6 June 2019

Mr Colin Phillips
Team Leader, Resources Assessments
Department of Planning and Environment
PO Box 39
SYDNEY NSW 2001

Dear Sir

Subject: **SSD 10333**
Newstan Extension Project
Miller Street, Fassifern

Thank you for your email, dated 20 May 2019 requesting Council's requirements for the Environmental Impact Statement (EIS) under Schedule 2 of the Environmental Planning and Assessment Regulation 2000. A preliminary review of the Scoping Report has been made by Council, which has identified the following issues are important matters to consider in the EIS and assessment, reflecting Council's policy, practice and community expectations:

1. General comments

Lake Macquarie City Council (LMCC) welcomes the opportunity to provide comments on requirements to be considered in the EIS and the assessment of the proposed development. Council's roles in relation to the proposal are:

a. Representing the community, and identifying local priorities and aspirations through its community strategic plan and integrated planning framework.

b. As a land use planning authority undertaking strategic land use planning and regulation of development within the local government area.

c. As an owner and land manager of biodiversity offset land directly affected by the proposal.

LMCC has had previous exposure to this proposal through its comments on the proposed Newstan Colliery (DA 73-11-98) - Modification 8 and the applicant's response to submissions in 2018. These previous comments are directly relevant to the proposal.

Council seeks to ensure that groundwater impacts and risks, and biodiversity impacts on the proposed Awaba Conservation Area have been adequately documented and assessed, and specifically that potential impacts are avoided on biodiversity offsets managed within Council's Awaba Biodiversity Conservation Area.

In particular, LMCC requires that potential risks to the Awaba Biodiversity Conservation Area are properly recognised and addressed in the EIS, and ongoing consultation and commitments from Centennial Coal are required.

2. Biodiversity information and impacts

Direct and indirect impacts on biodiversity can be expected from subsidence, surface disturbance, and changes to baseline conditions.

Under the *Coal Mine Subsidence Compensation Act 2017* there are no mechanisms in place for liability for biodiversity loss or damage to natural ecosystems that may contribute to biodiversity loss. Therefore, the only way of dealing with this is through the development assessment and consent process.

Baseline subsidence, groundwater and biodiversity monitoring sufficiently detailed to be able to identify future impacts on biodiversity should be undertaken as part of the proposal. This is essential for LMCC to protect its interests in the Awaba Biodiversity Conservation Area and to be able to assess biodiversity impacts more widely. LMCC does not believe that the current Biodiversity Assessment Method (BAM) provides an adequate basis for this purpose.

As provided for in the BAM, appropriate consideration must be given to avoiding biodiversity, and to the likelihood of serious and irreversible impacts on threatened species and ecological communities. Documentation in the EIS must include measures taken to avoid biodiversity impacts, with specific reference to the LMCC Interim Technical Guideline for Avoiding Biodiversity Impacts 2019, and LMCC Interim Serious and Irreversible Impact Technical Guideline 2019.

Arrangements are to be made with Centennial Coal regarding providing access to biodiversity and environmental data for Council owned land affected by the project and the wider Awaba area.

Mining exploration and other disturbance from surface works may impact on biodiversity values. Potential impacts must be documented, and appropriate measures should be taken to ensure that no adverse biodiversity impacts occur.

3. Management of conservation land and biodiversity offsets

The Awaba Biodiversity Conservation Area is a biodiversity offset site affected by the proposed project, owned by Lake Macquarie City Council and described as Lot 463 DP 1138964.

The project application must protect Council's interests and responsibilities for protecting and managing biodiversity on this land, and ensure that Centennial Coal accepts legal responsibility for any damage caused to the natural environmental values of the land.

The applicant's commitments in relation to the project must:

a. Protect the Council's interests in its land, and legal obligations under consents given under the Environmental Planning and Assessment Act 1979

(EP&A Act) and Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act).

b. Provide for a program of biodiversity monitoring on that part of Lot 463 DP 1138964 affected by the proposal, consistent with monitoring required in the Awaba Biodiversity Conservation Area – Plan of Management 2015.

c. Support a legal agreement with LMCC to indemnify the Council against any loss or damage to its land, or biodiversity, or any management cost that may arise from disturbance to the land. The agreement is to provide for financial security to adequately cover potential losses or damage. In the event that any surface disturbance to Lot 463 DP 1138964 results from the development, the project applicant must agree to find and make all necessary arrangements to secure biodiversity offsets to compensate for that surface disturbance, to the satisfaction of LMCC, the NSW Minister for Planning, and the Commonwealth Department of Environment and Energy.

4. Matters of National environmental significance

Project impacts on water resources, listed threatened species and ecological communities, and migratory species are matters of national environmental significance requiring assessment under the EPBC Act.

A number of matters of national environmental significance occur within the project area, and must be considered in conjunction with other biodiversity impacts.

5. Groundwater impacts

The potential for groundwater impacts from the proposed mining, and consequences for natural ecosystems is significant, and must be a priority for the EIS. For example, impacts and groundwater drawdown in the Stockyard and Kilaben Creek catchments is likely, and groundwater dependent ecosystems that may be impacted must be identified.

The EIS should include surface and groundwater monitoring data within the mining area to determine baseline conditions and to enable post-mining changes to be determined.

6. Strategic rehabilitation

The project forms part of a larger, long-term mining area. Strategic rehabilitation planning and the transition to post mining land use should form part of the proposal and the assessment process.

LMCC proposes that in conjunction with the project, an ongoing strategic rehabilitation and land use transition dialogue be established with relevant stakeholders to plan for the transition to sustainable post mining for the whole of the Centennial Coal landholdings within the Lake Macquarie local government area.

7. Greenhouse gas emissions

Greenhouse gas emissions attributable to the project should be assessed in the context of the City of Lake Macquarie emission targets.

Consideration must be given to evaluating the feasibility of achieving for net zero carbon emissions from the project, and the options and consequences of this and alternative low carbon emission scenarios.

8. Coal reject management

The project scoping report (page 4) notes that coal reject management does not form part of the project. This is not appropriate, given that the project relies on coal reject disposal and the approval authority must be satisfied that appropriate arrangements are in place for coal reject management and disposal.

LMCC recommends that the EIS include a full assessment of the adequacy and impact of coal reject management arrangements for coal produced from the project.

It is also requested that the applicant address:

a. Water quality impacts to the receiving environment at LT Creek, especially regarding heavy metals;

b. Addressing the historic impacts of mining impacts upon LT Creek (particularly in relation to contributions to dredging of historic sediment accumulation in the vicinity of the upper tidal limits of the creek.

9. Strategic land use planning issues

The strategic land use planning consequences of the proposal require identification in the EIS, together with assessment of the social and economic implications as part of any approval processes.

Specifically, the following matters have been identified as of interest to LMCC in its role as a planning authority:

a. The indicative very fast train corridor between Sydney and Newcastle is intersected by the project area. The project has the potential to require relocation of this corridor and future transport infrastructure, with significant economic and public interest consequences. Consideration must be given to options, which can protect the corridor from mining or other impacts.

b. The protection of the native vegetation and biodiversity in the Awaba area as a conservation reserve (Awaba Conservation Area) has been identified as a long-term land use objective and recognised in LMCC strategic planning. It is essential that this be considered in the environmental assessment of the proposal.

c. Future use of Earing Power Station and associated infrastructure (including ash dam and transmission lines) has the potential to be affected by the proposal and requires assessment.

10. Cumulative impact assessment

A cumulative assessment needs to be undertaken of historical mining and legacy issues associated with the project.

11. Eraring ash dam

Detailed independent (and peer reviewed) assessment should be undertaken the impacts of proposed mining on the Eraring Ash Dam. This assessment should consider:

a. Any potential impacts of the stability of the ash dam structure, including assessments of impacts for Operating Base and Maximum Design Earthquake events.

b. Impacts on groundwater interactions below the ash dam, particularly with regards to leaching or discharge of metal laden ash-dam waters to receiving water (surface or ground).

12. Noise

The applicant is required to evaluate the existing and projected acoustic amenity to the surrounding areas, which may be affected by surface infrastructure such as heavy vehicle movements, plant and equipment, conveyor belt operation, exhaust fans and any increased traffic movements to public roads.

In this regard, the applicant must provide a detailed Acoustic Report, prepared by a qualified and experienced Acoustic Consultant to determine whether the mine can operate in accordance with:

a. The NSW EPA Noise policy for Industry 2017 for ongoing operational noise from mechanical plant and equipment, including on-site vehicle movements.

b. NSW Department of Environment, Climate Change and Water publication "Interim Construction Noise Guideline" July 2009.

c. Vibration from construction site operations on surrounding land shall comply with the NSW Department of Environment, Climate Change and Water publication "Assessing Vibration: a technical guideline" February 2006.

d. NSW Road Noise Policy to evaluate any potential effect to public roads, and the amenity of residential premises along those roads.

e. Rail noise and vibration if that forms part of the new infrastructure proposal.

f. Any proposed blasting to be carried out as part of infrastructure construction.

13. Water pollution discharge

It is assumed that the EPA would continue licensing the facility under the provisions of the NSW Protection of the Environment Operations Act in relation to water pollution discharges. However, the EIS must include details of the types, quantity, treatment, discharge quality, final discharge points and its potential environmental impact and public health effects to the surrounding area and receiving waters.

14. Site contamination

The applicant is required to determine whether there are any Contaminated Site issues, which may affect the health and amenity of both construction and permanent mine employees. There may have been illegal dumping within the proposed surface infrastructure expansion area which may include asbestos.

The applicant must provide a Preliminary Site Contamination Assessment, prepared by a qualified and experienced contaminated site consultant, and in accordance with the NSW EPA Guidelines for Consultants Reporting on Contaminated Sites.

15. Air quality

The applicant is to prepare an Air Quality Impact Assessment to assess potential air impacts on nearby sensitive receptors. The Air Quality Impact Assessment is to be prepared in accordance with the NSW EPA Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (2016).

16. European heritage

Council's Development Planner – Heritage Focus has reviewed the scoping report and existing heritage items which could be affected by the proposal and the potential impacts to historic heritage as a result of the project.

This would include "*amenity impacts and or damage to the locally significant Awaba Colliery Surface Site due to the construction of new infrastructure at the site, and subsidence related impacts following mining within the Extension of Mining Area"*.

The applicant proposes that a Historical Heritage Assessment is undertaken, which would include an assessment of the potential subsidence impacts on identified built features of historic heritage significance and identify measures to avoid, mitigate, monitor and manage the potential impacts of the project. This is supported.

The report should also include the assessment of the potential impact of the new infrastructure on the Awaba Colliery Surface Site, as identified by the applicant, and any proposed actions to mitigate impacts.

17. Aboriginal Heritage

The applicant has identified in the scoping report that there are six AHIMS sites within the proposed extension area, and stated that an Aboriginal Cultural Heritage Assessment would be prepared, in accordance with OEH's requirements, with the appropriate consultation. This approach is considered adequate and supported.

Should you require further information or wish to discuss the above issues, please contact the undersigned on 4921 0119 or by e-mail on gwilliams@lakemac.nsw.gov.au.

Yours faithfully

Georgie Williams
Senior Development Planner
Development Assessment and Compliance

OUT19/6677

Colin Phillips
Team Leader
Resources Assessments
NSW Department of Planning and Environment

Colin.Phillips@planning.nsw.gov.au

Dear Mr Phillips

Newstan Extension Project (SSD 10333)
Comment on the Secretary's Environmental Assessment Requirements (SEARs)

I refer to your email of 20 May 2019 to the Department of Industry (DoI) about the above matter.

The following advice for you to consider is from relevant branches of DoI Lands & Water and the Department of Primary Industries. The SEARS should include:

DoI -– Water and Natural Resources Access Regulator

- 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).

DoI Crown Lands

For mining operations involving Crown land or Crown Roads, the following requirements apply:

- All Crown Land and Crown Roads within a Mining Lease must be subject to a Compensation Agreement issued under Section 265 of the *Mining Act 1992*, to be agreed and executed prior to any mining activity taking place. The Compensation Agreement may include conditions requiring the Mining Lease Holder to purchase Crown land impacted on by mining activity. Other works consents may also be necessary under Section 81 of the *Mining Act 1992*.
- All Crown Land and Crown Roads located within an Exploration Licence, where subject to exploration activity, must be subject to an Access Arrangement issued under Section 141 of the *Mining Act 1992*, to be agreed and executed prior to any exploration activity taking place

DPI Agriculture

- Section 5.2.9 'Soil and Land Resources' of the Scoping Report indicates an intention to undertake an Agricultural Impact Assessment (AIS) in the forthcoming EIS. The proponent should be advised that in this instance an AIS is not necessary as it is unlikely that the proposed underground extension will impact on any existing or future agricultural activity or resources that would not already be addressed in the EIS.

Any further referrals to Department of Industry can be sent by email to landuse.enquiries@dpi.nsw.gov.au.

Yours sincerely

Liz Rogers
Manager, Assessments
Lands and Water – Strategic Relations
4th June 2019

Specific development application requirements for State significant mining and extractive industry developments under the Environmental Planning and Assessment Act 1979

October 2015

Mine Application Guideline

NSW GOVERNMENT

Contents

Preliminary

Purpose

This guideline has been prepared to assist proponents of mining and extractive industry ('mining') projects in the preparation of development applications under the State significant development provisions of the *Environmental Planning and Assessment Act 1979* (the Act).

This guideline relates to the contents of a Preliminary Environmental Assessment (PEA) and the project description component of an Environmental Impact Statement (EIS)[1]. In particular, it is intended to ensure applicants clearly describe:

1. what the consent authority is being asked to approve (project description);
2. the strategic context for the project;
3. what choices and trade-offs have been made (and why) in the process of designing a mining project (project rationale);
4. key environmental issues and land use constraints (for the purposes of the PEA only); and
5. what consultation will be or has been undertaken in preparing the development application.

