

24 October 2018

William (Bill) Vatovec
Chief Operating Officer
KEPCO Australia Pty Ltd
Level 12, 141 Walker Street
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Dear Bill,

Reconsideration Request – Bylong Coal Project (EPBC 2014/7133)

1 INTRODUCTION

KEPCO Bylong Australia Pty Limited (KEPCO) owns the Bylong Coal Project (the Project) which is located approximately 55 km to the north-east of Mudgee in the Mid-western Region of New South Wales. The Project involves the construction and operation of a coal mine utilising open cut and underground mining methods to recover up to approximately 6.5 Million tonnes per annum (Mtpa) of Run of Mine (ROM) coal over a period of approximately 25 years.

The Project was the subject of a referral (EPBC 2014/7133) made under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). On 12 March 2014, the Assistant Secretary (as delegate of the Minister for the Environment) decided that the Project is a “controlled action” and declared the following to be controlling provisions:

- Listed threatened species and communities (sections 18 and 18A); and
- Protection of water resources from coal seam gas development and large coal mining development (section 24D and 24E).

On 21 September 2018, the Minister for the Environment received a letter from Lock the Gate Alliance (LTGA) requesting reconsideration of the controlled action decision made on 12 March 2014. LTGA requested that sections 12 and 15A of the EPBC Act (concerning world heritage) should be included as controlling provisions. LTGA contends that the Project will result in significant impacts to the Greater Blue Mountains Area (GBMA), which is a listed world heritage property.

LTGA's request for the Minister to consider the earlier controlled action decision was made pursuant to section 78A of the EPBC Act. LTGA raised new information sources for the Minister to consider and determine if the Project is likely to have a significant impact on the GBMA world heritage property through groundwater depressurisation, noise and visual impacts.

This letter considers the new information and arguments raised in LTGA's letter (dated 21 September 2018) and explains why the Project is not likely to have a significant impact on the world heritage values of the GBMA. It is understood that this letter will support KEPCO's submission in respect of the LTGA's reconsideration request.

2 APPLICATION HISTORY

The EPBC Referral in respect of the Project (EPBC 2014/7133) was lodged by KEPCO on 11 February 2014. The potential impacts of the Project on the GBMA were outlined in section 3.1(a) of the Referral. The Minister's delegate therefore considered the potential impacts on the GBMA and determined that world heritage properties should not be a controlling provision.

Section 136 of the EPBC Act sets out the mandatory considerations that must be considered by the Minister when deciding whether or not to approve the taking of an action and what conditions to attach to any approval. Relevantly, section 136(a) of the EPBC Act provides that the Minister must consider 'matters relevant to any matter protected by a provision of Part 3 that the Minister has decided is a "controlling provision" for the action'. That is to say, the Minister is not required to consider all protected matters, but rather only those which the Minister has decided is a controlling provision for the Project.

3 GREATER BLUE MOUNTAINS AREA

The GBMA is comprised of eight protected areas: Blue Mountains National Park, Wollemi National Park, Yengo National Park, Nattai National Park, Gardens of Stone National Park, Kanangra-Boyd National Park, Thirlmere Lakes National Park and Jenolan Karst Conservation Reserve. The GBMA encompasses an area of approximately 1.03 Million hectares (M ha). The Project is located adjacent to Wollemi National Park at the northern extent of the GBMA (see **Figure 1**).

Section 12 of the EPBC Act states that:

"(1) A person must not take an action that:

(a) has or will have a significant impact on the world heritage values of a declared World Heritage property; or

(b) is likely to have a significant impact on the world heritage values of a declared World Heritage property."

The EPBC Act protects the "world heritage values" of a world heritage property. As such, it is pertinent to identify the aspects of the GBMA that are recognised as world heritage values.



BYLONG COAL PROJECT



Locality Plan

FIGURE 1

The GBMA was inscribed as a world heritage property in 2000. It satisfies two of the selection criteria for world heritage¹:

- Criterion (ix): The Greater Blue Mountains include outstanding and representative examples in a relatively small area of the evolution and adaption of the genus *Eucalyptus* and eucalypt-dominated vegetation on the Australian continent; and
- Criterion (x): The site includes an outstanding diversity of habitats and plant communities that support its globally significant species and ecosystem diversity (152 plant families, 484 genera and c. 1,500 species). A significant proportion of the Australian continent's biodiversity, especially its scleromorphic flora, occur in the area.

