DOC19/645791

DIVISION OF RESOURCES & GEOSCIENCE ADVICE RESPONSE

Jack Murphy
Resource & Energy Assessments - Planning & Assessment Division
Department of Planning, Industry and Environment
GPO Box 39
SYDNEY NSW 2001

jack.murphy@planning.nsw.gov.au

Dear Jack

Project: Russell Vale Revised Underground Expansion Project
Stage: Revised Preferred Project Report and Response to Second PAC Review
Development Application: MP 09_0013

I refer to your correspondence dated 30 July 2019 inviting the Division of Resources & Geoscience (Division) to provide comments on the *Russell Vale Revised Underground Expansion Project* (Project). This advice considers the Revised Preferred Project Report and Response to Second PAC Review (RPPR) submitted by Wollongong Coal Limited (Wollongong Coal or the Proponent).

The relevant units of the Division have been consulted in generating this advice. The Department of Planning, Industry and Environment – Planning and Assessment Division and the Proponent should be aware that matters pertaining to rehabilitation, environmental impacts of final landform design, mine operator and safety are not assessed by the Division. Reference should be made to the response from the NSW Resources Regulator on these matters.

Advice overview

The Division has determined that the Proposal will:

- enable operations at the currently not producing Russell Vale Colliery (Russell Vale) to re-commence for a period of five years (commencement date dependent on the timing of an approval, if an approval is granted).
- enable extraction of approximately 3.7 million tonnes (Mt) of Run-of-Mine (ROM) coal over 5 years at a production rate that will not exceed 1 Mt of product coal per year
- improve resource recovery and be an efficient use of resources.
- ensure an appropriate return to the state with $30.6 million royalties (current dollars)
- generate total revenue (value of coal produced) of $434 million (current dollars); and
- provide employment for a workforce of 205 personnel at Russell Vale for five years.

The Division estimates that these direct mine jobs would result in approximately 800 additional indirect jobs in both mine and non-mine related services.

Resource and Economic Assessment

The Project will extract the Wongawilli Seam from the Illawarra Coal Measures. The Wongawilli Seam has a range of coal properties that make it ideal for blending with the Bulli Seam. The coal properties include high vitrinite content, high fluidity, low phosphorous and high grindability. The Wongawilli Seam is high in ash content and requires beneficiation for use as a metallurgical coal. Beneficiation of this coal usually yields a split of thermal coal and coking coal. The proportion of thermal coal increases as raw ash content increases.

A review of coal quality data and operational history confirms the Wongawilli Seam at Russell Vale can be exported as a coking coal product. The target product qualities, markets and sale prices will largely be driven by the efficiency of the proposed processing facility and the market for high ash content coking coal.

Many factors constrain the mine plan and extraction method within the Project area and therefore constrain resource recovery. These include geological & geotechnical features, subsidence sensitive surface features (environmental/infrastructure), commercial viability and existing workings.

The Wongawilli Seam ranges up to about 10 metres thick across the Southern Coalfield and contains numerous bands of non-coal partings. The economic working section of the Wongawilli Seam targeted by coal operations is the basal 2 to 5 metres, being the lowest ash content portion of the seam. Wollongong Coal proposes a mining height of about 2.4 metres in the basal section of the Wongawilli Seam. Coal resources will be left in the immediate mining roof in order to manage the geotechnical and safety constraints associated with the place change mining method.

In view of the constraints outlined in the Proponent's RPPR and based on the information currently available, the Division considers the Project satisfies section 3A objects of the *Mining Act 1992* and the requirements of clause 15 of the State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007. The Project represents an efficient development and utilisation of coal resources which will foster significant social and economic benefits.

The Division is generally satisfied that, should the operational outcomes be achievable, the proposed mine design and mining method submissions adequately recover coal resources and will provide an appropriate return to the state.

The Division notes that Wollongong Coal has not yet completed coal reserve estimation for the Project in accordance with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC code). The JORC Code is an industry-standard professional code of practice that sets minimum standards for public reporting of mineral exploration results, mineral resources and ore reserves. Reserves are the economically mineable portion of a resource. A JORC compliant reserves report for the Project would independently assess the commercial viability of the Project and the proposed place change mining method.

The Division recommends the Planning & Assessment Division request the Proponent to provide a reserves report for the Project, completed in accordance with the JORC code. This approach is consistent with previous instances when the JORC reserves report has not been made available at this point in the assessment process.

The resource utilisation and economic benefits assessment undertaken by the Division is addressed in Attachment A.

Application of section 380AA of the *Mining Act 1992* – restrictions on planning applications for coal mining and titles required to undertake mining

Coal is a prescribed mineral under the Act and the Proponent is required to hold appropriate mining titles from the Division to undertake mining.

Section 380AA states:

> *(1) An application for development consent, or for the modification of a development consent, to mine for coal cannot be made or determined unless (at the time it is made or determined)*

the applicant is the holder of an authority that is in force in respect of coal and the land where mining for coal is proposed to be carried out, or the applicant has the written consent of the holder of such an authority to make the application.

(2) For that purpose, an authority in respect of coal need not be in force in respect of the whole of the land to which the application for development consent relates but must be in force for the land where mining for coal is proposed.

Based on current title information the Division advises that the Proponent holds the appropriate titles as required for planning applications for coal as relating to the Project and satisfies the requirements of section 380AA.

The requirement for a mining authorisation and royalty liability

Based on current title information the Division advises that the Proponent holds the appropriate titles as required to undertake extraction operations as relating to the Project should it be approved (see attachment B).

Furthermore, the holder of a mining lease is also liable to pay royalty for both publicly and privately-owned minerals (refer to section 282-285 of the Act).

Biodiversity offset assessment

The Division requests that the Proponent consider potential resource sterilisation should any future biodiversity offsets areas be considered. Further, that the Proponent consult with the Division and any holders of existing mining or exploration authorities that could be potentially affected by the proposed creation of any such biodiversity offsets, prior to creation occurring. This will ensure there is no consequent reduction in access to prospective land for mineral exploration or potential for the sterilisation of mineral and extractive resources.

Summary of review

The Division has determined that should the project be approved; efficient and optimised resource outcomes can be achieved, and any identified risks or opportunities can be effectively regulated through the conditions of mining authorities issued under the *Mining Act 1992*.

The Division requests to review the draft conditions of approval before finalisation and any granting of development consent.

For enquiries regarding this matter, contact Adam Banister, Senior Advisor Assessment Coordination on 02 4063 6601 or assessment.coordination@planning.nsw.gov.au.

Yours sincerely

Dr David Blackmore
A/Executive Director Resource Operations
Division of Resources & Geoscience
29 August 2019

Encl.
Attachment A - Russell Vale Revised Underground Expansion Project - Resource & Economic Assessment (DOC19/645776)
Attachment B - Russell Vale Revised Extension Project - Diagram (DOC19/736789)

DOC19/645776

Russell Vale Revised Underground Expansion Project (MP 09_0013)

Resource & Economic Assessment

Division of Resources & Geoscience

August 2019

Published by NSW Department of Planning, Industry and Environment

dpie.nsw.gov.au

Title: Russell Vale Revised Underground Expansion Project (MP 09_0013)

Subtitle: Resource & Economic Assessment

File reference: DOC19/645776

More information

Assessment Coordination Unit, Resource Assessments – Division of Resources & Geoscience
assessment.coordination@planning.nsw.gov.au or 02 4063 6534

Contents

Executive summary

Determination

The Division of Resources and Geoscience (the Division) assessed the Russell Vale Revised Underground Expansion Project (the Project or Proposal).

The Division determined the Project will:

- ensure operations at the currently not producing Russell Vale Colliery (Russell Vale) would re-commence for a period of five years (commencement date dependent on the timing of an approval, if an approval is granted).
- improve resource recovery and be an efficient use of resources.
- ensure an appropriate return to the NSW Government including;
    - $30.6 million royalties (current dollars)
    - $434 million total revenue (current dollars)
- provide employment for a workforce of 205 personnel at Russell Vale for five years.

The project

In order to address residual uncertainty regarding the impacts of longwall mining raised by the Planning Assessment Commission Second Review Report, a revised mine design has been developed by Wollongong Coal Limited (Wollongong Coal or the Proponent) based on a non-caving first workings mining system. The revised mine plan has been designed to be long term stable with reduced risk of pillar failure to address potential subsidence-related mining impacts on groundwater, surface water and biodiversity within the Cataract Reservoir catchment.

Main components of the Project include:

- mining by means of first working mining techniques only, with the workings designed to be long term stable with minimal subsidence impacts. No longwall mining is proposed.
- extraction of approximately 3.7 million tonnes (Mt) of Run-of-Mine (ROM) coal over 5 years at a production rate that will not exceed 1 Mt of product coal per year.
- construction and use of a coal processing plant to improve the quality of product coal.
- redesign of the Pit Top layout to strategically relocate infrastructure to more shielded locations.
- reduced hours of operation for surface facilities relative to the Preferred Project mine plan.
- additional noise mitigation works at the Russell Vale Pit Top including a new noise barrier, extension to theheight of existing bunds and acoustic treatment of coal processing infrastructure.

Introduction

State significant development is regulated under the *Environmental Planning and Assessment Act 1979*, which requires a proponent to apply to the Department of Planning and Environment for development consent, supported by in this case the Revised Preferred Project Report and Response to Second PAC Review (RPPR).

This Resource & Economic Assessment conducted for the Project by the Division assessed:

- the social and economic benefits to NSW including royalties, capital investment, revenues and jobs.
- the resource/reserve estimates stated in the proponent's RPPR.
- if the Proposal is an efficient development of the resource, that resource recovery is optimised and waste minimised.
- if the Proposal will provide an appropriate return to NSW.

The objects of the *Mining Act 1992* are to encourage and facilitate the discovery and efficient development of mineral resources in NSW.

Of particular relevance to this Resource & Economic Assessment are section 3A Objects:

- to recognise and foster the significant social and economic benefits to NSW that result from the efficient development of mineral resources.
- to ensure an appropriate return to the State from mineral resources.

The relevant section of the State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007 is Part 3, Clause 15: Resource Recovery requires that resource recovery is efficient, optimised and minimises waste.

Project Overview

Mine history

Wollongong Coal owns two underground metallurgical coal mines, Russell Vale Colliery (Russell Vale) and Wongawilli Colliery. Both are in the Illawarra region of the Southern Coalfield and both are on care and maintenance.

Mining in this region commenced in the late 1880's. Russell Vale has extracted coal from the Bulli, Balgownie and Wongawilli seams using various underground methods (Longwall, bord and pillar). Mining at Russell Vale ceased in 2015 when mining consent expired. Wollongong Coal proposed various extensions to sustain and expand mining operations at Russell Vale prior to 2015. None of these proposals were approved.

The proposed Russell Vale Revised Underground Expansion Project

The Project proposes to recommence mining the Wongawilli Seam at Russell Vale.

The Project proposes to recommence mining for a five-year period. The proposed operation is an underground, bord and pillar mine using the place change mining method. The place change mining method was selected to improve operational efficiency, reduce costs, minimise surface subsidence and maximise production rates.

The Project will utilise existing mine infrastructure and transport facilities. A small coal processing facility is planned to be constructed to beneficiate Run-of-Mine (ROM) coal.

Size and quality of the resource

Resource size

The Division has verified that the Project will provide about 3.7 million tonnes (Mt) of ROM coal which will produce around 3.1 Mt of product coal.

The Proponent has completed the coal resource estimation for the Project in accordance with the Australasian Code for Reporting Exploration results, Mineral Resources and Ore Reserves (the JORC Code). The JORC Code is an industry-standard professional code of practice that sets minimum standards for public reporting of mineral exploration results, mineral resources and ore reserves.

The Proponent has not yet completed coal reserve estimation for the Project in accordance with the JORC code. Reserves are the economically mineable portion of a resource.

The Project represents a very small portion of the large underground coking coal resource at Russell Vale. Coal resources in the Bulli and Wongawilli seams outside the Proposal area extend westward and are significant long-term exploration targets.

Resource quality

The Project will extract the Wongawilli Seam from the Illawarra Coal Measures. The Wongawilli Seam has a range of coal properties that make it ideal for blending with the Bulli Seam. These are high vitrinite content, high fluidity, low phosphorous and high grindability.

The Wongawilli Seam is high in ash content and requires beneficiation for use as a metallurgical coal. Beneficiation of the Wongawilli Seam usually yields a split of thermal coal and coking coal. The proportion of thermal coal increases as raw ash content increases.

Russell Vale mine proposes to extract the low ash, basal section of the Wongawilli Seam. The ROM coal will be crushed, screened and then subject to a simple beneficiation process. Wollongong Coal estimate the beneficiation process will reduce the ROM coal ash by about 8% with a yield of about 80%. Project ROM ash is expected to range from about 28 - 32%.

The product coal requires additional beneficiation or blending to meet hard coking coal benchmarks (typically less than 10.5% ash content). The product coal from the Proposal would therefore receive a significant discount to the prevailing export hard coking coal price.

Wollongong Coal expects to have the coal processing facility constructed after one year of operation. Prior to this all coal will be sold as ROM coal.

A review of coal quality data and operational history confirms the Wongawilli Seam at Russell Vale can be exported as a coking coal product. The target product qualities, markets and sale prices will

largely be driven by the efficiency of the proposed processing facility and the market for high ash content coking coal.

Resource recovery

Wollongong Coal assessed several mine designs and mining methods at Russell Vale. The current Project represents a small portion of the larger coal resource at Russell Vale, but will not impact the potential future development of those resources. Wollongong Coal determined a bord and pillar mine design, using the place change mining method, was most appropriate.

Many factors constrain the mine plan and extraction method within the Proposal and therefore constrain resource recovery. These include geological & geotechnical features, subsidence sensitive surface features (environmental/infrastructure), commercial viability and existing workings.

Secondary extraction techniques such as longwall mining would increase resource recovery at the of the Project. However, Wollongong Coal considers this mining method inappropriate given the subsidence sensitive surfaces constraints within the Proposal area. In order to recover coal, a first workings only proposal was developed.

First workings, bord and pillar extraction is designed to have no measurable subsidence and be stable in the long term. This mining method also ensures flexibility in mine operations to manage subsidence sensitive surface features. In areas where approval for secondary extraction is unlikely to be granted, first workings bord and pillar operations represent the only viable option to recover coal resources.

The Wongawilli Seam ranges up to about 10 metres thick across the Southern Coalfield and contains numerous bands of non-coal partings. The economic working section of the Wongawilli Seam targeted by coal operations is the basal 2 to 5 metres. This is the lowest ash content portion of the Wongawilli Seam.

Wollongong Coal proposes a mining height of about 2.4 metres in the basal section of the Wongawilli Seam. Coal resources will be left in the immediate mining roof in order to manage the geotechnical and safety constraints associated with the place change mining method.

The Bulli and Balgownie seams overlie the Wongawilli Seam. Coal resources from these seams have been extensively extracted within the Project area meaning these resources will not be sterilised by this proposal. No additional coal seams with potential commercial viability overlie the Wongawilli Seam.

Resource recovery is adequate considering the project constraints

Given the constraints outlined in Wollongong Coal's RPPR, the Division considers the Project to adequately recover coal resources and provide an appropriate return to the State.

Economic benefits of the resource

Over the life of the Project, assuming the majority of production would be sold on the export metallurgical market, the Division has estimated that the value of the coal produced would be around $434 million in current dollars, with the net present value (NPV) of this revenue stream of around $362 million at a real discount rate of 7%.

Export income is vital for the health of both the NSW and Australian economies. Export income also contributes to the Nation's balance of trade, which provides benefits to both the state and Australian credit ratings, plus it generally has a positive impact on the value of the Australian dollar exchange rate. If approved, the additional export income from the Project would contribute to the around $19.7 billion (2017-18 total) of coal exports annually from NSW. Coal exports are the largest value export from NSW, representing around 45% of the state's merchandised goods exports.

The Project, if approved, would provide up to 205 full time operational jobs (full time employees and contractors) from 2021 to 2025. The Division estimates that these direct mine jobs would result in around an additional 800 indirect jobs in both mine and non-mine related services. Initial capital investment for the Project would be of the order of $35 million.

The Division also notes from the RPPR prepared by Umwelt, on behalf of the Proponent, that the Project would deliver a net benefit to NSW in NPV terms of $174 million.

Coal royalty calculation

The Project is a proposed underground mine where all production would take place at depths of less than 400m, therefore a royalty rate of 7.2% applies to all saleable production. This rate is applicable to the net disposal value. Net disposal value is the price received per tonne minus any allowable deductions. The main allowable deduction is for coal beneficiation, which is either $3.50 per tonne for coal subjected to a full washing cycle, $2.00 per tonne for coal subjected to a simple washing process, or $0.50 per tonne for coal that is washed and screened.

As a majority of ROM coal from the operation would be subject to a simple washing process, a deduction of $2.00 per tonne from the value of coal produced applies. A deduction for levies also applies which would amount to no more than $1.00 per tonne. Hence allowable deductions for royalty for the Project are $3.00 per tonne.

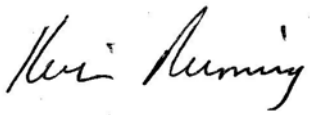
One of the most important assumptions in the calculation of future royalty is the estimate of a future coal price over the life of a project. The majority of coal from the Project is expected to be sold into the export metallurgical market. A review of coal quality information by the Division suggests this is achievable.

Coal price forecasting is inherently difficult and over the project life variations in coal prices are expected. An average price of around A$140 per tonne for export metallurgical coal from the Project has been used by the Division. Any product coal that would be sold from the Project is not premium quality hard coking coal which would attract a significantly higher price than A$140 per tonne. Any coal produced from the Project would be subject to a significant discount to the prevailing export hard coking coal price, the quantum of this discount is arguable. The Division has used a conservative discount to arrive at the A$140 per tonne coal price for the life of the Project.

