

ASSESSMENT REPORT

Mannering Colliery Fassifern Seam Extension Modification (06_0311 MOD 1)

1 BACKGROUND

Centennial Newstan Pty Ltd (Centennial) owns and operates the Mannering Colliery (Mannering), an underground coal mine located approximately 40 kilometres (km) south of Newcastle (see Figure 1). Mannering Colliery is located near the suburbs of Mannering Park and Wyee Point, within the Lake Macquarie and Wyong local government areas.

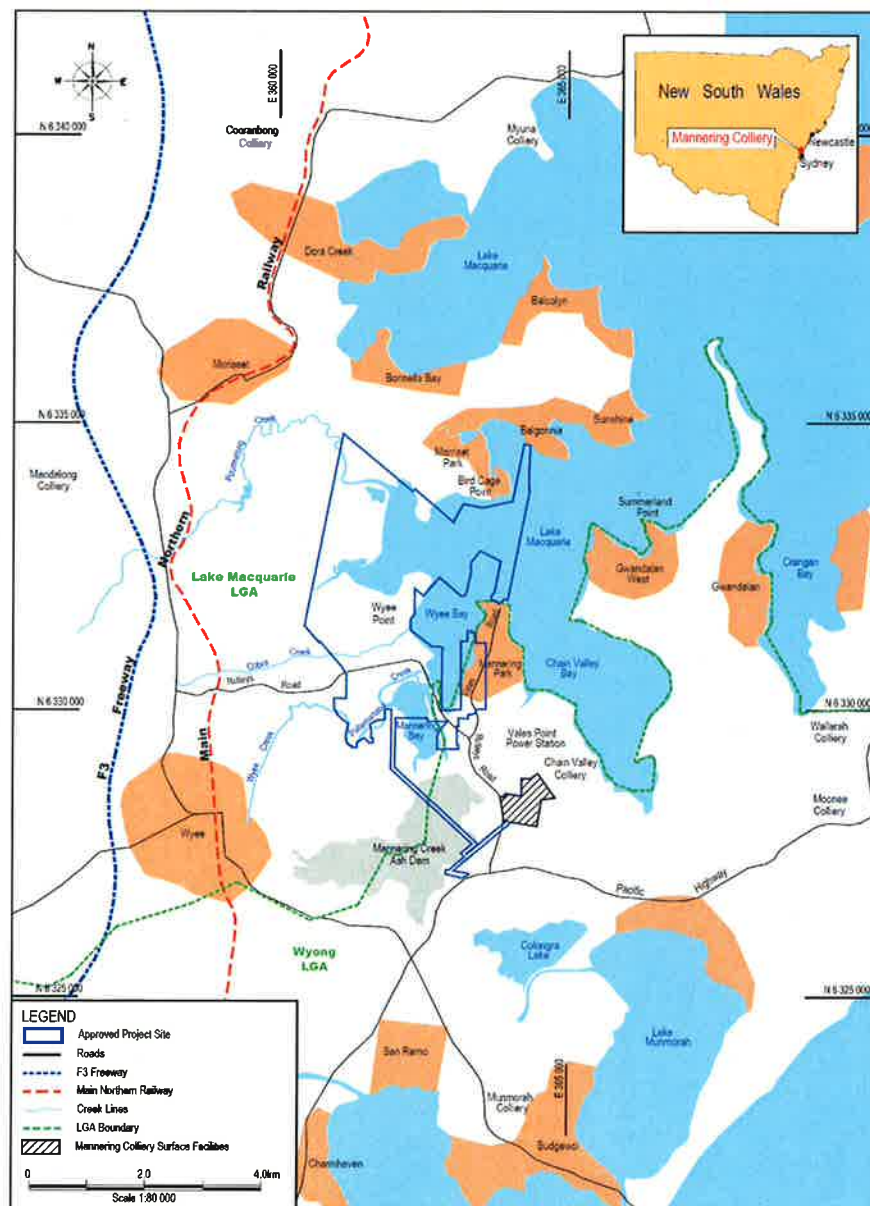


Figure 1: Regional Location

Centennial, a wholly-owned subsidiary of Banpu Public Company Limited, has owned and operated the mine since 2002. However, the mine (previously known as Wyee State Mine) has been operating for 50 years and was established to supply coal to Vales Point Power Station (see Figure 2).