As indicated by these criteria, the world heritage significance of the GBMA is provided by the flora biodiversity values within the area. Although the GBMA also possesses aesthetic and recreational value, these qualities were not recognised at the time of listing by UNESCO as contributing to the world heritage significance of the area.

4 BIOREGIONAL ASSESSMENT

LTGA raised the Bioregional Assessment² as new information that the Minister ought to consider. The Bioregional Assessment was based on regional scale hydrological modelling undertaken to predict the impacts of cumulative coal resource development. The regional scale modelling identified the “zone of potential hydrological change”, which is defined as the area with there is a greater than 5% probability of more than 0.2 m drawdown of the regional water table. LTGA noted the regional model predicted that approximately 137 km² (13,700 ha) of the GBMA will be within the zone of potential hydrological change. The Bioregional Assessment considered the potential impacts to national and world heritage areas (including the GBMA) and concluded that impacts to these assets will be minor³.

The Bioregional Assessment explains that although the regional model identified potential risks, more detailed local-scale assessments are required to determine the potential impacts. The Bioregional Assessment relevant states:

The results do not replace the need for detailed site-specific studies, nor should they be used to supplant the results of detailed studies that may be required under state legislation⁴.

A site-specific groundwater assessment was initially undertaken as part of the Environmental Impact Statement (EIS) for the NSW application. Several revisions of the site-specific groundwater model have been made to satisfy requests from NSW regulatory authorities and the Federal Government's Independent Expert Scientific Committee. This groundwater model predicted the extent of depressurisation that may result from the proposed mining operations.

¹ UNESCO (2018), *Greater Blue Mountains Area*.

² Herron et al (2018), *Impact and risk analysis for the Hunter subregion*. Product 3-4 for the Hunter subregion from the Northern Sydney Basin Bioregional Assessment. Department of the Environment and Energy, Bureau of Meteorology, CSIRO and Geoscience Australia, Australia.

³ Herron et al (2018), p. 165.

⁴ Herron et al (2018), p. 237

The site-specific groundwater model predicted that the zone of depressurisation in the Permian (coal seam) aquifer may extend beneath parts of the GBMA⁵. However, the predicted zone of depressurisation is significantly smaller than the zone of potential hydrological change identified by the Bioregional Assessment. More importantly, the Permian aquifer is located deep beneath the surface and as such, is not relied upon as a water source by any groundwater dependent ecosystems (GDEs).

Any GDEs that are present within the GBMA would only be sensitive to drawdown of alluvial aquifers. KEPCO holds water licences (under NSW legislation) that authorise the extraction of groundwater from the alluvial aquifer. The site-specific groundwater model assessed the drawdown of the alluvium due to both the proposed mining activities and licensed extraction of groundwater. As shown in **Figure 2**, the predicted 0.2 m drawdown contours do not extend into the GBMA. Therefore, the groundwater impacts of the Project are not expected to affect any GDEs located within the GBMA. Given that the world heritage values of the GBMA is attributed to its floral biodiversity, the Project is not expected to have any impact on world heritage values.

5 NOISE ASSESSMENT

LTGA raised the Noise and Blasting Impact Assessment⁶ in the EIS as new information that the Minister ought to consider⁷. LTGA contends that the potential impacts of mining-related noise on wildlife in the GBMA have not been assessed.

The Noise and Blasting Impact Assessment⁸ predicted that a small area of land within the Wollemi National Park may experience noise levels of up to 35-40 $L_{Aeq,15min}$ as a result of the Project (see **Figure 3**). This portion of the Wollemi National Park is negligible compared to the total area of the GBMA (approximately 1.03 M ha).

The predicted noise levels of up to 35-40 $L_{Aeq,15min}$ in parts of the GBMA are only expected to occur during the period of open cut mining (approximately 7 years). Noise levels associated with underground mining are generally much lower than those associated with open cut mining.

