



## Planning & Environment

### **ADDENDUM:**

### **STATE SIGNIFICANT DEVELOPMENT ASSESSMENT Watermark Coal Project (SSD-4975)**



Secretary's  
Environmental Assessment Report  
Section 89E of the  
*Environmental Planning and Assessment Act 1979*  
November 2014

Cover Photos: Liverpool Plains and coal core samples.

© Crown copyright 2014  
Published November 2014  
NSW Department of Planning and Environment  
[www.planning.nsw.gov.au](http://www.planning.nsw.gov.au)

**Disclaimer:**

While every reasonable effort has been made to ensure that this document is correct at the time of publication, the State of New South Wales, its agents and employees, disclaim any and all liability to any person in respect of anything or the consequences of anything done or omitted to be done in reliance upon the whole or any part of this document.

# 1. INTRODUCTION

---

## 1.1 Background

This report provides an addendum to the Secretary's Environmental Assessment Report (May 2014) for the Watermark Coal Project (SSD-4975) (the project).

The report has been prepared to consider the recommendations made in the Planning Assessment Commission's (PAC's) review of the project, and additional information received from Shenhua Watermark Coal Pty Limited (Shenhua) and the Department of Planning & Environment's (the Department's) independent groundwater expert since the PAC review.

The report should be read in conjunction with the Secretary's Environmental Assessment Report for the project.

## 1.2 Chronology of Events

A brief chronology of the key events relevant to this addendum report in the time since the Department's referral of the assessment package to the PAC is presented in the following table.

Table 1: Chronology of Events

Date	Event
13 May 14	Secretary's Environmental Assessment Report referred to PAC
26-27 Jun 14	PAC holds public hearings in Gunnedah
29 Aug 14	PAC finalises its review and refers the review report to the Department
3 Oct 14	Shenhua provides its response to the PAC review to the Department, including a detailed response to the groundwater issues raised by Dr Col Mackie prepared by Australasian Groundwater and Environmental Consultants (AGE) (see Attachment A)
3 Oct 14	Division of Resources and Energy within NSW Trade & Investment provides advice to the Department on the significance of the resource, in accordance with the provisions of clause 12AA of <i>State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007</i> (the Mining SEPP) (see Attachment B)
22 Oct 14	Shenhua provides a detailed response to the University of NSW submission to the PAC, prepared by AGE (see Attachment C)
23 Oct 14	Department's independent groundwater expert (Dr Frans Kalf) provides response to Shenhua's additional groundwater modelling (see Attachment D)
5 Nov 14	NSW Government endorses the <i>Voluntary Land Acquisition and Mitigation Policy for State Significant Mining, Petroleum and Extractive Industry Developments</i> (see Attachment E)
6 Nov 14	Commonwealth Department of the Environment provides comments on the Department's assessment report and recommended development consent (see Attachment F)

# 2. CONSIDERATION OF PAC REVIEW

---

## 2.1 Review Findings and Recommendations

The PAC review report for the project has the following main conclusion:

*"In conclusion, the Commission is generally satisfied that the site of this proposal, on the less fertile higher ground above the Liverpool Plains, should be able to be mined without significant impacts to the agricultural productivity of the Liverpool Plains. Nonetheless the management of water impacts will be critically important, to ensure the groundwater aquifers which support the agricultural sector are sustained into the long term. The Commission considers that the mine is approvable, subject to some further water modelling to corroborate the predicted level of impact on water. The Commission has made some recommendations relating to conditions that must be applied to any consent for this mine, but the suitability of the Department's draft conditions will need to be further considered in finalising the assessment of the project. Nonetheless, the Commission has found that there are other parts of the applicant's exploration licence (EL 7223) area that are not suitable for mining (on the Liverpool Plains) and the boundary of the exploration licence should be amended to remove those areas that extend onto the black soil plains."*

The review report contains 25 recommendations grouped into the following categories:

- agriculture;
- water;
- air, noise and blasting;
- long term land use, rehabilitation, landform and final void; and
- other – biodiversity and community consultative committee.

The Department's consideration of these recommendations is provided below. Revised recommended conditions of approval, based on this consideration, are provided in Attachment H.

## **2.2 Agriculture**

### **2.2.1 Recommendation 1**

*The Commission recommends that the NSW Government should amend the boundary of exploration licence EL7223 to remove those areas that intrude into the black soil plains.*

The Department notes that this recommendation is not relevant to the assessment and determination of the project. The project does not seek approval for mining on the black soil plains, and the Department cannot amend EL7223 through the planning approval process.

As noted by the PAC, this is a matter relevant to the Minister for Resources and Energy's portfolio. The Department can advise that the Minister for Resources and Energy is aware of the PAC's recommendation, and that the matter remains under consideration.

### **2.2.2 Recommendation 2**

*The Commission recommends that the NSW Government should follow on from the broader Regional Land Use Plan prepared in 2012, with some more detailed work or refinements to identify and protect those highly valuable, fertile, black soil plains, where mining should be prohibited.*

The Department notes that this recommendation is not relevant to the assessment and determination of the project, as Shenhua is not seeking approval for mining on the black soil plains.

However, the Department can advise that the Minister for Planning is aware of the PAC's recommendation, and is considering whether there is a need to strengthen the existing arrangements to protect highly productive agricultural land under the *Strategic Regional Land Use Plan* and other applicable policies.

### **2.2.3 Recommendation 3**

*The Commission recommends that the draft condition relating to the agricultural productivity of non-operational land around the project site must be strengthened.*

The condition referred to in the PAC's recommendation is condition 51 of schedule 3 of the Department's recommended conditions, which provides (emphasis added):

*"The Applicant shall use its best endeavours to ensure that the agricultural productivity and production of non-operational project-related land is maintained or enhanced.*

*This includes properties primarily used for agriculture that are acquired by the Applicant due to noise and/or air quality impacts. However, it does not include land:*

- *where disturbance is permitted under the conditions of this consent; or*
- *that forms part of the biodiversity offset strategy, except for the area of existing and/or historical agricultural land in the Mt Erin and Glendowda Offset Area."*

The PAC review report notes that the Commission "does not support the use of the term 'best endeavours' in this condition". The report does not elaborate on why it does not support the use of the term, although it presumably relates to an earlier statement that it "is critically important that productive agricultural land is not allowed to become derelict".

The Department notes that the term 'best endeavours' is an established legal definition that appears in numerous development consents for State Significant Developments. Australian courts generally interpret the term as a requirement on a party to do all he/she reasonably can in the circumstances, but that the obligation does not require the person who undertakes the obligation to go beyond the bounds of reason. The term generally requires a party to:

- do what can reasonably be done in the circumstances to achieve the obligation;
- not to hinder or prevent achievement of the obligation;
- continue to endeavour to achieve the obligation until it is reasonable to conclude that in the circumstances that further efforts would have such remote prospects of success that they are simply likely to be wasted; and
- allow for events, including extraordinary events, as they unfold.

The Department is also concerned that removal of the term 'best endeavours' from this condition may lead to a perverse outcome where there is an attempt to maintain agricultural production at times when it is not appropriate to do so (e.g. during drought conditions). This could potentially result in long term degradation of the land.

Finally, the Department notes that it would be in the economic interest of Shenhua to maximise the agricultural productivity and profitability of any land it owns that is not required for mining-related purposes.

Consequently, while the Department agrees with the PAC that it is important that productive agricultural land is not allowed to become derelict, the Department believes that with the recommended conditions the risk of this occurring is low. The Department therefore recommends that the PAC retains the term 'best endeavours' in the condition.

#### **2.2.4 Recommendation 4**

*The Commission recommends that a condition should be included to allow the NSW Land and Water Commissioner to nominate an independent party to resolve the matter, in the event of a disputed impact on agricultural production.*

The Department's assessment and the PAC's review of the project both conclude, following detailed assessment, that the project would not have any significant impacts on the agricultural productivity of the Liverpool Plains.

The Department acknowledges the PAC's recommendation to involve the NSW Land and Water Commissioner in the event of a disputed impact on agricultural production, but notes that the Commissioner's stated roles and responsibilities do not presently extend to review of compliance and dispute matters for mining projects approved under the *Environmental Planning and Assessment Act 1979* (EP&A Act).

