ATTACHMENT 2

DOC19/744696-3

The Environmental Assessment Officer
Resource Assessments
Department of Planning, Industry and Environment

By email: philip.nevill@planning.nsw.gov.au

Dear Mr Neville

Re SSD 10367

I refer to your request received on 27 August 2019 by the Environment Protection Authority (EPA) via the NSW Major Projects Portal for our requirements for the preparation of an Environmental Impact Statement (EIS) for the Cowal Gold Operations Underground Development.

The specific issues that we consider to be critical to an assessment of the proposed development include the potential impacts from the following.

- construction and operational noise emissions;
- blasting and vibration;
- dust emissions; and
- surface and groundwater management.

Details of our specific requirements and guidance documents are provided at Attachments A and B respectively.

We recommend that during the preparation of the EIS that the proponent consults with the EPA to ensure that the specific issues identified in the attachments are adequately addressed.

If you have any further enquiries about this matter please contact Jason Price by telephoning 02 6969 0700 or by electronic mail at riverina.farwest@epa.nsw.gov.au.

Yours sincerely

C. Bretherton 5.9.2019

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ATTACHMENT A

Potential environmental impacts of the project

1. The following potential environmental impacts of the project need to be assessed, quantified and reported on.

   - Air
   - Noise
   - Water
   - Land
   - Waste and chemicals.

   The Environmental Impact Statement (EIS) should address how the required environmental goals will be met for each potential impact.

2. Describe the management strategies for the treatment and processing/utilisation of all wastes proposed to be received at the facility.

3. Describe mitigation and management options that will be used to prevent, control, abate or mitigate identified potential environmental impacts associated with the project and to reduce risks to human health and prevent the degradation of the environment.

   This should include an assessment of the effectiveness and reliability of the measures and any residual impacts after these measures are implemented.

Potential impacts on air quality

The goals of the project in relation to air quality should be to ensure sensitive receptors are protected from adverse impacts from odour and dust.

Details would need to be provided on the proposed measures to manage odour and dust from all sources. Measures to prevent or control the emission of odour from the composting activities must be detailed based on the outcome of an air quality impact assessment undertaken in accordance with the *Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in New South Wales* (EPA, 2016). All potentially impacted residential or sensitive premises likely to be impacted by the development must be identified and included in the assessment.

The EIS should identify any other existing impacts on air quality within the area and if necessary provide an assessment and commentary on the predicted cumulative impacts that may arise.

Emissions from any plant must meet the design criteria detailed in the Protection of the Environment Operations (Clean Air) Regulation 2010. Details need to be provided on the proposed air pollution control techniques from any air emission points, including proposed measures to manage and monitor efficiency and performance.

Potential impacts of noise

The goals of the project should include design, construction, operation and maintenance of the facility in accordance with relevant EPA policy, guidelines and criteria, and in order to minimise potential impacts from noise.

The EPA expects that potential noise sources are assessed in accordance with the *Noise Policy for Industry* (EPA 2017), and where required mitigation measures are proposed (eg appropriate equipment chosen to minimise noise levels). All residential or noise sensitive premises likely to be impacted by the development must be identified and included in the assessment.

The proposed development may result in an increase in traffic movements associated with the receival of materials. The number of traffic movements associated with the proposal should be quantified and the potential noise impacts associated with these traffic movements need to be assessed in accordance with the *NSW Road Noise Policy* (DECCW, 2011).

Potential impacts on water quantity and quality

The goals of the project should include the following.

- No pollution of waters (including surface and groundwater), except to the extent authorised by EPA (i.e in accordance with an Environment Protection Licence);
- Polluted water (including effluent, process waters, wash down waters, polluted stormwater or sewage) is captured on the site and collected, treated and beneficially reused, where this is safe and practicable to do so;
- It is acceptable in terms of the achievement or protection of the River Flow Objectives and Water Quality Objectives.

The EIS should document the measures that will achieve the above goals.

Details of the site drainage and any natural or artificial waters within or adjacent to the development must be identified and where applicable measures proposed to mitigate potential impacts of the development on these waters.

The EIS should provide details of any water management systems for the site to ensure surface and ground waters are protected from contaminants.

Potential impacts on land

The goals of the project should include the following.

- No pollution of land, except to the extent authorised by EPA (ie in accordance with an Environment Protection Licence); and
- The potential impact of land erosion from the development is mitigated.

The EIS should document the measures that will achieve the above goals.

Waste

The goals of the project should include the following.

- It is in accordance with the principles of the waste hierarchy and cleaner production;
- Where potential impacts associated with the handling, processing and storage of all waste materials generated at the premises are identified, these be satisfactorily mitigated;
- The beneficial reuse of all wastes generated at the premises are maximised where it is safe and practical to do so; and
- No waste disposal occurs on site except in accordance with an Environment Protection Licence.

The EIS needs to identify the proposed type, quantities and location of wastes to be stored and/or processed at the site. This should include a detailed plan for in-situ classification of waste material, including the sampling locations and sampling regime that will be employed to classify the waste under the *EPA's Waste Classification Guidelines.*

Spill management measures, including items such as bunding, and emergency procedures should be clearly outlined.

Monitoring

The EIS must outline the proposed monitoring regime to be implemented in relation to the following potential impacts, where relevant.