The potential impact of noise on fauna species was considered in the Ecological Impact Assessment⁹ undertaken for the EIS. Noise has the potential to affect fauna behaviour through the following mechanisms:

- Movement of fauna away from noise-affected locations; and
- Interference with mating calls, territorial calls and alarm calls.

⁵ Australasian Groundwater and Environmental Consultants (2016), *Bylong Coal Project: Response to Submissions on Groundwater*.

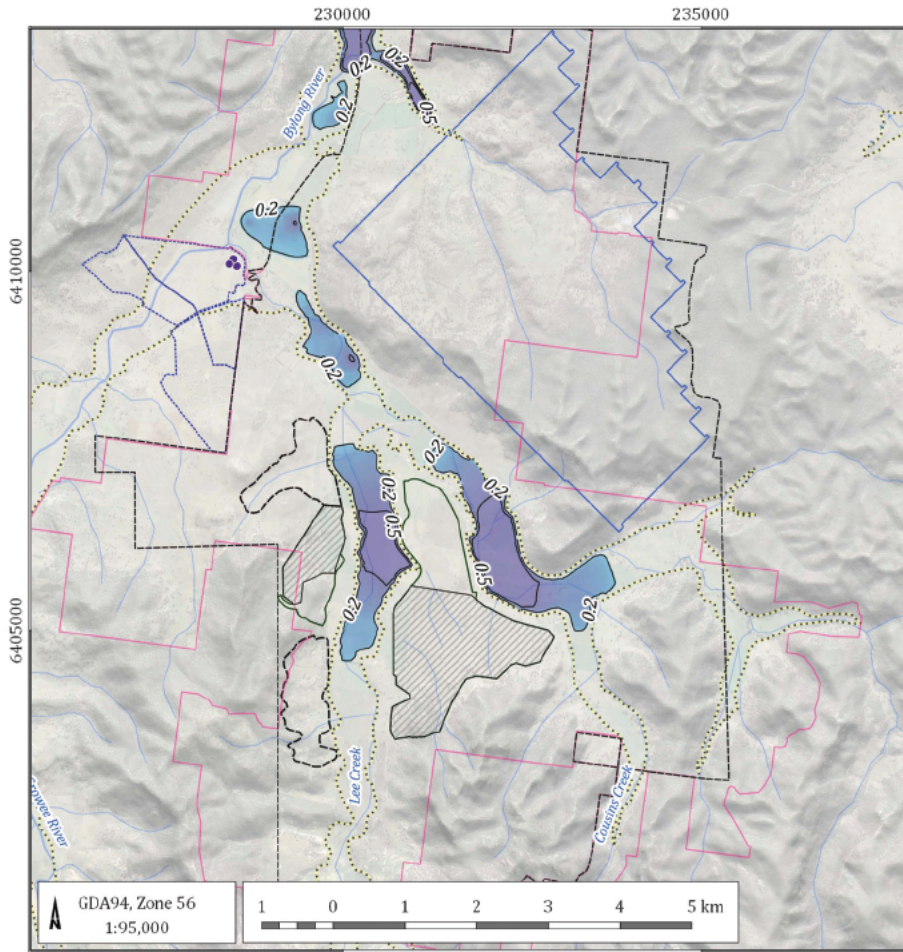
⁶ Pacific Environment Limited (2015), *Bylong Coal Project – Noise and Blasting Impact Assessment*.

⁷ Updates to the noise model were made by ERM (formerly Pacific Environment Limited) in 2016 and 2018. However, these studies were not raised by LTGA.

