

ASSESSMENT REPORT

MANNERING COLLIERY Increased Coal Handling & Dispatch Modification (MP 06_0311 MOD 3)

1. BACKGROUND

Manning Colliery (Manning) is an underground coal mine located on the southern shore of Lake Macquarie, approximately 60 kilometres (km) south of Newcastle, in the Lake Macquarie and Wyong local government areas (see **Figure 1**). The Chain Valley Colliery (Chain Valley) underground coal mine is located directly east of Manning.

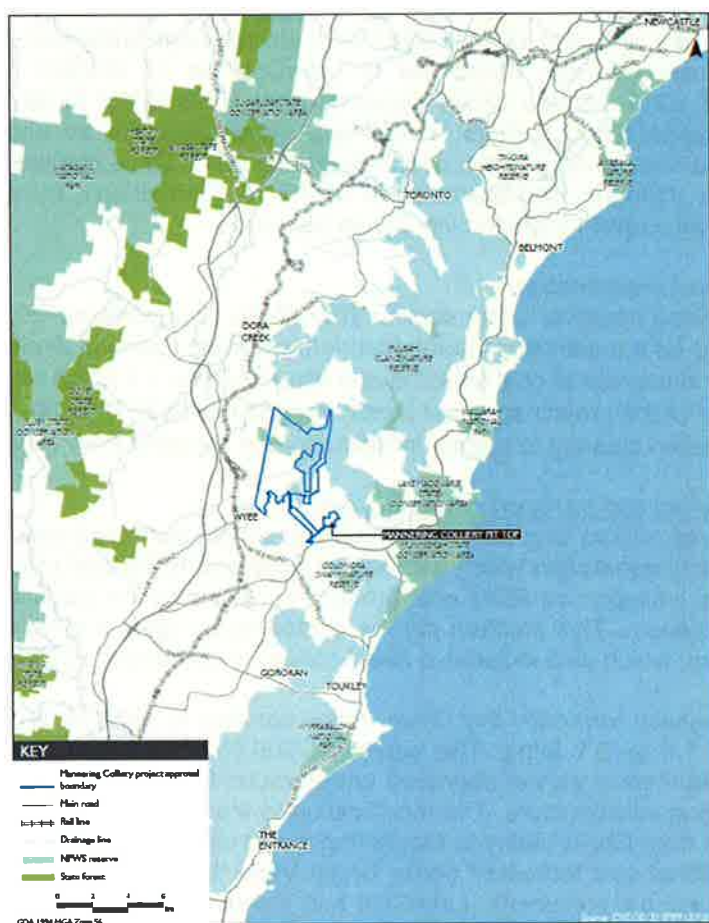


Figure 1: Location of Manning Colliery

Manning is owned by Centennial Manning Pty Limited, a wholly-owned subsidiary of Centennial Coal Company Limited (Centennial). LakeCoal Pty Limited (LakeCoal) became the operator of Manning on 17 October 2013. Chain Valley is owned and operated by LakeCoal, a wholly-owned subsidiary of LDO Coal Pty Limited.

On 27 November 2012, Mannering ceased production and was placed on care and maintenance due to a combination of high production costs, low coal prices, difficult mining conditions and poor coal quality. The owners of Mannering and Chain Valley have since entered into an agreement which enabled LakeCoal to become the operator of Mannering from 17 October 2013 until 30 June 2022.

The collieries' pit tops are located approximately 1.1 km from one another on the southern shore of Lake Macquarie, near Chain Valley Bay. The majority of land surrounding the pit tops consists of industrial facilities, such as Delta Electricity's Vales Point Power Station (VPPS) and fragmented areas of vegetation, including parts of Lake Macquarie State Conservation Area (SCA). Seagrass beds are also present in the shallow waters (<2 metres (m) depth) of Lake Macquarie.

Surrounding residential areas include the Macquarie Shores mobile home village, Chain Valley Bay, Mannering Park, Summerland Point and Gwandalan. The closest residential area to the pit tops is Kingfisher Shores, located around 350 m southeast of the Chain Valley pit top.

1.1 Current operations

Mannering currently operates under project approval MP 06_0311, granted on 12 March 2008, which allows for continued mining in the Fassifern Seam. Mannering's current approval allows:

- extraction of 1.1 million tonnes per annum (Mtpa) of run-of-mine (ROM) coal until 31 March 2018;
- coal extraction using bord and pillar mining methods (ie first workings only);
- transport of coal via covered overland conveyor to VPPS for domestic energy generation;
- employment of 170 full-time personnel; and
- operation 24 hours a day, 7 days a week.

Mannering's and Chain Valley's integrated operations

LakeCoal, as the operator of Mannering, is responsible for implementing the requirements of Mannering's project approval MP 06_0311 and environment protection licence (EPL) 191, both of which were transferred from Centennial to LakeCoal on 17 October 2013. LakeCoal has since modified MP 06_0311 and the Chain Valley consent (SSD 5465) to facilitate the operation of both collieries in a co-ordinated manner, including a modification for an underground linkage between Chain Valley and Mannering granted on 27 November 2014. Once constructed, the linkage will enable coal from Chain Valley to be transferred to VPPS via Mannering's conveyors, and would be used preferentially to the current transport via private haul road.

1.2 Proposed modification

LakeCoal is seeking approval under section 75W of the *Environmental Planning and Assessment Act 1979* (EP&A Act) for a modification to the Mannering project approval to allow:

- an increase in the rate of coal handling and dispatch from 1.1 to 1.3 Mtpa;
- an extension of the project approval period from 31 March 2018 to 30 June 2022; and
- minor vegetation clearing to protect infrastructure at the mine from bushfires.

Increase in handling and transport of product coal

LakeCoal has entered into long-term agreements to supply increased coal volumes to VPPS for use in domestic electricity generation which will require increased ROM coal production at Chain Valley. The primary practical limitation on ROM coal production relates to the capacity of Chain Valley's existing coal clearance system. This problem can be overcome by using the higher-capacity Mannering coal clearance system, which also includes a direct conveyor connection to VPPS.