- Odour and particulate matter,
- Construction and operational noise,
- waste classification, and
- wastewater.

ATTACHMENT B

Title	Web address
Relevant Legislation	
Environmental Planning and Assessment Act 1979	https://www.legislation.nsw.gov.au/#/view/act/1979/203
Protection of the Environment Operations Act 1997	https://www.legislation.nsw.gov.au/#/view/act/1997/156/full
Licensing	
Guide to Licensing	http://www.epa.nsw.gov.au/licensing/licenceguide.htm
Air Issues	
POEO (Clean Air) Regulation 2010	https://www.legislation.nsw.gov.au/#/view/regulation/2010/428/historical2016-11-01/full
Approved methods for modelling and assessment of air pollutants in NSW (2016)	http://www.environment.nsw.gov.au/resources/air/ammodelling05361.pdf
Assessment and management of odour from stationary sources in NSW (DEC, 2006)	Technical framework: https://www.environment.nsw.gov.au/resources/air/20060440framework.pdf Technical notes: https://www.environment.nsw.gov.au/resources/air/20060441notes.pdf
Noise and Vibration	
Interim Construction Noise Guidelines (EPA, 2017)	https://www.epa.nsw.gov.au/your-environment/noise/industrial-noise/interim-construction-noise-guideline
Noise Policy for Industry (EPA, 2017)	https://www.epa.nsw.gov.au/your-environment/noise/industrial-noise/noise-policy-for-industry-(2017)
NSW Road Noise Policy (EPA, 2011)	https://www.epa.nsw.gov.au/publications/noise/2011236-nsw-road-noise-policy
Assessing Vibration: a technical guideline (DEC 2006)	https://www.epa.nsw.gov.au/noise/vibrationguide.htm
Australian and New Zealand Environment Council: Technical basis for guidelines to minimise annoyance due to blasting overpressure and ground vibration (ANZECC 1990)	https://www.epa.nsw.gov.au/resources/noise/ANZECBlasting.pdf

Soils	
Managing Urban Stormwater: Soils and Construction (Landcom, 2004)	https://www.environment.nsw.gov.au/stormwater/publications.htm
Waste	
Waste Classification Guidelines (EPA, 2014)	https://www.epa.nsw.gov.au/your-environment/waste/classifying-waste/waste-classification-guidelines
Protection of the Environment Operations (Waste) Regulation 2014	https://www.legislation.nsw.gov.au/regulations/2014-666.pdf
Environmental Guidelines: Solid Waste Landfills, Second edition (EPA, 2016)	https://www.epa.nsw.gov.au/~/media/EPA/Corporate%20Site/resources/waste/solid-waste-landfill-guidelines-160259.ashx
Water	
Water Quality Objectives	http://www.environment.nsw.gov.au/ieo/index.htm
National Water Quality Management Strategy: Australia and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC/ARMCANZ, 2000)	http://www.waterquality.gov.au/anz-guidelines/Documents/ANZECC-ARMCANZ-2000-guidelines-vol2.pdf
National Water Quality Management Strategy: Australian Guidelines for Water Quality Monitoring and Reporting (ANZECC/ARMCANZ, 2000)	http://www.waterquality.gov.au/anz-guidelines/Documents/ANZECC-ARMCANZ-monitoring-reporting.pdf
Using the ANZECC Guidelines and Water Quality Objectives in NSW (EPA, 2006)	https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/water/anzeccandwqos06290.pdf
Environmental Guidelines: Storage and Handling of Liquids (EPA, 2007)	https://www.epa.nsw.gov.au/licensing-and-regulation/licensing/environment-protection-licences/compliance-audit-program/chemical-storage-handling-and-spill-management/storing-and-handling-liquids-trainers-manual
The NSW State Groundwater Policy Framework Document (DLWC, 1997)	http://www.water.nsw.gov.au/__data/assets/pdf_file/0008/547550/avail_ground_nsw_state_groundwater_policy_framework_document.pdf
The NSW State Groundwater Quality Protection Policy (DLWC, 1998)	http://www.water.nsw.gov.au/__data/assets/pdf_file/0006/548286/nsw_state_groundwater_quality_policy.pdf
National Water Quality Management Strategy Guidelines for Groundwater Protection in Australia (ARMCANZ/ANZECC, 1995)	https://www.water.wa.gov.au/__data/assets/pdf_file/0020/4925/8728.pdf

Our ref: DOC19/745996
Senders ref: SSD 10367

Philip Nevill
Department of Planning, Industry and Environment
320 Pitt St SYDNEY NSW 2001

Via email:
philip.nevill@environment.nsw.gov.au

10 September 2019

Dear Mr Nevill

Subject: Cowal Gold Operations underground mine - Request for input into Secretary's Environmental Assessment Requirements (SSD 10367)

Thank you for your email dated 27 August 2019 to the Biodiversity and Conservation Division of the Department of Planning, Industry and Environment (the Department) seeking our requirements for an Environmental Impact Statement (EIS) for the Cowal Gold Operations underground mine development (SSD 10367).

We have reviewed the documentation and provides SEARs for the proposed development in **Attachment A.** Guidance material is listed in **Attachment B**.