In this regard, the Commissioner's roles and responsibilities as determined by the NSW Government generally relate to the strategic and 'front end' (or exploration stage) of mining and petroleum developments, and include ([https://www.nsw.gov.au/sites/default/files/landandwatercommissioner-factsheet\\_update\\_19-march-2013.pdf](https://www.nsw.gov.au/sites/default/files/landandwatercommissioner-factsheet_update_19-march-2013.pdf)):

1. Providing guidance to landholders and the community in relation to:
  - applications for mineral and petroleum (including coal seam gas) exploration licences;
  - exploration activities throughout the state;
  - Strategic Regional Land Use Plans;
  - regulatory approval and assessment processes;
  - compliance and enforcement matters in relation to exploration licence conditions;
  - landowner rights, access agreements and compensation; and
  - the rights and responsibilities of exploration companies.
2. Overseeing land access agreements by:
  - supervising the finalisation and implementation of standard land access agreements for mineral and petroleum exploration;
  - collating and publishing general remuneration information to assist parties in relation to negotiations on land access agreements; and

- appointing a mediator if requested by either party.
3. Providing advice to government on applications for exploration or production activities by:
- providing advice as part of the assessment process on all proposed exploration drilling and 'extractive' exploration activities on strategic agricultural land (representing landholder concerns and agriculture impacts); and
  - responding to concerns raised in relation to determinations on exploration activity by reviewing the process to ensure compliance with policy, regulations and the relevant Acts.

The PAC's recommended condition also duplicates, and potentially conflicts, with the existing 'compensable loss' provisions under the *Mining Act 1992*. In this regard, the Mining Act imposes a detailed compensation requirement on the holder of any mining lease for compensable loss suffered or likely to be suffered because of mining operations. This includes damage to the surface of land, to crops, trees, grass or other vegetation or to buildings, structures or works.

The compensable loss provisions of the Mining Act include a mechanism where an application can be made to the Land and Environment Court to determine the appropriate compensation amount, in the event of a dispute about the compensation.

Furthermore, the Department notes that it has recommended a range of performance criteria in the development consent relating to matters that have the potential to affect agricultural production, particularly in regard to water and air quality. The evidence before the Department indicates that if Shenhua complies with these criteria, there are unlikely to be any material impacts on the agricultural production of nearby properties. However, the Department notes that the recommended conditions already allow any landowner who believes that the criteria in the consent are being exceeded to request an independent review. If necessary, in undertaking such a review, the Department can seek independent advice about potential impacts on agricultural production.

The Department is satisfied that these existing provisions provide an appropriate regulatory framework for resolving any disputed impact on agricultural production, in the unlikely event that this occurs.

## **2.3 Water**

### **2.3.1 Recommendation 5**

*The additional modelling recommended by Dr Mackie must be completed and considered against the impacts predicted to date, prior to any determination of the application. That is:*

- a. *The WST (Watermark Staged Transient) model is to be run with drain reference elevations set at or just above the base of the respective drain cells;*
- b. *The WST model is to be run using the variably saturated 'pseudo soil' option available within Modflow Surfact thereby negating the need for vadose zone parameters (drain reference elevations unchanged);*
- c. *The WST model is to be run using both the pseudo soil option and the adjustments to drain reference elevations; and*
- d. *A steady state recovery model is to be run to assess long term impacts.*

On behalf of Shenhua, AGE has undertaken the additional groundwater modelling recommended by the PAC's independent groundwater expert Dr Col Mackie (see Attachment A).

The Department's independent groundwater expert Dr Frans Kalf has reviewed the additional modelling (see Attachment B). In summary, Dr Kalf is satisfied that the additional modelling undertaken by AGE is generally consistent with the recommendations of Dr Mackie. The findings of this review are discussed further below.

The Department also notes that the University of NSW (UNSW) made a detailed submission to the PAC on behalf of the NSW Irrigators Council, raising a number of concerns regarding the groundwater assessment in the EIS.

The PAC review report notes that the NSW Office of Water (NOW) considered that these issues were not of concern at this stage, reiterating that monitoring and adaptive management would be available as mining progressed.

Notwithstanding, the Department requested Shenhua to provide a response to the UNSW submission. On behalf of Shenhua, AGE has prepared a detailed response to the concerns raised by UNSW, including a number of additional modelling scenarios and sensitivity testing (see Attachment C). The findings area discussed further below.

### 2.3.2 Recommendation 6

*Any differences between the outcomes reported so far and those predicted under the revised modelling required in recommendation 5 will need to be assessed (and should be publicly exhibited if the impacts prove greater those currently predicted by the applicant), prior to determination of the application.*

Shenhua's revised groundwater modelling includes a number of modelling scenarios based on Dr Mackie's recommendations. The following table provides details of which modelling scenarios relate to each of Dr Mackie's recommendations. Further modelling scenarios to examine UNSW's concerns are discussed separately below.

Table 2: Comparison of Modelling Scenarios

<b>Modelling Basis</b>	<b>Shenhua Modelling Scenario No.</b>	<b>Scenario Detail</b>
<b>EIS Base Case</b>		
-	Scenario 0	EIS model Drain reference set at base of mining pit No backfill Residual soil saturation method
<b>Dr Mackie's Recommended Additional Modelling</b>		
a. Transient model to be run with drain reference elevations set at or just above the base of the respective drain cells	Scenario 1	Drain reference set at base of drain cell No backfill Residual soil saturation method
	Scenario 10	Drain reference set at base of drain cell Backfill Residual soil saturation method
b. Transient model to be run using the variably saturated 'pseudo soil' option (drain reference elevations unchanged)	Scenario 2	Drain reference set at base of mining pit No backfill Pseudo-soil saturation method
c. Transient model to be run using both the pseudo soil option and the adjustments to drain reference elevations	Scenario 3	Drain reference set at base of drain cell No backfill Pseudo-soil saturation method
	Scenario 11	Drain reference set at base of drain cell Backfill Pseudo-soil saturation method
d. Steady state recovery model to be run to assess long term impacts.	Scenario 4	Steady state recovery Residual soil saturation method
	Scenario 5	Steady state recovery Pseudo-soil saturation method
<b>Additional Sensitivity Scenarios</b>		
No faults scenario	Scenario 6	Drain reference set at base of drain cell No backfill Pseudo-soil saturation method No faults (impeding flow)
Storage parameters	Scenario 7	Drain reference set at base of drain cell No backfill Pseudo-soil saturation method High storage (increased by order of magnitude)
No faults, no backfill and original drain cell elevation scenario	Scenario 8	Drain reference set at base of mining pit No backfill Residual soil saturation method No faults (impeding flow)
Combined residual and pseudo soil saturation scenario	Scenario 9	Drain reference set at base of drain cell No backfill Residual soil saturation method and pseudo-soil saturation method used in varying layers.

It is noted that a number of the scenarios (i.e. Scenarios 0 to 3 and 6 to 9) assume that the mining pits are not backfilled, as requested by Dr Mackie. As Shenhua is proposing to backfill the pits, and would be in breach of any approval if it did not backfill the pits (as well as not having sufficient out-of-pit emplacement space), these scenarios represent an unrealistic worst case. As noted in Dr Kalf's review (see Attachment D), these non-backfilled scenarios have been run to examine drawdown distribution, and present a hypothetical upper drawdown limit for the backfill scenarios.

In summary, the additional modelling scenarios requested by Dr Mackie indicate that the groundwater drawdown impacts of the project would be similar to, or less than, those identified in the EIS. Groundwater drawdown comparisons for the key modelling scenarios against the predictions in the EIS are shown on Figures 1 to 3 below (note that the green line represents the maximum extent of the 1 metre groundwater drawdown predicted in the EIS).

Dr Kalf concluded that the results of the modelling indicate that the drawdown associated with the project would be within the 'minimal impact consideration' trigger in the *NSW Aquifer Interference Policy* (i.e. less than a 2 metre drawdown at privately-owned bores). Dr Kalf noted that he consulted with Dr Mackie during his review, and that Dr Mackie agrees that any remaining uncertainty about the model is unlikely to change the magnitude of the regional drawdowns indicated in the revised modelling.

Dr Kalf's review does include a small number of additional recommended conditions. These recommendations (in italics), and the Department's response to each, are outlined below:

- *the monitoring program for the project include observation bores both in and near the vicinity of the open cut voids and more distant bores on the edges of the alluvial flats;*

Whilst this monitoring detail would form part of any groundwater monitoring program for the project, the Department has amended condition 26 of schedule 3 of the recommended conditions to specifically require this monitoring to be incorporated in the program.

- *modelling predictions be reviewed and validated every 3 years during mining, and monitoring continued for at least 10 years after mining ceases;*

The Department notes that the recommended conditions already require review and validation of the various water predictions every 3 years. Whilst post-mining monitoring would form part of the groundwater monitoring program for the project, the Department has amended condition 26 of schedule 3 to specifically require monitoring to continue for at least 10 years post-mining, in accordance with Dr Kalf's recommendation.

