MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

COVERSHEET

Minister	Hon Iain Lees-Galloway	**Portfolio**	Workplace Relations and Safety
Title of Cabinet paper	**Health and safety in mines and quarries – proposed regulatory changes**	**Date to be published**	10 February 2020

List of documents that have been proactively released		
Date	**Title**	**Author**
4/12/2019	*Cabinet Economic Development Committee Minute of Decision: DEV-19-MIN-0322*	*Cabinet Office*
4/12/2019	*Health and safety in mines and quarries – proposed regulatory changes*	*Office of the Minister for Workplace Relations and Safety*

Information redacted **NO**

Any information redacted in this document is redacted in accordance with MBIE's policy on Proactive Release and is labelled with the reason for redaction. This may include information that would be redacted if this information was requested under Official Information Act 1982. Where this is the case, the reasons for withholding information are listed below. Where information has been withheld, no public interest has been identified that would outweigh the reasons for withholding it.

In Confidence

Office of the Minister for Workplace Relations and Safety

Chair, Cabinet Economic Development Committee

HEALTH AND SAFETY IN MINES AND QUARRIES – PROPOSED REGULATORY CHANGES

Proposal

1. This paper seeks changes to the Health and Safety at Work (Mining Operations and Quarrying Operations) Regulations 2016 (the Regulations) to make quarries safer and clarify parts of the Regulations.

Executive Summary

2. The Regulations were reformed under urgency in 2013 to implement the recommendations of the Royal Commission on the Pike River Coal Mine Tragedy (the Pike River Royal Commission) by:

    2.1. retaining competency requirements for quarry managers, but excluding quarries from the Regulations' risk management framework on the basis that they were generally lower risk

    2.2. setting roles, processes and controls to manage mine safety, mainly through "principal" hazard management of multiple fatality risks.

3. An implementation review of the Regulations was promised in 2013, acknowledging the scale and urgency of regulatory reform. The Ministry of Business, Innovation and Employment (MBIE) completed that review in early 2019. The review considered whether quarries needed further hazard management requirements in the Regulations, and whether the Regulations were working effectively.

4. The review followed a robust process that involved detailed targeted consultation, feedback from expert advisory groups, and working closely with WorkSafe New Zealand (WorkSafe) on the issues, analysis and workable proposals.

5. The review found that:

    5.1. there was a case for further hazard management for quarries in the Regulations, particularly in light of a series of quarry fatalities in 2017

    5.2. the Regulations were operating in a disproportionate way, imposing processes and costs on lower risk (especially surface) mining operations that were not intended in 2013.

Quarries – proportionate risk management requirements will improve safety

6. There are an estimated 1,200 quarries, about 95 percent of which are lower risk than surface mining operations. The 2013 consultation identified that it was not feasible to set criteria to bring only the higher risk operations into the Regulations, so I propose to bring all quarries under the Regulations, with differentiated risk management requirements using the existing requirement to have either an A-grade or B-grade manager.

7. As part of my technical proposals, I am seeking to update the threshold test for B-grade managers. Instead of use of explosives (which is an outdated test for risk), I am proposing to limit B-grade managers to managing four workers. I am advised that this is a natural cut-off point for single extraction/crushing units.

8. My differentiated risk management proposal for quarries is:

    8.1. A-grade quarries will be treated in almost the same ways as surface mines: they will need to do risk assessment and use principal hazard management in certain areas (ground/strata instability, road/vehicle operating areas, explosives, health (primarily dust), and emergency management).

    8.2. B-grade quarries will need a documented health and safety management system; those with high working faces will need to seek geotechnical advice.

9. I consider the proposal will keep workers safe and support quarry operators to focus on their particular risks (mainly risks from vehicles and machinery, which are less likely to cause multiple fatalities), using the right level of regulatory process. The Regulations sit alongside the general duties under the Health and Safety at Work Act 2015 and other risk-based regulations under the Act. Possible changes to other risk-based regulations (such as the work I am undertaking on plant and structures) will assist in addressing many of the most common risks in quarrying (such as those relating to vehicle use).

Technical changes are also needed so the Regulations are proportionate for all mining

10. I am also proposing three technical changes to the Regulations to ensure they operate in a proportionate way for different types of mining (Annex 1 sets out more detail on specific changes each would involve):

    10.1. clarifying that principal hazard management is directed to management of multiple fatality risks or mass exposures to potentially fatal health hazards

    10.2. ensuring that other aspects of the Regulations are proportionate for managing multiple fatality risks

    10.3. fixing some technical standalone issues identified in the review – ie, the threshold for B-grade quarry managers, clarifying escapeway requirements in underground metalliferous mines, allowing a limited use of single escapeways when a new underground coal mine is developed, and clarifying that baseline health monitoring is limited to ongoing workers.