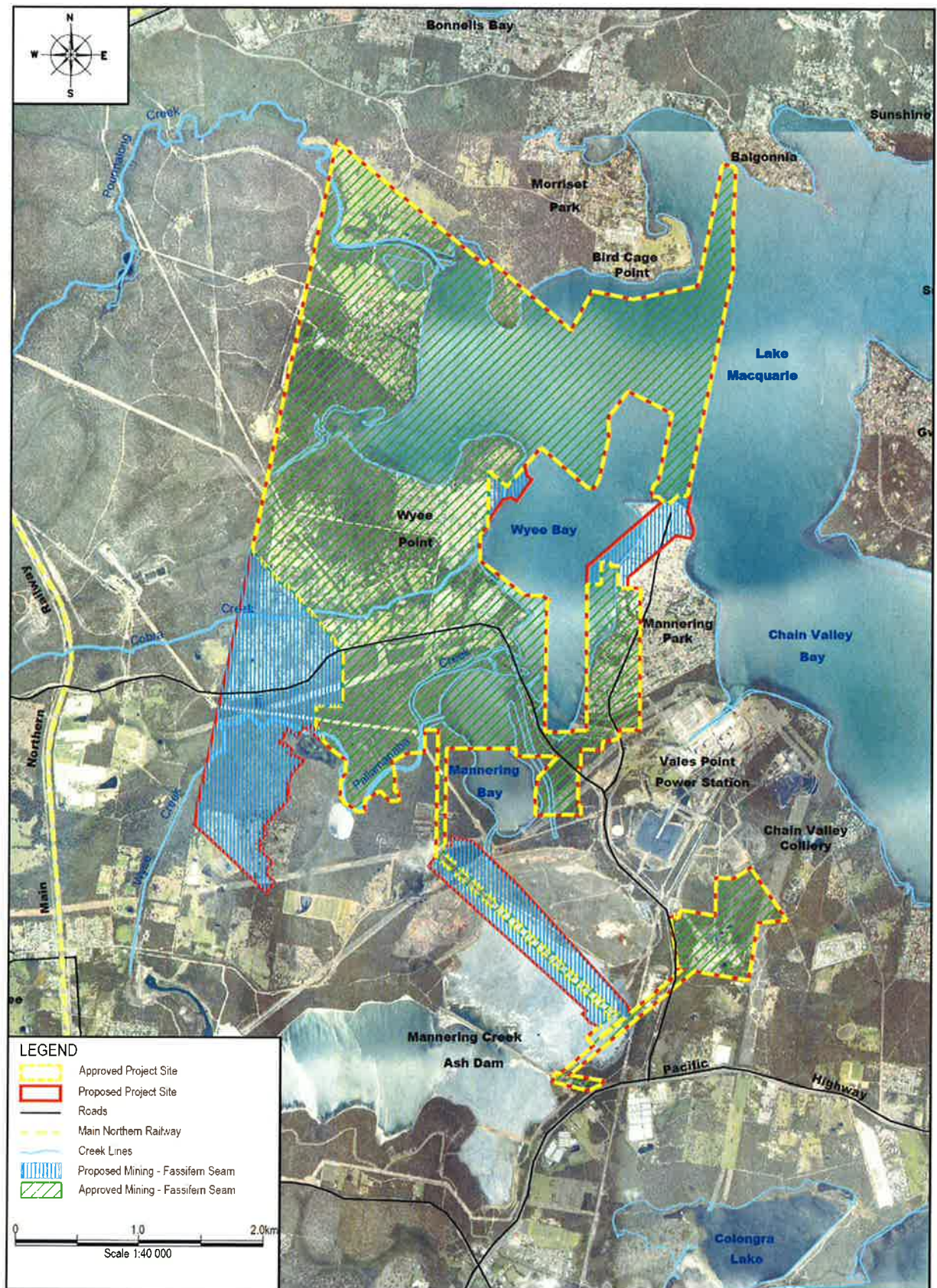


Figure 2: Mannering Colliery - Approved and Proposed Project Areas

The mine operates under a project approval (06_0311) granted by the Minister under Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act) in 2008. The approval allows the:

- extraction of up to 1.1 million tonnes per annum (Mtpa) of run-of-mine (ROM) coal using bord and pillar mining methods;
- transport of this coal by conveyor to the nearby Vales Point Power Station for domestic power generation; and
- operation of surface facilities, mine ventilation and associated infrastructure to support the mine.