LakeCoal has applied to modify the Chain Valley consent to allow for an increase in the rate of coal extraction from 1.5 to 2.1 Mtpa. The additional 600,000 tpa would be mined at Chain Valley but transferred to Mannering via the approved underground linkage for subsequent delivery to VPPS via existing Mannering infrastructure. The modification to Mannering would allow for the maximum rate of coal transported from Chain Valley to Mannering to increase from 1.1 to 1.3 Mtpa. This increase would enable all additional coal extracted under Chain Valley's proposed modification to be transferred to VPPS via Mannering's conveyors. LakeCoal has stated that, in the event that any of the additional 600,000 tpa of coal is unable to be delivered to and dispatched from Mannering, the maximum rate of extraction at Chain Valley would return to the current limit of 1.5 Mtpa. That is, none of the additional production at Chain Valley is proposed to be transported by road, either to VPPS or elsewhere.

Extension of the project approval period

The proposed extension of the approved period during which mining operations may be carried out at Mannering would align with Centennial's current agreement with LakeCoal, thereby enabling LakeCoal

to operate both collieries in a co-ordinated manner. It would also reflect the period that Mannering has been on care and maintenance and provide adequate time for strategic planning of potential mining activities not approved under the current project approval.

Asset protection zones

The proposed modification seeks approval for minor vegetation clearing/disturbance in order to extend/establish asset protection zones (APZs) to increase bushfire protection around built assets in the vicinity of Mannering's pit top. This proposal is an outcome of a bushfire management risk assessment and subsequent bushfire hazard assessment that was completed after major bushfires in the immediate vicinity of Mannering's pit top on 17 October 2013, which damaged minor assets.

2. STATUTORY CONTEXT

2.1 Section 75W

Mannering was approved under the former Part 3A of the EP&A Act. Although Part 3A was repealed on 1 October 2011, the project remains a 'transitional Part 3A project' under Schedule 6A of the EP&A Act. The proposed modification must therefore be assessed under the former section 75W of the Act.

2.2 Modification

The Department is satisfied that the proposal is within the scope of section 75W of the EP&A Act and can be properly characterised as a modification to the original Mannering project approval.

The proposed modification constitutes a relatively small change to the operation of an approved underground mine that has been operating for over 50 years. The key changes involve an approximate 18% increase in the annual handling and dispatch of ROM coal to VPPS, minor vegetation disturbance associated with APZ development, and extension of the approved project period from 31 March 2018 to 30 June 2022.

There would be no change to the approved method of extraction, processing or transportation methods, or rate of coal extraction. Aside from the minor impacts associated with the vegetation disturbance for the APZ development, the Department considers the environmental impacts expected during the extended project life would be the same as those associated with the current activities. These impacts have previously been assessed and approved.

2.3 Environmental Planning Instruments

The Environmental Assessment (EA) supporting the proposed Mannering modification included an assessment of the application against relevant EPIs, including the *Lake Macquarie Local Environmental Plan 2004*, the *Wyong Local Environmental Plan 2013*, the *Lake Macquarie Environmental Plan 2014* and a number of State Environmental Planning Policies. The Department concurs with this assessment.

2.4 Approval authority

The Minister for Planning is the approval authority for the Mannering modification application. However, under the Minister's delegation of 16 February 2015, the Executive Director, Resource Assessments may determine the application as:

- the relevant local councils (Wyong and Lake Macquarie) did not make any objection;
- a political disclosure statement was not made; and
- there were less than 10 public submissions in the nature of objections. The Department received one public submission objecting to the modification.

3. CONSULTATION

3.1 Description of consultation process

The Department exhibited the EA from 15 July to 6 August 2015 (see **Appendix A**). Copies of the EA were placed on display at:

- the Department's Sydney Information Centre and on the Department's website;
- Lake Macquarie City Council;
- Wyong Shire Council; and
- the Nature Conservation Council.

In response to this exhibition, the Department received 8 submissions from Government agencies, a single submission from the Darkinjung Local Aboriginal Land Council and two public submissions (one each in support and objection (see **Appendix B**). LakeCoal provided a formal Response to Submissions (RTS) on 30 September 2015 (see **Appendix C**). The Department forwarded the RTS to all public authorities that had previously lodged submissions for their review and further comment, as necessary. The key concerns, comments and recommendations from agencies, interest groups and the community are summarised below.

3.2 Discussion of key issues raised by agencies and LakeCoal's responses

The **Department of Primary Industries – Water** (DPI Water) requested further information be submitted for assessment including:

- a technical assessment to support the EA's claim that there would be no changes to groundwater or aquifers as the proposed modification does not involve changes to underground mining;
- evidence that the existing water licences held would be sufficient for the water take requirements relating to the modification; and
- the most recent annual groundwater management report.

LakeCoal's RTS highlighted that the proposed modification does not involve any changes to the approved areas of underground extraction or approved rate or method of extraction. LakeCoal's position was that the predicted impacts to groundwater or aquifers assessed and approved under the original approval remain applicable to the proposed modification and no further technical assessment is required. The RTS also highlighted that there would be no additional water take as a result of the modification. The predicted mean annual water take from the underground workings (318 megalitres/year (ML/year)) demonstrates that the current licensed entitlement (450 ML/year) is sufficient for the approved operations and, consequently, the proposed modification. The RTS also provided a summary of the most recent groundwater assessment (GHD 2011) which demonstrated that there would be no changes to surface water or groundwater as a result of the proposed modification, and therefore further technical assessment was not warranted.

DPI Water reviewed the RTS and determined the additional information to be satisfactory. However, DPI Water noted that LakeCoal had only provided the predicted *mean* annual water take (318 ML/year) and advised that the predicted *maximum* annual water take must be accounted for to ensure sufficient entitlement. LakeCoal provided information that demonstrated the existing worst case inflow was 402.6 ML/year and thus the current entitlement of 450 ML/year remains sufficient.

The **Division of Resources and Energy** (DRE) of the NSW Department of Industry noted that rehabilitation strategies and objectives had not been identified in the EA and the application did not describe specific performance objectives and standards for each functional domain of the mine site. These issues could be addressed through amendments to the Mining Operation Plan (MOP) required under the mine's mining lease. However, DRE also recommended modifying conditions of approval relating to rehabilitation objectives, progressive rehabilitation and preparation of a Rehabilitation Plan.