The Biodiversity and Conservation Division recommends that the EIS appropriately address the following:

1. Biodiversity
2. Aboriginal cultural heritage
3. Hydrogeology

The EIS should fully describe the proposal, the existing environment, and impacts of the development including the location and extent of all proposed works that may impact on Aboriginal cultural heritage, biodiversity and hydrogeology. The scale and intensity of the proposed development should dictate the level of investigation. It is important that all conclusions are supported by adequate data. The assessment must include all ancillary infrastructure associated with the project.

Biodiversity

The development of the underground mine is unlikely to have direct impacts on threatened species as the disturbance is within the current development footprint.

However, the EIS should address potential indirect impacts of the mine on the Lake Cowal wetland and any associated threatened species habitat. The main ecological concern is potential for water to move from Lake Cowal to the mine pit or underground workings, with longer term impacts on the wetlands.

It is possible that mining could establish a conduit between Lake Cowal and the mine through, for instance, a fault/lineament or geological structure that might be opened up by disturbance from the proposed mine. A geological assessment should provide comprehensive mapping of faults, lineaments or other geological structures.

In 2017 the Dams Safety Committee of the then Department of Planning and Environment provided specific advice for the Dendrobium Mine Extension Project SEARs about connections between adjacent dams and the mine. These comments are relevant to Lake Cowal for this proposed underground development, given its very close proximity to the mine, and have been reflected in recommended SEARs.

We note that the documents include a Biodiversity Development Assessment Report (BDAR) waiver request. We would typically respond to a BDAR waiver request after providing SEARs. In this case for a BDAR waiver to be granted the EIS will need to address potential impacts of the project on prescribed biodiversity values (Section 6.7.1.4 of the Biodiversity Assessment Method), specifically the hydrological and hydrogeological processes that sustain Lake Cowal.

Aboriginal Cultural Heritage

Ground surface and subsidence impacts from the proposed Cowal Gold underground mine development are considered to be negligible in the Scoping Report provided. Given this, the Department considers that for this proposal the assessment requirements for Aboriginal Cultural Heritage (ACH) as part of the EIS may comprise a due diligence approach in accordance with the 'Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales'.

The Department supports the approach for Aboriginal community consultation for the underground mine outlined in Section 6.6 of the Scoping Report (EMM, 2019). This approach comprises the proponent providing the Registered Aboriginal Parties (RAPs) for the existing development with the project information relating the underground mine, detail of any identified potential impacts to ACH values from the new works and effective consultation with RAPs regarding avoidance or mitigation strategies in relation to ACH.

If you have any questions about this advice, please contact Simon Stirrat, Senior Conservation Planning Officer via rog.southwest@environment.nsw.gov.au or 03 5021 8930.

Yours sincerely

Andrew Fisher

Senior Team Leader Planning

South West Branch

Biodiversity and Conservation Division

Department of Planning, Industry and Environment

ATTACHMENT A – Recommended Environmental Assessment Requirements for Cowal Gold Operations underground mine (SSD 10367)

ATTACHMENT B – Guidance material

Attachment A – Recommended Environmental Assessment Requirements for Cowal Gold Operations underground mine (SSD 10367)

Sources of guidance material for terms in blue are in Attachment B

Biodiversity
1. Biodiversity impacts related to the proposed development are to be assessed in accordance with Section 7.9 of the *Biodiversity Conservation Act 2016* using the Biodiversity Assessment Method (BAM) and documented in a Biodiversity Development Assessment Report (BDAR). The BDAR must include information in the form detailed in the *Biodiversity Conservation Act 2016* (s6.12), Biodiversity Conservation Regulation 2017 (s6.8) and the BAM, unless the Department determines that the proposed development is not likely to have any significant impact on biodiversity values.
2. The BDAR must document the application of the avoid, minimise and offset framework including assessing all direct, indirect and prescribed impacts in accordance with the BAM.
3. The BDAR must include details of the measures proposed to address the offset obligation as follows; a. The total number and classes of biodiversity credits required to be retired for the development/project; b. The number and classes of like-for-like biodiversity credits proposed to be retired; c. The number and classes of biodiversity credits proposed to be retired in accordance with the variation rules; d. Any proposal to fund a biodiversity conservation action; e. Any proposal to make a payment to the Biodiversity Conservation Fund. If seeking approval to use the variation rules, the BDAR must contain details of the reasonable steps that have been taken to obtain requisite like-for-like biodiversity credits.
4. The BDAR must be submitted with all digital spatial data associated with the survey and assessment as per Appendix 11 of the BAM.
5. The BDAR must be prepared by a person accredited in accordance with the Accreditation Scheme for the Application of the Biodiversity Assessment Method Order 2017 under s6.10 of the *Biodiversity Conservation Act 2016*.
Aboriginal cultural heritage
6. Aboriginal Cultural Heritage (ACH) may be assessed using a due diligence approach in accordance with the 'Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales' (DECCW 2010). The purpose of the due diligence will be to: a. Identify whether or not Aboriginal objects are, or are likely to be present in the area of the proposed underground mine works b. Determine whether or not the activity is likely to harm Aboriginal objects (if present) c. Determine whether further assessment, management and approval is required.