Background

The majority of large mining developments in New South Wales (NSW) are assessed and determined under the State Significant Development (SSD) provisions (Division 4.1 of Part 4) of the Act. Smaller quarries and other mines are generally assessed under the other provisions of Part 4.

Section 78A of the Act requires an EIS to be submitted in support of development applications for mining projects. The proponent is required to apply for the Secretary's Environmental Assessment Requirements (SEARs) prior to preparing an EIS. In practice, the request for SEARs is accompanied by a PEA, which informs the development of the SEARs.

The information supplied in the PEA is further developed and expanded on in the EIS, consistent with requirements set out in the SEARs[2].

Some mining projects may also require a site verification certificate[3] or gateway certificate[4] under the *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007* (Mining SEPP). The gateway assessment is undertaken by an independent expert panel – the Mining and Petroleum Gateway Panel – that assesses the proposal against specific criteria set out in the Mining SEPP.

The requirements set out in this document will also be generally relevant for modifications or brownfield proposals, however, the extent to which they will apply will depend on the proposal. Proponents should contact the Department to discuss the application of these guidelines for proposed modifications or brownfield developments.

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1 The Mine Application Guideline does not address the environmental impact assessment components of an EIS – it focuses on providing guidance on how the applicant should describe the project rather than assessing the impacts of the project.
2 The Mine Application Guideline supplements, and is subordinate to the SEARs
3 The requirements for site verification certificates are set out at majorprojects.planning.nsw.gov.au/application/SVC
4 The requirements for the Gateway Process are set out in the Guideline for Gateway Applicants.

The Mine Planning Process

Consistent with the principles of ecologically sustainable development, proper consideration must be given to potential environmental, social and economic impacts during the mine planning process. This requires applicants to ensure that the development of a mine design addresses:

- the full lifecycle of the mine from construction and operation to rehabilitation and lease relinquishment;
- potential environmental and community impacts; and
- consideration of project options and alternatives to avoid or minimise negative impacts.

An effective mine planning process should:

- reduce the potential for environmental and community impacts which exceed relevant approval criteria;
- reduce levels of public concern;
- avoid potential delays in the approval process; and
- optimise the sustainability of post-closure land use outcomes.

Applicants should adopt an iterative approach to developing the mine design, with regular reviews based on:

- results of ongoing exploration and technical feasibility studies;
- consideration of effective resource recovery;
- evaluation of the project viability and the economic benefits of developing the resource;
- results of baseline environmental studies (e.g. identification of significant flora/fauna species or areas of particular cultural significance);
- outcomes of environmental assessment studies (e.g. site water balance or noise/air quality modelling);
- consideration of a range of climatic scenarios;
- consideration of cumulative impacts with other nearby projects and proposals;
- whether environmental, social and economic impacts can be avoided, minimised or adequately mitigated; and
- ongoing consultation with key stakeholders, including regulators and the community.

Avoidance, minimisation and mitigation measures should be the primary strategies for managing the potential adverse impacts of a development. Early adoption of these strategies can reduce additional cost and delays during the assessment and determination process.

The applicant should consider the capacity for mining to coexist with surrounding existing and proposed land uses. Factors to consider include:

- the characteristics of the surrounding environment and community and their sensitivity to impacts (including competing land uses);
- the characteristics of the potential impacts, including their predictability;
- potential future mine expansions; and
- proposed impact minimisation and mitigation strategies and their effectiveness and reliability.

Appropriate separation distances provide confidence that existing land uses can be maintained. Early consideration may need to be given to acquiring sufficient land to provide adequate separation from nearby sensitive land uses to minimise impacts and ensure long-term compliance with air quality, noise or water quantity and quality requirements.

Careful consideration should be given to both the location of the primary development and the suitability of sites selected for ancillary activities and infrastructure, including processing plants, pipelines and transportation corridors.

Applicants should give consideration to:

- locating linear ancillary infrastructure within existing disturbance corridors;
- using topographical features to reduce potential amenity impacts (for example noise impacts); and
- sharing infrastructure with nearby operations where appropriate commercial agreements can be reached.

The project needs to be outlined in its entirety so that the interactions between various components of a mine plan and the reasoning behind design decisions are clearly articulated in the development application. This will ensure that decision makers understand what choices or trade-offs have been made and why.

Specific Requirements for SSD Mining Developments

The development application process for State significant mining requires the submission of two key documents. These are the:

- Preliminary Environmental Assessment (PEA); and
- Environmental Impact Statement (EIS).

Preliminary Environmental Assessment

A PEA is required to inform the Government's development of project-specific Secretary's Environmental Assessment Requirements (SEARs) for a development application.

A PEA is to be presented in summary and predominantly qualitative form, avoiding lengthy and overly technical discussion. A PEA is not intended to involve a detailed analysis of a proposal. For this reason, the format and layout should be relatively simple. Reference can be made to preliminary assessments and other studies by inclusion of summary result tables etc. rather than incorporating this information in its entirety.

A PEA will be made available to all stakeholders, including the community, and is intended to enable stakeholders to gain a clear understanding of what is proposed.

The length and format of a PEA will depend on the proposal, but as a guide, a PEA for a complex proposal can be effectively presented in a document of 50 pages, including an executive summary.

Environmental Impact Statement

In contrast to a PEA, an EIS is required to inform the consent authority's decision as to whether a project should be approved (through the grant of a development consent, environment protection licence and mining lease).

A robust EIS will describe both the existing environment and potential environmental impacts to a high degree of certainty.

The requirements for an EIS are set out in the SEARs for the project. The SEARs may refer back to this guideline for some components of the EIS requirements (primarily the project description).

The mining-specific requirements for a PEA and an EIS are set out under the following headings.

1 Project Summary

The purpose of this section is to assist applicants in providing a concise summary of the key aspects of the proposed development.

Mining-specific PEA requirements

The PEA should include a table which summarises the key attributes of the project (similar to the example provided at Table 1). The content and level of detail provided in this table should be consistent with the level of project certainty at the time of submission of the PEA.

Mining-specific EIS requirements

The EIS should include a project summary table similar to the example provided at Table 1, but completed to a level of specificity and detail appropriate to the nature and extent of the proposed development.

2 Project Description

2.1 Development description

The purpose of this section is to assist applicants in clearly and accurately defining what is being proposed as part of the development application.

Mining-specific PEA requirements

The PEA should provide a clear and concise summary of the proposed mine design and project as a whole and include:

- A description of the types of activities that will be undertaken during each stage of the development;
- The objectives of the development; and
- An outline of the nature, scale and extent of the development.

Mining-specific EIS requirements

The EIS should include a complete description of the development, to a level of specificity and detail appropriate to the nature and extent of the proposed development. For example, this would include detailed information in relation to the elements identified in the PEA as well as details such as:

- The nature and extent of the development, including:
  - *mine location and extent;*
  - *mine design and layout;*
  - *mining method;*
  - *infrastructure and mining plant;*
  - *processing/beneficiation activities;*
  - *product transport; and*
  - *the intended post-mining land use.*
- The intended scale of the development, including:
  - *expected life of the project;*
  - *production rates;*
  - *capital expenditure;*
  - *export revenue; and*
  - *projected royalties.*
- Workforce:
  - *number of workers;*
  - *workforce source (local/non-local);*
  - *accommodation requirements and availability;*
  - *number of shifts;*
  - *shift change times; and*
  - *workforce transport requirements (FIFO/traffic implications).*
- Waste streams:
  - *type (waste rock, tailings, tyres etc);*
  - *production rate;*
  - *fate;*
  - *breakdown products; and*
  - *any specific management requirements.*

The EIS should also include a tabulated summary of the requirements identified in the SEARs, and references to where these have been addressed in the EIS.

2.2 Ancillary developments

The purpose of this section is to assist the applicant in identifying any related developments that are NOT being proposed as part of the subject development application but are necessary to support that development.

Mining-specific PEA requirements

The PEA should outline:

- any ancillary developments (e.g. processing, transport, pipelines etc.);
- any required road closures; and
- what approval pathway will be sought for those ancillary developments.

The level of detail in this section should be appropriate to the level of project certainty at the time of submission of the PEA.

Mining-specific EIS requirements

The EIS should include a complete description of any ancillary developments and their approval requirements to a level of specificity and detail appropriate to the nature and extent of the proposed development.

2.3 Development schedule

The purpose of this section is to assist applicants in ensuring that the timing of key aspects of the proposed development are clearly and accurately defined as part of the development application.

Mining-specific PEA requirements

The PEA should outline a conceptual schedule for the proposed development.

The level of detail in this section should be appropriate to the level of project certainty at the time of submission of the PEA.

Mining-specific EIS requirements

The EIS should include a complete description of, and schedule for, each key phase of the development, including:

- construction;
- operation;
- rehabilitation; and
- closure

2.4 Management commitments

The purpose of this section is to assist applicants in ensuring that any management commitments to avoid, minimise or mitigate potential impacts are clearly and accurately defined as part of the development application.

Mining-specific PEA requirements

The PEA should outline proposed conceptual mitigation strategies for managing the potential adverse impacts of the development.

The level of detail in this section should be appropriate to the level of project certainty at the time of submission of the PEA.

Mining-specific EIS requirements

The EIS should set out in detail any commitments to avoid, minimise or mitigate potential impacts of the project. These commitments will be considered by the consent authority to form part of the project.

The information in this section should be a complete description to a level of specificity and detail appropriate to the nature and extent of the proposed development.

2.5 Mapping requirements

The purpose of this section is to assist applicants in ensuring that the physical layout of the proposed development over time is clearly and accurately defined as part of the development application.

Note that GIS mapping requirements had not been finalised as at the date this guideline was drafted. This section will be updated when these are available.

3 Strategic Context

3.1 Target resource

The purpose of this section is to assist applicants in ensuring that the resource targeted by the proposed development is clearly and accurately defined as part of the development application.

Mining-specific PEA requirements

The PEA should provide summary information on the characteristics of the resource. It should also demonstrate effective and efficient recovery of the resource within land use constraints. This information may include:

- the specifics of any title held over the area under the *Mining Act 1992*;
- exploration methods, geological characteristics, constraints on resource recovery, recoverable resource;
- whether or not the development is likely to have a significant impact on current or future extraction or recovery of minerals, petroleum or extractive materials, including indication of resource sterilised or not included in order to minimise impacts to sensitive areas;
- the relationship of the resource to any existing mine; and
- whether other industries or projects may be dependent on the development of the resource.

The level of detail in this section should be appropriate to the level of project certainty at the time of submission of the PEA.

Mining-specific EIS requirements

Refer to SEARs.

3.2 Regional context

The purpose of this section is to assist applicants in ensuring that local and regional sensitivities / constraints on the proposed development are clearly and accurately described as part of the development application.

Mining-specific PEA requirements

The PEA should outline the location of the proposed development in relation to relevant local and regional features using maps and design plans where relevant (see also Section 2.5). This section should also identify relevant:

- land use constraints;
- biophysical, hydrological, environmental and heritage constraints; and
- economic considerations.

Mining-specific EIS requirements

The EIS should include the information required for a PEA above, but to a level of specificity and detail appropriate to the nature and extent of the proposed development. This will include:

- land use constraints:
  - *identification of the existing land use;*
  - *proximity to existing urban areas and settlements and future growth areas;*
  - *competing rural land uses/proximity to sensitive land uses;*
  - *competing industries;*

  - *drinking water storage areas or town water supplies;*
  - *water supply constraints including access to water/competing water users; and*
  - *practical constraints on mining operations such as disposal of incidental water;*
- biophysical, environmental and heritage constraints:
  - *protected areas and areas of high environmental value;*
  - *water sources for catchments, rivers and aquifers;*
  - *matters of national environmental significance identified at regional scale; and*
  - *other biophysical or heritage features of significance;*
- economic considerations:
  - *availability and proximity to existing mining-related or dependent infrastructure and utilities;*
  - *proximity to competing resources;*
  - *proximity to markets; and*
  - *proximity to downstream processing or other related/dependent industries.*

3.3 Permissibility and strategic planning

The purpose of this section is to assist applicants in ensuring that the permissibility of the proposed development is clearly and accurately defined as part of the development application.

Mining-specific PEA requirements

The PEA should outline relevant State and Commonwealth legislation for the development. In particular, the PEA must consider whether the proposal is:

- permissible under Part 2 of the Mining SEPP; and
- State significant development under the *State Environmental Planning Policy (State and Regional Development) 2011*.

The PEA must also consider the matters set out under Parts 1, 3 and 4AA of the Mining SEPP and the potential for significant impacts on water resources that may require assessment by the Independent Expert Scientific Committee under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth).

The level of detail in this section should be appropriate to the level of project certainty at the time of submission of the PEA.

Mining-specific EIS requirements

The EIS should include the information required for a PEA above, but to a degree of specificity and detail appropriate to the nature and extent of the proposed development.

4 Project Rationale

The purpose of this section is to assist applicants in ensuring that the reasoning behind the proposed development is clearly and accurately explained as part of the development application.

The intention is that the application brings together the various interconnected components of the proposal and articulates the rationale for the project as a whole so that stakeholders understand what tradeoffs have been made and why.

Mining-specific PEA requirements

The PEA should include an outline of the rationale behind key mine design decisions, for example:

- mining method; and
- setbacks from sensitive receivers.