LakeCoal has no objection to conditions relating to rehabilitation objectives. However, it has noted that progressive rehabilitation conditions are usually associated with open cut mines and that the imposition of conditions should be commensurate with the purposes of clearing the APZs. DRE maintained that its recommended conditions were the standard conditions for all new or modified mining activities and that these conditions would align with its current regulatory requirements.

The **Environment Protection Authority** (EPA) identified that a variation to the site's EPL would be required in relation to limits on extraction of ROM coal and also to include proposed changes to the project's noise limits. The RTS identified that EPL 191 allows for production and handling of up to 2 Mtpa of coal and therefore a variation of this limit is not required.

EPA also reviewed noise, air quality and water quality impacts associated with the proposal and recommended conditions of approval for the modified project. The RTS considered the recommended conditions and provided responses to each.

EPA reviewed the Noise Impact Assessment (NIA) provided with the EA and agreed with the project specific noise levels (PSNLs) derived for the project. The EPA also noted that the $LA_{eq(15min)}$ predicted operational noise levels were likely to exceed the PSNLs at most times at Location 8 and at night at Locations 4, 5, 6 and 7 during source-to-receiver winds. The EPA recommended that LakeCoal therefore identify all feasible and reasonable mitigation measures that could be implemented in order

to reduce noise levels to the PSNLs, or below, particularly at Location 8. EPA also requested that revised modelling be provided to support a variation to the EPL to increase its specified noise limits and that identified mitigation measures be included in LakeCoal's Statement of Commitments.

The RTS highlighted that the NIA is a contemporary and conservative assessment of the operational mine site, incorporating the proposed modification, and that despite the modelled exceedances, the noise criteria in the project approval are expected to be achieved. LakeCoal provided a commitment to engage a suitably qualified person to prepare a report on potential noise mitigation measures when the care and maintenance program ceases and as such, EPA's recommendations are not warranted. These matters are further discussed in Section 4.1.

EPA identified that changes to air quality impacts are unlikely and therefore the current approval conditions are appropriate to manage air quality impacts from the project. However, EPA recommended that the conditions of approval include a requirement for the continuous monitoring of PM₁₀, and noted that the Tapered Element Oscillating Microbalance (TEOM) PM₁₀ monitor currently located between Chain Valley and Manning would be sufficient to monitor air quality for both mines. LakeCoal agreed to this requirement. EPA also recommended air quality reporting conditions. These matters are further discussed in Section 4.3.

EPA noted that there had been a number of exceedances of the EPL's surface water quality discharge limits during Manning's care and maintenance period. The EA did not address water management issues on the basis of these having been addressed in the previous project application, with no changes proposed. However, EPA recommended that the site's water management system is upgraded to ensure compliance with the EPL and to prevent pollution of waters and groundwater. The RTS committed LakeCoal to undertake a review of the site's water management system, in consultation with EPA. LakeCoal did not object to EPA's recommended water management conditions.

The EPA reviewed the RTS and stated that all the issues raised in the assessments could be managed within the framework of EPL 191.

Lake Macquarie City Council (LMCC) raised a number of matters relating to air quality, bushfire management and terrestrial ecology.

LMCC requested a revised Air Quality Impact Assessment (AQIA) due to the proposed increase in coal production and concerns that PM₁₀ was approaching the impact assessment criteria. The RTS noted that the previous AQIA and greenhouse gas impact assessment found that emissions from the approved project were below relevant impact assessment criteria at all sensitive receivers. Further, the RTS highlighted that the proposed modification is for an increase in coal handling and not an increase in coal production. As such, LakeCoal's position is that an AQIA is not warranted. Air quality impacts are considered further in section 4.3.

LMCC recommended that clearing for the APZs is conducted so as to prevent erosion and sediment impacts. The RTS provided a commitment that cleared areas would be managed in accordance with the erosion and sediment control measures outlined in the site's Water Management Plan.

LMCC raised issues with the survey methodology for a number of species listed under the *Environment Protection and Biodiversity Act 1999* (EPBC Act) and *Threatened Species Conservation Act 1999* (TSC Act) and requested assessments of significance for the Black-eyed Susan, Squirrel Glider, Glossy-black Cockatoo and Biconvex Paperbark. The RTS provided further additional information, including details of survey work undertaken following receipt of LMCC's comments, which provided evidence that assessments of significance were not required for these species.

LMCC made several recommendations relating to selection of trees for removal and retention, hollow-bearing tree management, compensatory replanting and weeding. LakeCoal committed to undertaking measures to manage biodiversity during APZ maintenance that were similar to LMCC's recommendations. The RTS also provided a commitment that funding would be provided equivalent to the biodiversity being lost by the modification. Biodiversity impacts are considered in section 4.2.

LMCC advised the RTS had satisfactorily addressed its concerns.

The **Office of Environment and Heritage (OEH)** raised concerns with the EA and assessment of threatened species, in particular survey effort and lack of compensatory habitat package and/or

biodiversity offsets. OEH identified that specific fauna surveying had not been undertaken for potential threatened species/guilds in accordance with required guidelines and that the threatened flora survey work was similarly limited and inadequate. OEH questioned the EA's assumption that the survey area does not contain threatened species, populations or important habitat.

The RTS expanded on previous survey work undertaken and also provided detail as to additional targeted flora and fauna surveys undertaken following receipt of OEH's comments. OEH concluded that it adequately addressed its concerns and that the proposal is unlikely to have significant impact on threatened species. OEH acknowledged that no threatened bird species (e.g. Little Lorikeet, Scarlet Robin, Varied Sittella and White-fronted Chat) or plant species (e.g. Newcastle Doubletail, Black-eyed Susan, Leafless Tongue Orchid and Variable Midge Orchid) were detected and that impacts to biodiversity are likely to be minimal.