Another important aspect of future royalty calculation for a proposed coal project is estimation of future annual production. The Division has used the Proponent's stated production schedule in its royalty calculations, and if the Project is approved, around 3.1 Mt of product coal would be mined from the Project.

Using the above parameters, the Division has calculated that the State would receive around $30.6 million in current dollars, and around $25.5 million in NPV terms (real discount rate of 7 percent) in royalty from the Project. In a typical year at full production the NSW Government would receive around $8 million in royalties from the Project. These totals would only be achieved if the Project is approved.

Approvals

Approved by	Signature	Date
Approving Officer: Dr Kevin Ruming Director Strategic Resource Assessment & Advice		26/08/2019
Approving Officer: Tamsin Martin Director Resources Planning & Programs		26/08/2019
Endorsing Officer: Dr David Blackmore A/Executive Director Resource Operations		29/08/2019

RUSSELL VALE EXTENSION PROJECT DEVELOPMENT APPLICATION IDENTIFICATION

LAKE CATARACT

Metropolitan Special Area
Special Catchment

CCL768

CCL745

SCA - REP Subcatchment
Upper Nepean River

Illawarra Escarpment
State Conservation Area

MOUNT OUSLEY ROAD

PRINCES HIGHWAY

MEMORIAL DRIVE

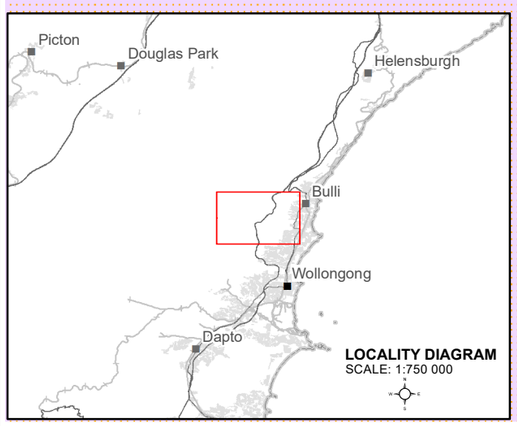


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DIAGRAM: 09_0013

- Project Site
- Portals
- Conveyor Belt
- Powerlines
- Wongawilli Seam Workings
- UEP Mine Extraction Area
- Proposed RVS CHPP
- Site Dams
- State Conservation Area
- SCA - Special Area
- SCA - REP Subcatchment
- Water Body
- CCL745 (1973)
- CCL768 (1973)

Development Application No.: 09_0013 (CM9: EF19/18874)
Project/Operation: Russell Vale Colliery – Revised Underground Expansion Project
Applicant: Wollongong Coal
Prepared and extracted from TAS by
M. Grainger 14/08/2019
RESOURCE OPERATIONS
SPATIAL SERVICES

0 0.25 0.5 0.75 1
kilometres

NSW GOVERNMENT
SPATIAL SERVICES
RESOURCE OPERATIONS

NSW GOVERNMENT | Dams Safety Committee

18 September, 2019

Major Projects Assessment
Department of Planning & Environment
GPO Box 39
SYDNEY NSW 2001

Our ref: 10.121.046.

Your ref: MP 09_0013

Attention: Jack Murphy,

Russell Vale Colliery –
Revised Underground Expansion Project (MP 09_0013)

The Dams Safety Committee (DSC) has reviewed the available documents pertaining to Russell Vale Colliery's Revised Underground Expansion Project (UEP). It is noted that only First Workings are proposed in the Wongawilli Seam.

Cataract Dam is a major water supply dam which is prescribed by the Dams Safety Committee, it is owned by WaterNSW. It is a 56m, mass gravity dam that forms a significant part of Sydney's water supply.

It should be understood that the interests of the DSC are specific to the safety of the Dam and its stored waters. The DSC understands that the future of the Colliery is to the west of the current proposal. There is potential that future workings in the Wongawilli seam would connect the extracted Bulli Seam below Cataract Reservoir to the mine portals. Previous workings within the Cataract Notification Area have been endorsed by the DSC on the condition that seals are installed in the mine workings in such a location to isolate the workings below the Reservoir from the mine portals. This consideration needs to be included in any future approvals to mine at Russell Vale Colliery.

The DSC notes issues concerning the possible consequences of ineffective Closure Plans. While the DSC considers it to be a low risk (based on the extensive Bulli Seam workings down dip of Wonga East), there has been no quantitative assessment of this risk for the time frame that the Reservoir will be in existence.

Postal: NSW Dams Safety Committee
Locked Bag 5123
Parramatta NSW 2124
Australia

Address:
Level 11
10 Valentine Avenue
Parramatta NSW 2150

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ABN 55 079 703 705

The DSC's views on the Proposed Underground Expansion at Russell Vale Colliery are as follows:

- The DSC has no concerns with the development of First Workings within the Notification Area.

Yours faithfully,

C. Salkovic
Executive Engineer
Dams Safety Committee

Planning, Industry & Environment

Our ref: DOC19/742788
Senders ref: MP09_0013

Jack Murphy
Environmental Assessment Officer
Resource Assessments
Planning & Assessment
E-mail: jack.murphy@planning.nsw.gov.au

Dear Mr Murphy

Subject: Russell Vale Colliery Underground Expansion Project (MP09_0013) – Revised Preferred Project Report

Thank you for your email dated 30 July 2019 requesting advice on the abovementioned Revised Preferred Project report (PPR) for the Russell Vale Colliery Underground Expansion Project (UEP). Our comments on the revised PPR are summarised below, and detailed further at Attachment A:

Coastal Upland Swamps & Subsidence

- We note that the proposed coal extraction method has been amended to comprise first workings only instead of the previous longwall layout, significantly reducing the risk of subsidence to sensitive environmental features. On this basis our concerns regarding subsidence impacts upon Coastal Upland Swamp threatened ecological community and significant streams to be undermined by longwall mining have been addressed based on negligible predicted impacts.
- We support ongoing subsidence monitoring, as suggested in the revised PPR and supporting biodiversity assessment (Biosis, 2019), to confirm that predicted imperceptible subsidence impacts to undermined swamps will occur throughout the life of the project. We remain available to discuss conditions of project approval for this or any other relevant mitigation measure as required.

Aboriginal Cultural Heritage

- If the proposed non-caving first working mining system will cause imperceptible subsidence then impacts to Aboriginal heritage are likely to be minimal. Baseline archaeological recording should occur for rock art, rock shelter and grinding grooves sites. Without this information it will be impossible to effectively monitor the impact of the mining on the Aboriginal cultural heritage sites. AHIMS site cards should be updated with the updated baseline recordings.
- Updated Aboriginal community consultation records and outcomes should be provided. If consultation has not been continuous, the applicant may need to restart the formal consultation. The Aboriginal community must be provided an opportunity to contribute to the proposed Aboriginal heritage management. We recommend the consultation follow the Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 guideline.
- Should the project be approved, we recommend that the project approval:
    - Specify that harm to Aboriginal objects is not permitted (reflecting the predicted negligible Aboriginal heritage impacts).

- Require that an Aboriginal Heritage Management Plan (AHMP) is prepared before the underground mining commences.
- Require Aboriginal community consultation to follow the Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW 2010), which is available on our website.

Water Quality and Flooding

- The revised PPR (Umwelt 2019) provides reference to the Bellambi Gully Flood Assessment (Engeny, 2018), which outlines an approach to manage surface water at the site. This approach was previously reviewed by OEH (now DPIE's Environment Energy & Science group) as part of the MP10_0046 MOD 4 application, and understood to have been determined adequate in minimising adverse impacts to water quality and flooding to Bellambi Creek and downstream residents.
- Although the Engeny (2018) approach was an alternative to the approved Cardno (2015) approach, none of the major elements from any approaches have yet been implemented. As such the development continues to present a risk to the downstream community and environment as experienced in the August 1998 flood event, which resulted in significant downstream flooding and water quality impacts.
- Should the Underground Expansion Project (UEP) be approved, it is recommended that it be conditioned in such a way that ensures adequate measures are put in place to reduce the impacts the development has on downstream flooding and water quality. The development conditions should embrace requirements of Wollongong City Council on flood risk management and the EPA on water quality for suitable stormwater and flood risk management measures that reduces off site impacts.

If you have any questions about this advice, please do not hesitate to contact Mr Calvin Houlison, Senior Conservation Planning Officer, via calvin.houlison@environment.nsw.gov.au or 4224 4179.

Yours sincerely

30·8·2019.

Michael Saxon

Director, South East Branch
Biodiversity & Conservation Division
Environment, Energy and Science

Planning, Industry & Environment

ATTACHMENT A – DETAILED COMMENTS ON RUSSELL VALE COLLIERY UNDERGROUND EXPANSION PROJECT (MP09_0013) – REVISED PREFERRED PROJECT REPORT

1. Aboriginal Cultural Heritage

Aboriginal cultural heritage impact assessment

An updated technical Aboriginal cultural heritage assessment reflecting the current UEP has not been provided. Previous reports prepared by ERM (2012) and Biosis (2013) appear to be the most recent Aboriginal cultural heritage assessments. These reports are based on the previously proposed longwall layout.

The applicant should clarify how the previous Aboriginal cultural heritage survey effort and heritage assessment relates to the current UEP. Additional survey may be required if some areas of the UEP have not previously been included in an Aboriginal cultural heritage assessment.

To clarify the adequacy of the Aboriginal heritage assessment, we recommend the applicant provide:

- An overlay of the recorded Aboriginal cultural heritage sites and UEP mine plan.
- An overlay of Aboriginal cultural heritage survey transects in relation to the UEP mine plan.
- An updated AHIMS site search given the time since the previous assessments.
- An updated impact assessment based on this information.

The assessment could also be improved by the applicant providing examples of similar cultural heritage sites above mines that have used the proposed extraction technique.

Subsidence impacts on Aboriginal heritage are predicted to be low

The Second Review report (Umwelt 2019, p.56) concludes that as subsidence impacts have been substantially reduced there will be no impact on Aboriginal heritage sites.

The subsidence assessment report (Wilson and Mills 2019, p.10) refers to previous impacts from extraction of the Bulli Seam on one rock shelter site. The applicant should clarify which site is being referred to in this statement.

Baseline recording

Baseline archaeological recording is required for all rock art, rock shelter and grinding grooves sites. Several of the AHIMS site cards for sites directly above the mining area were completed in the 1970s and 1980s. Natural changes to site condition, changes as a result of previous mining, are likely to have changed the site condition.

Without up to date baseline recording it will be impossible to effectively monitor the impact of the mining on the Aboriginal cultural heritage sites. The updated baseline recordings should be submitted to the AHIMS Registrar to update the site cards.

Aboriginal community consultation

Aboriginal community consultation specific to the current UEP is required.

The summary of public submissions in the Second Review Report (Woodward et al 2016, p.52) noted comments received in relation to Aboriginal heritage. It is not clear how these submissions have been addressed in the intervening period.

We recommend that the project approval require Aboriginal community consultation in accordance with the Aboriginal cultural heritage consultation requirements for proponents 2010, which is available on our website: https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Aboriginal-cultural-heritage/aboriginal-cultural-heritage-consultation-requirements-for-proponents-2010-090781.pdf. This guideline provides a robust process for consulting with the Aboriginal community.

Project approval

We recommend that any project approval:

- Specify that harm to Aboriginal objects is not permitted (reflecting the applicant's prediction of 'negligible' Aboriginal heritage impacts).
- Require that an Aboriginal Heritage Management Plan (AHMP) is prepared before the underground mining commences. The AHMP must be prepared in consultation with the Aboriginal community.
- Require Aboriginal community consultation to follow the Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW 2010), which is available on our website.

An Aboriginal heritage management plan is required

An Aboriginal heritage management plan (AHMP) is required and must be prepared in consultation with the Aboriginal community.

We recommend the AHMP include:

- A process for protecting Aboriginal objects from harm across the life of the mine.
- Detailed consultation protocol setting out how and when the Aboriginal community will be consulted in both the construction and operational phases of the mine.
- Detailed methodology for monitoring rock shelter, art and grinding groove sites within the UEP area.
- Detail of any required mitigation measures if harm to Aboriginal heritage is identified.
- Process for managing unrecorded sites identified during works.
- Procedure for updating AHIMS site cards throughout the project.

Summary of Aboriginal cultural heritage recommendations

- The applicant should provide an Aboriginal cultural heritage impact assessment that addresses our comments.
- Baseline archaeological recording is required for all rock art, rock shelter and grinding grooves sites.
- Aboriginal community consultation specific to the current UEP is required.

- The project approval should incorporate our recommendations that harm to Aboriginal objects is not permitted, an AHMP must be prepared and Aboriginal community consultation must be conducted in accordance with our guidelines.

References

- Biosis. 2013. NRE No. 1 Colliery – Underground Expansion Project: Preferred Project Report – Heritage. Report to Gujarat NRE Coking Coal Ltd.
- ERM. 2012. NRE No. 1 Colliery, Aboriginal Heritage Assessment. Report to Gujarat NRE Coking Coal Pty Ltd.
- Umwelt. 2019. Russell Vale Revised Underground Expansion Project, Revised Preferred Project Report and Response to Second PAC Review. Dated July 2019.
- Wilson, S. and Mills, K. (SCT Operations Pty Ltd). 2019. Russell Bale Colliery: Subsidence Assessment for Proposed Workings in Wongawilli Seam at Russell Vale East.
- Woodward, J., Forward, P. and Stoeckel, A. (Planning and Assessment Commission). 2016. Russell Vale Colliery Underground Expansion Project, Second Review Report.

DOC19/645290-10

Mr Jack Murphy
Department of Planning, Industry and Environment
GPO Box 39
SYDNEY NSW 2001

Email: jack.murphy@planning.nsw.gov.au

Dear Mr Murphy

Russell Vale Colliery - Revised Underground Expansion Project (09_0013)

The Environment Protection Authority (EPA) refers to your email of 30 July 2019 requesting comments on the revised Preferred Project Report (PPR) for the Russell Vale Colliery.

The PPR has been developed in response to the Planning Assessment Commission's Second Review Report released in March 2016. The report required further consideration of subsidence impacts including the risk of water loss and impact to upland swamps, and noise impacts from surface facilities.

The revised PPR is now based on bord and pillar mining to reduce impacts associated with longwall mining. Surface facilities have been re-configured to minimise noise levels at residential receivers.

The EPA has reviewed the Air, Noise and Water Impact Assessments and provides comments in the attachments to this letter (**Attachment A, Attachment B and Attachment C**). The comments highlight areas where the EPA recommends more information and clarification be provided to assist the Department of Planning, Industry and Environment in determination of the proposal.

If you have questions regarding the above, please phone Andrew Couldridge on (02) 4224 4100.

Yours sincerely

03/09/19

PETER BLOEM
Manager Regional Operations Illawarra
Environment Protection Authority

Attachments A, B and C

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(from outside NSW)

Fax 02 4224 4110
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Attachment A

EPA Comments on the Noise Impact Assessment for the Russell Vale Project

Key issues

The EPA has reviewed the following documents regarding the Russell Vale Colliery Underground Expansion Project:

- *Russell Vale Colliery Underground Expansion Project Revised Noise Assessment, dated 17 July 2019, Wilkinson Murray Pty Ltd, reference: 14141-C Version A Final* (2019 noise report)
- *Russell Vale Colliery Underground Expansion Project Second Review Report, dated March 2016, Planning Assessment Commission, NSW Government* (Second PAC review)
- *Russell Vale Colliery Underground Expansion Project Response to Noise Issues Raised by the Planning Assessment Commission Review Report dated 2 April 2015, dated 15 July 2019, Wilkinson Murray Pty Ltd, reference: 14141-A Version B Final* (2015 noise report)
- *Russell Vale Colliery – Underground Expansion Project Review Report, dated 2 April 2015, Planning Assessment Commission, NSW Government* (First PAC Review)
- *Russell Vale Colliery Underground Expansion Project Noise Impact Assessment, dated 9 October 2014, Wilkinson Murray Pty Ltd, reference: 14141 Version C Final* (2014 noise report)
- *NRE No. 1 Colliery Preliminary Works Project, Project Approval 10_0046 dated October 2014* (PWP Project Approval).

The 2019 noise report has presented predicted noise levels within 2 dB or lower than the revised project noise trigger levels. This represents a significant reduction in noise levels compared with previous noise assessments for this application. There are a number of areas where additional justification and information is required as follows:

1) Background noise monitoring

The proponent has provided a new set of rating background levels (RBL) for receivers to the north and south of the premises. These new RBLs are generally higher than those determined in 2013 by ERM and Wilkinson Murray (WMPL) in 2014. The proponent must provide additional justification for the new RBLs; noting that they are higher than RBLs presented in previous assessments, are appropriate giving consideration to the length of period of monitoring, and the location of the monitoring relative to the most affected receivers and any other aspect pertinent to noise monitoring is in accordance with Fact Sheets A and B of the Noise Policy for Industry (NPfI) (EPA, 2017).

2) Assessed scenarios

The 2019 noise report has assessed three scenarios:

- construction of bunds
- phase-in which includes limited operations and coal processing infrastructure construction
- full operation with all mitigation measures in place.

The construction of bunds is proposed to occur prior to the phase-in scenarios for Bund #1 and the access road barrier, and for all other bunds during the phase-in scenario. The construction of bunds is predicted to exceed the Interim Construction Noise Guideline (ICNG) noise management levels by a significant amount. Chapter 2.4 of the noise report states that the rest of the bunds (Bunds #2-

5) will be progressively extended and completed before the end of the phase-in period. The phase-in period is stated to last between 12 to 24 months. This indicates that there is potential for a significant impact to occur during the first two years of the five year project whilst bunds are being constructed. Based on this, the EPA advises:

a) It is not clear from the report why all the noise mitigation bunds/barriers are not constructed prior to the commencement of operations. It is expected that noise mitigation bunds/barriers are constructed prior to the commencement of operations, unless sufficient justification can be provided.
b) Noise mitigation measures should be constructed as early as possible, unless community engagement identifies an alternative preference.
c) The proponent should commit to a firm timeframe for completion of the bund construction so that any period of potentially significant impacts is limited and to inform the expectations of the community and regulators.