Mining-specific EIS requirements

The EIS should address the following to a level of specificity and detail appropriate to the nature and extent of the proposed development:

- how has the nature of the resource and geology influenced the extraction method (e.g. longwall, truck and shovel, dragline etc.) and mine design?
- what other constraints to mining the resource are there and how have they influenced the mine design?
- how have the costs and benefits of alternative mine extents and mining methods been considered and balanced against resource recovery, project viability and other economic, environmental and social factors?
- What consequences does the preferred extraction method have for the mine layout, operation and impacts. For example:
  - *pit size and orientation;*
  - *longwall width;*
  - *waste rock volume and dump layout;*
  - *blasting;*
  - *fleet selection and noise/dust;*
  - *access requirements (area required to be exposed for operational reasons);*
  - *the final landform (e.g. final voids); and*
  - *rehabilitation scheduling.*
- mining plant:
  - *why was the proposed mining plant selected?*
  - *is it best in class with respect to water use, noise, dust and exhaust emissions? If not, why not? What effect does this have on setbacks etc?*
- rehabilitation:
  - *what alternative concepts for the post-mining landform design and rehabilitation were considered?*
  - *how were the costs and benefits of these alternatives evaluated and what were the outcomes of this?*
  - *why was the preferred approach chosen?*
- impact avoidance, minimisation and mitigation strategies:
  - *how were impacts avoided?*
  - *what strategies were considered?*
  - *how were the costs and benefits of these alternatives evaluated and what were the outcomes of this?*
- change drivers:
  - *is the development likely to include multiple phases, which may require further approval?*
  - *identify any drivers which are reasonably likely to result in changes to the mine design or mining operations during the life of the project (e.g. market conditions leading to lower than forecast production rates).*
  - *identify how the mine design or mining operations may be influenced by these drivers (e.g. changes to mine sequencing or rehabilitation timing).*
  - *describe the sensitivity of the mine design and operations to these drivers.*

5 Environmental Impact Assessment

The purpose of this section is to assist applicants in ensuring that the potential environmental impacts of the proposed development are clearly and accurately identified and assessed as part of the application.

Mining-specific PEA requirements

The PEA should:

- outline key environmental issues and land use constraints; and
- identify whether the project is likely to have a significant impact on a matter of national environmental significance[5].

The level of detail in this section should be appropriate to the level of project certainty at the time of submission of the PEA.

Mining-specific EIS requirements

The EIS requirements for a mining project will be set out in the SEARs.

6 Consultation

The purpose of this section is to assist applicants in ensuring that the level and extent of consultation about the proposed development is clearly and accurately defined as part of the development application.

The applicant is expected to conduct an appropriate level of consultation with potentially impacted stakeholders. This may include, but is not limited to:

- affected landholders and businesses;
- local council(s);
- local communities;
- relevant regulators; and
- other relevant agencies.

Mining-specific PEA requirements

The PEA should include:

- an outline of the consultation strategy for the project; and
- a statement of key strategic issues raised or likely to be raised by stakeholders and any proposed responses.

The level of detail in this section should be appropriate to the level of project certainty at the time of submission of the PEA.

Mining-specific EIS requirements

The EIS requirements for a mining project will be set out in the SEARs.

[5] Actions that are likely to have a significant impact on a matter of national environmental significance require an additional approval under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). It is the proponent's responsibility to contact the Commonwealth Department of the Environment to determine if an approval under the EPBC Act is required (contact (02) 6274 1111 or www.environment.gov.au). The referral should be made as early as possible to ensure the Commonwealth's assessment requirements can be incorporated into the SEARs.

Table 1 – Project summary for use at PEA and EIS stages

Project Component	Summary of the Project (example)
Mining Method	Open cut mining in three pit areas covering approx. 1,000 hectares.
Resource	Mining of A1, B1 and B2 Seams to a depth of 200 m.
Disturbance Area	Disturbance of approximately 1,200 hectares with no more than 600 hectares disturbed or unvegetated at any time.
Annual Production	Run-of-mine coal production up to 5 million tonnes per annum.
Mine Life	Approximately 21 years of mining.
Total Resource Recovered	Up to 95 million tonnes of run-of-mine (ROM) coal.
Beneficiation	Processing at a CHPP of up to 5 million tonnes p.a. of ROM coal.
Management of Mining Waste	Emplacement of waste rock in in-pit and out-of-pit waste rock emplacements up to a height of approximately 150 m AHD.
General Infrastructure	Access roads, electricity supply and distribution, rail loop, CHPP, train loading infrastructure, ROM coal stockpiles, coal handling equipment, diesel storage, administration, workshop, stores and ablution buildings, heavy vehicle servicing, parking and washdown facilities.
Product Transport	Transport of product coal by train with an average of 3 trains per day and a maximum of five trains per day during peak periods.
Water Management	*[This section should outline:* • *sources and security of water supply and contingency options* • *all defined water sources under relevant water sharing plans* • *water use requirements on site (including water balance)* • *any off-site water transfers and discharges]*
Operational Workforce	Approximately 250 people (including contractor personnel).
Hours of Operation	Open cut mining, coal processing and rail load-out 24 hours per day, seven days per week.
Key Environmental Impacts and Mitigation Measures	*[Highlight the major potential impacts and measures proposed to address those impacts, including:* • *air impacts* • *noise impacts* • *waste production and management]*
Capital investment Value	$500 million

For state significant mining developments

October 2015

Indicative Secretary's Environmental Assessment Requirements (SEARs)

NSW GOVERNMENT

Contents

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 an Environmental Impact Statement (EIS). The EIS must take into account all State and Commonwealth legislative requirements and any additional environmental assessment requirements issued by the Secretary.

This document identifies common Secretary's Environmental Assessment Requirements (SEARs) that could reasonably be expected to apply to the majority of new mining applications in NSW[1]. For a specific project, the Secretary may issue SEARs that deviate from this document, which may include adding additional requirements or removing unnecessary requirements. This allows the Secretary to ensure an EIS is appropriately targeted to enable adequate assessment of a project, accounting for any specific environmental risks.

For clarity, the indicative SEARs provided in this document are **not** 'standard SEARs' in the context of the statutory processes outlined in clauses 3(9) and 7(3) of Schedule 2 of the *Environmental Planning and Assessment Regulation 2000*.

These indicative SEARs incorporate and consolidate the assessment requirements of the:

- Department of Planning and Environment for Development Consent applications;
- Environment Protection Authority for Environment Protection Licence applications; and
- Division of Resources and Energy for Mining Lease applications.

They also incorporate the advice of non-assessment agencies on regulatory issues, such as the Department of Primary Industries (including DPI Water) and the Office of Environment and Heritage.

Commonwealth Department of Environment assessment requirements for actions that are likely to have a significant impact on matters of national environmental significance under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* will be incorporated into the SEARs as supplementary requirements on a project-specific basis[2].

In developing an EIS, it is the responsibility of the proponent to ensure that:

- all environmental assessment requirements are met[3]; and
- the latest version of each government guideline, referred to by the SEARs, were acquired and considered.

[1] These indicative SEARs focus on new coal mining projects. They may also be used as a basis for projects on previously developed land, or non-coal mines. The application of these SEARs to a project modification will depend on what is proposed and will be subject to case-by-case consideration.

[2] As per the Assessment Bilateral Agreement between the Commonwealth and NSW (February 2015).

[3] In the event that the proponent considers that a requirement is not applicable to their specific project, that requirement should still be addressed in the EIS, with an explanation of why it is deemed to not be relevant. In the first instance, however, the proponent should contact the Department of Planning and Environment, as amended SEARs may need to be issued.

Definitions

For the purposes of this document:

Approval (instrument)	relates to a relevant regulatory approval instrument, for example: a Development Consent (DC), Environment Protection Licence (EPL), or Mining Lease (ML)
AIS	means an Agricultural Impact Statement, prepared in accordance with the Strategic Regional Land Use Policy Guideline for Agricultural Impact Statements (DPE, 2012)
BSAL	means Biophysical Strategic Agricultural Land
DPE	means the Department of Planning and Environment
DPI	means the Department of Primary Industries
DRE	means the Division of Resources & Energy
EIS	Environmental Impact Statement
EPA	means the Environment Protection Authority
Mining operation	means a development which is the subject of an authorisation under the *Mining Act 1992* and a consent or approval under the *Environmental Planning and Assessment Act 1979*
OEH	means the Office of Environment and Heritage
Proponent	the person, company or other party applying for an approval
Regulatory agencies	means DPE, EPA or DRE, or their successor agencies

Secretary's environmental assessment requirements

The information outlined in the box below should be included in the Secretary's Environmental Assessment Requirements (SEARs) to ensure a clear link between the requirements and a specific project proposal.

Secretary's Environmental Assessment Requirements **Section 78A(8A) of the *Environmental Planning and Assessment Act 1979*** **State Significant Development (Mining)**	
Application Number	SSD [####]
Proposal	The [Proposal name], which includes: • [description]
Location	[Location description, approximate only]
Proponent	[Proponent name]
Date of Issue	[day] [month] [year]
Further consultation after 2 years	If you do not lodge a DA and an EIS for the development within 2 years of the issue date of these SEARs, you must consult further with the Secretary in relation to the requirements for lodgement.

A. General requirements

(1) The EIS for the development must:

(a) Address the environmental, social and economic issues that the consent authority should consider when assessing the application;

(b) Be informed by stakeholder consultation, including with relevant local, State and Commonwealth Government authorities, infrastructure and service providers, community groups and affected landowners, as well as the local community;

(c) Contain the information required by Schedule 2 of the *Environmental Planning and Assessment Regulation 2000* (including the information required by clauses 6 and 7 of the Schedule);

(d) Consider and respond to the NSW Mining & Petroleum Gateway Panel's Conditional Certificate (as applicable)[4];

(e) Consider the consistency of the development with the principles of ecologically sustainable development, as required by the objects of the *Environmental Planning and Assessment Act 1979*;

(f) Assess the likely impacts of the development (including environmental, social and economic factors), including:

(i) a description of the existing environment likely to be affected by the development, using sufficient and appropriate baseline data; and

(ii) an assessment of the likely impacts of all stages (life cycle) of the development, including any cumulative impacts, taking into consideration any relevant laws, environmental planning instruments (including Part 3 of the *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007*), guidelines, policies, plans and industry codes of practice.

(g) Describe the measures that would be implemented to mitigate and/or offset the likely impacts of the development, and an assessment of:

(i) whether those measures are consistent with industry best practice, and represent the full range of reasonable and feasible mitigation measures that could be implemented;

(ii) the likely effectiveness of those measures, including performance criteria where relevant;

(iii) whether contingency plans are necessary to manage any residual risks;

(iv) a description of the measures that would be implemented to monitor and report on the environmental performance of the development if it is approved.

(h) Be accompanied by a declaration signed by the proponent and person by whom the EIS is prepared stating that the material provided in the EIS is not false or misleading in any material particular[5].

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[4] Where Gateway consideration is not applicable, the proponent should prepare an Agricultural Impact Statement (see Land and Soils section).

[5] It is an offence under section 148B of the *Environmental Planning and Assessment Act 1979* to provide information in an environmental impact statement that the person knows, or ought reasonably to know, is false or misleading in a material particular (the maximum penalty for a corporation is $1 million and the maximum penalty for an individual is $250,000). The *Crimes Act 1900* contains other offences relating to false and misleading information: section 192G (Intention to defraud by false or misleading statement—maximum penalty 5 years imprisonment); sections 307A, 307B and 307C (False or misleading applications/information/documents—maximum penalty 2 years imprisonment or $22,000, or both).

B. Project summary

(1) The EIS must include a project summary consistent with the relevant requirements of the Mine Application Guideline (NSW Government, 2015).

C. Project description

(1) The EIS must include, consistent with the relevant requirements of the Mine Application Guideline (NSW Government, 2015), a full description of:

(a) The development;

(b) All activities that are intended to be undertaken as part of the proposal;

(c) Any ancillary developments (that is, any related developments that are NOT being proposed as part of the subject development application but are necessary to support that development); and

(d) The timing of each key phase of the development.

Management commitments

(2) The EIS must include a full description of any management commitments consistent with the relevant requirements of the Mine Application Guideline (NSW Government, 2015), including:

(a) A consolidated summary of all the proposed environmental management and monitoring measures, identifying all relevant commitments in the EIS;

(b) A detailed assessment of any noise, air quality, water quality or waste monitoring required during the construction phase and on-going operation of the development to prevent or minimise any adverse environmental impacts from the development;

(c) Identification of appropriate data requirements, to form the basis for baseline and ongoing monitoring of environmental parameters;

(d) A demonstration that the proposed methods for baseline and subsequent monitoring are appropriate to the development and scientifically robust; and

(e) Details of monitoring programs, compliance assurance programs and reporting mechanisms that will be used to demonstrate the effectiveness of proposed management measures in meeting specified environmental commitments. In addition to outlining proposed programs, the EIS must clearly identify what is to be monitored and audited and why. This must include identification of monitoring locations, parameters to be monitored, sample analysis methods, the level of reporting proposed and information on the frequency and type of audits proposed to ensure compliance with applicable requirements.

Mapping requirements

(3) The EIS must include all relevant plans, architectural drawings, diagrams and relevant documentation required under Schedule 1 of the *Environmental Planning and Assessment Regulation 2000*:

(a) At an appropriate scale/resolution; and

(b) In an appropriate electronic format that enables integration with mapping and other technical software.

D. Strategic context

Target resource

(1) The EIS must fully describe the resource targeted by the development, including:

(a) A resource/reserve statement that has been prepared in accordance with the most recent Joint Ore Reserves Committee Code, including resource and reserve estimates for each coal seam/ore body proposed to be mined. The statement must include the coal quality parameters/ore grades for each seam/ore body, product specifications and yields[6];

(b) Details of run-of-mine coal/ore, low grade coal/ore-mineralised waste and waste rock tonnage planned to be extracted for each year of the life of the project;

(c) An estimate of the saleable product planned to be produced for each year of the life of the project; and

(d) Identification of those market segment(s) product tonnes would be sold into (e.g. export/domestic thermal/metallurgical coal, export/domestic mineral product, Sydney construction materials, local/NSW or interstate etc.)[7].