However, OEH also noted that there is no lower limit with respect to the scale of the development for the provision of offsets/compensatory habitat and that the EA did not address this. OEH estimated that the proposed impact area would likely generate in the order of up to 5 'ecosystem credits' when assessed under OEH's *BioBanking Assessment Methodology* and made a number of recommendations in respect of provision of biodiversity offsets and/or compensatory measures. LakeCoal committed in its RTS to provide funding to a conservation project or to purchase credits that benefit the communities and species impacted. OEH supported LakeCoal's options and indicated that it would negotiate the most appropriate of these options with LakeCoal. OEH considers that the offset can be finalised after APZ construction, given the minor area to be offset.

OEH also commented on floodplain management. LakeCoal highlighted that there would be no changes related to mining subsidence or floodplain management. OEH reviewed the RTS and had no further comment on the matters raised.

Wyong Shire Council (WSC) raised a number of issues relating to the management of biodiversity impacts including provision of a hollow-bearing tree register, threatened flora species survey methodology and offsets to compensate for *Swamp Sclerophyll Forest on Coastal Plains Endangered Ecological Community* and threatened species. WSC also recommended animal welfare/pest management protocols are included in the site's Biodiversity Management Plan (BMP) and conditions included in the approval regarding hollow-bearing tree management procedures and removal of vegetation in the APZs. The RTS provided commitments with respect to updating the BMP to include details of hollow-bearing tree management prior to vegetation thinning, a requirement for an ecologist to be present during clearing operations to determine trees to be retained, and animal welfare and pest management procedures.

WSC raised conditions of approval which require LakeCoal to upgrade the Ruttleys Road/Mannering Colliery access road intersection prior to Mannering's staff numbers exceeding 70. LakeCoal responded that only 20 employees are required as a result of the proposed modification and that it would undertake the upgrade prior to the workforce exceeding 70 employees.

In its response to the RTS, WSC advised it had no further submissions.

The **Mine Subsidence Board** had no objection to the modification. **Fisheries NSW** and **Crown Lands** advised that they did not identify any issues with the proposed modification.

3.3 Special interest group submissions

Darkinjung Local Aboriginal Land Council was satisfied with the recommendations in the application and requested:

- involvement in assessment of the vegetation clearing;
- continued protection of any Aboriginal sites within, or near, the project area; and
- to be kept informed of any further information as it relates to Aboriginal heritage.

3.4 General public submissions

One public submission supported the proposed modification raising issues relating to:

- employment benefits associated with extending the approved life of mine;
- coordination of operations with Chain Valley;
- provision of time to develop long-term plans for Mannering; and
- workforce and asset protection from bushfire.

One public submission opposed the proposed modification raising issues relating to increases in:

- dust due to increased mining from 1.1 Mtpa to 1.3 Mtpa;
- truck traffic along Ruttleys Road;
- subsidence due to increased mining; and
- production affecting local living conditions.

LakeCoal's RTS addressed each of the issues raised in this objection, noting that:

- air quality impacts are not expected to change from those previously assessed for the original project;
- coal is not transported by truck on public roads (including Ruttleys road) as the overland conveyer is used to transport coal to VPPS;
- subsidence impacts are not predicted to increase as the proposed modification does not involve changes to the mine areas or area of extraction; and
- impacts to social amenity are assessed in the EA to have little or no adverse impact.

4. ASSESSMENT

In assessing the merits of the proposal, the Department has considered the EA, submissions on the proposal and LakeCoal's RTS. The Department considers the key assessment issues to be:

- a revised potential noise impact assessment submitted by LakeCoal in respect of Mannering's noise impacts; and
- biodiversity impacts resulting from vegetation clearing and disturbance associated with development of APZs.

4.1 Noise

Noise emissions generated during care and maintenance and handling of Chain Valley's coal

Noise originating from the mine during care and maintenance is limited to emissions from conveyors, compressors and ventilation fans. As such, current noise emissions are significantly less than when the mine is producing coal. The crushing facility is not currently in use as there is no current coal production, and this facility would not be operated during transfer and handling of coal from Chain Valley, since Chain Valley's coal would be crushed underground, prior to it being conveyed to the Mannering surface facilities.

The proposed increase in coal throughput from 1.1 to 1.3 Mtpa is within the capacity of the existing site infrastructure and is therefore not expected to increase the level of noise emissions. The proposed modification does not involve changes to any other aspect of surface operations or road traffic generation which have potential to generate noise emissions at sensitive receivers.

Noise monitoring during care and maintenance has demonstrated compliance with the approval's noise criteria, and the Department believes that the current criteria would continue to be met during care and maintenance.

Noise emissions generated from activities associated with future coal production at Mannering

The EA includes a Noise Impact Assessment (NIA) prepared by EMM. Additional information on noise emissions and mitigation measures was provided in the RTS and a later Addendum Letter. LakeCoal submitted this NIA primarily to provide a contemporary assessment of noise emissions from the mine once coal production recommences at Mannering.

A previous NIA on noise emissions from the mine during coal production was prepared in 2007 by Bridges Acoustics for the project application which resulted in project approval MP 06_0311. This NIA predicted that ongoing operations of Mannering could have a significant impact on 33 residences (>5 dB(A) above recommended criteria) and moderate impact on 119 residences (between 3 and 5 dB(A) above the recommended criteria) with almost all of these residences being located in the Macquarie Shores Home Village.

The Department's Environmental Assessment Report for the project application identified that, whilst these impacts appear to be unacceptable, there had been no complaints about noise impacts and there were no public submissions about noise from either Mannering's existing or proposed operations. The Department was not able to identify the reason why actual noise impacts did not appear to be as significant as those predicted in the first NIA.

For this reason, LakeCoal decided to reassess the potential noise impacts from activities associated with future coal production for the current modification. This contemporary assessment predicted potential noise emissions and compared them with both the current approval conditions and Project Specific Noise Levels (PSNLs) determined from noise monitoring at the assessment locations shown in **Figure 2**. EPA reviewed the current NIA and agreed with the PSNLs derived by LakeCoal.

