

Department of
Infrastructure, Planning and Natural Resources
ASSESSMENT REPORT

Mandalong Coal Mine
Methane Drainage Plant and Coal Haulage

File No: S03/02777

1 EXECUTIVE SUMMARY

The Mandalong Coal Mine is located near Morisset in the Lake Macquarie area of NSW and is owned by Centennial Coal (the Applicant). The project was granted development consent on 14 October 1998. Under this consent, the Applicant is allowed to produce up to 4 million tonnes of coal a year for up to 21 years, mainly to supply local power generators.

On 8 November 2004, the Applicant lodged an application to modify the Minister's consent for the Mandalong Coal Mine under section 96(2) of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The modification application seeks to allow the Applicant to:

- construct and operate a methane gas drainage plant as part of the mine's ventilation system; and
- haul approximately 1,000 tonnes of coal to Eraring Power Station by road.

The Department exhibited the modification application and the accompanying Statement of Environmental Effects (SEE) in accordance with the requirements for public participation in the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation).

During the exhibition of the SEE, the Department received 16 submissions: 14 from the local community and 2 from Government agencies.

The Department has assessed the proposed modification, the SEE and the submissions on the proposal, and recommends that the Minister approve the application.

2 CURRENT SITUATION

The Mandalong Mine is located on the western side of the Sydney to Newcastle (F3) Freeway at the Morisset Interchange, approximately 3 km southwest of Morisset township, near Mandalong (see Figure 1).

The mine is nearing the completion of construction of its surface facilities and is currently developing two longwall panels.

The mine is ventilated by two parallel centrifugal fans installed at the surface of the 6 metre (m) diameter upcast shaft intersecting the mine workings. Currently, methane is discharged from the mine workings via the ventilation shaft. However, this ventilation arrangement could be significantly improved for the long term safe operation of the mine, and the Applicant is now proposing to construct and operate a methane drainage plant to provide for the controlled collection and ventilation of methane gas to ensure a safe working environment in the underground workings of the mine.

During the construction of the decline tunnel for the mine (which provides access to underground workings), coal seams were intersected prior to the underground connection being made. The coal was brought to the surface, along with other rock material excavated during construction. Due to its combustion properties and value as a resource, the coal was segregated from the other excavated material and temporarily buried. The amount of coal removed from the decline tunnel was approximately 1,000 tonnes.

Longwall coal production from the Mandalong Mine intended for Eraring Power Station is to be moved via an underground conveyor. The option of transporting the coal removed during the construction of the decline through the underground conveyor to Eraring Power Station is deemed impractical as it would require moving small quantities of coal through the decline and other narrow underground workings before it reaches the underground conveyor loading point. The Applicant is therefore proposing to transport this coal to Eraring Power Station by road as discussed below.