7. If ACH values are identified during the due diligence assessment for the underground mine, the Department must be notified in the first instance to determine further assessment requirements. It is likely this would necessitate the preparation of an Aboriginal Cultural Heritage Assessment Report in accordance with the Code of Practice for Archaeological Investigations of Aboriginal Objects in NSW (OEH 2010), and be guided by the Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (DECCW, 2011)
8. Consultation with Aboriginal people must be undertaken as outlined in Section 6.6 of the Scoping Report (EMM, 2019). This includes: a. Providing the Registered Aboriginal Parties (RAPs) for the existing Cowal Gold Mine with the project information relating the underground mine b. Providing detail of any identified potential impacts to ACH c. Providing RAPs with sufficient opportunity to provide advice regarding avoidance or mitigation strategies in relation to ACH.
9. The significance of cultural heritage values for Aboriginal people who have a cultural association with the land must be documented in the EIS.
10. The EIS must outline procedures to be followed if Aboriginal objects are found at any stage of the life of the project to formulate appropriate measures to manage unforeseen impacts.
11. The EIS must outline procedures to be followed in the event Aboriginal burials or skeletal material is uncovered during construction to formulate appropriate measures to manage the impacts to this material.
Hydrogeology
12. The EIS must include an assessment of risks to Lake Cowal wetland values, including: a. A study of the geology of the proposed areas of development focussing on any structures that connect Lake Cowal to the mine workings either directly or via a secondary means b. A quantitative hydrogeology study including identification of aquicludes c. A subsidence assessment of possible impacts on Lake Cowal d. Development of a monitoring plan to ensure timely response to incidents.

Attachment B – Guidance material

Title	Web address
Relevant Legislation	
Biodiversity Conservation Act 2016	www.legislation.nsw.gov.au/#/view/act/2016/63/full
Commonwealth Environment Protection and Biodiversity Conservation Act 1999	www.austlii.edu.au/au/legis/cth/consol_act/epabca1999588/
National Parks and Wildlife Act 1974	www.legislation.nsw.gov.au/maintop/view/inforce/act+80+1974+cd+0+N
Environmental Planning and Assessment Act 1979	www.legislation.nsw.gov.au/maintop/view/inforce/act+203+1979+cd+0+N
Biodiversity	
Biodiversity Assessment Method (OEH, 2017)	www.environment.nsw.gov.au/resources/bcact/biodiversity-assessment-method-170206.pdf
Biodiversity Offsets Scheme Entry Threshold Tool	www.lmbc.nsw.gov.au/Maps/index.html?viewer=BOSETMap
Biodiversity Values Map	www.lmbc.nsw.gov.au/Maps/index.html?viewer=BVMap
Guidance and Criteria to assist a decision maker to determine a serious and irreversible impact (OEH, 2017)	www.environment.nsw.gov.au/resources/bcact/guidance-decision-makers-determine-serious-irreversible-impact-170204.pdf
Ancillary rules: biodiversity conservation actions	www.environment.nsw.gov.au/resources/bcact/ancillary-rules-biodiversity-actions-170496.pdf
Ancillary rules: reasonable steps to seek like-for-like biodiversity credits for the purpose of applying the variation rules	www.environment.nsw.gov.au/resources/bcact/ancillary-rules-reasonable-steps-170498.pdf
OEH Threatened Species Profiles	www.environment.nsw.gov.au/threatenedspeciesapp/
BioNet Atlas	www.environment.nsw.gov.au/wildlifeatlas/about.htm
BioNet Vegetation Classification – see **NSW Plant Community Type (PCT) classification** link for PCT database login page.	http://www.environment.nsw.gov.au/research/Visclassification.htm
NSW guide to surveying threatened plants (OEH 2016)	www.environment.nsw.gov.au/resources/threatenedspecies/160129-threatened-plants-survey-guide.pdf
OEH threatened species survey and assessment guideline information	www.environment.nsw.gov.au/threatenedspecies/surveyassessmentgdlns.htm
NSW Guide to Surveying Threatened Plants (OEH, 2016)	www.environment.nsw.gov.au/research-and-publications/publications-search/nsw-guide-to-surveying-threatened-plants
Threatened Species Survey and Assessment Guidelines: Field Survey Methods for Fauna - Amphibians (DECC, 2009)	www.environment.nsw.gov.au/resources/Threatenedspecies/09213amphibians.pdf

Title	Web address
Threatened Species Assessment Guideline - The Assessment of Significance (DECC 2007)	www.environment.nsw.gov.au/resources/Threatenedspecies/tsaguide07393.pdf
OEH Data Portal (access to online spatial data)	http://data.environment.nsw.gov.au/
Fisheries NSW policies and guidelines	www.dpi.nsw.gov/fisheries/habitat/publications/policies-guidelines-and-manuals/fish-habitat-conservation
Aboriginal Cultural Heritage	
'Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales' (DECCW 2010)	https://www.environment.nsw.gov.au/research-and-publications/publications-search/due-diligence-code-of-practice-for-the-protection-of-aboriginal-objects-in-new-south-wales
Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW (OEH 2011)	www.environment.nsw.gov.au/resources/cultureheritage/20110263ACHguide.pdf
Code of Practice for the Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW, 2010)	www.environment.nsw.gov.au/resources/cultureheritage/10783FinalArchCoP.pdf
Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW, 2010)	www.environment.nsw.gov.au/resources/cultureheritage/commconsultation/09781ACHconsultreq.pdf
Aboriginal Site Recording Form	www.environment.nsw.gov.au/resources/parks/SiteCardMainV1_1.pdf
Aboriginal Site Impact Recording Form	https://www.environment.nsw.gov.au/resources/cultureheritage/aboriginal-site-impact-recording-form-120558.pdf.
Aboriginal Heritage Information Management System (AHIMS) Registrar	www.environment.nsw.gov.au/contact/AHIMSRegistrar.htm
Care Agreement Application form	www.environment.nsw.gov.au/resources/cultureheritage/20110914TransferObject.pdf