3) Proposed noise mitigation measures

a) There is a significant reduction in predicted levels between the 2014/2015 noise reports and the 2019 noise report. The proponent should provide details of the predicted noise reductions associated with significant mitigation including engineering controls (including berms / barriers) and operational changes to demonstrate their individual and combined effectiveness.
b) The phase-in scenario includes a 9m ROM coal stockpile as a noise control measure for the ROM stockpile dozer. However, this measure is only in place during the phase-in scenario and not the operational scenario. It is currently not clear what mitigation measure replaces the 9m stockpile in the operational scenario to retain similar predicted noise levels at receivers. The proponent should provide clarification on how the dozer is mitigated in both the phase-in and operational scenarios.
c) The proponent should clarify if the D8 dozer will have at source mitigation (Hushpack) applied prior to the phase-in scenario commencing.
d) Noise barriers and berms in a variety of configurations have been assessed in multiple previous noise assessments for the premises to be of limited acoustic benefit. The proponent must provide justification that the barriers and berms proposed in the 2019 noise report will have an appropriate level of acoustic benefit.
e) Table 7-3 presents the 27 receivers identified to exceed the Project Noise Trigger Levels (PNTLs), with a maximum exceedance of 2 dB. It would aid the assessment of the proposal and the assessment of reasonable and feasible mitigation if the proponent provided more detail on which were the major sources that contribute to the exceedances at these receivers.
f) Previous noise assessments for the site have identified a range of different outcomes including no mitigation, mitigation with significant residual impacts and mitigation with no significant residual impacts. It would assist the assessment of the application if the proponent provided an indication of the scale and potential for different outcomes that could eventuate if there were under or overestimations of the effectiveness of the mitigation measures. The noise report should present additional contingency and safeguard mitigation measures that could be deployed should operational noise levels exceed predicted values.

4) Operational noise assessment

a) The EPA does not recommend or endorse any particular noise prediction method or software. The proponent is responsible for demonstrating the method they have used is suitable.
b) The proponent must provide more information regarding the difference in predicted levels between the 2019 noise report and the 2015 noise report. Predicted noise levels have reduced by between 2 and 15 dB during the day and evening. During the night period, some receivers have reduced noise levels, and some have increased noise levels compared to the 2015 noise report. The proponent should provide more detail on the difference between the two sets of predictions and the reasons for the differences.
c) The low frequency noise assessment in Chapter 7.5 of the 2019 noise report has not followed the NPfI procedure. Section 2.2 of the NPfI states that noise levels should be rounded to the nearest integer. This means that the numbers in Table 7-4 of the 2019 report should be reported as integers. This would mean that R2 and R11 have a C-A weighted noise level difference of

15 dB. One part of the trigger for the low frequency correction in NPfI Table C-1 is where the C-A weighted level difference is 15 dB or more. Since the difference at R2 and R11 is 15 dB (rounded to the nearest integer), the proponent should further investigate the potential for low frequency noise impacts and the applicability of a low frequency penalty.

d) Table 6-4 of the 2019 noise report states the sound power level (SWL) used in the modelling but also in some cases also states the mitigated noise level. The proponent should clarify which SWL has been used to generate the predicted noise levels.
e) The assumptions regarding the front end loader (FEL) in Table 6-4 state that it would only be used for 2 minutes per 15 minutes due to operational limitations on the number of trucks. The proponent should provide further justification that this is a reasonable assumption.
f) The proponent should confirm which type of truck will be used to haul rejects. For example, will an articulated dump truck (for example, CAT 740 style truck) or another type of truck be used. There is potential for different trucks types to generate higher noise levels.

5) Sleep disturbance assessment

a) The predictions from the tripper in Table 8-1 are about 1 dB higher than the $L_{eq,15min}$ noise levels. Further explanation is requested as this currently implies that the dominant noise sources would not have a maximum noise level substantially above their $L_{eq,15min}$ noise level.
b) The proponent should provide more information on the SWL, type and locations of L_{max} sources assumed for truck movements.

6) Project Noise Trigger Levels

The proponent has assumed that there are no existing and no future industrial noise sources in the area other than the subject premises in their determination of the amenity level. The proponent should provide further information on the potential for the existing, planned or zoned commercial and industrial premises on Bellambi Lane and the area surrounding the mine to influence industrial noise levels at relevant receivers.

Attachment B

EPA Comments on the Air Quality Impact Assessment for the Russell Vale Project

Key issues

The EPA has reviewed the Air Quality Impact Assessment (AQIA), *Air Quality Impact Assessment, Russell Vale Revised Underground Expansion Project, (ERM Australia Pacific, July 2019).* The AQIA was generally prepared in accordance with the *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (Approved Methods)*. However, the following issues should be addressed before determination of the proposal.

1) Assessment does not include a meteorological data selection process

Wind roses presented in the AQIA show there are 0 per cent calm conditions during the modelled year (2016). Worst case air quality impacts typically occur during calms or light winds which exhibit poor dispersion qualities. The modelled year may not have captured the worst-case impacts.
The assessment does not demonstrate that year 2016 meteorological data is representative of long-term conditions experienced at the site. Selecting representative meteorological data is important as it drives the transport and dispersion of the modelled air pollutants in the atmosphere.

Section 4.1 of the Approved Methods specifies that the assessment must clearly establish that the meteorological data adequately describes the expected meteorological patterns at the site under investigation. The assessment should be revised to include a comparison of the modelled meteorology (2016) against long term data at or near the mine site.

The EPA recommends that:

a) ***The proponent should incorporate a meteorological analysis that includes at least five years of meteorological data at or near the site and re-asses if 2016 meteorological data is representative.***

2) Adopted background levels data

Whilst the AQIA indicates no additional exceedances from the proposal, incremental 24-hour average PM_{10} concentrations presented in Tables 6.1 and 6.2 show that in some cases the project contributions can be similar or larger than the background levels at specific receptors (R1, R2, R10). The largest expected 24-hour average PM_{10} contribution at receptor R1 is 23.9 $\mu g/m^3$, which is approximately half of the EPA's impact assessment criterion (50 $\mu g/m^3$) and more than double the background level on the same day.

Figures 4.2 and 4.3 in the AQIA present background data for 24-hour average PM_{10} and $PM_{2.5}$ concentrations for 2016 only. There is approximately a two-month data gap between February and April and no discussion or explanation has been provided.

As the expected 24-hour average PM_{10} concentrations from the modelling can be as high 23.9 $\mu g/m^3$, it is important the AQIA discusses or presents historic ambient monitoring data to show the representativeness of the adopted background levels for the missing period.

The EPA recommends that:

a) ***The assessment should be revised to include all available ambient air quality data at or near the site to robustly characterise background air quality surrounding the project site and characterise local air quality impacts in the vicinity of the proposal in the context of historic operations.***

3) Unclear calculations to establish the emissions inventory

The AQIA does not provide detailed discussion of the methodology used to calculate the emissions inventory for either of the modelling scenarios. Calculations presented in Tables 2 and 3 could not be replicated.

In addition, the AQIA does not provide any information regarding the location of the sources for the modelling scenarios and does not include any discussion regarding expected shaft emissions.

Section 9.3 of the Approved Methods specifies that a detailed discussion of the methodology used to calculate the expected pollutant emission rates for each source should be presented as part of the AQIA.

The EPA recommends that:

a) ***Detailed information for the calculation of the emissions inventory should be provided to enable the EPA to replicate emissions. In particular, this information is to be provided for those activities (hauling, wind erosion for exposed areas, FEL loading) with the largest contribution to the total emissions.***
b) ***The proponent should present the location of the modelled sources for both scenarios.***

4) Assessment does not include a worst-case scenario

Based on the information presented in Tables 6.1 and 6.2 in the AQIA, the proposed project contributions at some receptors (R1, R2, R10) are similar or larger than the selected background. These results are based on annual processing quantities and not a maximum daily operation quantity.

An AQIA must include a reasonable worst-case scenario. The EPA considers a reasonable worst-case scenario should include emissions from expected daily peak activities.

The EPA recommends that:

a) **The proponent should revise the AQIA to include a worst-case scenario. This scenario should include emissions at daily maximum processing quantity.**

Attachment C

EPA Comments on Surface Facility Water Management for the Russell Vale Project

Key issues

In relation to surface water discharges, the EPA recently provided comments on the Russell Vale Colliery – Modification 4 (MP 10_0046 Mod 4) Response to Submissions (RTS) report. The RTS was for a development modification to remove the requirement to replace the Bellambi Gully diversion pipe with an open channel south of the coal stockpile at the Russell Vale Colliery. The EPA's response to the Department of Planning and Environment (DPE) was in a letter dated 21 January 2019 (DOC19/45371).

The EPA notes that the Statement of Commitments for the UEP contains agreed programs to install and maintain works proposed under Mod 4 and the EPA has no further comments to make.

Discharge from mine adit following eventual mine closure

The PPR discusses a PAC recommendation on page 172, section 9.3. The recommendation was in relation to the eventual discharge of groundwater from the Wongawilli coal seam portal (called an adit in the PPR). This would occur after mine closure and following flooding of the mine workings. It is estimated that 0.3 ML/d would drain by gravity from the adit presumably to Bellambi Gully. The PPR suggests that the water would be managed by treatment for a period of ten years following mine closure through a fund established for that purpose.

The PAC however stated that *"If sealing of an adit constitutes a control for managing water inflow, then this control should be risk assessed to determine its likely practicality and effectiveness and hence residual risk."* The PAC's recommendation has not been addressed in the PPR.

The EPA believes that the PAC's recommendation should be addressed not necessarily to reduce inflow but because recent experience at other mines in the Southern Highlands demonstrates the difficulty in finding a long term solution to legacy groundwater discharges. The discharges are often saline and contain dissolved metals that combine to permanently affect the downstream aquatic health of rivers.

The EPA considers that this issue does not need to be resolved prior to approval (if granted) because it is pre-existing and is not significantly altered by the revised proposal. However, the EPA requests that a program to investigate sealing of the mine as an alternative to water treatment be included as a Statement of Commitment or an Approval Condition.

File No: SF19/86134
Ref: DOC19/644977

Jack Murphy
Environmental Assessment Officer
Resource Assessments
Planning Services
320 Pitt Street
Sydney NSW 2001

Via email: jack.murphy@planning.nsw.gov.au

Dear Mr Murphy

RE: Heritage comments on Revised Preferred Project Report for Russell Vale Colliery Underground Expansion Project.

I refer to your email dated 30 July 2019 requesting any comment that the Heritage Council may have on the Revised Preferred Project Report (PPR) for the Russell Vale Colliery Underground Expansion Project. I note the original Application for the Underground Expansion Project was issued with Director General Requirements in August 2009. The Heritage Council of NSW has provided comments on numerous occasions during this assessment process including February 2011, February 2013, October 2013 and 14 July 2014.

The project has been significantly modified from the original proposal following two referrals to the Planning Assessment Commission (PAC) in 2015 and in 2016. The current application has reduced the proposed longwall mining activity to eight longwalls in the Wonga East area only. The revised mine design proposed has been prepared to address environmental concerns linked to subsidence and ground water impacts as raised by the PAC.

A review of the following documentation has been undertaken:

- Revised Preferred Project Report and Response to Second PAC Review (Final): *Russell Vale Revised Underground Expansion Project*, dated July 2019, prepared by Umwelt; and
- *NRE No.1 Colliery - Historical Heritage Assessment (HHA)*, dated November 2013, prepared by ERM.

Based upon this review, the following comments are provided:

- It is not clear from the submitted documentation if the project would affect the State Heritage Register (SHR) listed item Cataract Dam (SHR 01359). It is noted that the HHA dates to 2013, before the proposal was revised in 2014. Therefore, the HHA report should be revised and the heritage impact assessment updated.
- The HHA does not include a site plan showing the proposed mining location in relation to the Cataract Dam SHR curtilage. It is recommended that this is incorporated into the HHA.
- It is further recommended that all project works should be located outside the Cataract Dam SHR curtilage with no extraction beneath or within 1km of the SHR curtilage.

- The SHR item must be monitored for vibration and subsidence during mining operations. If vibration and subsidence is detected, the area must be rehabilitated, and a report submitted to Heritage outlining the actions taken.
- It is noted that 'NRE No 1 Colliery' was previously known as the South Bulli Colliery, which is an 'archaeological site' currently listed on the Wollongong Local Environmental Plan 2009. This site and its management have previously been the subject of a Conservation Management Plan prepared by GML Heritage in 2004. The Umwelt 2019 document has not identified how the amended proposal will or will not affect this locally listed item. It is recommended the HHA be revised to address the changes now proposed that is not clearly addressed in the Umwelt submission. This is relevant given the previous advice from the Heritage Council of NSW which sought to ensure the statement of commitments were adopted to manage this locally significant site (former South Bulli Colliery).

Relevant local councils and state agencies should be invited to comment where heritage items on the LEP and the s.170 Register are being affected. Early collaboration with local councils and relevant state agencies on mitigation impacts to heritage items and heritage landscapes associated with the project is recommended.

We understand that the request for comments on Aboriginal Archaeology would be separately referred to the Greater Sydney Planning Team within the Climate Change & Sustainability Division.

If you have any questions regarding the above advice, please contact Veerle Norbury, Senior Heritage Assessment Officer at the Heritage, Community Engagement, Department of Premier and Cabinet, on 9873 8616 or veerle.norbury@environment.nsw.gov.au.

Yours sincerely

Steven Meredith
Regional Manager, Southern
Heritage, Community Engagement
Department of Premier and Cabinet

As Delegate of the Heritage Council of NSW
5 September 2019

OUT19/10246

Jack Murphy
Environmental Assessment Officer
Planning and Assessment Group
NSW Department of Planning, Industry and Environment

jack.murphy@planning.nsw.gov.au

Dear Mr Murphy

Russell Vale Colliery Revised Underground Expansion Project (09_0013)
Revised Preferred Project Report

I refer to your email of 30th July 2019 to the Department of Planning, Industry and Environment (DPIE) – Lands, Water and Department of Primary Industries (DPI) about the above matter.

While DPIE Water no longer coordinates responses for DPI or DPIE Lands, I am advised that they do not have any comments on this Revised Preferred Project Report (PPR).

DPIE - Water and the NSW Natural Resources Access Regulator (NRAR) have reviewed the PPR.

We advise there are a number of concerns related to the proposal:

- The groundwater model requires further refinement to meet the requirements of the Australian Groundwater Modelling Guidelines (2012). It currently does not adequately consider cumulative effects of historic, current and planned operations by this proposal and other mines in the area.
- The proponent needs to demonstrate that they have or are able to obtain sufficient shares of water from relevant water sources;
- The groundwater monitoring information lacks the detail required to confirm the predictions derived from the modelling, as well as management measures to address unpredicted events or anomalous results.

The proponent must also ensure that works on waterfront land are to be carried out in accordance with the Guidelines for Controlled Activities (2012) https://www.industry.nsw.gov.au/water/licensing-trade/approvals/controlled-activities.

Please note further explanation about water take, licensing, groundwater modelling and monitoring is provided in **Attachment A**.

Please send any further referrals to DPIE Water by email to landuse.enquiries@dpi.nsw.gov.au.

Yours sincerely

Mitchell Isaacs
Director, Office of the Deputy and Strategic Relations
Department of Planning, Industry and Environment Water
3 October 2019

Attachment A

Detailed advice to DPIE Planning & Assessment regarding the Russell Vale Colliery Revised Underground Expansion Project (09_0013)

Revised Preferred Project Report (PPR)

1.0 Groundwater Modelling

The groundwater model (and associated assessment report) will require refinement in several aspects. The modelling should meet the requirements of the Australian Groundwater Modelling Guidelines (2012); should consider cumulative effects of historic, current and planned operations by this proposal and other mining in the area; and the report should adequately demonstrate how the model addresses the Director General's and subsequent agency-specific requirements.

1.1 Explanation

The report does not meet the requirements of the Australian Groundwater Modelling Guidelines (2012). For example, no assessment is given of the model confidence level class and the model has not been independently peer reviewed. Poor model calibration and lack of sensitivity and uncertainty analyses are considered major shortcomings in the reported modelling work.

The reported modelling work does not adequately consider mutual and cumulative effects of historic, current and planned operations in the area. Impact predictions for the proposed modified mining method are based on empirical subsidence modelling and numerical groundwater modelling. These have been used by the consultants to define the likelihood of subsidence impacts (low) arising from the first workings within the Wongawilli Seam and to simulate water balance components for the operation. Whilst in isolation the impacts from the proposed mine design are likely to be small, the cumulative impacts from historic and recently completed mining in overlying seams across a similar extent have yet to reach their conclusion and are currently unknown to DPIE Water. Furthermore, the potential for cumulative impacts from other nearby mining operations has not been fully investigated by the consultants. These impacts remain a concern.

The report does not adequately demonstrate how the model addresses the Director General's and subsequent agency-specific requirements.

1.2 Recommendation – Prior to Determination

DPIE Water recommends that the proponent revises the conceptual and numerical modelling and reporting to address issues identified in this assessment and to comply with the Australian Groundwater Modelling Guidelines (National Water Commission, 2012). This includes appropriate sensitivity and uncertainty analyses, independent peer review, assessment of the model confidence class, and useful and robust reporting.

The revised modelling must adequately consider mutual and cumulative effects of historic, current and planned mining operations in the area. The report needs to identify the current level of impact and predicted impacts arising from currently approved activities, and to present the range of potential impacts and groundwater take from the new development.

DPIE Water recommends that the proponent revises the modelling report to demonstrate how the model and report meet the relevant Director General's and agency-specific requirements.

