



TAHMOOR COLLIERY – MODIFICATION OF MINE PLAN

Director-General's
Assessment Report

Section 96(2) of the
Environmental Planning and Assessment Act 1979

October 2006

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1 BACKGROUND

Tahmoor Coal Pty Limited (the Applicant) owns and operates the Tahmoor Colliery near Picton in the Southern Highlands, about 75 km southwest of Sydney (see Figure 1). The colliery operates by longwall mining methods and produces around 2 million tonnes per annum (Mtpa) of export quality coking coal. The colliery comprises two key mining areas (Tahmoor and Tahmoor North) and employs 370 people.

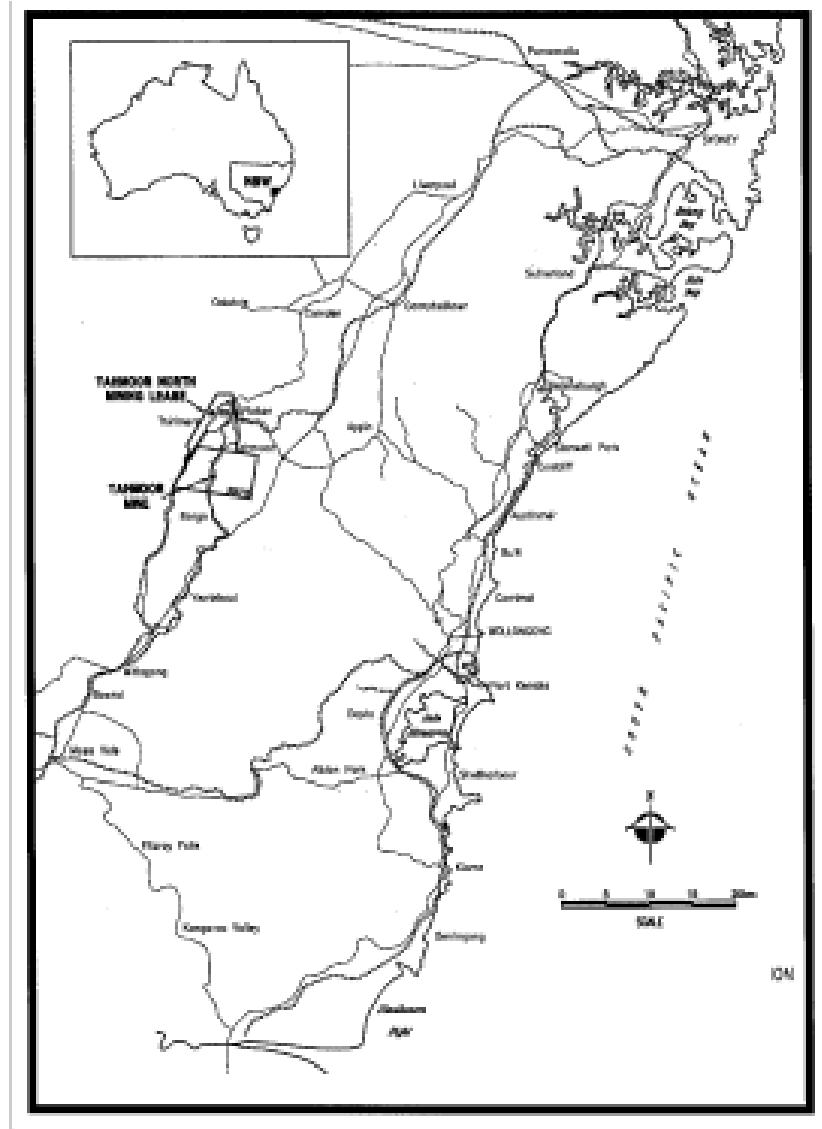


Figure 1: Tahmoor Colliery in its Regional Setting

The mine has a complex approvals history. Development consent for the Tahmoor (ie southern) area was granted by Wollondilly Shire Council in March 1975 (shown in blue in Figure 2, below). The mine sought development consent for the Tahmoor North area from the Council in April 1993. This development application was determined in the Land and Environment Court and consent was granted in September 1994 ("LEC consent", shown in yellow in Figure 2). However, it became apparent during this process that mining was prohibited in some areas within this application and consequently consent could not be granted by the Court within these areas.

The mine lodged a further development application with the Minister for Planning in April 1998 which sought approval to mine in those areas of Tahmoor North that were not covered by the 1994 consent. A Commission of Inquiry was held and in February 1999, the Minister for Planning issued development consent for those areas ("Ministerial consent", shown in green in Figure 2). The 1994 LEC consent and the 1999 Ministerial consent together gave the colliery a continuous mining area in Tahmoor North.