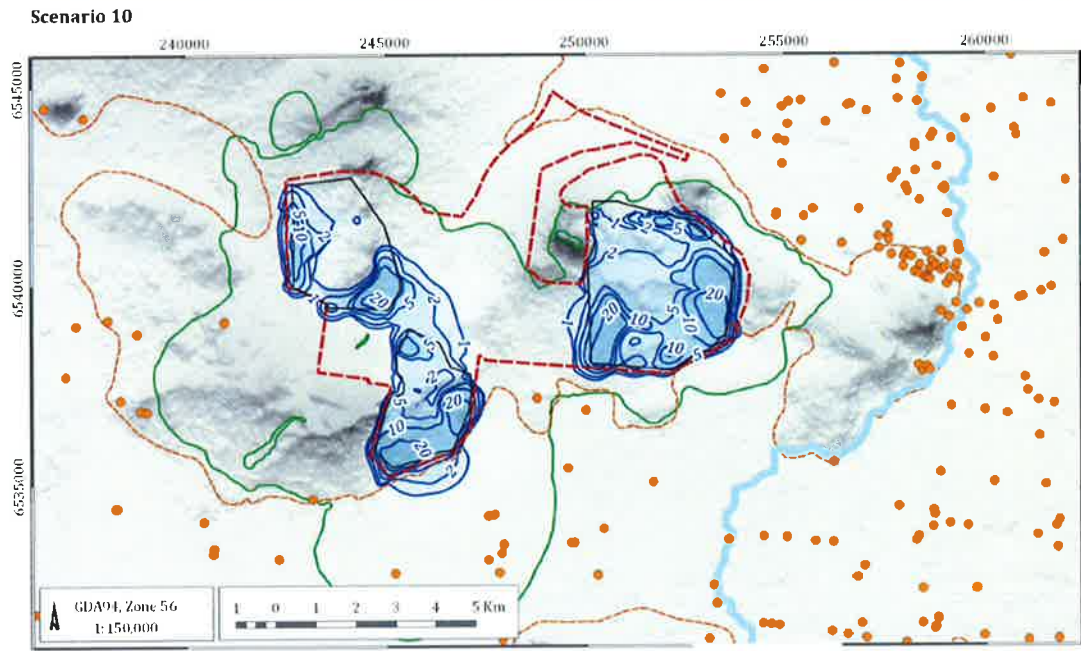
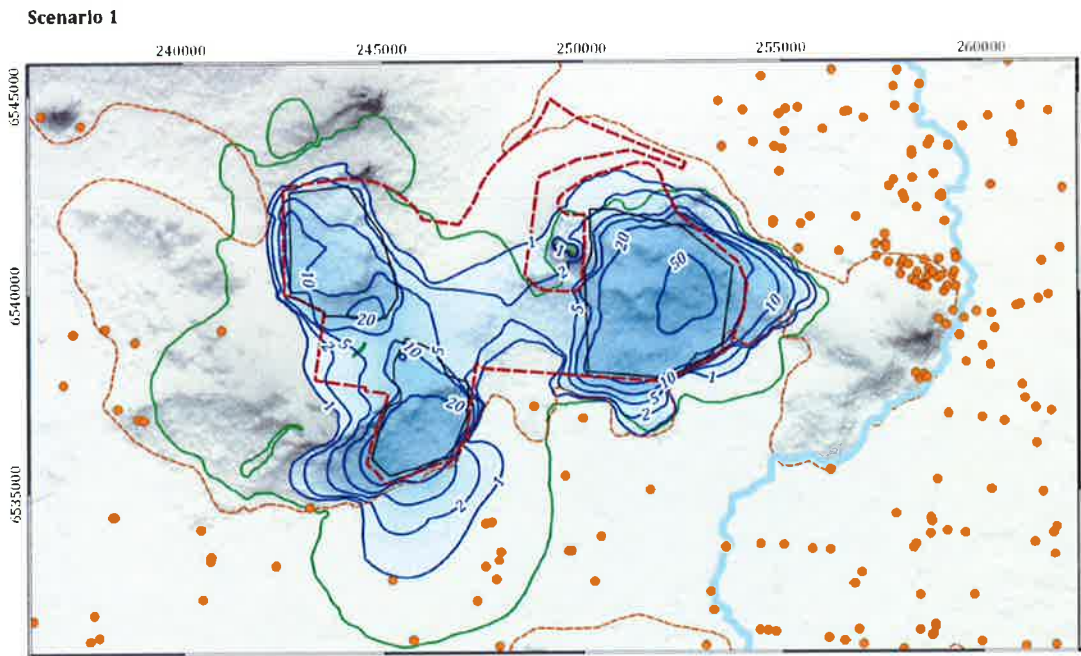
- *monitoring is undertaken within the eastern and southern mining areas following completion of backfilling (to monitor groundwater recovery and salinity).*

The recommended conditions already include a requirement on Shenhua to monitor and report on the seepage/leachate from emplacements, backfilled voids and the final void (see condition 26 of schedule 3).

Shenhua's response to the UNSW submission (see Attachment C) includes additional modelling scenarios to examine further geological and hydrogeological models as raised by the University. In summary, the results of the modelling indicate that:

- the magnitude and extent of potential groundwater drawdown at privately-owned bores in the vicinity of the project would be similar or less than what was predicted in the EIS (i.e. less than 2 metres);
- the volume of groundwater in-flow into the open cut pits is likely to be somewhat less than predicted in the EIS for all plausible scenarios; and
- contingency measures such as re-injection of water back into the aquifer system during mining would be effective in addressing groundwater depressurisation at privately-owned bores.






- LEGEND
- Mining area
  - PINEENA bore
  - Project area
  - Mooki river
  - Alluvial boundary
  - Groundwater Drawdown (m)
  - Groundwater Drawdown (m) EIS model (Uncert)

Watermark (G1501)

