov.au.

Contaminant Release Events

7 The Transitional Environmental Program holder must install, operate and maintain a stream flow gauging station to determine and record stream flows at the locations upstream of each release point specified in Table 2 for any receiving waters into which a release occurs.

8 Notwithstanding any other condition of this Transitional Environmental Program, the release of contaminants to waters must only take place during periods of natural flow events specified as minimum flow in Table 6 for the contaminant release point(s) specified in Table 2.

9 Contaminant release flow rate must not exceed XXX% of receiving water flow rate.

10 The daily quantity of contaminants released from each release point must be measured and recorded at the monitoring points in Table 2.

11 Releases to waters must be undertaken so as not to cause erosion of the bed and banks of the receiving waters, or cause a material build up of sediment in such waters.

Notification of Release Events

12 The Transitional Environmental Program holder must notify the administering authority within XXX hours of having commenced releasing mine affected water to the receiving environment. Notification must include the submission of written verification to the administering authority (either via facsimile (INSERT LOCAL OFFICE NUMBER) or email to Manager.MiningCWR@derm.qld.gov.au) of the following information:

a) release commencement date/time

b) expected release cessation date/time

c) release point/s

d) release volume (estimated)

e) receiving water/s including the natural flow rate

f) any details (including available data) regarding likely impacts on the receiving water(s).

13 The Transitional Environmental Program holder must provide the administering authority daily during the release of mine affected water, in writing (either via facsimile (INSERT LOCAL OFFICE NUMBER) or email to Manager.MiningCWR@derm.qld.gov.au) of the following information:

a) all in situ monitoring data for that day

b) the receiving water flow rate

c) the release flow rate.

14 The Transitional Environmental Program holder must notify the administering authority as soon as practicable, (no later than within 24 hours after cessation of a release) of the cessation of a release notified under condition 12 and within 28 days provide the following information in writing:

a) release cessation date/time

b) natural flow volume in receiving water

c) volume of water released

d) details regarding the compliance of the release with the conditions of this Transitional Environmental Program (i.e. contamination limits, natural flow, discharge volume)

e) all in-situ water quality monitoring results

f) any other matters pertinent to the water release event.

Notification of release event exceedence

15 If the release limits defined in Table 3 are exceeded, the holder of the Transitional Environmental Program must notify the administering authority within 24 hours of receiving the results.

16 The Transitional Environmental Program holder must, within 28 days of a release that exceeds the conditions of this Transitional Environmental Program, provide a report to the administering authority detailing:

a) the reason for the release

b) the location of the release

c) all water quality monitoring results

d) any general observations

e) all calculations

f) any other matters pertinent to the water release event.

Requirements to cease the release of mine affected water

17. The mine water discharge must cease immediately if any water quality limit as specified in Table 2 is exceeded.

18. The release of mine affected waters must cease immediately if identified that the release of mine affected waters is causing erosion of the bed and banks of the receiving waters, or is causing a material build up of sediment in such waters.

19. The release of mine affected waters must cease immediately if the holder of this Transitional Environmental Program is directed to do so by the administering authority.

Monitoring Requirements

20. Where monitoring is a requirement of this Transitional Environmental Program, ensure that a competent person(s) conducts all monitoring.

21. All monitoring undertaken as a requirement of this Transitional Environmental Program must be undertaken in accordance with the administering authority's Water Sampling Manual.

Notification of emergencies, incidents and exceptions

22. As soon as practicable after becoming aware of any emergency or incident which results in the release of contaminants not in accordance, or reasonably expected to be not in accordance with the conditions of this Transitional Environmental Program, the administering authority must be notified of the release by telephone, facsimile or email.

23. The notification of emergencies or incidents must include but not be limited to the following:
    a) the holder of the Transitional Environmental Program
    b) the location of the emergency or incident
    c) the number of the Transitional Environmental Program
    d) the name and telephone number of the designated contact person
    e) the time of the release
    f) the time the holder of the Transitional Environmental Program became aware of the release
    g) the suspected cause of the release
    h) the environmental harm caused, threatened, or suspected to be caused by the release, and
    i) actions taken to prevent any further release and mitigate any environmental harm caused by the release.

24. Not more than fourteen days following the initial notification of an emergency or incident, written advice must be provided of the information supplied to the administering authority in relation to:
    a) proposed actions to prevent a recurrence of the emergency or incident, and
    b) outcomes of actions taken at the time to prevent or minimise environmental harm.

Any other conditions that require a response, contingency for matters under this TEP, i.e. if constructing a new regulated structure, design plans will be required to be submitted to the administering authority for approval prior to construction.