11. There is a strong rationale for the proposed changes for the reasons below (and as summarised in the diagram in Annex 2), and I expect them to be acceptable to industry and unions. The proposals:

    11.1. restore the 2013 policy intent of focusing on managing multiple fatality risks

    11.2. adhere to the Pike River Royal Commission recommendations for underground coal mining, and the 2013 policy decision to extend the same processes to other types of operation in a proportionate way

    11.3. reflect Australia-New Zealand mine fatality data that indicate that underground mining is far riskier than surface mining

    11.4. provide worker protection equivalent to Australia, but designed for New Zealand (noting that here other health and safety regulations supplement the Regulations by addressing some risks, whereas Australian frameworks split mining from their more general health and safety regimes).

Background

12. The Regulations result from reforms made under urgency in 2013 to implement the recommendations of the Pike River Royal Commission. The Regulations:

    12.1. excluded quarries from the regulatory risk management framework on the basis that they were generally lower risk

    12.2. set roles, processes and controls to manage mine safety, mainly through a two-tiered system of health and safety management plans combined with "principal" hazard management plans (for managing multiple fatality risks, where risk assessment identifies that such risks are present).

13. An implementation review of the Regulations was promised in 2013, as an acknowledgement that the scale and urgency of regulatory reform meant that their design had been more rushed than was optimal. There was only minimal change to adapt the Regulations to the new health and safety at work framework when they were carried over in 2016. MBIE completed the implementation review in early 2019. Its scope was to:

    13.1. consider whether the quarry and alluvial mining sectors needed further hazard management requirements in the Regulations

    13.2. test whether the Regulations were working effectively in operation.

14. The review followed a robust process. It included three months' targeted consultation with the extractives sector, including sector unions, via a detailed discussion document. MBIE then developed the proposals working closely with WorkSafe to ensure technical accuracy and workability. MBIE sought further feedback on working proposals from MinEx, the peak industry body, and E tū, the main sector union. MBIE also sought feedback from the Extractives Industry Advisory Group (EIAG) (an advisory group to WorkSafe's Board established under the WorkSafe New Zealand Act 2013), and WorkSafe's Mining Board of Examiners (BoE) (the body that oversees extractives industry certificates of competence).

15. Establishment of the EIAG mirrored the advisory group of experts that provided advice when the Regulations were developed in 2013 (a Pike River Royal Commission recommendation). As in 2013, the group includes Australian regulators and regulation experts, and representation from across the extractives sector (both industry and union).

Review findings

16. The findings of the review were that:

    16.1. there was a case for further hazard management in the Regulations for quarries and alluvial mines, particularly in light of a series of fatalities in 2017

    16.2. the regulations were operating in a disproportionate way, imposing processes and costs on lower risk (especially surface) mining operations that were not intended in 2013.

Proposal for further regulatory requirements for quarries

17. I am proposing to strengthen the Regulations by requiring effective and proportionate risk management in all quarries and alluvial mines.

18. There are an estimated 1,200 quarries in New Zealand compared to fewer than 50 mines. Approximately 95 percent of quarries are estimated to be significantly lower risk than surface mining operations. Alluvial mining (of river deposits) is a small sector, with mostly small operations and two large operations (a gold and an ironsand operation).

19. In 2013, longstanding requirements to have either an A or B-grade quarry manager (depending on the level of risk, with A-grade denoting higher risk operations) were carried forward into the Regulations. Quarries were not, however, brought into the Regulations' risk management requirements because they were lower risk overall than mines and it was not feasible to specify criteria for bringing only certain quarries into the regime. While some quarries clearly resemble mines, many do not. The quarry sector operates differently from mining: mines are usually fixed sites, whereas most quarries are riverbed operations, and many sites are quarried only infrequently by mobile extraction and crushing units.

20. Quarry and alluvial mine safety is currently managed under the Health and Safety at Work Act 2015 (HSWA) and supporting regulations. This means that alongside the specific requirements for quarrying and mining safety they must also follow the general duties and non-industry specific regulations under HSWA. There is also a 2017 guideline developed by WorkSafe and the sector, which encourages the same risk management approach as the Regulations.

21. Setting new risk management requirements in the Regulations for quarries and alluvial mines is likely to improve worker safety. I have been provided with Australian and New Zealand mine and quarry fatality data which indicated that, similar to surface mining, quarries are more at risk of single fatalities than multiple fatalities, and that vehicles and machinery pose by far the greatest risk.

22. The quarry sector itself recognises the need for improvement, and supports further regulation in the current review. Some quarry operator submitters were concerned that principal hazard management would be complex and onerous.

Graduated risk management proposals for quarries and alluvial mines

23. I propose to introduce graduated risk management requirements for quarries and alluvial mines into the Regulations, dependent on whether they need an A-grade or a B-grade quarry manager. As part of the technical changes later in this paper, I am proposing to update the threshold test for B-grade managers. The current test specifies using explosives to differentiate between higher and lower risk operations. This is an outdated test and a poor proxy for differential risk. Instead, I am proposing that B-grade managers will only be able to manage quarries where up to four workers ordinarily work. I am advised this is a natural cut-off point for single extraction/crushing units. The revised threshold test was fully consulted upon in the review.

