



NSW GOVERNMENT
Department of Planning

ASSESSMENT REPORT

Wambo Coal Mine Section 96(1A) Modification Chitter Dump Dam

1 BACKGROUND

The Wambo Coal Mine is located approximately 15 kilometres west of Singleton in the Hunter Valley, (see Figure 1). The mine is owned and operated by Wambo Coal Pty Limited (Wambo).



Figure 1: Regional Context of Wambo Coal Mine

The mine commenced operations in 1969 and currently operates under two Ministerial development consents, DA 305-7-2003 granted on 4 February 2004 and DA 177-8-2004 granted on 16 December 2004. Under these consents Wambo is allowed to:

- extract up to 8 million tonnes of run-of-mine (ROM) coal per year from its open cut mining operations;
- extract up to 7.5 million tonnes of ROM coal per year from its underground mining operations; and
- transport up to 15 million tonnes of product coal via rail each year.

2 PROPOSED MODIFICATION AND PROJECT NEED

On 12 March 2009, Wambo submitted an application to the Department to modify its development consent DA 305-7-2003 under Section 96(1A) of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The proposed modification principally involves construction of a new mine water management structure, referred to as the Chitter Dump Dam (see Figure 2). The overall storage capacity of the proposed dam would be 810 Megalitres (ML) with a surface footprint of 20 hectares. The proposed dam would be located within the Wambo surface development area and would overlie the nearby United Collieries Pty Limited underground workings (see Figure 3). An existing small turkey's nest dam is located in the proposed Chitter Dump Dam location. This smaller dam would be decommissioned prior to construction of the proposed Chitter Dump Dam (see Figures 3 & 4).

The key reason to construct this mine water storage dam is to allow the dewatering of underground workings which were part of the Homestead Underground Mine (now decommissioned), and are currently flooded (see Figure 2). The volume of water within these underground workings has been assessed to be approximately 1000 ML. The flooded underground workings overlie areas of active mining within the North Wambo Underground Mine (NWUM) and dewatering is required for safety reasons if mining of NWUM is to continue in these areas.

Water from the Chitter Dump Dam would be pumped directly for use in the Wambo Coal Handling and Preparation Plant (CHPP) or pumped elsewhere within the Wambo mine water management system. The proposal would give Wambo greater ability to manage its water balance and enable the continued safe mining of coal reserves in NWUM.

The modification also involves the construction of a pipeline from the existing bore field to the Chitter Dump Dam to facilitate water transfer.

3 STATUTORY CONTEXT

Consent Authority

The Minister was the consent authority for the original development application, and is consequently the consent authority for this modification application. However, the Director Major Development Assessment may determine the application under the Minister's delegation of 4 March 2009.

Section 96

Under section 96(1A) of the EP&A Act, a consent authority may modify a development consent if it is satisfied that:

- a) the proposed modification is of minimal environmental impact, and*
- b) the development to which the consent as modified relates is substantially the same development for which consent was originally granted and before that consent as originally granted was modified (if at all); and*

The Department has assessed the merits of the application and is satisfied that it would have minimal environmental impact (see Section 5 below).

The Department is also satisfied that the consent as modified would be "substantially the same" as the development approved in the original consent, as it:

- relates only to water management associated with the approved mine;
- the new dam would be constructed within the already approved disturbance area; and
- involves relatively minor construction and operational activities.

The Department is therefore satisfied that the modification application can reasonably be considered and determined under section 96(1A).