NOTES FOR THE CLIENT

These regulatory requirements of Chapter 4 of the *Environmental Protection Regulation 2008*, the Standard Criteria and the requirements of EP Act.

In deciding to accept or refuse a TEP the administering authority is required to consider section 338 of the EP Act, which states:

338 Criteria for deciding draft program

(1) In deciding whether to approve or refuse to approve the draft program or the conditions (if any) of the approval, the administering authority—

(a) must comply with any relevant regulatory requirement; and

(b) subject to paragraph (a), must also consider the following—

(i) the standard criteria;

- *The principles of ecological sustainable development as set out in the 'National Strategy for Ecologically Sustainable Development'.*
- *Any applicable environmental protection policy.*
- *Any applicable Commonwealth, State or local government plans, standards, agreements or requirements.*
- *Any appliceble environmental impact study, assessment or report.*
- *The character, resilience and values of the receiving environment.*
- *All submissions made by the applicent and submitters.*
- *The best practice environmentel management for activities under any relevant instrument, or proposed instrument, as follows – e transitional environmental program.*
- *The financiel implications of the requirements under an instrument, or proposed instrument, mentioned in paregraph (g) (ebove) as they would relate to the type of activity or industry carried out, or proposed to be carried out, under the instrument.*
- *The public interest.*
- *Any appliceble site menegement plan.*
- *Any relevant integrated environmental managament system or proposed integreted environmental manegement system.*
- *Any other matter prescribed under e reguletion.*

(ii) additional information given in reletion to the draft program;

(iii) the views expressed et e conference held in relation to the draft program.

As has been demonstrated a significant consideration for the draft TEP is for the standard criteria. Recommendations in relation to a submission of a draft TEP in line with section 338 and the standard criteria are:

- Provide all relevant stakeholders, which may included Local Government and potentially affected landholders, with a copy of the draft TEP, and allow sufficient time for relevant stakeholders to provide comment for consideration.
- The applicant is required to consider Environmental Protection Policies, the character, resilience and values of the receiving environment, any applicable plans and standards, such as ANECC (aquatic ecosystem guidelines), the Queensland Water Quality Guidelines and 'A study of the cumulative impacts on water quality of mining activities in the Fitzroy River Basin'.

In accordance with the legislation, the submitted TEP must adequately address methods to reduce environmental harm (Section 330) and must meet the content requirements detailed in section 331.

23 DEC 2010

Queensland Government

Ref CTS 22586/10

Department of
Environment and Resource Management

Mr Michael Roche
Chief Executive
Queensland Resources C
Level 13
133 Mary Street
BRISBANE QLD 4000

Dear Mr Roche

I refer to our discussions at the meetings held last Wednesday 8 December 2010 regarding the Department of Environment and Resource Management's preparedness for this year's wet season.

I am able to confirm that the department's Regional Service Delivery (RSD) Division, headed by Mr Damien Brown, has taken appropriate steps to both prepare for and to respond to issues that may arise over the wet season. As part of this, the North and the Central West RSD Regions have comprehensive preparedness and response plans in place. Departmental officers have carried out numerous inspections in the lead up to the wet season and have been in close and regular communications with mines' site representatives. In light of recent events, the department has reviewed its preparedness and response plans to ensure that adequate resourcing is at hand and on-call to deal with the additional workload and any emergent issues that may arise over the upcoming holiday period.

In response to the recent rainfall events in the Central Highlands, the department has pro-actively approached all mining companies to offer assistance with water management issues. As a result of these discussions, the department is aware that the following mines may apply for Transitional Environmental Programs (TEPs): Lake Lindsay; Foxleigh; German Creek; Cook; Peak Downs; Newlands; Moranbah North; Oaky Creek; South Walker; Poitrel, Isaac Plains and Minerva. These companies have not yet decided whether a TEP suits their needs at this stage.

The department has also been in discussion with Origin Energy regarding its CSG water storages at Spring Gully and its likely application for a TEP. The department has provided a template to assist these mines submit their TEPs in order to streamline assessment. A copy of the template is attached for your information. In addition, Program Notices have been received from Moorvale and Coppabella mines. Both mines applied for amendments to their Environmental Authority conditions in November 2010 and these are being processed urgently by the department. The department is also working with officers from the Isaac Plains mine to assist them respond to the failure of their levee bank.

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As you will be aware, the department urgently assessed and approved the TEP for Ensham mine on Friday 10 December 2010. However, it was disappointing to learn that Ensham had breached its TEP conditions in relation to electrical conductivity on Saturday or Sunday. Whilst Ensham's response to the breach was appropriate, it serves to remind us of the critical importance for water quality in the catchment to be protected by mines operating within approved conditions and the need for vigilance on the part of both the mines and the department.