The approval is due to expire on 12 March 2018. A copy of the project approval is provided in Appendix A.

2 PROPOSED MODIFICATION

Centennial has lodged an application to modify its project approval 06_0311 under section 75W of the EP&A Act. The application initially sought approval for the extraction of a total of 4.6 million tonnes (Mt) of ROM coal from two coal seams (the Fassifern Seam and the Great Northern Seam) in areas adjacent to the existing project approval boundary. However, in its Response to Submissions (the RTS, see Appendix D), Centennial amended its application by removing proposed mining operations in the Great Northern Seam. Consequently, the amended modification application relates solely to the extension of mining operations in the Fassifern Seam to recover an additional 3.2 Mt of coal (see Figure 2). The proposed modification is summarised in Table 1 and is described in full in the document titled *Mannering Colliery – Extension of Mine Project, Section 75W Modification to Project Approval (06_0311) Environmental Assessment* (the EA, see Appendix B), dated January 2012, as amended by the RTS. The RTS contains a revised subsidence assessment.

Table 1: Summary of Proposed Modification

Aspect	Current operations	Proposed Mine Extension
Mining Area and Method	<ul style="list-style-type: none"> • Mining within the approved project approval boundary, bord and pillar extraction methods (ie first workings only). 	<ul style="list-style-type: none"> • Bord and pillar extraction to extract an additional 3.2 Mt of ROM coal from the Fassifern Seam. • An additional mining unit would be operated.
Project Site Area	<ul style="list-style-type: none"> • 1,164 hectares (ha). 	<ul style="list-style-type: none"> • 1,420 ha – an increase of 256 ha, or 22% (see Figure 2).
Approved Coal Production Rate	<ul style="list-style-type: none"> • Up to 1.1 Mtpa of ROM coal. 	<ul style="list-style-type: none"> • No change.
Development Life	<ul style="list-style-type: none"> • Approval to operate the mine until 2018. 	<ul style="list-style-type: none"> • No change.
Coal Processing	<ul style="list-style-type: none"> • No coal processing undertaken other than use of a coal crushing facility to reduce the top size of the ROM coal. 	<ul style="list-style-type: none"> • No change.
Coal Transport	<ul style="list-style-type: none"> • All coal produced at the mine is transported by conveyor to Vales Point Power Station. 	<ul style="list-style-type: none"> • No change.
Minewater Management	<ul style="list-style-type: none"> • Minewater is pumped from underground workings and discharged, following treatment, under the mine's existing Environmental Protection Licence (EPL). 	<ul style="list-style-type: none"> • No change.
Surface Infrastructure	<ul style="list-style-type: none"> • Use of existing surface infrastructure to support the mine's operation, including supply of mining consumables, workers' amenities, workshops, offices, carparks, ventilation and pollution control facilities. 	<ul style="list-style-type: none"> • No change.
Hours of Operation	<ul style="list-style-type: none"> • 24 hours per day, 7 days per week. 	<ul style="list-style-type: none"> • No change.
Employment	<ul style="list-style-type: none"> • 74 full-time employees at time of approval in 2008. • Workforce rose to 130 full-time employees. Following recent falls in coal prices, the workforce has reduced to 70. 	<ul style="list-style-type: none"> • Increase to 170 full-time employees initially proposed, to enable operation of an additional mining unit. However, currently there are no immediate plans to increase staffing beyond 70 employees.

3 STATUTORY CONTEXT

3.1 Approval Authority

Part 3A of the EP&A Act (including section 75W), as in force immediately before its repeal on 1 October 2011 and as modified by Schedule 6A to the Act, continues to apply to transitional Part 3A projects. The Mannering Colliery project approval is a transitional Part 3A project.

Consequently, this report has been prepared in accordance with the requirements of Part 3A and associated regulations, and the Minister may approve or disapprove of the carrying out of the modified project under Section 75W of the Act.

However, under the Minister's delegation of 14 September 2011, the Planning Assessment Commission (PAC) must determine the modification application, since Centennial has made reportable political donations.