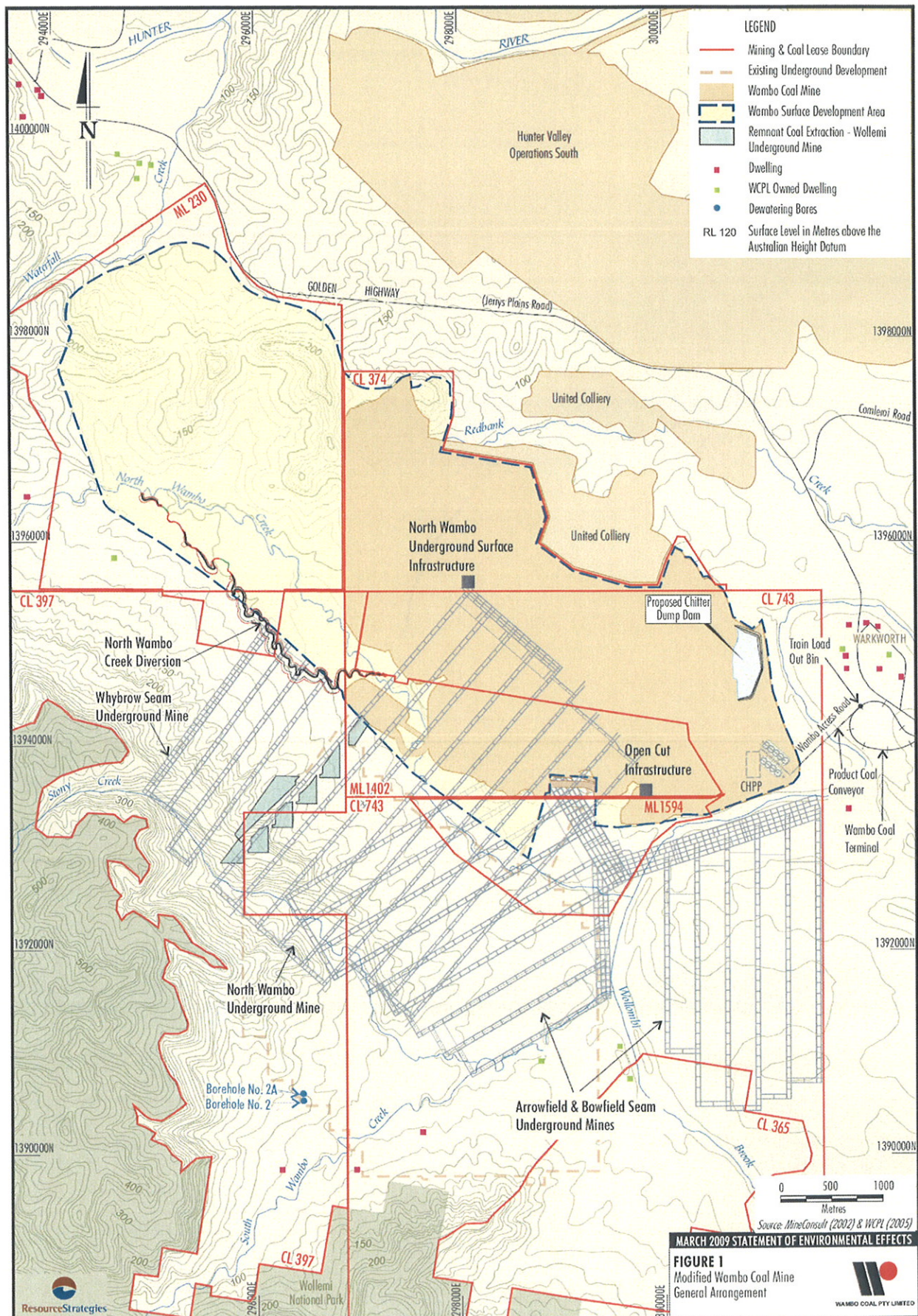


Figure 2: Wambo Coal Mine Footprint and Proposed Modification Area