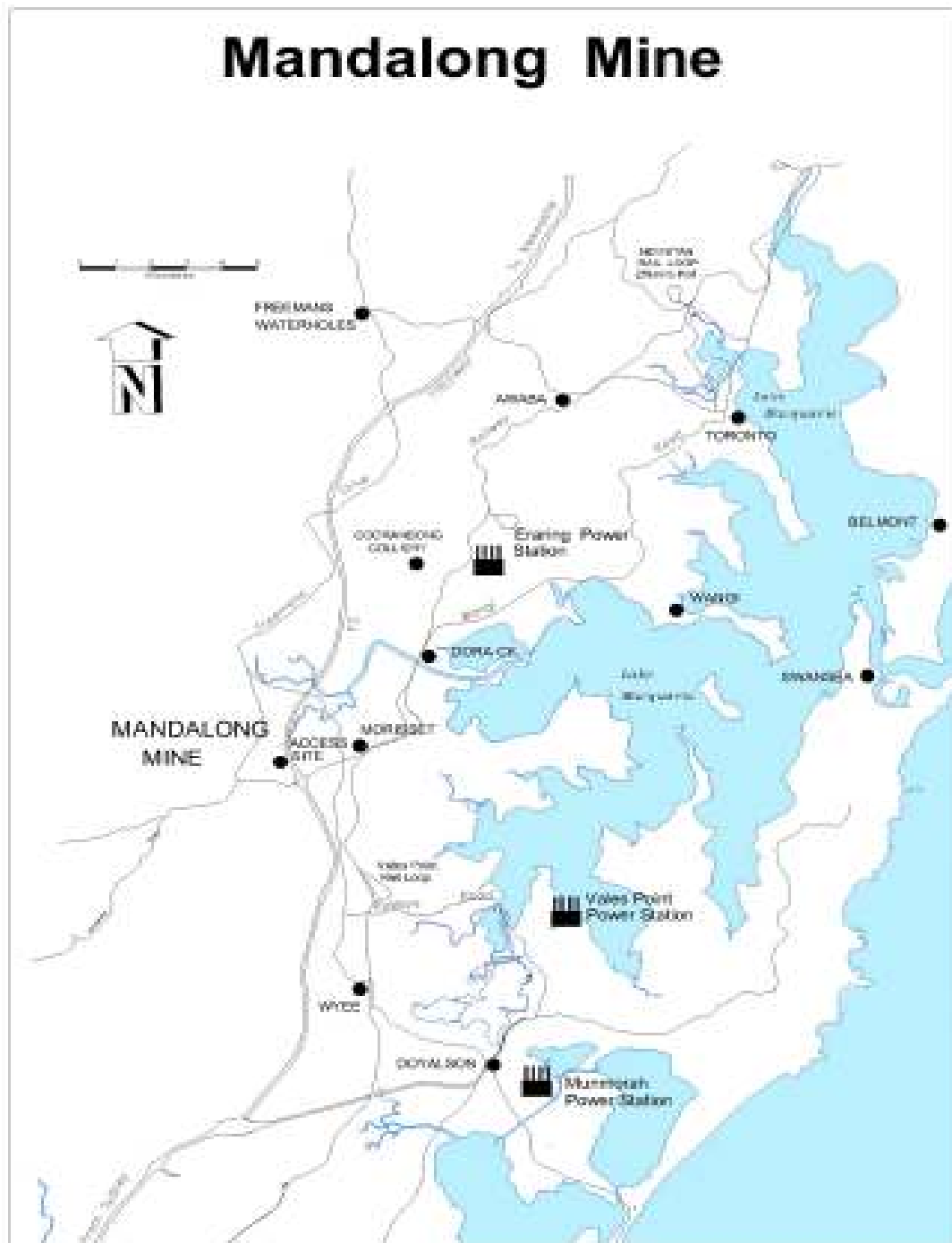


Figure 1 Regional Location

3 PROPOSED MODIFICATION

3.1 Methane Drainage Plant

Due to operational and safety needs, the Applicant proposes to construct and operate a methane drainage plant. This plant would form an integral component of the mine's ventilation system, facilitating a controlled stream of methane out of mine workings in a manner that is amenable to future reuse as an energy source.

Construction works associated with the proposed methane drainage plant would be contained within an area of approximately 50 m x 100 m and are expected to be completed within a period of 4 weeks. The main construction activities include:

- site establishment and construction of a concrete pad for the methane drainage plant;
- drilling of 450 mm vertical borehole from surface to seam (approx. 160 m), cased with steel, and its connection to the gas collection system;
- installation of the plant which includes:
 - connection of 415 V underground electricity from the nearby mine ventilation shaft;
 - gas extraction fan and electric motor;
 - exhaust stack with flame arresters; and
 - connection of gas drainage pipework from the borehole to the methane drainage plant and stack.

The methane ventilation stack will be located approximately 100 m northwest of the main plant site. An area of vegetation approximately 10 m in diameter will be cleared around the stack location. The methane drainage plant will operate continuously 24 hours per day, 7 days a week.