24. My proposal for differentiated risk management in quarries and alluvial mines is that:

    24.1. Quarries requiring an A-grade manager will be required to follow the same process as mines, ie, to undertake risk assessment to determine whether they have certain principal hazards (ground/strata instability, road/vehicle operating areas, explosives, health (primarily dust), and emergency management). If so, they will need principal hazard management plans, controls and specialist advice in the same way as mines.

    24.2. Quarries requiring a B-grade manager will be required to prepare a documented health and safety management system, which would be similar but simpler than mining requirements, and, if they have high working faces (clarified in guidance), they will also be required seek competent geotechnical advice and would require baseline health monitoring (eg, for dust exposure).

25. I do not propose to require quarries to have the role of site senior executive, which is established for mines and tunnels in Schedule 3 of HSWA. I will require quarries needing an A-grade manager to involve a competent person in their risk assessment and oversight of principal hazard management plans, and I understand that WorkSafe and the BoE have set risk management competencies in the quarry manager certificates of competence. Quarries will be required to meet some additional administrative requirements in the Regulations, such as reports to WorkSafe and notification of commencement and suspension.

Implementing the proposals

26. A suitable transitional period will be required for quarries and alluvial mines to meet new risk management processes and for managers to meet new competencies. This also includes time for WorkSafe to refresh its quarry guidance and work with the BoE on competencies.

27. I consider my proposal will support quarry and alluvial operators to focus on their particular risks and manage them under the right level of regulatory process. It would mean that the predominant, generally single-fatality, quarry risks from vehicles and

machinery would be managed under other health and safety at work requirements and multiple fatality risks would be managed under the Regulations.

28. The proposal does not revisit the problematic 2013 approach of trying to set criteria for whether a quarry is in or out of the Regulations. Instead, it uses an existing differentiation mechanism in the Regulations to strike a balance between ensuring similar treatment for quarries with similar risks to mines, and not over-regulating a large number of lower risk operations by requiring them to undertake principal hazard management.

29. The proposal also interlinks with the second part of the review, which is based on restoring the intended proportionality of the regime for different types of mining. Understanding that proportionality is what allows merging 1,200 quarries into the mining regime, and together the two sets of proposals will mean that A-grade quarries and surface mines are treated similarly.

30. I expect the proposed quarry requirements to be well received by stakeholders. Some quarries may be concerned by the additional complexity of the principal hazard management regime, but my officials and WorkSafe will work closely with industry to provide guidance and reassurance.

Technical changes to ensure the Regulations work in a proportionate way

31. I am proposing three technical changes to address the issue identified in the review that the Regulations were not being applied in a way that is proportionate for all types of mining and to fix some small standalone problems.

32. Principal hazard management was being applied too broadly and in workplaces where there was not a risk of multiple fatalities. This meant that the regulatory processes were too onerous and costly for the risks involved. The main example was all operations being required to have mechanical and electrical control plans and the associated role of mechanical or electrical superintendent (at considerable cost). Such plans and roles were intended for underground operations to oversee all equipment so it did not cause, for example, a multiple fatality fire or explosion. The requirement allowed for the possibility that a surface mine was sufficiently risky to warrant a plan (based on risk assessment), but instead was being applied to all operations simply because they had mechanical or electrical equipment.

33. I propose three broad areas for change, and Annex 1 sets out the detailed changes that would support them:

Proposed technical change	What this would involve
• Clarify that principal hazard management is directed to management of multiple fatalities or mass exposures to potentially fatal health hazards	• Clarifying the meaning of “principal hazard”, and identifying which principal hazards apply to both surface and underground operations and which are directed to underground mining • Covers: plans, associated specialist roles, controls
• Ensure that other aspects of the Regulations are proportionate for managing	• Changes to provide sufficient flexibility to differentiate requirements (such as role competencies, supervision, mine plans) for different

multiple fatality risks	mine types or where a mine has reduced its risk profile (eg, where a mine is formally suspended and no longer excavating)
• Fix some technical standalone issues identified in the review	• Re-setting the threshold for a B-grade quarry manager • Clarifying the standard for ladder escapeways in underground metalliferous mines and not requiring a cage/winder for shafts longer than 60m • Allowing for a single exit in a new underground coal mine only while the drives are excavated • Clarifying that baseline health monitoring is intended for ongoing workers • Clarifying the requirement for worker participation in the development of health and safety management systems

34. The basis for my proposals is that:

34.1. they restore the 2013 policy intent of keeping the Regulations focused on managing risks that could cause multiple fatalities, rather than applying onerous process requirements more broadly to lower risks, ie, less likely to cause multiple fatalities and which are well managed using other health and safety regulations (eg, Annex 3: 2013 consultation on the shape of the regime)