3.2 Modification

The Department has considered the nature of the proposed modification and is satisfied that it can be characterised as a modification to the original project. In this respect, the Department notes that there would be no change to the approved mining methods, no increase in coal production, no change to processing or transportation systems, and the resulting environmental impacts would be substantially the same as for the approved project. Recent case law clarifies that the EP&A Act permits an expansion of a project approval boundary using the Act's modification powers.

Consequently, the Department is satisfied that the proposed modification is within the scope of section 75W of the EP&A Act.

3.3 Environmental Planning Instruments

Sections 6.4 and 6.5 of the EA (see Appendix B) include an assessment of the application against relevant environmental planning instruments, including State Environmental Planning Policies (SEPPs), the *Lake Macquarie Local Environmental Plan 2004* and the *Wyong Local Environmental Plan 1991*. The Department has reviewed Centennial's assessment of the application against the relevant environmental planning instruments and concurs with this assessment.

4 CONSULTATION

The Department exhibited the EA and supporting documentation between 24 January and 24 February 2012. During the exhibition period, the Department received 21 submissions on the proposal, including:

- 9 submissions from public authorities;
- 2 submissions from special interest groups - the Construction, Forestry, Mining and Energy Union (CFMEU) and the Mannering Park Precinct Committee (MPPC); and
- 10 submissions from the general public.

The submissions received from public authorities were from the:

- Environment Protection Authority (EPA) in combination with the Office of Environment and Heritage (OEH), which at that time were both within the Department of Premier and Cabinet;
- OEH's **Heritage Branch**;
- NSW Office of Water (NOW), within the Department of Primary Industries;
- Division of Resources and Energy (DRE), within the Department of Trade and Investment, Regional Infrastructure and Services;
- Office of Agricultural Sustainability and Food Security (ASFS), within the Department of Primary Industries;
- Roads and Maritime Services (RMS);
- Mine Subsidence Board (MSB);
- Lake Macquarie City Council (LMCC); and
- Wyong Shire Council (WSC).

A summary of the issues raised during the consultation process is provided below. Full copies of the submissions are provided in Appendix C. Centennial subsequently provided the Department with an RTS, which the Department placed on its website. A copy of the RTS is provided in Appendix D.

4.1 Public Authorities

EPA / OEH raised a number of concerns, including:

- the effectiveness of consultation with Registered Aboriginal Parties;
- provision for future robust assessment, evaluation and monitoring programs to confirm the predictions of negligible impacts resulting from subsidence;
- if subsidence exceeds the predicted maximum of 20 millimetres (mm), then resulting impacts may affect the *Coastal Saltmarsh and Swamp Oak Floodplain Forest* and *River-flat Eucalypt Forest on Coastal Floodplains* endangered ecological communities (EECs) and habitat for the Wallum Froglet, a threatened species;
- protection against the spread of *Myrtle Rust*; and
- minewater discharge impact monitoring.

EPA /OEH recommended a number of conditions of approval in relation to Aboriginal heritage and threatened species which the Department has considered in drafting revised conditions of approval. The information contained in the RTS addressed most of EPA / OEH's concerns. In particular, Centennial amended its Statement of Commitments to re-evaluate subsidence impacts if subsidence exceeds 20 mm.

OEH's **Heritage Branch** recommended procedures to manage the conservation of any heritage items discovered within the proposed extension area. Centennial subsequently amended its Statement of Commitments to comply with this request.

NOW recommended conditions of approval requiring Centennial to review the mine's existing groundwater monitoring and response plans, the monitoring and reporting of groundwater ingress volumes, and the monitoring of Groundwater Dependent Ecosystems (GDEs) associated with Wyee and Cobra Creeks.

DRE anticipated that no changes to current operations or environmental management at Mannering are required and considers that existing subsidence management measures are adequate. DRE highlighted the need to protect the following features from subsidence impacts:

- residential areas;
- the foreshore of Lake Macquarie;
- low-lying areas, including wetlands;
- high voltage power lines (including angle towers); and
- Mannering Creek Ash Dam.

ASFS supported the proposal provided that any damage to intensive agricultural infrastructure caused by subsidence would be rectified.

RMS did not object to the proposed modification and supported the planned upgrade of the Rutleys Road / Mine Access Road intersection. It requested that Centennial consider the facilitation of public transport options for its employees.

MSB did not object to the proposed modification.