(2) The EIS must detail the significance of the resource targeted, comprising[8]:

(a) The size, quality and availability of the resource;

(b) The proximity and access to existing or proposed infrastructure;

(c) Any relationship of the resource to other existing mines;

(d) Whether other industries or projects are dependent on the development of the resource; and

(e) Estimates of employment generation, expenditure (including capital investment) and the payment of royalties to the State.

Regional and local context

(3) The EIS must:

(a) Describe any local and regional sensitivities and constraints on the proposed development, consistent with the relevant requirements of the Mine Application Guideline (NSW Government, 2015); and

(b) Comply (where relevant) with the Government's Voluntary Land Acquisition and Mitigation Policy (NSW Government, 2014) when considering local impacts of the proposed development.

Permissibility and strategic planning

(4) The EIS must address the relevant requirements set out in the Mine Application Guideline (NSW Government, 2015).

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6 The proponent needs to demonstrate that sufficient resources exist at an Indicated level of confidence (or higher) in order to cover the majority of the initial life of mine production schedule. Any contribution from Inferred resource(s) to the schedule needs to be justified.

7 It is understood that an estimate of product tonnes split into a particular market segment is difficult to estimate at a particular point in time and is dependent on market conditions as the life of the mine progresses, however the proponent should provide a best estimate of their market mix at the initial stages of the project.

8 This information is also required separately by the SEARs. However, a summary is required to ensure these issues can be considered in context.

Other approval requirements

(5) The EIS must identify any approvals that need to be obtained before the development can commence, including:

(a) Identification of 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;

(b) If the proposal includes Crown Land, demonstrate compliance with the Commonwealth *Native Title Act 1993* and the right to negotiate process for those Crown Lands; and

(c) Water access licences.

E. Rehabilitation

(1) The EIS must include a detailed description of progressive rehabilitation timeframes and commitments for each rehabilitation domain, having regard to the following:

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[9].

[9] 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)

F. Project rationale

(1) The EIS must address the relevant requirements set out in the Mine Application Guideline (NSW Government, 2015).

G. Environmental impact assessment

Land and soils

(1) The EIS must:

(a) Comprehensively characterise soils across the disturbance footprint using recognised soil survey and assessment techniques;

(b) Evaluate the current land and soil capability class and associated condition;

(c) Include an Agricultural Impact Statement (AIS)[10] if the project has the potential to affect agricultural resources and/or industries;

(d) Assess the likely impact of the development on landforms (topography), including:

(i) the potential subsidence impacts on cliffs, rock formations and steep slopes (if any); and

(ii) the feasibility and sustainability of any new landforms and their designated post-mining land uses (if relevant).

(e) Assess the compatibility of the development with other land uses in the vicinity of the development in accordance with the requirements of clause 12 of the *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007*;

(f) Describe the mitigation and management options that will be used to prevent, control, abate or minimise identified soil and land resource impacts associated with the project. This should include an assessment of the effectiveness and reliability of the measures proposed and any residual impacts after these measures are implemented;

(g) Describe the outcomes from consultation with relevant stakeholders, including key agencies (such as DPI and OEH), the NSW Dam Safety Committee, landholders and agricultural businesses in the locality; and

(h) Consider any relevant government policies[11].

[10] Prepared in accordance with the Strategic Regional Land Use Policy Guideline for Agricultural Impact Statements (DPE, 2012)

[11] The following should also be considered when addressing land issues:

- Interim Protocol for Site Verification & Mapping of Biophysical Strategic Land (OEH, 2013);
- Practice Note Guidelines for Landslide Risk Management (Australian Geomechanics Society, 2007);
- Managing Urban Stormwater: Soils and Construction Volume 1 (Landcom, 2004) and Volume 2 (A. Installation of services; B. Waste landfills; C. Unsealed roads; D. Main Roads; E. Mines and quarries) (DECC, 2008);
- Site Investigations for Urban Salinity (DLWC, 2002);
- Soil and Landscape Issues in Environmental Impact Assessment (DLWC, 2000); and
- State Environmental Planning Policy No. 55 – Remediation of Land (NSW Government).

Water

(2) The EIS must:

(a) Describe relevant groundwater and surface water resources, with details of seasonal and historic annual variations in rainfall and evaporation;

(b) Identify relevant NSW Water Quality Objectives for surface and groundwater, including indicators and associated trigger values or criteria, in accordance with National Water Quality Management Strategy Guidelines for fresh and marine water quality, drinking water, groundwater protection and water quality monitoring and reporting;

(c) Identify and describe the application of any relevant Water Sharing Plan, or other management plan, to the proposal;

(d) Assess the impacts of the development on the quantity and quality of the region's ground and surface water resources, connectivity between water sources, water-dependent assets, water-related infrastructure, connectivity with sea water and other water users, including but not limited to consideration of:

(i) sediment laden water from disturbed areas;

(ii) saline/contaminated water from underground workings;

(iii) aquifers and groundwater dependent ecosystems;

(iv) existing flow regimes; and

(v) ecosystem quality, quantity and function.

(e) Describe the proposed management and use of water by the development, including:

(i) a detailed and consolidated site water balance;

(ii) control of clean water, including details of any clean water diversion structures;

(iii) management of stormwater and any water which is excess to the consumptive requirements of the development;

(iv) details of water storage facilities, volume estimates and fit-for-purpose water reuse potential;

(v) procedures for responding to incidents, including identification of trigger values; and

(vi) identification of discharge points, anticipated frequency, volume and characterisation of water discharged (including pollutants).

(f) Demonstrate that all practical options to avoid water discharge have been implemented and outline any measures taken to reduce the pollutant load, where a discharge is necessary. Where a discharge is proposed, analyse expected discharges in terms of:

(i) the impact on the receiving environment, including consideration of all pollutants that pose a risk of non-trivial harm;

(ii) NSW Water Quality Objectives, including Total Suspended Solids, demonstrating that ambient targets can be met;

(iii) any relevant Catchment Action Plan or Coastal Zone Management Plan;

(iv) salt balance, compliant with the requirements of any relevant Salinity Trading Scheme or the objective of "no new salt" being introduced into surface water systems;

(v) if discharge includes a mixing zone, demonstrate that National Water Quality Management Strategy criteria can be achieved at the edge of the mixing zone and that any impacts within the mixing zone are reversible; and

(vi) volume and timing, especially in relation to periods of low flow in receiving watercourses.

(g) Demonstrate how the proposal will:

(i) protect NSW Water Quality Objectives in receiving waters, where they are being achieved; and

(ii) contribute towards achievement of the NSW Water Quality Objectives, where they are not being achieved.

(h) Model long term impacts of any final landform on the surface and groundwater regime, including impacts due to contaminant throughflow, spillage and transport through the final

landform, and an assessment of final void water quality and model contaminant enrichment/accumulation and salt stratification within any proposed final void;

(i) Base the assessment of (a)-(h) on adequate baseline data to account for typical temporal and spatial variations; and

(j) Consider any relevant government policies[12].

Flooding

(3) The EIS must:

(a) Describe flood conditions (water levels and velocities) for the 1 in 10 year Annual Exceedance Probability (AEP), 1 in 100 year AEP and the probable maximum flood;

(b) Map features relevant to flooding as described in the Floodplain Development Manual 2005 (NSW Government 2005) including:

(i) flood prone land;

(ii) flood planning area, the area below the flood planning level; and

(iii) hydraulic categorisation (floodways and flood storage areas).

(c) Assess the likely upstream and downstream flood impacts of the development) for the 1 in 10 year AEP, 1 in 100 year AEP and the probable maximum flood;

(d) Describe the flood assessment and modelling methodology used. The modelling must consider:

(i) impacts of the proposal on existing flood behaviour for the 1 in 10 year AEP, 1 in 100 year AEP and the probable maximum flood;

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[12] The following government policies should be considered when addressing water issues (see also next page):

- NSW Aquifer Interference Policy (NSW Office of Water, 2012)
- The NSW State Groundwater Policy Framework Document (DLWC, 1997)
- The NSW State Groundwater Quality Protection Policy (DLWC, 1998)
- National Environment Protection Measure Guideline on the Investigation Levels for Soil and Groundwater (EPHC, 1999)
- Australian Groundwater Modelling Guidelines (Commonwealth, 2012)
- National Water Quality Management Strategy Guidelines for Groundwater Protection in Australia (ARMCANZ/ANZECC, 1995)
- Floodplain Development Manual (NSW Government, 2005)
- Floodplain Risk Management Guideline (DECC, 2007)
- Guidelines for the Assessment & Management of Groundwater Contamination (DEC, 2007)
- Groundwater Sampling and Analysis: Field Guide (Geoscience Australia, 2009)
- Protection of the Environment Operations (Hunter River Salinity Trading Scheme) Regulation 2002 (NSW Government)
- NSW State Rivers and Estuary Policy (NSW Water Resources Council, 1993)
- NSW Water Quality and River Flow Objectives (DEC, 2006)
- Using the ANZECC Guideline and Water Quality Objectives in NSW (DEC, 2006)
- National Water Quality Management Strategy: Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC/ARMCANZ, 2000)
- National Water Quality Management Strategy: Australian Guidelines for Water Quality Monitoring and Reporting (ANZECC/ARMCANZ, 2000)
- National Water Quality Management Strategy: Australian Guidelines for Sewerage Systems – Effluent Management (ARMCANZ/ANZECC, 1997)
- National Water Quality Management Strategy: Guidelines for Sewerage Systems – Use of Reclaimed Water (ARMCANZ/ANZECC/NHMRC, 2000)
- Approved Methods for the Sampling and Analysis of Water Pollutants in New South Wales (DEC/EPA, 2004)
- Managing Urban Stormwater: Soils and Construction Volume 1 (Landcom) and Volume 2E: Mines and Quarries (DECC, 2008)
- Storing and Handling Liquids: Environmental Protection Participant's Manual (DECC, 2007)
- Environmental Compliance Report - Liquid Chemical Storage, Handling and Spill Management - Part B - Review of Best Practice and Regulation (DEC, 2005)
- Environmental Guidelines: Use of Effluent by Irrigation (DEC, 2003)
- A Rehabilitation Manual for Australian Streams (LWRRDC/CRCCH, 1999)
- Risk Assessment Guidelines for Groundwater Dependent Ecosystems (NSW Office of Water, 2012)
- NSW Guidelines for Controlled Activities on Waterfront Land - Guidelines for instream works on waterfront land; Guidelines for laying pipes and cables in watercourses on waterfront land; Guidelines for outlet structures on waterfront land; Guidelines for riparian corridors on waterfront land; Guidelines for vegetation management plans on waterfront land; and Guidelines for watercourse crossings on waterfront land (NSW Office of Water, 2012).
- Information Guidelines for Independent Expert Scientific Committee advice on coal seam gas and large coal mining development proposals (IESC, 2015) (only applicable if IESC assessment is required).

(ii) impacts of the proposal on flood behaviour resulting in detrimental changes in potential flood impacts on other developments or land. This may include redirection of flow, flow velocities, flood levels, hazards and hydraulic categories; and

(iii) implications of the flood assessment on the proposed water management structures, such as sediment basins and stormwater runoff quality management systems.

Biodiversity

(4) The EIS must:

(a) Assess biodiversity values and the likely biodiversity impacts of the development in accordance with:

(i) the Framework for Biodiversity Assessment (OEH, 2014), by a person accredited in accordance with section 142B(1)(c) of the *Threatened Species Conservation Act 1995* unless otherwise agreed by OEH, or where a strategic regional assessment is already in place; and

(ii) a comprehensive biodiversity offset strategy, in accordance with the NSW Biodiversity Offsets Policy for Major Projects (OEH, 2014).

(b) Take into account the provisions of section 5A (1) of the *Environmental Planning and Assessment Act 1979*, in determining the likelihood of the development having a significant impact on threatened species, populations or ecological communities or their habitats;

(c) Consider potential impacts (including subsidence) on aquatic biodiversity and assess any impacts in accordance with the Policy and guidelines for fish habitat conservation and management (update 2013) (DPI, 2013); and

(d) Consider any relevant government policies[13].

Heritage

(5) The EIS must assess the likely Aboriginal and historic heritage (cultural and archaeological) impacts of the development:

(a) Identify and describe the Aboriginal and historic heritage values that exist across the whole area that will be affected by the proposal. This may require surface survey and test excavation;

(b) Where Aboriginal cultural heritage values are identified, consultation with Aboriginal people must be undertaken and documented in accordance with the Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (DECCW, 2010). The significance of cultural heritage values for Aboriginal people who have a cultural association with the land must be documented;

(c) Demonstrate measures taken to avoid, minimise and mitigate any impacts on Aboriginal and historic heritage values;

(d) Identify any conservation outcomes; and

(e) Consider any relevant government policies[14].

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[13] The following government policies should be considered when addressing biodiversity issues:
- BioBanking Assessment Methodology (OEH, 2014)
- Environment Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy (Australian Government DSEWPC, 2012)
- The NSW State Groundwater Dependent Ecosystem Policy (DLWC, 2002)
- Risk Assessment Guidelines for Groundwater Dependent Ecosystems (NSW Office of Water, 2012)
- State Environmental Planning Policy No. 44 – Koala Habitat Protection (NSW Government)

[14] The following government policies should be considered when addressing heritage issues:
- The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance (Australia ICOMOS, 2013)
- Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW (OEH, 2011)
- Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW, 2010)
- Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW, 2010)
- Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales (DECCW, 2010)
- NSW Heritage Manual (DUAP, 1996)
- Statements of Heritage Impact (Heritage Office and DUAP, 2002).

Blasting

(6) The EIS should consider blasting impacts in the context of air quality, and noise and vibration issues, as outlined in the relevant sections below.