34.2. they adhere to the Pike River Royal Commission's recommendations for underground coal mining, and the 2013 policy decision to extend the same processes in a proportionate way to other types of operation (underground metalliferous mines, surface mines, and construction tunnels)

34.3. they are supported by Australia-New Zealand mine fatality data which indicate that underground mining is far riskier than surface mining – 14 years of data show that only underground mining has had multiple fatality events, and has a high proportion of events involving hazards associated with multiple fatalities

34.4. they provide equivalent protections to Australia in a different manner– our framework drew heavily on Australia but was tailored for New Zealand. Here, general health and safety regulations supplement the mining requirements for managing some risks, whereas Australian frameworks split management of mining risks from their more general health and safety regimes.

Impact and risk management

35. The impact of my proposals will be to reset the intended proportionality of the regime, while providing consistent protection for quarry and mine workers who face the same risks and raising safety standards for all quarries. My proposals will not add substantive compliance costs, and will reduce some current over-compliance.

36. The proposals, including the new quarry proposal for graduated principal hazard management, are strongly supported by WorkSafe. My officials have engaged with E tū, which is happy with the proposals. Some quarry operators may have concerns about the complexity of principal hazard management for quarries, but my officials

have worked with MinEx, which considers the proposals are workable, and I believe the proposals will be accepted.

37. My proposals have no impact on Pike River recovery.

Consultation

38. I have consulted the following Government agencies: WorkSafe, the Pike River Recovery Agency, MBIE's Energy and Resource Markets branch, the Departments of Conservation and Internal Affairs (local government) and the Treasury. I have informed the following Government agencies of the paper: the Accident Compensation Authority, Civil Aviation Authority, Maritime New Zealand, the Department of Internal Affairs (Fire and Emergency Management and Office of Ethnic Communities), the Ministries of/for Environment, Health, Justice, Pacific Peoples, Primary Industries, and Women, MBIE's Building Systems Performance and Regional Development branches, the New Zealand Police, the State Services Commission, Te Puni Kōkiri, and the Department of the Prime Minister and Cabinet.

Financial Implications

39. There are no financial implications in this paper.

Legislative Implications

40. Amendments to the Mining Regulations will be required to implement these policy changes. Once policy decisions have been made, I will instruct Parliamentary Counsel to draft amendments to the Mining Regulations. I aim to bring amendment regulations before the Legislation Committee in early-mid 2020.

Impact Analysis

41. The Treasury Regulatory Quality Team has determined that:

    41.1. The proposals to better target principal hazard management to catastrophic risk and to clarify definitions and the application of the Mining Regulations are exempt from the Regulatory Impact Analysis (RIA) requirements on the basis that they are minor and technical changes to existing regulations to restore the original policy intent and ensure workability; and

    41.2. The proposed changes to require more formality in managing risks in quarries and interpret "escapeways" for underground metalliferous mines are exempt from the RIA requirements on the basis that they will have no or only minor impacts on businesses, individuals and not-for-profit entities.

Human Rights, Gender Implications, and Disability Perspective

42. There are no human rights, gender or disability implications in this paper.

Publicity

43. This will be managed by MBIE and WorkSafe working alongside MinEx and E tū.

Proactive Release

44. I intend to release this paper in accordance with the Government's proactive release policy.

Recommendations

The Minister for Workplace Relations and Safety recommends that the Committee:

1. **note** that substantial new health and safety mining regulations (the Regulations) were developed in 2013 to implement the recommendations of the Royal Commission on the Pike River Coal Mine Tragedy;

2. **note** that the Ministry of Business, Innovation and Employment (MBIE), working with WorkSafe New Zealand (WorkSafe), undertook an implementation review of the Regulations in 2018 to 2019 to consider whether quarries and alluvial mines needed further regulatory hazard management requirements, and test that the Regulations were working effectively in operation;

3. **note** that the review found that:

   3.1. there was a case for further regulatory hazard management in quarries and alluvial mines, particularly in light of a series of fatalities in 2017, and

   3.2. the regulations were operating in a disproportionate way, imposing processes and costs on lower risk (especially surface) mining operations that were not intended in 2013;

4. **agree** to further regulation for all quarries and alluvial mines to drive safety improvement, with the specific features set out below:

   4.1. Requiring principal hazard risk assessment in the same way as mines for all quarries and alluvial mines which need a manager with an A-grade manager certificate of competence, for:

   i. ground and strata instability;
   ii. roads and other vehicle operating areas;
   iii. explosives;
   iv. worker health (particularly exposure to dust);
   v. emergency management ;

   4.2. Requiring a tailored documented health and safety management system for all quarries and alluvial mines which need a manager with a B-grade manager certificate of competence, and requiring geotechnical advice for high working faces and baseline health monitoring;

