



Economic Development,
Jobs, Transport
and Resources

Annual Report 2015-2016

Earth Resources Regulation

Technical Review Board

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1 Executive Summary

The Technical Review Board (TRB) was established by the Victorian Government in 2009 as an Advisory Panel under Sections 54A, 54C, 54D and 54E of The Mineral Resources (Sustainable Development) Act 1990 following the Warden's Inquiry into the collapse of the North East Batter at Yallourn Mine in the Latrobe Valley. A primary function of the TRB is to provide independent advice to the Minister for Energy and Resources (the Minister), the Department of Economic Development, Jobs, Transport and Resources (DEDJTR) and industry (through the Department) on managing risks associated with mine instability and rehabilitation in the Victorian mining and quarrying sectors.

The Terms of Reference (TOR) for the TRB at the time of its establishment had a focus on risks to the environment, public safety and infrastructure. These were expanded in July 2015 to also include rehabilitation. The composition of the TRB was revised at the start of the current reporting period to reflect the new TOR.

The TRB was reappointed for a 10 month period in September 2015. During that period, the full Board met on eight occasions. This was a particularly busy period for the TRB. The reform process implemented within Earth Resources Regulation (ERR) by Minister D'Ambrosio, the reopening of the Hazelwood Mine Fire Inquiry, and the commencement of the Batter Stability Project (BSP) added to the TRB's usual activities.

All four TRB members assisted the Hazelwood Mine Fire Inquiry in the lead up to formal proceedings, although Professor Mackay's contributions were in his role as Director of the Geotechnical and Hydrogeological Engineering Research Group (GHERG) based at the Churchill campus of Federation University, Australia. Two TRB members along with Professor Mackay gave evidence at these proceedings. The TRB produced 11 written advices to government and the Chair met formally with Minister D'Ambrosio on two occasions (with a change in Minister causing a third scheduled meeting to be postponed) and informally on another occasion to introduce new TRB member, Ms Corinne Unger.


The TRB had involvement in a wide range of activities associated with its TOR. The more important of these, with summary comments on their status, were:

- **Reform of Earth Resources Regulation:** In September 2015, Minister D'Ambrosio announced that the Earth Resources Regulation (ERR) Branch of DEDJTR was to be reformed in order to improve regulatory practice, processes and operations, and restore community confidence in the regulator. The TRB was consulted extensively by Department management and the Minister during the development and implementation of the reform package and provided a response to the Minister's Statement of Expectations for the TRB.
- **Hazelwood Mine Fire Enquiry:** TRB members assisted the Hazelwood Mine Fire Inquiry and presented evidence at the hearings in relation to the rehabilitation of Latrobe Valley brown coal mines. The Inquiry subsequently made 18 recommendations, three of which have specific regard to the positive contributions and role of the TRB and the ongoing resourcing of this body. The Inquiry also singled out the TRB for commendation, noting its robust and independent advice to the Minister for Energy and Resources and to DEDJTR.
- **Batter Stability Project:** The TRB was very pleased to see ERR's Batter Stability Project launched by Minister D'Ambrosio on 11 April 2016. The TRB has had considerable input into the development of this research project over the last two years. It considers this project to be an essential element of the substantial research effort required to better understand the material and mechanical properties of brown coal and its local and regional behaviour as a basis for reliable design for mine stability and rehabilitation. Professor Ian Johnston (TRB member) was Chair of the Technical Advisory Group for the early work for this project.
- **Managing mining-induced impacts extending beyond a mining lease:** Experience in the Latrobe Valley has shown that brown coal mining-induced ground movements are not necessarily confined to the immediate vicinity of a mine batter face but can extend well outside a mining lease. A number of incidents have highlighted a lack of definition and clarity around responsibilities and accountabilities for responding to and managing mining-induced impacts on the natural and man-made environment. The TRB prepared two advices to the Department in that regard. The current reform process within ERR provides the opportunity to address this important and overdue matter. This involves giving consideration to changes in legislation and government administrative procedures.
- **Mine closure and rehabilitation:** The TRB has reported on a number of occasions since 2012 that it considers the original measures proposed for the rehabilitation of the Latrobe Valley brown coal mines fell well short of what could reasonably be considered as adequate. The Hazelwood Mine Fire Inquiry

brought a focus to this concern. It recommended further studies and consultation to address a range of issues related to mine rehabilitation. The Victorian Government has responded in a number of ways including the allocation of \$12.6 million to Earth Resources Regulation to fund an integrated study of the requirements and implications of brown coal mine rehabilitation and closure for government and the Latrobe Valley. The TRB welcomes this initiative. There are a number of areas in which the TRB can provide valuable input and advice to the project team. Initiatives to do so are already in hand. It is also assisting the Department in developing guidelines for mine closure and rehabilitation.

- **Anglesea Coal Mine:** Since its inception in 2009, the TRB has maintained a watching brief on Anglesea Coal Mine in response to pre-existing and new concerns regarding mine stability. The mine closed in 2015. Subsequently, the TRB has been involved in a number of discussions with ERR officers in relation to the development of a Rehabilitation and Closure Plan for Anglesea Coal Mine and for all mines in general.
- **Peer Review of Morwell River Diversion:** The 2014-15 TRB Annual Report noted that the ongoing stability of the Morwell River Diversion (MRD) outside of the remediated section is an important matter that requires further assessment and that careful and comprehensive risk assessments are essential to understanding and managing the risks still associated with the MRD. Risk assessments of the stability of the remediated section and other areas of the MRD were not available for review by the TRB at that time and have not been provided subsequently to the TRB. The TRB places high importance on undertaking these reviews in fulfilling its TOR. Understandably, staff changes associated with the reform of ERR have impacted on progress. It is important that the TRB pursues these outstanding matters with the Department in going forward.
- **Agency Roles, Responsibilities and Accountabilities:** The TRB has been concerned for some time that, in general, accountability within government for overseeing risk management in the mineral resources sector is assigned to agencies on the basis of the consequences of an unwanted event occurring, rather than on the basis of the agency that is best qualified to provide assurance to government on the robustness of the risk management process required to prevent the event from occurring in the first place. The Hazelwood Mine Fire Inquiry also reported that there were several examples before the inquiry that demonstrated that the regulatory framework is inadequate. The TRB remains of the view that there is need for wider regulatory reform relating to how the Victorian government oversees risk management in the mineral resources sector, particularly in regard to clarifying roles, responsibilities and accountabilities of agencies.
- **Quarrying operations in the mid-Goulburn Valley floodplain:** It was noted in the 2014-15 TRB Annual Report that the TRB had been requested to provide advice on risk to the environment and public infrastructure presented by quarry operations on the mid-Goulburn Valley floodplain. The TRB submitted a written advice to the Minister on this matter in December 2015. This was followed up with a second advice specific to Seymour Quarry (WA1189), which is located in the Goulburn Valley flood plain, near the town of Seymour.
- **Geotechnical and Hydrogeological Engineering Research Group (GHERG):** The TRB continues to engage with GHERG and to review its research activities, which it considers to constitute an important element of the substantial research effort required to underpin effective mine stability and rehabilitation in the Latrobe Valley brown coal sector.
- **Stakeholder Engagement and Education:** For a number of years, the TRB has advocated the fostering of greater engagement and collaboration amongst all stakeholders in order to achieve cultural change in how mine stability and rehabilitation are managed in the Latrobe Valley. The TRB continued to actively facilitate cultural change initiatives during the current reporting period.
- **The status of other initiatives:** Several important initiatives associated with past activities and advices of the TRB are still 'works in progress' or on-hold. This is mainly due to the distraction of the Hazelwood mine fire and the subsequent attention to mine rehabilitation and closure, the lack of appropriate technical capabilities within ERR in the past, and the loss of corporate memory within ERR as a consequence of organisational and staff changes associated with the reform process to improve the department's performance.