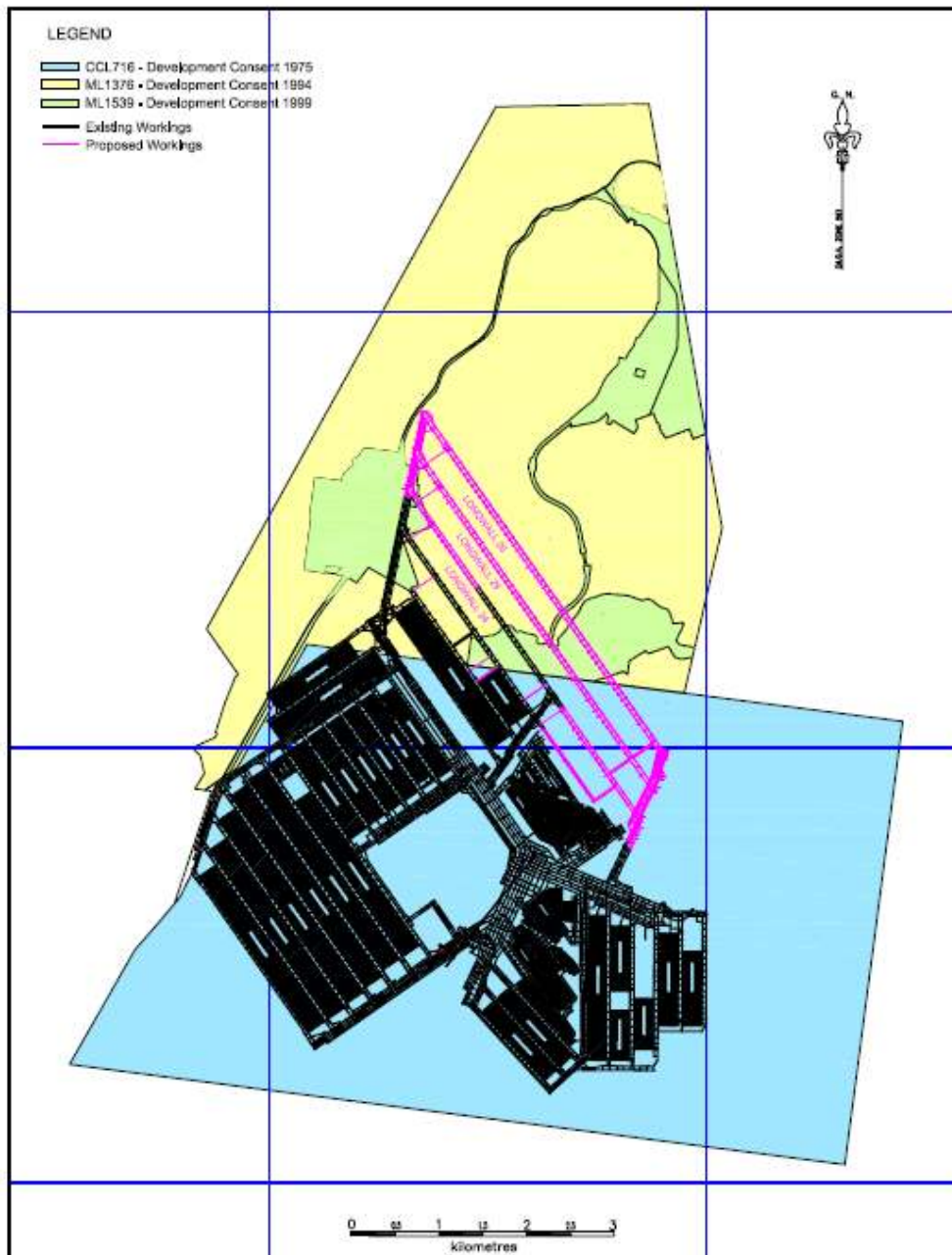


Figure 2: Tahmoor Colliery – Current and Proposed Mine Workings and Development Consent Areas

2 PROPOSED MODIFICATION

On 19 May 2006, the Applicant lodged a modification application (MOD 67-5-2006) under section 96(2) of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and an accompanying Statement of Environmental Effects (SEE). The application seeks to modify the 1999 Ministerial consent in respect of the:

- mine plan so as to permit subsidence in 6 small areas not previously proposed to be mined;
- basis of calculation for the number of structures permitted to be subject to subsidence impacts; and
- conditions of consent controlling heritage impact assessment.

The modifications are sought by the Applicant because:

- it has varied its mine plan and now anticipates subsidence in some areas where it is not permitted under the existing consent;
- increased residential development in Tahmoor over time may lead to the numerical limits on the number of structures which may be impacted by subsidence becoming out of date; and
- existing conditions of consent controlling heritage impact assessment may not be able to be complied with.

On 24 August 2006, the Applicant wrote to the Department varying its application by withdrawing 1 of these 6 small areas ("Area 3") from consideration. The reasons behind this withdrawal are addressed in Appendix A.

A similar modification application has been lodged with the Wollondilly Shire Council to modify the 1994 LEC consent over the remainder of Tahmoor North.

3 STATUTORY CONTEXT

Permissibility

The area subject to the Ministerial consent comprises land zoned as Residential 2(a), Industrial 4(a), Special Uses 5(a), Special Uses 5(b) Railway, Open Space 6(a) Recreation, Environment Protection 7(a) and Open Space Reservation 9(d) under the *Wollondilly Local Environmental Plan 1991*. While mining is prohibited in these zones under the LEP, the Minister for Urban Affairs and Planning had power to determine prohibited development that was of State or regional planning significance under the then section 100A of the EP&A Act and consequently granted the 1999 consent.

Consent Authority

Since the Minister was the consent authority for the original development application (DA 67/98), he is the consent authority for this modification application.

Substantially the Same Development

Under section 96(2) of the EP&A Act, a consent authority may modify a development consent if it is satisfied that the "development to which the consent as modified relates is substantially the same development as the development for which consent was originally granted and before that consent as originally granted was modified (if at all)".

The Department is satisfied that the development to which the consent as modified relates would be substantially the same as the development for which consent was originally granted. The 5 small areas now proposed to be subject to subsidence are a very small increase over the total area subject to subsidence as approved by the Minister in 1999. All are located within the overall footprint of that consent. The other modifications sought are also relatively minor matters.

Environmental Planning Instruments

The following planning instruments are relevant to the proposal:

- *State Environmental Planning Policy No 7 – Port Kembla Coal Loader*;
- *State Environmental Planning Policy No 44 – Koala Habitat Protection*;
- *Sydney Regional Environmental Plan No 20 – Hawkesbury-Nepean River (No 2- 1997)*; and
- *Wollondilly Local Environmental Plan 1991*.

The Department has assessed the proposal against the relevant provisions in these instruments (see Appendix C), and is satisfied that the proposal is consistent with their aims, objectives and requirements.