I trust this information is of assistance to you. Should you want to discuss these issues please do not hesitate to contact me on telephone [redacted].

Yours sincerely

[redacted]

John Bradley
Director-General

6 JAN 2011

Queensland Government

Ref CTS 00139/10

Department of
Environment and Resource Management

Mr Michael Roche
Email: [redacted]

Dear Mr Roche Michael

I refer to your discussions today with Mr John Bradley, Director-General of the Department of Environment and Resource Management requesting an expedited approval process to allow mines to discharge water during the current high flows in receiving watercourses.

As you will be aware, in early December 2010 the department contacted all of the coal mines in the Bowen Basin and offered priority assistance to them in dealing with existing water management issues and to support the mines' preparedness for more rainfall during of the wet season. This included the development of a transitional environment program (TEP) template to streamline the application and assessment process and the adoption of a case management approach with each mine. A copy of the template that is being used is attached.

Several mines availed themselves of this assistance resulting in the department approving 11 TEPs before Christmas. Notably, using this approach the average turnaround time for these TEPs was less than four days, with only three of the 11 applications taking more than four days to approve.

Departmental staff worked over the Christmas period assisting operations including: authorising a relaxation in the application of environmental authority (EA) conditions in response to emergent issues at Moranbah North, Dawson and Burton mines; working with Sonoma and Peak Downs on their TEP applications; and approving a TEP for Origin Energy's Coal Seam Gas operation at Spring Gully.

In the new year, the department made further contact with mines to determine what urgent assistance could be provided and is currently discussing TEP applications with several mines. The degree of urgency expressed by operations varies between mines. As you will be aware, the TEP for Ensham was approved on 5 January 2010, the same day that it was lodged. In regard to Baralaba mine, the department made contact with officers from the company, provided TEP application information and is standing-by to assist as soon as Baralaba is in a position to consider its recovery program.

I refer to the recent advice in your email to Mr Bradley dated 5 January 2010, that some QRC members are of the view that in order to take best advantage of the current flood situation the department could consider issuing an "open invitation which invites all companies to discharge as much water as possible within a short a period of time as possible".

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I affirm Mr Bradley's advice to you that whilst the department does not support the concept of an "open invitation", it is happy to work with QRC on an even more simplified TEP application to be applied on a case-by-case basis where the company is seeking dispensation over only limited parameters of an EA with all other conditions remaining in force.

The department, as the environmental regulator, has, as its first prtority, the need to safeguard the environment and any abridged process that is agreed to should not compromise this. Companies would still need to meet their obligations to understand and manage environmental risk. The simplified process would still need to contain conditions on water quality, flow conditions, monitoring, and reporting to ensure that the environment is protected. In addition, in order for companies to qualify to apply under the simplified process, the dspartment has an expectation that they have a good compliance record and that their financial assurance is paid up to date.

I have attached a draft simplified TEP template for QRC to consider and provide advice back to the department. Note that this would be specifically applicable to mines in the Fitzroy Basin which have the current model conditions included in their EAs, and site specific considerations may also need to be made. In the interim period, prior to receiving your advice on the simplified template, the department will continue to work with mines using its existing TEP template and process which has proven to be effective to date.

Senior departmental officers are available to meet with you to discuss this process as soon as you like.

Should you have any further enquiries, please do not hesitate to contact me on telephone 3330 6297.

Yours sincerely

[redacted]

Debbie Best
Acting Director-General

Atts

Queensland Government

Ref CTS 00402/11

Department of
Environment and Resource
Management

Mr Michael Roche
Email: [redacted]

Dear Mr Roche Michael.

I refer to our meeting with [redacted] from the Australian Petroleum Production & Exploration Association (APPEA) and representatives from Origin Energy and Arrow Energy on Monday 10 January 2011.

The focus of this meeting was to allow QRC and APPEA to explain their concerns relating to water management challenges faced at coal mines and coal seam gas (CSG) operations within flood impacted areas of Queensland.

In regards to the key outcomes from this meeting, I can advise you that staff from within the Department of Environment and Resource Management have contacted major CSG company's to gain a better understanding of specific water management issues and we are assessing any submitted Transitional Environmental Programs (TEPs) as a matter of priority.