The issues canvassed in this annual report, their current status and the need to bring some to fruition sooner rather than later provides considerable ongoing work for the Department. Two important issues have emerged out of the current focus on mine closure and rehabilitation that warrant specific attention in the future relate, first, to the operational and legacy issues associated with mine waste dumps, especially tailing storage facilities (TSF) and, second, to the legacy of abandoned mines.



The TRB has reported to three governments, six ministers and three government departments since its inception seven years ago. A number of key ERR staff who had an appreciation of the history of risks presented by mining in Victoria and a technical understanding of what needed to be done to effectively manage these risks and the status of these actions are no longer with the Department. This changing landscape requires careful consideration to be given to how corporate memory is being retained with DEDJTR.

The TRB acknowledges that many of the matters discussed in this annual report are symptomatic of the need for the reform of ERR that was initiated during the current reporting period.

It is vitally important that the current focus on mine closure and rehabilitation does not result in a reduction in focus on mine stability. Assuring mine stability is a prerequisite to successful rehabilitation of mine workings.

2 Introduction

The Technical Review Board (TRB) was established by the Victorian Government in 2009 as an Advisory Panel under Sections 54A, 54C, 54D and 54E of *The Mineral Resources (Sustainable Development) Act 1990* following the Warden's Inquiry into the collapse of the North East Batter at Yallourn Mine in the Latrobe Valley. The Inquiry identified several areas where improvements in the Victorian mining industry could be made. A primary function of the TRB is to provide independent advice to the Minister for Energy and Resources (the Minister), the Department of Economic Development, Jobs, Transport and Resources (DEDJTR) and industry (through the Department) on managing risks associated with mine instability and rehabilitation in the Victorian mining and quarrying sectors.

The Terms of Reference (TOR) for the TRB at the time of its establishment had a focus on risks to the environment, public safety and infrastructure. These were expanded in July 2015 to also include rehabilitation. The composition of the TRB was revised at the start of the current reporting period to reflect the new TOR.

In the past, the TRB's Annual Reports have aligned with the date of the establishment of the Board and, therefore, covered the months of September through to August. As part of the reforms of Earth Resources Regulation (ERR) initiated by the Minister in 2015, this reporting period has now been adjusted to align with the financial year, with the result that this 2015-16 Annual Report covers the period September 2015 to June 2016.

3 Terms of Reference

The TOR for the TRB have a wide scope and call for advice to be provided to the Minister and the Department in four general areas. These are:

1. Strategy
2. Mine and quarry stability assessments
3. Rehabilitation
4. Other activities, including education, research and interaction with industry.

The overall aim of the TOR is to improve geotechnical and hydrogeological performance and knowledge and mine rehabilitation within the Victorian mining industry. The current TOR are:

“The Board will report to the Minister on an annual basis. The Minister may subsequently release the Board’s report to the Department and relevant industry stakeholders.

The Board will periodically provide advice on mine and quarry stability, to the Minister and Department, in the following areas:

- a. *Strategy*
 - *Written and/or verbal advice on the Department's strategies and regulatory approach to mine and quarry stability and geotechnical issues.*
 - *Written and/or verbal advice on new developments in technology and science relating to the understanding, monitoring or management of mine and quarry stability and related geotechnical and hydrogeological issues.*
- b. *Stability Reports*
 - *Review mine and quarry stability reports including monitoring data that has been submitted to the Department and provide written advice to the Minister.*
- c. *Other Activities*
 - *Advise the Minister in formulating appropriate responses to significant events related to mine and quarry stability and related geotechnical and hydrogeological issues.*
 - *Advise the Minister on appropriate guidelines and educational initiatives related to mine and quarry stability.*
 - *With the knowledge and agreement of the Minister, interact directly with industry on mine and quarry stability and related geotechnical and hydrogeological issues, including participation in site visits, presentations and dialogue, particularly with respect to communicating findings of reviews with relevant stakeholders.*
 - *In conjunction with the Department, interact directly with Federation University Australia (formerly Monash University, Gippsland campus) in relation to the Research and Development program on brown coal geotechnical and hydrogeological issues.*
- d. *Rehabilitation*
 - *Provide written advice and guidance to the Department on any issues related to rehabilitation, including progressive rehabilitation within the mines and quarries.”*

4 Board Members

The Board comprised the following four members during the current reporting period:

Jim Galvin - Board Chairman

Emeritus Professor Galvin has tertiary qualifications in science and in engineering and extensive international experience in mining and geotechnical engineering, risk management and workplace health and safety. His career encompasses working in and managing underground mines, leading and directing research bodies, headship of the School of Mining Engineering at the University of New South Wales, and consulting. Past appointments include Professor and Head of the School of Mining Engineering at the University of New South Wales; Commissioner of the NSW Planning Assessment Commission; statutory member of the NSW Mining Qualifications Board; statutory member of the Commonwealth Government Taxation Concession Committee, and Safety Advisor to the Board of BHP Billiton and the Boards of a range of other organisations. Jim has been a member of the TRB since its inception in 2009 and Chair since 2011. Currently he is also Chair of the NSW Government's Coal Innovation Board; Chair of the Mine Managers Association of Australia CPD Committee; Safety Advisor to Solid Energy New Zealand, a New Zealand Government mining instrumentality; and a member of a number of NSW Government appointed independent panels charged with advising on and overseeing implementation of mine approval conditions.

Corinne Unger – Board Member

Ms Unger joined the TRB in September 2015. Corinne is an environmental scientist with more than 30 years' international experience in mine rehabilitation. She has a Bachelor's degree in earth sciences, Diploma of Education and Post-Graduate Diploma in Geoscience (Applied Geomorphology) from Macquarie University. Following her role as a Soil Conservationist for the NSW government, Ms Unger managed mine rehabilitation and research at ERA's Ranger Mine in the Northern Territory for 10 years. Subsequently, she was appointed Senior Environmental Officer in an environmental regulatory role in Central Queensland and then Project Manager for 5 years for the Mount Morgan Mine Rehabilitation Project, the largest legacy mine in Queensland. For the past 11 years she has been a self-employed consultant, specialising in mine rehabilitation and closure planning. In 2009, Ms Unger was awarded a Churchill Fellowship to undertake research overseas on 'Leading practice abandoned mine rehabilitation and post-mining land use'. Since 2011 she has also been a part-time senior researcher at the Sustainable Minerals Institute, University of Queensland undertaking research into coal mine rehabilitation and closure. Corinne was the inaugural Chair of the AusIMM's Community and Environment Society (2013-2015) and is a member of AusIMM's Board of Chartered Professionals.

