

ASSESSMENT REPORT

Wilpinjong Coal Mine Modification of Project Approval (05_0021 MOD 3)

1 BACKGROUND

Wilpinjong Coal Pty Limited (Wilpinjong), a wholly owned subsidiary of Peabody Energy Australia Pty Limited, operates the Wilpinjong Coal Mine, located about 40 kilometres northeast of Mudgee, near the village of Wollar and the Ulan and Moolarben Coal Mines (see Figure 1).

The Minister approved the open cut mine following an Independent Hearing and Assessment Panel in February 2006, and the first shipment of coal from the site was made in October 2006.

The Minister's approval (05_0021) allows Wilpinjong to extract up to 13 million tonnes per annum (Mtpa) of run-of-mine (ROM) coal, process it on site, and transport it to domestic and export markets by rail.

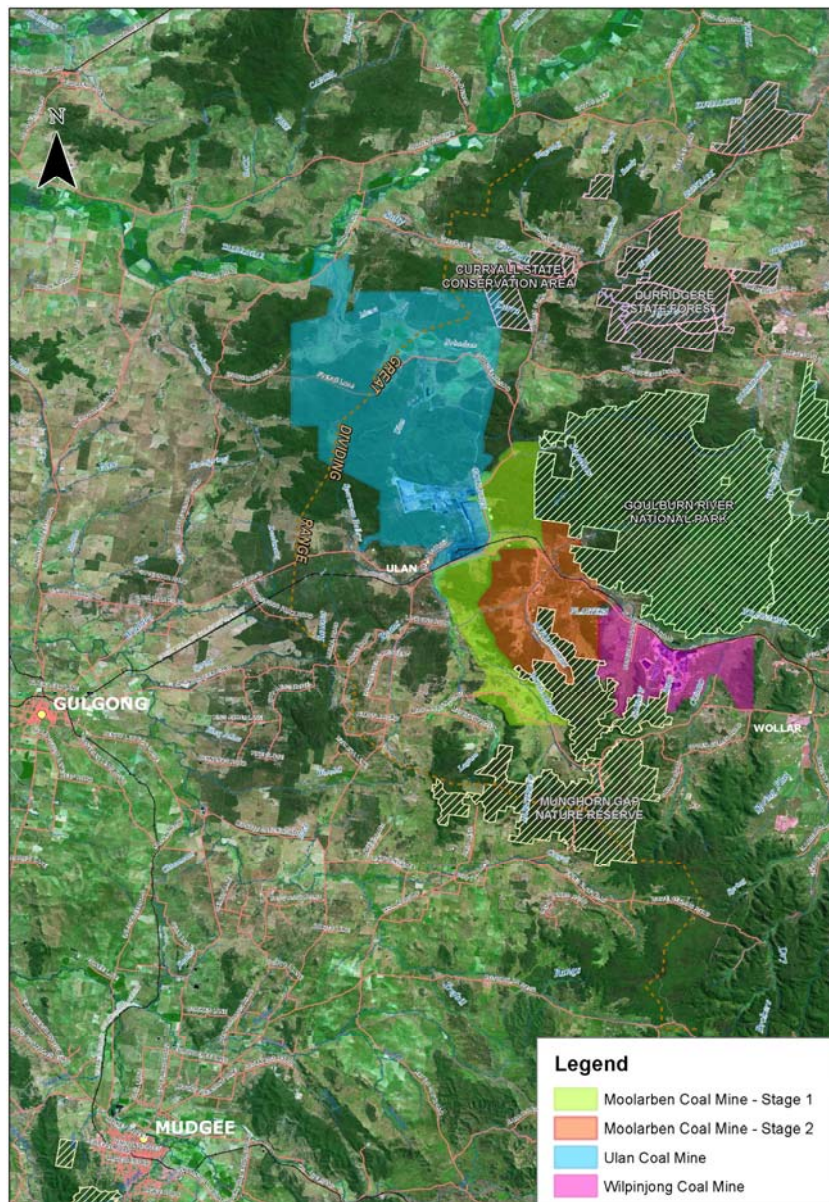


Figure 1: Regional Context

2 PROPOSED MODIFICATION

On 17 May 2010, Wilpinjong lodged an application to modify its project approval under section 75W of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The modification involves increasing the maximum approved ROM coal mining rate from 13 Mtpa to 15 Mtpa. This increased mining rate would:

- increase the maximum annual waste rock production from 26.5 to 28 million bank cubic metres (Mbcm);
- increase annual product coal from 10 to 12 Mtpa;
- increase the average daily train movements from 4 to 5;
- require an additional workforce of up to 110 during construction and 50 during operations;
- require an increase in the mining fleet; and
- require an upgrade of coal processing and handling infrastructure (see Figure 2).

Following a review of the strip ratios at the mine compared with the predictions in the Environmental Impact Statement (EIS), the total ROM coal mined would reduce from 250.6 Mt to 223.7 Mt and the total waste rock produced would increase from 329.9 Mbcm to 366.6 Mbcm.

All works would be conducted within the approved mining footprint, and although production levels would increase, the mining schedule is structured so that the overall life of the mine would remain the same. The proposed modification would also not alter mining methods, the maximum number of daily train movements associated with the mine, or the final landform and rehabilitation outcomes for the site. The capital investment value of the modification is \$80 million.



Figure 2: Modified Coal Processing and Handling Infrastructure

3 STATUTORY CONTEXT

3.1 Approval Authority

The Minister was the approval authority for the original project application, and is consequently the approval authority for this modification application. However, as the proposed modification generated less than 10 public submissions, the Director Mining & Industry Projects, may determine the application under the Minister's delegation of 25 January 2010.

3.2 Section 75W

The proposed changes associated with the modification application would not change the purpose of the development for which consent was originally granted, namely as an open cut coal mine. In addition, the modified project would remain within the approved mining footprint, and there would be no change to the approved life of the mine. Consequently, the Department is satisfied that the Director Mining & Industry Projects may determine the modification application under section 75W of the EP&A Act.

3.3 Exhibition and Notification

Under section 75W, the Department is not required to notify or exhibit the application. However, after accepting the environmental assessment (EA) for the proposed modification, the Department:

- made the EA publicly available from 24 May to 15 June 2010:
 - on the Department's website,
 - at the Department's Information Centre; and
 - at the offices of the Mid Western Regional Council and the Nature Conservation Council;
- notified relevant State and local government authorities by letter; and
- advertised the exhibition in the Mudgee Guardian and Mudgee Weekly.

Following the exhibition of the EA, the Department received 12 submissions on the proposal including:

- 3 from public authorities (DI&I, DECCW, Council); and
- 9 from special interest groups and the general public.

4 ISSUES RAISED IN SUBMISSIONS

The **Department of Industry and Investment (DI&I)** raised no objections to the proposal but noted that the Mining Operations Plan and rehabilitation bond for the project may need to be amended.

The **Department of Environment, Climate Change and Water (DECCW)** did not object to the proposal subject, but requested clarification of a number of issues relating to operational noise modelling, road traffic noise, air quality monitoring and odour management associated with spontaneous combustion.

The **Mid-Western Regional Council** (Council) held a public meeting during the exhibition period at Wollar and in its subsequent submission raised a number of issues about noise, air quality, road maintenance contributions, and the voluntary planning agreement with the mine.

All public submissions objected to the proposal. Key issues were:

- noise – increased noise impacts; the accuracy of noise predictions in the EA; the adequacy of noise monitoring; and concerns about the application of the *NSW Industrial Noise Policy* to the assessment of low-frequency noise and rural areas with low background noise levels;
- air quality – increased dust impacts and odour from spontaneous combustion at the mine;
- water supply - loss of base flows in Wilpinjong Creek and the Goulburn River, and the ability of the mine to maintain its water supply beyond 2012;
- biodiversity – noise, dust and lighting impacts on the Goulburn River National Park and Munghorn Gap Nature Reserve;
- socio-economic - social impacts associated with the acquisition of private properties in the area;
- lack of consultation; and
- lack of justification for the proposal.