As discussed, the 2%/8000 electrical conductivity (EC) reference in the modified TEP template was provided as an example only. In considering suitable dilution rates for the discharge of waters with various electrical conductivity (EC) and other contaminant levels I can advise that DERM is evaluating each individual situation on a case by case basis and has been allowing flexibility wherever possible. Due to the great degree of variation across the cases considered to date and additional considerations such as the specific characteristics of the receiving flow, discharge location and the presence of localised environmental assets, a multiple template approach to TEP applications is not considered appropriate. As such, the department will continue to consider each application on its merits and process all applications in as timely and efficient manner as possible.

I appreciate that situations where mining or CSG operations are located a remote distance from suitable receiving watercourses or overland flows can pose a significant issue for some operations in flood affected areas. Staff of the department have been working closely with several companies in relation to specific issues they may have in this regard and I would encourage your members to contact the department directly if they are, or might be, affected in this manner. For example, the department has recently been negotiating with a company in regards to discharging high EC waters at a point located a considerable distance from the nearest, flowing watercourse and options such as mixing this water with cleaner water available on site are being discussed and examined. Further options such as selective extraction of the lower EC water at the top of CSG storage dams and the discharge of lower EC water and subsequent movement of high EC water into the available storage space are also things that can be considered in individual cases.

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In the meeting and our subsequent email correspondence you mentioned a possible case study relating to Anglo Coal. The department is more than willing to work through this individual situation once it has been provided.

As agreed at the meeting, I have also contacted Queensland Health and we will continue to work in a collaborative manner to ensure that timely details and advice are provided in relation to possible human health concerns where proposed discharges are upstream of drinking water supplies.

Additional items that were discussed included clarification of the departments view on using pump details and run hours as a valid means of estimating flow in the absence of an installed flow meter. I am advised by engineers of the department that if a head-discharge curve for the pump can be provided and the discharge rate is estimated using this curve, the relative heights of the intake/discharge points and the friction loss in any associated pipelines then this would be suitable for the purposes of estimating discharges in accordance with TEP's.

Given the high number of TEP applications being received by the department as a result of the recent flooding and in order to maintain the current level of service in assessing these applications the department has also re-prioritised its internal staffing and is sourcing additional resources from interstate.

Should you have any further enquiries, please do not hesitate to contact Mr Mike Birchley of the department on telephone [redacted]

Yours sincerely

[redacted]

Terry Wall
Assistant Director-General

Queensland Government

Re: CTS [CTS No.]

Department of Environment and Resource Management

21 JAN 2011

Mr Michael Roche
Chief Executive
Queensland Resources Council
Level 13, 133 Mary Street
Brisbane, Queensland 4000, Australia

Dear ~~Mr~~ Michael Roche

I wish to provide you with an update on my Department's progress in processing applications for Transitional Environmental Programs (TEP's) and to address some of the concerns you have raised in recent email correspondence.

As at 1pm on the 21st January, my department had approved 25 TEP applications or amendments to existing approvals since the 1st December 2010. A further 15 applications or amendment requests have been received and are currently undergoing assessment. Several of the outstanding applications are awaiting more detailed information from the applicants before they can be properly assessed.

1. Issues raised in Recent Discussions

As per my commitment to you in our meeting on the 18th January 2011, I have attached some general guidelines relating to TEP applications involving discharge of mine affected water to waterways. These guidelines are not intended to be definitive or exhaustive and are intended to provide a basic level of guidance to some of the risks and issues that are necessary to consider in a TEP application of this nature

As has been discussed on several occasions, applications will be considered on a case by case basis to ensure they achieve the best result for the applicant while still ensuring the safety and well being of the environment and downstream water users. As such, applications that do not fall within the broad guidelines provided may still be acceptable in certain situations. Similarly, if an application appears to meet the requirements of the attached document, this does not mean it will be automatically approved as there may be other mitigating circumstances.

My department has recently approved a TEP application that involved the discharge of mine affected waters to an ephemeral stream under low or no flow conditions. In this instance, the environmental values of the ephemeral stream and the quality of the discharge water were such that the application could be approved. Conditions have been placed on the TEP which require a minimum flow in the major watercourse which receives the discharge from the ephemeral stream and minimum water quality triggers for this major watercourse have also been specified. Decisions such as this demonstrate the flexibility and innovation in DERM's approach, while maintaining the rigour of the environmental assessment and

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defensible outcomes. I note that several other applications which propose similar receiving flows are under consideration and will be assessed on a case by case basis.

2. Issues Raised in QRC Correspondence

In reference to your email correspondence of 20 January, I would like address a number of issues.