The predicted noise levels under worst-case meteorological conditions at all key receiver locations are shown in **Table 1**. The noise modelling results indicate that:

- Pacific Highway residences (Locations 4, 5 and 6) are predicted to be up to 8 dB above the current approval conditions, and up to 4 dB above the revised PSNLs;
- Macquarie Shores Home Village residences (Locations 7 and 8) are predicted to be up to 2 dB above the night-time PSNL at Location 7 and up to 9 dB above the revised PSNLs during day, evening and night-time periods at Location 8. However, all emissions are predicted to remain compliant with the current approval conditions for both locations; and
- Kingfisher Shores residences (Locations 9, 11, 18 and 20) are predicted to remain below the revised PSNLs and the current approval conditions.

Table 1: Predicted noise levels (worst-case meteorological scenario)

Location	Period	PSNL	Current approved noise limit (MP 06_0311)	Predicted noise level (worst-case meteorological scenario)
4	Day, L _{Aeq} (15 min)	47	49	39
	Evening, L _{Aeq} (15 min)	47	49	39
	Night, L _{Aeq} (15 min)	39	35	40
	Night, L _{Aeq, period}	45	49	
5	Day, L _{Aeq} (15 min)	47	47	42
	Evening, L _{Aeq} (15 min)	47	47	42
	Night, L _{Aeq} (15 min)	39	35	43
	Night, L _{Aeq, period}	45	49	
6	Day, L _{Aeq} (15 min)	47	44	41
	Evening, L _{Aeq} (15 min)	47	44	41
	Night, L _{Aeq} (15 min)	39	35	42
	Night, L _{Aeq, period}	45	49	
7	Day, L _{Aeq} (15 min)	39	43	38
	Evening, L _{Aeq} (15 min)	39	43	38
	Night, L _{Aeq} (15 min)	37	43	39
	Night, L _{Aeq, period}	43	50	
8	Day, L _{Aeq} (15 min)	39	46	45
	Evening, L _{Aeq} (15 min)	39	46	45
	Night, L _{Aeq} (15 min)	37	46	46
	Night, L _{Aeq, period}	43	50	
9	Day, L _{Aeq} (15 min)	43	45	40
	Evening, L _{Aeq} (15 min)	43	45	40
	Night, L _{Aeq} (15 min)	43	45	41
	Night, L _{Aeq, period}	39	52	39
11	Day, L _{Aeq} (15 min)	43	40	38
	Evening, L _{Aeq} (15 min)	43	40	38
	Night, L _{Aeq} (15 min)	43	40	39
	Night, L _{Aeq, period}	39	52	37
18	Day, L _{Aeq} (15 min)	43	43	38
	Evening, L _{Aeq} (15 min)	43	43	38
	Night, L _{Aeq} (15 min)	43	43	39
	Night, L _{Aeq, period}	39	52	37
20	Day, L _{Aeq} (15 min)	43	44	39
	Evening, L _{Aeq} (15 min)	43	44	39
	Night, L _{Aeq} (15 min)	43	44	40
	Night, L _{Aeq, period}	39	52	38



Figure 2: Noise Assessment Locations

The predicted noise emissions differ from those calculated in the Bridges Acoustics assessment in 2007, possibly because of different weather conditions used in each assessment. The 2007 NIA considered noise emission levels resulting from meteorological conditions which are a feature of the area (ie typical conditions), as opposed to the approach used in the current NIA which considered the highest potential noise levels for each assessment location under a worst-case wind scenario. Differences may also be attributed to the different noise prediction software and methods of determination of sound power levels of relevant equipment. The current NIA assumes that all plant and equipment is operating simultaneously, whereas the 2007 NIA allowed that some noise emitting activities would only occur intermittently.

The Department acknowledges that the currently modelled noise emissions represent a worst-case operational scenario as well as a worst-case meteorological scenario. However, the Department also notes there have been no noise complaints either prior to or during care and maintenance and there were no public submissions relating to noise. However, the Department believes that LakeCoal should reduce future noise levels through the implementation of mitigation measures in order to meet contemporary noise criteria and ensure the amenity of residents in neighbouring areas, once coal production recommences.

The Department raised these concerns with LakeCoal, which then provided a preliminary analysis of potential noise mitigation measures. This analysis identified that the crushing facility and associated transfer house are the primary contributors to site noise, for all assessment locations. Mitigation measures proposed by LakeCoal include increasing the extent and/or effectiveness of the current enclosures around these plant items, which is predicted to reduce sound power levels by 6 dB. Modelled noise emissions under worst-case operational and meteorological conditions are then predicted to be reduced such that PSNLs and approval criteria would then be met for all assessment locations except Location 8, where noise emissions would still exceed the PSNL by 6 dB but would comply with current approval conditions.

The proposed increase in coal throughput from 1.1 to 1.3 Mtpa is within the capacity of the existing coal handling plant and is therefore not expected to increase the level of noise emitted from the plant. The proposed modification also does not involve changes to any other aspect of surface operations or road traffic generation which have potential to generate noise emissions at sensitive receivers.

The preliminary analysis demonstrates that LakeCoal is able to reduce noise emissions through the implementation of noise mitigation measures. In accordance with the procedures in the *NSW Industrial Noise Policy* for existing operations, the Department believes the focus should be on ensuring LakeCoal is implementing all reasonable and feasible noise mitigation measures at Manning. Consequently, the Department, in consultation with EPA, has recommended the implementation of noise criteria that reflect the use of mitigation measures (see **Table 2**). The recommended criteria represent an improvement on noise emissions previously authorised for Manning at all times and locations except that for the night-time $L_{Aeq(15 \text{ min})}$ criterion for Locations 4, 5 and 6. The criteria for these locations are no more than 2 dB(A) above the contemporary PSNLs. In accordance with the *Voluntary Land Acquisition and Mitigation Policy – SSD Mining*, noise emissions which are 0 – 2 dB(A) above the relevant PSNL are considered to lead to negligible impacts. Although the recommended criteria for Location 8 are greater than the PSNLs by up to 6 dB(A), the criteria are substantially lower than the existing approval criteria.