Ian Johnston - Board Member

Professor Johnston graduated from the University of Southampton, UK with a bachelor's degree in civil engineering and a PhD in geotechnical engineering. After practicing in the UK, the USA and Europe, he joined Melbourne's Monash University in 1975. Ian became Dean of Engineering at Melbourne's Victoria University in 1993 and five years later moved to Coffey Geotechnics where he was a Senior Principal. In 2009, he was appointed to the Golder Chair of Geotechnical Engineering at the University of Melbourne. Ian retired from the university at the end of 2015 but maintains an involvement with research and consulting as a Professorial Fellow. He has more than 40 years' experience in geotechnical engineering, both as an academic and as a consultant for major projects in Australia and overseas. His interests cover a wide range of topics and he is particularly well known for his work on soft and weak rock and the engineering problems associated with the stability of this material in civil and mining engineering.

Rae Mackay - Board Member

Professor Mackay holds a degree in civil engineering from Imperial College, London University and a PhD in Hydrogeology from the University of Newcastle upon Tyne. In 2011, he was appointed as Director of the Geotechnical and Hydrogeological Engineering Research Group at Monash University – Gippsland Campus. Prior to moving to Australia to take up this appointment, Professor Mackay was an advisor to the UK nuclear waste management program. He was also Professor of Hydrogeology and Head of the Hydrogeology Research Group at Birmingham University, UK, where he worked on a diverse range of subjects including arid zone hydrogeology, sustainable urban water resources, geothermal energy exploitation and nuclear waste disposal. His current research role is directed at understanding risks and impacts associated with the ongoing development and eventual long-term rehabilitation of the brown coal mines in the Latrobe Valley, with his primary interests being in understanding subsurface flow and transport processes and developing predictive models for engineering and environmental applications.

5 2015-16 Activities and Status

5.1 Summary of TRB Activities

A summary of key TRB activities during the September 2015 – June 2016 reporting year is presented in Table 1. This was a particularly busy period for the TRB. The reform process implemented within Earth Resources Regulation (ERR) by Minister D'Ambrosio, the reopening of the Hazelwood Mine Fire Inquiry, and the commencement of the Batter Stability Project (BSP) added to the TRB's usual activities.

The full Board met on eight occasions. All four TRB members assisted the Hazelwood Mine Fire Inquiry in the lead up to formal proceedings, although Professor Mackay's contributions were in his role as Director of the Geotechnical and Hydrogeological Engineering Research Group (GHERG) based at the Churchill campus of Federation University. Two TRB members along with Professor Mackay gave evidence at these proceedings. The TRB produced 11 written advices to the Minister and the Department and the Chair met formally with Minister D'Ambrosio on two occasions (with a change in Minister causing a third scheduled meeting to be postponed) and informally on another occasion to introduce new TRB member, Ms Corinne Unger.

Table 1. Summary list of key TRB activities – September 2015 to June 2016

Date	Who	Activity
2015		<ul style="list-style-type: none"> Welcome to new TRB member Corinne Unger Visit to Yallourn Mine – Inspection of mining impact areas of Latrobe Road and HVP Plantation area.
22 – 24 September	Full TRB Board	<ul style="list-style-type: none"> Tour of research laboratories and review of GHERG's research program. Meeting with AGL and discussion on recently submitted AGL Loy Yang Work Plan and rehabilitation concepts
23 September	TRB Chair Galvin	<ul style="list-style-type: none"> Meeting with Minister D'Ambrosio
12 October	TRB	<ul style="list-style-type: none"> Submission of advice to the Department re <i>Loy Yang Work Plan Variation</i>
14 October	Galvin & Johnston	<ul style="list-style-type: none"> Meeting with Department management regarding ERR Reform Initiative
26 & 29 October	Full TRB Board	<ul style="list-style-type: none"> Preparation of TRB advice to the Department on the Jacobs consulting report titled <i>Risk Assessment of Floodplain Mining Pits in the Mid-Goulburn Valley</i> Inspection of Hazelwood Mine and meeting with senior management of the Latrobe Valley brown coal mines.
27 - 28 October	Galvin & Unger	<ul style="list-style-type: none"> Participation in Hazelwood Mine Fire Inquiry Workshop, Melbourne, on Jacobs consulting report regarding future rehabilitation options for Latrobe Valley brown coal mines. (TRB member Mackay participated as Director of GHERG)
9 November	TRB	<ul style="list-style-type: none"> Submission of TRB advice to the Department re <i>Managing Mining Induced Impacts</i>
24 – 25 November	Full TRB Board	<ul style="list-style-type: none"> Preparation of advice on Goulburn Valley Floodplain Mining Discussion on Management of Mining-Induced Impacts Outside of Mine Lease Boundaries Formulation of TRB response to Minister's Statement of

Date	Who	Activity
		<ul style="list-style-type: none"> Expectations Discussion with Deputy Secretary - Regulation and Compliance Group
26 November	TRB	<ul style="list-style-type: none"> Submission to the Minister of TRB Response to Ministerial Statement of Expectations
2 December	TRB	<ul style="list-style-type: none"> Submission of TRB advice to the Minister re <i>Quarrying Operations in the Mid-Goulburn Valley Floodplain</i>
3 December	TRB Chair Galvin	<ul style="list-style-type: none"> Participation in Hazelwood Mine Fire Inquiry Workshop, Melbourne. (TRB member Mackay participated as Director of GHERG)
9 – 10 December	TRB Chair Galvin	<ul style="list-style-type: none"> Attend hearing and give evidence at Hazelwood Mine Fire Inquiry. (TRB member Mackay gave evidence as Director of GHERG)
11 December	Unger	<ul style="list-style-type: none"> Give evidence at Hazelwood Mine Fire Inquiry
2016		<ul style="list-style-type: none"> Updated on and provide input into the ERR Reform Process Visit to Anglesea Mine to discuss mine closure and rehabilitation planning and to inspect site. Formulation of advice to the Department.
10 – 12 February	Full TRB Board	<ul style="list-style-type: none"> Discussion and formulation of advice to the Department on mine closure and rehabilitation planning for the Latrobe Valley brown coal mines. Review of Enterprise Risk Management Framework (ERMF) with the ERR Reform team
20 February	TRB	<ul style="list-style-type: none"> Submission of advice to the Minister re <i>Anglesea Coal Mine, Seymour Quarry (WA1189) Risk Assessment and Departmental Reform</i>
26 February	TRB Chair Galvin	<ul style="list-style-type: none"> Meeting with Minister D'Ambrosio
8 – 9 March	Full TRB Board	<ul style="list-style-type: none"> Discussion on Minister's Statement of Expectations Action Plan for ERR ERR Reform Team and PwC advisors meeting to update to TRB on ERMF and to seek TRB input on strategic risk register developed by ERR Presentation on Rehabilitation and Closure Framework and Policies by TRB member Unger Discussions with ERR management on mine rehabilitation and closure planning
11 April	Galvin, Johnston & Mackay	<ul style="list-style-type: none"> Attend launch by Minister D'Ambrosio at Yallourn Coal Mine of government funded Batter Stability Research Project
19 – 21 April	Full TRB Board	<ul style="list-style-type: none"> Discussion on TRB advice previously provided to the Department regarding matters arising from Anglesea Coal Mine visit, including recommendations relating to the ongoing closure of Coal Mine Road and the pumping of groundwater from beneath the mine