4 CONSULTATION AND ISSUES RAISED

The Department exhibited the DA and SEE between 14 June 2006 and 30 June 2006, in accordance with the requirements for public participation in the *Environmental Planning and Assessment Regulation 2000*. During and after the exhibition period, the Department received a total of 18 submissions, 5 from government agencies and 13 from local private landowners. The submissions were as follows:

The **Heritage Council of NSW** supported the Applicant's proposal to modify conditions of consent controlling heritage impact assessment to make them clearer and more workable. It noted the uncertainty identified within the SEE's Subsidence Impact Assessment concerning the correct identity of the railway tunnel located within Area 3 and supported the Applicant's proposal to clarify this. It also addressed concerns about indirect impacts that aspects of the proposed modification may have on the heritage values of the Queen Victoria Memorial Hospital. These matters are addressed under Section 5.2 and in Appendix B.

The **Department of Environment and Conservation** requested that the modified proposal adhere to various legislative requirements and sought clarification regarding subsidence impacts on urban sewerage infrastructure. These matters are addressed under Section 5.1 below.

The **Port Kembla Coal Terminal** advised that it supported the Applicant's proposed modifications.

The **Department of Primary Industries – Mineral Resources (DPI)** advised that it had no objections to the proposed modifications.

The **Sydney Catchment Authority** indicated that it had no comment to make.

Twelve of the 13 **local private landholders** objected to the proposed modification, and one supported it. Objections principally related to potential subsidence impacts on heritage buildings and precincts, including at Thirlmere (4), Upper Picton (1) and Couridjah (1). Other objections focussed on potential subsidence impacts on houses or manufacturing facilities (4) and a general concern over re-visiting the outcomes of the 1998 Commission of Inquiry (3).

The Department has assessed all issues raised in submissions in Section 5 below.

5 ASSESSMENT

5.1 Subsidence Impacts

Condition 6 of the Ministerial consent requires that the Applicant not “change the location, layout, configuration or size of longwall panels in a manner that may increase the limit of subsidence shown on Figure 2 [of the consent] ... without either an approved modification to this development consent or a new development consent”.

The Applicant is proposing changes to its longwall panel layout that would increase the limits of subsidence shown in Figure 2 and therefore require modification to the consent. The SEE reports that the revised panel layout is based on a better understanding of the geological setting, leading to a more efficient orientation of longwall blocks. In essence 3 domains of longwall panels of around 2.2 km in length proposed in the 1998 Environmental Impact Statement (EIS) are being replaced with a single, larger domain of panels of up to 4 km in length. The subsidence footprints associated with the 3 previous longwall domains, as shown in Figure 2 of the consent, are outlined in green in Figure 3, below. A number of panels representing the new mine plan are shown in pink.

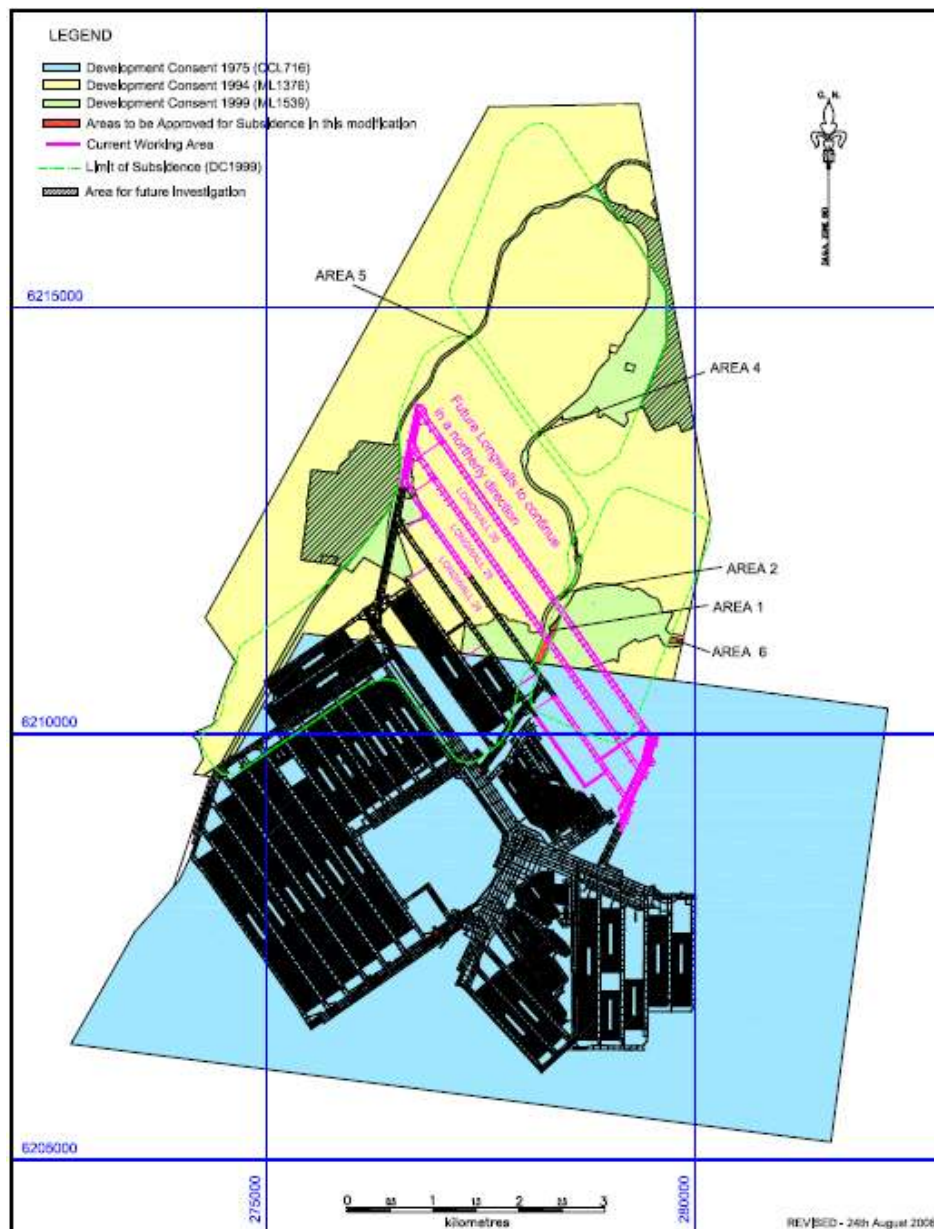


Figure 3: Tahmoor Colliery – Areas where Subsidence is not Permitted under the 1999 Consent

