



**Environment,
Climate Change
& Water**

Our reference: DOC10/45679
LIC07/2074-04
Contact: Rebecca Scrivener,
4908 6830

Mr Howard Reed
Mining and Industry Projects
Department of Planning
GPO Box 39
SYDNEY NSW 2001

RECEIVED

11 NOV 2010

Dear Mr Reed

Environmental Assessment - Hunter Valley Operations North - Carrington West Wing Modification (DA 450-10-2003 MOD 3)

I refer to your letter dated 11 October 2010 seeking comment and any recommended conditions of approval from the Department of Environment, Climate Change and Water (DECCW) regarding the publicly exhibited document "*Carrington West Wing Environmental Assessment October 2010*" prepared by EMGA Mitchell McLennan ("the EA").

DECCW understands that proposed modifications to the existing approval include:

- the progression or extension of the existing Carrington Pit to the south-west. The proposed extension area is approximately 137ha. Lemington road is west of the proposed extension, the Hunter River to the south, the previously mined out areas to the north and the existing Carrington pit to the east;
- provision for, if approved, the extraction of approximately 17 Mt of in-situ coal;
- extraction of previously inaccessible part of the Vaux seam;
- diverting a drainage line located across the pit extension; and
- construction of flood levees and groundwater barrier wall.

DECCW has conducted a thorough review of the EA. Details of DECCW's review are contained in Attachment A.

Based on this review, DECCW has determined that it is able to recommend Conditions of Approval included in Attachment B of this letter. DECCW recommends that if the project application is determined by approval being granted, the recommended conditions of approval at Attachment B be incorporated in the conditions of approval.

In providing this advice, DECCW notes that the Department of Planning will address generic construction and operation management requirements. Consequently, recommended conditions focus on key environmental matters specific to this proposal. DECCW assumes the conditions provided on the existing approval (DA 450-10-2003) will remain and be applied equally to the modified approved project, if approval for the proposed expansion is granted.

This submission does not include comments of the NSW Office of Water.

If you require any further information on this matter please contact myself on (02) 4908 6830.

Yours sincerely

Rebecca Scrivener 11/11/10.

REBECCA SCRIVENER
A/Head Major Projects Unit
North East Branch
Environment Protection and Regulation

Encl: Attachment A – DECCW Comments - Carrington West Wing Modification Environmental Assessment (DA 450-10-2003 MOD 3)
Attachment B – Recommended conditions of approval –Carrington West Wing Modification Environmental Assessment (DA 450-10-2003 MOD 3)

ATTACHMENT A**DECCW COMMENTS – CARRINGTON WEST WING MODIFICATION ENVIRONMENTAL ASSESSMENT (DA 450-10-2003 MOD 3)****1. AIR**

The Air Quality Impact Assessment (AQIA) submitted as part of the Environmental Assessment for the proposed modification has been reviewed and compared to the *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales, August 2005* (Approved Methods).

The AQIA assessment generally follows the requirements of the Approved Methods. A summary of key issues identified during the review are provided below.

1.1 Emission Estimates of Wheel Generated Dust Emissions

Emission estimates of wheel generated dust emissions are not based on the most current estimation technique.

Wheel generated dust emissions are under estimated due to the following reasons:

- The average vehicle weight travelling on haul roads was under estimated (for some haul roads); and
- The latest emission estimation technique from the US EPA AP42 was not used.

This is an important aspect of an AQIA for coal mining operations as wheel generated dust from coal mines are typically the largest source of emissions of TSP and PM₁₀. Adjusting wheel generated dust for site specific vehicle weights and using the most up to date emission estimation technique leads to a potential increase in total project emissions of TSP and PM₁₀ of 42%. The adjustment in the emission estimation technique potentially leads to an increase in TSP and PM₁₀ emissions of 12% when considering emissions from the project and surrounding mines.

This error is not likely to make a significant difference to the predicted annual average concentrations of TSP and PM₁₀. However, the potential under estimation of emissions by using an incorrect emission estimation technique for wheel generated dust could potentially lead to an under estimation of maximum PM₁₀ concentrations of approximately 42% (assuming a one to one ratio between predicted concentrations and emission rates).

Other site specific factors have not been considered in this review that may influence the dust emission rate from wheel generated dust such as the speed limiting effect that may be in place on haul roads, as this information was not presented in the AQIA.

DECCW recommends that this issue is addressed by the Proponent as part of the Response to Submissions. Alternatively, DECCW has provided recommended conditions of approval that may be considered.

1.2 No Cumulative Assessment of 24 hour PM₁₀ Impacts

Assessment of PM₁₀ impacts over 24 hours is addressed in the report by presenting maximum predicted impacts due to the project alone (referred to as the 'incremental impact'). This methodology is not in accordance with the Approved Methods.

As there is potentially a critical error with the emission estimates for wheel generated dust, it is recommended that remodelling is performed with revised emission estimates using the latest techniques and that cumulative impact assessment is presented for 24 hour maximum PM₁₀ impacts. Comparison of the incremental impact from the project alone to the Department of Planning's acquisition criteria will also be required from the updated impact assessment.

The Department of Planning's acquisition criteria can be used where best practice management is applied to determine whether any private residences are required to be acquired due to impacts from the mine. Therefore, it is recommended that a review of sources and emission controls is

recommended to the Proponent to demonstrate that controls are in line with best practice management.

Recommended Conditions of Approval - DECCW has provided recommended conditions of approval in Attachment B reflecting the above comments.

2. GREENHOUSE GAS

DECCW has reviewed the Greenhouse Gas Assessment and acknowledges the Proponent has addressed DECCW comments made during the Adequacy review.

The proponent has provided an assessment of greenhouse gas emissions and energy use for the proposed modification. Scope 1, 2 and 3 emissions have been estimated using appropriate methodology.

Recommended Conditions of Approval- DECCW does not propose any specific recommended conditions of approval relating to greenhouse gas emissions for the proposal.

3. NOISE AND BLASTING

DECCW acknowledges noise modelling has been undertaken using the Environmental Noise Model (ENM). The noise predictions have included calm and adverse weather conditions. The noise modelling initially indicated that current noise limits in the existing DA 450-10-2003 would be exceeded, including placing additional receiver locations in noise affectation zones. Additional noise modelling, based on revised mining plans, indicated that operations could occur in Hunter Valley Operations North (including the Carrington West Wing component) whilst largely satisfying the consent noise limits. Minor exceedances of consent limits at locations 13 & 14 (Jerry's Plains Village) and 1 (Hayes) are identified as being +1dB for 13 & 14, and +2dB for 1 for limits applying to Yrs 1-19 of the mine life.

The Noise Impact Assessment indicates that noise predictions using the ENM, under situations of source-to-receiver winds with significant intervening/topographical land features, is conservative, with minimum over-predictions of 3dB(A) claimed. DECCW is not aware of any industry wide acceptance of ENM over-prediction under the stated conditions, but notes that the author has cited some references.

It is not clear whether the proponent is requesting any change to noise limits within the consent. DECCW recommends that any changes to noise limits within the consent should not be agreed to at this time, as the proponent indicates that the predicted noise levels are conservative, and that mining activities in the Carrington West Wing can be managed to reduce noise emissions under meteorological conditions conducive to enhanced noise propagation.

In the Statement of Commitments provided in the Environmental Assessment (Volume 1 - Table 6.1, Page 97), the Proponent commits to the development of a real time directional monitoring system at Jerry's Plains to alert the mine of impending criterion exceedances, with real time reactive management responses. Additionally, the proponent commits to research and development on predictive weather forecasts as a tool to manage noise. DECCW supports these and other initiatives that may be adopted to ensure that mining practices do not result in exceedance of noise limits applied in the consent.

An assessment of cumulative industrial noise sources has been undertaken. The assessment did not identify any significant cumulative industrial noise issues at receivers impacted by the proposal.

DECCW advises that noise limits in the existing DA450-10-2003 and Project Approval MP06_0261 are not directly transferable to the existing environment protection licence (EPL640) for the site. Prior to development for noise limits in EPL640, if proposed, will require a cumulative analysis of respective limits in each project approval, so that the EPL is substantially consistent with the planning approvals.

Accordingly, DECCW advises that the existing noise conditions in DA450-10-2003 are still applicable and recommends they remain in any modified consent with no change.