WSC requested the continuation of the mine's contribution to community enhancement, subsidence monitoring of public infrastructure in the suburb of Mannering Park and the provision of offsets for direct greenhouse gas emissions. WSC considered that the modification would not adversely affect road safety provided that no coal is transported by road and that the Rutleys Road / Mine Access Road intersection upgrade is completed during 2012.

LMCC raised concerns about the potential for the predicted maximum of 20 mm of vertical subsidence to impact aquatic ecology, foreshore areas, low-lying vegetation and dependent fauna and add to cumulative sea level rise impacts on areas sensitive to changes in relative water levels. In addition, LMCC considered that the EA had not assessed impacts of cumulative minewater discharges, the results of monitoring conducted to date and whether all possible noise mitigation measures have been employed at the site.

4.2 Special Interest Groups

The **CMFEU** strongly supported the proposal on the basis of minimal change to existing mine-related impacts and that it would provide continued and increased employment.

MPPC objected to the proposal, with its main concern relating to past damage to houses caused by mine subsidence (not associated with Mannering). It recommended alternative subsidence assessment mechanisms, should residents be dissatisfied with the MSB's determination of building damage. MPPC also recommended that Centennial contribute an additional 20 cents per tonne of coal for the provision of community infrastructure and that any damage to public infrastructure caused by mining operations should be repaired by Centennial.

4.3 Public Submissions

All but one of the 10 public submissions objected to the proposed modification. The main concerns were about the impacts of subsidence and, based on historical experiences in the locality, a lack of confidence in the mining industry and Government departments to protect and assess impacts to residential properties, should they occur. Several submissions opposed any form of coal mining, including bord and pillar first workings, under residential areas.

Several of the submissions requested that Centennial be required to contribute to a local infrastructure improvement fund, with suggested rates of contribution ranging from 3.5 cents to \$2.00 per tonne of coal produced. Other matters that were raised included:

- coal dust emissions;
- mine water discharges;
- historical subsidence impacts to low-lying areas;
- increased traffic on Rutleys Road;
- noise emissions; and
- impact caused to native vegetation by the escape of pine tree seedlings (wildlings) from trees adjacent to the Mannering mine entrance road.

5 ASSESSMENT

The Department has reviewed the submissions received during the exhibition of the application, the EA and RTS, and considers that the key environmental issue requiring assessment is subsidence-induced impacts.

5.1 Subsidence

Centennial's assessment of impacts in the EA was based on an assumption that the maximum vertical subsidence from increased mining in the two seams then proposed would be less than 20 mm. However, the Department's analysis of the specialist subsidence report (Appendix I of the EA) revealed that it stated that poor floor conditions beneath the Great Northern Seam may lead to further long-term subsidence, potentially causing a total of up to 70 mm of subsidence in areas proposed for coal extraction in both the Fassifern and Great Northern Seams.

Centennial consequently amended its application to remove its proposed mining operations in the Great Northern Seam. A revised subsidence assessment, addressing proposed extraction solely within the Fassifern Seam, was included in Centennial's RTS.

The proposal would extract coal from an approximately 3 metre (m) working section of the Fassifern Seam by bord and pillar (ie first workings) methods at depths between 150 m and 205 m. First workings involve driving two sets of parallel, intersecting roadways in the coal seam and leaving large coal pillars in place between these roadways. These pillars are not extracted and provide continuing support for the roof over the mining area. This mining system can limit surface subsidence levels to very low levels, and effectively manage the risk of unexpected subsidence impacts at the surface.

Centennial's first workings mine design would act to generally limit resulting vertical subsidence to <20 mm, which is the lowest detectable subsidence increment due to other factors causing variations to surface ground levels, such as soil wetting and drying. The likelihood of unexpected subsidence-induced events (resulting from pillar failure, etc) would be extremely low (assessed in the EA as a 1 in 5 million chance of pillar failure).

At the Department's request, Centennial provided subsidence monitoring data from March 2008 (when project approval was granted) until September 2012. These data indicate that Centennial has been very effective at generally limiting vertical subsidence to <20 mm. Over 97% of measurements at subsidence monitoring pegs have been <20mm. This figure rises to over 98% if measurements of pegs following disturbance by vehicles, animals or people are excluded.

Based on the proven performance of the mine, as measured over the many years of its operation, to design and implement mine plans that result in long-term stable pillars and vertical subsidence generally less than 20 mm, the Department is confident that it is very unlikely that there would be any significant subsidence impact if the proposed extension of mining was to be undertaken.