It should be noted that the Applicant already has approval to mine (but not subside) the entirety of its Tahmoor North area. It also has approval to cause subsidence throughout most of this area (including all of the 1994 LEC consent area). However, there are parts of the 1999 Ministerial consent area where subsidence is not permitted. These limits reflect the Applicant's then-proposed mine layout, with the three smaller domains resulting in areas where subsidence was not anticipated and therefore not assessed or approved at that time.

The application now seeks approval to modify the limit of subsidence shown in Figure 2 of the consent so as to permit subsidence within 5 small areas (labelled Areas 1, 2, 4, 5 and 6 and shown in red in Figure 3, above). There are also two larger areas (black hatched and labelled "Area for future investigation") where subsidence is not currently permitted but which are not subject to the present application. Following the Applicant's withdrawal of Area 3 from further consideration at this time, it has also labelled this as an area for future investigation.

Areas 1, 2, 4, 5 and 6

Impacts associated with allowing subsidence in these 5 small areas were assessed for the Applicant by Mining Subsidence Engineering Consultants (MSEC, see Appendix 1 to the SEE). MSEC also conducted the subsidence impact assessment for the 1998 development application, and used the same methodology in both assessments.

Area 1 is the largest of the 5 areas and is located within the urban area of Tahmoor. It comprises 4.6 hectares and contained 17 houses, 1 small block of units, 27 sheds and 3 private swimming pools at the time of the assessment (see Figure 4).

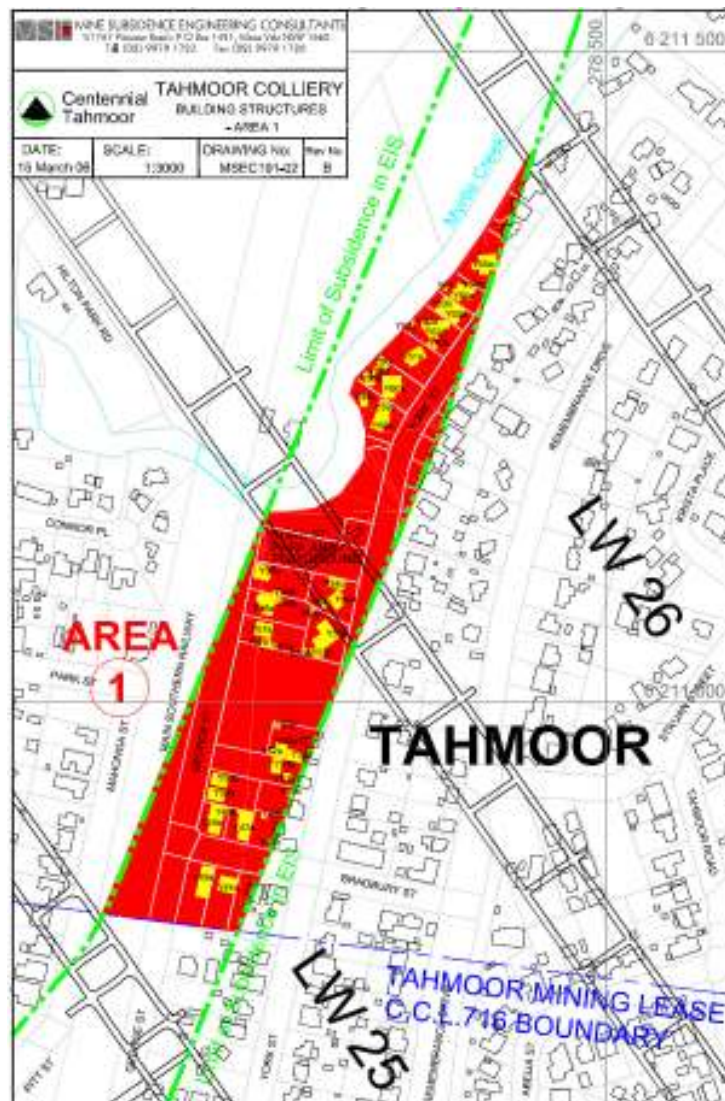


Figure 4: Tahmoor Colliery – Area 1 in Tahmoor, showing Built Structures

The anticipated subsidence impacts reported in the 1998 EIS for residences and other buildings and structures in Tahmoor were based on the statistical distribution of measured strains over the Colliery's Longwalls 3 to 7 and 9 compared with that for the length of the structures. The same method of assessment of strain impacts has now been applied by MSEC to the 17 houses and the block of units in Area 1. MSEC assessed that 15 of these residences would experience Category 0 (Negligible) Strain Impacts, 2 would experience Category 1 (Very Slight) Strain Impacts, and 1 would experience Category 2 (Slight) Strain Impacts.

Separate site-specific subsidence predictions and impact assessments for all structures were also prepared by MSEC. The results were that:

- 41 of the total 48 structures in Area 1 are predicted to experience Category A (Negligible) Tilt Impacts and 7 structures (including 3 houses) are predicted to experience Category B (Tolerable) Tilt Impacts; and
- 28 of the structures are predicted to experience Category 0 Strain Impacts and 19 structures (including 15 houses) are predicted to experience Category 1 Strain Impacts.