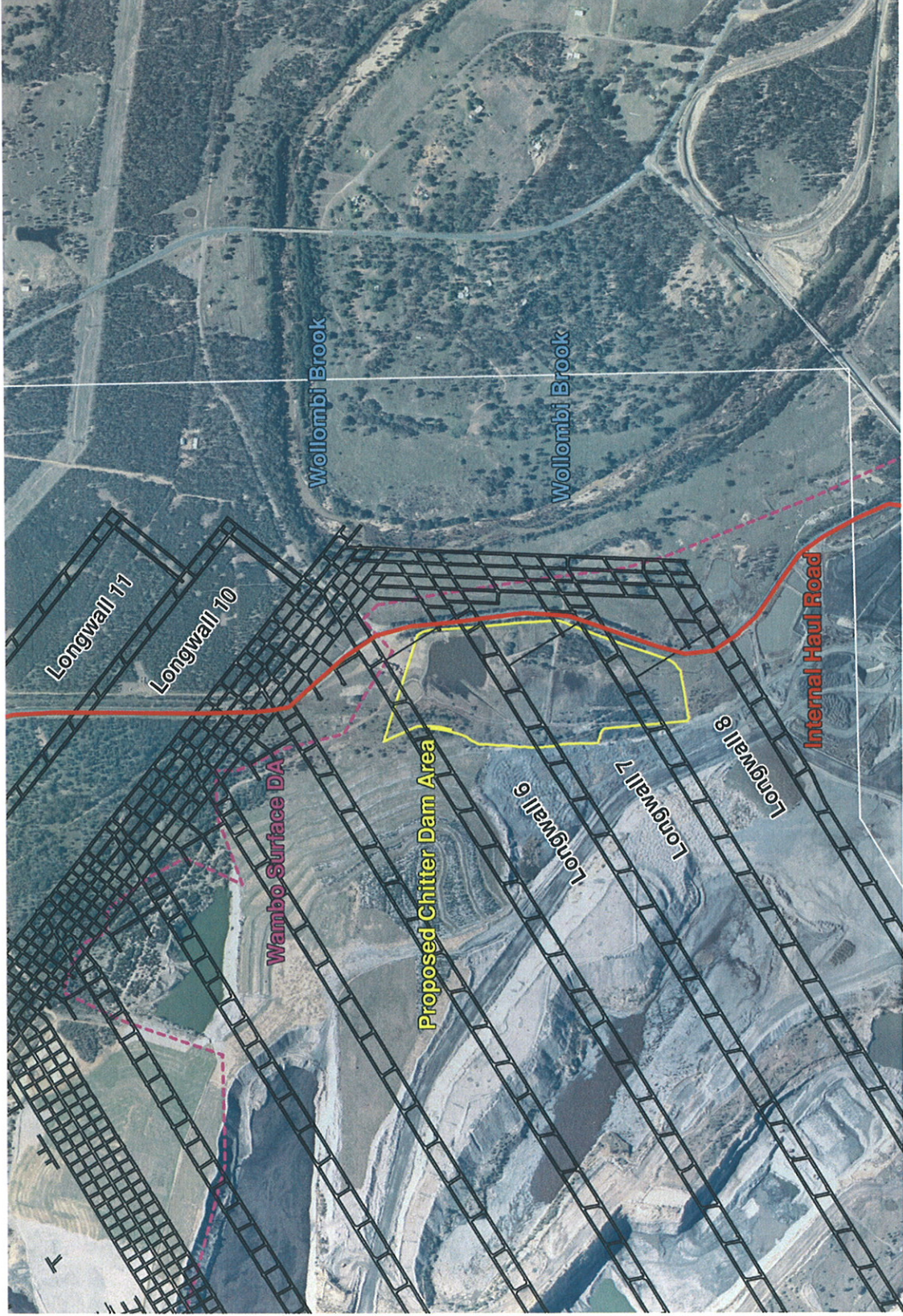


Figure 3: Proposed Chitter Dump Dam location in relation to United Collieries' underground workings