3.2 Coal Haulage to Eraring Power Station

The coal from the decline construction would be transported in standard road registered heavy vehicles, with a typical load capacity of 30 tonnes per truck, over a period of two days, with truck movements restricted to daylight hours only. All trucks will be covered to minimise dust.

While the SEE nominated two possible destinations for the coal to be removed from the site – Eraring Power Station and Vales Point Power Station – the Applicant has advised that the coal would only be delivered to Eraring Power Station for use in power generation. Consequently, this assessment focuses only on the issues relevant to the proposed coal haulage to Eraring Power Station.

4 STATUTORY CONTEXT

4.1 Consent Authority

As the Minister for Infrastructure and Planning was the consent authority for the original DA, the Minister is the consent authority for this application to modify the consent.

4.2 Section 96(2)

Under section 96(2) of the EP&A Act, a consent authority may modify a development consent if:

- it is satisfied that the development to which the consent as modified relates is substantially the same development as the development for which consent was originally granted and before that consent as originally granted was modified (if at all); and*
- it has consulted with the relevant Minister, public authority or approval body (within the meaning of Division 5) in respect of a condition imposed as a requirement of a concurrence to the consent or in accordance with the general terms of an approval proposed to be granted by the approval body and that Minister, authority or body has not, within 21 days after being consulted, objected to the modification of that consent, and*
- it has notified the application in accordance with... the regulations...; and*
- it has considered any submissions made concerning the proposed modification.*

The Department is satisfied that the development to which the consent as modified relates is substantially the same development as the development for which consent was originally granted. The general terms of approval provided by approval bodies for the current consent are unaffected by the proposed modification. The application was notified in accordance with the regulations and matters raised in submissions have been appropriately addressed.

5 CONSULTATION

On 8 November 2004, the Applicant lodged an application under section 96(2) of the EP&A Act to modify the Minister's consent granted in 1998 (DA 97-800). The application was accompanied by a SEE.

The Department subsequently:

- notified all persons or organisations who had provided a submission on the original development application;
- notified Lake Macquarie City Council and all the relevant State government agencies;
- advertised the exhibition of the application for modification and the SEE in the Newcastle Herald; and
- exhibited the application for modification and SEE from 12 November until 30 November 2004.

This satisfies the requirements for public participation in the EP&A Regulation.

During the exhibition period, the Department received 16 submissions on the application for modification, including:

- 14 from landowners and residents in the vicinity of the site, including a local community organisation; and
- 2 from Government agencies (DEC and RTA).

The submissions from the landowners, residents and community organisation objected to and/or raised various concerns about the proposal, including:

- human health risks from the methane emissions to the atmosphere;
- fire hazard from the methane emissions;
- odours;
- noise; and
- the use of public roads to transport coal from the mine.

Lake Macquarie City Council was notified about the proposed modification but has not made a submission to the Department.

The DEC and the RTA did not raise any objections to the proposed modification. However, the DEC called attention to potential noise impacts from the methane drainage plant, while the RTA highlighted the need for traffic safety management measures relating to the coal haulage to Eraring Power Station.

The Department has described and assessed these concerns in more detail in Section 6 of this report.

6 CONSIDERATION OF KEY ISSUES

The Department has assessed the application for modification, the SEE, and submissions on the proposal. The following provides a summary of the key issues associated with the proposal.

6.1 Air Quality

Benefits

While the collected methane will initially be vented into the atmosphere, the methane gas plant would serve as a 'capture' mechanism and would facilitate the future use of the gas as an energy source, which would also result in an overall reduction of greenhouse gases from the mine.

Impacts

Methane, which is liberated from the mining of coal seams, is discharged from underground workings with mine air through the mine's ventilation shaft. As the proposed modification does not involve any change in the volume of coal to be mined, the total methane emissions expected from the Mandalong mining operation will not be affected by the proposal. After the commissioning of the methane drainage plant, the amount of methane in mine air to be discharged through the existing fan ventilation system will reduce.