1.3 Recommendation – Post Determination

DPIE Water recommends that the consent conditions require that the proponent provide a plan for: (a) updating the model and reporting throughout the life of the project; and (b) using the model for assessing the adequacy of the monitoring network and determining enhancement requirements.

These are to be developed in consultation with DPIE Water and to the satisfaction of the DPIE Secretary.

2.0 Water Take and Licencing

The proponent needs to demonstrate that they have or can obtain sufficient shares of water from relevant water sources.

2.1 Explanation

The proponent proposes to obtain 10.04ML of water entitlements from Upper Nepean Tributaries Headwaters Management Zone (MZ) within the 'Upper Nepean and Upstream Warragamba Water Source of the Water Sharing Plan (WSP) for the Greater Metropolitan Region Unregulated River Water Sources 2011. The WSP indicated there are no trade in options permitted within the Upper Nepean Tributaries Headwaters MZ, therefore water can only be obtained with the Upper Nepean Tributaries Headwaters MZ only. There are currently 54ML of water entitlements held between two water access licence holders.

This represents a risk to the proponent due to the limited entitlement and number of licence holders to trade with. The proponent is to provide further details on how the project proposes to obtain the required water access licence for the additional surface water take.

The proponent also needs to identify if surface water take is occurring as a result of historical mining activities and obtain the necessary licences as required.

2.2 Recommendation

DPIE Water recommends that the proponent:

- Demonstrate prior to determination an ability to obtain the required licences (both surface water and groundwater) for the relevant water sources where required and acquires all water licences prior to the start of activities; and
- Reassess surface water and groundwater take estimates using the refined groundwater model (see above). This includes identifying if surface water take is occurring as a result of historical mining activities. Impacts and takes are to be presented as the range of potential impact and take resulting from an uncertainty analysis in line with the 2018 IESC explanatory note, *Uncertainty analysis—Guidance for groundwater modelling within a risk management framework*. The P90 estimates should be relied on for impact and take predictions.

3.0 Groundwater Monitoring

The proponent needs to provide more detail regarding the groundwater monitoring program and the associated management measures.

3.1 Explanation

The assessments and Revised Preferred Project Report are lacking in detail with regard to the monitoring required to confirm the predictions derived from the modelling, as well as the management measures to be implemented to address unpredicted events or anomalous results.

3.2 Recommendations

DPIE Water recommends that the proponent:

- Clarify the existing and proposed monitoring program to confirm modelled predictions (e.g. water balance, flows, subsidence, pillar stability, reactivation of displacements, etc.).
- Provide evidence that the data from vibrating wire piezometers currently installed correlate closely with measurements from nearby open-hole monitoring bores screened across similar intervals.
- Detail the expansion of the existing monitoring network to improve data for ongoing revised modelling, with a specific focus on:

    - the areal and depths extents of the impacts of all mining in the eastern domain,
    - strategic placement of new installations to enable periodic future correlation between co-located vibrating wire piezometers and open-hole monitoring bores
- Provide details of management measures proposed to deal with unpredicted events or anomalous results observed from the monitoring program (e.g. specific response actions, mine design modifications, mine water lodgements drainage, scheduling of model revisions, reporting to agencies, etc.).

NSW RURAL FIRE SERVICE

The Secretary
Department of Planning, Industry and Environment
GPO Box 39
Sydney NSW 2001

Your reference: 09_0013
Our reference: D19/2592
DA19073119829 BB

Attention: Jack Murphy

9 August 2019

Dear Sir/Madam,

Russell Vale Colliery - Revised Underground Expansion Project (09_0013)

Reference is made to correspondence dated 30 July 2019 seeking comments in relation to bush fire protection for the above proposal in accordance with the *Environmental Planning and Assessment Act 1979.*

The New South Wales Rural Fire Service (NSW RFS) has reviewed the information provided and notes that the proposed development has the potential to increase the level of bush fire risk within the landscape and, the development may be impacted upon during a bush fire event. As such, a Fire Management Plan (FMP) shall be prepared for the site by a suitably qualified consultant in consultation with the local NSW RFS District Office. As a minimum, the FMP shall include:

- 24 hour emergency contact details including alternative telephone contact;
- Site infrastructure plan;
- Fire fighting water supply plan that provides suitable fittings and identifies operational access for fire fighting appliances to connection points;
- Site access and internal road plan that has been designed and constructed in accordance with the fire trail specifications defined in section 4.1.3(3) of 'Planning for Bush Fire Protection 2006';
- Construction of asset protection zones around all critical assets and infrastructure and their continued maintenance;
- Location of hazards (physical, chemical, and electrical) that will impact on the fire fighting operations and procedures to manage identified hazards during the fire fighting operations;
- Mitigation measures designed to prevent fire occurring within the site, and prevent fire escaping the site and developing into a bush/grass fire risk to the surrounding area; and
- Such additional matters as required by the NSW RFS District Office.

If you have any queries regarding this advice, please contact Bradley Bourke on 1300 NSW RFS.

Postal address
NSW Rural Fire Service
Planning and Environment Services
Locked Bag 17
GRANVILLE NSW 2141

T 1300 NSW RFS
F (02) 8741 5433
E records@rfs.nsw.gov.au
www.rfs.nsw.gov.au

Yours sincerely,

Martha Dotter
Acting Team Leader, Development Assessment and Planning
Planning and Environment Services

Our ref: STH09/02236/18
Contact: Melissa Steep 4221 2771
Your ref: 09_0013

3 September 2019

Jack Murphy
Department of Planning and Environment
information@planning.nsw.gov.au
cc: jack.murphy@planning.nsw.gov.au

RUSSELL VALE COLLIERY REVISED UNDERGROUND EXPANSION PROJECT 09_0013 – REVISED PREFERRED PROJECT REPORT (PP)

Dear Jack,

Roads and Maritime Services (RMS) refers to your correspondence dated 30 July 2019 regarding the revised preferred project report.

RMS has reviewed the information provided, focussing on the impact to the state road network. RMS notes for this DA:

- The key state roads are the Princes Highway and Memorial Drive; and
- The applicant proposes to continue monitoring and managing the impacts of mine subsidence through the Built Features Management Plan for Mount Ousley Road (and Picton Road Interchange).

Having regard for the above, RMS will not object to the DA subject to the conditions outlined in Attachment 1 being included in the conditions of development consent.

RMS highlights that in determining the DA the *Environmental Planning and Assessment Act, 1979*, it is the consent authority's responsibility to consider the environmental impacts of any road works which are ancillary to the development. This includes any works which form part of the proposal and/or any works which are deemed necessary to include as requirements in the conditions of development consent. Depending on the level of environmental assessment undertaken to date and nature of the works, the consent authority may require the developer to undertake further environmental assessment for any ancillary road works.

Upon determination of this matter, it would be appreciated if Council could send a copy of the Notice of Determination to development.southern@rms.nsw.gov.au.

Yours faithfully,

Chris Millet
Manager Land Use
Southern Region

- Prior to any works any mining operations, or other works which have the potential to cause mine subsidence or compromise RMS infrastructure, Wollongong Coal Limited (WCL) must review, update and implement a Subsidence Management Plan to the satisfaction of RMS.

  Notes:

  - The Subsidence Management Plan must be prepared in consultation with, and to the satisfaction of, RMS' appointed consultant. All costs associated with RMS' involvement are to be borne by the proponent.
  - The plan must comply with the RMS Mine Subsidence Risk Assessment Guidelines
  - The plan must identify any mining operations within a distance of 5 times the seam depth to an RMS asset for, RMS risk assessment and acceptance of subsidence impacts and far-field effects.
  - Wollongong Coal Limited (WCL) must clearly demonstrate that implementation of its Subsidence Management Plan will assure that mining impacts on RMS infrastructure, functionality, and road user safety will be proactively managed and effectively reduced to levels acceptable to RMS.

Planning & Environment
Resources Regulator

Our Ref: SF19/56730
DOC19/743498

Jack Murphy
Environmental Assessment Officer
Resource Assessments
Planning Services
Department of Planning, Industry and Environment
GPO Box 39
Sydney NSW 2001

By email: jack.murphy@planning.nsw.gov.au

Russell Vale Colliery Underground Expansion Project (09_0013): Response to Revised Preferred Project Report (PPR)

Dear Jack,

I refer to the email dated 30 July 2019 inviting the Resources Regulator to provide advice on the Revised Preferred Project Report (PPR) for Project **Russell Vale Colliery Underground Expansion Project**.

Development Details

The Russell Vale Colliery is an underground coal mine located approximately 8 kilometres from Wollongong, NSW. The **Russell Vale Colliery Underground Expansion Project** proposes to maintain coal production at 1 million tonnes per annum and have a projected mine life of 5 years.

The revised preferred project would involve:

- first workings mining of the Wongawilli seam in the "Wonga East" area only;
- retrieving the current longwall mining equipment for sale;
- constructing and operating a coal processing plant;
- redesigning the pit top layout to reduce amenity impacts; and
- continued road haulage of coal to Port Kembla Coal Terminal for export.

Previous Advice

The Resources Regulator has previously provided the following advice:

- Email with SEARs requirements sent to Umwelt (consultants) on 20 June 2019 - refer **Attachment 1**.

Environment and Rehabilitation

Compliance Operations within the Resources Regulator has responsibility for providing strategic advice for environmental issues pertaining to the proposed project in so far as they relate to or affect rehabilitation.

The Resources Regulator advises the Department of Planning, Industry & Environment – Resource Assessments that the information provided in the Revised Preferred Project Report (PRP) does not adequately address the issues raised in the submission from the Resources Regulator (email sent to Umwelt dated 20 June 2019, Reference: DOC19/529486).

Section 2.4 (Rehabilitation and Closure) of the Revised PRP states:

"Given the intended continuing use of the site (subject to future planning approval), decommissioning and closure of the Russell Vale Colliery Pit Top facilities are not proposed immediately following the completion of the UEP. Rather, it is intended that the site would be maintained in care and maintenance until such time as the planning assessment process is completed. If consent for continuing use of the site is not forthcoming, WCL will prepare and implement a detailed mine closure and rehabilitation plan in consultation with the Resources Regulator and other relevant government agencies and stakeholders.

Until that time, the existing rehabilitation and mine closure strategy outlined in the current Russell Vale Colliery Rehabilitation Management Plan, Preliminary Works Project Environmental Assessment (ERM 2011) and Rehabilitation Objectives established under Schedule 3 Condition 42 the Preliminary Works Project Approval (PA 10_0046) continue to remain valid.

WCL will continue to progressively rehabilitate and decommission non-critical infrastructure as they are phased out of operations or become non-critical to potential future land use options at the colliery. Rehabilitation within the site will continue to be managed in accordance with the existing approved Russell Vale Colliery Rehabilitation Management Plan.

WLC will review and update the existing Rehabilitation Management Plan to reflect approval requirements and commitments associated with the Revised Preferred Project and refinements to the site water management system proposed as part of MOD4".

The Revised PRP refers to existing Rehabilitation commitments and conditions for the Russell Vale Colliery Preliminary Works Project (PA 10_0046). A review of the current Development Consent for PA 10_0046 (MOD 3, approved 10 October 2014) shows Schedule 3, Conditions 42-44 are applicable to Rehabilitation.

The Resources Regulator has two issues of concern with the position stated in the Revised PRP:

1. It is understood that the Russell Vale Preliminary Works Project (PA 10_0046) is proposed to be replaced/superseded by the Russell Vale Colliery Underground Expansion Project (09_0013) if this is approved. If this were the case, it would be inappropriate to refer to Rehabilitation Commitments in a separate Development Consent and a separate Environmental Assessment.

2. The initial Preferred Project Report for the Underground Expansion Project, (undated but circa 2013 – link copied below), includes a detailed section on Rehabilitation (Section 2.1.2):
   https://majorprojects.accelo.com/public/5d171d78b91de44731631bf763c19c3b/NRE%20Underground%20Expansion%20Project%20-%20Preferred%20Project%20Report.pdf
   There is no explanation as to why this Rehabilitation section was included in the initial PRP but then removed from the revised PRP.

The Resources Regulator would expect an equivalent section in the revised PRP. This would ensure Rehabilitation aspects meet the Resources Regulator SEARs and that rehabilitation is covered to a contemporary standard, particularly noting Rehabilitation Aspects and Approval Conditions (Schedule 3, Conditions 42-44) for the Preliminary Works Project PA 10_0046 were last updated in October 2011.

It is recommended that DPIE, Resource Assessments requests additional information regarding Rehabilitation be provided as part of, or as an addendum to, the Revised PRP.

Once this is received, the Resources Regulator will be able to conduct an informed assessment of proposed Rehabilitation including recommended Conditions of Approval.

Rehabilitation Security

The Resources Regulator makes note of the following information on page 149 of Revised Preferred Project Report:

"Under the base case scenario in the CBA, WCL will be obligated to rehabilitate the Russell Vale Colliery including the underground access points and the Pit Top facilities which is estimated at $215 million to be expended in 2020, with no future mining at Russell Vale."

The Resources Regulator is currently seeking an independent review of the existing rehabilitation security held in respect of the Russell Vale mine to determine if the amount held is sufficient.

Mine Safety

Mine Safety Operations within the Resources Regulator is responsible for ensuring mine operators manage the risk to worker health and safety though compliance with the *Work Health and Safety (Mines and Petroleum Sites) Act 2013* and the subordinate mining legislation. In particular the effective management of risk associated with the principal hazards as specified in the *Work Health and Safety (Mines and Petroleum Sites) Regulation 2014*.

Mine Safety Operations have not identified any risk that would require comment in relation to this matter.

For enquiries regarding this matter please contact me on (02) 4063 6444 or minres.environment@planning.nsw.gov.au

Yours sincerely

for

Greg Kininmonth
Manager Environmental Operations

On behalf of
Steve Orr
A/Director Compliance
Resources Regulator
NSW Department of Planning, Industry & Environment
5 September 2019

ADVICE RESPONSE

Mining Development Rehabilitation Standard SEARs

Post-mining land use

(a) Identification and assessment of post-mining land use options;

(b) Identification and justification of the preferred post-mining land use outcome(s), including a discussion of how the final land use(s) are aligned with relevant local and regional strategic land use objectives;

(c) Identification of how the rehabilitation of the project will relate to the rehabilitation strategies of neighbouring mines within the region, with a particular emphasis on the coordination of rehabilitation activities along common boundary areas;

Rehabilitation objectives and domains

(d) Inclusion of a set of project rehabilitation objectives and completion criteria that clearly define the outcomes required to achieve the post-mining land use for each domain. Completion criteria should be specific, measurable, achievable, realistic and time-bound. If necessary, objective criteria may be presented as ranges;

Rehabilitation Methodology

(e) Details regarding the rehabilitation methods for disturbed areas and expected time frames for each stage of the rehabilitation process;

(f) Mine layout and scheduling, including maximising opportunities for progressive final rehabilitation. The final rehabilitation schedule should be mapped against key production milestones (i.e. ROM tonnes) of the mine layout sequence before being translated to indicative timeframes throughout the mine life. The mine plan should maximise opportunities for progressive rehabilitation;

Conceptual Final Landform Design

(g) Inclusion of a drawing at an appropriate scale identifying key attributes of the final landform, including final landform contours and the location of the proposed final land use(s);

Monitoring and Research

(h) Outlining the monitoring programs that will be implemented to assess how rehabilitation is trending towards the nominated land use objectives and completion criteria;

(i) Details of the process for triggering intervention and adaptive management measures to address potential adverse results as well as continuously improve rehabilitation practices;

(j) Outlining any proposed rehabilitation research programs and trials, including their objectives. This should include details of how the outcomes of research are considered as part of the ongoing review and improvement of rehabilitation practices;

Post-closure maintenance

(k) Description of how post-rehabilitation areas will be actively managed and maintained in accordance with the intended land use(s) in order to demonstrate progress towards meeting the rehabilitation objectives and completion criteria in a timely manner;

Barriers or limitations to effective rehabilitation

(l) Identification and description of those aspects of the site or operations that may present barriers or limitations to effective rehabilitation, including:

(i) evaluation of the likely effectiveness of the proposed rehabilitation techniques against the rehabilitation objectives and completion criteria;

(ii) an assessment and life of mine management strategy of the potential for geochemical constraints to rehabilitation (e.g. acid rock drainage, spontaneous combustion etc.), particularly associated with the management of overburden/interburden and reject material;

(iii) the processes that will be implemented throughout the mine life to identify and appropriately manage geochemical risks that may affect the ability to achieve sustainable rehabilitation outcomes;

Attachment 1 – Resources Regulator Advice to Umwelt (SEARs) – email sent to Umwelt dated 20 June 2019

The Resources Regulator would expect the Environmental Impact Assessment (EIA) currently in Development for the Russell Vale Underground Expansion Project, as revised, to address our current "Secretary's Environmental Assessment Requirements" (SEARs) which relate to Rehabilitation.

As such, it is requested that you review the SEAR's below and address these within the EIA.

(iv) a life of mine tailings management strategy, which details measures to be implemented to avoid the exposure of tailings material that may cause environmental risk, as well as promote geotechnical stability of the rehabilitated landform; and

(v) existing and surrounding landforms (showing contours and slopes) and how similar characteristics can be incorporated into the post-mining final landform design. This should include an evaluation of how key geomorphological characteristics evident in stable landforms within the natural landscape can be adapted to the materials and other constraints associated with the site.

(m) Where a void is proposed to remain as part of the final landform, include:

(i) a constraints and opportunities analysis of final void options, including backfilling, to justify that the proposed design is the most feasible and environmentally sustainable option to minimise the sterilisation of land post-mining;

(ii) a preliminary geotechnical assessment to identify the likely long term stability risks associated with the proposed remaining high wall(s) and low wall(s) along with associated measures that will be required to minimise potential risks to public safety; and

(iii) outcomes of the surface and groundwater assessments in relation to the likely final water level in the void. This should include an assessment of the potential for fill and spill along with measures required be implemented to minimise associated impacts to the environment and downstream water users.

