

Strengthening the Crown minerals regime

Introduction

1. The Ministry of Economic Development (now part of the Ministry of Business, Innovation and Employment) looks after the Crown's economic interests in the minerals it owns. The Crown grants rights, by way of exploration or mining permits, to companies to mine for coal.
2. Mining cannot occur without a permit, which gives the operator exclusive rights to the mineral resources. The Crown has an interest in coal extraction for three reasons: economic development, security of energy supply and generation of revenue. The technical and economic viability of a proposal, and a range of other factors, are taken into account before a permit is issued.
3. The ministry's evaluation, and subsequent monitoring, of the Pike application for a mining permit was weak. This chapter analyses why and reviews the steps the ministry is taking to rectify the problems. The steps include considering health and safety at the permitting stage.

Summary of law

4. Crown-owned minerals are managed and administered through the Crown Minerals Act 1991, regulations and minerals programmes.

Crown Minerals Act 1991

5. The Crown Minerals Act 1991 sets out the rights and responsibilities of resource users and the functions and powers of the minister of energy. It provides for the allocation of Crown-owned minerals through permits to undertake prospecting, exploration or mining.
6. The minister's powers and functions under the act are delegated to the chief executive of the Ministry of Economic Development. Those functions include the preparation of minerals programmes, the granting of minerals permits and the monitoring of the effect and implementation of minerals programmes and permits. Approving changes to the terms of permits and transfers and other dealings with permits are also delegated.

Regulations

7. The Crown Minerals (Minerals and Coal) Regulations 2007 prescribe the information required for mining permit applications, the reporting obligations and the fees payable.¹ The key information required with an application is:
 - a statement of the technical qualifications and financial resources of the applicant;
 - a map of the permit area;
 - evidence for an exploitable mineral deposit or mineable resource, which must include inferred, indicated and measured mineral resources; and probable and proved reserves; and
 - the proposed work programme, with an overview of how the permit area will be worked. The statement includes information on the size, nature, extent and siting of the mining operations, the mining methods to be used and the mining and production schedule.

Minerals programmes

8. Minerals programmes outline the government's policies and procedures for allocating permits to explore and mine Crown-owned minerals and obtain a fair royalty payment in return.
9. The public is consulted on minerals programmes. They are approved by the governor-general and have a similar legal status to a regulation.
10. The first Minerals Programme for Coal was issued in 1996. The Pike permit to mine was granted under this programme. The minerals programme was updated in 2008 but is the same in principle.²
11. Under the 2008 minerals programme a permit will be granted if the applicant has identified and delineated a mineable mineral resource or exploitable mineral deposit, if the area of the permit is appropriate and if the intention is to economically and practicably deplete the resource in accordance with good mining practice.
12. In addition, a work programme is approved if the objective is to extract minerals through good mining practice, if the area of land is appropriate and adequate for the activities to be carried out and if mining should result in increased knowledge of New Zealand mineral resources. The applicant must have the ability to act in a technically competent manner and with diligence and prudence in undertaking the programme of work.
13. Other factors to be considered include estimates of mineral resources, mining feasibility studies, proposed mining methods, extraction schedules, geotechnical and mine design aspects of operations, project economics and whether the proposed operations are in accordance with good mining practice.³

Problems with permitting

No consideration of health and safety

14. Health and safety matters were not considered when reviewing Pike's proposals to develop the mine. The minerals programme for coal, which sets out the government's policy, specifically excludes this.