Wilpinjong has provided a detailed response to the issues raised in these submissions. The Department has considered all issues in the submissions and Wilpinjong's response to these issues in its assessment below.

5 ASSESSMENT

5.1 Noise

The EA for the proposal includes a noise assessment, undertaken by Heggies Pty Limited in accordance with relevant guidelines including the *NSW Industrial Noise Policy* (INP).

The Department notes that Wilpinjong has acquired a number of properties since the project was approved, including 5 additional properties since the EA for the modification was publicly exhibited. Currently, there are no remaining privately-owned residences to the immediate south of the project in the Cumbo area, although a significant number of privately-owned residences remain in Araluen and Slate Gully to the east of the project.

The noise assessment found that during worst-case conditions, compared with predictions in the original EIS, the modified project is likely to increase noise levels by 2 to 4 dBA at receivers during adverse weather conditions in Slate Gully and Araluen to the east in the later years of the modified project. There would be a similar increase in noise levels at Cumbo to the south during the early years of the modified project as a result of night time temperature inversions.

The predicted increases would result in 3 privately-owned residences and 2 privately-owned vacant properties experiencing noise levels above the project specific noise levels (PSNL) that were predicted to comply with PSNLs in the original EIS. Of these properties, all would exceed the PSNLs by less than 5 dBA apart from 1 privately-owned vacant property to the south of the project that would significantly exceed the PSNLs (i.e. by more than 5 dBA). There are also 2 privately-owned vacant properties that were predicted to marginally exceed the PSNLs in the original EIS that are now predicted to significantly exceed the PSNLs. However, it is important to note that there would be no additional privately-owned residences significantly affected by noise from the modified project.

In summary, the modified project would result in a total of (see Tables 1 and 2):

- 10 privately-owned residences and 5 privately-owned vacant properties within the noise management zone (compared with 16 privately-owned residences and 8 privately-owned vacant properties in the original EIS); and
- 1 privately-owned residence and 4 privately-owned vacant properties within the acquisition zone (compared with 2 privately-owned residences and 2 privately-owned vacant properties in the original EIS).

Table 1: Noise Exceedances – Private Residences

Locality	Period	Noise Management Zone		Noise Affection Zone >5 dBA above Project-Specific Criteria
		1 dBA to 2 dBA above Project-Specific Criteria	3 dBA to 5 dBA above Project-Specific Criteria	
Araluen	Evening/Night-time	100 Rheinberger 125 Roberts	23B Bishop ¹ 25 Pettit	Nil
Slate Gully	Evening/Night-time	31A Conradt ¹ 31B Conradt ¹	52A Long ¹ 52B Long ¹ 53 Reynolds ¹ 58 Maher ¹	Nil
Wilpinjong	Evening/Night-time	Nil	Nil	45 Smith ²

Table 2: Noise Exceedances – Vacant Land

Locality	Noise Management Zone		Noise Affection Zone >5 dBA above Project-Specific Criteria
	1 dBA to 2 dBA above Project-Specific Criteria	3 dBA to 5 dBA above Project-Specific Criteria	
Cumbo	Nil	Nil	30 Gaffney ² 48 Evans 50 Thompson & Hopper 94 McKenzie
Araluen	24 Peach	27 McDermott	Nil
Slate Gully	Nil	31 Conradt 40 Maher 51 Bailey	Nil

Note 1: Properties identified in the existing Wilpinjong project approval (05_0021) as being in the Noise Management Zone.