Date	Who	Activity
		<p>floor.</p> <ul style="list-style-type: none"> Review and formulation of advice regarding the ERR Reform Risk Assessment Framework Summary Report Meeting with the Executive Director, Earth Resources Policy and Programs and briefing on the evolution of Clean Coal Victoria (CCV) into Coal Resources Victoria (CRV). Presentation from the Director of CRV on the future of brown coal operations and CRV's coal research strategy and community and stakeholder engagement strategy Yallourn Mine visit - general site inspection of areas having relevance to ground stability, including Morwell River Diversion, Maryvale operations, Batter Stability Project site, rehabilitated batters and area of current backfilling of pit floor Update from Department management on ERR Reform Project and discussions on ERMF and roll out strategy for it within ERR
3 May	TRB	<ul style="list-style-type: none"> Submission of advice to the Minister re <i>Departmental Reform and Hazelwood Mine Fire Inquiry Recommendations</i>
23-24 May	Full TRB Board	<ul style="list-style-type: none"> Critique of Hazelwood Mine Fire Inquiry Recommendations 2, 3, and 4 since they are premised on the involvement of the TRB Discussion on integrated closure management plans for the Latrobe Valley brown coal mines, including the need for stakeholder engagement Discussion on regulatory processes for approval of Risk Assessment and Management Plans (RAMPs) Review of status of 'works in progress' associated with TRB activities and advices since its inception in 2009 Presentation from the Department on some of its responses to the Volume IV findings of the Hazelwood Mine Fire Inquiry Discussion and formulation of a strategy to identify and prioritise research and development needs in relation to mine stability and rehabilitation in the Latrobe Valley Review of TRB's performance against Minister's Statement of Expectations
20-22 June	Full TRB Board	<ul style="list-style-type: none"> Inspection of Batter Stability Project site at Yallourn Mine in company of senior management from the Latrobe Valley brown coal mines, and presentation from GHERG on research elements and progress to date Inspection of sites of previous ground movement and cracking on Latrobe Road and the Princes Highway Preparation of an advice re <i>Management of Cracking beside Latrobe Rd.</i> Meeting with Coal Resources Victoria to discuss strategy for the development of the Regional Rehabilitation Plan as per recommendations of Hazelwood Mine Fire Inquiry Briefing from Loy Yang Mine management on research being undertaken by the company into batter rehabilitation Briefing from Elizabeth Radcliff on those aspects of ERR reform process concerned with authorised officers Drafting of 2015-16 TRB Annual Report

Aspects of the more significant activities recorded in Table 1 are expanded upon in the following sub-sections of this report.

5.2 Reform of Earth Resources Regulation

In September 2015, Minister D'Ambrosio announced that the Earth Resources Regulation (ERR) Branch of the Department of Economic Development, Jobs, Transport and Resources (DEDJTR) was to be reformed in order to improve regulatory practice, processes and operations, and restore community confidence in the regulator. In response, an Action Plan was developed by ERR that set June 2016 as the target date for the development and implementation of the reforms.

The reform process impacted on the TRB in a number of ways, including:

- The TRB was reappointed in September 2015 for only ten months, such that the conclusion of this appointment would coincide with the ERR reform implementation target date of 30 June 2016.
- The TRB was consulted extensively by Department management and the Minister during the development and implementation of the reform package.
- The Minister provided the TRB with a Statement of Expectations (SOE) for the operation of the TRB. This SOE and the TRB's response to it are presented in Appendix 1.

The TRB strongly supports the reform of ERR, with the reform agenda addressing a number of concerns raised in the past by the TRB. The Board recognises that reform will take several years to become fully effective and that some of the necessary improvements are constrained in the short term during this rebuilding process.

The TRB is optimistic that the successful implementation of the reform agenda, in particular the move to an Enterprise Risk Management Framework (ERMF) consistent with International Standard ISO 31000 Risk Management, will provide a platform for addressing the underlying causes of key concerns to the TRB. This is because ISO 31000 has specific regard to governance, organisational structure, organisational resilience, roles and accountabilities, people skills, experience and competencies, training, transparency and culture.

Since its inception, the TRB has been particularly concerned about the scope and level of technical capability within the Department. For the reforms to be effective, it is essential that ERR:

- has a sound understanding of the principles and technologies underpinning geotechnical, hydrogeological and rehabilitation practice;
- has the capability to recognise when there is an issue and whether it can be dealt with internally or by consulting the Technical Expert Panel that ERR is proposing to establish;
- is able to competently distil data about an issue, either for internal or panel assessment;
- is capable of evaluating outcomes from multi-disciplinary perspectives and assess whether these are reasonable; and
- is competent to effect the appropriate action.

The TRB is of the view that ERR should possess a much stronger technical capability. It is hoped that the reform process will lead to this in time to come.

The TRB's response to the Minister's Statement of Expectations was finalised in late November 2015. The Board believes that it satisfied the Statement of Expectations to the fullest extent possible within the constraints imposed by the substantial reforms taking place within ERR. In addition to being consulted on aspects of the reform process, the Board continued to address and provide advice on a range of ongoing matters. TRB members made substantial contributions to the Hazelwood Mine Fire Inquiry, as reflected in the Inquiry's findings. The Chair met with the Minister in accordance with the committed timeline, except in May when there was a change in Minister just prior to the scheduled meeting.

5.3 Hazelwood Mine Fire Inquiry

During the 2015-16 reporting period, the Hazelwood Mine Fire Inquiry presented the fourth and final volume of its findings. This volume addressed Paragraphs 8, 9 and 10 of the Inquiry's Terms of Reference relating to short, medium and long-term options to rehabilitate the Hazelwood mine, the Yallourn mine and the Loy Yang mine.

At the request of the Hazelwood Mine Fire Inquiry Panel, the Minister agreed to the TRB assisting the Inquiry with these aspects of its TOR. All four TRB members made some contribution, although Professor Mackay's

contributions were made in his role as Director of GHERG. Professor Galvin and Ms Unger along with Professor Mackay participated in two workshops to critique advice that the Inquiry commissioned from Jacobs Australia Pty Limited prior to taking evidence. These TRB members gave evidence at the Inquiry.