(n) Where the mine includes underground workings:

(i) determine (with reference to the groundwater assessment) the likelihood and associated impacts of groundwater accumulating and subsequently discharging (e.g. acid or neutral mine drainage) from the underground workings post cessation of mining; and

(ii) consideration of the likely controls required to either prevent or mitigate against these risks as part of the closure plan for the site.

(o) Consideration of the controls likely to be required to either prevent or mitigate against rehabilitation risks as part of the closure plan for the site;

(p) Where an ecological land use is proposed, demonstrate how the revegetation strategy (e.g. seed mix, habitat features, corridor width etc.) has been developed in consideration of the target vegetation community(s);

(q) Where the intended land use is agriculture, demonstrate that the landscape, vegetation and soil will be returned to a condition capable of supporting this; and

(r) Consider any relevant government policies[1].

[1] The following government policies should be considered when addressing rehabilitation issues:
- Mine Rehabilitation (Leading Practice Sustainable Development Program for the Mining Industry, 2006)
- Mine Closure and Completion (Leading Practice Sustainable Development Program for the Mining Industry, 2006)
- Strategic Framework for Mine Closure (ANZMEC-MCA, 2000)

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29 August 2019

Contact: Girja Sharma
Telephone: *98652501*
Our ref: *D2019/89368*

Jack Murphy
Environmental Assessment Officer
Resource Assessments | Planning Services
320 Pitt Street | GPO Box 39 | Sydney NSW 2001

Dear Mr Murphy

Russell Vale Colliery Revised Preferred Underground Expansion Project (09_0013)

I refer to your referral dated 30 July 2018 inviting WaterNSW to provide advice on the revised preferred project report and supporting documents and recommended conditions of consent for the above project. WaterNSW appreciates the opportunity to provide detailed comments on the revised preferred mining proposal.

Context and Mining Principles
The subject land is located in the declared Sydney Catchment Area, including Metropolitan Special Area. A legislative function of Water NSW is to protect and enhance the quality and quantity of water in this catchment.

WaterNSW has adopted a set of principles that establish the outcomes it considers essential to protect the drinking water supplies of the Greater Sydney region from mining impacts. The mining principles relevant to this project and considered in the assessment include:

1. Protection of water quantity
2. Protection of water quality
3. Protection of human health
4. Protection of water supply infrastructure
5. Protection of ecological integrity
6. Sound and robust evidence regarding environmental impacts

Summary of assessment
The revised project report addresses the issues raised in the Second PAC review, and considered both WaterNSW's Mining Principles and the recommendations of the 2018 IEPMC Initial Report. WaterNSW considers that:

- the first workings mining method is much safer than the previous proposal for longwall mining and is unlikely to cause significant surface subsidence or significant interaction with the overlying seams
- the mining method is likely to minimise the potential groundwater impacts by limiting depressurisation within and immediately above the mined coal seam, and
- the proposed first workings are likely to have negligible impacts on natural surface features including upland swamps, cliffs, steep slopes, drainage lines, creeks, Cataract Creek, Cataract River, and Cataract Reservoir.

Notwithstanding, WaterNSW has discussed a range of concerns below that should be addressed through the provision of additional information or the imposition of appropriate conditions of consent.

Subsidence in multi-seam environment
WaterNSW notes that this is a unique mining proposal where a third coal seam is proposed to be undermined under already mined Bulli and Balgownie seams. One of the key uncertainties with the proposed mining area relates to the stability of the Bulli seam pillars, the potential for pillar run, and associated subsidence and environmental consequences including induced leakage.

Further, the proposed mining area is intersected by geological features such as the Corrimal fault, dyke D8, and an igneous sill intrusion. WaterNSW notes that the revised preferred mine plan is designed to avoid these intrusions where possible. However, the subsidence assessment report does not simulate geological structures due to the limitations and constraints inherent with the model set up and code, as well as uncertainty in the location, stratigraphic persistence and hydraulic properties.

While WaterNSW acknowledges that the revised mine plan is designed to minimise these concerns, a number of uncertainties remain. Consequently, WaterNSW recommends that:

- the subsidence assessment report is peer reviewed by a multi-seam mining expert within the NSW Government or an independent consultant acceptable to the Department, and
- subject to the findings of this expert peer review, the management of uncertainties is addressed through the approval conditions i.e. an extraction plan process (or equivalent) to allow the expert stakeholders to provide advice on an ongoing basis.

Water quantity and quality
WaterNSW notes that the revised mining proposal predicts that the mining company will require a Water Access Licence for the annual (cumulative) take of approximately 10ML/year of stream baseflow and leakage from Cataract Creek and the upper Cataract River catchments. As no details are provided about how this will be achieved, further information is required.

The revised project report proposes that some reject materials from the coal processing plant and sizing and screening plant would be emplaced underground. Further details should be provided about the quantity of reject materials to be emplaced and the potential associated impacts on groundwater water quality.

Overall, WaterNSW considers that the project would not have any significant impacts on water quantity and has the potential to achieve a neutral or beneficial effect (NorBE) on water quality, subject to:

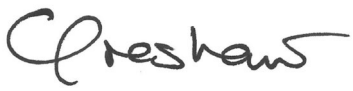
- the provision of sufficient additional information
- the imposition of performance measures for Cataract Creek, Cataract River, Bellambi Creek, Cataract Reservoir and upland swamps overlying the mining area (see WaterNSW's suggested measures in Attachment 1)
- a requirement that the mining company does not cause any exceedances of the performance measures, and
- requirements for a range of monitoring and management plans for subsidence, surface water, groundwater and upland swamps.

Master Agreement
WaterNSW notes that a Master Agreement between the former SCA and the previous mine owner (GujaratNRE) was set up to recompense SCA for any damages to infrastructure and the catchment, as well as any disruptions to water supply caused by mining activities. WaterNSW requests an update on the status of the agreement given the change in mine ownership. WaterNSW requires that such an agreement is established, which should provide firm guarantees and requirements of a security deposit.

It is further requested that WaterNSW remain a stakeholder for the proposal and any updates to relevant plans.

If you wish to discuss this letter further, please contact Girja Sharma on 9865 2501 or e-mail at environmental.assessments@waternsw.com.au.

Yours sincerely



CLAY PRESHAW
Manager Catchment Protection

Attachment 1 – Suggested Performance Measures

Water Storages	
Cataract Reservoir	Negligible environmental consequences including: • negligible reduction in the quantity or quality of surface water inflows to the reservoir; • negligible reduction in the quantity or quality of groundwater inflows to the reservoir; • negligible increase in the quantity of water entering the groundwater system from the reservoir; and • negligible leakage from the reservoir to underground mine workings. No connective cracking between the reservoir surface and the mine.
Watercourses	
Cataract Creek Cataract River Bellambi Creek	Negligible environmental consequences including: • negligible diversion of flows or changes in the natural drainage behaviour of pools; • negligible gas releases and iron staining; • negligible increase in water cloudiness; • negligible increase in bank erosion; and • negligible increase in sediment load.
Swamps	
Swamps of special significance	Negligible environmental consequences including: • negligible change in the size of swamps; • negligible erosion of the surface of swamps; • negligible change in the functioning of swamps; • negligible change to the composition or distribution of species within swamps; and • negligible drainage of water from swamps, or redistribution of water within swamps.
All other swamps	No significant environmental consequences beyond predictions in the EA.
Land	
Cliffs	Minor environmental consequences (that is occasional rockfalls, displacement or dislodgement of boulders or slabs, or fracturing, that in total do not impact more than 3% of the total face of such cliffs within any longwall mining domain).
Biodiversity	
Threatened species, threatened populations, or endangered ecological communities	Negligible environmental consequences

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WOLLONGONG CITY COUNCIL

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NSW Department of Planning Industry and Environment
GPO Box 39
SYDNEY NSW 2001

Attention: Director – Coal and Quarries Assessments

Your Ref:	09-0013
Our Ref:	Z19/186242
File:	MP-2009/13
Date:	28 August 2019

Dear Sir / Madam

REVISED PREFERRED PROJECT – RUSSELL VALE COLLIERY UNDERGROUND EXPANSION PROJECT

Independent Expert Panel for Mining in the Catchment & Surface Water and Groundwater Issues

Council notes that Wollongong Coal has provided a revised mine plan based on a non-caving first workings mining system in order to try to address the uncertainty regarding the impacts of longwall mining, raised by the Planning Assessment Commission in their Second Review Report. Council also notes that the Independent Expert Panel for Mining in the Catchment has been established to provide informed expert advice to the Department on the impact of mining activities in the Greater Sydney Water Catchment Special Areas, with particular emphasis on the risks to the quantity of water in the Catchment Special Areas.

The Independent Expert Panel for Mining in the Catchment has three specific Terms of Reference, namely:

1. Undertake an initial review and report on specific coal mining activities at the Metropolitan and Dendrobium Coal Mines in the Greater Sydney Water Catchment Special Areas;
2. Undertake a review of current coal mining in the Greater Sydney Water Catchment Special Areas with a particular focus on risks to the quantity of water available, the environmental consequences for swamps and the issue of cumulative impacts associated with the Dendrobium, Metropolitan, Russell Vale and Wongawilli Coal Mines; and
3. Provide advice as required to the Department on mining activities in the Greater Sydney Water Catchment Special Areas and specifically future EIS applications / extraction plans / subsidence management plans for each of the mines.

The Independent Expert Panel has produced the "Initial Report on Specific Mining Activities at the Metropolitan and Dendrobium Coal Mines" as the first part of their Terms of Reference. This report found that up to 3 megalitres per day of surface water and groundwater seepage into Dendrobium Coal Mine workings instead of the creeks and reservoirs. At Metropolitan Coal Mine, approximately 500,000 litres per day of surface water and groundwater seepage may be going into the mine workings instead of Woronora Reservoir or creeks. The report also notes that groundwater, surface water and subsidence issues are very complex and difficult to understand.

In light of the above, Council is concerned about the loss of water to reservoirs due to mining activities. Council does not want to see any further water losses to reservoirs, creeks and upland swamps as a result of mining activities.

It is noted that Table 5.3 in the Umwelt report predicts that 0.53 megalitres per day or 193.5 megalitres per year of groundwater will inflow into the mine workings as a result of the Wonga East project. A total mine inflow of groundwater is predicted to be in the order of 0.79 megalitres per day or 288 megalitres per year.

Therefore, Council requests that the revised preferred project for Russell Vale Colliery be considered by the Independent Expert Panel for Mining in the Catchment, as a precautionary peer review measure, before any approval recommendation is made by the Department to the Independent Planning Commission. This is due to the fact that the Bulli and Balgownie coal seams have already been extracted above the subject Wongawilli coal seam and there is a potential risk that the water losses may in fact be greater than predicted from the proposed mining of the Wongawill coal seam. The Independent Expert Panel for Mining in the Catchment should review the proposal's potential impact upon the quantity and quality of water available in the catchment

for drinking water supplies and for upland swamps. Further, the Panel is requested to consider the cumulative impact that the proposed Russell Vale coal mine and other coal mines have on drinking water supplies and the health of upland swamps in the Greater Sydney Water Catchment Special Areas.

New Coal Processing Plant & Reject Materials Handling

The screening and sizing station (as part of the coal processing plant) is likely to cause some potential noise issues to surrounding residential development in the locality. However, the proposed redesign of the Pit Top layout to strategically relocate infrastructure to more shielded locations will assist in reducing potential noise impacts. Additionally, the implementation of additional noise mitigation works at the pit top such as the new noise barrier, as well as the extension to the height of existing bunds will also assist in reducing potential noise issues. Further, the acoustic treatment of coal processing infrastructure will result in noise levels being within acceptable levels for the majority of the time the site is operational. The Umwelt report indicates that only negligible (1-2dB) exceedances predicted at surrounding residences will occur for a small percentage (less than 10%) of winter nights. This scenario is considered acceptable from Council's perspective provided that these pit top noise control measures are included as conditions of the project approval (if the project is ultimately recommended for approval by the Department and the Independent Planning Commission).

The Umwelt report (page 21) also indicates that *"...any rocky reject material that is separated by the coal processing plant will be transferred to a rejects stockpile by the rejects conveyor from where it will either be loaded onto road trucks to be sold as VEHM fill material or transferred to the mine portal and emplaced underground or used in site rehabilitation works."*

Importantly, the current Russell Vale Colliery Emplacement Area (governed by Development Consent No. 1989/839) will no longer be used as part of this project. As per the current Department of Planning Industry and Environment Development Control Order applying to the emplacement area, rehabilitation works are likely to occur within the next 3 - 6 months upon the emplacement area. In this regard, Council staff are awaiting revised final rehabilitation plans and associated documentation from Wollongong Coal for sign-off, before final rehabilitation works can commence.

Accordingly, Council requests that an appropriate condition be provided on any approval stating that under no circumstances is coal reject material to be deposited upon the former Russell Vale Colliery Emplacement Area (should the project ultimately be approved).

Coal Transport to Port Kembla Coal Terminal & a Road Maintenance Contribution to Council for the Maintenance of Bellambi Lane

Product coal will be transported by truck to Port Kembla Coal Terminal (PKCT) through the use of semi-trailers and / or truck and dog trailers. Wollongong Coal may in the future seek to use B-doubles vehicles which would reduce the number of trucks per hour. This change would need to be done via a future amendment to the project approval.

The transport route will be from the pit top via Bellambi Lane and Memorial Drive, which is the route that has been historically used for the transport of coal from the colliery to PKCT.

It is proposed that outbound laden truck movements will be limited to an average of 16 per hour between the hours of 7.00 am to 6.00 pm Mondays to Fridays and 8.00 am to 6.00 pm Saturdays. Further, it is proposed that coal transport may occasionally be required until 10.00 pm Mondays to Fridays as a result of unexpected port closures or interruptions. If this is the case, outbound laden truck movements will be further limited to an average of 12 trucks per hour between 6.00 pm to 10.00 pm Mondays to Fridays.

However, Council recommends that a condition of approval be imposed which requires Wollongong Coal to obtain special one-off written clearances from the Department to undertake any coal transporting between the hours of 6.00 pm to 10.00 pm Mondays to Fridays. Any such request by Wollongong Coal would need to demonstrate as to why the variation to the normal hours of coal transport is necessary and appropriate, in the circumstances.

The Umwelt report (page 162) states that Wollongong Coal will seek to reach agreement with Council within 12 months of the project approval for a road maintenance contribution for the maintenance of Bellambi Lane. This arrangement is considered acceptable and hence, Council requests that a condition be imposed dealing with this statement of commitment that Wollongong Coal seek to reach agreement with Council within this 12 month timeframe (should the project ultimately be approved).

Should you have any enquiries or wish to discuss this matter further, please contact Mr Ron Zwicker, Special Projects & Planning Support Manager on telephone number (02) 4227 7111.

This letter is authorised by

Mark Riordan
Manager Development Assessment & Certification
Wollongong City Council
Telephone (02) 4227 7111

Wollondilly Shire Council

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RURAL LIVING

DH:DH:1148-3#883

Mr J Murphy
Environmental Assessment Officer
Energy and Resource Assessments
Department of Planning, Industry and Environment
GPO Box 39 Sydney NSW 2001

Dear Mr Murphy

RUSSELL VALE EXPANSION PROJECT REVISED PREFERRED PROJECT REPORT

Thank you for the opportunity to comment on the updated Preferred Project Report (PPR) for the proposed expansion of the Russell Vale Colliery Project.

The Project expansion includes part of the eastern section of the Wollondilly Local Government Area (LGA) and is noted to be located within a Drinking Catchment Special Area. The significant lower level of subsidence impacts associated with the First Workings only approach proposed by the updated PPR in comparison to the previously proposed longwall approach is welcomed in principle. However, a number of potential shortcomings have been identified within the updated PPR that has warranted the preparation of a submission (attached).

A key viewpoint expressed in the submission is the insufficient assessment of potential impacts by the updated PPR to surface and groundwater sources, (a key concern of Council and the local community). This viewpoint is largely based on a review of documentation that has recently prepared as part of the review of Hume Project, which also proposes a First Workings Approach. The submission requests an adequacy review of the updated PPR based on the findings and recommendations of this documentation that includes a report produced by the Independent Planning Assessment Commission (IPAC). The submission further expresses the preferred position of Council staff that the updated PPR for the Russell Vale Expansion Project should be the subject of an investigation by an IPAC and that a Public Hearing be held as part of this investigation process.

Please contact Council's Environmental Assessment Planner, David Henry, for any enquiries regarding issues raised in the submission on (02) 4677 9687 or via e-mail david.henry@wollondilly.nsw.gov.au.

Yours faithfully

Mandy Marino
Acting Manager Environmental Outcomes

Submission on the Preferred Project Report for the Russell Vale Expansion Project

This submission provides comments on the Preferred Response Report (PPR) for the Russell Vale Colliery expansion (Expansion Project), based on the updated position of Council regarding mining and known research and publications by research organisations. It is understood that the updated Preferred Response Report will be considered by the Department of Planning, Industry and Environment (DPIE), as part of the preparation of its Assessment Report for the Project Application.

Background Information

The proponent is noted to have adopted a First Workings approach for mining operations. This approach is recognised as having significantly lower subsidence related impacts to watersources in comparison to longwall methodologies proposed by the previous Preferred Response Report. However, the following provides a brief overview of the current position of Council regarding these impacts given the location of the Expansion Project in the Drinking Catchment and potential impacts to water sources noted to have been identified by the PPR.

(i) *Overview of previous comments provided on the Russell Vale Colliery Project*

Council provided a submission to the Planning and Assessment Commission established to investigate the Expansion Project and previous version of the PPR in January 2015. This submission also provided comment on the Major Project Assessment Report and draft Determination prepared by the DPIE. A major issue raised in this submission was the adequacy of the scientific basis of the assessment and management of potential impacts to watersources by each of these documents.