The Applicant modelled the combined effect of the methane discharged with mine air from the vent shaft and the methane from the methane drainage plant vent stack. Under worst-case meteorological conditions, the resulting maximum (instantaneous) ground level concentration of methane would not exceed 2,500 ppm (parts per million) on-site and in the vicinity of the F3 Freeway. Concentrations at the nearest residential locations are of the order of 1,400 ppm. These values are well below the adopted design limit of 12,500 ppm applicable when electrical plant is operating in proximity to atmosphere containing methane gas.

The Applicant also assessed the expected dust emissions from earthworks during construction of the methane drainage plant and from the excavation and removal of the 1,000 tonnes of coal recovered from the decline tunnel excavation to be minor and will not result in off-site exceedence of relevant air quality criteria.

Issues Raised in Submissions

A number of submissions from the landowners and residents in the vicinity of the proposed methane drainage plant raised concerns about the potential impacts to air quality of venting of methane onto the atmosphere, including:

- the potential human health impacts;
- aggravating odour emissions from the mine; and
- the potential impact on pastures, domestic animals and native wildlife.

Consideration of Issues

The DEC reviewed the SEE and is satisfied that the air impact assessment methodology has been prepared in accordance with the *Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in New South Wales* (EPA, 2001).

The proposed methane drainage plant will not increase the load of methane being released to the atmosphere. Therefore any hazards relating to methane release are not increased as a result of the proposed plant. The methane drainage plant will control the manner of release, allowing future collection and use of the gas. This would have the effect of reducing any existing hazards from methane emissions.

Methane is a biologically inactive gas and is non-toxic to humans or animals. It is not expected to increase the risk to asthmatics and would be unlikely to affect pastures, domestic animals or native wildlife.

The potential emission of odours from the methane drainage plant was not assessed in the SEE. While methane is odourless, when released from coal seams it may be contaminated with some impurities that would give off odours. Consequently, the Department believes that potential odour emissions from the gas stream vented by the methane drainage plant be monitored and managed as part of the implementation of the Air Quality Management Plan for the mine, consistent with Condition 51 of the mine's existing consent.

Conclusion

The Department is satisfied with the adequacy of the air quality impact assessment for the proposed methane drainage plant. The proposed modification would not result in any additional methane emission from the mine but would in fact facilitate the future use of the collected methane as an energy source, thereby potentially reducing the overall methane emission from mining operations. The projected methane emissions would not increase risks to human health or the environment.

However, with respect to community concerns regarding odour emissions from the mine, the Department believes the Applicant should be required to include the monitoring and management of potential odour emissions from the methane drainage plant in the mine's Air Quality Management Plan.

6.2 Noise

Noise Impact Assessment

Traffic Noise

Road traffic noise would be generated by trucks transporting coal to the Eraring Power Station. The estimated stockpile of 1,000 tonnes would require 33 truck loads in total. This equates to 33 truck movements per day over a two-day period, which would be less than 1% of the total daily vehicle movements on either the F3 Freeway or Palmers Road. On the basis that all off-site road haulage of coal occurs during the day-time period, the Applicant assessed the increase in average (L_{Aeq}) road-side noise levels to be less than 1 dB(A) which is considered negligible.

Methane Drainage Plant

The noise impact from construction activities for the methane drainage plant, which includes the construction of a concrete pad, drilling of a 450 mm borehole to connect to the underground gas collection system, and the installation of plant and electricals, were assessed by the Applicant to be negligible given the short duration of these activities and the fact that these would be carried out during the day only.

The Applicant commissioned noise consultants Richard Heggie Associates to undertake an assessment of operational noise impacts from the proposed methane drainage plant (Appendix A of the SEE).

Projected operational noise emission levels at nearby receptors under calm atmospheric conditions and prevailing weather conditions were modelled using the noise levels for equipment from existing plant and the proposed methane drainage plant. The model assumed that the methane drainage plant fan

would be fully enclosed. All fixed equipment were assumed to operate continuously. All mobile equipment were assumed to operate continuously in repetitive cycles.