Recommended Conditions of Approval: DECCW does not propose any amendment to the existing consent as it relates to noise. Accordingly, DECCW has not provided any recommended conditions of approval.

4. Surface Water Quality

DECCW notes a revised site water balance has not been provided in the EA to demonstrate that the mine can operate within the constraints imposed by the Hunter River Salinity Trading Scheme. As discharges of saline water from the Hunter Valley Operations Mine site are regulated under this scheme, the project will be required to operate within the parameters of this scheme.

Recommended Conditions of Approval: DECCW does not propose any specific recommended conditions of approval relating to water quality for the proposed modification.

5. Biodiversity

DECCW has reviewed the Carrington West Wing – Ecology Assessment, prepared by Biosis Research, provided at Appendix I of the Environmental Assessment.

5.1 Identified Impact on Threatened Species

The Environmental Assessment identifies the following threatened species as occurring in the proposed modification area.

- Central Hunter Box-Ironbark Woodland Endangered Ecological Community (EEC) with 0.89 ha directly impacted and 0.17 ha indirectly impacted (1.06 ha in total) by the proposed modification;
- Tiger orchid (*Cymbidium canaliculatum*) population was recorded in the modification area and occurs as an Endangered Population in the Hunter Catchment;
- *Eucalyptus camaldulensis*, one tree, was recorded in the modification area and forms part of the Endangered Population in the Hunter Catchment. It is also a characteristic species of the Hunter Floodplain Red Gum Woodland EEC;
- *Ninox strenua* (Powerful Owl), recorded via owl pellet in modification area;
- *Mormopterus norfolkensis* (Eastern Freetail Bat);
- *Miniopterus schreibersii oceanensis* (Eastern Bentwing Bat);
- *Myotis macropus* (Large-footed Myotis)
- *Chalinolobus dwyeri* (Large-eared Pied Bat)

DECCW acknowledges that the Pine Donkey Orchid (*Diuris tricolor*) has potential habitat (~2.24ha) in the modification area and that it was not detected during additional targeted surveys undertaken on 22 September 2010, when a known local population was flowering. Therefore it appears likely that this species does not occur within the modification area.

DECCW also acknowledges the Little Eagle (*Hieraaetus morphnoides*) was considered in the exhibited EA.

5.2 Survey Effort

DECCW acknowledges additional information has been included in the Ecology Assessment with the inclusion of ambient weather conditions recorded at Jerry's Plains weather station for the duration survey work was undertaken.

However, based on the information provided in Appendix I, DECCW cannot confirm the survey effort undertaken for the proposed modification is adequate and has been carried out in accordance with DECCW guidelines. Details such as the time, date, distance/area over which searches and surveys were undertaken as well as targeted species survey techniques employed have not been provided, despite being requested during the Adequacy review.

5.3 Biodiversity Offsets Required

DECCW is agreeable with the conclusions made in the Ecological Assessment that the proposal would have a significant impact on the Tiger Orchid (*Cymbidium canaliculatum*) but would not have a significant impact on the Hunter Valley *Eucalyptus camaldulensis* endangered population or on the

Pine Donkey Orchid. Accordingly DECCW is in agreement that offsets are not required for *Eucalyptus camaldulensis* or for the Pine Donkey orchid. However, DECCW believes an offset needs to be provided for Central Hunter Box-Ironbark Woodland endangered ecological community and Tiger Orchid (*Cymbidium canaliculatum*), should the proposed translocation be unsuccessful. This issue is discussed in more detail below.

DECCW acknowledges the mitigation measures outlined in the EA and notes that these measures include translocation of Tiger Orchids and rehabilitation of more than 50 ha of 'rehabilitated woodland'. It is not clear if the 'rehabilitated woodland' will aim to re-establish the Central Hunter Box-Ironbark Woodland EEC and if this rehabilitation project is additional to, or part of any rehabilitation requirements for Department of Industry and Investment. Similarly, the proponent states that a River Red Gum Rehabilitation and Restoration Strategy has been developed, yet it is not clear if this is in addition to Department of Industry and Investment requirements.

DECCW acknowledges the Proponent will develop a translocation plan for the Tiger Orchid, which will include a monitoring program to measure the success of the translocation. This plan will be in accordance with *Guidelines for the Translocation of Threatened Plants in Australia* (Vallee *et al.*, 2004), which sets the standard for these activities in Australia. However, should this translocation be unsuccessful then DECCW recommends that an offset should be proposed.

5.4 Other Matters

As per DECCW's (2010) survey guidelines, DECCW acknowledges the exhibited EA provided appropriate details regarding names and a summary of the experience of all personnel involved in the field surveys.

Recommended Conditions of Approval: DECCW has provided recommended conditions of approval at Attachment B reflecting the need for offsets to be provided.

6. Aboriginal Cultural Heritage

DECCW has reviewed the Carrington West Wing Aboriginal Cultural Heritage Assessment Report prepared by Central Queensland Cultural Heritage management Pty Ltd presented in Appendix H of the Environmental Assessment and identified the following issues.

- i) Reporting of Aboriginal objects - The reporting of artefact scatters as isolated finds is misleading reporting of Aboriginal objects and has implications for the assessment of significance for the area;
- ii) Anomalies with the 2003 Consent (DA 450-10-2003);
- iii) Inadequate evidence has been provided to demonstrate the level of consultation with the local Aboriginal community and their views on the project;
- iv) Absence of a long-term commitment to a conservation/protection area;
- v) Absence of discussions to negotiate management of the proposed impacts on Aboriginal cultural heritage within the project;
- vi) Absence of a care process for the any salvaged objects within the project.

6.1 Reporting of Aboriginal objects

DECCW notes pg 91 of Appendix H lists six key studies and resulting reports that are identified to inform the Environmental Assessment and provide data for the assessment of the significance and management of Aboriginal cultural heritage material throughout the Carrington mining area. DECCW notes that at least one of those reports uses a site classification definition that is inconsistent with that set by DECCW for NSW, specifically, the reference to "*Rio Tinto Coal Australia site type definition of an artefact scatter is a site with a maximum density equal to or greater than 5 artefacts per square metre. Anything less is an isolated artefact/s.*" (refer to pg 33 of MCH 2009).

In NSW an 'isolated find' is defined as '*a single object identified within a 50m radius*', while an 'artefact scatter' is defined as '*two or more objects identified within a 50m radius*'. Artefact scatters have a higher value to the local Aboriginal community and archaeologists than isolated finds. Accordingly it is important that the appropriate classification is reported to ensure the assessment of significance and potential impact has been reliably documented. It is also essential to ensure that the local Aboriginal community has been provided with accurate information.

Reporting Aboriginal cultural heritage evidence using a differing site type definition to the adopted system corrupts the message the data is transferring and misleads the audience. In reporting finds as being 'isolated finds' rather than 'artefact scatters', appears to diminish the significance of the record.

DECCW therefore strongly recommends that the proponent ensure these sites are updated to reflect accepted standard of identification of an isolated find and artefact scatter.

The proponent must also provide DECCW with a comprehensive list of all past reports submitted within the North East Region using any definition of an isolated artefact other than the accepted as the DECCW definition, so that an appropriate notation can appear on all relevant site cards and be entered into the catalogued reports.

6.2 2003 Consent (DA 450-10-2003) Anomalies

DECCW is concerned that the 2003 consent implies that the Aboriginal community and others will be provided an opportunity, should the proposed modification be approved, to negotiate Aboriginal cultural heritage management through an Aboriginal Heritage Impact Permit (AHIP) process in accordance with the requirements of Part 6 of the *National Parks and Wildlife (NPW) Act 1974*, as amended.

DECCW acknowledges that this modification application is being assessed under the requirements of Section 75W of the EP&A Act and any further subsequent approvals under section 90 of the NPW Act is not required. From DECCW's review it appears this subtly in application of legislation has not been clearly outlined during the Aboriginal consultation process.

Accordingly, DECCW strongly recommends that, if approved, the modified consent approval reflects the local Aboriginal community's expectation of subsequent opportunities in involvement in negotiating methods to appropriately manage any likely Aboriginal cultural heritage impact from the proposal.

Appendix H (p17) states that an Aboriginal Cultural Heritage Management Plan (ACHMP) has been developed. The EA further states that a key management protocol arising from the ACHMP is the '*Cultural Heritage Indigenous Management Agreement* (CHIMA) established in August 2002, which provides management measures specific to archaeological place CM-CD1. DECCW notes that the level of harm proposed for CM-CD1 (currently managed as an exclusion zone) under this modification proposal involves the total destruction of the entire site.