**Groundwater Drawdown - Gunnedah Formation (Scenario 1 and 10)**

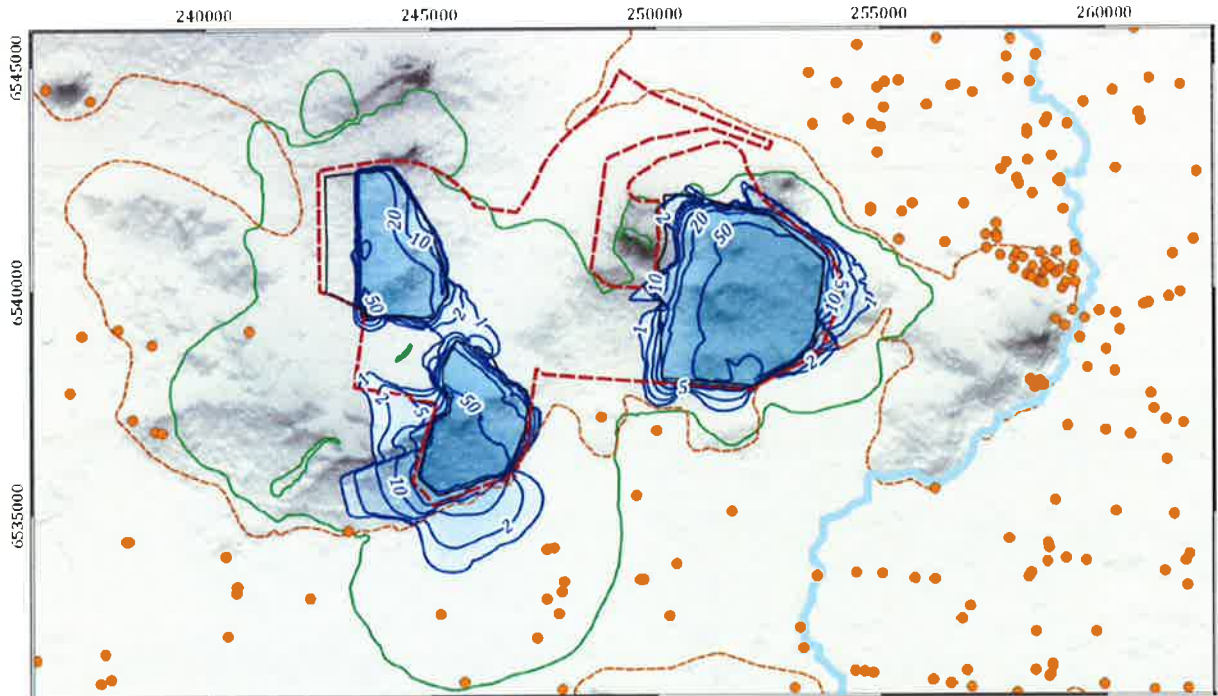


DATE: 30/9/2014

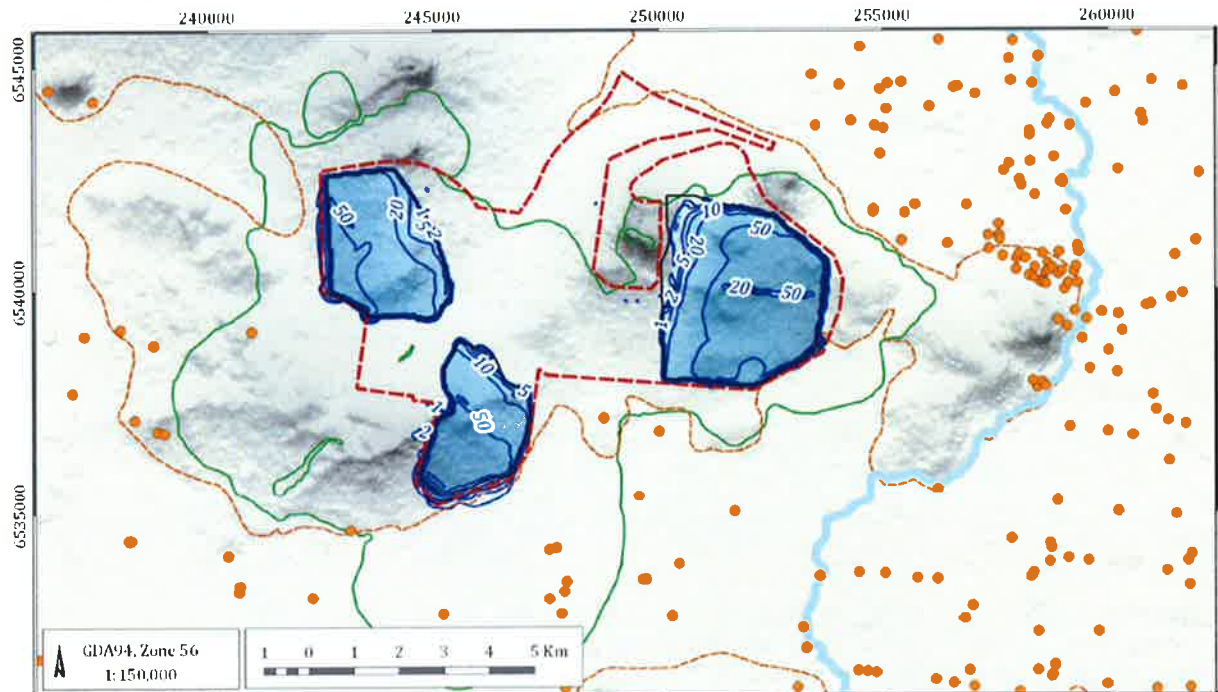
FIGURE: 2-4

Figure 1: Groundwater Drawdown – Gunnedah Formation (Scenarios 1 and 10)

**Scenario 3**



**Scenario 11**



- IBES0
- Mining area
  - PINEENA bore
  - Project area
  - Mooki river
  - Alluvial boundary
  - Groundwater Drawdown (m) EIS model (Uncert)
  - Groundwater Drawdown (m)

Watermark (G1501)

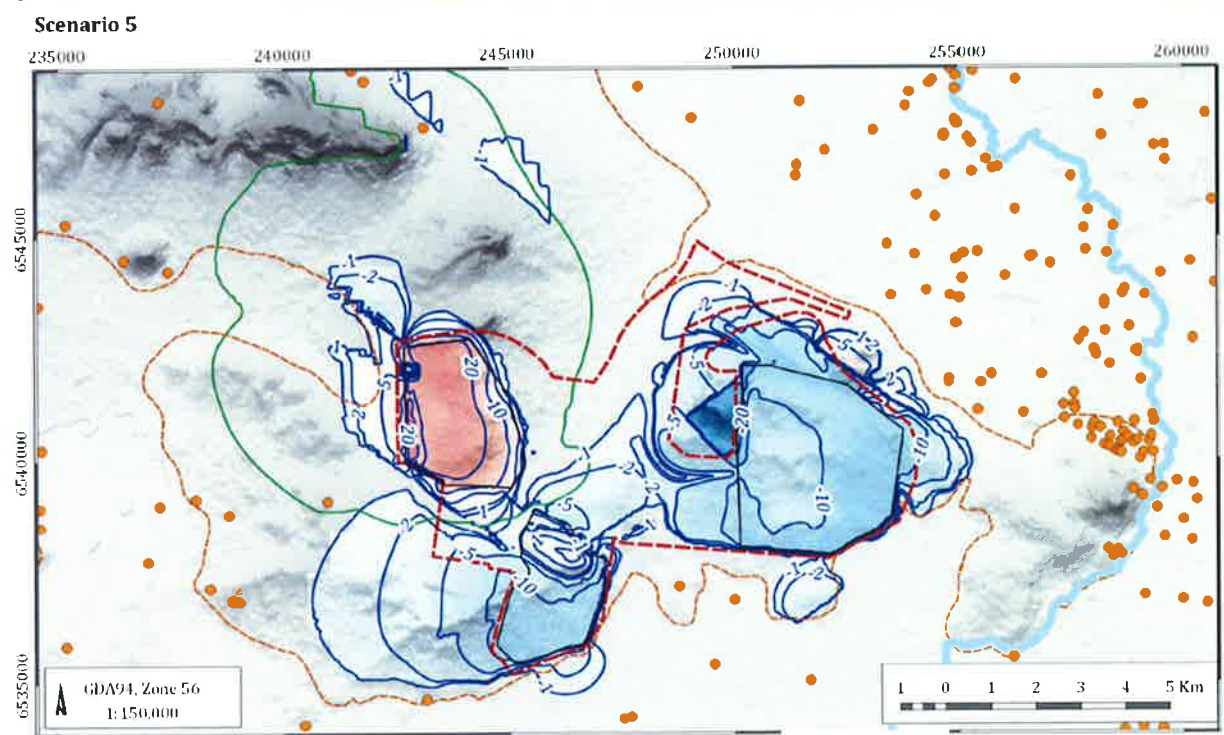
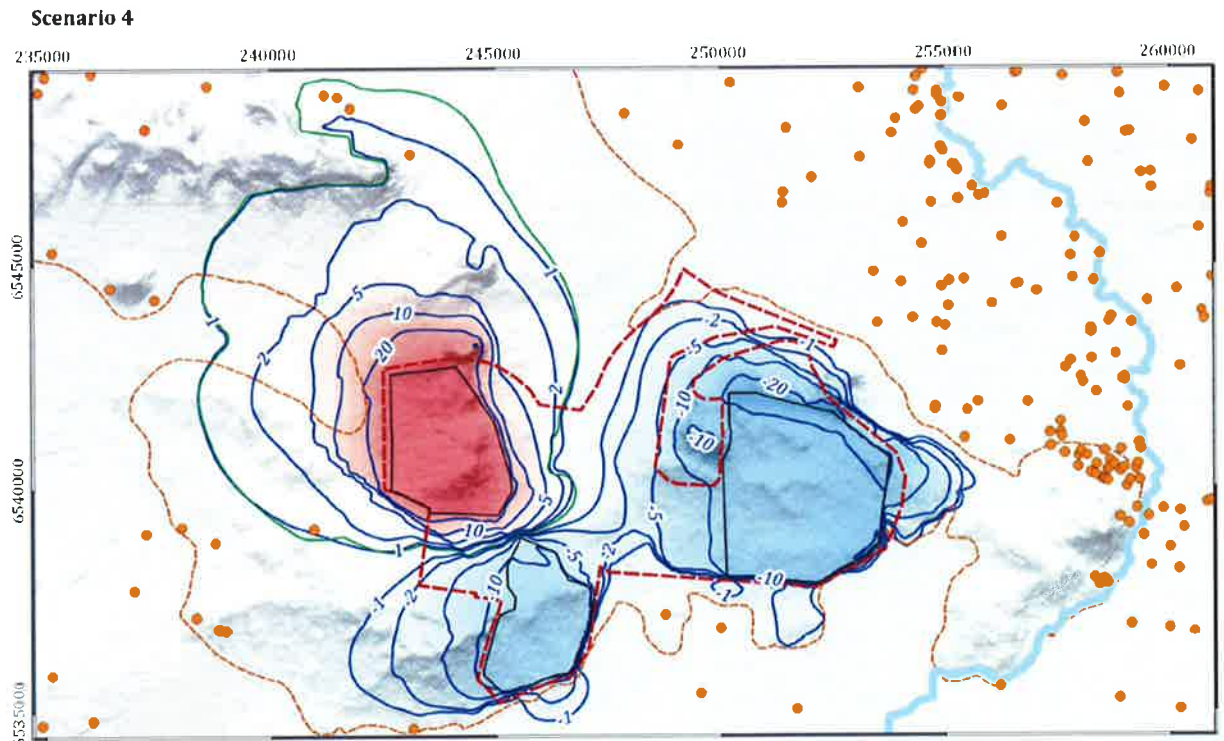
**Groundwater Drawdown Impacts –  
Gunnedah Fm – Pseudos-soil (Scenarios  
3 and 11)**



ISSN  
30/9/2014

ISSN  
**2-15**

Figure 2: Groundwater Drawdown – Gunnedah Formation (Scenarios 3 and 11)



- LEGEND
- Mining area
  - PINEENA Bore
  - Project area
  - Mooki river
  - Alluvial boundary
  - Groundwater Drawdown (m) EIS model (Uncert)
  - Groundwater Drawdown (m)

Watermark (G1501)

**Post-mining groundwater drawdown extents - Sensitivity - Layer 2**



DATE: 30/9/2014

FIGURE No: **2-19**

Figure 3: Groundwater Drawdown – Post-Mining (Scenarios 4 and 5)

Based on the above, the Department is satisfied that the findings of the additional modelling undertaken by AGE indicate that the assessment of groundwater impacts in the EIS was appropriately conservative, and that the additional information does not change the main findings of the Department's assessment of groundwater impacts for the project.