Note 2: Properties identified in the existing Wilpinjong project approval (05_0021) as being in the Noise Acquisition Zone

A Noise Monitoring Program (NMP) is currently being implemented at the mine, and the measures in the NMP were considered in the noise assessment, including real-time monitoring and active operational response mechanisms where noise trigger levels are likely to be exceeded. The progressive introduction of noise attenuated mobile mining plant from 2012 was also assumed in the noise modelling. The Department also notes that Wilpinjong is proposing to develop a methodology to monitor temperature inversion conditions in consultation with the Department and DECCW to allow active management of mining operations to ensure compliance with relevant noise criteria during temperature inversions.

The Department and DECCW are generally satisfied that Wilpinjong has done everything that is reasonable and feasible to minimise the noise impacts of the modified project and that the proposed noise management regime at the mine is consistent with best practice.

Overall, the Department believes that the noise impacts of the modified project would not be significantly greater than the project as originally approved. In particular, the Department notes that the majority of privately-owned residences in the noise management zone (7 out of 10) were already predicted to experience minor to moderate exceedances in the original EIS. And while there are 3 additional properties predicted to experience significant exceedances of the PSNLs (i.e. more than 5dBA), it is important to consider that these properties are currently vacant, and are only predicted to experience exceedances during the early years of the modified project as a result of temperature inversions at night. By 2014, the assessment indicates that noise levels would comfortably comply with the PSNLs at these properties. Consequently, the Department is satisfied that the modified project is unlikely to have significant adverse impacts on these properties in the medium to long term.

Nonetheless, the Department believes that it is appropriate to require Wilpinjong to acquire these properties (48 Evans, 50 Thompson & Hopper and 94 McKenzie) at the request of the landowner, in accordance with the Department's acquisition policy for significantly noise affected vacant land.

To mitigate noise impacts on the moderately impacted residences (i.e. exceedances of between 3 and 5 dBA above project noise criteria), the Department believes that Wilpinjong should be required to provide architectural noise treatments (such as double glazing, insulation and/or air conditioning) at the request of the landowner.

Some public submissions were also concerned about noise impacts on the Goulburn River National Park and Munghorn Nature Reserve. Modelling in the EA predicts noise from the modified project at various locations within the National Park and Nature Reserve to increase by up to 10 dBA compared with EIS predictions. This increase would result in some exceedances of the DECCW criteria for recreation areas at the fringes of the National Park and the Nature Reserve. However, the Department notes that these exceedances are relatively minor and are restricted to the fringes of the reserves immediately adjacent to the mine. Consequently, the Department believes that the modified project is unlikely to result in any significant additional impacts on the recreational use of these areas.

In regard to traffic noise, the assessment predicted that noise from traffic associated with the modified project would not increase noise at sensitive receivers by more than 2 dBA above existing levels. This complies with DECCW's *Environmental Criteria for Road Traffic Noise* (ECRTN) which allows an increase of up to 2 dBA for existing developments. Consequently, the Department is satisfied that the road traffic noise associated with the modified project would not result in any significant additional impacts on local residents.

However, additional information provided by Wilpinjong indicates that cumulative road traffic noise generated by the three mines in the area (i.e. Wilpinjong, Moolarben and Ulan) would exceed the ECRTN criteria at 18 privately-owned residences along Ulan Road by up to 14 dBA. The Department believes that these exceedances have the potential to significantly impact the amenity of local residents. Consequently, the Department has included a condition that requires Wilpinjong to work together with the Moolarben and Ulan mines to identify and implement measures to reduce road traffic noise along the Ulan Road between Mudgee and the entrance to the Ulan Coal Mine. The condition also requires Wilpinjong (and the other 2 mining companies) to implement measures to reduce the volume of mine-related traffic on Ulan Road, and to monitor the effectiveness of these measures over time. The Department is confident that this provides a robust approach that would significantly reduce the cumulative impacts of mining-related road traffic noise on local residents.