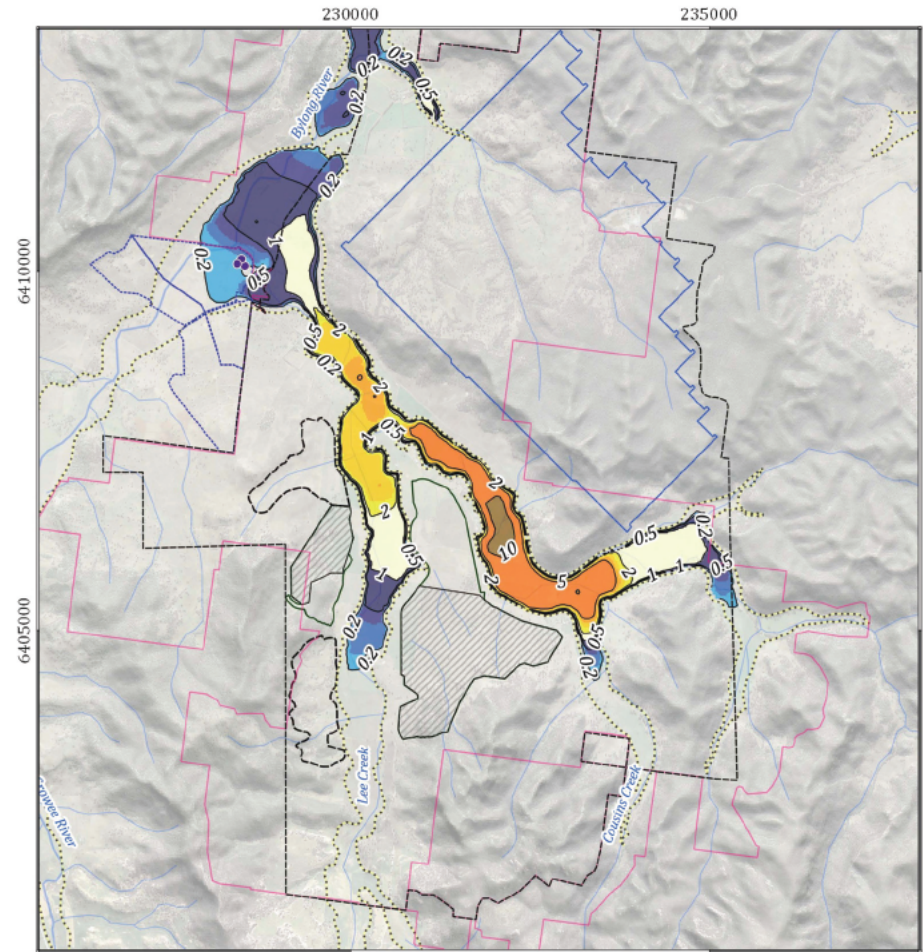
⁸ Pacific Environment Limited (2015), *Bylong Coal Project – Noise and Blasting Impact Assessment*.

⁹ Cumberland Ecology (2015), *Bylong Coal Project Ecological Impact Assessment*.

Maximum drawdown - P95 (Mine only)



Maximum drawdown - P95 (Mine and Borefield)