Table 2: Noise criteria dB(A)

Location	Day $L_{Aeq(15 \text{ min})}$	Evening $L_{Aeq(15 \text{ min})}$	Night	
			$L_{Aeq(15 \text{ min})}$	$L_{A1(1 \text{ min})}$
4	40	40	40	49
5	41	41	41	49
6	41	41	41	49
7	39	39	39	47
8	45	45	43	47
9	41	41	41	51
11	39	39	39	49
18	39	39	39	51
20	40	40	40	51

LakeCoal has committed to assessing noise emissions and implementing mitigation measures once Manning recommences coal production and has agreed to the recommended long-term noise criteria. However, it has identified problems in accurately assessing predicted noise emissions and appropriate mitigation measures while the mine is still on care and maintenance. The Department has therefore recommended conditions (see **Table 3**) allowing Manning to operate at interim noise criteria for a period of 18 months following commencement of Manning's underground mining operations, while LakeCoal investigates and implements noise mitigation measures. The Department expects that this would include installing mitigation measures around the crushing facility and transfer house. The interim noise levels are either the same as, or less than, the current approval criteria for all locations at all times excluding the night-time $L_{Aeq(15 \text{ min})}$ criteria for Locations 4, 5 and 6. The criteria for these locations are the same as the noise limits determined for the long-term noise criteria in **Table 2**.

Table 3: Interim noise criteria dB(A)

Location	Day	Evening	Night	
	$L_{Aeq}(15 \text{ min})$	$L_{Aeq}(15 \text{ min})$	$L_{Aeq}(15 \text{ min})$	$L_{A1}(1 \text{ min})$
4	40	40	40	49
5	43	43	41	49
6	42	42	41	49
7	39	39	39	47
8	46	46	46	47
9	41	41	41	51
11	39	39	39	49
18	39	39	39	51
20	40	40	40	51

The Department believes that this 18 month period is reasonable as it would enable LakeCoal to undertake noise monitoring during coal production and handling for a period of 6 months and identify reasonable and feasible mitigation measures required to achieve the long-term noise criteria. The assessment and implementation of mitigation measures would then occur within 12 months of the completion of noise monitoring. The Department has therefore recommended conditions that require LakeCoal to identify mitigation measures within 6 months of recommencement of coal production and to implement these measures within 18 months of this recommencement. Once mitigation measures have been implemented, LakeCoal would be required to undertake a noise compliance investigation to assess compliance with the more stringent long-term noise criteria in **Table 2**.

The Department believes these measures would ensure that the noise impacts from recommencement of coal mining at Mannering would be significantly reduced below currently approved impacts.

4.2 Biodiversity

In October 2013, the Mannering pit top was threatened by a bushfire that resulted in minor damage to some built assets. LakeCoal engaged EMM to assess bushfire risk so that protection measures, such as APZs, could be determined and implemented. Bushfire risk was assessed in accordance with RFS's *Planning for Bushfire Protection* guideline. The guideline was also used to derive an APZ width of 25 m for the pit top infrastructure, comprising a 15 m inner protection area (IPA) and a 10 m outer protection area (OPA).

Establishment and maintenance of an IPA involves removal of shrubs located under trees and within 10 m of exposed windows and doors, and keeping canopy cover to less than 15% of total surface area. Establishment and maintenance of an OPA involves slashing the understorey annually before the fire season to remove shrubs and long grasses, and keeping canopy cover to less than 30% of total surface area.

Clearing of the APZs would result in direct impacts to native vegetation communities and potential impacts on fauna species and their habitat. An assessment of the impacts on terrestrial ecology as a consequence of the vegetation clearing and disturbance was included in the EA and RTS. Field surveys, focussed on areas proposed to be disturbed, were undertaken on 8 April, 26 August and 17 November 2015 (the latter for the Black-eyed Susan and Leafless Tongue Orchid only). A plan showing the proposed APZs is shown in **Figure 3**. The areas of vegetation to be cleared/disturbed to extend/establish the APZs for bushfire protection purposes are shown in **Table 4**.

Table 4: Vegetation to be cleared/disturbed

Vegetation community	EEC	Approximate area to be cleared (ha)	Approximate area to be disturbed (ha)
Swamp Mahogany Swamp Forest (native)	Swamp Sclerophyll Forest on Coastal Plains EEC	Nil	0.35
Smooth-barked Apple Red Bloodwood Open Forest (native)	-	Nil	0.05
Planted exotic	-	0.04	0.32
Total		0.04	0.72



Figure 3. Asset protection zones

4.2.1 Impacts on flora

The initial field survey identified a total of 30 plant species, comprising 22 native and 8 exotic species. Two native vegetation communities were recorded: *Smooth-barked Apple – Red Bloodwood open forest on coastal plains of the Central Coast, Sydney Basin* and *Swamp Mahogany Swamp Forest on coastal lowlands of the North Coast and northern Sydney Basin*. The *Swamp Mahogany Swamp Forest* community meets the description of *Swamp Sclerophyll Forest Endangered Ecological Community (EEC)* which is listed under the TSC Act.

Endangered Ecological Communities (EECs)

The expansion of existing APZs would result in disturbance of 0.35 ha of *Swamp Sclerophyll Forest EEC*. Disturbance would be limited to selective felling of trees to reduce canopy cover to 15% of the area within the IPA and 30% within the OPA and related understory slashing. LakeCoal has committed to selectively felling trees and retaining important structural components of the community.

These impacts cannot be avoided due to the existing siting of built assets which must be protected from bushfires. The Department has considered whether these impacts constitute a significant effect on the *Swamp Sclerophyll Forest EEC*. Although the clearing of habitat is a key threatening process under the TSC Act, the Department is of the view that the proposal would be unlikely to lead to any significant local or regional threat to this EEC, based on the very small area to be impacted and the EEC's abundance in adjacent unaffected areas. The Department considers that LakeCoal's commitments to minimise impacts on this EEC are sound, and do not require to be further amplified.

Threatened flora species

No flora species listed under either the TSC Act or the EPBC Act were recorded during site surveys. However potential habitat was identified for two species listed under either the TSC Act and EPBC Act that are difficult to detect outside of their flowering periods, being:

- Variable Midge Orchid; and
- Black-eyed Susan.