Both methods of assessment concluded that the proposed changes to the mine layout would not lead to any increase in the number of impacts in either the moderate, severe or very severe damage assessment categories.

In essence, the subsidence impact assessment found that the buildings and other structures in Area 1 would behave similarly to those in the rest of Tahmoor if subjected to the anticipated mine subsidence. There is nothing unique about these buildings or the changed orientation of longwall mining which would cause them to behave differently.

Other items of infrastructure that are present within Area 1 include sewers, water services, gas services, electricity services and communications services. MSEC concluded that these services would also be affected by subsidence in a similar manner to the same services located in other parts of the urban areas.

Areas 2 and 4 comprise two small sections of the Main Southern Railway corridor. **Area 5** is a similarly small section of the Picton Loop Line railway corridor. **Area 6** is a small section of Myrtle Creek. MSEC anticipates that Areas 2, 4, 5, and 6 would experience subsidence impacts similar to the other sections of the railway corridors and Myrtle Creek that lie within the currently prescribed limit of subsidence.

The Department agrees with the SEE's assessment that these 4 areas are no different to other areas of the railway corridors or the creek which are currently approved for subsidence and accepts that subsidence impacts in them would be similar to those in adjacent sections of the railway corridor and the creek.

Limits on Subsidence Damage

Condition 6(i) and Figure 3 of the 1999 consent control the number of structures (houses, sheds and pools) which may be impacted by subsidence damage. Control is based on absolute numbers of structures known to exist in the DA area when the EIS was prepared in 1998, rather than percentages of structures that may be in existence at any particular time. The existing Figure 3 of the consent is reproduced in Figure 5 below.

Damage Assessment	Houses	Sheds	Pools	Total
Negligible	756	389	63	1208
Very Slight	104	16	2	122
Slight	36	2	<1	38
Moderate	13	<1	-	13
Severe	<1	-	-	<1
Very Severe	-	-	-	-

Figure 5: Figure 3 from the 1999 Consent – Number of Structures Predicted to be Subject to Structural Damage

It can be seen that predicted subsidence damage must be kept at:

- no more than 13 houses and less than 1 complete shed in the "moderate" damage category; and
- less than 1 complete house in the "severe" damage category.

The Applicant is seeking to modify this figure to replace the absolute numbers with equivalent percentages, so as to reflect the possibility of future urban growth. The Department agrees with the Applicant that the proposed change would not result in any loss of right to a landowner or change in responsibilities of the Applicant. As the Applicant points out, each structure would still be subject to detailed subsidence assessment and consultation with landowners as part of the Subsidence Management Plan (SMP) approval process managed by DPI under conditions of mining leases.

However, without firm numbers in the consent, it is difficult for the Applicant, the community and regulatory agencies to know if and when the consent limits have been reached. For this reason, the Department proposes to amend Figure 3 so as to include both absolute numbers and equivalent percentages. In this way, percentages can be relied upon if and only if the absolute numbers have been passed due to urban growth.

Other amendments to conditions have been proposed by the Applicant to replace references to approvals under section 138 of the *Coal Mines Regulation Act 1982* with equivalent references to DPI's SMP approval process and to clarify the relationship between the consent's Figure 3 and conditions providing for the acquisition of properties (see conditions 18 – 26). The Department supports the appropriateness of these minor changes and has proposed conditions to this effect.

Conclusion

The Department is generally satisfied with the subsidence impact assessment and that the subsidence impacts associated with the proposed modification are unlikely to be different in nature, greater in severity or more numerous than those in similar areas of the consented land where subsidence is already permitted. It therefore concludes that there is no reason why Areas 1, 2, 4, 5 and 6 should not be added to the approved limit of subsidence and that there is benefit in adding a percentage basis of calculation to the existing numerical basis for limiting significant subsidence impacts. Existing conditions of consent are generally adequate for the management of subsidence within these areas. However, the conditions should be amended to refer to DPI's Subsidence Management Plan approval process in place of the previous section 138 approval process.

The Department notes the view expressed in agency submissions that the subsidence impact assessment should have addressed anticipated impacts in more detail. However, the modification sought is simply to permit subsidence. Detailed assessment and management of subsidence impacts would take place under the SMP approval process. There is an existing SMP application on foot for Longwalls 24 – 26 which assesses all anticipated subsidence impacts in detail.

5.2 Heritage Impacts

Existing Conditions of Consent

Condition 27 of the 1999 consent seeks to control impacts associated with mining on heritage items listed under Schedule 1 of the Wollondilly LEP. Typically, such damage might be caused by subsidence or possibly by blasting. In such circumstances, condition 27 currently requires the Applicant to seek development consent from the Wollondilly Shire Council "as required under clause 30 of the LEP".

The Applicant has suggested that condition 27 has no effect, because clause 35 and item 7 of Schedule 1 of the *Environmental Planning & Assessment Model Provisions 1980* (the Model Provisions) remove the requirement for development consent under clause 30. The Model Provisions (which have been adopted in the Wollondilly LEP) provide that (with some minor exceptions which are not relevant):

"Nothing in the Local Environmental Plan shall be construed as restricting or prohibiting or enabling the consent authority to restrict or prohibit ... the carrying out by the owner or lessee of a mine (other than a mineral sands mine) on the mine, of any development required for the purposes of a mine"

The Applicant has suggested that mining within its mining leases cannot be subject to a further requirement for consent due to the operation of these provisions, which override clause 30 of the LEP in respect of mining. The Department accepts this position.