This means that the proposed mining operations are unlikely to cause impacts to any natural surface feature such as streams, GDEs, wetlands, the Lake Macquarie foreshore, sea grass beds within the Lake, Aboriginal heritage sites or native vegetation. Similarly, they would be unlikely to cause impacts to built features such as roads, Mannering Creek Ash Dam, electricity transmission towers, and residential or commercial buildings, such those associated with agricultural production.

The Department notes the concerns expressed in submissions about past severe and unanticipated subsidence events at nearby Chain Valley Bay and has forwarded these submissions to the MSB for its information. The Department is confident that, if mining is limited to first workings only in the Fassifern Seam and pillars are designed to be long-term stable, then subsidence would be negligible and impacts to residential properties would not occur.

The Department accepts the conclusions of Centennial's revised subsidence assessment and considers that the proposal would be very unlikely to result in noticeable subsidence or related subsidence impacts. The Department has recommended revised conditions of approval that require Centennial to limit its underground mining operations to first workings.

5.2 Rutleys Road Intersection

In September 2012, Centennial advised that, due to a reduction in its workforce from 130 to 70 employees, it was no longer planning, as indicated in its EA, to undertake an upgrade of the intersection of Rutleys Road and the Mannering Colliery Access Road to a type CHR intersection. Instead, it proposed to undertake lesser upgrade works by the end of 2013.

The Department is not satisfied with Centennial's revised proposal. Several safety concerns with the existing configuration of the intersection were identified in a Road Safety Audit conducted in 2008 as a requirement of the mine's project approval. Since 2008, Centennial agreed with Wyong Council to upgrade the intersection to type CHR, a standard which exceeds the eight recommendations of the Road Safety Audit. However, none of these works have yet been implemented.

The Department therefore recommends that the Audit's 8 recommendations are implemented as soon as practicable. These works would not involve the type CHR treatment, which is much more expensive, and does not appear to be warranted, given the mine's reduced workforce. However, they would provide for a wider sealed pavement, which would allow though traffic to pass vehicles waiting to make a right turn into the mine entrance road, without leaving the sealed pavement. In addition, improvements would be made to line markings, guide posts, guard rails, reflective markers, a traffic island and the verges of the sealed pavement.

The Department considers that these upgrade works should not be further delayed and has therefore recommended a condition of approval that would require Centennial to implement all intersection upgrade actions by the end of June 2013.

WSC has indicated that its preference is for the intersection to be upgraded to type CHR, but this was not a recommendation of the Road Safety Audit. Centennial has committed to upgrading the intersection to a type CHR intersection prior to employee levels again exceeding 130. As the workforce has recently been scaled down, it is unlikely that this commitment would be acted upon in the foreseeable future; nevertheless it remains within Centennial's Statement of Commitments included within the proposed conditions of approval.

5.3 Revision of Conditions

Mannering's existing conditions of approval relating to review of environmental management plans, programs and strategies and reporting of environmental incidents and performance are not as rigorous as those contained in more recent approvals and consents. The Department has taken the opportunity to revise and update the environmental reporting requirements in Schedule 5 of the project approval to be consistent with contemporary approvals.

Importantly, one of these updated conditions requires Centennial to review, and if necessary revise, its strategies, plans and programs within three months of the submission of an annual review, incident

report or independent environmental audit. This has the effect of addressing the requests contained in submissions to review the mine's biodiversity monitoring, noise and dust emissions performance and water management plan.

5.4 Other Issues

The Department has considered other potential issues and impacts of the proposed modification. This consideration is summarised in Table 2, below.