- As you noted, a TEP application for the **Millenium mine** was submitted two weeks ago on January 7 2011. In discussions with the applicant, departmental staff were informed that the mines operation was not currently impacted by the water on site, although there was the potential for this situation to change in the future as coal in other mining areas needed to be accessed. This advice was confirmed in further communication with the mine on the 20th January. My department has considered this advice when prioritising its review of TEPs while meeting statutory timeframes in all cases. This has permitted the assessment of applications for TEPs from mines where the discharge of water <u>was</u> essential in restoring mine operations to be expedited. Nevertheless, comments on the application were provided back to the mine on the 20th January and it is likely that a TEP will be issued in the near future.

- With regards to the **Lake Vermont** mine, a TEP application was received by my department on the 14th January, six days prior to your email correspondence. The application relates to the discharge of mine affected water into a watercourse with a low receiving flow. There has been ongoing discussion between staff of my department and the mine since the application was submitted. Given the lack of a receiving flow, the application proposes the release of better quality water in order to provide a flow in the watercourse to allow tha discharge of the mine affected water. As previously discussed, proposals to discharge into watercourses without a reasonable receiving flow require a higher degree of technical assessment and there has been ongoing contact and communication with the applicant in this regard as further information to support the application was required. It is anticipated that a decision on this application will be finalised shortly.

- You indicated you had received feedback that my department has been conservative in the conditions applying to the approval of some TEP applications received prior to Christmas. As you are aware, these applications were assessed and approved in exceptionally short timeframes in order to allow approved discharges to commence as soon as possible. In order to achieve this timeframe, the flow conditions in the TEP would necessarily be higher to permit earlier and larger discharges and to ensure the cumulative impacts could be managed. Such approvals cannot reasonably be compared to the assessments now being conducted on applications to discharge to significantly smaller receiving flows. Several of the companies which received TEPs have since applied for amendments allowing them to discharge at reduced receiving flows and these amended applications in tum require a more rigorous technical assessment prior to making a decision.

3. Importance of Proactive Action by Companies

My Department is highly conscious of the extraordinary recent rainfall events and their impact on the resources sector. We are committed to remaining responsive, flexible and appropriately resourced to assist proponents as they meet their obligations in relation to environmental compliance.

Equally, it will be important for applicants, particularly those seeking to discharge in low flow environments, to be proactive in managing the information and other resources which will improve the prospects of a TEP application being approved. Staff of my department have been dedicated in assessing applications for TEP's in a timely and efficient manner over the last few weeks. In many instances, the level of information and detail supplied by the

applicants has been insufficient for a decision to be made. In these cases, staff of the department have been as helpful as possible in identifying these deficiencies and requesting further information as appropriate

I would like to reiterate two important considerations discussed in our recent meetings, which have assisted companies in successfully receiving TEP approvals.

- Companies which have received approval of TEPs have been able to clearly address the identification and management of mine-affected water environmental risks.

- Some companies have been active in maintaining or gathering fundamental information requirements for TEP application (as identified to the QRC last year) relating to proposed discharge water quality, blending options, environmental values and receiving water flows, etc.

- Many companies have undertaken careful onsite water management, implemented infrastructure solutions or procured additional pumping capacity so as to be able to take advantage of flows opportunistically. I am informed that several mines have not made the most of the opportunity that has been available to them to date. Some mines have been authorised under TEPs to discharge significantly more affected water than has actually been disposed of in the last few weeks. It would appear that equipment constraints or other operational factors have limited some mines' ability to discharge affected water and they have therefore not taken full advantage of the high flows that were apparent in receiving waters while they were available.

As acknowledged in our recent discussion, for some companies the granting of a TEP will be delayed at least partly by their environmental assessment capacity and the available information they have maintained. Equally, it should be noted that some applications have been of very good quality and several mines should be commended on their demonstrated ability to manage water on their sites through this difficult time.

Should you have any further enquiries, please do not hesitate to contact Mr Mike Birchley, Assistant Director General - Regional Service Delivery of the department on telephone [redacted]

Yours sincerely

[redacted]

John Bradley
Director-General

Annexure G - Statement of Frances Huyter

G

Appendix E - *Comparison of TEP mechanism with other mechanisms under the EP Act for the purpose of addressing emergency issues*

1. What are transitional environmental programs (TEPs)?

In summary, a transitional environmental program (TEP) is a document which, when approved by DERM, sets out a series of actions over a timetable, which will, at the end of the TEP ensure that the activity is in compliance with the relevant environmental conditions or other applicable environmental standards, while in the meantime those specified conditions or standards are overridden temporarily.[1] Normally, a TEP may be approved for up to 3 years, without the need for public notification.[2] However, for mines dealing with the current severe wet season, DERM has indicated that it will only approve TEPs up to 6 months.