The Department is also satisfied that:

- the review and monitoring requirements in the recommended conditions of consent would ensure that any unforeseen impacts on water resources would be identified; and
- there are a range of feasible contingency measures available to effectively address these impacts, if required.

## **2.4 Air, Noise and Blasting**

### **2.4.1 Recommendation 7**

*Operations to scale back and/or shut down to ensure compliance with noise and dust limits*

*The Commission recommends that the operating conditions for noise and dust should be updated to clarify that scaling back and shut down of operations will be required at certain times to ensure compliance with the noise and air quality limits.*

The Department has amended the operating conditions for noise and dust (ie. conditions 4 and 18 of schedule 3 of the recommended conditions) to clarify this issue.

### **2.4.2 Recommendation 8**

*The Commission recommends that the conditions should include a requirement that prior to the commencement of mining in each new pit, updated consideration of the impacts of mining is to be provided, to demonstrate that the performance of the mine will comply with the standards of the day and ensure best practice (taking into account the more restricted options available compared to those for a new mine).*

Shenhua has stated in its response to the PAC Review that it cannot accept this condition, as it does not provide sufficient certainty to justify its capital investment in the project.

The Department accepts that the PAC's recommendation does raise uncertainty and lacks finality, and that the acceptability of any impact associated with a development (including its stages) needs to be assessed at the time of the development application against the applicable standards at the time.

That said, the Department notes that the recommended conditions include a number of provisions to review ongoing performance and ensure best practice, including requirements for Shenhua to:

- implement best management practice to minimise noise (condition 4 of schedule 3), blasting (condition 11 of schedule 3) and dust (condition 4 of schedule 3) emissions;
- undertake real-time monitoring and adaptive management; and
- undertake annual reviews of environmental performance (condition 4 of schedule 5);
- commission 3 yearly independent environmental audits and implement any audit recommendations (conditions 9 and 10 of schedule 5); and
- revise and update management plans on a regular basis to improve the environmental performance of the development (condition 5 of schedule 5).

If Shenhua is not complying with relevant provisions of its development consent, it would be required to modify its operations to ensure compliance or face enforcement action under Part 6 of the EP&A Act.

The Department also notes that Shenhua is required to obtain an Environmental Protection Licence (EPL) for the project under the *Protection of the Environment Operations Act 1997* (POEO Act). As outlined in Shenhua's Response, the EPL is regularly reviewed by the NSW Environment Protection Authority (EPA) and can be amended to be consistent with best practice noise and air quality management standards over time.

The EPA is also able to require mining companies to undertake Pollution Reduction Programs (PRPs) as part of an EPL. A recent example of this is the EPA's 'Dust Stop PRP' which applies to all open cut coal mines in NSW, requiring the implementation of a range of best practice measures to minimise dust emissions.

### 2.4.3 Recommendation 9

#### Options available for residents predicted to be impacted by exceedances of dust criteria

The Commission recommends that all residences predicted to be impacted by an exceedance of the air quality criteria should be given the following options:

- i. to sell their property to the mine and move elsewhere;
- ii. to negotiate a mutually agreeable outcome;
- iii. to have the applicant provide mitigation measures at the dwelling including enclosure of outdoor entertaining spaces such as decks and installation and upkeep of air conditioning and first flush devices for rainwater tanks;
- iv. to have alternative accommodation provided.

In its assessment of the Watermark Coal Project, the Department has applied air quality acquisition rights where cumulative dust levels at a sensitive receiver are predicted to exceed:

- 30  $\mu\text{g}/\text{m}^3$  (annual average); and
- 50  $\mu\text{g}/\text{m}^3$  (24 hour) for more than 5 days a year.

The Department has applied the acquisition criteria at the sensitive receiver's residence, and where more than 25% of a sensitive receiver's landholding exceeds the criteria.

The NSW Government has recently endorsed a policy for voluntary mitigation and land acquisition to address both noise and dust impacts associated with State significant mining projects, such as the Watermark Coal Project (see Attachment E).

The policy establishes air quality criteria for triggering additional mitigation measures at the residence (such as air conditioning, first flush systems, and water filters) and for the voluntary acquisition of land in accordance with the Department's acquisition procedures (see Tables 3 and 4).

Table 3: Particulate matter mitigation criteria

POLLUTANT	AVERAGING PERIOD	MITIGATION CRITERION	
PM <sub>10</sub>	Annual	30 $\mu\text{g}/\text{m}^3$ <sup>a*</sup>	
PM <sub>10</sub>	24 hour	<sup>a</sup> 50 $\mu\text{g}/\text{m}^3$ <sup>a*</sup>	
Total suspended particulates (TSP)	Annual	90 $\mu\text{g}/\text{m}^3$ <sup>a*</sup>	
Deposited dust	Annual	2 $\text{g}/\text{m}^2/\text{month}$ <sup>**</sup>	4 $\text{g}/\text{m}^2/\text{month}$ <sup>*</sup>

Table 4: Particulate matter acquisition criteria

POLLUTANT	AVERAGING PERIOD	ACQUISITION CRITERION	
PM <sub>10</sub>	Annual	30 $\mu\text{g}/\text{m}^3$ <sup>a*</sup>	
PM <sub>10</sub>	24 hour	<sup>ab</sup> 50 $\mu\text{g}/\text{m}^3$ <sup>a*</sup> @ 98.6 percentile	
Total suspended particulates (TSP)	Annual	90 $\mu\text{g}/\text{m}^3$ <sup>a*</sup>	
Deposited dust	Annual	2 $\text{g}/\text{m}^2/\text{month}$ <sup>**</sup>	4 $\text{g}/\text{m}^2/\text{month}$ <sup>*</sup>

Notes:

\* Total impact (i.e. incremental increase in concentrations due to the development plus background concentrations due to all other sources)

\*\* Incremental impact (i.e. incremental increase in concentrations due to the development alone)

a Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents and illegal activities.

b The 98.6 percentile reflects a permitted number of predicted or monitored exceedances (being up to 5) within the 365 24-hour block averages comprising any one year. Where more than 5 exceedances are predicted or recorded, the percentile is exceeded. While the criterion relates to cumulative (i.e. total) impacts, it also excludes contributions from extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents and illegal activities.

The policy also states that a consent authority should only apply voluntary acquisition rights where:

- the development contributes to exceedances of the acquisition criteria in Table 4 at any residence or workplace on privately-owned land; or
- if the development contributes to exceedances of the acquisition criteria in Table 4 on more than 25% of any privately-owned land, and a dwelling could be built on that land under existing planning controls.

The approach to mitigation and acquisition recommended by the Department in its assessment of the Watermark Coal Project is generally consistent with that established under the *Voluntary Land Acquisition and Mitigation Policy*. The key difference relates to cumulative acquisition criterion for 24 short-term (24 hour) PM<sub>10</sub>.

In regard to this criterion, the Department's assessment allows up to 5 exceedances a year to account for extraordinary events such as bushfires and dust storms, whereas the policy allows exceedances of the criterion in addition to extraordinary events, as compliance with the criterion is required 98.6 percent of the time (which is equivalent to an additional 5 days a year).

The Department understands that to re-model the air quality impacts of the project to identify and exclude extraordinary natural events and the highest 1.4 percent of modelled results would take some time. At this stage, the Department does not believe the additional modelling is necessary for the following reasons:

- the approach taken in the Department's assessment is somewhat more stringent than what would be required under a strict application of the policy;
- any additional modelling is only likely to reduce the recommended zone of affection for the project, and the Department does not believe it would be reasonable to remove the mitigation or acquisition rights of specific landowners at this stage of the process; and
- given that the policy has only recently been introduced, the Department believes that it is reasonable to treat the Watermark Coal Project as a 'transitional' project.

The Department has consulted with Shenhua about this matter, and the company does not object to the zone of affection recommended by the Department in its assessment report in May 2014.