Finally, in regard to rail noise, the modification is predicted to result in a minor increase (less than 1 dBA) above existing noise levels. The Department believes this represents a negligible increase that is unlikely to be noticeable to residential receivers. Consequently, the Department is satisfied there are no additional mitigation measures required for the proposed modification in regard to rail noise.

In conclusion, both the Department and DECCW are satisfied that Wilpinjong has assessed the potential noise impacts of the modification in accordance with relevant DECCW guidelines. The Department is also satisfied that Wilpinjong is proposing to implement all reasonable and feasible mitigation measures to reduce the noise from the modified project. However, even with the implementation of these measures, the Department acknowledges that there would be additional impacts on some privately-owned properties. To address this, the Department has recommended that Wilpinjong be required to either implement noise mitigation measures for moderately affected residences or to acquire significantly affected properties in accordance with the Department's acquisition policy. The Department has also recommended that Wilpinjong update its Noise Management Plan to incorporate the revised noise limits for the project and the proposed temperature inversion monitoring regime. Overall, the Department believes that the modified project would not significantly increase the noise impacts of the project as originally approved, and with the implementation of the proposed mitigation measures, the project's noise impacts would continue to be appropriately minimised, managed, and monitored.

5.2 Air Quality

The EA includes an air quality impact assessment undertaken by PAE Holmes, in accordance with the DECCW guideline *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW*. The assessment includes consideration of the incremental increase in emissions caused by the modified project, and the total cumulative emissions generated by the mine together with the Ulan and Moolarben Coal Mines.

Wilpinjong currently implements a comprehensive air quality monitoring program for the mine. The air quality criteria in the project approval have occasionally been exceeded, however these results can be attributed to external events such as bushfires and drought conditions, including the September 2009 dust storms. Average dust deposition results have been within project limits.

Aspects of the proposed modification that have the potential to impact on air quality include a higher maximum intensity of open cut mining, coal processing and handling, along with the production and handling of a greater quantity of waste rock. The air quality impact assessment considered two scenarios, including construction and operation of the modified project (2011) and operations at maximum intensity (2014). Background levels used in the air quality assessment included data obtained from the mine's monitoring sites prior to the commencement of mining.

The assessment found that the emissions from the modified mine would comply with DECCW's air quality criteria for total suspended particulates (TSP) and dust deposition. The modelling predicted that the PM₁₀ 24-hour criteria would be exceeded at 2 privately-owned residences in Slate Gully to the east of the mine. Further analysis was undertaken to determine the likely frequency of these exceedances. This analysis found that the criteria would not be exceeded on more than 5 occasions a year (Year 9), and would therefore comply with the 24-hour PM₁₀ assessment criteria which allows up to 5 exceedances per year.

Wilpinjong would continue to implement existing management measures to minimise dust generated at the mine. It is also trialling a real-time air quality trigger and response system, similar to that currently implemented for noise, and has committed to revise its Air Quality Monitoring Program to incorporate this measure. Accordingly, the Department has recommended updated conditions requiring Wilpinjong to prepare and implement a revised Air Quality Management Plan.

Spontaneous combustion was also considered in the air quality assessment and raised in submissions. It is noted that the proposed modification would not result in a change to spontaneous combustion conditions at the mine, and that Wilpinjong has undertaken to continually improve its management of spontaneous combustion in consultation with DECCW and the Department - a measure required by the existing project approval.

The Department is generally satisfied that Wilpinjong would be able to comply with relevant air quality criteria at each stage of the modified project and that its proposed air quality impact management measures would be sufficient to achieve and maintain compliance.

5.3 Transport

The EA includes a road transport assessment undertaken by Halcrow, which assesses the impact of the modification on the existing road network. The road transport assessment also considered the cumulative increase in vehicle numbers as a result of the expanded Ulan and Moolarben Coal Mines, based on project applications currently with the Department.