The frequency of occurrence of prevailing winds in any direction or of temperature inversions does not trigger the requirement for these to be considered as features of the area and therefore have not been included among the scenarios modelled for the noise assessment.

Noise modelling results for calm weather conditions are compared to the noise criteria set out in the development consent conditions for the mine site in Table 6.1.

Table 6.1 Operational Noise Modelling Results – Calm Weather

Location	Description	Existing Contribution L _{A10} (15 minute)	Methane Plant Contribution L _{A10} (15 minute)	Total Contribution L _{A10} (15 minute)	Noise Limit in Existing Consent L _{A10} (15 minute)
BG1 McLean	Daytime 7am – 10pm	41	<30	41	42
	Night 10pm – 7am				41
BG2 Menzies	Daytime 7am – 10pm	38	<30	38	42
	Night 10pm – 7am				39
BG3 Ferris	Daytime 7am – 10pm	<30	<30	<30	40
	Night 10pm – 7am				39
MA1 Hunt	Daytime 7am – 10pm	38	<30	38	42
	Night 10pm – 7am				39
MA2 Kidley	Daytime 7am – 10pm	36	<30	36	41
	Night 10pm – 7am				39
MA3 Lee	Daytime 7am – 10pm	34	<30	35	41
	Night 10pm – 7am				39
MA4 Lee	Daytime 7am – 10pm	33	<30	34	40
	Night 10pm – 7am				39

Note: The L_{A90} represents the level exceeded for 90% of the interval period and is referred to as the average minimum or background noise level

L_{Aeq} - The equivalent continuous noise level is defined as the level of noise equivalent to the energy average of noise levels occurring over a measurement period

The noise level, including existing and proposed operations on the site, is predicted to be below the noise criteria in the existing consent for all periods of proposed operation under calm weather conditions.

In addition, the noise modelling predictions indicate that the contribution of the methane plant to the overall operation on the site is minimal, with noise levels not expected to increase by more than 1 dBA when the cumulative impact of the methane plant and other mine activities are combined.

Issues Raised in Submissions

One submission sought to ensure that the methane extraction fan be fully enclosed, as per the assumption in the noise modelling; and that the fan motor and substation being constructed at the nearby ventilation shaft be fitted with suitable noise reduction silencers.

The same submission also noted that from local knowledge temperature inversions occurred more often and should have been considered in the noise assessment.

Consideration of Issues

The DEC has reviewed the SEE and noted that the noise modelling indicates that the noise levels specified in the existing consent will still be satisfied even with the addition of the methane drainage plant, providing the methane plant fan is fully enclosed. The DEC recommends that should the consent be modified, the Department require the methane extraction fan to be fully enclosed. The Department accepts this recommendation.

The noise from the fan motor was included in the noise modelling which, as noted above, showed that the combined noise would still satisfy the existing noise criteria.

As discussed above, based on meteorological information, the Applicant has not modelled temperature inversions. While temperature inversions may occur in the area, both the DEC and the Department are satisfied that the Applicant's assessment has been conducted in accordance with the Industrial Noise Policy, and do not believe it is necessary to model temperature inversions.

Conclusion

The Department is satisfied with the Applicant's noise assessment, and that the noise contribution of the methane drainage plant to the overall operation of the site will be minimal.

The Department is also satisfied that the proposed road haulage of coal to the Eraring Power Station will not represent a significant addition to existing road traffic noise.

Nevertheless, to ensure the noise impacts of the proposed modification are minimised, the Department believes the Applicant should be required to:

- fully enclose the methane drainage plant fan;
- carry out all construction works during the daytime (7 am - 6 pm, Monday to Saturday; and 8 am - 6 pm on Sundays and Public Holidays); and
- inform the local community of the schedule for construction activities and the coal road haulage program.

6.3 Transport

Traffic Impact Assessment

Road Haulage

The road haulage of coal to Eraring Power Station would generate approximately 33 loads in standard trucks with capacities of 30 tonnes. With the return trip for empty trucks, the total two-way flow along the route would be approximately 66 trucks.