The TRB has been reporting since 2012 that it considers the original measures proposed for the rehabilitation of the Latrobe Valley brown coal mines fall well short of what could reasonably be considered as adequate. Experience has revealed that rehabilitation is a far more complex matter than envisaged when rehabilitation plans were developed as part of the Work Plans for the mines. Successful rehabilitation is contingent on forming final mine batters that are stable in the long-term and appropriate for post-mining land uses. The Board has advised many times that this requires considerable further research into material properties and behaviour mechanics of brown coal.

Volume IV of the Hazelwood Mine Fire Inquiry made 18 recommendations, all of which have been accepted by Government. The TRB features directly in three of these recommendations and is pleased to see the need for further research recognised in another. These recommendations are:

Recommendation 2

Redress gaps in expertise by employing or engaging suitably skilled and experienced personnel in mine closure and rehabilitation liability assessments, and obtaining regular advice and guidance from the Technical Review Board.

Recommendation 3

Provide appropriate and ongoing resources to the Technical Review Board, particularly for the purpose of providing strategic advice on mine stability and rehabilitation.

Recommendation 4

Increase the rate of progressive rehabilitation by developing milestones within the mines' progressive rehabilitation plans in consultation with the mine operators and the Technical Review Board, and require the successful achievement of the milestones.

Recommendation 18

By 31 December 2016, develop an integrated research plan that identifies common research areas and priorities for the next 10 years, to be reviewed every three years. The plan should be developed in consultation with the Mining Regulator and relevant agencies, research bodies and experts.

In concluding its report, the Inquiry singled out the TRB's work for commendation, stating:

The Board commends the work of the Technical Review Board, in particular its provision of robust and independent advice to the Minister for Energy and Resources and the Department of Economic Development, Jobs, Transport and Resources on mine stability and rehabilitation.

5.4 Batter Stability Project

The TRB was very pleased to see ERR's Batter Stability Project launched by Minister D'Ambrosio on 11 April 2016. The TRB has had extensive input into the development of this research project over the last two years. The project is considered an essential element of the substantial research effort required to better understand the material and mechanical properties of brown coal and its local and regional behaviour as a basis for reliable design for mine stability and rehabilitation. Professor Ian Johnston (TRB member) was Chair of the Technical Advisory Group for the preparatory stages of this work in 2014.

This type of research is needed for many reasons, some of which are:

- Reviews of the Latrobe Valley mines by past and current members of the TRB have highlighted that there are processes and mechanisms related to the response of brown coal to mining that are not well understood.
- There has been limited research undertaken in the past 30 years into the geotechnical behaviour of the geological formations of the Latrobe Valley.

- Important aspects of many mine design methods being used in the Latrobe Valley are based on assumed or general material properties and behaviour mechanisms, rather than on direct observations and measurements.
- There has been very limited back analysis of recent batter movements and failures to confirm the governing mechanisms.
- There is limited information available on the reliability of existing material properties data.
- There is insufficient understanding of the data requirements for applying probabilistic risk methods, that are increasingly accepted in industry elsewhere as best practice.

The TRB is working with the regulator to develop a coordinated approach to identifying and prioritising research needs to address the requirements of Recommendation 18 of the Hazelwood Mine Fire Inquiry.

5.5 Managing Mining-Induced Impacts Extending Beyond a Mining Lease

Consistent with the results of theoretical assessments and computer modelling over the last three decades, experience has shown that mining and quarrying induced ground movements are not necessarily confined to within a mining or quarrying lease. In the case of brown coal mines, these movements can extend well beyond one kilometre of the crest of a mine batter. The consequence of these movements for public safety and the structural integrity of private and public infrastructure is a function of the distance from the crest of the mine or quarry and the tolerance of infrastructure to differential ground movements.

A number of mine instability events in the Latrobe Valley in recent years have highlighted a lack of definition and clarity around which stakeholders are responsible and accountable for responding to and managing mining-induced impacts on the natural and man-made environment. The lack of a management framework that clearly defines the roles and accountabilities of a mine owner and the various government agencies can, and has, resulted in delayed, uncoordinated and ineffective responses between primary stakeholders. During the current reporting period, the TRB prepared two advices in this regard. Based on experience in some other Australian states, addressing this situation in Victoria is likely to involve both changes to legislation and to the internal workings of the relevant government departments.

The current reform process within ERR provides the opportunity to address this important matter. This involves giving consideration to changes in legislation and government administrative procedures that result in, amongst other things:

- A mine operator being accountable for detecting all mining-induced effects that have a potential to impact natural and man-made features, irrespective of whether the effects occur within or outside of their mining lease.
- The identification and mapping of hazards and the monitoring and remediation of mining impacts being an expense of the mine operator.
- Work Plans being premised on a thorough consideration of the potential mining impacts outside of the mining lease (as well as inside).
- Approval of Work Plans being contingent on the development of risk-based management plans to manage the impacts and consequences of mining-induced effects in an effective and timely manner.
- Clearly defined roles, responsibilities and accountabilities of those government agencies involved with approving Work Plans in respect of monitoring and managing mining impacts on natural and man-made features.

5.6 Mine Closure and Rehabilitation

Mine closure is a process that takes place in the period between when the operational stage of a mine is coming to an end or has ended and when mine decommissioning and mine rehabilitation are complete. Completion is

reached when the mine site is in a state where the mining lease ownership can be relinquished and responsibility for the site accepted by the next land user¹.

Rehabilitation is an element of the closure process. However, it may be undertaken progressively to either a temporary or permanent standard while mining is occurring for reasons that include aesthetics, dust control, water control, revegetation and additionally, in the case of the Latrobe Valley brown coal mines, fire risk management. Planning for mine closure and rehabilitation should be considered in every stage of the life-of-mine cycle, commencing with prefeasibility studies. Decisions made early in a project life about mine design and treatment and processing of ores and minerals can have serious implications for the cost and effectiveness of mine closure processes and, hence, legacies for future generations.

The TRB has reported on a number of occasions since 2012 that it considers the original measures proposed for the rehabilitation of the Latrobe Valley brown coal mines fall well short of what could reasonably be considered as adequate. Rehabilitation assumed a higher profile in the 2014-15 TRB reporting period due to the focus of the Hazelwood Mine Fire Inquiry on fire fighting activities on the Hazelwood Mine batters and on covering batters to reduce fuel load. This led to rehabilitation being included in the TRB's TOR at the start of the current reporting period and TRB membership being reconstituted to include a specialist (Ms Corinne Unger) on mine closure and rehabilitation. Rehabilitation assumed an even higher profile during the current reporting period due to the final stage of the Hazelwood Mine Fire Inquiry having a specific focus on mine rehabilitation.