LMCC and OEH raised a number of concerns about the EA's assessment of threatened species, including these two cryptic species. These concerns were largely addressed by LakeCoal in the RTS, particularly for the Variable Midge Orchid. LMCC's raised concerns with the timing of pre-clearance surveys for the Black-eyed Susan stating that detection can only be undertaken in the flowering season for which peak time is from mid-September to mid-October. However, the NPWS's Environmental Impact Assessment Guideline for this species states that the flowering season is sporadic and that therefore surveys should be undertaken 2 – 3 times during the flowering season between late August and the end of November (in dry years) and between August and January (in wet years). Black-eyed Susan was not recorded in the two targeted site surveys undertaken in late August and mid-November, both of which are during the flowering season. The Department also notes local news media reports in August 2015 of flowering Black-eyed Susan elsewhere in the district. On this basis, the Department considers that it is highly unlikely that there are any Black-eyed Susan individuals present in the proposed APZs.

Although potential habitat was not identified for the Leafless Tongue Orchid, LakeCoal completed a targeted pre-disturbance survey during the flowering season on 17 November 2015 and did not identify any individuals. The Department is therefore satisfied that the occurrence of Leafless Tongue Orchid in the proposed APZ areas is unlikely.

Whilst surveys have not identified any threatened species there is still a possibility that individuals could be identified. LakeCoal has committed to delineating any threatened plant populations that are identified with fencing to ensure protection during the extension/establishment and maintenance of APZs. The Department has recommended the site's Land Management Plan is updated to protect threatened flora species in APZ areas.

Other native vegetation

Of the total of 0.4 ha of native vegetation to be disturbed by the APZs, 0.05 ha is non-EEC vegetation. None of this area would be fully cleared, with over-storey disturbance limited to selective felling of trees to reduce canopy cover to 15% of the area within the IPA and 30% within the OPA. Understorey clearing and slashing would be as for EECs. LakeCoal has committed to selectively felling trees and prioritising retention of the important structural components of the communities. The Department considers that LakeCoal's commitments to minimise impacts on non-EEC native vegetation are sound, and do not require to be further amplified.

4.2.2 Impacts on fauna

No threatened fauna species were identified in the APZs, but nonetheless these areas may provide potential habitat for threatened fauna species previously recorded within a 10 km radius, including:

- *woodland birds*: Little Lorikeet, Scarlet Robin, White-fronted Chat; and
- *flying mammals*: Grey-headed Flying-fox, Eastern Bentwing Bat, Eastern Freetail Bat and Little Bentwing Bat.

The disturbance of native vegetation may adversely impact 0.4 ha of potential habitat resources for these species. Assessments of significance were completed in accordance with section 5A of the EP&A Act (and EPBC Act where relevant) for threatened fauna species and guilds. The assessments determined that impacts were not predicted to be significant. The disturbance of habitat would not have a significant impact on these species due to the small areas proposed to be disturbed as well as their location being adjacent to large patches of contiguous and suitable alternative foraging habitat. The Department considers that the proposal would not be likely to result in significant impacts on threatened fauna species.

4.2.3 Mitigation and management measures

LakeCoal proposes a range of mitigation measures, which would be secured as part of an update to its Statement of Commitments within the project approval, including:

- weed management;
- retention of large trees, where possible;
- relocation of felled trees adjacent to the APZs to create additional fauna habitat;
- transport of any injured fauna to the nearest veterinary hospital for treatment; and
- pre-disturbance surveys by an ecologist to determine the important components of the *Swamp Sclerophyll Forest EEC* for retention in the APZs.

The Department is satisfied with these mitigation measures, subject to the adoption of the Department's recommended update of the Land Management Plan conditions and LakeCoal's revised Statement of Commitments.

4.2.4 Biodiversity offset

The Department is satisfied that the proposal has sought to avoid and minimise impacts on flora and fauna. LakeCoal has proposed to investigate one of the following options for biodiversity offsets:

- provide \$10,000 of funding, which is equivalent to the biodiversity being lost (ie 5 credits x \$2,000 per credit) to existing environmental programs at the site which benefit the *Swamp Sclerophyll Forest EEC*; or
- identify another suitable conservation program and provide \$10,000 funding; or
- purchase and retire 5 credits on the Biobanking register.

LakeCoal has committed to investigating these three options in consultation with OEH and to select the option that achieves the greatest benefit to biodiversity impacted by the proposed modification. OEH supports this approach and has agreed to negotiate the most appropriate option with LakeCoal after APZ disturbance, subject to inclusion of a condition requiring provision of an offset. The Department considers that, on this basis, residual biodiversity impacts would be appropriately offset.

4.2.5 Conclusion

To ensure that any flora and fauna impacts are minimised, managed and monitored, and that long-term beneficial biodiversity outcomes are realised, the Department has recommended that LakeCoal:

- prepares and implements an updated Land Management Plan; and
- offsets the disturbance of 0.35 ha of *Swamp Sclerophyll Forest EEC* and disturbance of 0.05 ha of other native vegetation in consultation with OEH within 12 months of approval of the modification.

Subject to these conditions, the Department considers impacts on biodiversity to be suitably mitigated.

4.3 Air quality

The EA included an Air Quality Impact Assessment (AQIA), which in turn was based on the Air Quality Assessment (AQA) submitted for the original project application. The Department considers this to be appropriate as the proposed modification would not significantly alter surface operations with the potential to impact air quality. The AQIA considered the proposed increase in throughput from 1.1 to 1.3 Mtpa, including changes to stockpiling (to account for potential periods when the overland conveyor is unable to transfer coal directly to VPPS), the feed rate of the conveyor and emission

factors for bulldozers/front end loaders. The analysis predicted that emissions associated with the modification would not significantly increase total emissions and that the impact assessment criteria would continue to be met.

Available monitoring data from Manning's dust deposition gauges and TEOM PM₁₀ monitor demonstrates no exceedances of:

- 24-hour average PM₁₀ criterion of 50 µg/m³ since December 2013, with the highest recording being 38.7 µg/m³;
- annual average PM₁₀ criterion of 30 µg/m³ since December 2013, with the highest recording being 14.8 µg/m³; or
- dust deposition criteria of 4 g/m²/month since 2006, with annual average dust deposition being 1 g/m²/month.