Table 2: Assessment of other issues

Issue	Consideration	Recommendation
Noise	<ul style="list-style-type: none"> As the rate of coal production or the manner in which the mine is operated would not change, noise emissions are not expected to vary from those previously assessed and approved. The mine has not received any complaints about noise impacts in recent years. 	No change to existing project approval noise limits or noise management conditions.
Air Quality	<ul style="list-style-type: none"> As the rate of coal production or the manner in which the mine is operated would not change, dust emissions are not expected to vary from those previously assessed and approved. The mine has not received any complaints about dust emissions in recent years. 	No change to existing project approval air quality limits or air quality management conditions.
Water Management	<ul style="list-style-type: none"> Water management at the site is not expected to change significantly. However, due to the increased footprint of underground mine workings, the volume of minewater is predicted to increase, but would remain within the volumetric limits that currently apply through the mine's Environment Protection Licence (EPL). The EPA has applied a Pollution Reduction Program to the EPL that requires Centennial to assess the impacts of metals contained in minewater discharged from the site. 	No change to existing water management conditions is required. The issues of volume of minewater and its potential ecological effects are satisfactorily managed under the mine's EPL.
Biodiversity	<ul style="list-style-type: none"> No vegetation is proposed to be cleared. Predicted subsidence would not impact any habitat for threatened fauna species or any GDEs. No connective fracturing above the mining area to the surface is predicted; therefore drainage-related impacts would to any GDEs in the project area are unlikely. 	No change to existing conditions.
Greenhouse Gas Emissions (GHGEs)	<ul style="list-style-type: none"> The proposal would not increase the maximum allowable coal production of 1.1 Mtpa or alter mining methods or energy intensity or utilisation. Therefore, it would not result in any material change to GHGEs from the mine. 	No change to existing conditions.
Aboriginal and European Heritage	<ul style="list-style-type: none"> Subsidence is predicted to be negligible, and therefore the risk of impacts to any undiscovered sites would also be negligible. Manning is not currently required to prepare and implement an Aboriginal Cultural Heritage Management Plan (ACHMP). As two Aboriginal sites have been identified, the Department considers it appropriate for Centennial to produce and implement an ACHMP. No items of non-indigenous heritage occur within, or near, the Manning mining area. 	The Department has recommended that Centennial be required to produce and implement a Heritage Management Plan. This Plan would require consultation with all relevant Registered Aboriginal Parties and implementation of assessment, evaluation and monitoring programs.
Socio-Economic and Community	<p>The proposed modification would, over four years:</p> <ul style="list-style-type: none"> provide continued employment for 70 employees; permit 3.2 Mt of additional coal to be recovered from the Fassifern Seam; and facilitate the continuation of Centennial's contribution to the local and State economies through the purchase of goods and services, the payment of local and State taxes and coal royalties and the payment of wages to its employees. 	The Department has recommended that the current \$0.02 contribution per tonne of ROM coal for water quality improvement works be applied to coal produced from the proposed extension.

6 CONCLUSION

The Department has assessed the application in accordance with the relevant requirements of the EP&A Act. The proposed modification would allow for the extraction of an additional 3.2 Mt of coal, the continued employment of 70 full-time workers (and up to 170 full-time workers) for an additional four years, and also make contributions to State and Commonwealth revenues.

The Department's assessment has found that the proposed modification would cause negligible additional environmental impacts to those already assessed and approved. The Department considers that any additional impacts would be able to be successfully managed under the existing conditions of approval, with some modified and additional conditions to account for the extended mining area and improvements to the environmental reporting, management and monitoring regime, particularly in respect of regular review of the mine's environmental strategies, plans and programs. Consequently, the Department believes the modification is in the public interest and should be approved.

7 CONDITIONS

The Department believes its recommended conditions provide an appropriate regulatory framework to limit the impacts of the proposed modification. The conditions provide subsidence impact performance measures; replace and contemporise the existing environmental reporting and auditing conditions; and require preparation and implementation of a Heritage Management Plan. The Department has consulted with, and received the support of LMCC, WSC, DRE and EPA on relevant proposed conditions of approval. Centennial has reviewed and agreed to these conditions.

8 RECOMMENDATION

It is **RECOMMENDED** that the Planning Assessment Commission exercise the powers and functions delegated to it in the Minister for Planning and Infrastructure's Instrument of Delegation dated 14 September 2011, and:

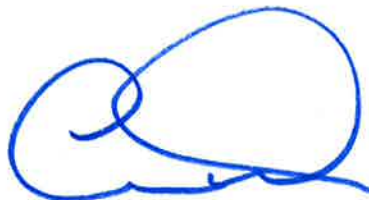
- **consider** the findings and recommendations of this report;
- **determine** that the proposed modification is within the scope of section 75W of the EP&A Act;
- **approve** the modification application, subject to conditions, under section 75W of the EP&A Act; and
- **sign** the attached notice of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



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Mining and Industry Projects



David Kitto 5/10/12
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Major Projects Assessment



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