Condition 28 of the 1999 consent seeks to control impacts associated with mining on certain other heritage items *not* subject to clause 30 of the Wollondilly LEP. Condition 28 requires the "approval" of the Council for damage to such items, rather than "development consent". The Model Provisions only control provisions of an LEP, rather than a development consent, and so there is no suggestion that the "approval" required under condition 28 does not remain effective. The Applicant has therefore proposed that the heritage items covered by condition 27 be incorporated into condition 28, so as to remove the unintended effect of the Model Provisions. Thus the "approval" of Council would be required, instead of the "consent" of Council. The Department supports this proposal as it would ensure that the intent of the original condition 27 would be satisfied via a heritage impact assessment and approval by the Council.

Queen Victoria Memorial Hospital

The Queen Victoria Memorial Hospital is a very important heritage item located within the area covered by the 1994 LEC consent, rather than the 1999 Ministerial consent. Nonetheless, it deserves some consideration, because the modifications sought by the Applicant have the potential to lead to greater impacts on the Hospital than those reported in its 1998 EIS. This is because Areas 4 and 5 are directly aligned with the Hospital. These two areas were originally excluded from the limits of subsidence in the 1998 EIS solely as an outcome of the commitment to not subside the Hospital's main building. Approval to extract coal and cause subsidence within Areas 4 and 5 therefore raises the question of whether subsidence is now intended by the Applicant beneath the Hospital.

The Applicant has written to the Department indicating that it does not intend to extract coal beneath the Hospital. These matters are addressed in more detail in Appendix B.

Other Heritage Values

A number of objectors raised concerns over the impact of the proposed modifications on other heritage values. Some of these related to the Thirlmere Heritage Conservation Area, the Thirlmere Railway Group and other houses in Thirlmere. The proposed modification would not change anticipated subsidence impacts in Thirlmere or affect its heritage values in any other way. This is equally the case with other areas noted in submissions (Upper Picton and Couridjah). Consequently, these concerns expressed by residents have no bearing on the present modification.

Conclusion

The Department is satisfied that the modifications sought in respect of permitting coal mining causing subsidence in Areas 1, 2, 4, 5 and 6 would have no significant impacts on heritage values. Further, the proposed amendments to conditions 27 and 28 of the consent would strengthen management of subsidence impacts on buildings with heritage values, as it would ensure that the intent of the original condition 27 would be satisfied via a heritage impact assessment and approval by the Council.

6 RECOMMENDED CONDITIONS OF CONSENT

The Department has prepared recommended conditions of consent for the proposed modification (see Tag A). These conditions would:

- amend condition 6 and replace Figure 2 in order to clarify the areas where the Applicant is not permitted to cause subsidence under the consent (ie the areas marked "Areas for future investigation" on Figure 3 above);
- amend condition 6(i) and Figure 3 in order to allow a calculation of subsidence damage impacts based on percentages of structures in existence from time to time (rather than in 1998);
- replace the requirement in the previous condition 27 for additional development consent from the Council with a requirement for the "approval" of Council;
- require the Applicant to place on its website particular information relating to environmental management of the mine, in order to improve community access to this information; and
- to otherwise update, clarify or make minor corrections to a number of conditions.

The Applicant has accepted the proposed modified conditions of consent.

7 CONCLUSION

The Department has reviewed the modification application, SEE and submissions on the proposal. It has assessed the environmental impacts of the proposal, which involves minor extensions to the area in which mine-related subsidence can take place, and a number of clarifications to conditions, principally relating to management of heritage items. The environmental impacts of the proposal are limited and, subject to the conditions proposed, lead only to minor increases in the extent of environmental impacts of the development already approved.

The extension would result in the Applicant being able to develop a more efficient orientation of longwall blocks, and thus a greater recovery of coal and lowered costs per tonne. This would enhance the economic viability of the Tahmoor Colliery and provide ongoing employment to the local community and royalties to the NSW Government.

The Department is satisfied that the site is suitable for the development. Based on its assessment, the Department considers that the proposal is in the public interest, and should be approved subject to conditions (see Tag A).

8 RECOMMENDATION

It is RECOMMENDED that the Minister:

- consider the findings and recommendations of this report;
- determine that the development consent, as modified, would relate to substantially the same development for which consent was originally granted;
- approve the proposed modification under section 96(2) of the EP&A Act; and
- sign the attached notice of modification (Tag A).

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David Kitto
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APPENDIX A. HERITAGE VALUE & POTENTIAL SUBSIDENCE IMPACTS ASSOCIATED WITH THE REDBANK RAILWAY TUNNEL (AREA 3)

The area labelled "Area 3" within the SEE comprises a double-track railway tunnel in a small section of the Main Southern Railway corridor which is outside of the approved limit of subsidence within the consent. The area in question is shown in Figure 3 as a small area of black hatching north of Area 2 and between the approved limits of subsidence.

Correct Name and Associated Heritage Value

The SEE identified that there had been some confusion over the correct name and the heritage values associated with this tunnel. In the EIS, the tunnel was identified in section 7.2.1.4 as the "Redbank Tunnel", but in its Fig 7.1 as the "Redbank Range Railway Tunnel" (see also item 3 on Figure 2 of the consent). MSEC's subsidence impact assessment expressed concerns that the EIS's identification of the tunnel as the "Redbank Range Railway Tunnel" was incorrect.

The Redbank Range Railway Tunnel is listed in the State Heritage Inventory and in Schedule 1 (Heritage Items) of the Wollondilly LEP. MSEC noted that the State Heritage Inventory records that the Redbank Range Railway Tunnel is also called the "Mushroom Tunnel" or the "Old Mainline Tunnel" and describes the tunnel as "disused" and constructed of stone. Further, this tunnel was closed when a replacement double-track tunnel on the new mainline was opened in 1919.