Conditions 40 and 41 of DA 450-10-2003 addresses the management of CM-CD1 and recommends consideration be given to establishing a permanent conservation status for this site. If conservation and avoidance of this area is no longer the focus of both the ACHMP and the consent, then the ACHMP and the consent need to reflect that change.

The EA does not provide any evidence of support for this change in management for site CM-CD1. DECCW strongly recommends that evidence of support for this proposal is provided from the registered local Aboriginal stakeholders and that an additional section of the ACHMP is drafted to reflect the different planning processes for each portion of the development.

6.3 Aboriginal Community Consultation

The EA states that notification by the proponent occurred on 24 August 2010 of the 33 registered Aboriginal parties listed as stakeholders for Coal & Allied Aboriginal Heritage Impact permits. It is understood that this list of registered Aboriginal parties constitutes the makeup of the Upper Hunter Valley Cultural Heritage Working Group (CHWG).

DECCW acknowledges that the Aboriginal community consultation for this project has been conducted as part of the meeting agenda of the CHWG. DECCW notes that this mechanism can be effective, but not in isolation. This process requires communication that is clear and transparent and provides those involved with a fair and equitable opportunity to be informed and to be heard.

It appears, from the Aboriginal community consultation section of Appendix H (pgs 41-89) that those attending the CHWG meetings were not always adequately informed of this project. DECCW has concerns that there is a considerable degree of confusion by the Aboriginal community as a result of the communication techniques engaged in this project through the CHWG meeting agendas

6.4 Impact on Aboriginal Cultural Heritage Values

Given this Project is being assessed in accordance with the requirements of Part 3A and there is no requirement for the proponent to obtain an Aboriginal Heritage Impact Permit prior to impacts in the modification area, it is essential that the requirements for best practice in cultural heritage management and the regulatory control expected from the AHIP process is included in any consent conditions of approval.

DECCW recommends Department of Planning ensure the consent, if modified, includes conditions that enable the registered Aboriginal parties have an opportunity to engage in the development, implementation and monitoring of Aboriginal cultural heritage through a revisited ACHMP process.

The EA identifies impacts on nine Aboriginal sites. Five of these sites were conditioned to be excluded from mining, in condition 40 and 41 of the existing consent, with consideration given to these sites given permanent conservation status. These conditions require the Director-General (Dept of Planning) to be notified within 14 days of such an agreement being finalised. DECCW understands this has not occurred and the proposed mine expansion will totally destroy the entire exclusion zone and all cultural material contained within it. Further, the proponent has proposed to salvage the remaining surface artefacts as the only suggested management strategy.

DECCW highlights the cultural significance of the site, CM-CD1, to the local Aboriginal community and the rarity of this expression/site type. The documentation provided indicates that the community requires a significant offset for the destruction of the CM-CD1 CM1 & CM2 complex. Concern over the conditioning of the development consent to reflect their desire is found on page 80 of Appendix H.

The proposed management strategy and lack of support has raised considerable concerns to DECCW. DECCW believes a more appropriate management strategy is required, if agreement with the local Aboriginal community is provided and the proposed modification is approved. The management strategy should include a comprehensive program of archaeological salvage of the CM-CD1, CM1 & CM2 complexes, undertaken by the Proponent, prior to any development activities occurring in these areas. This would provide for significant opportunities for the local community to participate, educate and contribute to the cultural knowledge of the area. DECCW has included a recommended condition of approval to address this matter.

Four additional sites identified during field surveys undertaken in late 2009 are also to be impacted. The five objects identified at the four locations clustered on a slope were evident due to surface disturbance. It is highly likely that other objects will be encountered at depth at these locations. There is also a high likelihood of additional sites being identified under vegetation as the project commences, particularly in proximity to the CM-CD1 CM1 & CM2 complex and the cluster of recent finds. DECCW has included additional recommended conditions of approval to target this matter.

6.5 Care of Salvaged Objects

DECCW acknowledges the Care Agreement #2863, initially valid for 12 months, is now valid for five years until 16 January 2013, following the granting of an extension in January 2009 to allow sufficient time for the Proponent to facilitate negotiations with the registered Aboriginal groups regarding the creation of a keeping place for the long term curation of the recovered Aboriginal heritage objects.

The cultural heritage management of this development modification may result in an unmanageable volume of objects being stored under this interim agreement.

DECCW would recommend the care of any Aboriginal heritage objects recovered under this modification be revisited in consultation with the community. Priority should be given to their long term management. Any temporary management options need to ensure that the stored objects are accessible in the interim to the Aboriginal and research community as deemed appropriate by the CHWG in cooperation with the proponent.

Recommended Conditions of Approval: - DECCW has recommended a number of conditions of approval to target the above matters.

7. Waste

Waste has not been fully assessed in accordance with the DGR's nor is considered in any detail in the exhibited Environmental Assessment. Accordingly DECCW is unable to determine recommended conditions of approval for the project.

DECCW November 2010

ATTACHMENT B**RECOMMENDED CONDITIONS OF APPROVAL – CARRINGTON WEST WING MODIFICATION
ENVIRONMENTAL ASSESSMENT (DA 450-10-2003 MOD 3)**

Note: Although the Environment Protection Authority is now a part of DECCW, certain statutory functions and powers continue to be exercised in the name of the EPA. This includes licensing functions under the *Protection of the Environment Operations Act 1997*. In these instances, reference is made to the EPA instead DECCW.

ADMINISTRATIVE CONDITIONS**Works to be undertaken in accordance with information supplied**

1. Except as provided by these recommended conditions of approval, the works and activities shall be undertaken in accordance with the proposal contained in:
 - (a) The major project application DA 450-10-2003 MOD 3 submitted to the Department of Planning;
 - (b) The document '*Carrington West Wing Environmental Assessment October 2010*' prepared by EMGA Mitchell McLennan;
 unless otherwise specified in these conditions of approval.

Obligation to Minimise Harm to the Environment

2. The proponent shall implement all reasonable and feasible measures to prevent and/or minimise any harm to the environment that may result from the construction, operation, maintenance, decommissioning or rehabilitation of the project.

Maintenance of plant and equipment

3. All plant and equipment installed at the premises or used in connection with the proposal:
 - (a) shall be maintained in a proper and efficient condition; and
 - (b) shall be operated in a proper and efficient manner.

AIR

4. Prior to commencement of the Project, the Proponent shall provide an updated Air Quality Impact Assessment, to the satisfaction of the Director-General, that includes the following:
 - (a) Use of site specific wheel generated dust emission estimates using the current emission estimation technique specified in US EPA AP42;
 - (b) Detail all site specific factors that may influence dust emission rates of wheel generated dust such as speed limiting haul roads;
 - (c) Identification and review of sources of particulate matter and emission controls to be applied to the project;
 - (d) Demonstrate the emission controls identified in (c) are in accordance with best practice controls;
 - (e) Re-assessment of impacts for 24 hour maximum PM₁₀ concentrations, with cumulative impacts considered, as per the *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales, August 2005*; and
 - (f) Comparison of predicted 24 hour maximum PM₁₀ concentrations with DECCW's impact assessment criterion specified in *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales, August 2005*

THREATENED SPECIES

5. Prior to site disturbance occurring, the proponent shall provide a proposed Biodiversity Offset for Central Hunter Box-Ironbark Woodland Endangered Ecological Community to be impacted by the project, to the satisfaction of the Director-General.

The proposed offset shall be prepared in accordance with the 13 principles outlined in the DECCW document *Principles for the use of Biodiversity offsets in NSW* (DECC, 2008)¹. The Proponent must demonstrate that all 13 principles have been adequately addressed and include details of the mechanism(s) to be used to ensure the offset is secured in perpetuity.

6. Prior to site disturbance occurring, the proponent shall prepare and submit, to the satisfaction of the Director-General, a Translocation Plan for the translocation of Tiger Orchid (*Cymbidium canaliculatum*). The Translocation Plan shall:
 - (a) be prepared in accordance with the document *Guidelines for the Translocation of Threatened Plants in Australia* (Vallee et al., 2004);
 - (b) include an annual reporting component, to the Director-General, that provides a summary of the monitoring program;
 - (c) include a potential offset provision should the translocation be unsuccessful.