Insufficient information and analysis

15. The application for a permit by Pike in March 1996 contained limited analysis of the feasibility of the operation and the geological, technical and economic risks associated with it.⁴ The application, approved in 1997, was based on a pre-feasibility study. It did not include estimates of initial capital requirements, the costs of the operation, expected profitability or other matters that might be required to establish economic viability. The proposed mining methods were uncertain, making it difficult to establish whether extraction was likely to be in line with good mining practice. A feasibility study was not completed until 2000.⁵
16. As Ministry of Economic Development geologist Alan Sherwood said, 'A proposition was put forward in the application with a general indication of the way in which the deposit would be worked but there wasn't anything that I would call a feasibility study with the application.'⁶ The level of geological information was sufficient to establish or delineate the coal resource but not detailed enough to enable a mine to be designed.⁷ The commission was also told that 'the data provided to Crown Minerals ... would not be adequate to meet the evaluation of an application criteria established under the Minerals Programme for Coal (1996)'.⁸
17. The approval documents prepared by the ministry do not demonstrate a thorough evaluation.⁹ No evident process was used to judge the proposal against the criteria in the coals programme, including how good mining practice was assessed.¹⁰
18. It seems at that time the ministry had limited expertise and experience in assessing the adequacy of applications against the comprehensive criteria for granting a mining permit or in assessing commercial risk.¹¹ Thorough assessment at the permitting stage is important as lack of information about factors such as geology, coal characteristics and seam gas content can increase financial and health and safety risks and the possibility that a mine would be managed 'on the run'.¹²

Monitoring of mineral permits

19. Monitoring of mineral permits is one of the four functions of the minister of energy under section 5(c) of the Crown Minerals Act 1991. After the Pike mining permit was granted, however, there is no evidence of any monitoring or auditing of compliance with the work programme, or the permit conditions. No questions were asked about the operation, despite delays in development and production, and escalating costs. There was no analysis of annual summary reports or other reports on exploration or mining activities.¹³
20. A file note dated 23 February 2007 states that the last technical material received from Pike was filed in 1997.¹⁴ Even when annual work statements and mine plans were received there was no review of material or process to follow. 'We just ensure that that information is given and we don't now go back to the permit holder and approve anything that has been put before us.' When it was suggested to Mr Sherwood that it sounded as if such information was filed away, he replied, 'That's not too far from the truth.'¹⁵
21. Overall the approach to monitoring was passive, as the ministry itself has recognised. It has recently described its relationship with operators as 'somewhat reactive and correspondence based, rather than forward-looking and based on a mutual understanding of permit-specific issues.'¹⁶

Good mining practice

22. Both the Crown Minerals Act 1991 and the minerals programmes contain requirements that emphasise the need for mining to be undertaken in accordance with good mining practice.
23. Section 43(2)(b)(i) of the act enables the minister to withhold approval if he or she considers that the work programme is contrary to recognised good exploration or mining practice. Good mining practice is defined, in part, in the Minerals Programme for Coal 1996:

*Good exploration or mining practice cannot be defined unequivocally. Rather, it is a concept implying that a permit holder will undertake prospecting, exploration or mining in a technically competent manner and with a degree of diligence and prudence reasonably and ordinarily exercised by experienced operators engaged in similar activities under similar circumstances and conditions.*¹⁷

24. The 2008 minerals programme sets out criteria for determining whether a work programme meets good mining practice.¹⁸ These include mining methods being suitable and technically effective, given the geology of the area, and mine development and production operations being designed and conducted to maximise extraction and avoid sterilisation and waste. There must also be ongoing appraisal and definition of geology and structure of the mineral deposit so the most suitable mine development and production operations can be planned.
25. Given the prominence of 'good mining practice' in both the act and minerals programmes, it is difficult to accept the logic of excluding consideration of health and safety.
26. When asked to explain the distinction between health and safety aspects of good exploration or mining practice and the non-health and safety aspects, Mr Sherwood stated:

*I think that's as you've inferred, sir, that's very difficult to answer because at the end of the day when you get into the business of actually operating a mine, the two become inseparable, however our key consideration is the allocation of a resource to mine and so we are precluded by the programme from considering the health and safety aspects of the same information that might contribute to that.*¹⁹

27. It is impossible to distinguish between good mining practice as it applies to extraction of the resource and good mining practice that enhances worker safety. The two are inextricably linked. Economic returns will not be maximised unless extraction occurs efficiently and safely. Design of mining processes must incorporate health and safety considerations. The Crown has an interest in both aspects at all stages in a mine's development. There has to be consideration of whether a mine will operate according to laws and regulations, including those relating

to health and safety. The level of scrutiny will vary depending on the stage of development of a mine and the information available.