From the perspective of industry, the key advantage of a TEP is that it provides transitional protection from prosecution for non-compliance with an EA condition (or other environmental standard), for the period of the TEP, provided that it is fully implemented.

2. Unsuitability of TEPs to address flood preparation

The key difficulties with using TEPs as a mechanism either to address flood preparation or as an emergency response to a disaster are:

2.1 The statutory purpose of a TEP should be to ensure that the program of works specified would bring the business into compliance with the normal conditions at the end, whereas it is unrealistic to expect that a 6 months TEP for a flooded mine would be capable of making any difference to what would happen if a similar event occurs next wet season. In the unlikely event that capital works could even be carried out on a flooded mine during that short period, the fundamental issue remains that the conditions do not provide for releases of water to mitigate risk prior to periods of high flow, rather than during the periods of high flow.

2.2 Content requirements for a TEP require an analysis of the receiving environment and the impacts. In the case of relatively new mines, this data may be available, but generally it would not be readily to hand in the case of older mines. If a snap decision needs to be made to mitigate an impending risk, there is not time to undertake a couple of years of data collection first.

2.3 TEPs require time to assess. There is also the risk of refusal. DERM has a wide discretion to refuse draft TEPs. One of the points made by the Hart report into the Ensham incident was that the discretion is not in accordance with a set of sufficiently detailed and relevant statutory criteria.

2.4 The protection of the TEP is lost if there is any non-compliance at all, however minor, meaning that the company then becomes liable not only for the breach of the TEP but also for the underlying conditions that were otherwise overridden by the TEP.

2.5 It is difficult to amend a TEP once approved, because DERM does not have power to approve an amendment if this would lead to an increase in environmental harm.[3] For example, there is a reasonable argument that any extension of timeframe constitutes an increase in the underlying environmental harm, in that the harm continues for longer.

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[1] Sections 330 and 331 EP Act.
[2] Section 335 EP Act.
[3] Section 344 EP Act.

2.6 In the past, DERM has sometimes reported on, or otherwise used TEPs as if they were evidence of poor environmental performance by a company (for example, even if the situation was actually caused by DERM imposing a set of new requirements without a transitional period, as has occurred with the Fitzroy conditions). An example was that, when the Fitzroy model conditions were imposed on mines without a transitional condition, if mines obtained approval of TEPs to cover the transition, DERM imposed a penalty on the mine's financial assurance.

3. *Emergency directions*

- It is submitted that the appropriate mechanism for flood preparation for the next wet season will be environmental authority conditions. However, for a sudden or unforeseen disaster, the appropriate emergency response would be an emergency direction, not a TEP.

The relevant provision is as follows:

> ***'468 Authorised person may direct emergency release of contaminant***
> *(1) An authorised person may give a written direction (on emergency direction) to a person to release a contaminant into the environment if the authorised person is satisfied—*
> *(a) it is necessary and reasonable to release the contaminant because of an emergency; and*
> *(b) there is no other practicable alternative to the release.*
> *(2) The authorised person may impose reasonable conditions on the direction.'*

Originally (in 1994), the intention was that this would be the appropriate mechanism for dealing with natural disasters and similar emergencies. However, as the Act has expanded, it has 'fallen through the cracks', that the provisions dealing with contraventions of conditions do not expressly refer to an exemption for authorisation by emergency direction. Notwithstanding this drafting gap, we consider that sufficient authorisation would reasonably be implied by Section 493A, which provides for 'relevant acts' to be not unlawful if they are covered by an emergency direction. It would logically follow that they are not unlawful whether or not they involve a contravention of condition in passing. However, if there is any concern about this, it could be covered by an agreement to amend conditions which acknowledges the overriding nature of the emergency direction.

The key advantages of an emergency direction are:

- There are no detailed content requirements relying on data which might not exist;
- There is no artificial presumption that, if the same emergency arose again, the same set of steps would not have to be taken which would otherwise be unauthorised under the Act.

The key disadvantages are:

- It can only be issued 'because of an emergency', probably not to prevent or mitigate a possible or likely emergency;
- It is not controlled by the company, so if the conditions are impractical or miscalculated, there is not much that can be done about this within the timeframe, unless there is good informal consultation about the drafting in advance.