ABORIGINAL CULTURAL HERITAGE

7. The proponent shall finalise an Aboriginal Cultural Heritage Management Plan (**ACHMP**) for the project area 6 months after project approval has been granted.

The ACHMP is to be developed, implemented and annually evaluated in consultation with all of the relevant local Aboriginal stakeholders. The plan must include, but not limited to:

- (a) procedures for ongoing Aboriginal consultation and involvement;
- (b) management of any recorded sites within the project area;
- (c) details of proposed mitigation and management strategies including additional subsurface investigations, salvage activities, monitoring, procedures for the identification and management of previously unrecorded sites (excluding human remains);
- (d) identification and management of any proposed cultural heritage conservation area(s); and
- (e) details of an appropriate management agreement with the members or the Cultural Heritage Working Group (**CHWG**) or their representatives for any Aboriginal objects salvaged through the development process.

The proponent shall ensure that the ACHMP is written to a standard that is to the satisfaction of Director-General and DECCW

8. All reasonable efforts must be made to avoid impacts to Aboriginal Cultural Heritage values at all stages of the development works. If impacts are unavoidable, a salvage program is to be developed in negotiation with the CHWG and documented in the ACHMP.
9. The archaeological salvage program, developed as part of the ACHMP, will record the Aboriginal cultural heritage values located within the CM-CD1 CM1 & CM2 complex and the cluster of recent finds within the project area and deliver the data results to all registered Aboriginal parties.

The salvage program must ensure that the maximum Aboriginal objects are recovered and ensure that the salvage does not diminish the archaeological integrity of the deposit. The salvage methodologies and the triggers to switch between salvage/investigation methods will be identified in consultation with the CHWG prior to any fieldwork and clearly outlined in the ACHMP.

The salvage program will be implemented and finalised prior to any development approved activities being undertaken within the modification area.

10. The Proponent shall ensure all new Aboriginal sites are to be registered with the Aboriginal Heritage Information Management System (**AHIMS**) unit in DECCW in the prescribed manner, in accordance with section 89A of the National Parks and Wildlife Act 1974, within 3 months of their identification.

¹DECC (2008) 'Principles for the use of Biodiversity Offsets in NSW'. NSW Department of Environment and Climate Change, Hurstville. <http://www.environment.nsw.gov.au/biocertification/offsets.htm>

11. In accordance with section 89A of the National Parks and Wildlife Act 1974, the Proponent shall ensure that all Aboriginal sites impacted by this project, either partially or completely, have an Aboriginal Site Impact Recording form completed and submitted to the DECCW AHIMS unit within 3 months of the final impact.
12. The Proponent will ensure that within 6 months of project approval all Aboriginal sites in the whole development area are recorded in accordance with DECCW guidelines, including rectifying all 'isolated find' sites to artefact scatter sites if there are 2 or more objects within 50m.
13. If human remains are located during the project, all works must halt in the immediate area to prevent any further impacts to the remains. The local NSW Police are to be notified. If the remains are found to be of Aboriginal origin and the police consider the site not an investigation site for criminal activities, DECCW should be contacted and notified of the situation, and works are not to resume in the designated area until approval in writing is provided by DECCW. In the event that a criminal investigation ensues, works are not to resume in the designated area until approval in writing from the relevant authority.
14. The applicant must continue to consult with and involve all representatives of the CHWG in the ongoing management of the Aboriginal Cultural Heritage values. The proponent shall ensure that all consultation for this project is reasonable, provides ample opportunities for the local Aboriginal community to review issues in advance of providing comment, and are provided with clear consistent information from which to make informed decisions. Evidence of this consultation must be collated and provided to the consent authority and DECCW upon request.
15. An Aboriginal Cultural Education Program must be developed for the induction of personnel and contractors involved in the construction activities on site. The proponent shall keep records of all the names and dates of people inducted through this process. The program shall be developed and delivered in collaboration with the CHWG.

End
DECCW November 2010

Enquiries to: Mark Ihlein
02 6578 7290

Our Ref: M7-5
Your Ref: DA450-10-2003 Mod 3

16 November 2010

The Manager
Mining
Major Projects Assessment
Department of Planning
GPO Box 39
SYDNEY NSW 2001

Attention: Belinda Parker

Dear Madam

**Subject: Hunter Valley Operations North Carrington West Wing Extension
– Singleton Council Submission**

Singleton Council at its meeting held on 15 November 2010 resolved to forward to the Department of Planning the enclosed report as its submission in respect of the proposed modification of the Hunter Valley Operations consent to extend Carrington Pit to the south west.

Further, the Council also resolved to highlight and raise the following issues:

1. Singleton Council supports the guideline – Management of Stream/Aquifer System in Coal Mining Development – Hunter Region and its application to the proposed modification.
2. The following additional issue be included in relation to Groundwater on page 6 of the report.
 - The existing levee should be removed and the alluvial lands be rehabilitated prior to this extension commencing, to prove that the proponent can return the environment back to a satisfactory before mining state.

Please contact the undersigned should further clarification be required.

Yours faithfully



Mark Ihlein
Director – Planning & Regulated Services
MLmw

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68. **Proposed Carrington West Wing Extension - Modification of Hunter Valley Operations North Consent**
Author: Mark Ihlein

FILE: M35-3

Executive Summary

Coal & Allied have lodged an application with the NSW Department of Planning seeking the Minister for Planning's consent to modify the terms of consent in respect of the Hunter Valley Operations North consent so as to extend its existing approved mining operations at Carrington Pit to the south west towards Jerry's Plains. The proposal is an open cut operation which would extract approximately 17 million tonnes of coal over six years.

The proposal has been publically exhibited by the Department of Planning and any community submissions have been made directly to the Department.

This report provides an overview of potential environmental issues arising from the proposal and where appropriate raises issues of concern particularly local community impacts. The main issues arise from the following areas of potential impact:

- Groundwater
- Hunter River and connected alluviums
- Rehabilitation of agricultural land
- Noise
- Air quality monitoring
- Environmental risk

It is intended that this report together with other issues raised by Council would comprise Council's submission to the Department of Planning.

RECOMMENDED

That this report be forwarded to the NSW Department of Planning as Singleton Council's submission in respect of the proposed modification of the Hunter Valley Operations consent to extend Carrington Pit to the south west.

*Planning and Regulations Report (Items Requiring Decision) - DP&R68/10***Background:**

Coal & Allied Operations Pty Ltd has lodged an application with the NSW Department of Planning seeking consent to modify the Hunter Valley Operations North development consent, under Section 75W of the Environmental Planning & Assessment Act, to extend mining operations in the Carrington Pit over approximately 142 hectares, to recover approximately 17 million tonnes of in-situ coal.

The application will be assessed by the Department of Planning and determined by the Minister.

The Environmental Assessment (EA) has been publically exhibited from 8 October 2010 until 5 November 2010. The Department of Planning has extended the time for Singleton Council to make a submission until 16 November 2010.

The purpose of this report is to provide an overview of the likely environmental impacts arising from the proposal and where appropriate recommend raising issues of concern as a consequence of those impacts, particularly local community and environmental impacts. It is not the intention to provide a full or comprehensive environmental assessment of the proposal as would be the circumstance if Council were the consent authority.

The Proposal:

The EA describes the proposal as follows:

Coal & Allied proposes to extend the existing approved Carrington Pit by approximately 137 hectares (ha) to the south-west, and extract approximately 17 million tonnes (Mt) of in-situ coal from this area. The proposed extension of mining will have a life of approximately six years and is expected to be completed within the existing development consent period, which is currently approved to 2025.

Overburden is proposed to be emplaced in-pit, and at two out-of-pit overburden emplacement areas to be established on previously disturbed and rehabilitated land located immediately north of the proposed extension area. The proposal also comprises the following supplementary activities.

- The approved footprint of the Carrington evaporative sink will be extended, for long term groundwater management purposes.
- The impermeable groundwater barrier wall previously assessed for the western paleochannel will be realigned further south, to prevent groundwater migration from the Hunter River into the mine, and migration of water from the mine into the Hunter River alluvium.
- A two stage, temporary levee and diversion system will be established to ensure that the proposed extension area is protected from flooding, and to enable the temporary diversion of an unnamed tributary of the Hunter River that presently runs in a southerly direction across the proposed extension area.
- A service corridor will be constructed along the southern boundary of the proposed extension area, which may incorporate water pipelines, an all weather access road and other services.