   4.3. Moderating other aspects of the Regulations for quarries and alluvial mines to: not require a site senior executive role; require notification of commencement; and require some additional reporting and record keeping;

   4.4. Allowing a suitable transitional period for quarries and alluvial mines to meet new risk management requirements and role competency requirements;

5. **agree** to the following technical changes to ensure that the Regulations operate proportionately for different types of mining:

5.1. clarifying that principal hazard management is directed to management of multiple fatalities or mass exposures to potentially fatal health hazards;

5.2. ensuring that other aspects of the Regulations are proportionate for managing multiple fatality risks;

6. **agree** to fix some technical standalone issues identified in the review:

6.1. setting a revised risk test for B-grade quarry managers of no more than four workers ordinarily working;

6.2. clarifying the requirement for two escapeways trafficable on foot for underground metalliferous mines – and allowing, but not requiring – a mechanical winder/ cage for shafts longer than 60m;

6.3. allowing a single exit in a new underground coal mine, but only while drive/s are excavated and before any coal extraction;

6.4. clarifying that baseline health monitoring is only required for ongoing workers;

6.5. clarifying the requirement for worker participation in the development of health and safety management systems;

7. **note** that the proposed changes to the Regulations are expected to be well accepted by WorkSafe New Zealand, the extractives industry and sector unions;

8. **invite** the Minister for Workplace Relations and Safety to instruct Parliamentary Counsel to draft regulations to give effect to the policy decisions in this paper;

9. **authorise** the Minister for Workplace Relations and Safety to make decisions on detail and make changes consistent with the policy intent, on any issues that arise during the drafting process;

10. **approve** the Minister for Workplace Relations and Safety releasing drafts of the regulatory amendments to WorkSafe, and key stakeholders such as E tū, MinEx, the Mining Board of Examiners and the Extractives Industry Advisory Group;

11. **authorise** the Minister of Workplace Relations and Safety to determine whether wider consultation on draft regulations is required, and if so, to release a draft of the regulations, and related commentary, for public consultation;

12. **note** that this paper, along with Cabinet minutes and supporting documentation, is proposed to be proactively released within 30 working days of the final decision being made by Cabinet. The release of the information is subject to redactions consistent with the *Official Information Act 1982*.

Authorised for lodgement

Hon Iain Lees-Galloway

Minister for Workplace Relations and Safety

Annex 1: Supporting detail for technical proposals

Proposals to align Regulations to 2013 policy intent

Proposal	Supporting detail	Context
Clarify that principal hazard (PH) management is directed to management of multiple fatalities or mass exposures to potentially fatal health hazards	Clarify that PH means a hazard that could cause multiple fatalities or mass exposures to potentially fatal health hazards (r.65(b))	• Current meaning of PH includes a hazard that could create a risk of multiple fatalities in a single incident "or a series of recurring accidents" (r.65(b)) • This has been interpreted as covering single fatality risks, eg, of vehicles going over a mine face, whereas this was not the policy intent • New South Wales applies the same words to single fatality risks
	Restrict need for mechanical and electrical principal controls plans (and the associated requirement for specialists) to underground mining and tunnelling (rr.96-100)	• These were primarily intended for underground mining, with a possibility a rare surface mine might be sufficiently risky • Instead, mines with machinery or electrical equipment (effectively all mines) were required to have these • Note that the further proposal for more flexibility for competencies within a role will ensure tailoring superintendent role to coal/non-coal
	Do not require surface operations, other than those near old mine workings or significant bodies of water, to peer review inundation /inrush risk assessments (rr.72-76)	• Inrush is primarily a risk for underground mining, but can occur in surface mining • The proposal still requires competent assessment of the risk, but reduces further compliance so that the requirements are proportionate to risk
	Clarify that PH management plans for mine shafts, fire and explosion, and gas outbursts are only required for underground operations (rr.77-79, 85, 88-91)	• MBIE and WorkSafe were able to identify from 2013 work and the Regulator's experience/expertise that these PHs are limited to underground
	Allow for differentiated Certificates of Competence (CoCs) and experience within specialist roles (eg, as between types of operation, surface and underground, coal and non-coal), except site senior executive (SSE) (r.34)	• The Regulations prescribe specialist roles that require CoCs, and WorkSafe and its Mining Board of Examiners (BoE) set the unit standard and experience requirements • Stakeholders, WorkSafe and the BoE identified that the same role within a different type of operation does not need the same competencies, eg, a ventilation officer working in an underground metalliferous mine does not need qualifications and experience in underground coal mines • SSEs do not need different risk management competencies
	Clarify that the managers' day to day role is managerial oversight of mine workers rather than a supervisor's role (rr.13-15)	• The managers' role includes having to "supervise" the health and safety aspects of the operation on every day on which any mine worker is at work. This was frequently getting confused with the supervisor's direct staff supervision role
	Target the need for a qualified supervisor to when catastrophic risks are present, rather than when production is occurring (rr.30-31)	• The Regulations require qualified supervisors "for each production shift", creating confusion about what was required eg for maintenance shifts • The proposal targets the need for qualified supervision to the presence of principal hazards
	Establish a gas monitoring competency for supervisors in coal exploration operations	• For coal exploration, the Regulations do not require an SSE or qualified manager but do require a qualified supervisor to manage any risk of drilling into methane • The review identified that restoring the former gas monitoring competency would be sufficient for this risk
	Do not change the current requirement for an SSE in an underground metalliferous mine to hold both an SSE and a mine manager CoC	• A mine manager CoC is appropriate for an underground metalliferous mine SSE
Ensure other aspects of the	1. Reduce mine plan requirements for non-	• The Regulations have stringent requirements for mine plans, that need considerable detail, frequent updating (including in the