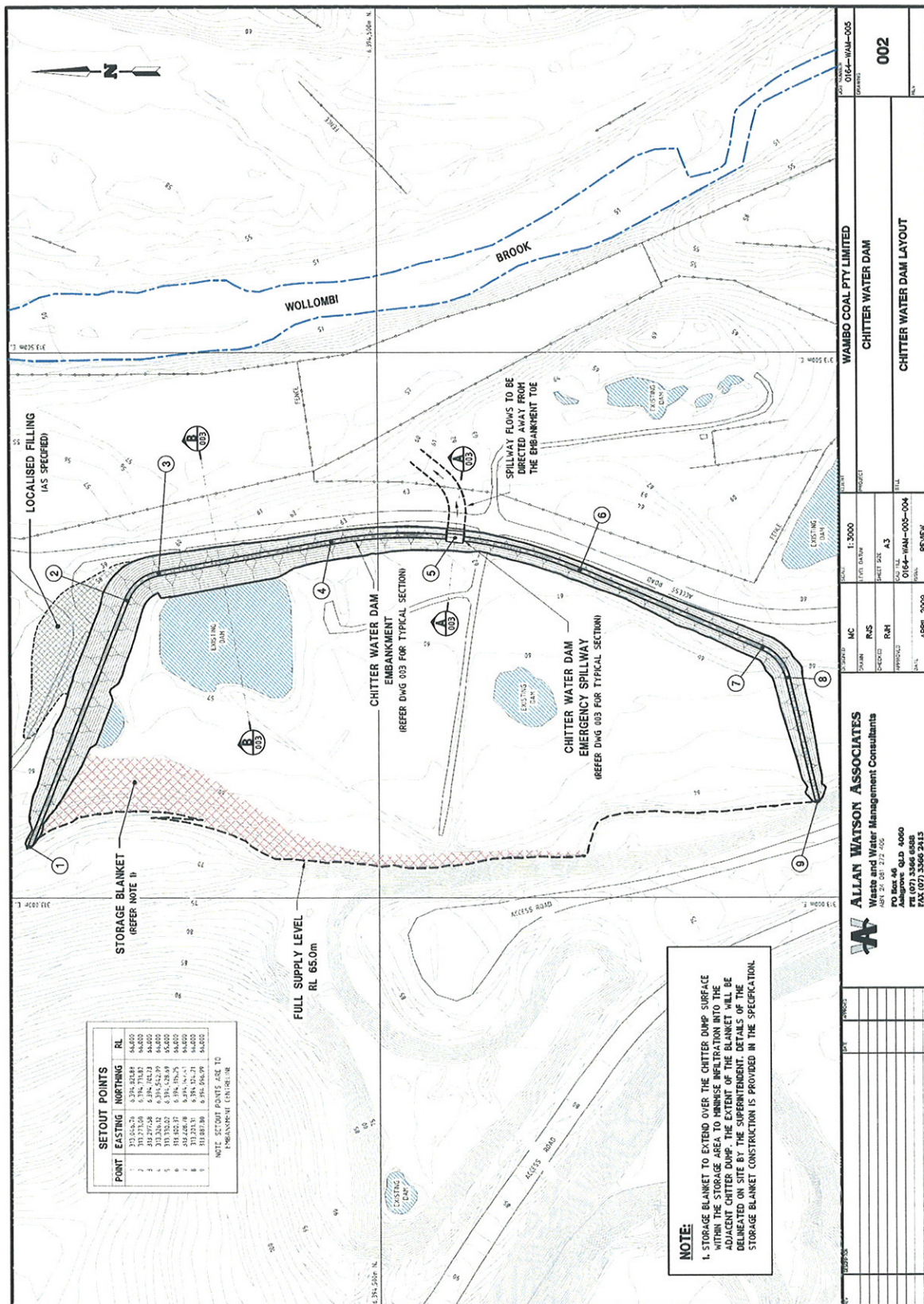


Figure 4: Preliminary Chitter Dump Dam Design

4 CONSULTATION

The Department is not required to notify or exhibit applications under Section 96(1A) of the EP&A Act. Nevertheless, the Department referred the application to the Department of Primary Industries (DPI), Department of Water and Energy (DWE), Department of Environment and Climate Change (DECC), Dams Safety Committee (DSC) and United Collieries Pty Limited (United). The following comments were provided.

DSC did not object to the proposal, and recommended that the final dam design be submitted for its approval.

DECC did not object to the proposal, however recommended that Wambo be required to provide revised water balance modelling to demonstrate that it is able to manage its mine water in the long term.

DPI supports the proposal, but noted that the proposed dam footprint is located above United's underground mine workings and highlighted the potential for operational and environmental risks associated with subsequent subsidence of the proposed dam. DPI recommended that the dam be required to be designed to the satisfaction of DPI and DSC, that it maintain capacity to cater for the 1 in 100 year storm event, and that Wambo be required to update its relevant water management plans and mine operations plans to accommodate the proposal.

DWE did not object to the proposal, and advised that no additional water licence would be required. DWE requested further information on the construction and maintenance of the dam and recommended that Wambo monitor the groundwater surrounding the dam to ensure there is no migration or leakage of stored water toward the nearby Wollombi Brook.