A locality plan and project outline is appended as **"Attachment 1"**.

Local Environmental Impact:

The following is an overview of likely environmental impacts together with issues of concern, where relevant, which are proposed to be raised with the Department of Planning.

Groundwater

The EA describes groundwater impacts as potentially high environmental risk if unmitigated.

The potential mining related impacts on groundwater systems has been assessed using computer modelling. This modelling also had regard to the NSW (2005) guideline, *Management of Stream/Aquifer Systems in Coal Mining Development – Hunter Region*. Essentially the guidelines requires the assessment to prove that likely impacts on stream flow, stability and water quality in surface and groundwaters will be negligible where mining is proposed within 150m of identified connected alluvium to the Hunter River.

Some water is predicted to seep into the mine pit and this is described as "relatively low seepage rates". All seeped water would be managed within the mine water system and be licensed.

Impacts on Hunter River base flows and depressurisation are described in the EA as follows:

As noted in Section 5.2.1, pre-mining groundwater flows were in a southerly direction towards the Hunter River. The pre-mining dry weather (saline) baseflow contributions from the western arm of the paleochannel to the Hunter River are calculated from numerical modelling to have been approximately 0.22ML/day. Recent monitoring (2010) indicates that flows are now northward towards the existing mining pit (as predicted by MER in 2005). Flow rates in the paleochannel alluvium are estimated to be in the order of 0.2ML/day before barrier wall installation. These flows are sourced predominantly from drainage of porous storage within the alluvium, supplementary rainfall recharge to the alluvium, and a small component from the Hunter River as leakage loss.

The installation of the barrier wall will restrict the northwards leakage through the alluvium. However, subsequent to the installation of the barrier wall, there will still be sustained leakage via the coal measures, where deeper depressurisation induces downwards flow from the alluvium. Induced leakage from overlying alluvium will be at a rate governed by the vertical permeability of the coal measures. Since the vertical permeability is low, the leakage rate is predicted to be low. The water will travel through the hardrock beneath the barrier wall and into the pit shell. The contributions to pit seepage via this pathway are estimated to be about 0.05ML/day from the Hunter River alluvium.

The predicted future loss of Hunter River base flow of 0.05ML/day is calculated to represent 0.3 per cent of the very low river flow condition defined as occurring less than 1 percent of the time. This loss will reduce as water table recovery occurs in the final void. Substantial wet periods, such as the June 2007 event (high rainfall and localised flooding), can be expected to mitigate leakage losses for extended periods of time. Seepage will be offset in accordance with regulatory requirements.

The approved Carrington evaporative sink is proposed to be extended to comprise a surface area of approximately 100ha. The design of the sink is to ensure that ground water within the emplaced mine overburden remains isolated from the Hunter River alluvial lands south of the barrier wall.

A ground water barrier wall has been constructed in the eastern area of a former meander of the Hunter River. An additional barrier wall was also proposed across the western area and now would fall within the proposed extension area. This wall is now proposed to be realigned south of the position as shown in **"Attachment 2"**. The EA describes the barrier wall as follows:

Realignment of the barrier wall would effectively:

- isolate the potential impacts of mining from the Hunter River and its associated alluvium;
- inhibit saline groundwater flows from the project area reaching the Hunter River; and
- Inhibit long term leakage of leachate from the emplaced waste rocks within the mine void, southward into the undisturbed alluvium and the Hunter River.

The proposed location of the groundwater barrier wall is shown on Figure 1.3. The barrier wall will most likely be composed of a soil bentonite mix, making it highly impermeable. The wall is proposed to be sufficiently deep to prevent flows of groundwater within the alluvium in either direction. An elevation view of the groundwater barrier wall is shown on Figure 3.3. The potential groundwater impacts from the proposed barrier wall, in terms of both flow quantities and water quality, are discussed in Section 5.2.

In addition to the barrier wall constructed in the eastern arm of the paleochannel, a barrier wall (significantly larger than that proposed for the current application) was constructed at the Alluvial Lands mining area, located within HVO North to the south-east of the proposed extension area. Monitoring results have shown that this wall is effective. Therefore, Coal & Allied is highly confident of the proposed barrier wall being successfully constructed and operating effectively.

Issues

- Even with the proposed barrier wall there will be water loss and consequently this impact should be regularly monitored and the results reported to the community.
- A ground water monitoring regime is proposed and will need to be strictly regulated to ensure there are no adverse impacts of mining on the Hunter River and its alluviums.

Surface Water

The Hunter River would be located approximately 250m south of the proposed extension area at its nearest point. The proposal incorporates the construction of temporary levees to protect the extension area from flooding.

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A flood assessment was carried out using the same computer model and techniques as used in Singleton Councils Flood Study. The assessment considers impact on the mine operations and the existing Hunter River floodplain.

The EA describes the conclusions of the flood assessment as follows:

- The Stage 1 and Stage 2 flood levees would effectively prevent flooding of the proposed extension area for events up to the 100 year ARI event.
- Runoff from the Unnamed Tributary catchment would be effectively conveyed around the levees by the proposed diversion. The proposed diversion would effectively convey the 10 year ARI within its banks.
- The 2 year ARI Hunter River design flood would generally be confined to the main channel. The Hunter River flood flows would exceed the capacity of the channel and inundate the floodplain in the vicinity of the proposed extension area for the 5 year ARI design event.
- There is negligible impact on flood levels along the Hunter River main channel for floods up to the 10 year ARI design flood, and a minor impact on the floodplain immediately adjacent to the proposed levee for the 10 year ARI design flood.
- The extent of the flood impact for the 100 year ARI design flood is confined to Coal & Allied owned land on the Hunter River floodplain immediately south of the proposed levee. The 100 year ARI flood levels along the proposed diversion drain would be up to 0.14m higher than existing conditions. It is expected that elevated flood levels would remain in these areas for 12 hours to 48 hours, depending upon the duration and severity of the flood event.
- Flood velocities along the Hunter River channel, with the levees in place, would generally remain unchanged from existing conditions.

Land Capability

The extension area comprises the following soil units:

- Brown Uniform Silty Clay Loam, covering 32% or 43.9ha;
- Brown Uniform Silty Clay covering 42% or 56.8ha;
- Red Brown Duplex Loam covering 26% or 36.1ha.

A rural land capability assessment has been carried out according to an eight class system ranging from Class 1 (being suitable for regular cultivation) to Class VIII (very low agricultural capability). The classification system was developed by the NSW Soil Conservation Service. Most of the proposed extension area is Class II and III which is proposed to be reinstated through appropriate rehabilitation post mining.

Rural Suitability

The extension area has also been assessed according to agricultural suitability based on five classes, ranking land from Class 1 –most productive to Class 5 – least productive.

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Approximately 50% of the extension area is Class 2 land and the balance of land being predominantly Class 3, with a small proportion Class 4 in the south western corner.

It is proposed to reinstate the Class 2 land post mining, while the majority of the out of pit area would be rehabilitated to Class 4 and the balance to Class 3.

Noise and Vibration

The proponent has undertaken a noise and vibration assessment using the Environmental Noise Model to predict noise levels at sensitive receivers.

The modelling considers noise from the existing Hunter Valley Operations to assess impacts arising from adverse weather conditions, cumulative noise, sleep disturbance, blasting and vibration.

The EA makes the following conclusions in respect of noise and vibration:

The noise modelling has shown that under calm weather conditions, consent operational limits are satisfied at all private residences that are not already within a zone of affectation. During adverse INP weather conditions (which are a feature of the night period only), predicted mine noise levels without mitigation are above the operational consent noise limits for eight of the assessed locations, and marginally above the consent acquisition limits at five of the assessed locations. After applying restrictions to operation of some plant, noise levels are predicted to be satisfy or be within 2dB of the consented operational noise limits at all assessed locations, and consent acquisition limits satisfied at all private residences that are not already within a zone of affectation. The noise modelling package used typically over-estimates noise emissions by approximately 3dB for adverse INP weather conditions. Allowing for this and a number of other factors, it is considered that the predicted noise levels are highly unlikely to eventuate and in any case, can be managed through noise and weather monitoring and operational management.