(ii) *Updated Council position regarding mining and the Russell Vale Project*

Council has taken a proactive position in advocating the concerns of Council regarding potential impacts of mining on the condition of water sources as well as the provision of drinking water supplies. Applicable resolutions of Council defining its position regarding these impacts within the context of the Special Areas Catchment and other projects within the Wollondilly LGA is presented in Attachment 1. Council has also lodged a wide variety of submissions of relevance to the Expansion Project with the most recent being the Tahmoor South Project Application. The Executive Summary of this submission is presented in Attachment 2 for information purposes.

The First Workings approach of the PPR is acknowledge as responding, (at least partially), to a range Council concerns and resolutions. However, staff are aware of research based documents which indicate potential impacts (at a lower level and different nature to impacts from longwall mining) to watersources associated with this approach. **The DPIE is therefore requested to note the view of staff that the attached resolutions, as well as issue raised previous applicable Council submissions, are viewed as being transferrable to the Russell Vale Colliery Project.**

(iii) *Position regarding Mining in the Catchment*

The land covered by the PPR within the Wollondilly LGA is noted to be situated within Drinking Catchment Areas. Council supported in principle the establishment of the Independent Panel for Mining in the Catchment (Expert Panel), as a means of achieving current scientific advice on the potential impacts of mining operations on water supplies within the drinking catchment. The first Terms of Reference for the Panel, ***(Undertake an Initial Review and Report on Specific Coal Mining Activities at the Metropolitan and Dendrobium Coal Mines in the Greater Sydney Water Catchment Special Areas)*** is viewed as having direct relevance to

the PPR. The DPIE is requested to note that in endorsing the submission on the Terms of Reference for the Expert Panel at its meeting on 18 June 2019, Council resolved (in part) to *"request that no Determinations be issued for any mining related applications until such time that it has received and reviewed the Final Report produced by the Panel".* The original and supplementary submissions lodged with the Expert Panel is provided in Attachment 3 for information purposes.

It is understood that the submission of the Final Report by the Expert Panel the DPIE on its second Term of Reference to "*Undertake a review of current coal mining in the Greater Sydney Water Catchment Special Areas with a particular focus on risks to the quantity of water available, the environmental consequences for swamps and the issue of cumulative impacts"* has been delayed until 14th October 2019. It is contended that this Terms of Reference Item has direct relevance to the PPR particularly given the absence of 'subsidence' in its wording. It is consequently considered appropriate that the DPIE defer any consideration of the updated PPR until the Final Report by the Expert Panel has been received and reviewed.

In relation to this matter, a report prepared by Staff on the Dendrobium Colliery Environmental Impact Statement is scheduled to be considered by Council at its meeting on 16th September 2019. Details of any formal Council position regarding mining in Drinking Catchment Areas will be forwarded to the DPIE shortly after this meeting. However, the view of Council staff expressed in this report over necessary criteria for the undertaking of such mining for information of the DPIE is:

- *There needs to be scientific based demonstration of no adverse impacts to the volume and quality of water supplies within the Catchment Special Areas.*
- *There needs to be satisfaction expressed by Water NSW over the addressing of issues it has raised regarding the regulation and monitoring of the impacts of mining in the Catchment Special Areas.*

General comments on the Russell Vale Expansion Project

(i) Economic benefits

Council recognises the importance of coal mining in the southern coalfields to the economy and for employment on a local and broader scale. The proposed expansion of the Russell Vale Colliery Project is considered unlikely to result in direct economic benefits to Wollondilly or social implications given the isolation of the Project Area and its proximity to Wollongong. However, the Application is likely to result in indirect benefits that can be identified from modelling within the document "*Community Demographic Resources for Wollondilly Shire Council"* which calculates economic benefits for the Wollondilly LGA based on the direct employment of a particular Project.

(i) *Potential implications to local water supplies*

The Wollondilly LGA receives its water supply directly from Avon and Cataract Dams located within a section of the Drinking Catchment Area covered by the Dendrobium Project Area rather than Warragamba Dam. The potential adverse implications to this water supply from water loss as a consequence of mine induced fracturing is consequently viewed as being a potential impact of the Project. The PPR however would not appear to have investigated potential long-term associated social and economic implications of any such reduction in supply to consumers.

This issue has implications for the adequate servicing of current and future Development applications received by Council as well as servicing Growth Areas that includes Wilton and Appin within the Wollondilly LGA that are projected to involve approximately 50,000 residents.

The DPIE is requested to note in relation to this matter that Council resolved, (in part), at its meeting on 18th August that "*Council write to the NSW Minister for Planning highlighting the challenges of water conservation in our area and request this be considered in relation to growth in our region".*

Comments on the Revised Preferred Project Report

This section of the submission provides comments on the key area of concern over potential adverse implications of the Expansion Project to surface and groundwaters and their connectivity and requested DPIE response.

(i) Proposed mining approach by the Preferred Response Report

The assessment, monitoring and regulation of potential impacts associated with longwall mining operations have been the focus of a wide range of Council submissions on both mining applications and Government policy initiatives. The adoption of a First Workings Scheme by the PPR with predicted significantly less subsidence related impacts is consequently welcomed in principle.

It is understood in relation to this matter that the Hume Project within the Wingecarribee LGA involves a similar first workings approach adopted by the PPR. It is noted however that shortcomings in aspects of the Environmental Impact Assessment for this Project has been identified by both the Project Advice provided by the Independent Expert Scientific Committee (IESC) and an Independent Planning Assessment Commission (IPAC) established to investigate the Project. The following extract from the IPAC Report is considered to highlight these shortcomings:

> *"The provision of additional information as recommended in this Report and further expert consideration, is required to determine whether or not the Project has merit as an innovative approach to the mining of metallurgical coal with acceptable environmental impact"*

The provision of comment over the relevance and implications of the Hume Project to the Russell Vale Colliery Project is acknowledged as not being a matter for Council. However, as a minimum, Council staff would expect that the PPR consider the Hume Coal Project and that the specialist advice on this Project be considered during the development of any Determination by the DPIE. The apparent absence of reference to the Hume Coal Project and specialist advice within the PPR is therefore noted with strong concern. **The DPIE is requested to obtain scientific advice over the relevance of the Hume Coal Project to the proposed First Workings only approach of the Russell Vale Colliery Project Application.**

(ii) Potential impacts of the Expansion Project to surface and groundwater sources

The provision of detailed comments regarding the adequacy of these components is acknowledged as being a matter for relevant Government Agencies and research institutions such as the Independent Expert Scientific Committee. However, the following provides comments on the considered adequacy of the PPR in terms of its scientific basis and consistency with the position of Council based on resolutions and issues raised in applicable submissions.

(a) Subsidence induced potential impacts to water sources

Previous sections of this submission have recognised the predicted significant benefits of the First Workings approach in reducing impacts attributable to mine submissions. They have however also referred to a range of potential impacts to water sources for the first workings approach associated with the Hume Project identified by the IPAC and IESC Project Advice.

A review by Council staff with a working knowledge in this matter has identified that the PPR contains a detailed description of subsidence effects associated with the project as well as detailed groundwater modelling. The review however also identified the following shortcomings/issues that are consistent with the concerns of Council and local community:

- There is a range of generic descriptions in Specialist reports including *" As the revised Project will not result in any change to the contributing receiving water catchment area, and will result in an improvement to the discharge water quality from the Surface Facilities, no negative cumulative impacts are considered likely as a result of the revised Project".*
- There is insufficient detail of potential impacts to water sources which are listed in the Surface Water specialist report.
- There is insufficient assessment of potential impacts that may occur in the sections of the Project Area where there is identified potential for the collapse of installed pillars. The PPR is noted to state in relation to this matter that this could result in subsidence of 1 to 2 metres (with resulting fracturing extending towards the surface).

The statement in the Executive Summary of the PPR that the *Project is not expected to result in perceptible surface subsidence or significant interaction with existing groundwater systems*" is questioned based on the above identified concerns. It is therefore considered warranted that the Precautionary Principle be applied to assume that the First Workings approach has the potential to impact surface and groundwater sources over both a short and long timeframe.

It is further considered warranted that these potential impacts be subject to a detailed environmental assessment in the form of a revised PPR that is publicly exhibited. Staff would expect that this environmental assessment be consistent with the following position of Council expressed in a range of previous submissions (including recently to the Dendrobium Colliery Project) prior to any consideration of Determination:

- Applications should contain a description of the properties and behaviour of the groundwater environment that is informed by extensive groundwater monitoring and consistent with scientific research.
- All potentially affected watercourses should be subject to detailed assessment of likely subsidence induced impacts to surface and groundwaters (including their connectivity), within a catchment context.
- Trigger Response Plans and any equivalent Plans should be based on strong scientific knowledge and extensive baseline data.
- There should be full rehabilitation of any watercourses impacted by mining operations to their former ecological condition.

In relation to this matter, staff have prepared a report regarding the Environmental Impact Statement for the expansion of the Dendrobium Colliery Project that will be considered at a meeting of 18th September. The draft report refers to submissions made by Water NSW to the Expert Panel, and notes their strong synergy with the concerns of Council regarding water supply provision as well as position listed above.

The DPE is consequently requested based on the above considerations to carry out the following activities:

- Note the preferred view of Council staff that the PPR be subject to an investigation by an IPAC and that a Public Hearing be held as part of this process.
- Assess the adequacy of the PPR with issues raised over the assessment and monitoring of potential impacts to watersources associated with the First

Workings approach identified by the IPAC Report and IESC advice regarding the Hume Project.

- Consider the position and concerns of Council as detailed in the submission to the Expert Panel, (Attachment 3), as well as resolutions to be provided regarding the Dendrobium Environmental Impact Statement during its review of the PPR.
- Consider and ensure consistency of the PPR with correspondence from Water NSW to the Expert Panel as well as any advice on the Expansion Project.
- Defer its finalisation of the review of the PPR until the receipt and review of the Final Report by the Expert Panel.

(b) Impacts directly associated with the First Workings approach

Council is acknowledged as not having provided submissions or hold a specific position in relation to the First Workings only procedures apart from welcoming the predicted significant reductions in subsidence induced impacts. Identified shortcomings in the assessment of these impacts by the Hume Coal EIS in the IPAC Report and IESC Project Advice have however been noted with concern:

- *"Sensitive analysis of the influence of the full range of model parameters and boundary conditions on groundwater drawdown predictions is needed for assessment of the potential scale of impacts and the suitability of monitoring and management options" (IESC Project Advice).*
- *"The Committee finds that the Applicant and the Department have not adequately assessed or considered the potential impacts of the Project on groundwater because of the uncertainty around the modelling undertaken to date and the associated uncertainty this might create in understanding the potential groundwater impacts, and the lack of certainty around the practical application of the Applicant's make good proposal" (IPAC Report).*

It is consequently considered warranted and requested that the DPIE require the review of the PPR to identify the adequacy of the PPR based on the findings and recommendations of the Hume Coal IPAC Report as well as specialist advice provided on this Project. The DPIE is further requested to note the preferred position of Council Staff that the PPR should be the subject of an investigation by an IPAC and that a Public Hearing be held as part of this process.

(iv) *Potential impacts to terrestrial biodiversity*

The PPR is noted to state that there will be no vegetation clearance as a result of the Expansion Project due to no additional surface infrastructure being required. The provision of comments on potential impacts of the Expansion Project on biodiversity values is also viewed as being a matter for the Environment, Energy and Science Division within the DPIE. This submission consequently does not provide any specific comments regarding this component of the PPR.

The conclusion of the PPR that the *Expansion Project is considered to have negligible risk of impacting any potential Koala habitat* is agreed with in principle. However, comments on the PPR regarding the presence of koala habitat within the Expansion Project area by the PPR are also agreed with. The protection of local koala populations and habitat is of major concern to Council and the local community. It is considered appropriate that this habitat be protected and the PPR identify any potential habitat linkage that exists between the Project Area and known populations to the west near Wilton.

The DPIE is requested to provide a commitment/condition in any Determination that requires the preparation of a Biodiversity Management Plan in the event of the proponent identifying that vegetation clearance is necessary. The DPIE is further requested to ensure that this Plan be required to consider any impacts of such clearance on koala habitat in a broad context.

CONCLUSION STATEMENT

The Russell Vale Colliery Expansion Project includes parts of the eastern section of the Wollondilly Local Government Area. The adoption of the First Workings only approach by the updated Preferred Response Report is welcomed in principle as a means of responding to key concerns of Council and the community over potential subsidence induced impacts to watersources.

However, this submission has referred to a number of shortcomings in regard to the Environmental Impact Statement for the Hume Project noted to be utilising a similar mining process. It requests that the Department of Planning, Industry and Environment undertake an adequacy review of the PRR based on the findings and recommendations of these documentations including the report produced by the Independent Planning Assessment Commission (IPAC). It also expresses the preferred position of Council Staff that the PPR should be the subject of an investigation by an IPAC and that a Public Hearing be held as part of this process.

ATTACHMENT 1

RESOLUTIONS OF COUNCIL RELATED TO MINING

Resolutions of Council at its meeting of 16th July 2007

1. *That Council make a formal submission and oral presentation to the Inquiry into Coal Mining in the Southern Coalfields.*

2. *That Council's submission stresses Council's opposition to any mining that affects our river systems.*

3. *That Council's submission emphasises the Mine Subsidence Board's responsibility to restore structures damaged as a result of mining activity.*

4. *That the Inquiry increase the pressure on the mining companies and the mining equipment suppliers to develop a method of disposing of the excess material back into the cavity as the mining is taking place.*

5. *That Council calls for the completion of the Maldon Dombarton rail link to transport coal.*

6. *That Council write to the Minister and express our disappointment that the panel hearing is being held in Camden.*

7. *That Council offer its facilities at Wollondilly.*

Resolutions of Council at its meeting of 16 March 2009

1. That Council write to the Minister and Shadow Minister for Mining requesting that Councils be compensated through mining royalties and the Mine Subsidence Board for the additional cost of infrastructure projects.

2. That Council support the Association of Mining Related Councils in their endeavour to get a percentage of the mining royalties for such instances.

Resolution of Council at its meeting of 14 August 2009

1. That Wollondilly Shire Council write to the Minister for Primary Industries and Shadow Minister for Climate Change and Environmental Sustainability expressing its concerns over the recent cracking of Myrtle Creek.

Resolution of Council at its meeting of 19 October 2009

1. That Wollondilly Shire Council write to the Minister for Planning and Shadow Minister for Planning calling for third-party appeals to be allowed for Part 3A processes or that Part 3A be removed from NSW Government Policy.

Resolution of Council at its meeting of 15 November 2010

1. That Council send correspondence to the Minister for Planning requesting that a new Part 3A application be lodged for the Bulli Seam Project, given the significant changes to the original application by the proponent and the flaws in the original exhibition process.

Resolution of Council at its meeting of March 2013

1. That Wollondilly Council write to the Minister of Regional Infrastructure and Services requesting a review of the methodology used to classify the 'tiers' of Mining Affected Communities and expressing its concern at the relegation of Wollondilly's Community to Tier 3, excluding it from any support from the Resources for Regions Programs.

Resolution of Council at its meeting of 11 December 2014

1. That Council write to the Minister for Primary Industries and the Minister for Planning requesting that the impacts on communities and infrastructure from coal mine gas drainage be included in the criteria for Local Government assistance through the Resources to Regions Program.

Resolution of Council at its meeting of 16 March 2015

1. Council convene a meeting with invited community members of Douglas Park and representatives of Illawarra Coal to facilitate a consultation between the parties regarding Illawarra Coal's proposed gas extraction and power plant development in the Douglas Park area.

Resolution of Council at its meeting of 20 July 2015

1. That Council write to the Federal Minister for Environment, the Federal Minister for Agriculture, the NSW Minister for Planning, the NSW Minister for Primary Industries and the NSW Minister for Industry Resources and Energy in regard to the approval of the Shenhua Watermark mine on the Liverpool Plains to:
   - Express dismay regarding the approval of the mine on the Liverpool Plains by the Federal Government given the region's major role in Australia's food production balanced with a vulnerable environment and the unacceptable risk to this balance that the mine may cause.
   - Express its concerns that in a local context, the productive peri-urban areas of Sydney are also being threatened by unsympathetic land uses.

Resolutions of Council at its meeting of 20 July 2015

1. That Council endorse the submission on exhibited components of the draft Integrated Mining Policy.

2. That Council send correspondence to the NSW Minister for Planning tat:
   (a) Acknowledges the benefits in introducing the Integrated Mining Policy.
   (b) Expresses disappointment that the exhibited Policy has not addressed issues raised in previous Council submissions.
   (c) Advises that Council is not able to finalise its position until all documents associated with the Policy have been publicly exhibited and submissions received.
   (d) Stresses the importance of the inclusion of all stakeholders in the notification process.

Resolutions of Council at its meeting of 21 September 2015

1. That Council continue to monitor the Douglas Park Mine Gas Drainage and Power Plant Proposal by South 32 and that Council continue to engage with residents of Douglas Park regarding their concerns about the proposal.

2. That Council throughout the process, advocate on behalf of the community, communicating their concerns to the consent authority, our state member, mining authority, and any other applicable minister/authority.

Resolutions of Council at its meeting of 15 February 2016

- That Council take a proactive role in advocating for the protection of the natural environment from impacts of mining under Redbank Creek.
- That Council write to the State Minister for Planning, the Minister for Environment and the Minister for Resources and Energy expressing its concern that compensation mechanisms for damage to the natural environment from mining impacts is not considered in the function of the Mine Subsidence Board and Council calls for this situation to be reviewed and remedied.
- That Council consider the allocation of resources in the third Quarterly Review to undertake advocacy regarding this issue.

Resolutions of Council at its meeting of 15 February 2016

- That Council take a proactive role in advocating for the protection of the natural environment from impacts of mining under Redbank Creek.
- That Council write to the State Minister for Planning, the Minister for Environment and the Minister for Resources and Energy expressing its concern that compensation mechanisms for damage to the natural environment from mining impacts is not considered in the function of the Mine Subsidence Board and Council calls for this situation to be reviewed and remedied.
- That Council consider the allocation of resources in the third Quarterly Review to undertake advocacy regarding this issue.