Volume IV of the Hazelwood Mine Fire Inquiry recommends further studies and consultation to address a range of issues related to mine rehabilitation, including post-mining land use options, long term stability issues, water availability for final void filling, progressive rehabilitation for fire control purposes, community engagement, rehabilitation research needs and the relative roles of industry and government in this process. The Victorian Government has responded in a number of ways including the allocation of \$12.6 million to Earth Resources Regulation to fund an integrated study of the requirements and implications of brown coal mine rehabilitation and closure for government and the Latrobe Valley.

The TRB welcomes this initiative. The proposed level of funding and four year duration of the program of studies should permit an appropriate level of research and development work to be completed and it can be anticipated that the outputs of the program will provide confidence to the government that a sustainable outcome for the Latrobe Valley can be achieved. Experience suggests that success will be highly dependent on the responsiveness and flexibility of government processes for procuring the necessary technical work to deliver the best quality product. The TRB is optimistic that the adoption by ERR of an enterprise risk management framework will improve outcomes in this regard.

There are a number of areas in which the TRB can provide valuable input and advice to the project team and initiatives to do so are already in hand. Areas of particular note are:

- advising on proven successful and unsuccessful mine rehabilitation and closure strategies;
- scoping the research and development program;
- advising on required technical capabilities;
- assisting with sourcing appropriate technical capabilities; and
- facilitating stakeholder engagement, consultation and collaboration.

DEDJTR has recognised the need for regulatory guidelines for mine closure and rehabilitation and has commenced work on their development. There are existing global, national and other Australian jurisdiction guidelines that can be used to inform this process to ensure leading practice principles are applied. The TRB has directed ERR to some of these guidelines. A detailed and rigorous evaluation of existing tools and guidance will be required as a basis for developing robust guidance and integrating it with existing regulatory requirements.

5.7 Anglesea Coal Mine

Since its inception in 2009, the TRB has maintained a watching brief on Anglesea Coal Mine in response to pre-existing and new concerns regarding mine stability. The mine closed in 2015. The TRB inspected the site in the company of a number of ERR officers during the current reporting period and received a presentation from Anglesea mine management on the mine rehabilitation and closure planning process, which is in its very early stages. This inspection formed the basis of a TRB advice to the Minister regarding the approach to mine closure

¹ *Leading Practice Sustainable Development Program for the Mining Industry. Mine Closure and Completion.* Department of Industry, Tourism and Resources. Australian Government. 2006

and rehabilitation and ongoing concerns regarding the mining-induced impacts on Coal Mine Road which runs along the southern boundary of the mine.

Subsequently, the TRB has been involved in a number of discussions with ERR officers in relation to the development of a Rehabilitation and Closure Plan for Anglesea and for all mines in general. It is particularly important that ERR has regard to past advice from its external technical advisors and the TRB as to the limited data acquisition, investigations, monitoring, modelling and analysis to inform mine stability assessment at Anglesea Coal Mine. Unexplained batter and floor movement at this mine in association with the limited knowledge base could have implications for ongoing mine stability and for mine rehabilitation and closure.

5.8 Peer Review of Morwell River Diversion

The 2014-15 TRB Annual Report discussed the status of the peer review process implemented by ERR in relation to the repair of the Morwell River Diversion (MRD) and the integrity of that section of the river diversion that did not fail. The annual report noted that the ongoing stability of the MRD outside of the remediated section is an important matter that requires further assessment and that careful and comprehensive risk assessments are essential to understanding and managing the risks still associated with the MRD. It reported that risk assessments of the remediated section and other areas of the MRD were not available for review by the TRB at that time and that the TRB placed high importance on undertaking these reviews in fulfilling its TOR.

This situation remains unchanged. Staff changes associated with the reform of ERR have impacted on progress. It is important that this outstanding work is completed.

5.9 Agency Roles, Responsibilities and Accountabilities

For some time the TRB has been concerned that, in general, accountability within government for overseeing risk management in the mineral resources sector is assigned to agencies on the basis of the consequences of an unwanted event occurring, rather than on the basis of the agency that is best qualified to provide assurance to government on the robustness of the risk management process required to prevent the event from occurring in the first place. For example, DEDJTR has jurisdiction if ground instability affects the general public while WorkSafe has jurisdiction if it affects employee health and safety.

The Hazelwood Mine Fire Inquiry also reported that there were several examples before the Inquiry that demonstrated that the regulatory framework is inadequate. This situation has resulted in inconsistencies in how risk management plans are developed, duplication of effort on the part of agencies and the stakeholders being regulated, and a lack of clarity regarding responsibility. Unfortunately, this tends to become apparent at the worst time, being when there is a critical incident. Hence, the TRB remains of the view that there is need for wider regulatory reform relating to how the Victorian government oversees risk management in the mineral resources sector, particularly in regard to clarifying roles, responsibilities and accountabilities of agencies.

5.10 Quarrying Operations in the Mid-Goulburn Valley Floodplain

It was noted in the 2014-15 TRB Annual Report that the TRB had been requested by the Department to meet with the Goulburn Broken Catchment Management Authority (GBCMA) and to visit a number of active and defunct quarry mining operations on the mid-Goulburn Valley floodplain in the vicinity of the township of Seymour. This was for the purpose of providing advice on risk to the environment and public infrastructure presented by these operations. The GBCMA, in particular, had expressed concerns that quarry mining operations could result in environment and infrastructure being adversely affected by scouring of watercourses and changes in the pathways of watercourses resulting from quarries becoming inundated (captured) during flood events.

The TRB submitted a written advice to the Minister on this matter in December 2015. It concluded that key consulting reports associated with the matter were not sufficiently robust and did not provide a reliable basis for decision making relating to the severity and management of the risks presented by quarrying operations in the mid-Goulburn Valley floodplain.

In order to establish a sound basis for planning, approving and regulating quarrying operations in the mid-Goulburn Valley floodplain, the TRB recommended that the Department seek the views of a broader scientific and engineering community in order to establish the extent and magnitude of quarrying induced impacts and consequences likely to be experienced in this local setting. This needs to be supported by a resource study to inform high level policy making and strategic planning. The TRB is of the view that the resource study and the

potential impacts study should be led by Minerals Development Victoria or an equivalent planning agency and not by ERR.

The TRB followed up this advice with a second advice specific to Seymour Quarry (WA1189), which is located in the Goulburn Valley flood plain, near the town of Seymour. The Goulburn River is approximately 100 m to the south of the quarry crest, while the Sydney – Melbourne rail corridor is approximately 60 m to the east of the quarry crest. ERR had issued a Section 110 Notice requiring risk assessment in response to concerns raised by the GBCMA and others that the inundation of the quarry by water could present a serious risk to public safety, the environment and public infrastructure. At the request of ERR, the TRB reviewed the risk assessment report prepared in response to the Section 110 Notice and advised accordingly.

5.11 Stakeholder Engagement and Education

For a number of years, the TRB has advocated the fostering of greater engagement and collaboration amongst all stakeholders in order to achieve cultural change in how mine stability and rehabilitation are managed in the Latrobe Valley. Its involvement with initiatives in this regard was ongoing during the reporting period. This included meeting informally with industry senior management on two occasions to explore issues and views and supporting the organisation of the *Second Symposium on Engineering in Brown Coal* to be held in late 2016.