Blast design and monitoring will ensure noise overpressure and ground vibration from blasting are within acceptable limits. Precautionary notification and arrangements will be undertaken with a nearby landholder prior to any blasts within 900m of that residence.

The predicted noise levels are similar to the existing Carrington Pit. However, it is proposed to implement the following mitigation measures specific to the extension area:

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- Permanent real time directional noise monitoring at Jerrys Plains with back-to-base feed of data. The system will include trigger alarms, which are set to an appropriate trigger level for Jerrys Plains. When noise levels reach the trigger level an alarm will be sent via SMS and email to the site personnel at HVO. In the event of an alarm, the Open Cut Examiner will be notified and operational practices reviewed to minimise the potential for noise increasing beyond compliance levels.
- Participation in ongoing research towards the use of predictive weather forecast data as a definitive tool to manage noise.
- Extension of the system of mining and overburden emplacement permission rules being developed at HVO South to HVO North, once these have been developed and implemented. This system feeds real time site weather data into a wind speed and direction information system displayed on an aerial map of the site. This information can be viewed in real time by the operator of the system. The operator is provided with instructions on whether mining or emplacement is to be allowed or restricted during certain wind conditions. This tool is particularly useful during activities in areas that have been shown to increase noise at receiver locations, especially under adverse conditions.
- Pro-active contingency mine planning to plan for events, such as prevailing wind conditions that have the potential to increase noise beyond acceptable levels. For example, the provision of alternative areas for overburden emplacement where practical, dependent on the prevailing meteorological conditions. The management and scheduling of mobile equipment will also be undertaken and may include strategically locating equipment in shielded or bunded areas during adverse conditions.
- Regular attended noise monitoring (quarterly) and as required due to community requests.
- Consultation and arrangements will be made with Receptor No. 10 in advance of any blasts within 900m of the residence.
- To achieve 10mm/s peak particle velocity at the Lemington Road bridge (due to blasting), the charge mass must be approximately 5,400kg MIC or less, given a minimum separation distance of approximately 2,500m for the closest mining area in Year 1 of the proposal.

Noise monitoring will be ongoing to assess the performance of the mining operations against the predicted noise levels. Specifically, a rigorous monitoring regime will be implemented during the early phases of the operations to validate the potential impacts at Jerrys Plains and better understand the behaviour of sound propagation over the ridge between the project area and these receivers.

There is one privately owned residence, Mosses, which is currently located inside a Hunter Valley Operation zone of affectation and will also be directly impacted from noise and vibration by the proposed extension. This resident will nevertheless retain the right to acquisition upon request.

Issues

- Ensure that the Mosses property retains the right to acquisition upon request
- During night time operations the risk of audible noise and possible exceedances of noise criteria limits is **greatest**. This would be of particular concern for Jerry's Plains. Consideration should be given to limiting night time mining operations.

Aboriginal Cultural Heritage

The EA considers the impact of extending the Carrington Pit on Aboriginal cultural heritage and management.

Nine cultural heritage places could be impacted. The management of these places as they are impacted on by mining will be carried out in consultation with the local Aboriginal community through Rio Tinto Coal Australia's cultural heritage management standards and policies.

Air Quality

The EA has carried out dispersion modelling using localised meteorological and terrain data to predict dust emissions. The modelling also accounted for cumulative emissions from Hunter Valley Operations North and other surrounding mine operations.

While the modelling has been carried out in respect of the current NSW Government standard using the 24 hour average PM₁₀ dust burden, the EA discusses PM_{2.5} concentrations in the locality.

Contour plots of predicted PM_{2.5} concentrations due to Hunter Valley Operations North reveal no impact on sensitive receptors.

So far as PM₁₀ is concerned the EA concludes the following:

Air modelling undertaken by PAEHolmes has shown that the proposal is not predicted to result in any exceedances of the relevant DECCW or DoP criteria for annual average PM₁₀, TSP or dust deposition. This is the case when taking into account the predicted emissions from HVO North, as well as from surrounding mines and other particulate matter sources in the area.

The DoP 24-hour average PM₁₀ acquisition criterion is not predicted to be exceeded. A minor (0.5µg/m³) exceedance of the DECCW maximum 24-hour average PM₁₀ criterion is predicted to occur at one privately-owned residence during Year 1 of mining. This is only predicted to occur on one day over a one year period. It should be noted that the second highest concentration predicted at this residence is 14µg/m³ below the 50µg/m³ criteria. No other exceedances of the DECCW criteria for 24-hour average PM₁₀ are predicted.

Issues

- Ensure that appropriate air quality monitoring continues within the village of Jerry's Plains and other sensitive receptors.

Visual Amenity

Generally the EA concludes that due to the undulating nature of the topography there would be limited opportunities to view the project area from surrounding vantage points. However, some mining activities, levees, overburden emplacement areas and night time lighting would be visible. It states these areas of visual prominence would not be dissimilar to mining areas currently visible.

Issues

- All mine related lighting be positioned to minimise light spill and glare when viewed from external vantage points.

Ecology

The project area comprises a modified landscape in poor condition sustaining little or no vegetation.

The area would be subject to significant disturbance due to open cut mining activity. Rehabilitation objectives stated in the EA include post mining landuse compatible with surrounding land uses, capable of supporting viable grazing and ecological values and providing environmental and community benefits. Rehabilitation also proposes the establishment of woodland areas to support habitation for native species.

Issues

- Site rehabilitation should provide a balance between ensuring the reinstatement and ongoing sustainability of agricultural related landuses and reestablishment of woodland areas;
- While cropping and grazing are noted as significant agricultural landuses in the locality, the rehabilitation of land should also include irrigated pastures. In this regard concern is expressed with the extent and depth of topsoil and supporting soil structure to be reinstated. In some areas it would seem there is proposed to be less than 1 metre depth to topsoil which does not seem to be adequate.

Traffic and Transport

The proposal does not involve any net increase in employees, coal production or any haulage on public roads, compared with the existing Hunter Valley Operations North.

A section of Lamington Road would be closed from time to time when blasting occurs. Old Lemington Road traverses the project area which is to be decommissioned – this road is not used by the public but will need to be formally closed under the Roads Act 1993.

Issues

- While not directly related to this proposal, the upgrade of the Golden Highway and Lemington Road intersection should be completed in a timely manner.

Socio Economic

The net production benefits of the proposal are estimated at a minimum of \$482m. The EA states that these benefits accrue to Coal & Allied and its shareholders in the form of net profits, the NSW Government in the form of royalties and the Commonwealth Government in the form of Company tax.

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In relation to regional economic impacts the EA estimates this as follows:

- \$332M in annual direct and indirect regional output or business turnover;
- \$181M in annual direct and indirect regional value added;
- \$70M in annual direct and indirect household income; and
- 777 direct and indirect jobs.

Statement of Commitments

A Statement of Commitments is appended at “**Attachment 3**” for Council's information.

It is noted that there is no specific commitments in relation to community benefits other than those derived from economic benefits previously described in social economic impacts.

Issues

- Council request the Department of Planning establish a mechanism to facilitate a community enhancement offset in respect of the nearest community being the village of Jerry's Plains.

Project Justification

The EA describes a number of likely environmental impacts and how these could be mitigated. The positive economic benefits to extend the Carrington Pit and life of the mining operation are also described.

The EA concludes that the project is justified for the following reasons:

- It will allow the efficient transition from mining within the Carrington Pit into the adjacent extension area. It will enable the efficient extraction of an economic resource and provide for continued regional and local economic benefits.
- The site is suited for its proposed purpose and all lands are owned by the proponent.
- No significant adverse economic, social or environmental impacts are anticipated, subject to the implementation of the mitigation, management and/ or monitoring measures presented herein.
- The proposal is generally consistent with the relevant objects of the EP&A Act, including the principles of ESD.

In conclusion, the benefits of the proposal sufficiently outweigh its costs.

Issues

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- Ensure that the assessment process by the Department of Planning carefully considers the net economic benefit of mining the coal resource versus the risk to the environment and in particular the Hunter River and connected alluviums.

Conclusions:

The Environmental Assessment report demonstrates the proposed extension of the Carrington Pit to the south west would not result in environmental impacts which exceed respective assessment standards.

While no exceedances are predicted the proposed mine operation would be situated alongside the Hunter River and connected alluviums. Mining operations will need to be tightly managed and rigorously monitored to ensure this important and sensitive environment is not adversely impacted.