The trucks would enter the Mandalong Mine empty, pick up their load and then proceed to Eraring Power Station along public roads. Trucks would turn left out of the site and turn left at the down ramp to access the F3 Freeway. The trucks would proceed north and exit the Freeway at the off-ramps at the Palmers Road intersection. The trucks would proceed along Palmers Road in an easterly direction until Wilton Road, where they would turn left towards the village of Awaba. From Awaba the trucks would turn right towards Awaba Colliery from where they would use an off-road private haul route to access Eraring Power Station. The empty trucks would take the same route on the return journey.

The road haulage would involve 33 truck movements per day over a two-day period, which would be less than 1% of the total daily vehicle movements on either the F3 Freeway or Palmers Road. The impact of the additional truck traffic upon the existing road capacity along the nominated route has been assessed as negligible, which would also translate to minimal, if any, increase in delays and congestion.

The safety implications of the proposed truck movements for the nominated route, including the safety of all intersections and road conditions, were also assessed by the Applicant, and no road safety issues were identified.

Methane Drainage Plant Construction Traffic

During construction of the methane drainage plant additional vehicles will access the site delivering construction personnel and materials. Estimated vehicle type and numbers over the four-week construction period are as follows:

- construction personnel - maximum 6 - 8 small vehicle two-way trips per day;
- bore hole drilling - 1 two-way trip for truck mounted drill rig;
- concrete delivery - maximum 5 concrete trucks (over a period of one day);
- equipment delivery - maximum 10 trucks delivering, motor, fan, stack duct work etc.

Increases in vehicle movements of this order on the F3 Freeway and Mandalong Road are not considered significant and will not require any traffic management measures to be implemented during the construction period.

Operational Impacts

As the coal haulage is proposed over only a two day period there will be no ongoing operational impacts.

Once operational the methane drainage plant will be operated by existing mine personnel and as such will not result in additional traffic movements to and from the site, other than occasional maintenance visits.

Issues Raised in Submissions

Majority of the submissions from community residents raised the concern that allowing coal to be transported from the mine using public roads would be contrary to the existing conditions of consent. Some residents noted they understood the need to move the limited volume of coal from the mine, but were concerned that if this proposal received approval, it may set a precedent for future road transport of coal from the mine.

Consideration of Issues

The Department notes that the existing conditions do not allow the transport of coal from the mine using public roads. This condition was intended to minimise the impact of the mining operation on traffic and transport, especially between the site and the local power stations which are the main destinations of the mine's coal output.

The Department will continue to enforce this condition with respect to the transport of coal production from the mine. However, the Department is satisfied that there is sufficient justification for the existing coal stockpile to be transported by road to Eraring Power Station. This is based on the recognition of the difficulty of the alternative of using the underground conveyor system which would require the Applicant to move the coal from the surface in small batches through narrow mine workings to be able to reach the conveyor loading point.

It is emphasised that this modification applies only to the particular coal stockpile removed during the decline construction and not to any portion of the coal produced from normal mine operations.

The RTA reviewed the SEE and did not have any objection to the proposed modification, subject to certain issues relating to haulage hours, route and safety warning signage being addressed.

Conclusion

The Department is satisfied that the traffic impacts of the proposed development, in particular the road haulage program, have been adequately assessed by the Applicant. The Department recommends the proposal road haulage be approved subject to the following conditions:

- road haulage be completed over a maximum period of five days within regular daylight operating hours as proposed by the Applicant;
- temporary large screen Variable Message Boards be installed on the northern and southern approaches to the Awaba Road/Wilton Road intersection with the following message during hours of operation:
 - Screen 1: "Caution, Caution, Caution"
 - Screen 2: "Trucks Turning"
- that the Variable Message Boards be operated and located in accordance with the RTA's Technical Direction 2002/11 and the RTA's Road Design Guide; and
- that the works be undertaken to RTA/Council requirements at full cost to the Applicant.