Air quality

(7) The EIS must include a detailed Air Quality Impact Assessment prepared according to the requirements and guidelines contained in Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales (DEC, 2005). The Air Quality Impact Assessment must:

- (a) Demonstrate the proposal's ability to comply with the relevant regulatory framework, specifically the Protection of the Environment Operations Act 1997 and the Protection of the Environment Operations (Clean Air) Regulation 2010;
- (b) Assess the risk associated with potential discharges of fugitive and point source emissions for all stages of the proposal. Assessment of risk relates to environmental harm, human health, and amenity;
- (c) Justify the level of assessment undertaken on the basis of risk factors, including but not limited to:
  - (i) proposal location;
  - (ii) characteristics of the receiving environment; and
  - (iii) type and quantity of pollutants emitted.
- (d) Describe the receiving environment in detail. The proposal must be contextualised within the receiving environment (local, regional and inter-regional as appropriate[15]). The description must include but need not be limited to:
  - (i) meteorology and climate;
  - (ii) topography;
  - (iii) surrounding land-use;
  - (iv) receptors; and
  - (v) ambient air quality.
- (e) Include a detailed description of the proposal. All processes that could result in air emissions must be identified and described. Sufficient detail to accurately communicate the characteristics and quantity of all relevant emissions must be provided;
- (f) Identify the location and extent of all relevant fixed and mobile sources of emissions to the air from the development, including rehabilitation and exposed areas. The location of all relevant emission sources should be clearly marked on a plan for key years of the mine development;
- (g) Include consideration and justification of reasonable 'worst case' emission scenarios. Consideration should be given to factors including, but not limited to:
  - (i) emission quantity;
  - (ii) emission source locations;
  - (iii) level of production;
  - (iv) type and quantity of material(s) handled; and
  - (v) cumulative influences from other existing, approved and proposed mines and from other industries.
- (h) Identify all relevant pollutants of concern and estimate emissions by quantity, particle size, source(s), and discharge point(s). Include all mechanically generated, combustion, and transport related emissions;

[15] Precise definitions for these terms may vary depending on the project proposal, location and potential impacts. In general, however, 'local' may be interpreted as the directly impacted area surrounding the proposed operation, 'region' is the geographical locale of the proposed operation and 'inter-regional' is both the physical and built environment that links regions.

(i) For all sources of fugitive TSP, PM_{10} and $PM_{2.5}$ for key years throughout the life of the proposal:

  (i) list of emission factors;

  (ii) description and justification of all relevant parameters used in the emission estimation equations, including site specific measurements, proponent recommended values or published literature;

  (iii) detailed emission estimates plus descriptive summary;

  (iv) methodology used to produce time varying emissions from annual emissions;

  (v) list of control factors and their justification, including methods used to achieve best management practice that are directly linked to control factors (e.g. speed limits on vehicles, watering rates, use of chemical suppressants etc.); and

  (vi) base case inventory with no control and a final inventory with all relevant proposed emission controls.

(j) Detail emission control techniques/practices that will be employed by the proposal. All relevant emission controls must be benchmarked against best practice process design and emission control. Nominated controls must be explicitly linked to calculated emission reductions adopted in the air quality impact assessment emissions inventory, with all assumptions documented and justified. Reference should be made to procedures outlined in Coal Mine Particulate Matter Control Best Practice - Site-specific determination guideline (OEH, 2011);

(k) Account for cumulative impacts associated with existing emission sources as well as any currently approved or proposed developments linked to the receiving environment;

(l) Include air dispersion modelling where there is a risk of adverse air quality impacts, or where there is sufficient uncertainty to warrant a rigorous numerical impact assessment. Air dispersion modelling must be conducted in accordance with Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales (DEC, 2005) and include the following pollutants, as a minimum:

  (i) dust deposition;

  (ii) total suspended particles;

  (iii) PM_{10} particulate matter;

  (iv) $PM_{2.5}$ particulate matter; and

  (v) nitrogen dioxide (NO_2).

(m) Results of dispersion modelling should be presented, at a minimum, as follows:

  (i) isopleth plots showing the geographic extent of maximum pollutant concentrations (incremental and cumulative);

  (ii) tables presenting the maximum predicted pollutant concentrations (increment and cumulative) and the frequency of any predicted exceedances at each surrounding privately-owned properties, mine-owned properties and other sensitive receptors (as applicable); and

  (iii) time series and frequency distribution plots of pollutant concentrations at each private receptor location at which an exceedance is predicted to occur.

  Where no exceedances are predicted, the analysis must be performed for the most impacted off site sensitive receptor;

(n) Provide a detailed discussion of all relevant proposed emission control measures in the form of a project Air Quality Management Plan. The plan must including details of a proactive and reactive management system. The information provided must include measurable and auditable measures:

  (i) link proposed emission controls to the site specific best practice determination assessment;

  (ii) timeframes for implementation of all identified emission controls;

  (iii) key performance indicators for emission controls;

  (iv) monitoring methods (location, frequency, duration);

(v) response mechanisms;

(vi) responsibilities for demonstrating and reporting achievement of KPIs;

(vii) record keeping and complaints response register; and

(viii) compliance reporting.

(o) Consider any relevant government policies[16].

Greenhouse gases

(8) The EIS must include:

(a) A comprehensive assessment of, and report on, the project's predicted greenhouse gas emissions (tCO_2e). Emissions should be reported broken down by:

(i) direct emissions (Scope 1 as defined by the Greenhouse Gas Protocol - see reference below);

(ii) indirect emissions from electricity (Scope 2); and

(iii) upstream and downstream emissions (Scope 3).

before and after implementation of the project, including annual emissions for each year of the project (construction, operation and decommissioning);

(b) An estimate of the greenhouse emissions intensity (per unit of production). Emissions intensity should be compared with best practice if possible;

(c) The emissions should be estimated using an appropriate methodology, in accordance with NSW, Australian and international guidelines[17]; and

(d) The proponent should also evaluate and report on the feasibility of measures to reduce greenhouse gas emissions associated with the project. This should include consideration of energy efficiency opportunities (e.g. high efficiency vehicles, ventilation, lighting, or control systems), onsite low emissions electricity generation (e.g. gas turbines, solar photovoltaic systems) and capture and reuse of fugitive methane (e.g. pre-drainage, post drainage, ventilation air methane).

Noise and vibration

(9) The EIS must:

(a) Assess the likely operational noise impacts of the development (including construction noise) under the NSW Industrial Noise Policy (EPA, 2000), including the 'Application Notes – Industrial Noise Policy' as published from time to time on www.epa.nsw.gov.au, as amended and/or superseded by current NSW Government policies or guidelines specific to industrial noise impact assessment. If a claim is made for specific construction noise criteria for certain activities, then this claim must be justified and accompanied by an assessment of the likely construction noise impacts of these activities under the Interim Construction Noise Guideline (DECC, 2009);

(b) Assess the likely public road noise impacts of the development under the NSW Road Noise Policy (DECCW, 2011) (i.e. traffic generating development impacts);

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[16] The following government policies should be considered when addressing air quality issues:
- Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales (DEC, 2005)
- Coal Mine Particulate Matter Control Best Practice – Site Specific Determination Guideline (OEH, 2011)
- Generic Guidance and Optimum Model Settings for the CALPUFF Modeling System for Inclusion into the 'Approved Methods for the Modeling and Assessments of Air Pollutants in NSW, Australia' (OEH, 2011)
- Technical Framework - Assessment and management of odour from stationary sources in NSW (DEC, 2006)

[17] The following guidelines should be considered when addressing greenhouse gas issues:
- The Greenhouse Gas Protocol - A Corporate Accounting and Reporting Standard - Revised Edition (World Resources Institute and World Business Council for Sustainable Development, 2004)
- National Greenhouse Accounts Factors (Australian Government Department of the Environment (latest release))
- Technical Guidelines for the Estimation of Greenhouse Gas Emissions by Facilities in Australia (Australian Government Department of the Environment (latest release))
- Australian Greenhouse Emissions Information System (AGEIS) (Australian Government Department of the Environment) ageis.climatechange.gov.au

(c) Assess the likely rail noise impacts of the development for both public (NSW Rail Network) and private (non-network) rail lines under the Rail Infrastructure Noise Guideline (EPA, 2013);

(d) Assess vibration impacts associated with the proposed development (including construction and operation but excluding those associated with blasting activities) should be assessed using Assessing Vibration: a technical guideline (DEC, 2006); and

(e) Assess likely operational overpressure and groundborne vibration impacts from blasting activities applying the Australian and New Zealand Environment Council – Technical basis for guidelines to minimise annoyance due to blasting overpressure and ground vibration (ANZECC, 1990).

Waste

(10) The EIS must:

(a) Identify all wastes to be generated by all aspects of the project and identify procedures for the handling and management of all wastes produced. The handling of rejects, tailings, overburden material and tyres are important aspects for consideration;

(b) Identify, characterise and classify all waste (including liquid waste) that will be generated onsite through excavation, demolition or construction activities, including proposed quantities of the waste[18];

(c) Include a detailed plan for the classification of waste material generated onsite (including liquid waste), including the sampling locations and sampling regime that will be employed to classify the waste in accordance with the Waste Classification Guidelines (EPA, 2014), particularly with regards to the identification of contamination hotspots;

(d) Demonstrate how waste will be managed in accordance with the waste hierarchy, established under the *Waste Avoidance and Resource Recovery Act 2001*, which aims to ensure that resource management options are considered against the following priorities:

(i) avoidance including action to reduce the amount of waste generated by households, industry and all levels of government;

(ii) resource recovery including reuse, recycling, reprocessing and energy recovery, consistent with the most efficient use of the recovered resources; and

(iii) disposal including management of all disposal options in the most environmentally responsible manner.

(e) Identify, characterise and classify all waste (including liquid waste) that is proposed to be removed to an offsite location for either recycling, reprocessing or disposal. Each waste stream should be quantified and an appropriate management option identified for each stream;

(f) Identify, characterise and classify all waste (including liquid waste) that is proposed to be disposed of onsite. The disposal location and type of waste for each stream should be described, including information on the waste disposal infrastructure proposed to be constructed to contain that waste (i.e. monocell construction and specifications, tyre disposal pits, etc.). The disposal method should include an assessment of the risks to the surrounding environment (groundwater, air, surface water, etc.) or a justification that there is no risk;

(g) Provide details of how waste will be handled and managed during transport to a lawful facility. If the waste possesses hazardous characteristics, the proponent must provide details of how the waste will be treated or immobilised to render it suitable for transport and disposal;

(h) Where appropriate given the nature of the proposal, provide details of how stockpiles of waste will be located and managed onsite to minimise pollution, including:

(i) labelling of stockpiles for identification, ensuring that all waste is clearly identified and stockpiled separately from other types of material (especially the separation of any contaminated and non-contaminated waste);

(ii) proposed height limits for all waste to reduce the potential for dust and odour;

[18] All waste must be classified in accordance with the Waste Classification Guidelines (EPA, 2014).

(iii) procedures for minimising the movement of waste around the site and double handling; and

(iv) measures to be implemented to minimise erosion, leachate and sediment mobilisation.

(i) Provide details of how any leachate will be:

(i) kept separate from stormwater runoff;

(ii) treated (if applicable); and

(iii) any proposed transport and disposal of leachate off-site.

(j) Provide details of waste rock emplacement areas with particular attention to:

(i) quantity of waste rock likely to be generated;

(ii) geochemical assessment of the waste rock;

(iii) proposed strategies for the handling, reuse/recycling and disposal of waste rock, considering the outcomes of the geochemical assessment; and

(iv) designation of transport routes for the transport of waste rock.

(k) Identify the management and disposal methods for coal washery rejects (including tailings generated at the mine site), including:

(i) quantity of coal washery rejects to be generated;

(ii) proposed strategies for the handling, storage, reuse/recycling and disposal of coal washery rejects; and

(iii) details of actions to prevent potential impacts to groundwater, surface water or any other environmental aspect which may occur as a result of the management technique utilised.

Chemicals, hazardous substances and dangerous goods

(11) The EIS must:

(a) Detail the types and quantity of all chemical and hazardous substances and/or dangerous goods, including but not necessarily limited to: hydrocarbons (oils and fuels), hazardous or dangerous materials (e.g. explosives etc.) to be used or stored onsite; and

(b) Detail procedures for the handling, storage, transport and disposal of all chemical substances, hazardous or dangerous goods used, stored, processed or requiring offsite disposal, in addition to the requirements for liquid and non-liquid wastes.

Feral animals and weeds

(12) The EIS must:

(a) Include an overview of the methods, and control programs and targets that will be used to control feral animals and weeds; and

(b) Describe how these relate to the NSW Biosecurity Strategy 2013-2021 (DPI, 2013) and any relevant catchment or regional policies and plans.

Economic assessment framework

(13) The EIS must include:

(a) A detailed calculation of the capital investment value (as defined in clause 3 of the *Environmental Planning and Assessment Regulation 2000*) of the development, including a description of all the assumptions and components from which that calculation is derived; and

(b) A comprehensive economic appraisal, consistent with the NSW Government's Guidelines for the Economic Assessment of Mining and Coal Seam Gas Proposals, which:

(i) includes a quantitative analysis and assessment, where feasible and reasonable, of all issues considered in the EIS;

(ii) qualitatively describes impacts that cannot be quantified; and

(iii) provides the framework by which environmental, social and economic impacts identified in the EIS are compared on a common basis and the results are incorporated into the conclusions of the EIS as appropriate.

(14) The EIS must also consider any other relevant government policies, including any guidance on the valuation of benefits and costs.

Subsidence (underground mines only)

(15) The EIS must include an assessment of possible subsidence effects and consequential environmental, social and economic impacts on the natural and built environment and demonstrate the feasibility of:

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

(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.