The proposed modification is predicted to result in a peak construction workforce of 280 during 2011, generating an additional 496 daily vehicle movements (including 20 heavy vehicles) over a 9 month period, and a peak operational workforce of 350, which would generate an additional 66 vehicle movements (including 8 heavy vehicles) per day. Average weekday vehicle movements to and from the modified project are predicted to peak at 988 during construction and 492 during operations (up from 426 currently).

The assessment of the modified project, in combination with predicted increases due to expansion of the Ulan and Moolarben mines, found that traffic conditions on most roads would operate at an acceptable level of service.

However, the Department notes that the predicted traffic volumes on sections of Ulan Road are reaching the lower levels of service as a result of traffic accessing the Ulan-Moolarben-Wilpinjong mining complex. To address this issue, the Department has recommended conditions which require the development of a strategy for the upgrade of Ulan Road in conjunction with Ulan and Moolarben. This strategy includes an independent traffic assessment study to identify whether the traffic generated by the 3 mines requires any road works to be undertaken to comply with relevant RTA standards and the development of a program

for the implementation of road upgrade works, in consultation with Council and the Roads and Traffic Authority (RTA).

Wilpinjong proposed an amendment to its Voluntary Planning Agreement (VPA) with Council to incorporate the proposed modification, which Council endorsed in its meeting of 21 July 2010. The amendment proposes various upgrades to the Ulan-Wollar Road east of the upgrade works previously undertaken by the Moolarben mine, with any surplus funds to be spent on upgrading Ulan Road. Although the Department believes that the upgrading of Ulan Road is a higher priority, it has no objection to the proposed VPA as it would result in appropriate improvements on the Ulan-Wollar Road, and the road strategy (as discussed above) would ensure that the necessary upgrades to Ulan Road would also be implemented.

The Department is satisfied that with the implementation of the above measures, the impacts of the proposed modification on levels of service on the local road network and the safety of road users would be minimal.

Finally, in regard to rail capacity, the Department notes that the modification is predicted to increase the average number of daily train movements from 4 to 5. However, because the maximum number of daily movements would not increase (i.e. 6 daily train movements), the Department is satisfied that existing rail infrastructure would comfortably accommodate the marginal increase in average daily rail movements generated by the modified project.

5.4 Other Issues

The Department's assessment of other key issues is summarised in the table below. All other issues have been considered by the Department and are considered to have negligible environmental impacts over and above that assessed and approved, and do not warrant further assessment.

<i>Issue</i>	<i>Consideration</i>
Greenhouse Gas (GHG) Emissions	<p>The air quality assessment considered the potential scope 1, 2 and 3 emissions of the modified project. Total average direct and indirect GHG emissions from the project are estimated at 22.72 million tonnes of carbon dioxide equivalent (CO₂^e) per year. Average annual Scope 1 and 2 emissions are estimated to be 0.016% of Australian levels and total emissions from the project represent approximately 0.052% of annual global emissions.</p> <p>Although the proposed modification would not increase the total quantity of coal produced at the mine, it would result in some changes that may influence GHG emissions, including an increase in the mining fleet and annual production rates. However, the Department is satisfied that the modification would represent a marginal increase in total and annual GHG emissions of the project.</p>
Water Resources	<p>The EA includes a revised water balance, which indicates that the proposed modification would marginally increase water consumption at the CHPP as a result of the increase in the coal production rate. However, the peak annual water demand for the modified project would not exceed that considered in the original project approval. The assessment shows that there is the risk of a water supply shortfall after 2012 if rainfall is well below average. However, Wilpinjong has an agreement with the Ulan Coal Mine to supply sufficient additional water to ensure operations could continue, albeit that any pipeline connecting the mines would be subject to a separate approvals process.</p> <p>Given that the modified project would not increase the predicted peak water demand, and that any additional make-up water requirements could be provided by the Ulan Coal Mine, the Department is satisfied that the proposed modification would not result in any significant impacts on water resources in the region, and that the project would be able to proceed without risk of significant water shortages.</p>
Biodiversity	<p>Although the proposed modifications would not increase the extent of clearing at the mine, concerns were raised in public submissions about potential impacts on flora and fauna due to noise, dust and lighting, particularly on the nearby Goulburn River National Park and Munghorn Gap Nature Reserve.</p> <p>The Department has considered the potential noise and air quality impacts of the proposal as discussed in previous sections of this report, and is satisfied that the overall noise and dust impacts on areas of surrounding bushland would not be significantly greater than the approved project.</p> <p>In regard to lighting, the modification would increase the total number of mobile fleet from 29 to 41 - a 41% increase in vehicle numbers that would result in some increase in light emitted from the project site. However, the mine schedule in the EA indicates that the proposed modification would only result in an increase in excess of the currently approved rate of 13 Mtpa for 5 years (i.e. 2011</p>