6.4 Flora and Fauna

Assessment of Potential Impacts

The methane vent stack is proposed to be located 15 m to the north of the mine ventilation shaft and would be situated within a stand of young-mature open forest dominated by a canopy of Cabbage Gum (*Eucalyptus amplifolia* subsp. *amplifolia*) and an open grassy understorey. To construct and install the methane vent stack, it will be necessary to clear vegetation over an approximate area of 100 m² around the stack location which will involve clearing/disturbing up to 22 trees.

The vegetation community around the proposed location of the vent stack includes intact areas of open forest. This forested area is equivalent to the vegetation type River-flat Eucalypt Forest on Coastal Floodplains which has been preliminarily determined by the DEC as an Endangered Ecological Community. As such, a section 5A assessment (eight-part test) was carried out. The conclusions of the eight-part test of significance were that the proposed methane vent stack location and construction is unlikely to significantly affect the extent and quality of River-flat Eucalypt Forest on Coastal Floodplains. This conclusion is based on the minor scale of the proposed works, the small size and fragmented nature of the vegetation to be affected, and the adoption of ameliorative measures.

Issues Raised in Submissions

One submission raised the issue of the operation of the mine ventilation shaft affecting population of birds in the area. The birds feed on small insects and therefore served as a natural form of insect control. The submission was concerned that the operation of the methane drainage plant will increase methane emissions which could result in the further decline of bird population in the vicinity of the submitter's property.

Consideration of Issues and Conclusion

The proposed methane drainage plant would not result in the increase of methane emissions from the mining operations and therefore is not expected to result in an increase of adverse effects, if any, on bird life in the vicinity of the proposed plant.

The Department is satisfied with the assessment of ecological impacts of the proposed methane drainage plant, and believes the proposed modification would have a negligible impact on flora and fauna, including the Ecologically Endangered Community of River-flat Eucalyptus Forest on Coastal Floodplains.

6.5 Hazard and Risks

Assessment of Impacts

The only potential hazard associated with the proposal is methane emissions from the proposed 4.5 m stack. Potential hazards include asphyxiation from high methane ground level concentrations and flame ignition.

The ground level methane gas concentrations are not predicted to exceed 2,500 ppm at any location surrounding the plant under a full range of worst-case meteorological conditions estimated for the area. Breathing hazard such as asphyxiation is not an issue below 50,000 ppm (5 %). As such, the level of risk from such hazards is considered acceptable.

With respect to flame ignition it is noted that the methane drainage plant will be fitted with flame arresters. It is further noted that 50,000 ppm (5%) also represents the lower explosion limit for methane. With ground level concentrations predicted to be less than 2 500 ppm on all occasions, the risk from explosions would be low even if ground based emission sources were present. However, to ensure safe operating conditions, the Applicant will be erecting warning signs around the plant prohibiting potential ignition sources in the plant area.

Issues Raised in Submissions

Submissions from the landowners and residents in the vicinity of the proposed methane drainage plant raised concerns about hazards and risks associated with methane, including:

- potential human health impacts, especially to persons suffering from respiratory problems such as asthma; and
- increased fire risk.

Consideration of Issues and Conclusion

Methane is a colourless and odourless gas. It can displace oxygen in air in a confined environment and therefore be an asphyxiant. Methane can also form flammable or explosive mixtures with air. Methane is lighter than air and tends to rise and disperse rapidly. Based on these properties, the main hazard concerns are asphyxiation and flammability.

Methane can form flammable or explosive mixtures with air at concentrations ranging from 5% (50,000 ppm) to 15% (150,000 ppm). The results of the dispersion modelling indicated that ground level methane gas concentrations are not predicted to exceed 2,500 ppm at any location surrounding the plant. This level is well below the lower flammability level (50,000 ppm) which is also the level which may result in breathing hazards.