The Latrobe Valley Geotechnical Interest Group (LVGIG), which the TRB was instrumental in establishing in 2013, continued to conduct regional seminars. Its September 2015 – June 2016 program is presented in Table 2.

Table 2: Seminar program of the LVGIG for the September 2015 – June 2016 reporting period

Date	Seminar Topic
October 2015	Landslides, Risk Concepts and Case Studies.
November 2015	Aspects of Ground Improvement – Effectiveness of Different Treatments from Case Histories.
February 2016	Advanced Triaxial Testing Using On-specimen Transducers
April 2016	Stress Measurement Techniques

5.12 The Status of Other Initiatives

Several important initiatives that have some association with past activities and advices of the TRB are still ‘works in progress’ or on-hold. This is mainly due to the distraction of the Hazelwood mine fire; the Hazelwood Mine Fire Inquiry; the attention to mine closure and rehabilitation; the lack of appropriate technical capabilities within ERR; and the loss of corporate memory within ERR as a consequence of organisational and staff changes driven by the reform process.

Examples of these outstanding initiatives include:

- the development of Hazard Management Plans for all infrastructure within 1 km of the crest of Latrobe Valley brown coal mine workings;
- the development and implementation of a Geotechnical Guideline for the Latrobe Valley brown coal mines;
- the development of robust Ground Control Management Plans for some sites;
- the risk profiling of quarries operating on flood plains; and
- the previously noted peer review of risk assessments relating to the stability of the Morwell River Diversion.

The TRB is concerned that the corporate memory of the need for these initiatives and their state of completion now largely resides within the current TRB membership. It would be unfortunate if these initiatives did not come to fruition.

5.13 GHERG

In 2014, the role of GHERG was broadened at the request of ERR to include rehabilitation as one element of its research program. During the current reporting period, aspects of this research informed the evidence presented to the Hazelwood Mine Fire Inquiry by the Director of GHERG, Professor Mackay.

GHERG's research staff comprise geotechnical and hydrogeological specialists and, therefore, it has chosen to concentrate on those aspects of rehabilitation that are associated with final landform stability. This choice reflects current work being undertaken at the Latrobe Valley brown coal mines. At Loy Yang, research efforts are targeted at the development of trial rehabilitation slopes to examine the durability of these slopes for long term rehabilitation. At Yallourn, research efforts are targeted at the implementation of the Batter Stability Project.

Loy Yang mine's rehabilitation trials are planned for an initial five year period (2016-2020). The trials will include the construction of several rehabilitated batter slopes and include geotechnical data collection, site monitoring of ground movements, water quality and flows, and sediment transport. Modelling will be undertaken to explore the major processes and the effectiveness of the slope designs. The first rehabilitation trial is under construction at the intersection of the north and western batters. GHERG is supporting these trials through geotechnical and geo-environmental data collection, analysis of shallow ground and water movements and the monitoring and assessment of sediment fluxes. Planning for this work has been carried out in conjunction with the Mining and Geotechnical Engineering groups at Monash University. GHERG students are also working on options for integrating drainage layers beneath the cap layers to mitigate the risks of excess pore water pressures that can induce mechanical failure of the capping layer.

The Batter Stability Project commenced in mid-April on the northern batters of Yallourn mine. The first phase of the project comprises invasive site investigations using borehole drilling to build a more complete understanding of the geological variability of the interseam formations, the jointing of the coals, the groundwater regimes and the in situ stresses in the coal and interseam formations. This phase will be followed up with detailed geotechnical and hydrogeological experimentation and modelling of the ground conditions impacting ground movements and groundwater flows along the northern Latrobe River batters adjacent to the 2007 batter failure. As part of the first phase, a back analysis of the batter failure will also be undertaken using the available historical and collected data. The first six boreholes are being drilled, sampled and tested in the current reporting period. The remaining seven boreholes, outside of the mine, will be constructed and tested after the end of the 2016 winter season. As noted earlier, this project provides an excellent and important opportunity to explore the adequacy of historical data collected for ground control management and to unravel the coupled hydraulic and geo-mechanical processes that are influential in controlling ground stability post mining.

GHERG is also undertaking a broad range of other research, including:

- groundwater depressurisation impacts on batter stability;
- the development of stress measurements in brown coal;
- the investigation of coal relaxation governing the time-dependent reduction of stress in this formation;
- environmental controls governing creep behaviour of brown coal;
- the interactions between mining induced coal strains and overburden fracturing; and
- the impact of discontinuities on the measurement of coal strength parameters.

These activities will all follow through into the next year and beyond.

6 Going Forward

6.1 Completion of Outstanding Issues

The range of issues canvassed in this annual report, their current status and the need to bring some to fruition sooner rather than later provides considerable ongoing work by the Department.

6.2 Actions arising from Hazelwood Mine Fire Inquiry

Recommendations 2, 3 and 4 of the Hazelwood Mine Fire Inquiry place reliance on the involvement of the TRB in providing strategic advice and guidance on mine stability and rehabilitation and in being consulted on the progressive rehabilitation plans of the Latrobe Valley brown coal mines. The TRB perceives a role for it to be consulted and to add value in relation to the implementation of other recommendations, in particular Recommendation 18 of the Inquiry.

6.3 Emerging Issues

Two important issues have emerged out of the current focus on mine closure and rehabilitation that warrant focused attention in the future. The first concerns operational and legacy issues associated with mine waste dumps, especially tailing storage facilities (TSF) and the second relates to the legacy of abandoned mines.

The TRB is aware that all states in Australia, except Victoria, have been engaged in a process under the Coalition of Australian Government (COAG) of developing a 'Strategic Framework for Managing Abandoned Mines in the Minerals Industry' that was completed in 2010. This is a matter that needs consideration in going forward.

7 Concluding Remarks

The TRB has reported to three governments, six ministers and three government departments since its inception seven years ago. Many of the ERR staff who had an appreciation of the history of risks presented by mining in Victoria and a technical understanding of what needs to be done to effectively manage these risks and the status of these actions are no longer with the Department. This changing landscape requires careful consideration to be given to how corporate memory is being retained within DEDJTR.

The TRB acknowledges that many of the matters discussed in this annual report are symptomatic of the need for the reform of ERR that was initiated during the current reporting period.

It is vitally important that the current focus on mine closure and rehabilitation does not result in a reduction in focus on mine stability. Assuring mine stability is a prerequisite to successful rehabilitation of mine workings.