Recent developments

Natural resources policy

28. In 2008 there was a renewed focus on New Zealand's petroleum and mineral resources and their contribution to economic growth.
29. The Petroleum Action Plan was established to encourage development of the petroleum sector.²⁰ It included a review of the Crown's capability and resourcing (Action 3); a review of the regulatory, royalty and taxation arrangements for petroleum (Action 5); and a review of health, safety and environmental legislation in New Zealand and other jurisdictions to assess the adequacy of New Zealand's regulatory environment for offshore petroleum operations (Action 8). The programme paves the way for better oversight of underground coal mining.
30. In September 2010, the *Comparative Review of Health, Safety and Environmental Legislation for Offshore Petroleum Operations* considered whether the health and safety and environmental framework for New Zealand's petroleum sector needed to change. The report's recommendations were based on a comparative analysis of regulatory frameworks in four other jurisdictions – the United Kingdom, Australia, Ireland and Norway.²¹
31. Two recommendations are pertinent to minerals developments: first, that the ministry be empowered to consider health, safety and environment at the resource allocation stage, and second, that a review be undertaken to identify ways to improve interagency co-ordination on health, safety and environmental regulation.
32. The third major development is a review of the Crown Minerals Act 1991, regulations and programmes. One of the key objectives is 'to ensure that better coordination of regulatory agencies can contribute to stringent health, safety and environmental standards in exploration and production activities'. The outcome of the review will be amendments to the act and new minerals programmes and regulations. The proposals, if advanced, will be an improvement on current practice. They include:
 - Assessment of an applicant's health, safety and environment policies, capability and record before or during the permitting process. This review would be undertaken by the Department of Labour and an organisation with environmental expertise.
 - More proactive management of high-risk mineral activities, including underground coal mining, owing to their high technical and geological complexity. There will be an annual review of work programmes every three years and the ministry will have annual meeting with coal mine operators.²²
 - More information will be sought from high-risk permit holders so the Ministry of Business, Innovation and Employment can better manage and oversee activities.
33. The initiatives proposed in the review of the Crown Minerals Act 1991 and operational changes already under way are a step in the right direction. Some of the proposals remain short on detail and were not formally government policy at the time of writing. It is not clear how the initiatives will be implemented – in legislation, regulations, the minerals programme, as a condition of a permit or through voluntary agreements – and the weight that will be attached to them.
34. The proposal to consider health and safety matters at the permitting stage is a significant and welcome shift in ministry policy. The proposed consultation with mining inspectors as part of the process of approving a mining permit recognises the importance of early consideration of health and safety. This goes some way to addressing concerns regarding lack of early regulatory involvement.
35. In addition, the Ministry of Business, Innovation and Employment should formally provide information to prospective permit holders on their obligations under New Zealand health and safety laws. This will raise awareness

of health and safety obligations from the outset. In Queensland, for example, a guide to the application of coal mining safety and health legislation is provided to applicants.

36. Compliance with the Health and Safety in Employment Act 1992 and regulations should be a general condition of mining permits. This would give a clear signal of the importance placed on safe mining operations by the Crown. Failure to comply could be grounds for revocation of the permit.

Operational changes

37. In 2010 a capability review of Crown Minerals, a business unit of the Ministry of Economic Development, was undertaken by external consultants. A core finding was that 'capability is not fit for purpose in terms of realising value to the Crown of its minerals estate ... the capability to manage and plan the overall permitting process, to set and monitor work plans, and to ensure compliance is inadequate to ensure that the potential value of the Crown's minerals estate is fully realised.'²³ The review led to restructuring of Crown Minerals. It is now called New Zealand Petroleum and Minerals. The new unit includes a minerals group whose role is development of minerals-related strategy, promotion and investor relations activities, and management of permitting. Staff numbers are being progressively increased from about 40 to 70.²⁴
38. The review recommended that the ministry strengthen the strategic leadership and commercial orientation of the Crown Minerals group to build a credible lead agency to work with investors, industry and government and establish the necessary interagency alignment required for a whole of government approach to the sector.
39. The new business unit has a petroleum group and a minerals group. Each group has three units: strategy, planning and promotion; exploration; and production. By structuring the units in this way the different risks associated with exploration and production activities can be better identified and managed.²⁵
40. These changes, coupled with the move to more proactive management of higher risk operations, including underground coal mines, should help to alleviate the problems evident in the allocation and management of the Pike permit.