Proposal	Supporting detail	Context
Regulations are proportionate for managing multiple fatality risks	underground coal mines, ie, simpler plans, less frequent plan updates and notifications to WorkSafe, and allow for mine surveyors with purpose-designed CoCs without need for underground coal mine expertise (r.213)	NZ Geodesic Datum format (NZGD)) and sign-off (by a mine surveyor (for underground mining) or a licensed cadastral surveyor for surface mines and tunnels) • Mine plans are vital for emergency management in underground operations and for avoiding inrush hazards (as they need to show any adjacent old mine workings (which are flooded on abandonment)) • The review identified that mine plan requirements are geared to underground coal mining, and need more nuance for other types of mining with: - detail more tailored to safety in different types of operation - more standardised, annual updates in NZGD - less frequent updating for surface operations - development (over time) of different categories of mine surveyor for tunnels and surface mines
	2. Clarify which tunnels are excluded from the regulations, ie, short tunnels and those where machines have has largely replaced the need for having any workers underground	• The Regulations exclude short tunnels (less than 15m) where 1 or 2 people ordinarily work as long as explosives are not used and no methane is present (nb, other HSWA requirements cover excluded tunnels) • WorkSafe feedback and submissions identified the reference to 1-2 people working as an unintended limitation (the exclusion was carried forward from the earlier mining regulations, which defined a tunnel as working "With ground cover overhead, for the purpose of making an excavation intended to be greater than 15 metres long")
	Tourist mines - set lesser managerial requirements proportionate to their level of catastrophic risk, ie, no SSE role and discretion over need for a manager with a CoC	• The 2013 policy intent was for Tourist mines to be covered, but the regulations would need to be adjusted to better meet their requirements (*Safe Mines: Safe Workers, Response to submissions*, p.10: https://www.mbie.govt.nz/assets/a05dd8bd77/safe-mines-safe-workers-response-to-submissions.pdf) • This adjustment was missed in the urgency of developing the Regulations, and would be addressed by the proposal, linked to the presence of principal hazards, and using regulator discretion due to the wide variation in types of tourist operation
	Suspended mines: • Clarify the meaning of suspension, to cover periods when operations are on "care and maintenance", or when only site rehabilitation is being undertaken (this also involves clarifying the related states of commencement, recommencement and abandonment and associated notifications) (r.211) • Allow for discretion to reduce the need for a site senior executive or allow for less oversight by the manager when operations are suspended	• The review identified a number of problems with matching the regulatory obligations to the life-cycle of mining operations, such as - suspension doesn't cover but should the state where mines are not extracting but essential systems are maintained in case they re-start ("care and maintenance") - lack of clarity about abandonment of operations from the worker safety perspective vs environmental remediation • The proposal is intended to provide more regulator discretion where operations no longer have principal hazards, and to tidy up the life-cycle definitions