Given the above, the Department has not amended the list of properties with mitigation and acquisition rights in its recommended conditions. However, the Department has recommended that the air quality acquisition criteria be amended to be consistent with the NSW Government's policy (see condition 17 of schedule 3). In particular, the Department has removed the 150 µg/m<sup>3</sup> cumulative 24 hour acquisition criterion for PM<sub>10</sub>, and replaced it with a stricter cumulative criterion of 50 µg/m<sup>3</sup> (at the 98.6 percentile). Accordingly, the project-specific criterion of 50 µg/m<sup>3</sup> has been removed.

In regard to the PAC's recommendation about negotiated agreements, mitigation and the provision of alternative accommodation, the Department notes that the *Voluntary Land Acquisition and Mitigation Policy* encourages agreements to be made between affected landowners and mining companies as the preferred mechanism for managing any exceedances of the relevant assessment criteria.

However, the policy contemplates that negotiated agreements would be entered into prior to the determination of a development application. One of the key reasons for this is that it is difficult and impractical for the Department to mediate if there is a dispute during the preparation of voluntary negotiated agreement between two parties as there are typically a range of very specific matters that need to be covered by such agreements. The same constraints do not apply to the acquisition process under the development consent.

Notwithstanding, the policy provides some guidance about the minimum standards for such agreements, including financial compensation, further mitigation, and the provision of alternative accommodation (particularly when the exceedances would only occur over short periods).

However, the Department remains firmly of the view that any such agreements are ultimately a matter for the landowner and the mining company to negotiate based on the individual circumstances of the landowner.

In regard to mitigation, the recommended conditions allow the owners of properties in the acquisition zone to request additional mitigation at their residence at any time during the life of the project while they remained the owners of the property. The Department has also recommended that additional mitigation measures be provided for residences that are outside the acquisition zone, but which are predicted to:

- exceed the cumulative 24-hour PM<sub>10</sub> impact assessment criteria for more than 5 days a year; and/or
- exceed the 24-hour PM<sub>10</sub> impact assessment criteria on a project-only basis on any day.

The Department believes this is a reasonable approach to the matters raised by the PAC, and is consistent with the *Voluntary Land Acquisition and Mitigation Policy*.

#### **2.4.4 Recommendation 10**

*Air quality limits should apply at properties where exceedances are predicted*

*In addition to this the Commission recommends that limits should be included in the conditions to ensure the applicant does not exceed the predicted impacts. This should include limits that vary over the life of the mine in response to the modelled predictions i.e. if a residence is predicted to receive higher dust levels in year 10, but not year 5 or year 15, then the higher limit should not apply during those other stages of mining when the impact is not predicted to occur.*

The Department acknowledges the intent of the PAC's recommendation for variable air quality limits.

However, it is important to note that the key air quality criteria under both the EPA's *Approved Methods Approved Methods for the Modelling and Assessment of Air Pollutants* and the recent acquisition policy refer to cumulative assessment goals rather than project-specific criteria.

Accordingly, these criteria are included in the recommended conditions to guide the implementation of real-time dust management on the site, to minimise the risk of additional exceedances of the cumulative goals in the vicinity of the mine, particularly during adverse weather conditions. As is the case for most developments, the focus of regulation by the NSW Government is to manage and minimise air emissions at the source, such as the EPA's 'Dust Stop' program that is currently being applied to mines throughout NSW.

Furthermore, as mentioned above, the legislative regime has specifically been designed to allow the EPA to vary licences for mining projects in response to changing policies, standards or monitoring results. This is the appropriate 'adaptive' regulatory mechanism for managing environmental impacts over the 30 year life of a mining project, rather than attempting to anticipate changing standards in the development consent.

Finally, it is important to note that the Department's recommended conditions apply the same criteria (i.e. the impact assessment criteria) to all residences outside the acquisition zone. This means that while the air quality criteria do not strictly apply at the residences that have acquisition rights, there is a requirement to meet the air quality criteria at other nearby residences outside the acquisition zone. Consequently, in order to achieve the air quality criteria at residences beyond the acquisition zone, Shenhua would need to ensure that the concentrations of dust for properties within the acquisition zone are at or near the levels predicted in the EIS.

That said, the Department agrees that there is merit in requiring Shenhua to evaluate and report on its compliance with the air quality predictions in the EIS, and has amended the recommended conditions to require this as part of the air quality monitoring program for the project (see condition 19 in schedule 3).

## 2.4.5 Recommendation 11

### Options available for residents predicted to be impacted by exceedances of the noise criteria

The Commission recommends that all residences predicted to be impacted by an exceedance of the intrusive noise criteria should be given the following options:

- i. to sell their property to the mine and move elsewhere;
- ii. to negotiate a mutually agreeable outcome;
- iii. to have the applicant provide mitigation measures at the dwelling including the provision of double glazing.

As detailed above, the NSW Government has recently endorsed a policy for voluntary mitigation and land acquisition to address both noise and dust impacts associated with State significant mining projects, such as the Watermark Coal Project (see Attachment E).

In regard to noise mitigation, the policy states that a consent authority should only grant voluntary mitigation rights:

- if the noise generated by the development would be equal to or greater than 3dB(A) above the *NSW Industrial Noise Policy* (INP) project specific noise level (PSNL) at any residence on privately-owned land; or
- if the development would increase the total industrial noise level at any residence on privately-owned land by more than 1dB(A), and noise levels at the residence are already above the recommended amenity criteria in Table 2.1 of the INP (i.e. 45dB(A)  $L_{Aeq(periode)}$ ); or
- if the development includes a private rail line and the use of that private rail line would cause exceedances of the recommended acceptable levels in Table 6 of Appendix 3 of the *Rail Infrastructure Noise Guideline* (RING) by greater than or equal to 3dB(A) at any residence on privately-owned land.

The Department has applied the policy to the project, which results in 3 landowners no longer being entitled to additional noise mitigation measures at their residence (i.e. Properties 35, 40, 43). The Department has updated the recommended conditions accordingly. In this regard, the Department notes that the predicted exceedances at these residences are very minor (i.e. 1 dB(A) or less), which is not discernible to the human ear and is within the error margins of the modelling. Consequently, the Department believes this is a reasonable approach.

In regard to noise acquisition, the policy states that a consent authority should only grant voluntary mitigation rights:

- the noise generated by the development would be more than 5dB(A) above the PSNL at any residence on privately-owned land; or
- the noise generated by the development would contribute to exceedances of the recommended maximum noise levels in Table 2.1 of the INP (i.e. 45dB(A)  $L_{Aeq(periode)}$ ) on more than 25% of any privately owned land, and a dwelling could be built on that land under existing planning controls; or
- if the development includes a private rail line and the use of that private rail line would cause exceedances of the recommended maximum criteria in Table 6 of Appendix 3 of the RING at any residence on privately-owned land.

In regard to acquisition, the Department's assessment is generally consistent with the policy, but it has recommended acquisition rights apply where the noise generated by the development is predicted to exceed the PSNLs by more than 5dB(A) (i.e. 40dB(A)  $L_{Aeq(15\text{ minute})}$ ) on more than 25% of any privately owned land (instead of 45dB(A)  $L_{Aeq(periode)}$  recommended in the policy).

For the same reasons as outlined in regard to air quality, the Department believes it would not be appropriate or reasonable to alter the list of properties entitled to voluntary acquisition at this stage in the process.



#### **2.4.6 Recommendation 12**

*Noise limits should apply at properties where exceedances are predicted*

*The Commission recommends that limits should be included in the conditions to ensure the applicant does not exceed the predicted impacts. This should include limits that vary over the life of the mine in response to the modelled predictions i.e. if a residence is predicted to receive higher noise levels in year 10, but not year 5 or year 15, then the higher limit should not apply during those other stages of mining when the impact is not predicted to occur.*

As with the similar recommendation regarding dust, the Department acknowledges the intent of the PAC's recommendation for variable noise limits.

The Department's recommended noise criteria apply the worst-case predicted noise levels for those residences that are predicted to exceed the PSNLs, but for all other residences applies the PSNL (i.e. 35 dB(A)). Noise criteria are not included for residences within the acquisition zone (i.e. those predicted to exceed the PSNL by more than 5dBA).

It is recognised that this means that noise criteria do not apply at the significantly affected residences (i.e. those with acquisition rights) when the project may only be predicted to affect these residences during a relatively small proportion of the mine life. It also means that the noise criteria for moderately affected residences (ie. those above the PSNL but below the acquisition criteria) are set at the highest predicted noise level over the life of the mine, when the residences may only be predicted to experience these noise levels during part of the project life.

However, the Department also recognises that the requirement to meet the PSNL noise criteria at all other residences essentially means that noise levels at the affected residences would also need to be effectively managed in accordance with the predicted levels.