Mark Ihlein.

Mark Ihlein

Director Planning & Regulations

Attachments

<u>AT-1</u>	Locality Plan	1 Page
<u>AT-2</u>	Wall Plan	1 Page
<u>AT-3</u>	Statement of Commitments	5 Pages

Attachment 1Planning and Regulations Report (Items Requiring Decision) - DP&R68/10
 Locality PlanProposed Carrington West Wing Extension - Modification of Hunter Valley
 Operations North Consent



Attachment 2 Planning and Regulations Report (Items Requiring Decision) - DP&R68/10
 Wall Plan Proposed Carrington West Wing Extension - Modification of Hunter Valley Operations
 North Consent

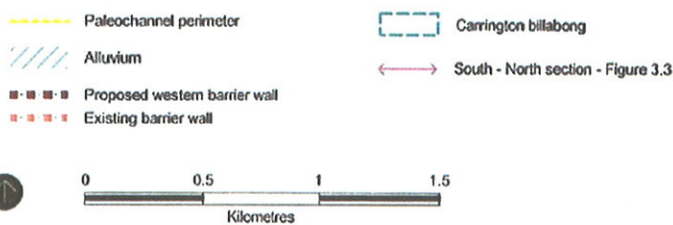


Figure 5.1
 Key groundwater components
 Carrington West Wing

Attachment 3 Planning and Regulations Report (Items Requiring Decision) - DP&R68/10 Statement of Commitments Proposed Carrington West Wing Extension - Modification of Hunter Valley Operations North Consent

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6 Statement of commitments

This chapter describes the commitments that will be implemented throughout the life of the proposal to manage potential impacts identified within the EA. Commitments include management, mitigation and monitoring measures.

As discussed in Section 3.1 vii, all of Coal & Allied's mining operations in the Hunter Valley currently operate under an HSEQ Management System which is certified to the international standard ISO:14001(2004) and forms the basis for rigorous and consistent environmental management. The HSEQ is a management tool implemented by the company rather than a consent requirement. It will continue to be implemented across HVO. The relevant plans, procedures and monitoring programmes contained within the HSEQ will be reviewed and modified to incorporate the commitments outlined below and reflect the changes to operations resulting from the proposal.

The technical reports recommend a number of measures to minimise the potential impacts resulting from the proposal. These measures have been considered in the context of the existing HVO North and the HSEQ. Commitments related specifically to the proposal are presented in Table 6.1.

Table 6.1 Commitments

Attribute	Commitment
Groundwater	• Prior to mining within the extension area a groundwater barrier wall will be constructed across the western arm of the paleochannel. The wall will be sufficiently deep to prevent flows of groundwater within the alluvium in either direction. • Continued monitoring will include: - two-monthly monitoring of water levels in any new standpipe piezometer in proximity to the proposed extension area and quarterly monitoring elsewhere, unless water level changes dictate otherwise; - daily or more frequent monitoring of pore pressures by installed auto recorders at some existing piezometers in order to discriminate between oscillatory groundwater movements attributed to rainfall recharge, and longer term pressure losses related to open cut and underground mining; and - construction of additional piezometers where deemed necessary, as information is generated from within the existing network, during the course of mining. Permeability testing will be completed on new piezometers in order to facilitate estimation of leakage and subsurface flows. • Continued groundwater quality monitoring will include: - two-monthly or quarterly (depending upon location) monitoring of basic water quality parameters, pH and EC, in existing and any new piezometers; and - six monthly measurement of TDS and speciation of water samples in piezometers. • Future impact analyses will include the following. - Where monitoring data shows significant departures from predictions in three consecutive readings, an investigation into the cause will be triggered. This could include a need to conduct more intensive monitoring, eg increased frequency, parameters or additional piezometers, or to review the management and mitigation measures. - Formal review of depressurisation of coal measures and comparison of responses with aquifer model predictions, conducted biennially by a suitably qualified hydrogeologist.

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Statement of Commitments Proposed Carrington West Wing Extension - Modification of Hunter Valley Operations North Consent

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Table 6.1 Commitments

Attribute	Commitment
	- Annual reporting (including all water level and water quality data) in the AEMR.
Surface water	• Water quality monitoring will be continued. • The HVO water balance model will be updated regularly to ensure currency with the operational configuration of the mine water management system. • Runoff from undisturbed catchments will be diverted away from disturbed areas using surface drains. • Surface runoff from disturbed areas will be treated through sedimentation basins prior to discharge from the site. All new sediment dams and water management systems will be designed in accordance with relevant standards. • Sedimentation basins will be used to treat surface runoff from rehabilitated areas until the quality of runoff is suitable for release. These will be maintained or constructed as required and will be designed in accordance with relevant design standards. • Saline water from mining related activities will be collected within the mine water management system. Discharges will be managed in compliance with the HRSTS. • A Management Plan for the temporary diversion and reinstatement of the Unnamed Tributary will be developed in consultation with NOW and T&I NSW, and will include details of: - existing and proposed channel alignment, longitudinal section and cross-sections; - proposed locations of cut and fill; - sediment and erosion control measures to be implemented during construction; - proposed revegetation of the channel bed, banks and riparian zone; - a proposed monitoring regime to ensure ongoing stability and ecological health of the stream, which would include periodic inspection for erosion or deposition and a photographic record of key cross-section locations, supplemented by ground survey if instability is detected; and - contingency measures to be implemented to address any observed issues with establishment of the modified channel.
Soils and land use	• Management and mitigation strategies for the stripping, handling and use of topsoil, landform design, erosion and sediment control and seedbed preparation will be implemented to achieve the desired post-mining land capability and agricultural suitability outcomes. The detailed rehabilitation plans, consistent with Figure 3.4, will be documented in the REMP/ MOP, and will be tracked for progress in the AEMR. • Rehabilitation will aim to achieve the following objectives: - successful design and rehabilitation of landforms to ensure structural stability, revegetation success and containment of wastes; - development of a final landform with recognition of the pre-mining landform features, which incorporates the existing rehabilitated landforms and is consistent with the surrounding landscape features; and - post-mining land use compatible with surrounding land uses, capable of supporting viable grazing and ecological values and providing environmental and community benefits.

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Statement of Commitments Proposed Carrington West Wing Extension - Modification of Hunter Valley Operations North Consent

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Table 6.1 Commitments

Attribute	Commitment
Noise and vibration	- Permanent real time directional noise monitoring will be undertaken at Jerrys Plains with back-to-base feed of data. The system will include trigger alarms, which are set to an appropriate trigger level for Jerrys Plains. In the event of an alarm, the Open Cut Examiner will be notified and operational practices reviewed to minimise the potential for noise increasing beyond compliance levels. - Coal & Allied will participate in ongoing research towards the use of predictive weather forecast data as a definitive tool to manage noise. - The system of mining and overburden emplacement permission rules being developed at HVO South will be extended to HVO North, once these have been developed and implemented. This system will feed real time site weather data into an information system. The operator of the system will be provided with instructions on whether mining or emplacement is to be allowed or restricted during certain wind conditions. - Pro-active contingency mine planning will be used to plan for events such as prevailing wind conditions that have the potential to increase noise beyond acceptable levels. The management and scheduling of mobile equipment will also be undertaken with consideration to prevailing meteorological conditions. - Attended noise monitoring will be undertaken quarterly and as required due to community requests. - Consultation and arrangements will be made with Receptor No. 10 in advance of any blasts within 900m of the residence. - To achieve 10mm/s peak particle velocity at the Lamington road bridge (due to blasting), the charge mass must be approximately 5,400kg MIC or less, given a minimum separation distance of approximately 2,500m for the closest mining area in Year 1 of the proposal.
Air quality	- Only the minimum area necessary for mining will be disturbed. Completed overburden emplacement areas will be reshaped, topsoiled and rehabilitated as soon as practicable after the completion of overburden emplacement. - Coal handling areas/ stockpiles will be maintained in a moist condition to minimise wind-blown and traffic-generated dust. - Water sprays will be available on ROM stockpiles and used to reduce airborne dust, as required. - All roads and trafficked areas will be watered as required, using water trucks, to minimise the generation of dust. - All haul roads will have edges clearly defined with marker posts or equivalent to control their locations, especially when crossing large overburden emplacement areas. - Obsolete roads will be ripped and re-vegetated. - Development of minor roads will be limited and the locations of these will be clearly defined. - Minor roads in regular use will be watered.