DOC19/759579

DIVISION OF RESOURCES & GEOSCIENCE ADVICE RESPONSE

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

Dear Philip

Project: Cowal Gold Operations Underground Development
Stage: Secretary's Environmental Assessment Requirements
Development Application: SSD 10367

I refer to your request dated 27 August 2019 inviting the Division of Resources & Geoscience (the Division) to provide comments on the Cowal Gold Underground Development (the Project) submitted by Evolution Mining Pty Ltd (the Proponent).

The relevant units internal to the Division have been consulted where required in generating this advice. Further, the Department of Planning, Industry and Environment - Planning & Assessment Division and the Proponent should be aware that matters pertaining to rehabilitation, environmental impacts of final landform design, subsidence, subsidence management, mine operator and safety are not assessed by the Division and advice should be sought from the Resources Regulator.

The Division has reviewed the information supplied in relation to the abovementioned Project and provides the following advice:

The Division requires that the Project's Environmental Impact Statement (EIS) refers to and includes all the requirements set out in the *Division of Resources and Geoscience Secretary's Environmental Assessment Requirements* (**Attachment 1**).

For further enquiries and advice in relation to this matter, please contact Adam Banister, Senior Advisor Assessment Coordination – Resource Assessments on 02 4063 6534 or assessment.coordination@planning.nsw.gov.au.

Yours sincerely

Scott Anson
Manager Assessment Coordination
Resource Operations
Division of Resources & Geoscience
10 September 2019

for
Stephen Wills
Executive Director Resource Operations
Division of Resources & Geoscience

NSW Department of Planning, Industry and Environment
Division of Resources & Geoscience – Resource Operations – Assessment Coordination Unit
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Tel: (02) 4063 66534 Fax: (02) 4063 6974 Email: assessment.coordination@planning.nsw.gov.au
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Division of Resources & Geoscience

Secretary's Environmental Assessment Requirements

for proposed significant state development applications requiring consultation
under Schedule 2 Part 2(3) of the Environmental Planning & Assessment Regulation 2000

Project	Cowal Gold Operations Underground Development
Reference Number:	DOC19/759571
Type of Approval:	Mining operation – metallic minerals - **underground**
Proponent:	Evolution Mining Pty Ltd
DA Number:	SSD-10367
Mineral:	Gold and Silver

In preparing the environmental assessment requirements with respect to an application for State significant development, the Planning Secretary must consult relevant public authorities and have regard to the need for the requirements to assess any key issues raised by those public authorities.

This development may require an approval under the *Mining Act 1992* to be issued by the Division of Resources & Geoscience. The proponent must apply to the Division for the relevant approval (mining lease) during the development assessment process, or once consent has been granted, and before the commencement of any mining or ancillary activity.

A development application under the *Environmental Planning and Assessment Act 1979* must be approved before a mining lease can be granted. A mining lease will only be granted for activities specified in the development consent.

Environmental assessment requirements for mining

1. Project description

The Proponent is to supply a comprehensive overview and description of all aspects of the Project, including:

(a) Location map showing the project area, mining titles, nearest town/s, major roads etc.

(b) Status of all titles (including mining and exploration), and development consents in place and/or timeline to obtain necessary approvals.

(c) Any relationships between the resource and existing mines or other infrastructure.

(d) Nature of operation (e.g. underground, open cut) and ore mineral/s to be extracted.

(e) Proposed life of mine and summary of production schedule.

2. Geology

The proponent is to supply a summary of the geological components of the mineral resource, including:

(a) A brief description of the regional geology including a supporting map.

(b) An explanation of any relationships of the resource to conflicting resources/mineralisation

(c) Description of local geology and relationship to mineral resource including relevant maps and or cross sections.

(d) A description of the physical characteristics of the mineral resource, including the dimensions (with representative plans and cross sections including each ore body/lens if appropriate).

(e) Details of the ore and waste rock, including mineralogy and deleterious elements. This information is key to understanding the environmental effects of the proposal.

3. Mineral Resources and Ore Reserves

The Proponent is to supply the most recent resource and reserve statement. This needs to be prepared in accordance with the Australasian Joint Ore Reserves Committee (JORC) Code for reporting of Exploration Results, Mineral Resources and Ore Reserves or equivalent. It is preferred that a significant amount of the resources are estimated to at least indicated or equivalent high level of confidence. The proponent should also provide a summary of the mineral resource classifications and justification for each category.

The Division understands that it may not be feasible to convert all Inferred Resources to Indicated (or higher) level of confidence. However, the Proponent needs to demonstrate that there are sufficient resources to support the majority of the initial life of mine production schedule. Any contribution from Inferred Resources to the schedule needs to be justified.

4. Resource extraction

The proponent shall supply evidence that the resource extraction is sustainable and maximised. Such evidence shall include:

(a) A summary of resources that may be sterilised or excluded and with what justification.

(b) A description of how the proposed mine plan and extraction method maximise resource recovery.