This description of the Redbank Range Railway Tunnel closely matches the description of the "Former Mainline Railway Tunnel (Mushroom Tunnel)", which is separately listed in Schedule 1 of the LEP (see item 25 in Figure 2 of the consent). MSEC also notes that while there is only one listing in the State Heritage Inventory and only one listing in the Wollondilly Heritage Study, there are two listings in Schedule 1 of the LEP. It therefore appeared to MSEC that these two listings in the LEP are the same structure.

The Applicant has since submitted a Heritage Assessment for the tunnel in Area 3 undertaken by Biosis Research. This assessment confirms that the tunnel in Area 3 is not the Redbank Range Tunnel, but the **Redbank Tunnel**¹. It indicates that the Redbank Range Tunnel is also known as the Picton Tunnel or the Mushroom Tunnel, and confirms that it corresponds to item 25 in Figure 2 of the consent. The Redbank Range Tunnel was constructed in 1867, is built of stone, is now closed and, when operational, held a single track.

On the other hand, the **Redbank Tunnel** was constructed in 1919, is some 320 m long, built of brick and still operational as a double-track tunnel. This is the tunnel located within Area 3 and corresponds to that shown as item 3 in Figure 2 of the consent.

Because of the confusion in the EIS over the correct identity of the railway tunnel in Area 3 (ie the Redbank Tunnel), there was also some confusion in that document over its heritage value. The Applicant's Heritage Assessment has now addressed the heritage values of the Redbank Tunnel in detail. The assessment has determined that this tunnel has no inherent significance as a heritage item. It is not included on any identified heritage list and is not associated with the listed portions of either the original Main Southern Railway or the 1919 deviation. It concluded that there is no identified heritage constraint associated with this tunnel and that heritage considerations do not represent a limitation to permitting subsidence in this area. The Department is satisfied with this assessment of the heritage values of the Redbank Railway Tunnel.

¹ Biosis also terms this tunnel the "Redbank Creek Railway Tunnel".

It should be noted that the present application does not seek to impact on the Redbank Range Railway Tunnel in any way. This tunnel is located to the north of the presently approved limit of subsidence, within one of the areas for future investigation shown on Figure 3. Therefore, no heritage values associated with this important listed heritage item are impacted by the current modification application.

Potential Subsidence Impacts

The SEE also indicated that Areas 2, 3, 4, 5 & 6 were "not included in the original Limit of Subsidence by virtue of the fact that they were outside of the proposed [mine] plan, not due to any limiting surface factors. Similar areas/features are represented in the area approved for subsidence" (see section 4.1.3.2). In the case of Area 3, these statements are not correct. Concerning the Redbank Tunnel (ie the tunnel in Area 3), the EIS states on p 59:

"The most significant heritage items are the main building in the Queen Victoria Memorial Hospital complex, the **Redbank Tunnel on the Main Southern Railway Line between Picton and Tahmoor**, the tunnel west of Picton on the Main Southern Railway Line and the former Main Line Tunnel (Mushroom Tunnel) adjacent to it. It is unlikely that these structures could be economically protected from the effects of mining subsidence and hence it will be economically necessary to leave coal barriers to support them. This has had considerable influence on the mining layout." (*emphasis added*)

The EIS goes further on p 107, where it states:

"The major structures associated with the railway are the **Redbank Tunnel**, the Main Line and Former Main Line (Mushroom) Tunnels west of Picton. All of these tunnels are vulnerable structures because of their length and their masonry construction and **mining barriers will therefore be left to protect them.**" (*emphasis added*)

These sentiments are reiterated on p 84 of the EIS. The Applicant's intention to not mine beneath either the Hospital and all three railway tunnels was also noted by the Commissioner in his report (p 49) and supported by the Department in its primary submission to the Commission (p 14).

Thus it is apparent that the Redbank Tunnel was originally proposed by the Applicant to be protected from subsidence, and the modification application (as first submitted) sought to permit subsidence of that structure in Area 3. It also indicated that "coal extraction" (not just subsidence) was intended in the small areas, including Area 3 (see section 4.1.1).

MSEC's subsidence impact assessment also noted that:

"In the case of Area 3, impacts might occur to the railway tunnel. Mining has previously occurred beneath tunnels in the Southern Coalfield and experience suggests that the potential risks ... can be managed so that they remain safe, serviceable and repairable. However, as part of this risk management process, it **may be necessary to strengthen the tunnels to prevent partial or complete roof collapse.**" (*emphasis added*)

Therefore, both the EIS and the subsidence impact assessment had concluded that the Redbank Tunnel may suffer significant subsidence impacts. It is apparent that such subsidence (including roof falls) might have serious public safety outcomes, as well as impact on track closures and/or train delays. The Department consequently informed the Applicant on 21 August 2006 that it was not prepared to recommend approval of either longwall mining or subsidence within Area 3 without the provision of substantial additional information regarding the nature and extent of subsidence impacts and avoidance, mitigation or management strategies.

On 24 August 2006, the Applicant wrote to the Department conceding that the location of the Redbank Tunnel was likely to have influenced the 1998 mine design (ie that the then-identified need to avoid subsidence of the tunnel had led to its placement in a zero subsidence area). The Applicant also accepted that substantial additional assessment and information was necessary to support any application to extract coal and/or subside land in Area 3. To enable the present application to be determined at an early date, the Applicant therefore

withdrew Area 3 from the 6 small areas in which it sought approval to undertake these activities. It instead added Area 3 to the other areas for "future investigation" for a modification to the same effect.

The Department maintains its concerns over the potential for subsidence impacts to the Redbank Tunnel and their possible consequences, and reiterates its position that it would require substantial additional information from the Applicant regarding the nature and extent of subsidence impacts and avoidance, mitigation or management strategies. Further, it would require an appropriate level of assurance of both continued public safety and the technical adequacy of any mitigation or management strategies proposed regarding subsidence of the tunnel.