(16) The information required in the EIS must include, but is not limited to:

(a) Description of the proposed mining operation (e.g. mining methods, layout and sequences);

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

(c) General and relevant site conditions including depths of cover, geological, hydrogeological, hydrological, geotechnical, topographic and climatic conditions, as well as any conditions that may cause elevated or abnormal subsidence;

(d) Identification and general characteristics of any previously excavated or abandoned workings that may interact with the proposed or existing mine workings;

(e) Predictions of the nature, magnitude, distribution, timing and duration of subsidence;

(f) Results of a risk assessment in relation to subsidence of surface or sub-surface features that are considered to have significant economic, social, cultural or environmental value, taking into consideration the points above;

(g) Results of feasibility studies in relation to the proposed mining operation and proposed strategies to manage subsidence risks to surface or sub-surface features that are considered to have significant economic, social, cultural or environmental value; and

(h) The nature and estimated severity of impacts of subsidence on activities carried about above ground (including infrastructure such as dams).

(17) In relation to the natural environment, the EIS must:

(a) Describe the natural features (both surface and sub-surface) that could be affected by subsidence;

(b) Describe the natural features likely to be affected by subsidence, using at least two years baseline data to describe background variation of relevant parameters (such as groundwater or ecosystem condition);

(c) Describe the suite of threatened species, population and ecological communities likely to use these natural features as habitat;

(d) Evaluate the importance of these features to the habitat and life cycle of the threatened entities identified;

(e) Accurately predict likely subsidence effects, including a sensitivity analysis of these predictions;

(f) Assess the potential direct and indirect geological, hydrological and ecological impacts of the predicted subsidence in the short, medium and long term;

(g) Outline a detailed monitoring program that enables measurement of the actual geological, hydrological and ecological performance of the development in the short, medium and long term, if it is approved; and

(h) Outline measures proposed to avoid, minimise, manage and offset the direct and indirect impacts, including an evaluation of the effectiveness and reliability of the proposed measures.

(18) Should offsets be required, the proponent should develop a Biodiversity Offsets Strategy in accordance with the Policy framework for biodiversity offsets for upland swamps and associated threatened species impacted by longwall mining (NSW Government).

Transport

(19) The EIS must:

(a) Identify transport modes and routes for key inputs/outputs to the development;

(b) Detail the options or arrangements for securing access to the NSW rail network, including the potential to share infrastructure with other mines in the region;

(c) Assess the likely impacts of the development on the capacity, condition, safety and efficiency of the local and State network, with regard for local council requirements;

(d) Assess road impacts, including the capacity, condition, safety and efficiency of the local and State road network, with regard to council's requirements; and

(e) Consider any relevant government policies[19].

Visual

(20) The EIS must include an assessment of the likely visual impacts of the development on private landowners in the vicinity of the development and key vantage points in the public domain, paying particular attention to the creation of any new landforms and minimising the lighting impacts of the development.

Public Safety

(21) The EIS must include an assessment of the likely risks of the development to public safety, paying particular attention to potential subsidence risks, bushfire risks, flood risks, and the handling and use of any dangerous goods[20].

Social

(22) The EIS must:

(a) Assess the social impacts of the proposal, having regard to the local and regional impacts of the development; and

(b) Set out proposed measures and strategies to avoid, manage, or mitigate the project's social impacts[21].

Matters of national environmental significance

(23) The EIS must:

Requirements relating to assessment of impacts on matters of national environmental significance under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 are to be inserted as relevant to the particular development.[22]

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[19] The following government policies should be considered when addressing transport issues:
- Guide to Traffic Generating Developments (RTA, 2002)
- Guide to Road Design (Austroads)
- relevant Austroads and RMS Standards

[20] The following government policies should be considered when addressing transport issues:
- State Environmental Planning Policy No. 33 – Hazardous and Offensive Development (NSW Government)
- Hazardous and Offensive Development Application Guidelines – Applying SEPP 33 (DoP, 2011)
- Hazardous Industry Planning Advisory Paper No. 6 – Hazard Analysis (DoP, 2011)

[21] The NSW Government is currently considering guidance options to address the social impacts of mining developments. This section of the SEARs will be updated once that work is complete.

[22] Actions that are likely to have a significant impact on a matter of national environmental significance require approval under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). This approval is in addition to any approvals required under NSW legislation.
It is the proponent's responsibility to contact the Commonwealth Department of the Environment to determine if an approval under the EPBC Act is required (contact (02) 6274 1111 or www.environment.gov.au). This referral to the Commonwealth

H. Consultation

(1) The EIS must:

(a) Describe the consultation that has been carried out in association with the proposed development and preparation of the EIS;

(b) Identify the issues raised during this consultation; and

(c) Explain how these issues have been addressed.

should be made as early as possible to ensure that assessment requirements relevant to matters of national environmental significance can be incorporated into the SEARs.
The Commonwealth Government has accredited the NSW environmental assessment process as set out in the Assessment Bilateral Agreement between the Commonwealth and NSW (February 2015) in relation to impacts on matters of national environmental significance. As a result, if it is determined that an approval is required under the EPBC Act, supplementary environmental assessment requirements may need to be issued.

Planning & Environment
Resources & Geoscience

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	Newstan Mine Extension Project
Reference Number:	DOC19/472771
Issue date of SEARs:	4 June 2019
Type of Approval:	Mining operation - ***underground***
Proponent:	Centennial Newstan Pty Ltd
DA Number:	SSD-10333
LGA:	Lake Macquarie
Mineral:	Coal

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 inclusion in the Environmental Impact Statement (EIS)

1. Project description

(a) A comprehensive description of all aspects of the project (including mineral extraction and mining purposes).

2. Geology

(a) A summary of the regional and local geology, including information of the stratigraphic unit or units within which the resource is located.

(b) Document the physical dimensions of the coal resource. Plans and cross-sections showing the location of drill holes and the area proposed for extraction. Relevant supporting documentation such as drill logs should be included or appended.

3. Resource and reserve statement

The proponent is to supply a copy of the most recent resource and/or reserve statement:

(a) Include a full and updated resource/reserve statement outlining the tonnage of coal present in the subject area, that has been prepared in accordance with the current version of the Joint Ore Reserve Committee Code (JORC code) to a minimum of Indicated Resource level of confidence. It is preferred that at least some of the resource estimate is to a higher confidence level (measured/proved/probable).

(b) The statement must include resource and reserve estimates for each coal seam proposed to be mined. The statement must include the coal quality parameters for each seam including product specifications and yields.

The Division understands that it may not be feasible to convert the majority of an Inferred Resource 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 Resource(s) to the schedule needs to be justified.

4. Resource recovery & mine design

The proponent is to supply a full assessment of resource recovery including:

(a) Explain how the proposed mine plan and extraction method maximise resource recovery.

(b) What resources will be sterilised or excluded and with what justification.

(c) List seams excluded from reserves (noting why each seam was excluded from reserve estimates).

(d) Compare seams included/excluded in reserve estimates to those in nearby operations. Being an underground operation, justify the selected working section.

(e) List all economic, environmental, other constraints to the resource/reserve impacting the project.

5. Geotechnical assessment

The proponent is to supply a full geotechnical assessment supporting the mine design and method selected including, but not limited to, the following :

(a) Structural trends, roof and floor conditions, seam conditions, stress magnitude and orientation, jointing and cleating, pillar dimensions, ground support requirements, consideration of longwall cavability, multiple seam mining implications, in-situ horizontal stress on mine layout, subsidence considerations.

(b) Explanation of current understanding of the paleochannel(s) and their expected impact on operations and planning. Describe risk reduction measures to be implemented.

(c) Explanation of design and risk reduction measures to protect the rail corridor.

(d) Explanation of design and risk reduction measures for interactions with the Eraring ash dam.

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 and thermal/metallurgical coal.

8. Project economics

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

(a) Coal price forecasts by coal 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.

(g) Details on derivation/analysis of Run-of-Mine (ROM) production rate; to answer why this the optimum rate.

The Division understands that an estimate of product (tonnes) split into individual market segments is difficult to estimate at a point in time and is dependent on market conditions as the life of the project progresses, however the Division requires the proponent to provide its best estimate of their market mix at the initial stages of the Project.

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 coal is a prescribed mineral under the *Mining Act 1992*, the proponent is required to hold an appropriate mining title(s) from the Division 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.

The Division notes that this project is located within the existing Mining Lease 1452 (Act 1992) (ML 1452) and Consolidated Coal Lease 746 (Act 1973) (CCL 746).

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

As coal is a prescribed mineral under the Act, the proponent is required to hold appropriate mining titles from the Division to undertake mining.

In addition, section 380AA requires that an application for development consent (or modification to consent) to mine for coal cannot be made or determined unless the applicant is also the holder of a title under the Act or has the written consent of the holder of a title, where the parties are different.

Section 380AA(1) states:

> *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.*

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 and satisfies the requirements of section 380AA.

Position	Approval	Date
Approving Officer: Adam W. Banister Senior Advisory Officer Resource Operations (02) 4063 6534		4 June 2019
Endorsing Officer: Scott Anson Manager Assessment Coordination Resource Operations (02) 4063 6972		4 June 2019

Planning & Environment
Resources & Geoscience

DOC19/466648

DIVISION OF RESOURCES & GEOSCIENCE ADVICE RESPONSE

Colin Phillips
Team Leader Resource Assessments
Planning Services Division
Department of Planning & Environment
GPO Box 39
SYDNEY NSW 2001

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Dear Colin

Project: Newstan Mine Extension Project
Stage: Secretary's Environmental Assessment Requirements
Development Application: SSD 10333

I refer to your email dated 20 May 2019 inviting the Division of Resources & Geoscience (the Division) to provide input into the Secretary's Environmental Assessment Requirements (SEARs) on the *Newstan Mine Extension Project* (the Project).

The relevant units internal to the Division have been consulted in generating this advice. The Department of Planning and Environment - Planning Services Division and the Proponent should be aware that matters pertaining to rehabilitation, final landform, environmental impacts of subsidence, subsidence management, mine operator and safety are assumed and assessed by the Resources Regulator.

The Division requires that the Project's Environmental Impact Statement (EIS) refers to and includes all the requirements set out in the following guidelines:

- *Mine Application Guideline (2015)* (where it relates to the EIS) (**Attachment A**),
- *Indicative Secretary's Environmental Assessment Requirements (SEARs) for state significant mining developments (October 2015)* (**Attachment B)** and

These inclusions will ensure the resource has been adequately assessed to facilitate appropriate and efficient recovery and utilisation of the State's resources.

The Division acknowledges that the 'Project Scoping Report' (May 2019) contains some of the general requirements outlined in the documents referred to above.

The EIS must also include the Division's project specific requirements as applied to mining development; *Newstan Mine Extension Project - DRG SEARs (coal)* (**Attachment C**).

For further enquiries regarding this matter, please contact the Assessment Coordination Unit on 02 4063 6534 or assessment.coordination@planning.nsw.gov.au.

Yours sincerely

Scott Anson
Manager Assessment Coordination
Resource Operations
Division of Resources & Geoscience
4 June 2019

for
Dr David P.T. Blackmore
A/Executive Director Resource Operations
Division of Resources & Geoscience

NSW GOVERNMENT | Dams Safety Committee

29 May, 2019

Resource Assessments | Planning Services
Department of Planning & Environment
GPO Box 39
SYDNEY NSW 2001

Our ref: 10.121.046.

Your ref: SSD 10333

Attention: Colin Phillips

Dear Colin,

Newstan Extension Project– SEARs
SSD 10333

A. BACKGROUND

The Dams Safety Committee (DSC) has received a copy of the Newstan Mine Extension Project Scoping Report. The proposed extraction lies partly within the Eraring Ash Notification Area.

The DSC has no comment on the impact of mining on the ash emplacement area. Rather the DSC has concerns with the impact of the mining as it pertains to the safety of the dam structure itself.

Eraring Ash Dam is a HIGH A consequence category dam for both sunny day and flood conditions.

B. COMMENTS

Movement of the dam wall needs to be monitored very closely. The use of remote sensing techniques such as LiDAR or InSAR should be included in TARPS for movement of the dam wall. With extraction approaching the dam wall from the north, TARPs could be developed that cease extraction if movement at the dam wall is detected.

The limit of horizontal movement that the dam can withstand should be determined by an expert dam engineer.

The mine layout should ensure that the embankment is not placed in tension and that there is no differential movement along the embankment.

A risk assessment of the impact of the proposed extraction on the embankment needs to be undertaken as the consequence of failure is very high. The recent examples of exceedance of subsidence predictions for mines in the southern coalfield should be included when assessing the risk to the embankment.

Postal: NSW Dams Safety Committee, Locked Bag 5123, Parramatta NSW 2124, Australia
Address: Level 11, 10 Valentine Avenue, Parramatta NSW 2150
Phone: (02) 9842 8073
http: www.damsafety.nsw.gov.au
email: dsc@damsafety.nsw.gov.au
ABN 55 079 703 705

RECOMMENDATIONS

1. A Risk Assessment for extraction close to the Eraring Ash Dam wall should include assessment for allowable movement of the embankment as determined by an expert dam engineer.

2. The development of a TARP for the dam wall should include a cease mining condition.

3. The mine layout should not place the embankment in tension.

Yours faithfully,

C Salkovic
Executive Engineer
Dams Safety Committee

DOC19/416081-3; EF13/2761

Department of Planning and Environment
GPO BOX 39
SYDNEY NSW 2001

Attention: Mr Colin Phillips

By email: colin.phillips@planning.nsw.gov.au

3 June 2019

Dear Mr Phillips

Newstan Colliery Extension Project (SSD 10333) – Miller Road Fassifern
Secretary's Environmental Assessment Requirements
Environment Protection Authority

I refer to your email to the Environment Protection Authority (EPA) received 20 May 2019, requesting Secretary's Environmental Assessment Requirements (SEARs) to assist with the preparation of an Environmental Impact Statement (EIS) for the Centennial Newstan Colliery Project Extension Project, (the proposal). The proposal involves extracting up to 25.9 million tonnes of coal at a maximum rate of 4 million tonnes per annum at the Newstan Colliery. Mining would include first workings, partial extraction and total extraction by bord and pillar techniques.