4. Analysis of some issues under the EP Act apparently giving priority to ecological considerations over human considerations

Section 23 of the EP Act provides:

> **'23 Relationship with other Acts**

(1) This Act is in addition to, and does not limit, any other Act.
(2) If this Act conflicts with an Act as follows, that Act prevails, but only to the extent of the conflict—
- *Ambulance Service Act 1991*
- *Disaster Management Act 2003*
- *Exotic Diseases in Animals Act 1981*
- *Fire and Rescue Service Act 1990*
- *Public Safety Preservation Act 1986*, part 3
- *Radiation Safety Act 1999*
- *Transport Operotions (Marine Pallutian) Act 1995.'*

It is clear from this section that there was a general intention to give priority to health and safety issues, particularly in emergency situations. The twin difficulties with achieving this intention are:

(a) That the list is limited and in particular does not include mine safety legislation or general workplace health and safety legislation.
(b) This list of safety Acts only prevails to the extent of a conflict with the EP Act. There may be many situations when a human safety issue conflicts with an ecological issue in practical terms, but that does not mean that the conflict is spelled out in the Act. The general principle of statutory interpretation is that, if there is argued to be any inconsistency between statutes, the courts will try to read both statutes together so that it is necessary to comply with both, rather than to give priority to one over the other.[4]
(c) The section only refers to conflict with an 'Act', not with instruments issued under the Act, such as directions and notices.

Consequently, the various correspondence from DERM to QRC inviting TEPs has been careful to restrict this to situations where the environmental impacts would be 'acceptable' (particularly in the context of overall dilution). The situation is more difficult for DERM where ecological impacts may not be negligible, but where there are obvious human considerations which should be relevant from a whole-of-government perspective.

While these situations would be more difficult for DERM as a line agency with a function focussing on environmental protection, we do not consider that the EP Act prevents priority from being given to human considerations, particularly taking into account the references to human issues in the definitions of 'environmental values' and 'environment'. The 'standard criteria' for various types of decisions, defined in Schedule 4, also includes some human items, such as 'the public interest' and 'financial implications'.

Interestingly, DERM has just updated and re-issued its operational policy on *'Ensuring orders/notices/directions do not result in unsafe conditions or a breach af other legislation'*,[5] and its information sheet, *'Workplace health and safety in relotion to the Environmental Protection Act 1994'*.[6] Both are dated 17 September 2010 and approved by Jon Womersley. As might be expected, these documents place the onus on the person receiving directions, notices or orders from DERM to ensure compliance with both the DERM requirement and also any health and safety requirements, rather than requiring DERM to ensure that its notices, directions and orders do not infringe health and safety requirements in the first place, for example, the information sheet says:

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[4] Eg: NSW Aboriginal Land Council v Minister Administering the Crown Lands Act (2007) 157 LGERA 18.
[5] http://www.derm.qld.gov.au/services_resources/item_details.php?item_id=201209. Our recollection is that the original version of this document was issued after an incident some years ago when a man died trying to comply with environmental requirements on a boat, but we no longer have a record of the details.
[6] http://www.derm.qld.gov.au/services_resources/item_details.php?item_id=200608.

'It is critical that, when complying with any verbal direction from DERM officers, the person or persons receiving the verbal direction do not controvene other legislotion. In particular, the person or persons receiving the verbal direction shauld ensure that they maintain safe work practices and do not place themselves, their employees, or ony other persons at any risk whilst carrying out the direction.'

There are also lengthy legal disclaimers. Presumably, the idea is that if there would be a direct conflict in complying with both the environmental requirement and the health and safety requirement, the company should go out of business.

However, the policy does at least contain the somewhat helpful statement:

'Other issues to consider

Some peaple who receive on order, notice or direction from DERM, particulorly if the circumstances involve some imminent and potentially serious impact on the enviranment, may perceive they are at risk of enforcement action which could result in them acting hastily with sole focus on the environmental issues and without due care for safety.

It is critical that oll our interoctions with the recipients of orders, notices and directions emphosise that safety of people comes before protecting the environment; i.e. na octions should be commenced to protect the environment befare the persons toking that action hove determined that their methods will be safe.'

Similarly, the information sheet includes the statement:

'DERM believes thot ensuring the safety of people comes before protecting the environment, even when there may be serious environmental impacts.'

It may be worth drawing attention to these statements in future correspondence with DERM.

However, in summary, the former EPA component of DERM, as a line agency, is focussed on minimising environmental impacts and not recognising that this may in some emergency preparation scenarios directly conflict with best practice risk minimisation for health and safety purposes, which DERM sees as the problem of the companies, rather than its own delegates. The EP Act does not prevent human considerations from being given priority, but we do not consider it likely that DERM would take this initiative itself, without a 'whole-of-government' decision in this regard.