(c) A summary of the processing and recovery methods. Are any economic minerals sterilised (e.g. to tailings) and with what justification?

5. Geotechnical assessment

The proponent is to supply evidence of geotechnical investigations that support mine design including:

(a) The general characteristics of surface and subsurface features that may be affected by subsidence caused by the proposed mining.

(b) The proposed strategies to manage subsidence risks to surface or sub-surface features that are considered to have significant economic, social, cultural or environmental value.

6. Subsidence

To justify proposed underground mining projects, the proponent must demonstrate the feasibility of:

(a) The proposed mining operation (e.g. mining methods, layout and sequences).

(b) The proposed strategies to manage subsidence risks to surface or sub-surface features that are considered to have significant economic, social, cultural or environmental value.

The justification must be supported by information provided by the proponent, including, but not limited to:

(a) Identification and general characteristics of surface and subsurface features that may be affected by subsidence caused by the proposed mining.

(b) General and relevant site conditions including; depths of cover, geological, hydrogeological, hydrological, geotechnical, topographic and climatic conditions.

7. Life of mine schedule

The Proponent must supply a life of mine production schedule for each year of operation of the mine and for the life of the Project. The production schedule is to include:

(a) Details of run-of-mine ore, low-grade ore-mineralised waste and waste rock tonnage planned to be extracted for each year and for the life of the Project, and an estimate of the saleable product produced for each year and the life of the Project.

(b) In terms of text, plans or charts, the EIS must clearly show the proposed extent and sequence of the development.

(c) An estimate of which market segment that product tonnes would be sold into, for example, export/domestic.

8. Project economics

The Proponent is to supply an assessment of project economics including:

(a) Price forecasts by product type used by the Proponent. The Division requires these forecasts to analyse the Proponent's calculations of royalty value and export value.

(b) Product tonnages split into market segment. These estimates are necessary to arrive at total revenue value and royalty calculations. Include justification for market segment based on quality parameters.

(c) CAPEX & OPEX necessary for the Project – broken down into the various sub-categories and equipment type.

(d) Estimates of employment generation broken down into direct, indirect, ongoing, construction and contract workers.

(e) Total royalty generated to the state over the life of the Project.

(f) Relationship and interaction with other mines. How the Project impacts on the existing mine and surrounding mines.

The above information should be summarised in the EIS, with full documentation appended. If deemed commercial-in-confidence, the resource summary included in the EIS must commit to providing the Division with full resource documentation separately via the Division's Assessment Coordination Unit.

Additional matters for attention

Biodiversity offsets

The Division requests that the Proponent consider potential resource sterilisation in relation to any proposed biodiversity offsets areas. Biodiversity offsets have the potential to preclude access for future resource discovery and extraction and could also potentially permanently sterilise access to mineral resources.

The EIS must therefore clearly illustrate the location (including offsite locations) of any biodiversity offsets being considered for the project and their spatial relationship to known and potential mineral and construction material resources and existing mining & exploration titles.

The Division requests consultation with both the Geological Survey of NSW – Land Use Assessment team and holders of existing mining and exploration authorities affected by planned biodiversity offsets. Evidence of consultation should be included in the EIS.

Mining Titles

As gold and silver are prescribed mineral under the *Mining Act 1992*, the proponent is required to hold an appropriate mining title(s) from the Division in order to mine the mineral.

For ancillary mining activities as, in so far as the ancillary activities are to be carried out in connection with and in the immediate vicinity of a mining lease in respect of a mineral, the proponent is required to hold a Mining Lease for ancillary mining activities or an 'off title' designated ancillary mining activity as defined by clause 7 of the Mining Regulation 2016 (the Regulation).

The EIS for a project should clearly identify existing mineral titles, mineral title applications and the final proposed mining lease area(s) for the project site and areas surrounding the proposed project area and address the environmental impacts and management measures for the mining and mining purpose activities as licensed under the *Mining Act 1992*.

Where a proposal includes Crown Land the proponent is required to comply with the Commonwealth *Native Title Act 1993* and undertake the right to negotiate process for the Crown Lands within the current exploration licence area(s) if proof of extinguishment cannot be determined.

A development application under the *Environmental Planning and Assessment Act 1979* must be approved before a mining lease can be granted. A mining lease will only be granted for activities specified in the development consent.

The Division notes that this Project, as it currently stands, is located within the existing operations area of Mining Lease 1535 (Act 1992). Based on current title information the Division advises that the proponent holds the appropriate titles as required for mining operations as relating to the project.

Position	Approval	Date
Approving Officer: Adam W. Banister Senior Advisor Assessment Coordination Resource Operations (02) 4063 6534	Approved in CM9	10/09/2019
Endorsing Officer: Scott Anson Manager Assessment Coordination Resource Operations (02) 4063 6972		10/09/2019

Public Authority Response

Thursday, 12 September 2019 12:36:00 PM AEST

Notes:

The Department of Primary Industries has reviewed the project, and advises that the Environmental Assessment should specifically address potential impacts on the aquatic ecology within Lake Cowal resulting from underground development. In particular, but not limited to:

- The area which may be affected either directly or indirectly by the development or activity, should be identified and shown on appropriately scaled maps
- Consider the impact of underground blasting on fish species known or expected to live within the lake
- Description of aquatic and riparian vegetation within the development should be presented and mapped
- Consider the extent of aquatic habitat removal or modification which may result from the proposed development.