United, which has approval for underground mining below the proposed dam, generally supports the proposal, however it did raise concern over the potential interaction of the proposal with its underground operations.

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

5 ASSESSMENT

The Department's assessment of the key issues is summarised in the table below:

Issue	Potential Impacts & Consideration	Conclusion
<i>Structural Integrity of the Dam</i>	- The proposed modification has the potential to fail if it is not designed and built in accordance with the relevant standards. - Preliminary dam design has been conducted by Allan Watson & Associates (see Figure 4). - The proposed dam is likely to be classified as a prescribed dam by DSC and would be designed to comply with the relevant DSC safety criteria. - Wambo would complete a final detailed design report for the dam, and has committed to submitting the final design report to DSC for approval.	- The Department is satisfied that the proposed dam can be designed to comply with DSC's safety criteria. - The Department has recommended a condition requiring the proposed design to be approved by DSC prior to commencement of construction.
<i>Interaction with United's Longwall Mining</i>	- The proposed modification has the potential to interact with longwall mining by United. - The dam would have a surface area of approximately 20 hectares in a location that would overlie active underground mine workings of United Collieries (see Figure 3). - DPI raised concerns over the potential operational risks of the proposal, particularly consequential to subsidence associated with longwall mining by United. - United also raised concerns over the potential for interaction between the proposed dam and its future longwall mining. United has completed all mining beneath the proposed dam, except Longwall Panel 8, which would pass below the southern end of the proposed dam. - A review by Wambo of the potential interactions between the proposal and United's underground workings indicates that there would be minimal interaction. Nevertheless, Wambo has committed to:	- The Department is satisfied the risks associated with the interaction of the proposed dam and United's underground workings can be adequately managed. - In this regard, the Department has recommended conditions requiring Wambo to: - design and construct the dam to the satisfaction of DSC and DPI, in consultation with United; - update its water management plans to include detailed monitoring of subsidence-related impacts on the dam.

Issue	Potential Impacts & Consideration	Conclusion
	- designing the southern end of the dam embankment to allow for the predicted 1.2 - 1.5 m of subsidence in order to maintain the structural integrity of the dam; - monitoring the dam embankment to identify any potential subsidence effects and impacts; and - conducting a risk assessment of the potential for interaction during construction, undermining and after completion of undermining, in consultation with United. - United also raised concerns over the proximity of the proposal to its internal haul road (see Figure 3) and the potential for interaction between the two. Wambo subsequently committed to consulting with United during construction of the dam to minimise any impacts on the operation of the haul road.	- The Department is also satisfied that any impacts on the operation of United's haul road can be effectively managed during construction of the dam. The Department has recommended a condition requiring Wambo to consult with United in this regard. - United is scheduled to go on care and maintenance in March 2010, after mining Longwalls 8 and 10.
<i>Surface Water and Ground-water</i>	- The proposed modification has the potential to impact on surface water and groundwater resources. - The proposed modification would have a mine water storage capacity of 810ML and is located near to Wollombi Brook. - Wambo's assessment indicates that potential surface water impacts as a result of the proposal would remain unchanged from those assessed in the original EIS for the mine. Wambo's assessment also indicates that the proposed modification would have minimal impact on local groundwater resources. - DECC raised some concern over the ability of Wambo to manage mine water in the longer term, and recommended that Wambo be required to update its water balance to demonstrate that its water management practices are capable of ensuring compliance with the Hunter River Salinity Trading Scheme over the long term. - DWE also recommended that Wambo be required, as part of its groundwater monitoring program, to include specific groundwater investigations into potential migration of stored water in the dam towards Wollombi Brook. - In its response, Wambo provided preliminary dam designs and committed to: - maintaining the dam in accordance with the requirements of DSC; - updating its Site Water Management Plan to incorporate the proposed modification in consultation with DWE and DPI; and - undertaking an assessment of the permeability of the dam floor and estimated seepage losses, in consultation with United.	- The Department is satisfied that the proposal is unlikely to have any significant impacts on surface and groundwater resources, beyond those associated with the approved mine. - The Department has recommended conditions requiring Wambo to update its existing Site Water Management Plan in consultation with DECC, DWE and DPI.
<i>Noise</i>	- The proposed modification would generate noise emissions as a result of construction activities. - Construction works would be completed within three months and would be undertaken during daylight hours (7:00am - 6:00pm). - Wambo's assessment indicates that noise impacts as a result of the proposal would be minimal, given the temporary nature of construction activities and the scale of the proposal relative to the existing open cut mining operations.	- The Department is satisfied that the overall noise level from construction activities would not be significant. - The Department is satisfied that noise emissions can be managed in accordance with the existing Noise Monitoring Program.
<i>Air Quality</i>	- The proposed modification would generate dust emissions during construction activities. - Wambo's assessment indicates that air quality impacts as a result of the proposal would be minimal, given the temporary nature of construction activities and the scale of the proposal relative to the existing open cut mining operations.	- The Department is satisfied that air quality impacts would be minimal, beyond those associated with the approved mine. - The Department is satisfied that dust emissions can be managed in accordance with the existing Air Quality Monitoring Program for the mine.
<i>Flora and Fauna</i>	- The proposed modification has the potential to impact on biodiversity values within the proposed disturbance area. - The proposal would not require disturbance of remnant vegetation or areas of known habitat for threatened fauna. - The proposed works would be confined to areas that are disturbed (or have consent to be disturbed) and would have minimal effect on existing biodiversity values in the area.	The Department is satisfied that the proposal would have minimal impact on biodiversity values in the area.
<i>Rehabilitation</i>	Upon mine closure, Wambo has committed to decommissioning the Chitter Dump Dam and rehabilitating the site in accordance with the approved concepts for final rehabilitation of the mine site.	The Department is satisfied the proposal can be successfully rehabilitated in accordance with the existing rehabilitation conditions and other requirements for the mine.