Proposals to fix technical issues in the Regulations

Proposal	Supporting detail	Context
Fix quarry and alluvial mine manager settings	• Re-align the B-grade quarry and alluvial manager roles to the appropriate level of risk, by replacing the outdated use of explosives as the proxy for risk with a limit of up to four regular full-time quarry workers (plus manager), exclusive of office staff and periodic contractors such as a mechanic or trucks loading out to off-site from stockpiles (r.21) • Allow a suitable transitional period (indicatively up to three years) for B-grade certificate of competence (CoC) holders to upgrade where they are currently managing A-grade sites	• Under longstanding regulations, quarries must be managed by a quarry manager who holds an A or B-grade CoC. A B-grade CoC is a lesser competency for a lower risk operation • The current proxy for risk is explosives – a quarry may have a B-grade manager if: - it uses explosives, but not more than 4 quarry workers ordinarily work at any one time, or - it doesn't use explosives (ie, there is no worker limit) • The BoE had identified that a B-grade CoC was not suitable for large quarries, and had already started applying an A-grade oral examination level to B-grade CoCs • The problem was that the Regulations used the wrong proxy for risk differentiation and MBIE consulted on replacing explosives with the 4 workers threshold • The review identified that while number of workers is still imperfect, size is the best indicator of risk available and 4 workers covers a single excavator/ crusher operation. The provision would still need careful drafting to exclude trucks loading out from stockpiles, one-off contractors, or administrative workers
	• Specify alluvial manager CoCs for alluvial mines rather than using quarry CoCs, as this allows setting lower competency requirements than for quarries (r.22)	• Currently a quarry CoC is needed for alluvial mines, which are generally simpler
Fix escapeways: • **underground coal** • **underground metalliferous** • **tunnels - no change**	*Underground coal* • Allow an exception to the normal requirement for two escapeways to fresh air, to apply only during the development of access drives, allowing for a single escapeway only up until prior to reaching coal, preferably the last cross-cut in stone, and in any event before any mining commences (r.171) • Allow the escapeway to use forced ventilation rather than being an intake airway	• The Regulations clarified the need for two escapeways trafficable on foot from an underground coal mine – a recommendation of the Royal Commission • The Regulations can be interpreted as requiring this of an underground coal mine from exploration through to abandonment • However, when a new underground coal mine is established, there is a stage while drive/s are tunnelled before any coal excavation where the mine is like a tunnel, and the two escapeway requirement does not make sense • This is a small gap in the Regulations that needs clarification, to the effect that, for this very narrow window, it is appropriate to allow for single escapeways in the same way as a tunnel – this clarification would be tightly confined • There are no new underground coal mines currently under development
	Underground metalliferous • Clarify that escapeways in metalliferous mines must be trafficable on foot in an emergency, and that the standard is determined by risk assessment • Allow that one escapeway may be – but does not have to be – replaced by a cage/winder, but that any cage/ winder must comply with regulatory standards • Provide a backstop (if required) of a transitional period of up to 2-years for an underground metalliferous mine operating	• Underground metalliferous mines also need two escapeways trafficable on foot, or, if one exit is a shaft longer than 60m, it may have a mechanical winder or cage • What is trafficable on foot was intended to be determined by risk assessment • The provisions were unclear, leading to different views about what standard of ladder was acceptable and whether a cage/winder was required or optional, and the proposals are simply intended to make sure the wording makes the policy intent clear • Submitters, WorkSafe and the EIAG have confirmed the intention that the standard is determined by risk assessment • The different views have created an impasse since 2014, which may mean a transitional period is required if any operators that were operating in 2013 are required to upgrade. If required, upgrade could involve significant costs, and in 2013, the cost imposition for existing underground

Proposal	Supporting detail	Context
	prior to December 2013, if it is required to upgrade an existing ladder escapeway to meet the regulatory standard, commencing from such date as WorkSafe may require it to upgrade its ladder (r.172)	coal mines of upgrading to a second exit (drive) was recognised through a transitional provision (cl.2, Sch.1 of the Regulations). Equity may warrant similar treatment for underground metalliferous mines. A transitional period may not be needed, but if so, up to 2 years is a suitable period
	Tunnels • Make no change to escapeway provisions for tunnels, as these already allow for a single escapeway and refuges, so long as these are adequate to ensure safety (r.170)	• Tunnel submitters raised concerns that they may be required to have two exits, but the Regulations do not require this – no change
Fix baseline health monitoring requirement	• Clarify that health monitoring for mine workers is aimed at the operation's regular workforce rather than periodic contractors because it is related to ongoing exposure to dust as a principal hazard (r.127)	• Alongside the obligation to have a worker health principal control plan to address the management of health hazards, the Regulations require operators to offer medical examinations to mine workers, at the operator's expense, at various times, including immediately before the mine worker starts and ceases at the operation, and 5-yearly • The policy intent was for baseline health monitoring for ongoing mine workers, not occasional contractors, eg, an electrician • No workers are disadvantaged as Part 3 of the *Health and Safety at Work (General Risk and Workplace Management) Regulations 2016* (rr.32-42) provides suitable effective monitoring requirements for all workers, including occasional contractors, including allowing for cost sharing where two or more businesses are involved
Clarify worker participation in the development of health and safety management systems	• Clarify that worker participation is required as well as worker engagement in developing health and safety management systems • Clarify that there is the ability to involve representatives more broadly than health and safety representatives (r.60)	• In the review consultation E tū advised that the requirement in r.60 to engage with workers in developing health and safety management systems did not reflect the Act's worker participation duty • The proposals fix an inadvertent omission in carrying over the Mining Regulations as developed in 2013 into the 2016 health and safety at work framework • Worker participation requirements implement the Royal Commission recommendation to "require operators of underground coal mines to have documented worker participation systems". These were covered more broadly in the 2013 Health and Safety in Employment (HSE) Mining Regulations as follows: - The previously semi-optional requirement of a worker participation system was made mandatory for mining and was required to be documented (r.109 and Sch.3) - Regulation 60 required consultation with workers and health and safety representatives when developing health and safety management systems, and Sch.3, cl.1 clarified that "consultation" included other representatives • The proposed clarification aligns with s.61 HSWA, including s.61(3)(f) "the willingness of workers and their representatives to develop worker participation practices" • The proposed clarification does not affect the exercise of regulatory powers by mine health and safety representatives where special competencies may be required.
Typographical and syntax changes	• Make a few necessary changes to fix very minor errors, such as typographical errors	• A few such errors have been identified in the review, and some matters will also come up in drafting