If you have any questions please contact Evan Knoll on (02) 6763 1428 or evan.knoll@dpi.nsw.gov.au

OUT19/11773

Philip Nevill
Environmental Assessment Officer
Energy and Resources
NSW Department of Planning, Industry and Environment

philip.nevill@planning.nsw.gov.au

Dear Mr Nevill

Cowal Gold Operations (DA 14/98) - Modification 16
Comment on the Secretary's Environmental Assessment Requirements (SEARs)

I refer to your email of 27 August 2019 to the Department of Planning, Industry and Environment (DPIE) – Water and the Natural Resources Access Regulator (NRAR) about the above matter. Please see the below advice for your consideration.

DPIE -– Water and Natural Resources Access Regulator (NRAR)

The SEARS should include:

- The identification of an adequate and secure water supply for the life of the project. This includes confirmation that water can be sourced from an appropriately authorised and reliable supply. This is also to include an assessment of the current market depth where water entitlement is required to be purchased.
- A detailed and consolidated site water balance.
- Assessment of impacts on surface and ground water sources (both quality and quantity), related infrastructure, adjacent licensed water users, basic landholder rights, watercourses, riparian land, and groundwater dependent ecosystems, and measures proposed to reduce and mitigate these impacts.
- Proposed surface and groundwater monitoring activities and methodologies.
- Consideration of relevant legislation, policies and guidelines, including the NSW Aquifer Interference Policy (2012), the Guidelines for Controlled Activities on Waterfront Land (2018) and the relevant Water Sharing Plans (available at https://www.industry.nsw.gov.au/water).

Any further referrals to DPIE – NRAR & Water can be sent by email to: landuse.enquiries@dpi.nsw.gov.au.

Any further referrals to DPI & Crown Lands can be sent by email to: dpi.cabinet@dpi.nsw.gov.au & lands.ministerials@industry.nsw.gov.au respectively.

Yours sincerely

Alistair Drew
Policy Officer, Assessments
Water – Strategic Relations
2 September 2019

DPIE Response to DPIE-Water & NRAR

Friday, 6 September 2019 3:41:29 PM AEST

Notes:

Hi Alistair,
Thank you for providing the comment on SEARs.
I note that title of the letter states 'Mod 16' and I wanted to clarify that the SEARs comments are for the Underground Development. Can you please confirm this.
Thanks,
Phil Nevill

Public Authority Response (DPIE-Water & NRAR)

Monday, 9 September 2019 9:26:33 AM AEST

Notes:

Hi Phil,
Yes the comments are for the Underground Development. Apologies for the mix up.
Regards,
Alistair

BLAND SHIRE COUNCIL
west wyalong

11th September 2019

Mr Philip Nevill
Environmental Assessment Officer
Energy and Resources | Planning and Assessment
Department of Planning, Industry & Environment (DPIE)
320 Pitt Street | GPO Box 39
Sydney NSW 2001

philip.nevill@planning.nsw.gov.au

Dear Mr Nevill

Cowal Gold Operations Proposed Underground Development (SSD 10367): Request for input into the SEARS; & Cowal Gold Operations Proposed Modification 16 (changes to DA 14/98) – Request for comments.

Bland Shire Council ('Council') thanks DPIE for the opportunity to provide comment on these two matters.
Council understands:

a) the > $30 Mil CIV Underground SSD will involve development of the main decline and other drives/declines off the main open pit, underground stope mining to a final depth of approximately -850 m AHD and progressive backfill of voids with cemented paste fill.

b) The $60 Mil CIV Mod 16 involves changes required on the land surface to address the consequences of the underground operations.

Key aspects of the proposed developments, together, include the following features:

- extending the life of CGO for five years until 2037;
- employing an additional workforce of up to 160 employees/contractors (up from the current 400-467 workers);
- extracting and processing an extra 17 Mt of ore;
- extracting and managing 3.9 Mt of additional waste rock, including a 5 m height increase in the waste landform;
- consuming up to 450 Mil litres of additional water per annum for the additional five years of operation and purchasing additional water requirements on the open market;
- construction of a paste fill plant and making changes to the existing processing plant; and
- adding additional mining fleet vehicles: 8 haul trucks, 4 loaders, 4 development and production drills.

Council's comments as listed below represent a holistic presentation of the issues likely to be of concern to it and its residents and ratepayers.

Generally, the comments herein apply to both the SEARS for the underground expansion and Mod 16 for changes on the land surface.
Council therefore seeks the support of DPIE to ensure the baseline studies and resultant impact assessment is robust, comprehensive and transparent. Council also requests ongoing close dialogue with DPIE and the Proponent as the assessment progresses.

1. Impacts on Local Housing

Housing for additional mine staff (during both construction and operation) is a significant concern to Council. It wishes to see workers integrated into the town, rather than having accommodation 'enclaves'.
There is currently an undersupply of housing in the Bland Shire and Council requests the SEARS require robust, comprehensive and transparent examination of the need for the Proponent to expedite the development of a new housing program to accommodate about 75% of the additional 160 workers, plus indirect staffing.