However, the Department notes that the Applicant did not provide details regarding measures to be taken to avoid a build up of methane gas in case of a malfunction of the methane drainage plant, such as a fan or motor malfunction. Consequently, the Department believes the Applicant should be required to develop a risk management plan to identify risk scenarios and control measures relating to the potential accumulation of methane as a result of a malfunction of the methane drainage plant.

6.6 Greenhouse Gases

Assessment of Impacts

The operation of the proposed methane drainage plant would not result in any additional methane emissions from the mine. The plant is considered by the Applicant as an important first step in further reducing greenhouse gas emissions from mining operations by facilitating the future use of the collected methane as an energy source. The Applicant has indicated in the SEE that it is likely to seek future approval to convert the waste coal mine gas into useful energy.

Issues Raised in Submissions

Many submissions indicated that the methane drainage plant will result in a substantial increase in greenhouse gas emissions from the project and that these emissions would exceed the projections made in the 1997 EIS.

Another submission raised the issue that methane is a more potent greenhouse gas and emissions should be minimised by combustion.

Consideration of Issues and Conclusion

The operation of the methane drainage plant will not increase the load of methane being released to the atmosphere since the proposed modification does not involve any change in the volume of coal to be mined. Therefore it is not anticipated that the greenhouse gas emissions from the mine will increase as a result of the proposed modification. The proposed plant will also facilitate the future reuse of methane as an energy source which would involve "combustion" of methane, and therefore result in an overall reduction in greenhouse gas emissions from the mine.

6.7 Other Issues

The Applicant assessed the potential impact of the proposed modification on erosion and sedimentation, water quality, indigenous heritage, visual impact, social/community aspects, and utilities and energy. The Department is satisfied with the assessment of these issues and the measures recommended to manage and mitigate any potential impacts arising from the proposed modification.

The DEC has indicated that it is satisfied that the conditions applied to the current environmental protection licence for the premises adequately address issues relating to waste, water, noise and air pollution that may occur during the construction and operation of the proposed modification.

7 SECTION 79C CONSIDERATIONS

Section 79C of the EP&A Act sets out the matters that a consent authority must take into consideration when it determines an application for the modification of a development consent.

The Department has assessed the application against these matters as are of relevance to the proposed modification, and is satisfied that:

- the proposed modification is generally consistent with the provisions of the relevant planning instruments;
- the potential impacts of the proposed modification can be mitigated and/or managed; and
- the proposed modification is generally in the public interest.

8 NOTICE OF MODIFICATION

The Department has prepared a Notice of Modification to:

- prevent, minimise, and/or offset adverse environmental impacts;
- set standards and performance measures for acceptable environmental performance; and
- provide for the on-going environmental management of the development.

The Applicant does not object to these recommended conditions.

9 CONCLUSION

The Department has assessed the SEE and various submissions on the proposed modification, and is of the view that:

- the Applicant's assessment is realistically conservative and provides a robust basis upon which to assess the potential impacts of the proposed modification;
- the proposed modification would not appreciably increase the impacts associated with the operations at the mine;
- the proposed modification would provide safe ventilation for the underground mining operation, would not increase the greenhouse gas emissions from the mine, and would facilitate the future use of the methane as an energy source, thereby potentially reducing greenhouse gas emissions in the long term;
- the environmental impacts of the proposed modification can be adequately managed and mitigated; and
- the proposed modification is in the public interest because it would facilitate the social and economic benefits of the Mandalong Coal Mine.

Consequently, the Department recommends that the Minister approve the proposed modification, subject to conditions.

10 RECOMMENDATION

It is RECOMMENDED that the Minister:

- (i) consider the findings and recommendations of this report;
- (ii) determine that the development, as modified, would relate to substantially the same development to which consent was originally granted;
- (iii) approve the proposed modification under section 96(2) of the EP&A Act; and
- (iv) sign the attached Notice of Modification (tagged A).

David Kitto
Manager
Mining & Extractive Industries
Major Development Assessment

Sam Haddad
Deputy Director-General