Resolutions of Council at its meeting of 21 March 2016

- That Council write to the NSW Minister for Environment and NSW Minister for Resources and Energy requesting:
    - The establishment of on-going funding for investigations and monitoring of the condition of watercourses that are identified as being impacted by subsidence associated with underlying operations.
    - Ongoing funding be made available to local governments, research organisations and community groups upon the lodgement of suitably detailed applications.

Resolutions of Council at its meeting of 16 May 2016

- That Council requests a copy of the report investigating possible non-compliance regarding the conditions of consent for the Bulli Seam Operation Project and the Extraction Plan for long-walls 901-904 from the Department of Planning and Environment Compliance Team and EPA.

- That Council also request information from South 32 as to what their approved setback from the Nepean River is.
- That copies of these requests be forwarded to the Local Member for Wollondilly, Jai Rowell and that a report come back to Council on the responses received.

Resolutions of Council at its meeting of 20 June 2016:

- Write to the relevant Federal and State Ministers, the Federal and State local members, the Greater Blue Mountains World Heritage Area Advisory Committee and UNESCO demanding that action be taken to further investigate the causes of continued water loss from the World Heritage listed Thirlmere Lakes. That this action includes the funding and support of rigorous and detailed research into:
    - The water loss patterns and trends in the past and over current times.
    - Predictive modelling of the consequences to the Lakes's biology and hydrology of continued or prolonged water loss.
    - Targeted investigation into the suggested cause of the water loss in relation to the Tahmoor Mine's operations in the past and future.
    - The potential of engineered options to reinstate and maintain water levels to protect the biodiversity and hydrology of the Lakes.

- That Council, through the oversight of the Minerals and Energy Resource Committee, undertake a facilitated solutions focused forum to investigate and identify solutions to the continued observed water loss from the World Heritage listed Thirlmere Lakes and that Glencore and other key stakeholders associated with the three tiers of government be invited to participate in this forum.

Resolution of Council at its meeting of 18 June 2018

- That Council write to the NSW Department of Planning and Environment **to:**
    - **I.** Welcome the establishment of the Independent Expert Panel for Mining in the Catchment and its composition.
    - **II.** Requests that no Determinations be used for any mining related application within the Catchment Area until such time that it has received and reviewed the Final Report produced by the Panel.

Resolutions of Council at its meeting of 18th July 2016

- The Executive include the following recommendations in the Business Paper of the next available meeting of the Association with a view to advocate the position of Council and the local community defined by the supplied resolutions:

    i. The Association provide support to the resolutions of Wollondilly Shire Council regarding concerns over the continued observed water loss from the World Heritage listed Thirlmere Lakes and the conclusions of recent scientific studies regarding this matter.

    ii. Pursuant to i), Correspondence be sent to the NSW Minister for Resources and Energy (the Hon Anthony Roberts) and the NSW Minister for Primary Industries (the Hon Niall Blair) advising of the support to the resolutions and requesting a prompt response.

Resolutions of Council at its meeting of 17th September 2018

- That Council write to the Minister to request further investigation into the impacts of fracturing and modified flow of Redbank Creek. As identified in Dr Ian Wright's Research Study for Western Sydney University, it is reported that Redbank Creek has the worst pollution from Mine Subsidence in the world. This study identified the rehabilitation of the creek channel and recovery of the creek water quality / ecology is very challenging.
- That Council request that the Minister investigate how the mining company could contribute to the rehabilitation of Redbank Creek.
- That Council workshop how we can advocate to assist Dr Wrights research findings and that we add it to the State Issues Paper.

Resolution of Council at its meeting of 15 October 2018

- That letters be sent to relevant Commonwealth MP's asking the Australian Government to use their Constitutional power and duty to protect water sources within the Drinking Catchment Areas of Avon, Nepean, Cordeaux and Cataract Dams from South 32's Dendrobium coal mining activities.

Resolution of Council at its meeting of 19 November 2018

- That Council send correspondence to the NSW Department of Planning and Environment seeking the reasons for all of the recommendations provided by the Independent Expert Committee for Mining in the Drinking Catchment not being incorporated into the Approval for Longwall 16 dated 30th May 2018.

ATTACHMENT 2

EXECUTIVE SUMMARY OF TAHMOOR SOUTH PROJECT SUBMISSION

The Tahmoor South Project Application (Project Application) is entirely located within the Wollondilly Local Government Area (LGA) although the predicted maximum subsidence area extends into a small section of the adjoin Wingecarribee Local Government Area. It is recognised as having a number of economic benefits on a local and broader scale as well as being an importance source of coking coal for the manufacture of steel.

The project application is viewed as being a significant development within the Wollondilly LGA and has relevance to a range of Council responsibilities in terms of asset management, protection of the environment, waste management (including the operation of the Bargo Waste Management Centre) and advocacy. It has been reviewed by Council Staff with technical knowledge and expertise in relation to these responsibilities.

It is requested that the submission be recorded as a draft that expresses the views of Council Staff. The notification of any formal endorsement of' the submission and related resolutions of Council will be forwarded to the DEP shortly Council's meeting on Monday 18th March 2019. The draft submission has a broad structure comprised of Background Information (Part A) which outlines the relevance of the Project to Wollondilly LGA and key areas of concern to Council and the local community. Part B provides comments on issues common to a number of aspects of the Environment of strong relevance to the concerns of Council and the local community. Part C provides comments on specific sections of the Environmental Impact Statement (EIS) consistent with the previously expressed position of Council.

The draft submission features an independent peer review of the Aquatic Ecology and relevant aspects of the Surface Water Impact Assessment Report within the Environmental Impact Statement received from Dr Ian Wright at the University of Western Sydney. It also refers to specialist advice received on the highly technical aspects of mine subsidence induced fracturing and its interaction with surface and groundwater sources by Council Staff. The submission provides comments specifically in regard to the following aspects of the Project Application which are of particular concern to Council and the local community it represents:

- Implications of considered shortcomings in the State Significant Development Framework to the Project Application.
- The adequacy of community engagement during the preparation and public exhibition of the Environmental Impact Statement by both SIMEC Mining and the Department of Planning and Environment.
- The protection of ground and surface waters, (including the ecological health of waterways), from subsidence related impacts associated with the Project Application.
- Investigation of measures to reduce the expansion of the Reject Emplacement Area for the disposal of generated coal rejects by the Project Application.
- Potential impacts of the Project Application to the operation of the Council managed Bargo Waste Management Centre.
- Potential implications of the Project Application to the hydrology of Thirlmere Lakes.

A number of aspects of the Environmental Impact Assessment including a detailed groundwater modelling and comprehensive Social Impact Assessment are viewed as positive.

However, the following shortcomings have been identified which are viewed as warranting amendments to the Project Application prior to being forwarded to the Planning Assessment Commission for investigation and potential Determination.

- Key aspects of the EIS and associated specialist reports have not been updated to reflect scientific research and studies, in particular in regard to the impacts associated with subsidence on water sources.
- The EIS contains an analysis of impacts to Redbank Creek and Myrtle Creek experienced by existing operations associated with the Tahmoor North Project Area as a demonstration over the management of impacts to the condition of waterways by the Tahmoor South Project Application. However, this analysis does not refer to the recently concluded research study by Dr Ian Wright from the Western Sydney University which examined the impacts of mining on the condition of Redbank Creek.
- The groundwater assessment is not considered to include a detailed geological analysis and modelling that would identify the likely interaction of mining induced fracturing with both surface and groundwaters at the Application Stage (based on received specialist advice).
- The absence of a firm commitment to investigate available procedures for the disposal of generated coal rejects as a means of reducing the proposed removal of 34.2 ha of high conservation value vegetation required for its extension.

The draft submission also contains a wide variety of requested responses by the DPE to be implemented based on the structure of the revised State Significant Development that includes:

- The DPE arrange a meeting with representatives of Council, Environment Protection Authority and Subsidence Service NSW as soon as practically possible to discuss concerns over the implication of the Application to the operation of the Bargo Waste Management Centre.
- The DPE request that the current application be reconsidered due to the following identified significant shortcomings based on available information:
    - Key aspects of the EIS and associated Specialist Reports have not been updated to reflect scientific research and studies in particular in regard to the impacts associated with subsidence on water sources.
    - The EIS contains an analysis of impacts to Redbank Creek and Myrtle Creek experienced by existing operations associated with the Tahmoor North Project Area as a demonstration over the management of impacts to the condition of waterways by the Tahmoor South Project Application. However, this analysis does not refer to the recently concluded research study by Dr Ian Wright from the Western Sydney University.
- The DPE provide a response to issues raised in the report received from Council detailing the outcomes of a peer review by Dr Ian Wright from the Western Sydney University on the Aquatic Ecology and relevant parts of the Surface Water Impact Assessment components of the Environmental Assessment.
- The DPE request that the Project application be investigated in detail by the Independent Planning Assessment Commission as part of the Public Hearing Process and that it be updated to incorporate Project Advice provided by the Independent Expert Scientific Committee prior to its referral to this Commission.

Council requests that all issues raised and requested amendments to the SMP Application outlined in this draft submission be considered and addressed by the DRE prior to its forwarding to the Planning Commission. Council also requests that the DPE response to all

submissions as well as any Project Advice on the Application received from the Commonwealth Independent Expert Scientific Committee be made publicly available in a suitable format. Council staff would be available and would appreciate the opportunity to discuss key aspects of issues raised in the draft submission with senior DPE Staff.

ATTACHMENT 3

Submission on the Terms of Reference for the Independent Expert Panel for Mining in the Catchment

The Terms of Reference (ToR's) for the Independent Expert Panel (the Panel), has strong relevance to a number of current and approved mining projects in the Wollondilly Local Government Area (LGA). The establishment of the Panel and intended provision of advice to the NSW Department of Planning and Environment (DPE) on the impacts of mining activities in the Greater Sydney Water Catchment Special Areas (Drinking Catchment) is welcomed by Council.

The responsibilities of Water NSW in the protection and regulation of water supplies within the Drinking Catchment is fully acknowledged by Council. However, the adequate protection of water supplies and overall management of the Drinking Catchment receives a strong level of community feedback. This issue was also raised as part of consultation held during the preparation of Council's Community Strategic Plan. Council consequently considers it has responsibilities in advocating these community concerns to both the Panel and Government.

The comments within this submission are consistent with Council resolutions, issues raised in previous Council submissions as well as expressed views of the local community it represents. The submission is divided into three broad components comprised of an overview of Council's position, support for intended advice based on the issued ToR's and comments on individual ToR items.

Part A: Overview of Council position regarding mining operations

The following provides an overview of the position of Council and sections of the local community in regard to water related impacts associated with mining operations within the Drinking Catchment. A full list of Council resolutions which defines its broad position in regard to mining related matters is presented in Attachment 1 to this submission.

1) Overview of mining operations

The Wollondilly LGA contains four existing underground longwall mining projects within the Drinking Catchment comprised of the Bulli Seam and Dendrobium (both operated by South 32), Russell Vale Colliery (operated by Wollongong Coal and Metropolitan Colliery, (operated by Pee Body), Projects. The boundaries of approved or currently proposed mining operations associated with these projects in relation to the boundary of the Drinking Catchment is presented in Map 1 (Attachment 2). The Russell Vale Colliery proposed expansion, (depicted on this Map as being entirely located within the Drinking Catchment), is however noted to be not referenced in Terms of Reference 1. A response from the Panel over the reasons for this exclusion would be appreciated.

This Map also shows the location of the Tahmoor Colliery Project, (recently sold to SIMEC) is recognised as being outside the boundaries of the Drinking Catchment. This Project is however viewed as having indirect relevance to investigations by the Panel given the identical nature of operations to those Projects in the Drinking Catchment referred to above. This submission consequently refers to studies currently being undertaken by Western Sydney University over impacts associated with approved mining activities to creeklines, which are also considered relevant to the Panel's investigations.

2) Position of Council on water related impacts of mining operations

Concerns over the adequacy of the assessment of potential impacts on water resources (ground and water sources) by mining applications has been a common issue raised in a range of previous Council's submissions on mining applications as well as Government policies. These submissions have advocated the concerns of the community over the need for greater protection of water sources, (ground and surface), as well as enhanced levels of baseline data and scientific assessment.

The adequacy of assessing and protecting the ecological and hydrological of the high number of upland swamps from impacts associated with mining operations has also been a common issue raised. The Panel is requested to note that Council has not supported the NSW Government's *Policy Framework for Biodiversity Offsets for Upland Swamps and Associated Threatened Species Policy Framework* until demonstration from suitably qualified personnel that the hydrological and ecological functions will not be adversely impacted is provided.

3) Council position on the assessment framework for mining applications

Council has also previously raised a number of shortcomings in the assessment as well as approval process for State Significant Development (SSD) under the NSW Planning Assessment framework. These shortcomings are considered by Staff as being heightened by recent reforms to the *Environmental Planning and Assessment Act 1979* and the introduction of the *Biodiversity Conservation Act 2016,* which are both viewed as weakening provisions in regard to SSD.

In relation to this matter, the introduction of the Water Trigger within the *Environment Biodiversity and Conservation Act 1999* has been welcomed as a means achieving increased rigor in the assessment of water related impacts associated with mining projects compared to NSW Government Legislation. Recent Council submissions have suggested on-going research and publications produced by the Commonwealth Independent Expert Scientific Committee (IESC) as a suitable scientific basis for Environmental Assessments associated with mining applications. The recently exhibited *Information Guidelines for Proponents preparing Coal Seam Gas and Large Mining Development Proposals*, prepared by this Committee, (IESC Guidelines), is viewed as being a particularly document in achieving this scientific basis.

Part B: Council position/support regarding the Inquiry

1) Support for the Inquiry

The need for the establishment of the Panel and associated investigation is uncertain given the high level of existing studies and studies currently underway regarding the impacts of mining operations on water sources. However, Council would broadly support any investigations that provides greater scientific certainty in regard to the effects of mining operations on water sources and responds to community concerns regarding this matter.

The members of the Panel are recognised to have a high level of expertise in regard to issues requested to be investigated by the ToR and are also supported. Council Staff are consequently confident that the investigation by the Panel will produce strong scientifically rigorous recommendations and finings in its advice to the DPE.

However, the general absence in confidence in the DPE in adequately responding to investigations, (such as those by established Planning Assessment Commissions), noted to have been expressed by community members are shared in broad terms by Staff. An example in this regard, occurred at Public Hearing held as part of the investigation into the proposed

Russell Vale Colliery expansion by an established Planning Assessment Commission attended by a staff member. Community speakers at this Hearing were noted to express full support to the expertise of the Panel but a low level of confidence in the overall assessment/approval process for SSD. There are consequently strong concerns over the adequacy of findings and recommendations in the Panel's final report being adequately translated into EA's and Determinations to achieve an increased protection of water sources.

The Panel is therefore requested to note that Council has resolved to provide in-principle support to its investigation until such time that the assessment process for mining projects by the DPE has been demonstrably enhanced. The Panel is further requested to note that Council has resolved to notify the DPE of this position.

2) The scope and purpose of the Inquiry

The need for the overall focus of the Inquiry on assessing potential risks to the future supply of drinking water within the Greater Metropolitan Area is recognised. The statement accompanying the ToR's that *"advice, (by the Panel), will include, but is not confined to risks to the total water quantity and holding capacity of surface and groundwater systems, including swamps and reservoirs, and the types and reliabilities of methodologies used to predict, monitor, assess and report on mining effects, impacts and consequences"* is also recognised as being wide-ranging and is supported.

Council Staff however have the following concerns over aspects of the wording of the issued ToR's that are consistent with the previously expressed Council position:.

- The issued ToR's are considered to have a broad focus on responding to effects post approval rather than obtaining a detailed assessment of effects of mining on water sources as part of the application process.
- The issued ToR'S are considered restricted to monitoring the effects and not numerical and conceptual modelling as recommended by a range of studies including Planning Assessment Commissions and the IESC
- The issued ToR's are not considered to require a detailed analysis of the effects of mining operations on the quality of the surface and groundwater environment including the effects of these operations on the interconnectivity between these two environments.

Both Terms of Reference 1 and 2 are noted to contain a sub-item *"In delivering its report, the Panel will provide comment and make observations or recommendations about any information of factors the Panel believes relevant, or further work that should be undertaken"*. It has been assumed that this sub-item item provides a pathway for the investigation of the Panel into the concerns over the ToR's listed above. However, it is considered the wording may impede the level of scientific basis and comprehensiveness of the advice provided by the Panel to the DPE as well as stated detail of this advice referred to above. **The provision of a response containing a broad investigation approach by the Panel would be appreciated.**

Part C: Terms of Reference

This section of the submission provides comments on aspects of the three Terms of Reference and individual sub-items with consistent with the overall position of Council and the considered shortcomings provided in preceding sections of this submission. It also provides requested issues to be investigated as well as response by the Panel.

Terms of Reference 1

Undertake an initial review and report on specific coal mining activities at the Metropolitan and Dendrobium Coal Mines in the Greater Sydney Water Catchment Special Areas.

(Sub Item 1a): A review of the findings and recommendations of studies and reports deemed appropriate by the Panel.

The following studies and reports known to Council Staff, (in addition to those listed in the ToR'S), are recommended to be reviewed as part of the Investigation by the Panel:

- Report produced by the Planning Assessment Commission established to investigate the proposed Russell Vale Colliery Expansion Project (dated April 2016).
- The following documents/ advice provided by the Independent Expert Scientific Committee :
    - Project Advice on the Russell Vale Colliery Expansion (dated 11 March 2015).
    - Information Guidelines for Proponents preparing coal seam gas and large coal mining development proposals (IESC Guidelines).