APPENDIX B. POTENTIAL SUBSIDENCE IMPACTS ON THE QUEEN VICTORIA MEMORIAL HOSPITAL

The Queen Victoria Memorial Hospital is a very important heritage item located within the area covered by the 1994 LEC consent, rather than the 1999 Ministerial consent. Nonetheless, the Hospital received some consideration in the 1998 Commission of Inquiry and the resulting Ministerial consent (see item 1 on Figure 2 of the consent). The modifications sought by the Applicant have the potential to lead to greater impacts on the Hospital than those reported in the 1998 EIS.

This is because Areas 4 and 5 are directly aligned with the Hospital (see Figure 2 of the consent). These two areas were originally excluded from the limits of subsidence in the 1998 EIS solely as an outcome of the commitment to not subside the Hospital's main building. Approval to extract coal and cause subsidence within Areas 4 and 5 therefore raises the question of whether subsidence is now intended by the Applicant beneath the Hospital.

The mine plan provided with the 1998 EIS indicated that a panel of some 450 m width located immediately beneath the Hospital grounds would not be mined (see Figure 6.5 of the EIS). The outcome of this was that there would be no subsidence beneath the main building of the Hospital (its most important feature) and limited subsidence in other parts of the complex. It was this intention to leave a block of coal equivalent in width to nearly 2 longwall panels that led to a narrow band of land running NW-SE in which no subsidence was anticipated (ie the approved subsidence limits). It is within this band that Areas 4 and 5 are located. Approval to subside Areas 4 and 5 therefore raises the question of whether subsidence is now intended by the Applicant beneath the Hospital. Indeed, mine plans shown within the Applicant's current application for SMP approval for Longwalls 24 - 26 (which are located well to the south of the Hospital) show an indicative future mine layout of first workings and secondary extraction panels (ie longwall panels) located directly beneath the Hospital.

The Heritage Council advised in its second submission that the Hospital has been assessed as being of State Heritage Significance, although it is not yet listed on the State Heritage Register. However, it is listed on a number of other statutory and non-statutory heritage registers and listings, including the Department of Health's Heritage and Conservation Register and Schedule 1 of the Wollondilly LEP.

For these reasons, further information was sought from the Applicant regarding its future intentions with respect to mining beneath the Hospital. The Heritage Council supported this request, stating that it is "keen to ensure that any impacts, either direct or indirect, which the Tahmoor Colliery may pose through its operations to this State significant heritage item, should be appropriately investigated and assessed."

The Applicant responded in correspondence dated 19 July 2006, stating:

"The Colliery does not intend to extract beneath the hospital and the subject s. 96(2) modification is not intended to facilitate secondary extraction beneath the Hospital. The mining areas shown north of LW26 are indicative mining areas only, and are not the final mining plans for longwall extraction. The presence of the main headings and associated gate roads set out the proposed sequence of mining, but do not intend to delineate where secondary extraction will be carried out, because as mentioned in the company's Statement of Environmental Effects (SEE) for the proposal, further analysis of the resource is required before a detailed mine plan is developed. This detailed mine plan will be developed as part of the Subsidence Management Plan process and will appropriately consider all matters relevant from the applicable planning consents.

The Department accepts this assurance that the Applicant does not intend to extract coal from beneath the Hospital. However, this in itself would not preclude future subsidence impacts. The Department therefore reiterates the Heritage Council's concern that any future subsidence impacts on the Hospital complex should be fully investigated and assessed, and appropriately mitigated or avoided.

The Department notes that, should the Applicant's parallel application to the Wollondilly Shire Council to modify condition 54 of the 1994 consent be successful, extraction of coal beneath the Hospital would then be subject to the "approval" of Council. Consequently, there would be two approval requirements for future subsidence impacts on the Hospital – approval from Wollondilly Shire Council and approval of an Subsidence Management Plan by DPI.

APPENDIX C. ENVIRONMENTAL PLANNING INSTRUMENTS CONSIDERATION

State Environmental Planning Policy No 7 - Port Kembla Coal Loader

SEPP 7 regulates the receipt at the Port Kembla Coal Loader of coal and coke hauled by road. Coal hauled by road must not be received at the coal loader unless its receipt complies with the provisions of the SEPP. Tahmoor North Coal Mine ordinarily transports coal to the coal loader by rail. The SEPP contains provisions which allow coal hauled by road to be received at the Loader during a notified rail transport disruption. The mine is able to make use of these provisions.

State Environmental Planning Policy No 44 - Koala Habitat Protection

Wollondilly Shire is subject to this policy. The 1998 EIS reported that there were 3 sightings of Koalas in the Razorback/Picton area in the 1970s and one in the early 1990s. However, no core koala habitat was identified in or adjacent to the area of the consent. Consequently, the SEE did not include a fauna study. The Department is satisfied that the proposal would not impact on koalas or koala habitat and is consistent with the aims, objectives, and requirements of SEPP 44.

Sydney Regional Environmental Plan No 20 - Hawkesbury-Nepean River (No 2- 1997)

The plan provides a framework to guide and control development in the region to protect the environment of the Hawkesbury-Nepean River system. The REP includes planning objectives relating to cultural heritage, water quantity (surface flow and groundwater), water quality, and flora and fauna. The proposed modification is unlikely to have more than very minor impacts on each of these matters and the Department is satisfied that the proposal is consistent with the REP's objectives.

Wollondilly Local Environmental Plan 1991

Wollondilly Local Environmental Plan 1991 (LEP) applies to the proposal. The development application area comprises land zoned as Residential 2(a), Industrial 4(a), Special Uses 5(a), Special Uses 5(b) Railway, Open Space 6(a) Recreation, Environment Protection 7(a) and Open Space Reservation 9(d). Mining is prohibited in the above zones under the LEP.