Issue	Consideration
	<p>– 2015). Given that the increase in the mining fleet would not occur over the entire life of the mine, and the mobile nature of the fleet, the Department is satisfied that the night glow from the modified project would only be marginally greater than the approved project and any additional impacts on fauna are considered to be negligible. The Department also notes that the existing approval requires Wilpinjong to minimise offsite lighting impacts.</p>
Socio-economic	<p>The EA includes a specialist socio-economic assessment undertaken by Gillespie Economics, which indicates that the modification would have a net production benefit of \$47 million and would provide the following additional regional benefits:</p> <ul style="list-style-type: none"> • \$179 million (M) in annual direct and indirect regional output or business turnover; • \$106M in annual direct and indirect regional value added; • \$13M in annual direct and indirect household income; and • 202 (construction) and 137 (operational) direct and indirect jobs. <p>The Department has considered these benefits against the potential impacts, such as the acquisition of privately-owned vacant properties, and is satisfied that on balance the socio-economic benefits of the modification outweigh the costs. The Department notes that the additional construction and operational workers would place some additional pressure on housing in the Mudgee region. However, the bulk of this increased demand would occur during the 9 month construction period. Consequently, the Department believes that the demands generated by the modified project on housing and other community infrastructure (e.g. schools, health services, etc) would be temporary and unlikely to have a significant impact when considered at the regional level.</p>

6 RECOMMENDED CONDITIONS

The Department has prepared recommended conditions for the modification (Tag A). Wilpinjong has reviewed and accepted these conditions.

7 CONCLUSION

The Department has assessed the proposed modification in accordance with the relevant requirements of the EP&A Act, including the objects of the EP&A Act and the principles of ecologically sustainable development.

The assessment found that the environmental impacts of the modified project would not be significantly different from the project as originally approved, apart from noise where some increases are predicted to the south and east of the project. However, the Department notes that the total number of properties that would experience exceedances of the noise criteria is less than predicted in the original EIS (20 compared with 28), and that the most significantly impacted properties comprise vacant land where noise exceedances would occur only at night. Nevertheless, the Department has recommended that Wilpinjong be required to implement mitigation measures for all moderately affected properties, or acquire significantly affected properties, in the same way as the existing approval.

Overall, the Department is satisfied that with the implementation of the proposed mitigation measures, the impacts of the modified project can be adequately mitigated, managed, and/or compensated for. The Department has recommended contemporary conditions to ensure this occurs.

The Department also recognises that the modification would provide economic and social benefits for the Mid-Western region and to NSW, including more than 130 direct and indirect jobs during operations.

On balance, the Department is satisfied that the benefits of the proposal outweigh any residual costs, and that it is in the public interest and should be approved, subject to conditions.

8 RECOMMENDATION

It is RECOMMENDED that the Director, Mining & Industry Projects, as delegate of the Minister:

- **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 proposed modification under section 75W of the EP&A Act; and
- **sign** the attached Notice of Modification (Tag A).

DKitto 8/19/10

Howard Reed
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David Kitto
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