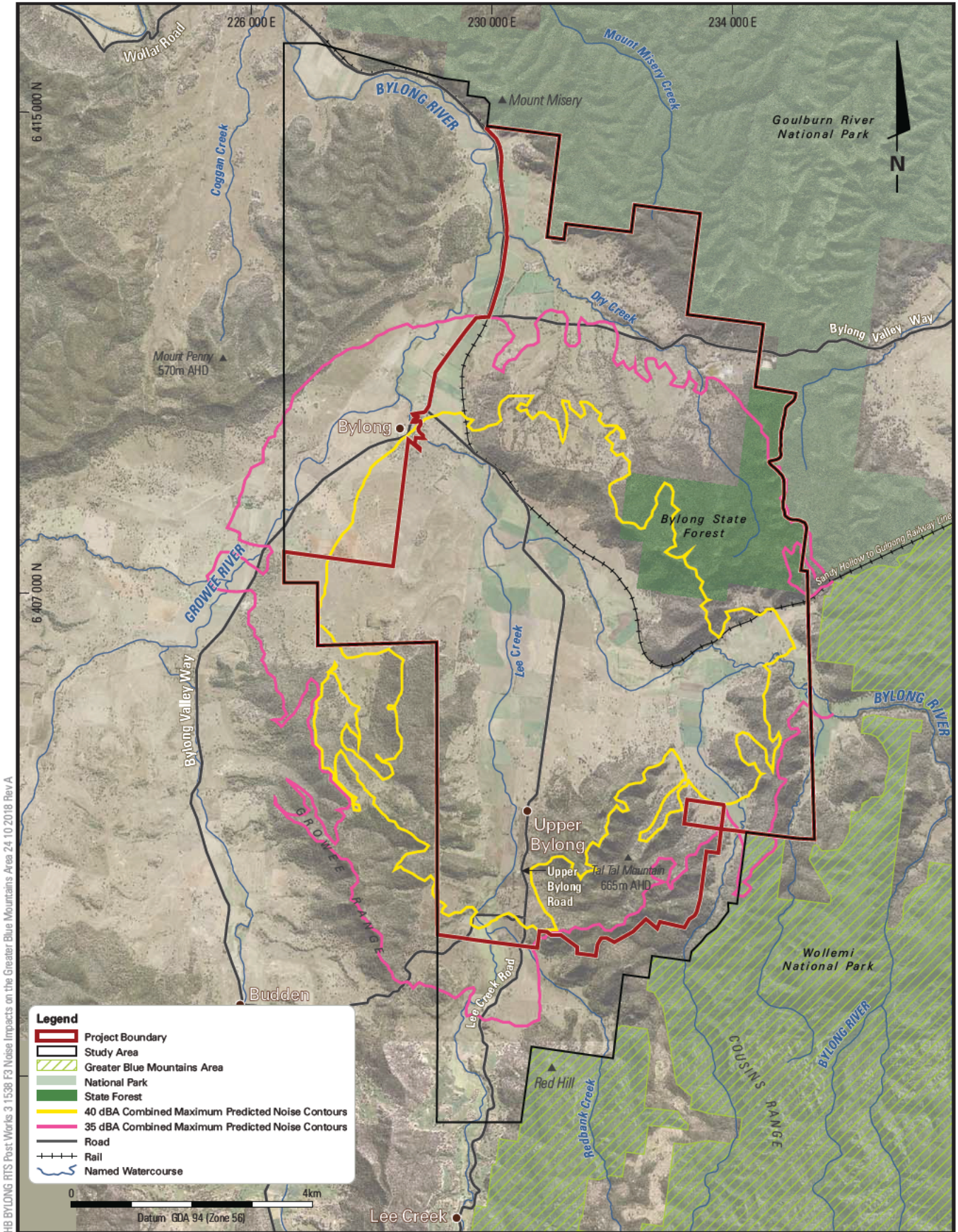
- LEGEND**
- Original Open Cut mining area
 - Overburden Emplacement Area
 - Underground Extraction Area
 - Revised Open Cut Mining Area
 - Quaternary alluvium
 - Drainage
 - KEPCO owned land
 - Project Boundary
 - Eagle Hill property
 - Private bores on Eagle Hill property
 - Drawdown contour (m)
- Drawdown (m)**
- | | | | |
|--|---------|--|------|
| | 0.2-0.3 | | 1-2 |
| | 0.3-0.4 | | 2-3 |
| | 0.4-0.5 | | 3-4 |
| | 0.5-1.0 | | 4-5 |
| | | | 5-10 |

Source: AGE (2018)

BYLONG COAL PROJECT

Predicted Maximum Drawdown of Alluvium

FIGURE 2



BYLONG COAL PROJECT



Predicted Worst Case Noise Impact on GBMA

FIGURE 3

Some individuals may react to industrial noise by relocating to areas that are further from the Project. Given the abundance of suitable habitat within the surrounding woodland areas, these species are unlikely to migrate to areas outside of the GBMA. As such, noise impacts will not result in loss of ecological diversity within the GBMA. It is also likely that individuals will habituate to the higher noise levels¹⁰, and that impacts on animal behaviour will only be temporary.

Elevated industrial noise levels may affect the audibility of animal calls. However, operational noise levels of less than 40 $L_{Aeq,15min}$ are unlikely to 'drown out' animal calls. Mining activities generate a continuum consisting of lower frequency noise. In contrast, animal calls are intermittent sounds and typically consist of higher frequencies. Due to the differing tonal qualities of these sounds, animal calls will generally be audible above the continuum generated by mining activities.