Issue	Potential Impacts & Consideration	Conclusion
<i>Aboriginal Cultural Heritage</i>	- The assessment found that the proposal would avoid Aboriginal heritage sites, as identified within the original EIS for the mine. - Nevertheless, Wambo has committed to conducting a pre-clearance survey prior to construction of the proposed dam, in accordance with its existing approved Salvage Program.	The Department is satisfied that the proposed modification would not impact on items of Aboriginal cultural heritage within the area to be disturbed.

6 SECTION 79C

Section 96 of the EP&A Act requires a consent authority to give consideration to the matters listed under Section 79C when it determines a modification application.

The Department has assessed the proposal against these matters, and is satisfied that:

- the proposal is consistent with the provisions of the relevant planning instruments;
- the potential impacts of the proposal can be minimised, mitigated and/or managed;
- the site is suitable for the development; and
- the proposal is in the public interest.

7 RECOMMENDED CONDITIONS

The Department is satisfied that the existing conditions of consent for the Wambo mine are generally adequate to manage the development as modified by the application. The Department has recommended additional conditions to minimise and manage the risks associated with the Chitter Dump Dam, including requiring Wambo to:

- design and construct the dam in consultation with United and to the satisfaction of DSC and DPI; and
- update its water management plans in consultation with DECC, DPI, and DWE.

Wambo does not object to the proposed conditions.

8 CONCLUSION

The Department has assessed the application, the SEE and submissions regarding the proposed modification in accordance with the relevant requirements of the EP&A Act. Based on this assessment the Department is satisfied that the modification can be carried out with minimal environmental impact and that the development as modified would be substantially the same as the originally approved development.

The Department considers that the proposed modification is appropriate to allow for the continued safe mining of coal reserves within the NWUM and would provide Wambo with an improved ability to manage its water balance. On this basis, the Department is satisfied that the benefits of the proposal outweigh any residual costs, and that it is in the public interest and should be approved, subject to conditions.

9 RECOMMENDATION

It is RECOMMENDED that the Director:

- consider the findings and recommendations of this report;
- determine that the proposed modification is of minimal environmental impact;
- determine that the development to which the consent, as modified, relates is substantially the same development for which consent was originally granted;
- approve the application under section 96(1A) of the EP&A Act; and
- sign the attached notice of modification (Tag A).

Howard Reed
Howard Reed
A/Manager
Mining
22.6.09

David Kitto
David Kitto
Director
Major Development Assessment
22/6/09