Recommendation 3:

Regulators need to collaborate to ensure that health and safety is considered as early as possible and before permits are issued.

Recommendation 4:

The Crown minerals regime should be changed to ensure that health and safety is an integral part of permit allocation and monitoring.

- The proposals in *Review of the Crown Minerals Act 1991 Regime* are endorsed.
- Mining permits should have a general condition requiring the need for compliance with the Health and Safety in Employment Act 1992 and regulations.
- The Ministry of Business, Innovation and Employment should provide information to prospective permit holders on health and safety laws and regulations.
- The ministry should review the information required from applicants for mining permits and the way it assesses applications against the criteria in the minerals programme.

ENDNOTES

- ¹ These regulations replaced the Crown Minerals (Minerals and Coal) Regulations 1999. These were preceded by Crown Minerals (Forms – other than Petroleum) Regulation 1992, which would have applied at the time of the Pike application.
- ² Material differences include the 2008 programme not containing legislative detail or repeating the provisions of the Crown Minerals Act and changes to royalty rates and the basis for calculating royalties. Department of Labour, Department of Conservation, Ministry of Economic Development and Ministry for the Environment, Joint Legislative Framework Paper, 6 May 2011, CLO0000010001/18, para. 41.
- ³ Ministry of Economic Development, Minerals Programme for Minerals (Excluding Petroleum) 2008, 1 February 2008, CLO0010010350/28, para. 8.1.
- ⁴ Pike River Coal Company Ltd, Application to the Ministry of Commerce for a Coal Mining Permit Covering the Pike River Coal Field, February 1996, MED0010070015.
- ⁵ AMC Resource Consultants Pty Ltd, Final Feasibility Study, 23 June 2000, DOC0010030006, Vols 1–2; NZOG0010 (Vol. 3), NZOG0011 (Vol. 4), NZOG0007 (Project Summary).
- ⁶ Alan Sherwood, transcript, p. 398.
- ⁷ *Ibid.*, p. 394.
- ⁸ Murry Cave, witness statement, June 2011, CAV0001/34, para. 91.
- ⁹ Crown Minerals reports, Mining Permit Application 41–453, 18 August 1997, MED0010070017 and 22 September 1991, MED0010070018.
- ¹⁰ Alan Sherwood, transcript, p. 389.
- ¹¹ *Ibid.*, p. 382.
- ¹² David Reece, transcript, p. 4517.
- ¹³ Richard Cook, witness statement, 17 June 2011, MED7770010004/5–6, para. 17.
- ¹⁴ Alan Sherwood, Site Visits West Coast 19–22 February 2007, 23 February 2007, MED0010070049/1.
- ¹⁵ Alan Sherwood, transcript, pp. 400, 405.
- ¹⁶ Ministry of Economic Development, Review of the Crown Minerals Act 1991 Regime: Discussion Paper, March 2012, MED4000010004/10.
- ¹⁷ Ministry of Commerce, Minerals Programme for Coal, 1 October 1996, MED0010070001/108, para. 14.3.
- ¹⁸ Ministry of Economic Development, Minerals Programme for Minerals (Excluding Petroleum) 2008, 1 February 2008, CLO00010010350/21, para. 5.4.
- ¹⁹ Alan Sherwood, transcript, p. 390.
- ²⁰ Ministry of Economic Development, Petroleum Action Plan, <http://www.med.govt.nz/sectors-industries/natural-resources/oil-and-gas/petroleum-action-plan/>
- ²¹ Atkins Holm Joseph Majurey Ltd and ERM New Zealand Ltd, Comparative Review of Health, Safety and Environmental Legislation for Offshore Petroleum Operations, September 2010, Ministry of Economic Development, CAC0011/5, para. E.1.
- ²² Ministry of Economic Development, Phase Four Paper, 16 March 2012, MED4000010001/53, para. 190.
- ²³ Martin Jenkins, Maximising Gains from New Zealand's Petroleum and Mineral Resources, 14 June 2010, MED0100010003/10, para. 22.
- ²⁴ Ministry of Economic Development, Phase Four Paper, 16 March 2012, MED4000010001/64, para. 236.
- ²⁵ Ministry of Economic Development, Tier Three Paper, 3 June 2011, MED0000020001/30, para. 73.