2. Impacts on Social and Community Wellbeing

Council requests the SEARS require robust, comprehensive and transparent examination of the following:

- Increased demand on community infrastructure and services such as health centres, schools, libraries, community facilities, recreational areas and open space;
- Noise, dust and night, blasting, surface and groundwater impacts and traffic impacts on residents nearby the development;
- A definitive commitment to compensate any affected landholders in a manner that is fair and just;
- Commitments to ensure 75% of the new employees are permanent local residents; and
- Commitments that there will be consideration given to the employment of local indigenous people.

3. Impacts on Local Roads

Council requests the SEARS require robust, comprehensive and transparent examination of the following:

- Increased traffic on local roads during both construction and operations phases – including light vehicles, commuter buses and heavy vehicles (including axle numbers and loadings);
- Proposed travel routes.
- A financial contribution towards the upkeep of the main access roads to the mine.

4. Impacts on Waste Management Facilities

Council seeks full details pertaining to both the solid and liquid waste types and quantities proposed to be disposed at Council waste management facilities. This data is important as regards impacts on the life and design of the infrastructure.

5. Groundwater Take and Resultant Impacts

Council notes the current groundwater inflow to the open pit is estimated to be approximately 159 ML/annum, with approximately 10% of groundwater inflows from the alluvial groundwater system and 90% of groundwater inflows from the fractured rock groundwater system.
It is also notes there is drawdown in the Cowra Formation (alluvial system) - the Bland Creek Palaeochannel - due to groundwater inflow to the existing mine pit.

Council requests the SEARS require detailed, thorough assessment of:

- The likely impacts on the fresh groundwater system (both alluvial and fractured rock) and the saline supply system;
- The likely impact on the overlying Lake Cowal arising from blasting, subsidence and likely additional water take into the underground works;
- The need for additional water extraction permits - both quantity and time duration; and
- A detailed water balance comparing the current situation with what is proposed.

From Council's perspective it is vital that the DPIE engage independent experts to review the EIS's hydrogeological and surface water assessment and predictions.

6. Cumulative Impacts

Council requests the SEARS require robust, comprehensive and transparent examination of the cumulative impact of the following:

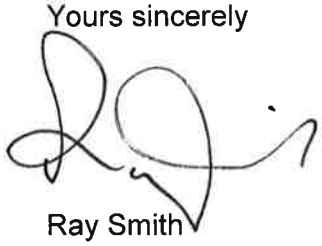
- The impact on the traditional agribusiness labour market as workers are attracted to mining and renewable energy projects;
- The socio-economic impact of changes in local population and employment profiles arising from recent and planned mining and energy projects; and
- The impact on the local housing market – both demand and supply – arising from recent and planned mining and energy projects.

7. Financial Contributions for Road Maintenance & Community Enhancement Programs

Council requests the SEARS require robust, comprehensive and transparent examination of the financial contributions to be made to it and other impacted councils for road maintenance and community enhancement projects.

If there are any queries regarding the above, please don't hesitate to contact the undersigned on telephone 02 6972 2266.

Yours sincerely



Ray Smith
General Manager

Public Authority Response – Crown Lands

Friday, 20 September 2019 12:10:06 PM AEST

Notes:

Review of the SSD-10367 Mod 16 Scoping Report documentation did not reveal any specific concern to the current matters under consideration. The comment below should reduce the risk of conflict with our current TSR relocation matter under consideration.

Comment: the applicant is to seek the departments written approval before undertaking any surface changes where Crown land is incorporated into the proposed surface change area.

Resources Regulator

FORM EAMS generic v1.1

Our ref: EAMSG0004030
LETT0002974

Attn: Philip Nevill
Resource Assessments
Department of Planning and Environment
GPO Box 39

Sydney NSW 2001

Dear Philip Nevill

Cowal Gold Operations Underground Development (SSD No. 10367): Request for Resources Regulator Secretary's Environmental Assessment Requirements

I refer to the email dated 27 August 2019 inviting the Resources Regulator to provide Secretary's Environmental Assessment Requirements (SEARs) for the Cowal Gold Operations Underground Development (SSD No. 10367).

The Mining Act Inspectorate 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.

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*.

Development Details and Assessment

The Cowal Gold Operations (CGO) is an open cut operation located approximately 38 kilometres north-east from West Wyalong, NSW, adjacent to Lake Cowal. The CGO Underground Development proposes to:

- Extend mining operations northward under Lake Cowal from a decline entrance in the eastern part of the open pit.
- Including modifications to the existing processing plant, an additional downstream lift of the Integrated Waste Landform and construction of a pastefill plant for stope void backfill.
- *Cowal Gold Operations Underground Development, Underground State Significant Development Scoping Report* prepared for Evolution Mining (Cowal) Pty Limited August 2019 (RR19/228759).
- *Cowal Gold Operations Underground Development Modification 16 to DA 14/98 Scoping Report*, prepared for Evolution Mining (Cowal) Pty Limited August 2019 (RR19/228757).

Compliance Operations Response

Compliance Operations has reviewed the application and recommends that the standard mining development rehabilitation SEARs be applied to this development (see attached).

Mine Safety Operations Response

Mine Safety Operations has no additional comments.

If you require additional information, please contact the Resources Regulator on 1300 814 609 (Option 2, then 5), or via email at nswresourcesregulator@service-now.com.

Yours sincerely,

Matthew Newton
Director Compliance
Compliance Operations
Resources Regulator
NSW Department of Planning, Industry & Environment

23 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;

(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)