In conclusion, the Project may result in some relatively short-term impacts to animal behaviour, but is not expected to result in loss of any populations from the GBMA and will certainly not impact on the flora diversity. Given that the heritage value of the GBMA is attributed to its outstanding floristic diversity, the Project will not result in any impact on world heritage values.

6 HERITAGE ASSESSMENT

LTGA referred to the Heritage Council of NSW's consideration of the Tarwyn Park property for the State Heritage Register. The Heritage Council of NSW held a meeting in February 2018 to discuss the Tarwyn Park property. LTGA raised the minutes of the February 2018 meeting and a paper prepared for this meeting as new information for the Minister to consider.

The Tarwyn Park property is located near but outside of the GBMA. LTGA asserts that the impact of the Project on the surrounding landscape will affect the aesthetic values of the GBMA. As explained in **Section 3**, the GBMA satisfies the world heritage criteria related to floral biodiversity. Accordingly, the heritage significance of the GBMA is linked to its biodiversity values rather than aesthetic values. Potential impacts to the aesthetic qualities of the surrounding landscape will not affect the world heritage values of the GBMA.

The potential impacts of the Project on landscape values has been extensively assessed and are proposed to be thoroughly mitigated through the NSW approvals process. Impacts on landscape values are not relevant to the application under the EPBC Act because the world heritage values of the GBMA are not linked to its aesthetic qualities. Nevertheless, the following discussion on landscape impacts is provided for completeness.

To minimise impacts on the landscape due to the relatively minor open cut mining areas located more than 2 km to the west of the GBMA, all disturbance will be progressively rehabilitated and developed to blend into the surrounding natural landscape.

In 2018, the mine plan for the Project was revised to avoid encroachment onto the Tarwyn Park property, resulting in a further reduction in the size of the proposed Eastern open cut.

¹⁰ AMEC (2005). *Mackenzie Gas Project: Effects of Noise on Wildlife*. AMEC Americas Limited.

The NSW Department of Planning & Environment (DP&E) considered the revisions to the mine plan and concluded that:

“the Revised Mine Plan provides a significant improvement to the EIS Mine Plan by retaining key landscape features of the Upper Bylong Valley”¹¹.

Further to the above, the Biodiversity Offset Areas for the Project (covering approximately 4,100 ha of land) are all located within the vicinity of (or border) the GBMA. These areas will all be managed to enhance both their biodiversity values which in turn will contribute to improving scenic landscape values within the region.

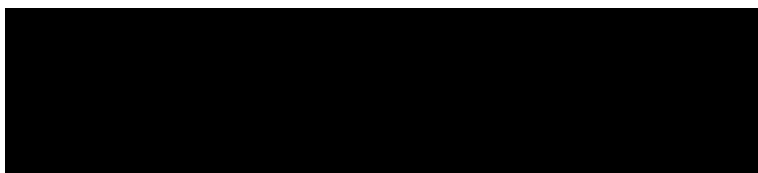
7 CONCLUSION

In its letter dated 21 September 2018, LTGA asserted that the Project may result in significant impacts to the neighbouring GBMA, which is listed world heritage property. LTGA raised new information and argued that the Project will significantly impact upon the GBMA through groundwater depressurisation, noise and visual impacts. LTGA requested that the Minister reconsider the controlled action decision for the Project and sought for “world heritage properties” (sections 12 and 15A of the EPBC Act) to be added as controlling provisions.

The world heritage values of the GBMA are attached to the floral biodiversity values present in the area. As explained in **Sections 4 & 5**, the Project will not result in the significant loss or reduction of biodiversity present within the GBMA. The Project will not affect the world heritage values of the GBMA and as such, the provisions under Part 3 of the EPBC Act relating to world heritage should not be adopted as controlling provisions.

Should you have any queries in relation to this letter, please contact me on 02 6575 2000.

Yours faithfully
HANSEN BAILEY



James Bailey
Director

¹¹ Department of Planning and Environment (2018), *Bylong Coal Project State Significant Development – Final Assessment Report (SSD 6367)*, p. 52.