8 Appendices

APPENDIX 1: STATEMENT OF EXPECTATIONS – MINISTER'S REQUEST



Hon Lily D'Ambrosio MP

Minister for Industry
Minister for Energy and Resources

121 Exhibition Street
Melbourne Victoria 3000
Telephone: 03 8392 2100
DX210074

Ref: D2015/35519

Professor Jim Galvin
Chair, Technical Review Board
PO Box 1228
MANLY NSW 2095

Dear Professor Galvin

STATEMENT OF EXPECTATIONS FOR THE EARTH RESOURCES REGULATION TECHNICAL REVIEW BOARD

I am pleased to provide you with this Statement of Expectations (SOE) for the operation of the Technical Review Board (TRB). This SOE applies from receipt of this letter to 30 June 2016, or until otherwise amended.

This Statement applies to all members of the TRB as appointed by me on 4 September 2015. The TRB is an Advisory Panel under Part 4A of the *Mineral Resources (Sustainable Development) Act 1990*, and this Statement should be read within the context of the objectives, obligations and functions outlined in that Act.

I acknowledge the TRB's support to Earth Resources Regulation Branch (ERR) in the Department of Economic Development, Jobs, Transport and Resources (DEDJTR) over the past six years, and the valuable analysis provided in its Annual Reports over that time.

The purpose of the Board, as set out in its Terms of Reference (attached), is to provide advice to me and DEDJTR on mine and quarry stability issues, specifically in relation to reducing risks to the environment, public safety and infrastructure. Advice on any issues related to rehabilitation was recently added to the Terms of Reference.

Expectations

This SOE sets out my expectations and priorities for the TRB, and they apply to advice and activities under the current Terms of Reference.

1. Increasing strategic advice to the Government

My priority is for the TRB to provide strategic advice to the Government in the areas of mine and quarry stability, rehabilitation and other strategic risks. This will include advice on regulatory approaches to assist ERR achieve its strategic objectives in these areas. I will ask ERR to ensure you are regularly briefed about strategic developments in ERR, so you have the context to brief me.



2. Progressively reducing the provision of advice on technical stability reports

I understand that ERR has previously requested the TRB to review technical stability reports for mines and quarries. ERR will change its practice in that regard to seek those technical services from other sources and reduce requests for the TRB to provide such routine technical advice. I am advised that ERR will be establishing an expert panel to provide routine advice regarding technical work that has previously been provided by the TRB.

I request that you support the rebuilding of ERR by assisting the Department to build expertise and providing a mentoring role in the way you provide your strategic advice.

3. Continuing other activities

The TRB should continue to undertake other activities as specified in the Terms of Reference, and to provide advice on other matters on request from me or DEDJTR.

Reporting

I request that the Chair of the TRB meet with me on a quarterly basis.

The TRB should report progress in achieving these priorities in its 2015/16 Annual Report, which it should submit by 30 June 2016, within the Board's current term.

I expect the TRB to respond to this Statement within 30 days, outlining how it intends to achieve these priorities.

I look forward to working with you as you fulfil this more strategic advisory role.

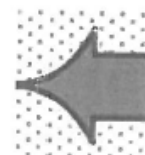
Yours sincerely



Hon Lily D'Ambrosio MP
Minister for Energy and Resources

Date: 23 / 11 / 2015

Enc



APPENDIX 2: STATEMENT OF EXPECTATIONS – TRB RESPONSE

Technical Review Board

26 November 2015

Our Ref: TRBL63

Hon Lily D'Ambrosio MP
Minister for Energy and Resources
Parliament House
Victoria

Dear Minister

TECHNICAL REVIEW BOARD RESPONSE TO YOUR MINISTERIAL STATEMENT OF EXPECTATIONS FOR IT

I am pleased to respond to your letter of 23/11/15 which set out your Statement of Expectations and priorities for the Technical Review Board (TRB) during the remainder of its current term.

This response is provided against the background that since the inception of the TRB six years ago, information exchange between the Department and the TRB has occurred primarily at the level of General Manager Operations, Earth Resources and Regulation. Typically, the TRB has met formally every two months for two to three days, with board members undertaking one to two days of TRB related work between meetings. The board has reported to five different Ministers during that time, all of whom apart from yourself it met only once or twice.

1. Increasing strategic advice to the Government

The TRB commits to providing an increased level of strategic advice to the Department.

In order to achieve this, the TRB will:

- seek to improve information flows by engaging with the Department at a higher organisational level (at least, Director level) than has been past practice;
- seek regular briefings from senior management in the Department about strategic developments in Earth Resources and Regulation;
- extend its understanding of the risk profile of current and defunct mine and quarry operations, including tailings containment and rehabilitation, across Victoria; and
- encourage the Department to utilise the TRB in a proactive manner (rather than in a reaction to incidents, as has predominantly occurred in the past).

1

The TRB may be contacted through the TRB Executive Officer:

TRB EO: Karen Sonnekus
Telephone: (03) 9092 1969
Email: karen.sonnekus@ecodev.vic.gov.au



2. Progressively reducing the provision of advice on technical stability report

The TRB will:

- assist the Department to develop in-house capabilities and to source external resources (e.g. the proposed technical expert panel) to advise the Department on routine technical aspects of mine stability, whilst still fulfilling its Terms of Reference *to review mine and quarry stability reports including monitoring data, that has been submitted to the Department and provide written advice to the Minister*;
- encourage and mentor Department staff to distil relevant information from reports for referral to the TRB in advance of its meetings (rather than providing full reports as per past practice);
- provide advice on the expertise/skill set required to deliver improved regulatory functions and to support the rebuilding of Earth Resources Regulation; and
- consistent with its recently expanded Terms of Reference, provide advice on mine rehabilitation.

3. Continuing other activities

The TRB will:

- continue to promote initiatives to achieve cultural change in how mine stability and progressive rehabilitation is managed in the brown coal sector, including engagement with senior mine management, the development of a geotechnical guideline and the fostering of education and continuing professional development programs for all stakeholders;
- continue to advocate for basic and applied research into brown coal properties and behaviour, mine design and rehabilitation procedures;
- continue to support and guide the activities of the Geotechnical and Hydrogeological Engineering Research Group (GHERG) at the Gippsland campus of Federation University;
- provide guidance to any technical forums which may be held to assist in capacity building within the Victorian mining and quarrying sectors; and
- provide advice on any matters of relevance to its Terms of Reference on an 'as required' basis, including input into the Hazelwood Mine Fire Inquiry.

2

The TRB may be contacted through the TRB Executive Officer:

TRB EO: Karen Sonnekus
Telephone: (03) 9092 1969
Email: karen.sonnekus@ecodev.vic.gov.au



As Chair of the TRB, I welcome the opportunity to meet with you on a quarterly basis and commit to submitting the 2015/16 Annual Report by 30 June 2016, this being the last day of the term of appointment for current TRB members.

The TRB has been of the view for some time that there was a need to change within Earth Resources and Regulation. You have the full support of all TRB members in taking your reform process forward and embedding it for the future.

The TRB looks forward to working more closely with you.

Yours sincerely



Emeritus Professor Jim Galvin

Chair, Technical Review Board

3

The TRB may be contacted through the TRB Executive Officer:

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Telephone: (03) 9092 1969
Email: karen.sonnekus@ecodev.vic.gov.au