In addition, the original Bulli Seam Project Application lodged in 2009 included mining precincts containing a number of upland swamps. BHP Billiton (South 32) were noted to state that these precincts had been removed from the Project Area following a review of the report produced a PAC established to investigate the Project Application to allow for more assessments and surveys. Staff are uncertain over the current short or long-term intent of South 32 in regard to this portion of the Project Area. However, the report produced by the PAC is considered an important reference document for review by the Panel as part of its investigation.

(Sub item 1b): A review of the types and reliability of prediction, monitoring and response methodologies currently used for assessing and managing the effects of mining activities as they relate to water quantity.

The provision of detailed comments regarding this ToR item is viewed as a matter for research organisations and Water NSW. The submission from this Government Agency on the website of the Office of Chief Scientist is viewed as providing sufficient comments to address the broad position of Council from a technical perspective.

However, the expressed concerns of the local community over impacts associated with mining to the condition of water sources (both water quantify and quality), as well as the adequacy of their assessment by mining companies, is shared by Council. Concerns over the long-term environmental adequacy of rehabilitation measures implemented to creeklines identified as being impacted by mining operations are also shared by Council. These concerns and recommended response by the Panel are detailed below.

Assessment of water quantity and quality issues

Council Staff are aware of a number of research studies into the depletion of water quantity from a range of water sources, (including groundwater), as a consequence of fracturing associated with mining operations. Council is also aware of a number of research studies identifying the return (or partial return), of this depleted water to watercourses downstream with resulting impact to both water quality and associated in-stream and riparian environment. Staff understand in relation to this matter that the Western Sydney University has carried research regarding this matter associated with the Bulli Seam Project,) in the Drinking Catchment).

It is consequently the preferred view of Council Staff that the Panel *review of the types and reliability of prediction, monitoring and response methodologies* currently used for assessing and managing the effects of mining activities as they relate to water quality, (in regard to both surface and groundwater), as well as water quantity.

Assessing and managing the impacts of mining to water sources

The provision of specific comments regarding Prediction, Monitoring and Response methodologies currently commonly utilised by mining companies is also viewed as a matter for specific research based Government Departments and organisations. However, the following provides comments based on the position of Council for each component of the approach as well as requested response by the Panel.

(a) Prediction of the effects of mining operations

The need for the prediction of likely effects to water sources is recognised as being important for mining companies, as well as Determining and Regulatory Authorities. However, issues have been observed by Staff in regard to the adequacy of this prediction, as well as its occurrence largely post Determination as part of the preparation of Subsidence Management Plans (SMP). The Panel is requested to note that Council's submissions have expressed the view that Subsidence Management Plans should be in the form of detailed Environmental Assessments.

In addition, Council has lodged detailed submissions on the NSW Integrated Mining Policy and the related DPE's Environmental Assessment Improvement Project for State Significant Development. These submissions have requested range of requested amendments to the draft Secretary Standard Assessment Requirements for mining applications consistent with the approach of IESC Guideline. They have also opposed the observed reliance of Determinations for the management of impacts by subsidiary plans post approval (such as SMP's). Copies of these submissions can be provided to the Panel upon request.

The IESC Guidelines is noted to state in relation to this matter that "*modelling and extensive baseline data is needed to allow for an accurate review of the adequacy of referred mining applications in predicting the lively level of subsidence related impacts to water sources*" (by the Committee). The Panel is requested to note that the statement in the submission from the OEH on these Guidelines that the predictions in mining applications are often deficient in scientific basis is supported by Council Staff.

Council, as a broad position, would consequently request that the Panel provide recommendations and advice to achieve an enhanced scientifically based prediction of likely subsidence levels and associated impacts to the quality and quantity of water sources at the application stage for mining projects in its response to the DPE.

(b) Monitoring the effects of mining operations

The undertaking of a detailed monitoring program by mining companies is recognised as being important independent of the scientific basis of the predicted levels of subsidence. The IESC Information Guidelines is noted to provide a range of items for a monitoring program including the presenting of collected information in referred projects. **Council Staff would be broadly satisfied with a monitoring program required by a mining Determination that is consistent with these Guidelines.**

(c) Responding to identified effects of mining operations

It has been assumed that 'response' within this ToR item refers to the Trigger approach noted to be commonly adopted by mining companies and regulatory authorities where a response is triggered if exceedances of predicted subsidence levels are identified by monitoring. This approach is viewed as being broadly satisfactory in regard to responding to subsidence impacts to structures.

However, Staff view this approach has shortcomings in the protection of water sources given its primary focus on responding to impacts subsequent to Determination rather than identifying measures for the avoidance and/or minimisation of such impacts at the application stage. The report produced by the PAC which investigated the Russell Vale expansion project is noted to state in relation to this matter "*The trigger criteria are a concern as the cumulative effects and impacts of subsidence in the area are not known with certainty, which presents a challenge to setting trigger levels for responding to future subsidence*". **The discussion over the views of the Panel over the 'trigger' approach would be appreciated at the meeting with Council Staff sought by this meeting.**

In summary, the need for Prediction, Monitoring and Response methodologies in certain circumstances is recognised as being appropriate. *However, the Panel is requested to provide advice in its report to the DPE over the adequacy of this approach in protecting bot the quantity and quantity of water supply within the Drinking Catchment* and recommendations to improve this approach.

(Sub Item 1c); Provide advice and recommendations on measures required to improve approaches to predicting, monitoring, responses and reporting including having regard to cumulative risks posed to the quantity of drinking water available in the Greater Sydney Water Catchment Special Areas

The requirement for the Panel to improve approaches to cumulative risks presented to the quantity of drinking water available from mining operations is welcomed in principle. The apparent inclusion of the Russell Vale Colliery expansion in this ToR sub item, given the reference to the Greater Sydney Water Catchment Special Area, is also welcomed. However, as stated above in regard to ToR 1a), Council Staff have concerns over the reliability and adequacy of the 'predict, monitor, and respond' approach in protecting water sources from the impacts of mining operations.

Council has requested a range of issues to be assessed in regard to the impacts of mining operations on water sources in a wide range of submissions on mining related applications and NSW Government Policies. Council's preferred view expressed in these submissions is that such impacts be accurately identified and be avoided or minimised at the application stage through:

- A comprehensive assessment of impacts to water quantity and water quality (including surface and groundwaters), utilizing conceptual and numerical modelling based on extensive baseline data. The approach detailed in the IESC Guidelines is viewed as a suitable basis for such an assessment.
- The establishment and enforcement of adequate mining exclusion zones adjacent to water courses. It is suggested the width of such zones be based on the Strahler Stream Classification System. (For example, a 10 metre exclusion zone for first order streams).

In relation to this matter, Council's submission on the review of the *Mine Subsidence Compensation Act 1961* requested that it be expanded to also apply to subsidence impacts to watercourses. The Panel is requested to note that Council resolved at its meeting on 15

February 2016 to "*express its concern that compensation mechanisms for damage to the natural environment from mining impacts is not considered in the function of the Mine Subsidence Board and Council calls for this situation to be reviewed and remedied*". **The investigation of possible means of funding compensation measures consistent with the above resolution by the Panel is suggested.**

(Sub Item 1d): The Panel will provide advice to Government on how to respond to the findings and recommendations of reports reviewed including the Height of Fracturing Report

The Height of Fracturing Report is noted to recommend a range of studies to verify its broad finding regarding the apparent absence of an impediment to the upward migration of impacts associated with fracturing to effect the condition of surface and shallow groundwaters. This recommendation for additional studies has a high level of synergy with the position of Council and views of the local community and is supported in principle. The provision of technical advice to the DPE on the response to specific recommendations is acknowledged as not being a matter for Council. **However, the Panel is requested to note the preferred position of Council that the DPE implement all recommendations of this report, which it is noted to have taken ownership.**

Terms of Reference 2

Undertake a review of current coal mining in the Greater Sydney Water Catchment Special Areas with a particular focus on risks to the quantity of water available, the environmental consequences for swamps and the issue of cumulative impacts.

The requirement for the Panel to investigate the 'environmental consequences' (of current coal mining) to swamps and 'cumulative risks' presented to drinking water available is welcomed. The research based sub-items for this ToR item is however noted to be restricted to "*A review and update of the findings of the 2008 Southern Coalfields Inquiry, including recommending measures to improve the way mining effects, impacts and consequences in relation to water quantity are assessed and managed*". There are concerns that the Term of Reference does not refer to the wide range of relevant research studies which have occurred subsequent to the Southern Coalfields Inquiry in 2008, including those by the IESC. **An assurance is sought from the Panel that all these studies will be reviewed as part of its investigation into this ToR.**

<u>Environmental consequences of mining operations for swamps</u>

The appointment of a person on the Panel with a recognised high level of expertise in the impacts of mining operations to the ecological and hydrological functions of upland swamps is strongly welcomed. Council is consequently satisfied that the investigation by the Panel and associated consultation with relevant expert stakeholders will produce strong recommendations to the DPE for responding to the environmental consequences of mining operations to upland swamps within the Drinking Catchment.

Council however has concerns over the adequacy of the response by the DPE to the Panel's Report based on observations of its response to relevant mining applications such as the Russell *Vale Colliery Expansion Project*. The report produced by the PAC established to investigate this Project was noted to state "t*he magnitude of potential water loss is also noted contested (by the Application). As a result of such uncertainty, the potential impacts on upland swamps are also uncertain as the swamps depends on the surface and shallow groundwater*". It is suggested in this regard, that there is scope for the Panel to provide comment on this matter as part of its response to Term of Reference 1 d) "*the Panel is to provide advice to*

Government on how to respond to the findings and recommendations of reviewed as part of ToR 1a)".

In relation to this matter, the Panel is requested to note that Council provided a submission on the Integrated Mining Policy in July 2015, which contained a *Policy Framework for Biodiversity Offsets for Upland Swamps and Associated Threatened Species Policy Framework (Swamp Policy Framework).* The submission expressed opposition to the implementation of this Framework subject to the receipt of suitably qualified independent advice that the Policy will not result in adverse outcomes to the values and functions of any upland swamp. It is suggested that the establishment of the Panel provides a suitable opportunity for the undertaking of investigations to produce such expert advice. **It is consequently recommended that the Panel review the Swamp Policy Framework and provide advice over its adequacy and any identified improvements in its final report to the DPE.**

Managing cumulative impacts associated with mining operations

The assessment of cumulative impacts on water supplies within the Drinking Catchment is acknowledged as being highly important given the number of mining operations under different ownership. The absence of reference to cumulative water quality impacts in the ToR item is however noted with concern given the strong interrelationship between water quality and quantity identified by a range of research studies. The *"Cumulative Impacts of Activities which Impact Groundwaters and Surface waters within the Sydney Water Catchment Area" Report* produced by the NSW Office of the Chief Scientist and Engineer is noted to include the following recommendations of relevance to this matter:

- *That the Government develop a whole-of-Catchment environmental monitoring system.*
- *That the Government commission computational models which can be used to assess the impacts on quantity and quality of surface and groundwater.*

The above recommendations of the Chief Scientist in association with research studies known to Staff are viewed as highlighting the importance for the identification and management of the cumulative risks of mining operations to both water quantity and water quality. **The Panel is consequently requested to provide advice and recommendations for the avoidance and minimisation of these risks in its final report to the DPE.**

Term of Reference 3

Provide advice as required to the Department of Planning and Environment on mining activities in the Greater Sydney Water Catchment Special Areas which may include but is not confined to:

- *A Subsidence Management Plan application for Longwall 16 at the Dendrobium Mine*
- *An Extraction Plan application for Longwall 33 at the Metropolitan Mine*
- *An Environmental Impact Statement for the Dendrobium Extension Project*
- *A Preferred Project Report for the Russell Vale Underground Expansion Project.*

The inclusion of a Term of Reference Item that refers to current mining related applications within the Drinking Catchment Area is recognised as being appropriate in providing a level of certainty to the respective proponents. However, the above, (as well as any other), applications, is viewed as having strong relevance to the outcomes of the investigation by the Panel and its final Report.

The Panel is requested to note in relation to this matter that Council resolved at its meeting on 18th June 2018 in endorsing this submission to request the *DPE "not issue a Determination*

for any mining related application until such time it has received and reviewed the final Report by the Independent Expert Panel". **It is consequently the preferred position of Council Staff that specific detailed advice regarding the above projects by the Panel be contained in its final report to the DPE.**

Terms of Reference 1e) and 2b): Consultation and site visits by the Panel

In developing its advice, the Panel will meet, undertake site visits, seek information on data, and consult as needed.

The impacts of mining operations on water sources within the Drinking Catchment, as well as in a more broader context, is of strong interest to Council (Staff and elected Councillors) and the local community. The visit of members of the Panel to the Wollondilly LGA and Council would therefore be greatly appreciated if time permits. The involvement of Councillors in such a meeting would be preferable which may involve a presentation at an evening Workshop. A joint meeting with Staff from Wollondilly and Wollongong Councils could potentially be arranged if this would be of more convenience to the Panel.

The Tahmoor Colliery, (which has recently been sold to SIMEC), is acknowledged as being outside the Drinking Catchment Area. However, Staff are aware of a research paper by Western Sydney University in regard to a creekline recently traversed by a mining longwall associated with this Project that is nearing finalisation. The author of this Study has advised Staff of his willingness to discuss aspects of this Study following its publication in approximately mid-2018. It is suggested in this regard a site visit to this creekline by the Panel would be of benefit to its investigation.

PART D: CONCLUDING STATEMENT

This submission welcomes the establishment of the Independent Expert Panel as a means of obtaining enhanced scientific certainty over the impacts of mining operations on water sources within the Drinking Catchment and responding to community concerns regarding this matter. The submission however provides in-principle support to the investigation as a result of concerns over aspects of the issued Terms of Reference for the Panel as well as uncertainty over the adequacy of the response by the NSW Department of Planning and Environment.

The submission also outlines issues requested to be reviewed and investigated consistent with the previous adopted position of Council and local community over the impacts of mining on water sources in general (both quantity of water and as well as water quality). The submission also seeks a meeting (and possibly a site visit if time permits), to the Wollondilly LGA to discuss issues raised.

ATTACHMENT 3

SUPPLEMENTARY SUBMISSION ON THE TERMS OF REFERENCE FOR THE INDEPENDENT PANEL FOR MINING IN THE DRINKING CATCHMENT

Thank you for the opportunity provided for representatives of Council to meet with members of the Independent Expert Panel for Mining in the Drinking Catchment (Panel) on 12th February 2019.

An invitation was provided at this meeting for Council to lodge a supplementary submission to its original submission on the Terms of Reference for the investigation by the Panel dated 28th June 2018. The following provides comments over two issues that the Panel sought additional information and recommended response by the Panel and the NSW Office of Chief Scientist and Engineer (Chief Scientist).

(i) Assessment of water quality and quantity issues associated with mining in the Drinking Catchment

Council's original submission expressed the view that the issued Terms of Reference did not require a detailed analysis of the effects of mining operations on the quality of surface and groundwaters sources including the connectivity of these sources. It recommended in relation to this matter that the *"Panel review the types and reliability of prediction, monitoring and response methodologies related to both the quality and quantity of surface and groundwaters associated with mining operations"*.

The comments made by members of the Panel that the investigation of specific water quality impacts was not possible within the stipulated timeframes for the provision of its Report on Stage 2 to the NSW Department of Planning and Environment is acknowledged. However, the concerns of Council Staff that water quality was not being specifically investigated by the Plan is requested to be noted by the Office of Chief Scientist given the considered close interrelationship between the quality and quantity of drinking water . The view expressed by Dr Galvin that this matter was likely be raised as an 'emerging issue' for further investigation in its Report is supported in principle. **It is requested that the Office of Chief Scientist note this support and carry out targeted consultation with stakeholder groups at the commencement of this 'further investigation' that includes Wollondilly Shire Council.**

(ii) Experience of Council with Trigger Action Response Plans

Members of the Panel at the meeting were noted to seek additional information from Council over its experience with Trigger Action Response Plans and their adequacy in protecting and responding to impacts from mining on the condition of local waterways. Council's original submission recognised the need for such Plans but expressed shortcomings in this approach given its focus is to respond to impacts to waterways subsequent to Determination.

Council Staff present at the meeting referred to a recent study by Dr Ian Wright from the Western Sydney University which examined the potential impacts of mining on Redbank Creek as an example of experienced shortcomings in this approach. The research paper on this study is attached from the receipt of approval for its forwarding to members of the Panel.

It is requested to be noted that a submission on the Tahmoor South Project Application providing detailed comments on these impacts based on received specialist advice is due to be considered by Council at its meeting on 18th March 2019. A summary of the experiences and basic position of Staff in relation to the adequacy of the Prediction/Monitoring Approach in relation to this waterway as well as mining operations in listed below incorporates aspects of this submission and associated received specialist advice:

- Actual subsidence levels have been noticed to have exceeded the predicted levels at the assessment stage at a relatively common occurrence
- The significant impacts to the ecological health of a waterway as a result of mining directly beneath waterways is considered highlighted by the outcomes of the research study by Dr Ian Wright in relation to Redbank Creek. The identified impact is viewed as being of such a significant level that the ability of the noted required Creek Restoration Plan by the NSW Division of Resources and Geoscience to achieve a full restoration of the creek to its ecological condition prior to mining is strongly questioned.
- There needs to be a detailed hydrogeological investigation to identify the greatest possible extent possible impacts associated with mine induced fracturing on interaction of mining induced fracturing and surface and groundwater sources at the application stage rather than being the primary responsibility of Extraction Plans.
- Trigger Response Plans should be based on a strong scientific investigation and analysis of extensive baseline data which, (preferably), occurs at the application stage.

It is recommended that each of the above views of Council be considered by the Panel both as part of Terms of Reference 2 as well as any future investigations in relation to 'emerging issues'.

It would be appreciated if this supplementary submission could be recorded as a formal submission and be made publicly available on the website of the NSW Office of Chief Scientist and Engineer.