The EPA understands that except for mine ventilation infrastructure and the underground access entries, all of the surface infrastructure at the Newstan Surface Facilities Site are approved under Centennial's Northern Coal Logistics Project (SSD-5145 approved 29 September 2015). These surface facilities do not form part of the Newstan Extension Project.

The key issues of interest to the EPA are:

- Potential noise impacts due to construction and operation;
- Potential air quality impacts due to construction and operation;
- Impacts on water quality and site-wide water management; and
- Water and waste management and disposal.

In carrying out the environmental assessment, the EPA recommends that the proponent should refer to the relevant guidelines listed in the publication titled "Indicative Secretary's Environmental Assessments (SEARs) for State Significant Mining Developments, October 2015", and any relevant industry codes of practice and best practice management guidelines to ensure that the proponent adequately addresses the appropriate matters relevant to the development proposal.

Phone 131 555
Phone 02 4908 6800
Fax 02 4908 6810
TTY 133 677
ABN 43 692 285 758
PO Box 488G
Newcastle
NSW 2300 Australia
117 Bull Street
Newcastle West
NSW 2302 Australia
info@epa.nsw.gov.au
www.epa.nsw.gov.au

The link is as follows:

http://www.planning.nsw.gov.au/Policy-and-Legislation/Mining-and Resources/~/media/6A2B386AFC324ECA9B4FFD0BC5D3AF20.ashx

The Noise Policy for Industry 2017 (NpFI) was developed following a review of the NSW Industrial Noise Policy and using input from public consultation on proposed policy amendments, and should be consulted in addition to the Noise Policy reference documents contained within the Indicative Secretary's Environmental Assessments publication.

The EIS must provide sufficient information to demonstrate that the proposed development can be operated whilst complying with the *Protection of the Environment Operations Act 1997*, in particular, the protection of water quality during construction and operation of the facility. Accordingly, pollution control measures should not be proposed if they are impractical, unrealistic, or beyond the financial viability of the development.

The Proponent should also be aware that any commitments made in the Environmental Impact Statement may be formalised as approval conditions and subsequently environment protection licence conditions. Pollution control measures should not be proposed if they are impractical, unrealistic or beyond the financial viability of the development. It is important that all conclusions are supported by adequate data.

The EPA requests that the applicant provide an electronic copy of the EIS and any supporting or background reports when lodging the application with the EPA. These documents should be provided to the EPA at hunter.region@epa.nsw.gov.au or PO Box 488G, Newcastle NSW 2300.

If you require any further information regarding this matter please contact Genevieve Lorang on (02) 4908 6869 or via email at hunter.region@epa.nsw.gov.au.

Yours sincerely

MITCHELL BENNETT
Head Strategic Operations Unit - Hunter
Environment Protection Authority

ATTACHMENT A

EPA's Recommended Secretary's Environmental Assessment Requirements
Newstan Colliery Extension SSD 10333, Fassifern

1 Environmental impacts of the project

Impacts related to the following environmental issues need to be assessed, quantified and reported on:

- Air Quality
- Noise and Vibration
- Water and Soil Quality and Management
- Waste Management
- Dangerous Goods, Chemical Storage and Bunding

The Environmental Impact Statement (EIS) should address the specific requirements outlined under each heading below and assess impacts in accordance with the relevant guidelines mentioned. A full list of guidelines is at Attachment B.

2 Licensing requirements

General information on licence requirements can also be obtained from EPA's Environment Line on 131 555 during office hours, or can be found at the EPA web site at:
http://www.epa.nsw.gov.au/licensing/

3 The Proposal and Premises

The objectives of the proposal should be clearly stated and refer to:

- The size and type of the operation;
- The nature of the processes and the products, by-products and wastes produced;
- The types and quantities of any chemicals to be used and stored onsite;
- Proposed operational hours, including any heavy vehicle movements;
- Proposed maximum and average annual production rates that will occur at the premises; and
- Proposed staging and timing of the proposal.

The EIS will need to fully identify all the processes and activities intended for the site over the life of the development. This will include details of:

- The location of the proposed facility and details of the surrounding environment;
- The proposed layout of the site;
- Appropriate land use zoning;
- Ownership details of any residence and/or land likely to be affected by the proposed operations;
- Maps/diagrams showing the location of residences and properties likely to be affected and other industrial developments, conservation areas, wetlands, etc. in the locality that may be affected by the facility;
- All equipment proposed for use at the site;
- All chemicals, including fuel, used on the site and proposed methods for their transportation, storage, use and emergency management;
- Clearly detail the boundary of the premises; and
- Methods to mitigate any expected environmental impacts of the development.

4 Air Issues

4.1 Air quality

The EIS should include an air quality impact assessment (AQIA). Where the scale and nature of the Proposal justifies a quantitative AQIA, the AQIA must be undertaken in accordance with the Approved Methods for the Modelling and Assessment of Air Pollutants in NSW. The AQIA must identify and describe in detail all possible sources of air pollution and activities/ processes with the potential to cause air pollutants including odours and fugitive dust emissions beyond the boundary of any premises proposed to be licenced by an EPL. The AQIA should cover both the construction and operational phases of the development. The AQIA should include cumulative impacts associated with existing developments and any developments having been granted development consent but which have not commenced.

The EIS should demonstrate that the Proposal will operate within EPA's objectives which are to minimise adverse effects on the amenity of local residents and sensitive land uses and to limit the effects of emissions on local, regional and inter-regional air quality.

The EIS should include an air quality impact assessment (AQIA) in accordance with the Approved Methods for the Modelling and Assessment of Air Pollutants in NSW, including, as a minimum the following components:

<u>Assessment Objective</u>

1. Demonstrate the proposed project will incorporate and apply best management practice emission controls; and
2. Demonstrate that the project will not cause violation of the project adopted air quality impact assessment criteria at any residential dwelling or other sensitive receptor.

<u>Assessment Criteria</u>

- Demonstrate the proposal's ability to comply with the relevant regulatory framework, specifically the *Protection of the Environment Operations* (POEO) *Act* (1997) and the POEO (Clean Air) Regulation (2010).

<u>Existing Environment</u>

- Provide a detailed description of the existing environment within the assessment domain, including:
    - geophysical form and land-uses;
    - location of all sensitive receptors;
    - local and regional prevailing meteorology.

<u>Emissions Inventory</u>

- Provide a detailed description of the project and identify the key stages with regards to the potential for air emissions and impacts on the surrounding environment.
- Identify all sources of air emissions, including mechanically generated, combustion and transport related emissions likely to be associated with the proposed development.

<u>Air Quality Emission Control Measures</u>

- Provide a detailed discussion of all proposed air quality emission control measures, including details of a reactive/predictive management system. The information provided must include:
    - explicit linkage of proposed emission controls to the site specific best practice determination assessment

- timeframe for implementation of all identified emission controls;
- key performance indicators for emission controls;
- response mechanisms;
- responsibilities for demonstrating and reporting achievement of KPIs;
- record keeping and complaints response register; and

5 Noise and Vibration

The following matters should be addressed in relation to noise and vibration impacts associated with the proposal. This includes identification of the hours of operations, assessment of all activities where proposed, and impacts on sensitive receivers associated with the proposed hours of operation. The following matters should be addressed as part of the EIS.

General

- Construction noise associated with the proposed development should be assessed using the Interim Construction Noise Guideline (DECC, 2009).

- Vibration from all activities (including construction and operation) to be undertaken on the premises should be assessed using the guidelines contained in the Assessing Vibration: a technical guideline (DEC, 2006).

- Blast impacts should be demonstrated to be capable of complying with the guidelines contained in Australian and New Zealand Environment Council – Technical basis for guidelines to minimise annoyance due to blasting overpressure and ground vibration (ANZEC, 1990).

Industry

- Operational noise from all industrial activities (including private haul roads) to be undertaken on the premises should be assessed using the guidelines contained in the NSW Industrial Noise Policy (EPA, 2000) and Industrial Noise Policy Application Notes.

Road

- Noise on public roads from increased road traffic generated by land use developments should be assessed using the guidelines contained in the NSW Road Noise Policy (DECCW, 2011).

- Noise from new or upgraded public roads should be assessed using the NSW Road Noise Policy (DECCW, 2011).

Monitoring

- Detail monitoring that will be conducted to assess the impacts of the proposal.

6 Water and Soils

6.1 Water Quality

Describe Proposal

- Describe the proposal including position of any intakes and discharges, volumes, water quality and frequency of all water discharges.

- Demonstrate that all practical options to avoid discharges have been implemented and environmental impact minimised where discharge is necessary.

- Where relevant include a water balance for the development including water requirements (quantity, quality and source(s)) and proposed storm and wastewater disposal, including type, volumes, proposed treatment and management methods and re-use options.

Background Conditions

- Describe existing surface and groundwater quality. An assessment needs to be undertaken for any water resource likely to be affected by the proposal. Issues to be discussed should include but are not limited to:
  - a description of any impacts from existing industry or activities on water quality
  - a description of the condition of the local catchment e.g. erosion, soils, vegetation cover, etc.
  - an outline of baseline groundwater information, including, for example, depth to water table, flow direction and gradient, groundwater quality, reliance on groundwater by surrounding users and by the environment
  - historic river flow data

- State the Water Quality Objectives for the receiving waters relevant to the proposal. These refer to the community's agreed environmental values and human uses endorsed by the NSW Government as goals for ambient waters (http://www.environment.nsw.gov.au/ieo/index.htm). Where groundwater may be impacted the assessment should identify appropriate groundwater environmental values.

- State the indicators and associated trigger values or criteria for the identified environmental values. This information should be based on the ANZECC (2000) Guidelines for Fresh and Marine Water Quality as a minimum.

- State any locally specific objectives, criteria or targets which have been endorsed by the NSW Government.

Impact Assessment

- Describe the nature and degree of impact that any proposed discharges will have on the receiving environment, both surface water and groundwater.
- Detail contractual and other arrangements that will be put in place to prevent pollution from haul roads and unsealed roads per se, particularly rights of carriageways not owned by the proponent.
- Assess impacts against the relevant ambient water quality outcomes. Demonstrate how the proposal will be designed and operated to:
  - protect the Water Quality Objectives for receiving waters where they are currently being achieved; and
  - contribute towards achievement of the Water Quality Objectives over time where they are not currently being achieved.
- Where a discharge is proposed that includes a mixing zone, the proposal should demonstrate how wastewater discharged to waterways will ensure the ANZECC (2000) water quality criteria for relevant chemical and non-chemical parameters are met at the edge of the initial mixing zone of the discharge, and that any impacts in the initial mixing zone are demonstrated to be reversible.
- Propose water quality limits for any discharge(s) that adequately protects the receiving environment.
- Assess impacts on groundwater and groundwater dependent ecosystems.
- Describe how stormwater will be managed both during and after construction.

Monitoring

- Describe how predicted impacts will be monitored and assessed over time.

6.2 Soil

The EIS should include:

- An assessment of potential impacts on soil and land resources should be undertaken, being guided by Soil and Landscape Issues in Environmental Impact Assessment (DLWC 2000). The nature and extent of any significant impacts should be identified. Particular attention should be given to:
  - Soil erosion and sediment transport - in accordance with Managing urban stormwater: soils and construction, vol. 1 (Landcom 2004) and vol. 2 (A. Installation of services; B Waste landfills; C. Unsealed roads; D. Main Roads; E. Mines and quarries) (DECC 2008).

- A description of the mitigation and management options that will be used to prevent, control, abate or minimise identified soil and land resource impacts associated with the project. This should include an assessment of the effectiveness and reliability of the measures and any residual impacts after these measures are implemented.

7 Waste

The EIS 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, particularly with regards to the identification of contamination hotspots.

- Identify, quantify, characterise and classify all waste that currently exists at the site. Identify the intended end use, for example reuse or disposal, and the end use location(s) for the waste. Also, specify the mechanism under which waste will be reused or disposed, such as a Resource Recovery Exemption. Note: All waste must be classified in accordance with EPA's Classification Guidelines.

- Identify, characterise and classify all waste that will be generated onsite through excavation, demolition or construction activities, including proposed quantities of the waste.
  Note: All waste must be classified in accordance with EPA's Waste Classification Guidelines.

- Identify, characterise and classify all waste that is proposed to be disposed of to an offsite location, including proposed quantities of the waste and the disposal locations for the waste. This includes waste that is intended for re-use or recycling.
  Note: All waste must be classified in accordance with EPA's Classification Guidelines.

- Include a commitment to retaining all sampling and classification results for the life of the project to demonstrate compliance with EPA's Waste Classification Guidelines.

- Provide details of how waste will be handled and managed onsite to minimise pollution, including:

  a) Stockpile location and management
     - Labelling of stockpiles for identification, ensuring that all waste is clearly identified and stockpiled separately from other types of material (especially the separation of any contaminated and non-contaminated waste).
     - Proposed height limits for all waste to reduce the potential for dust and odour.
     - Procedures for minimising the movement of waste around the site and double handling.

- Measures to minimise leaching from stockpiles into the surrounding environment, such as sediment fencing, geofabric liners etc.

b) Erosion, sediment and leachate control including measures to be implemented to minimise erosion, leachate and sediment mobilisation at the site during works. The EIS should show the location of each measure to be implemented. The Proponent should consider measures such as:
   - Sediment traps
   - Diversion banks
   - Sediment fences
   - Bunds (earth, hay, mulch)
   - Geofabric liners
   - Other control measures as appropriate

   The Proponent should also provide details of:
   - how leachate from stockpiled waste material will be kept separate from stormwater runoff;
   - treatment of leachate through a wastewater treatment plant (if applicable); and
   - any proposed transport and disposal of leachate off-site.