As with air quality, the regulatory arrangements for noise also allow the EPA vary noise criteria over time in response to changing policies, regulatory standards and environmental performance. In the Department's view, it is therefore more appropriate to rely on the flexibility of the EPL for the project than to incorporate time-bound noise limits in the development consent.

That said, the Department agrees that there is merit in requiring Shenhua to evaluate and report on its compliance with the noise predictions in the EIS, and has amended the recommended conditions to require this as part of the noise monitoring program for the project (see condition 5 in schedule 3).

#### **2.4.7 Recommendation 13**

*Meteorological Conditions and Compliance Monitoring*

*The Commission recommends that the Applicable Meteorological Conditions and Compliance Monitoring requirements in Appendix 5 of the draft conditions should be updated to reflect contemporary capabilities in monitoring during rain and hail conditions as well as the gradient wind and temperature inversion features of the area.*

The Department has amended the recommended conditions regarding applicable meteorological conditions in consideration of the PAC review recommendations to remove the rain and hail exemption from the compliance monitoring conditions.

However, in regard to wind speeds greater than 3m/s and temperature inversions, the Department has recommended that these exemptions be retained as the EPA has recently written to the Department requesting that its standard conditions for noise measurement under the INP not be altered as it can result in potential compliance issues with enforcing noise limits.

In this regard, the Department understands that winds of *greater* than 3m/s are not considered because extraneous noise due to aerodynamic and foliage noise significantly affects measurements (see Section 5.3.1 of the INP).

In regard to inversions, the INP allows options for determining inversions and they can be assessed either by direct temperature lapse rate and reported in °C/100m, or in Pasquill stability classes such as F or G class. In its submission on the project the EPA recommended inversion strength based on the Pasquill stability classes.

Although the Department's recommended conditions are based on °C/100m, it considers it appropriate to be consistent with the EPA and has amended the recommended conditions to adopt the Pasquill stability class classification (see Appendix 5 of the recommended conditions).

#### **2.4.8 Recommendation 14**

##### Identification of residences

*The Commission recommends that the final conditions clearly identify or map each residence that is listed as having a higher noise or dust criteria.*

The receiver location plans in Appendix 4 of the recommended conditions include property numbers, but do not identify residence numbers where there are more than 1 residence on a property.

The Department has amended Appendix 4 to include a map showing all residence numbers referred to in the recommended conditions (see Appendix 4 of the recommended conditions).

The Department has also clarified the acquisition rights for two privately-owned properties in Table 1 of the recommended conditions, namely:

- Property 65 – the original receiver location plans identified 3 separate properties as Property 65, as they have the same landowner. The property subject to acquisition rights for noise impacts is a small parcel of vacant land within the northern portion of the project boundary (ie. Property 65N). The other 2 landholdings are small blocks of land in Breeza (Property 65C and 65S), which are not predicted to be significantly affected by noise or dust emissions. The Department has amended Table 1 to refer to Property 65N only; and
- Property 26 - the original receiver location plans identified 2 separate properties as Property 26, as they have the same landowner. Both of these are located in the rural area to the north of the mine, but are not contiguous and are separated by other rural landholdings. The property subject to acquisition rights for noise and dust impacts is Property 26W. The other property (Property 26E) is not predicted to be significantly affected by noise or dust emissions. The Department has amended Table 1 to refer to Property 26W only.

#### **2.4.9 Recommendation 15**

##### Impacted land

*The Commission recommends that the NSW Government needs to develop a clear policy on the management of health and amenity impacts on land that is not occupied by a dwelling.*

On 5 November 2014, the NSW Government endorsed the *Voluntary Land Acquisition and Mitigation Policy for State Significant Mining, Petroleum and Extractive Industry Developments*. This document provides a clear policy position in regard to the management of health and amenity impacts on vacant land.

#### **2.4.10 Recommendation 16**

*In the absence of a definitive policy or clear, specific justification, the Commission considers that acquisition rights should be available to those properties identified in Table 4 and Table 5.*

Tables 4 and 5 of the PAC review report list all of the properties where 25% of the landholding would be affected by noise levels above the PSNL (i.e. 35dBA), or where the cumulative 24 hour PM<sub>10</sub> levels exceed 50 µg/m<sup>3</sup> at any time during the life of the project.

However, there is now a clear NSW Government policy in place that addresses acquisition rights on vacant land, and the PAC's recommendation is not consistent with this policy. Consequently, for the reasons outlined in Sections 2.4.3 and 2.4.5 above, the Department does not support this recommendation.

## **2.4.11 Recommendation 17**

### Ground vibration criteria

*The Commission recommends that the blasting criteria in the conditions should include the applicant's nominated ground vibration criteria of 2mm/s for the Breeza Cemetery.*

The Department has amended the blasting criteria to reflect this recommendation (see condition 6 of schedule 3 of the recommended conditions).

## **2.5 Long Term Land Use, Rehabilitation, Landform and Final Void**

### **2.5.1 Recommendation 18**

*Prior to the determination of this application, the Commission recommends that further details of the activities associated with mining the eastern pit should be required. In particular further detail of the dumping patterns, landform and rehabilitation are needed to demonstrate that out of pit disturbance would be minimised; dumping would be scheduled to minimise the size of the active/exposed areas of the site at all times; and rehabilitation would prioritise the establishment of koala feed and shelter habitat corridors and the replacement of agricultural land to meet the criteria for Biophysical Strategic Agricultural Land.*

Shenhua has commissioned GHD to prepare a supplementary mine planning report to address the recommendations made by the PAC (see Attachment A).

The Department is satisfied that this supplementary report provides further justification for the proposed out-of-pit emplacement and progressive rehabilitation for the project.

Furthermore, the Department notes that its recommended conditions include a number of requirements in regard to the rehabilitation of the site and the final landform, including conditions requiring Shenhua to:

- progressively rehabilitate the site (see condition 49 of schedule 3);
- restore or maintain agricultural land (see condition 48 of schedule 3);
- establish koala habitat and wildlife corridors (see condition 48 of schedule 3);
- minimise the size, depth and catchment of the final void (see condition 48 of schedule 3); and
- prepare a detailed rehabilitation management plan (see condition 50 of schedule 3).

The Department also notes that Shenhua would be required to prepare, and periodically update, a comprehensive Mining Operations Plan (MOP) as part of any mining lease for the project.

### **2.5.2 Recommendation 19**

*Prior to allowing any works in each subsequent pit, the applicant should be required to submit a review of the performance of the project against the predictions and best practice; and revised management plans and strategies for the approval of the Secretary of the Department of Planning and Infrastructure. While this is partially covered by the auditing requirements that apply to all mining operations, the Commission considers that a more detailed and comprehensive audit (along with a review of the suitability of the mine plan, management plans and limits in place – against best practice) is warranted, prior to the commencement of each new pit. This staged review work and updated plans would need to address the landform and rehabilitation outcomes for each pit, but should also address other key impacts including the:*

- *water impacts and water balance;*
- *air quality, noise and blasting impacts; and*
- *biodiversity management outcomes (see section 8.1 for discussion of impacts on the koala).*

*In relation to the mine plan, landform and land use, the plans would need to demonstrate that:*

- *best practice mine planning has been implemented to minimise the impacts of the project, including avoiding out of pit emplacement;*
- *the landform would meet best practice standards; and*

- *the rehabilitation strategy and land use goals are consistent with best practice and build on the experience both on this mine site and at other mines in the region.*

The recommended conditions include a number of requirements on Shenhua to review the ongoing performance of the project and review/revise management plans, including conditions requiring it to:

- prepare Annual Reviews (see condition 4 of schedule 5);
- review and if necessary revise management plans to improve environmental performance (see condition 5 of schedule 5);
- review and report on incidents and management plans (see conditions 7 and 8 of schedule 5);
- undertake 3 yearly independent environmental audits (see condition 9 of schedule 5);
- undertake independent environmental reviews to address individual landowner concerns (see condition 4 of schedule 4); and
- review and validate the water resource modelling predictions every 3 years (see condition 26 of schedule 3).

As outlined above, the Department has also amended the recommended conditions to require evaluation and reporting of the compliance with the noise and air quality predictions in the EIS (see conditions 5 and 19 of schedule 3).

The Department has considered whether the timing of these reviews should be tied to the commencement of mining in each pit. Ultimately, the Department does not believe this is necessary as the range of review requirements already required under the recommended conditions, as well as the requirements under any mining lease for the project, would adequately cover the pre-commencement, commencement and post-commencement stages of mining in each of the new pits.