Attachment 3 Planning and Regulations Report (Items Requiring Decision) - DP&R68/10
Statement of Commitments Proposed Carrington West Wing Extension - Modification of Hunter Valley Operations North Consent

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Table 6.1 Commitments

Attribute	Commitment
	• Obsolete roads will be ripped and re-vegetated. • Access tracks used by topsoil stripping equipment will be watered. • Long term topsoil stockpiles, not used for over three months, will be re-vegetated. • Dust aprons will be lowered during drilling. • Drills will be equipped with dust extraction cyclones, or water injection systems. • Water injection or dust suppression sprays will be used when high levels of dust are being generated. • Adequate stemming will be used at all times. Blasting will be restricted during unfavorable weather conditions, where practicable.
Aboriginal cultural heritage	• Any required salvage of Aboriginal objects from the proposal will be undertaken on the basis of a staged approach, subject to operational requirements. As a general management principle, these stages will align with a minimum three year and maximum five year mine operating plan mitigation buffer ahead of mining impacts. Permits, as required under s90 of the NPW Act, will be sought for each salvage stage. • Specific management measures for each cultural heritage place, in the event that they will be impacted by mining activities, are as follows. - An opportunity for the Aboriginal Community to undertake a cultural salvage of surface stone artefacts within the CM-CD1 precinct will be provided. Following this, a series of progressive machine scrapes will be completed across these areas to provide additional opportunities for this exercise. - The details and resourcing requirements of this salvage strategy will be agreed directly with the CHWG and in consultation with DECCW and the CHIMA. - If CM19 and CM32 will be impacted by the proposal, the Aboriginal community will be provided with an opportunity to inspect these areas and, should any cultural material be identified, undertake a salvage of that material. - A salvage collection of the isolated stone artefacts that have been identified and recorded as HVO-1121-1124 will be undertaken with the Aboriginal community. - The existing Care and Control permit (#2863 valid until 16 January 2013), issued by DECCW for the HVO cultural heritage places will be modified to include the cultural material salvaged under any new permits associated with the proposal. Alternatively, a new Care and Control Permit application will be submitted for this cultural material.
Ecology	• Fauna utilising hollows on the site will be relocated prior to clearing and during clearing. Mitigation of direct impacts on fauna will be in accordance with Coal & Allied's existing environmental procedures for the management of flora, fauna, disturbance and rehabilitation. • Prior to removal of the Tiger Orchid from the project area, a translocation plan will be prepared in consultation with DECCW, relevant botanical experts and with reference to best practice guidelines such as those identified in the Vallee <i>et al.</i> (2004) <i>Guidelines for the Translocation of Threatened Plants in Australia</i>. • Management of weeds, landscape disturbance and rehabilitation, and sediment and erosion control will be undertaken in accordance with Coal & Allied's existing environmental

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Statement of Commitments Proposed Carrington West Wing Extension - Modification of Hunter Valley Operations North Consent

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Table 6.1 Commitments

Attribute	Commitment
	procedures.
	Ecological monitoring will include monitoring of rehabilitation and the success of plant translocation efforts. General monitoring inspections will be carried out pre-clearing, during clearing, and post weed and erosion controls.
Visual amenity	- Disturbed areas will be progressively rehabilitated, and revegetation of rehabilitated areas will be undertaken as soon as practical after final landforms and drainage structures are completed. - Lighting instalments will be designed and placed to minimise lighting impacts wherever possible, including provision of shields on floodlights, fitting lights with sensor switches or time switches and/ or directing lighting away from mine boundaries where possible. - All external lighting will comply with AS4282-1997 Control of Obtrusive Effects of Outdoor Lighting. - Response procedures will be in place for the advent that lighting is observed to be impacting public roads or sensitive receptors or if a complaint is received. - An annual visual assessment of operations will be undertaken, including recommendations for additional mitigation measures where necessary.
GHG	Coal & Allied's existing energy saving and GHG emission reduction plans and standards will be implemented at HVO, inclusive of the proposal, and will be revised as required.
Traffic and transport	Blasting-related road closures will be managed in accordance with the relevant Coal & Allied procedures and a Road Closure Management Plan and Traffic Control Plan to be developed for Lemington Road.



OUT10/19865

Mr Howard Reed
Manager Mining
Department of Planning
GPO Box 39
SYDNEY NSW 2001

Attention Ms Belinda Parker

Dear Mr Reed

**HVO North – Carrington West Wing Modification
(DA 450-10-2003 Mod3)
Environmental Assessment**

I refer to your letter dated 6 October 2010 regarding the Hunter Valley Operations (HVO) Carrington West Wing Modification.

Industry & Investment's (I&I NSW) technical officers have reviewed the Environmental Assessment (EA) for the project and have the following comments.

MINERAL RESOURCES

The Carrington West Wing Modification is largely within existing coal titles held by the proponent. However the proponent does not hold title over the southern part of the project area.

Since January 2008 all coal deposits in NSW are within a Minerals Allocation Area (MAA) under the *Mining Act 1992*. Within the MAA, the Minister's consent is required before an application can be made for a coal exploration licence (*Section 13(4) Mining Act 1992*).

On 12 October 2010 I&I NSW Mineral Resources received an application from Coal & Allied requesting Minister's consent to apply for a mining lease over the whole of the Carrington West Wing modification project area.. I&I NSW is currently processing this application. I&I NSW Mineral Resources has had a number of discussions with the proponent regarding this issue. **I&I NSW Mineral Resources cannot support the Carrington West Wing modification at this time as the project proposal includes an area to which the proponent has no current coal title as such the company has not fully assessed the coal resources in the area.**

AGRICULTURE

I&I NSW Agriculture's comments are attached in Annexure 1 and 2.

Should you have any enquires regarding this matter please contact Julie Moloney, Principal Adviser, Development Coordination on (02) 4931 6549.

Yours sincerely

A handwritten signature in dark ink, appearing to read 'B. W. Mullard', followed by the date '13/12/10'.

Brad Mullard
Executive Director
Mineral Resources

**I&I NSW Agriculture Comments on the Carrington West Wing Environmental Assessment
Volume 1 Main Report**

Page 36	States that the 'existing groundwater monitoring data indicates that groundwater is generally poor quality in its natural state'. The stated salinity and pH levels confirm the poor water quality. It is therefore important that this groundwater is managed so that it does not enter the surface water system. ie: used for dust suppression or mixing with other irrigation waters. Ground Water quality must be variable as there are licensed users to the west and south of the Carrington West Wing site. This again highlights the inadequacy of the EA groundwater coverage. Impacts to agriculturists might be the effects upon other aquifers being utilised for irrigation purposes. ie: depletion or alteration of water levels and resultant increased pumping costs. The NSW Office Water (NOW) is the responsible government agency for this issue and they have expressed serious concerns over the adequacy of groundwater assessment in this proposal.
Page 38	Identifies NOW's guideline 'Management of Stream Aquifer Systems in Coal Mining Developments – Hunter Region'. This document has been widely used for the last 5 years in assessing proposed coal mining operations. However NOW advise that this proposal is not consistent with the provisions of the guideline.

Page 50	States 'The majority of the proposed extension area is classified as Class 2 and 3 agricultural suitability, covering areas of 65.0 Ha and 67.9 Ha respectively. As such, they are classified Prime agricultural Lands as there proximity to the Hunter River would indicate.
Page 51	Tables detail existing and post rehabilitation land classification as either area or percentage. The maintenance of Class II and III lands post rehabilitation is considered a doubtful achievement. A post rehabilitation increase in Class III area is considered even more unlikely.

Annexure 2

I&I NSW Agriculture Comments on the Appendix E Soils and land resource study Volume 2 Supporting Appendices

Page 9	Refers to the Brown Uniform Silty Clay Loam section of the site comprising 32% or 43.9 Ha of the proposed extension area. It states that 1.2m of this soil is suitable for stripping and reuse as a topdressing medium. This confirms opinions that the site comprises Land Suitability Class II lands and are therefore extremely valuable agriculturally.
Page 16	Table 11 identifies a decrease in Class III land for the out of pit overburden emplacement area from 66.32% to 39.69%. this can not be supported by this I&I NSW Agriculture