Appendix H
Statement of Frances Huyter Item 1

28 January 2011

QUEENSLAND resources COUNCIL

H

The Honourable Anna Bligh MP
Premier of Queensland and Minister for the Arts
PO Box 15185
City East Qld 4002

Dear Premier

As you reactivate the State Disaster Management Group in the facing of looming cyclone emergencies threatening our State, I must bring to your attention the emergency facing the great Queensland coal industry.

First, let me place on the record our appreciation of your leadership through the floods crisis and for the hard work done by your officials. In the case of the Department of Environment and Resource Management (DERM), they have worked long hours, giving up weekends and holidays to process a large number of applications from QRC members for Transitional Environmental Programs (TEP) for release of water outside of their normal environmental authorities. However, with the return to normal flows in local streams – albeit feeding still strongly flowing major water courses - the rate of TEP approvals has slowed and many of those TEPs already granted do not allow releases in these low flow streams. Some mines have had applications with DERM for over two weeks.

Many, many mines find themselves with heavily inundated coal pits and full mine dams. Without approval to release water, they have few options to handle water on site. Some mines are using existing coal pits as temporary dams simply to be able to get at least some coal to recommence mining.

Mine company CEOs are telling me of their fears about future major rainfall events leading to both further severe production disruptions, but also to the risk of uncontrolled release of water from dams and coal pits. That is not going to be a good outcome for the environment.

I have raised with the Directors-General of your own department, DERM and DEEDI and with Ministers Jones and Robertson the option of the Queensland Government using the emergency direction powers under section 468 of the Environment Protection Act to direct the release of larger quantities of water from mines, irrespective of flows in the receiving streams, provided that water does not exceed some agreed level of salinity (the EC level). In the absence of pre-determined conditions in environmental authorities which address authorised water releases for the purpose of prevention or mitigation of emergencies, and with the TEP mechanism now proving of limited use to achieve necessary levels of water release, QRC believes that your Government needs to be willing to indicate to DERM that use of the emergency direction power should be immediately added to their armoury of options to deal with the current crisis and the looming threat of further cyclones.

DERM advise QRC that mines should be applying for TEPs in anticipation of a return to high flows in creeks. However, if the cause of the return to high flows is in fact torrential rain from, say, another cyclone, the reality is that these mines will experience even greater water inundation. Their situation will deteriorate even further. What we are asking is that mines be permitted to release at least some of their excess water <u>before</u> the next major rainfall event creates even greater challenges, for production and for the environment.

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It is not clear that the Government fully appreciates the dimension of the crisis facing large parts of the coal industry. Today's MYFER for 2010-11 talks of a 15 million hit to coal production in 2010-11 due to the flooding and other water impacts on mines. The public and private intelligence we have drawn on in compiling the economic impact estimate we released yesterday point to a loss of 30 million tonnes being a low end estimate.

I would be happy to discuss these matters with you or your advisers at any time.

I trust Queensland manages to avoid this next cyclone threat. However, as you yourself have said in recent times – we need to prepare for the worst and hope for the best.

Yours sincerely

[redacted]

Michael Roche
Chief Executive

cc Minister Jones
Minister Robertson

H Item 2

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Mr Michael Roche
Chief Executive
Queensland Resources Council
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133 Mary Street
BRISBANE QLD 4000

Michael,

Thank you for your letter dated 28 January 2011 regarding impacts to the State's coal mining industry from recent unprecedented rainfall and flooding events throughout central and southern Queensland.

My Government remains strongly committed to the successful recovery of the State's coal sector from the impact of recent floods and all agencies have been instructed to facilitate a return to full production capacity at the earliest opportunity.

Government agencies have worked closely with individual companies and the Queensland Resources Council (QRC) to achieve urgent and pragmatic solutions which remain defensible to the communities in which our mines operate.

I share the concerns of companies about current and potential further inundation. Clearly onsite water management now represents one of the most significant challenges for mines as they manage their environmental risk. You will be aware that the Department of Environment and Resource Management (DERM) has allocated significant resources to the task of accelerating water discharge while protecting environmental values and the interests of downstream water users.

To ensure that this work was on track, senior officials of my department, DERM, and the Department of Employment, Economic Development and Innovation met with senior executives of key resource companies in Queensland.

Queensland Government

Government is quite prepared to consider reasonable and soundly based proposals for the amendment of EAs. In addition, DERM has undertaken to review the model conditions for the Fitzroy Catchment.

I trust this information is of assistance and look forward to a collaborative approach from the QRC to the significant challenges we face.

Yours sincerely

ANNA BLIGH MP
PREMIER OF QUEENSLAND