With regard to the PAC's recommendations regarding best practice in rehabilitation, the Department notes that the recommended conditions include a number of requirements in this regard, including requirements on Shenhua to:

- meet a number of broad rehabilitation objectives based on best practice (see condition 48 of schedule 3);
- prepare detailed performance and completion criteria (see condition 50 of schedule 3); and
- investigate and implement ways to improve the environmental performance of the development over time (see condition 3 of schedule 5).

The Department has amended some of these recommended conditions to emphasise the importance of best management practice (including a new rehabilitation objective of ensuring landforms mimic natural landforms as far as practicable).

### **2.5.3 Recommendation 20**

*The Commission recommends the government should consider ways to address the longterm nature of proposed mining operations and the options available to ensure the standards of the day are able to be applied to these operations. The level of scrutiny and effort given to the design of a mine plan, final landform, land use and rehabilitation strategy, compared to the relatively permanent landscape outcome and legacy issues produced also warrants some further policy work or guidelines.*

The Department has noted the recommendation of the PAC, and is developing guidelines with other relevant government agencies to clarify the information that must be provided by mining companies in development applications, including strengthening the justification of mine plans, final landforms and final voids. However, for completeness, the Department has provided further details about the current approach to these matters below.

The Division of Resources and Energy (DRE) within NSW Trade & Investment has published various guidelines to guide the preparation of rehabilitation management plans and the collection of security deposits to ensure mine rehabilitation is completed to a satisfactory standard. It also developed a *Synoptic Plan for Coal Mine Rehabilitation in the Hunter Valley* in 1999, which was an initiative that arose from the 1997 *Upper Hunter Cumulative Impact Study*.

Since the planning reforms of 2005, regulation of mine site rehabilitation has been shared between the Department and DRE, with:

- the Department setting the requirements for rehabilitation, commonly including performance measures for the final landform and final land use for mine sites; and
- DRE holding security deposits for the rehabilitation, and overseeing the progressive rehabilitation of mine sites to ensure it complies with the Department's requirements.

Over the last decade, the NSW Government has driven a number of reforms aimed at improving mine site rehabilitation, using the Australian and NZ Minerals and Energy Council's *Strategic Framework for Mine Closure* and the Commonwealth's *Leading Practice Guideline on Mine Rehabilitation* as guides.

These reforms have included:

- setting performance measures to cover all aspects of rehabilitation;
- encouraging the introduction of micro-relief in final landforms;
- minimising the size of final voids;
- encouraging mining companies to improve the quality of rehabilitation, for example by creating areas of conservation value or recreating good quality agricultural land;
- integrating the provision of biodiversity offsets with mine site rehabilitation; and
- requiring further research to be carried out to improve rehabilitation over the medium to long-term.

The Department acknowledges that there is scope for additional reform in this area. In this regard, the *Upper Hunter and New England North West Strategic Regional Land Use Plans* (SRLUPs) contain a commitment for the *1999 Synoptic Plan* to be revised and extended to the North West of NSW.

## **2.6 Other**

### **2.6.1 Recommendation 21**

#### *Biodiversity*

*The Commission recommends that monitoring of the koala population should be ongoing and planting of koala feed and shelter trees should be progressed as soon as possible.*

The recommended conditions include requirements on Shenhua to prepare a koala monitoring program prior to any development and implement early revegetation of potential koala habitat species in the biodiversity offset areas and the key koala corridors (see condition 33 of schedule 3). This Koala Plan of Management condition also requires detailed information on the baseline data on the resident koala population on site and in the surrounding region.

The Department notes that it is not able to compel Shenhua to plant trees and undertake continued monitoring prior to determination of the project.

### **2.6.2 Recommendation 22**

*The Commission recommends that a technical working group of koala experts from government, the scientific community and the local wildlife and veterinary practices must be established to oversee the management of koalas issues associated with the project. This working group must:*

- a. be established in consultation with the NSW Office of Environment and Heritage, and include appropriate expertise as required by the Office of Environment and Heritage;*
- b. be formed as soon as possible;*
- c. provide input and comment on the tree planting program, its progress and future planting priorities;*
- d. review the koala monitoring program being implemented and provide input and guidance on the development of this monitoring program;*
- e. provide input into the development of the Koala Plan of Management;*
- f. have an ongoing monitoring and advisory role in the management of koalas during any mining, which should be included in conditions of any consent for mining.*

The Department has amended the recommended conditions to require a Koala Technical Working Group, as recommended by the PAC (see condition 32A of schedule 3).

### **2.6.3 Recommendation 23**

*Information on koala management, monitoring, incidents and advice of the Koala Technical Working Group should be made publicly available in a timely and efficient manner.*

The Department notes that the recommended conditions include requirements on Shenhua to make a range of information publicly available on its website, including approved management plans and a summary of monitoring results (see condition 11 of schedule 5).

The Department has amended this condition to require Shenhua to make publicly available the minutes of Koala Technical Working Group.

### **2.6.4 Recommendation 24**

*In addition to the speed limit, fencing and underpass measures recommended by the Office of Environment and Heritage, the Commission recommended that shuttle bus services should be provided to reduce the traffic numbers and the associated risks of koala fatalities and injuries from collisions with vehicles around the site.*

As outlined in the Secretary's Assessment Report and the PAC's recommendation, Shenhua has already committed to a considerable number of measures to reduce the risk of vehicle strike on Koalas. Shenhua has also committed to operating a shuttle bus service to transport workers to the site during the construction phase of the project.

The Department does not believe that the introduction of a permanent shuttle bus service to further reduce the risk of Koala collisions is reasonable or commensurate with the residual risk posed to Koalas given the proposed mitigation measures.

### **2.6.5 Recommendation 25**

#### Community Consultative Committee

*The Commission recommends that the conditions relating to the Community Consultative Committee are amended to clarify that a Liverpool Plains Shire Council representative can be included on the Committee if Council wishes to nominate one.*

The Department has amended the recommended condition regarding the CCC to clarify that a Liverpool Plains Shire Council representative can be included on the Committee (if available) (see condition 6 of schedule 5).

## **3. RECOMMENDED CONDITIONS**

---

The Department has made a number of amendments to the recommended conditions of approval for the project in response to the PAC review as discussed above (see Attachment F).

The Department has also amended the condition relating to the staging and updating of management plans to make it clear that this is important for maintaining the highest level of environmental performance throughout the life of the project.

## **4. CONCLUSION**

---

The Department has considered the PAC review report and Shenhua's responses to the review, in accordance with the requirements of the EP&A Act.

Based on this consideration, the Department reaffirms the conclusions of the Secretary's assessment report for the project. That is, the Department is satisfied that Shenhua has designed the project in a manner that achieves a reasonable balance between maximising the recovery of a recognised coal resource of State significance and minimising the potential impacts on surrounding land users and the environment as far as is practicable.

In particular, the Department is satisfied that the additional groundwater modelling has provided greater certainty that the project would not result in any significant impacts on water resources or the agricultural productivity of the Liverpool Plains.

Nonetheless, the Department has recommended a comprehensive and precautionary suite of conditions to ensure that the project complies with the relevant criteria and standards, and to ensure that the predicted residual impacts are effectively minimised, mitigated and/or at least compensated for. The Department believes that the conditions reflect current best practice for the regulation of mining projects in NSW, and would adequately protect the amenity of the local community and the regions' important natural resources.

The Department also recognises that the project would provide major economic and social benefits for the region and NSW as a whole. This is supported by the recent advice from NSW Trade & Investment that the project would add significantly to the total value of NSW coal exports (around \$19 billion over the life of the project) and around \$1.5 billion in royalty payments to the NSW Government.

The Department has carefully weighed the impacts of the project against the significance of the resource and the social and economic benefits. On balance, the Department believes that the project's benefits outweigh its residual costs, and that it is in the public interest and should be approved, subject to stringent conditions.

## 5. RECOMMENDATION

---

It is recommended that the Planning Assessment Commission:

- **considers** the findings and recommendations of this addendum report together with the Secretary's Environmental Assessment Report and the PAC Review Report;
- **approves** the development application for the Watermark Coal Project, subject to conditions; and
- **signs** the attached amended recommended conditions of approval.

  
Mike Young  
Manager  
Mining Projects

7.11.14

  
David Kitto  
A/Executive Director  
Resource Assessments

7/11/14

  
Marcus Ray  
A/Deputy Secretary  
Planning Services

10/11/14

## **ATTACHMENTS:**

---

- A Shenhua' Response to PAC Review – 3 October 2014
- B DRE Resource Significance Letter – 3 October 2014
- C Shenhua's Response to UNSW Submission – 22 October 2014
- D Dr Frans Kalf Independent Groundwater Review – 23 October 2014
- E NSW Government Voluntary Land Acquisition & Mitigation Policy – 5 November 2014
- F Commonwealth Department of the Environment Comments – 6 November 2014
- G Recommended Conditions of Consent (tracked changes)
- H Recommended Conditions of Consent