Annex 2: Rationale for the proposals for changes to the Regulations

Proposals	To achieve …	Because …
Proposed changes to Mining Regulations following an implementation review **1. *Set more quarry regulation to improve safety in the context that 95% are lower risk than mines*** • Require principal hazard (PH) risk assessment and management for quarries requiring an A-grade manager for certain PHs • For B-grade quarries, require documented health and safety management system, with additional strata requirements **2. *Restore proportionality for different mine types*** • Reserve PH management for multiple fatality risks **3. *Fix technical problems in accord with policy intent*** • Set 4 worker limit for managing B-grade quarry rather than explosives • Allow 1 underground coal mine exit ONLY when a new mine drills its drive, before reaching coal • Clarify underground metal ladder standard • Clarify that baseline health monitoring is not for one-off contractors • Clarify worker participation	a. The regulatory proposals will keep workers safe: - In quarries - In surface mines - In underground mines 	• Underground mines are much riskier than surface mining or quarries (from 14 years of Aus-NZ fatality data): ***Underground mines*** - 3 multiple fatality events (31 deaths) (explosion; strata instability; platform collapse) - 23 fatality events – 30% (7) vehicles/ machinery - 57% (13) hazards more likely to cause multiple fatalities (6 strata instability, 3 fire/explosion; 3 inrush; 1 ventilation) - 3 other: 1 missing; 1 drowned; 1 fall ***Quarries/surface mines*** - 0 multiple fatalities – 100% single fatality events - 27 fatality events – 85% (23) vehicles/ machinery - 7% (2) hazards more likely to cause multiple fatalities (2 strata instability (1 coal, 1 NZ quarry)) - 2 other: 1 excavation (NZ quarry); 1 fall • Underground mines retain PH management with more flexibility between coal/non-coal, eg, competencies • Surface mines/A-grade quarries have PH management in proportion to mine and quarry-specific risks • B-grade quarries have new risk management in proportion to their main risks (HSW supplements for, eg, vehicles, dust)
	b. Mining Regulations stay focused on multiple fatalities 	• Having the right regulation for low probability/high consequence risks, alongside the right regulations for single fatality risks avoids simplifying PH management to accommodate lower risk operations (and devaluing the term to mean the same as critical risk management) • This aligns with the 2013 policy intent and the scope of the review – ie, retaining the multiple fatality focus, and not revising specified criteria bring only some quarries into the regime (as this was not feasible)
	c. Royal Commission recommendations are not weakened 	• All proposals mean NZ will continue to apply PH management more broadly than the Royal Commission recommendations – its recommendations applied only to underground coal mines, which NZ applies more widely on a proportionate basis • Keeps faith with the Royal Commission focus of preventing another multiple fatality mining tragedy by looking to Australian regulatory design (Qld/NSW) – NZ took PH management from Qld (it applied only to multiple fatality risks in coal mining) – NZ applied it to all mine multiple fatality risks and broadened it to cover health exposures that could cause multiple deaths • The proposals have no impact on Pike River Recovery
	d. NZ does not have lower standards than Australia 	• NZ can't exactly follow Qld and NSW – they split their mining regulatory regimes and regulators from HSW regimes; and, until 2014, both also split coal and non-coal (non-coal covers metal mines and quarries) • NSW made changes in 2014 – adopting single Act/regs for all mining and applying PH management to all. NZ doesn't need PH management to manage single fatality risks, as the Mining Regulations are more integrated with other HSW regulations
	e. NZ applies good regulatory design principles and avoids unnecessary compliance costs 	• NZ requires officials to exercise good regulatory stewardship over the design and administration of regulations • NZ regulations cover cross-cutting risks, not sectors. By design, the Mining Regulations add an extra risk management tier for multiple fatality risks, complemented by other HSW requirements • Proposals are proportionate for different mine types, and cover all quarries using existing A vs B-grade manager differentiation – regimes need to avoid red tape and promote safety alongside business sustainability. • The proposals avoid complexity and unnecessarily onerous requirements that are costly and not warranted by risk (eg, removing need for surface mines to have an electrical superintendent role at ~$200,000 p/a, when role is only essential for underground mining)

Annex 3: Diagram from Pike River Project 2013 consultation on shape of regime