The Department is satisfied that the air emissions generated by the proposed modification would comply with relevant criteria, and would not significantly affect the amenity of local residents. It is also satisfied with the current mitigation and management measures employed by LakeCoal. EPA recommended conditions relating to air quality monitoring requirements. However, as there is an approved Air Quality Monitoring Program currently implemented at Manning, the Department is satisfied that additional conditions are not required. EPA also recommended air quality reporting conditions, however a similar condition already exists in the approval.

4.4 Other issues

Other potential impacts of the proposed modification are discussed below in **Table 5**.

Table 5: Assessment of other impacts

Issue	Consideration and Assessment	Recommendation
<i>Greenhouse Gas Emissions</i>	<ul style="list-style-type: none"> • Changes to Greenhouse Gas Emissions (GHGE) as a result of the proposed modification would be minimal. • LakeCoal would continue to employ mitigation measures and management strategies in accordance with Manning's existing Greenhouse Gas and Energy Efficiency Plan. 	No additional conditions necessary.
<i>Socio-Economic</i>	<ul style="list-style-type: none"> • The modification would permit Manning's ongoing employment and capital and operational expenditure until 30 June 2022, with minimal additional impacts on nearby receivers. • The modification would enable a ROM coal production increase at Chain Valley, which would create employment for an additional 60 employees at Chain Valley. 	No additional conditions necessary.
<i>Aboriginal Heritage</i>	<ul style="list-style-type: none"> • No items of Aboriginal heritage significance were identified in the APZ survey areas through either preliminary site investigations, previous assessments or searches of OEH's AHIMS database. • The Department is satisfied that the modification has a very low potential to adversely impact Aboriginal heritage. 	No additional conditions necessary
<i>Surface Water</i>	<ul style="list-style-type: none"> • No changes to the existing surface water system are proposed. • EPA identified that there have been a number of exceedances of EPL 191 relating to water quality of site discharges as well as other water management issues and that a water quality Pollution Reduction Program may be included on EPL 191. EPA also recommended a condition to upgrade the site's water management system so that clean water is diverted around the premises and water quality and volumetric discharges must comply under the consent with the EPL's limits. The consent already requires that site water discharges comply with EPL 191 and that the site's Water Management Plan, which includes an erosion and sediment control plan, must be implemented. LakeCoal has committed to review Manning's existing site water management system in consultation with EPA. The Department does not consider additional conditions are necessary. 	No additional conditions necessary
<i>Rehabilitation</i>	<ul style="list-style-type: none"> • The modification involves only minor changes to existing surface disturbance areas through the establishment/extension of APZs. • DRE recommended number of varied rehabilitation objectives for inclusion in the modified consent, which the Department carefully considered. The Department considers that DRE's recommended objectives for mine site, landforms, water quality and native flora and fauna habitat corridors are addressed by existing conditions of approval. However, the Department accepts DRE's proposal for a 	The Department has recommended an additional rehabilitation objective.

Issue	Consideration and Assessment	Recommendation
	<p>rehabilitation objective requiring the recovery, appropriate management and effective use of soil and vegetative materials as rehabilitation resources.</p> <ul style="list-style-type: none"> DRE also recommended conditions for Progressive Rehabilitation and a Rehabilitation Plan. These recommended conditions were included in the project approval via MOD 2. 	
Visual	<ul style="list-style-type: none"> There would be no new surface infrastructure or intensification of visible activities. Only limited vegetation is to be cleared or disturbed for the APZs. This would be within or adjacent to existing areas of disturbance which are not generally visible to the public. 	No additional conditions necessary.
Traffic	<ul style="list-style-type: none"> The proposed modification would not generate additional employment at Mannering (beyond that previously approved) and therefore would not result in any changes to traffic or transport. The additional coal throughput would be transported by the overland conveyors, with no additional truck movements. Traffic impacts would continue to be managed in accordance with Mannering's existing conditions of approval. 	No additional conditions necessary.
Hazards	<ul style="list-style-type: none"> The modification would decrease the risk of bushfire hazard through the establishment/extension of APZs. Hazards would be managed in accordance with established risk management plans and procedures. 	No additional conditions necessary.

5. CONCLUSION

The Department has assessed the modification application in accordance with the relevant requirements of the EP&A Act. The proposed modification would have minimal or negligible environmental impacts beyond those already approved and any potential impacts would be able to be controlled by existing and proposed conditions of approval.


Only one public submission was received from the local community objecting to the development. The issues raised in the objection have been addressed. No affected State agencies or the local Council opposed the modification. Agency and Council concerns have been addressed either in LakeCoal's RTS or the Department's recommended conditions of approval. The proposed modification would provide for employment at Mannering and also enable the capture of benefits associated with the Chain Valley modification, including the creation of additional employment.

The Department is therefore satisfied that the proposed modification is in the public interest and should be approved, subject to conditions. LakeCoal has reviewed the proposed conditions, and has accepted the proposed modifications to the Mannering project approval.

6. RECOMMENDATION

It is RECOMMENDED that the Executive Director, Resource Assessments and Compliance exercise the powers and functions delegated in the Minister for Planning's Instrument of Delegation and:

- consider** the findings and recommendations of this report;
- determine** that the proposed modification is within the scope of section 75W of the EP&A Act;
- approve** the modification application, subject to conditions, under section 75W of the EP&A Act; and
- sign** the attached notice of modification (**Appendix D**).


Howard Reed
Director
Resource Assessments
8-12-15

 16/12/15
Oliver Holm
Executive Director
Resource Assessments and Compliance

APPENDIX A: STATEMENT OF ENVIRONMENTAL EFFECTS

Refer to Department's website:

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7138

APPENDIX B: COPY OF SUBMISSIONS

Refer to Department's website:

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7138

APPENDIX C: RESPONSE TO SUBMISSIONS

Refer to Department's website:

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7138

APPENDIX D: NOTICE OF MODIFICATION

APPENDIX E: CONSOLIDATED PROJECT APPROVAL