- Provide details of how the waste will be handled and managed during transport to a lawful facility. If the waste possesses hazardous characteristics, the Proponent must provide details of how the waste will be treated or immobilised to render it suitable for transport and disposal.

- Include details of all procedures and protocols to be implemented to ensure that any waste leaving the site is transported and disposed of lawfully and does not pose a risk to human health or the environment.

- Include a statement demonstrating that the Proponent is aware of EPA's requirements with respect to notification and tracking of waste.

- Include a statement demonstrating that the Proponent is aware of the relevant legislative requirements for disposal of the waste, including any relevant Resource Recovery Exemptions, as gazetted by EPA from time to time.

- Outline contingency plans for any event that affects operations at the site that may result in environmental harm, including: excessive stockpiling of waste, volume of leachate generated exceeds the storage capacity available on-site etc.

- Include details of the quantity and type of liquid and/or non-liquid waste(s) generated, handled, processed or disposed of at the premises, including:
    - the transportation, assessment and handling of waste arriving at or generated at the site;
    - any stockpiling of wastes or recovered materials at the site;
    - any waste processing related to the facility, including reuse, recycling, reprocessing or treatment both on- and off-site;
    - the method for disposing of all wastes or recovered materials at the facility;
    - the emissions arising from the handling, storage, processing and reprocessing of waste at the facility;
    - the proposed controls for managing the environmental impacts of these activities.

Sewage and Wastewater:

- Identify the management and disposal methods for sewage and wastewater generated onsite including:

- quantity of sewage and wastewater to be generated by the proposal;
- proposed strategies for the handling, storage, treatment, reuse/recycling, discharge and disposal of sewage and wastewater; and
- details of actions to prevent potential impacts to surface water, groundwater, any other environmental aspect or human health which may occur as a result of the management technique utilised.

8 Dangerous Goods, Chemical storage and Bunding

- The EIS must outline all details regarding the transport, handling, storage and use of dangerous goods, chemicals and products, including fuel, both on site and with ancillary activities and describe the measures proposed to minimise the potential for leakage or the migration of pollutants into the soil/waters or from the site.

- The EIS should identify any fuel or chemical storage areas proposed for the site.

- The EIS should consider compliance with the following legislation, standards and guidelines where relevant:
  - Australian Standard AS1692:1989 Tanks for Flammable and combustible liquids;
  - The DECC's "Bunding and Spill Management" Technical Guideline (November 1997)
  - Australian Standard AS 1940:2004 The Storage and Handling of Flammable and Combustible Liquids
  - Australia Standard AS 4452-1997: The Storage and Handling of Toxic Substances;
  - Australian/New Zealand Standard AS/NZS 4452:1997: The Storage and Handling of Mixed Classes of Dangerous Goods in Packages and Intermediate Bulk Containers; and
  - Road and Rail Transport (Dangerous Goods) Act 1997

9 Monitoring Programs

The EIS should include a detailed assessment of any noise, air quality, weather, water or waste monitoring required during the construction and on-going operation of the site to ensure that the development achieves a satisfactory level of environmental performance. The evaluation should include a detailed description of the monitoring locations, sample analysis methods and the level of reporting proposed.

ATTACHMENT B

Guidance Material

Title	Web address
Relevant Legislation	
Environmentally Hazardous Chemicals Act 1985	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+14+1985+cd+0+N
Environmental Planning and Assessment Act 1979	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+203+1979+cd+0+N
Protection of the Environment Operations Act 1997	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+156+1997+cd+0+N
Water Management Act 2000	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+92+2000+cd+0+N
Licensing	
Guide to Licensing	www.environment.nsw.gov.au/licensing/licenceguide.htm
Air Issues	
Air Quality	
Approved methods for the Modelling and Assessment of Air Pollutants in NSW (2016)	http://www.epa.nsw.gov.au/resources/epa/approved-methods-for-modelling-and-assessment-of-air-pollutants-in-NSW-160666.pdf
Approved methods for the Sampling and Analysis of Air Pollutants in NSW (2016)	http://www.epa.nsw.gov.au/resources/air/07001amsaap.pdf
Coal Mine Particulate Matter Control Best Practice – Site specific determination guide	www.epa.nsw.gov.au/resources/air/20110813coalmineparticulate.pdf
POEO (Clean Air) Regulation 2010	http://www.legislation.nsw.gov.au/maintop/view/inforce/subordleg+428+2010+cd+0+N
Noise and Vibration	
Noise Policy for Industry (2017)	https://www.epa.nsw.gov.au/your-environment/noise/industrial-noise/noise-policy-for-industry-(2017)
Interim Construction Noise Guideline (DECC, 2009)	http://www.environment.nsw.gov.au/noise/constructnoise.htm
Assessing Vibration: a technical guideline (DEC, 2006)	http://www.environment.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 (ANZEC, 1990)	http://www.environment.nsw.gov.au/noise/blasting.htm
NSW Road Noise Policy (DECCW, 2011)	http://www.epa.nsw.gov.au/resources/noise/2011236nswroadnoisepolicy.pdf

Title	Web address
Waste	
Waste Classification Guidelines (EPA, 2014)	http://www.epa.nsw.gov.au/wasteregulation/classify-guidelines.htm
Resource recovery orders and exemptions	http://www.epa.nsw.gov.au/wasteregulation/recovery-exemptions.htm
Water and Soils	
Soils – general	
Soil and Landscape Issues in Environmental Impact Assessment (DLWC 2000)	http://www.dnr.nsw.gov.au/care/soil/soil_pubs/pdfs/tech_rep_34_new.pdf
Managing urban stormwater: soils and construction, vol. 1 (Landcom 2004) and vol. 2 (A. Installation of services; B Waste landfills; C. Unsealed roads; D. Main Roads; E. Mines and quarries) (DECC 2008)	Vol 1 - Available for purchase at http://www.landcom.com.au/whats-new/publications-reports/the-blue-book.aspx Vol 2 - http://www.environment.nsw.gov.au/stormwater/publications.htm
Landslide risk management guidelines	http://www.australiangeomechanics.org/resources/downloads/
Site Investigations for Urban Salinity (DLWC, 2002)	http://www.environment.nsw.gov.au/resources/salinity/booklet3siteinvestigationsforurbansalinity.pdf
Local Government Salinity Initiative Booklets	http://www.environment.nsw.gov.au/salinity/solutions/urban.htm
Water	
Australian & New Zealand Guidelines for Fresh and Marine Water Quality (2018)	http://www.waterquality.gov.au/anz-guidelines/
Water Quality Objectives	http://www.environment.nsw.gov.au/ieo/index.htm
ANZECC (2000) Guidelines for Fresh and Marine Water Quality	http://www.mincos.gov.au/publications/australian_and_new_zealand_guidelines_for_fresh_and_marine_water_quality
Applying Goals for Ambient Water Quality Guidance for Operations Officers – Mixing Zones	http://deccnet/water/resources/AWQGuidance7.pdf
Approved Methods for the Sampling and Analysis of Water Pollutant in NSW (2004)	http://www.environment.nsw.gov.au/resources/legislation/approvedmethods-water.pdf

DOC19/418465-2
SSI 10333

Colin Phillips
Team Leader, Resources Assessments
Department of Planning and Environment
colin.phillips@planning.nsw.gov.au

Dear Colin

Input into Secretary's Environmental Assessment Requirements – Newstan Extension Project – Newstan Colliery – Lake Macquarie LGA (SSD 10333)

I refer to your e-mail dated 20 May 2019 seeking input into the Secretary's Environmental Assessment Requirements (SEARs) for the Newstan Extension Project proposal, located at in the southern part of the Newstan Colliery area near Rathmines. The proposed development is within the Lake Macquarie local government area.

The Office of Environment and Heritage (OEH) understands that Centennial Coal is seeking to expand underground coal mining into a new area of the Newstan Colliery to extract up to 25.9 million tonnes of coal over a 15 year period at a maximum rate of 4 million tonnes per annum. OEH understands that the proposal is a State Significant Development (SSD 10333) project under the *Environmental Planning and Assessment Act 1979*.

OEH has reviewed the Newstan Mine Extension Project Scoping Report prepared by Centennial Coal Company Ltd (dated May 2019) and has prepared Standard SEARs which are presented in **Attachment A**. There are no project-specific SEARs provided for this project (**Attachment B**). Details of guidance documents are provided in **Attachment C**.

With respect to Aboriginal cultural heritage, OEH notes that any Aboriginal cultural heritage assessment undertaken prior to 2010 is unlikely to meet current OEH Aboriginal cultural heritage guidelines for the assessment of Aboriginal cultural heritage in NSW. The OEH 2011 *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* should be referenced in this instance.

If you have any further questions in relation to this matter, please contact Robert Gibson, Regional Biodiversity Conservation Officer, on 02 4927 3154 or by e-mail at rog.hcc@environment.nsw.gov.au

Yours sincerely

29 May 2019

STEVEN COX

Senior Team Leader - Planning
Hunter Central Coast Branch
Conservation and Regional Delivery Division

Enclosure: Attachments A, B, C

Attachment A – Standard Environmental Assessment Requirements

Biodiversity

1. Biodiversity impacts related to the proposed development (SSD 10333) are to be assessed in accordance with the Biodiversity Assessment Method 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 Biodiversity Assessment Method.
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 Biodiversity Assessment Method.
3. The BDAR must include details of the measures proposed to address the offset obligation as follows;
   - The total number and classes of biodiversity credits required to be retired for the development/project;
   - The number and classes of like-for-like biodiversity credits proposed to be retired;
   - The number and classes of biodiversity credits proposed to be retired in accordance with the variation rules;
   - Any proposal to fund a biodiversity conservation action;
   - Any proposal to conduct ecological rehabilitation (if a mining project);
   - 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 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

5. The Environmental Impact Assessment (EIS) must identify and describe the Aboriginal cultural heritage values that exist across the whole area that will be affected by the development and document these in the Aboriginal Cultural Heritage Assessment Report (ACHAR). This may include the need for surface survey and test excavation. The identification of cultural heritage values should be guided by the Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (DECCW, 2011) and consultation with OEH regional branch officers.

6. Consultation with Aboriginal people must be undertaken and documented in accordance with the Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW). The significance of cultural heritage values for Aboriginal people who have a cultural association with the land must be documented in the ACHAR.

7. Impacts on Aboriginal cultural heritage values are to be assessed and documented in the ACHAR. The ACHAR must demonstrate attempts to avoid impact upon cultural heritage values and identify any conservation outcomes. Where impacts are unavoidable, the ACHAR must outline measures proposed to mitigate impacts. Any objects recorded as part of the assessment must be documented and notified to OEH.

Historic heritage

8. The EIS must provide a heritage assessment including but not limited to an assessment of impacts to State and local heritage including conservation areas, natural heritage areas, places of Aboriginal heritage value, buildings, works, relics, gardens, landscapes, views, trees should be assessed. Where impacts to State or locally significant heritage items are identified, the assessment shall:

   a. outline the proposed mitigation and management measures (including measures to avoid significant impacts and an evaluation of the effectiveness of the mitigation measures) generally consistent with the NSW Heritage Manual (1996),

   b. be undertaken by a suitably qualified heritage consultant(s) (note: where archaeological excavations are proposed the relevant consultant must meet the NSW Heritage Council's Excavation Director criteria),

   c. include a statement of heritage impact for all heritage items (including significance assessment),

   d. consider impacts including, but not limited to, vibration, demolition, archaeological disturbance, altered historical arrangements and access, landscape and vistas, and architectural noise treatment (as relevant), and

   e. where potential archaeological impacts have been identified develop an appropriate archaeological assessment methodology, including research design, to guide physical archaeological test excavations (terrestrial and maritime as relevant) and include the results of these test excavations.

Water and soils

9. The EIS must map the following features relevant to water and soils including:
   a. Acid sulfate soils (Class 1, 2, 3 or 4 on the Acid Sulfate Soil Planning Map).
   b. Rivers, streams, wetlands, estuaries (as described in s4.2 of the Biodiversity Assessment Method).
   c. Wetlands as described in s4.2 of the Biodiversity Assessment Method.
   d. Groundwater.
   e. Groundwater dependent ecosystems.
   f. Proposed intake and discharge locations.

10. The EIS must describe background conditions for any water resource likely to be affected by the development, including:
   a. Existing surface and groundwater.
   b. Hydrology, including volume, frequency and quality of discharges at proposed intake and discharge locations.
   c. Water Quality Objectives (as endorsed by the NSW Government http://www.environment.nsw.gov.au/ieo/index.htm) including groundwater as appropriate that represent the community's uses and values for the receiving waters.
   d. Indicators and trigger values/criteria for the environmental values identified at (c) in accordance with the ANZECC (2000) Guidelines for Fresh and Marine Water Quality and/or local objectives, criteria or targets endorsed by the NSW Government.

11. The EIS must assess the impacts of the development on water quality, including:
    a. The nature and degree of impact on receiving waters for both surface and groundwater, demonstrating how the development protects the Water Quality Objectives where they are currently being achieved, and contributes towards achievement of the Water Quality Objectives over time where they are currently not being achieved. This should include an assessment of the mitigating effects of proposed stormwater and wastewater management during and after construction.
    b. Identification of proposed monitoring of water quality.

12. The EIS must assess the impact of the development on hydrology, including:
    a. Water balance including quantity, quality and source.
    b. Effects to downstream rivers, wetlands, estuaries, marine waters and floodplain areas.
    c. Effects to downstream water-dependent fauna and flora including groundwater dependent ecosystems.
    d. Impacts to natural processes and functions within rivers, wetlands, estuaries and floodplains that affect river system and landscape health such as nutrient flow, aquatic connectivity and access to habitat for spawning and refuge (e.g. river benches).
    e. Changes to environmental water availability, both regulated/licensed and unregulated/rules-based sources of such water.
    f. Mitigating effects of proposed stormwater and wastewater management during and after construction on hydrological attributes such as volumes, flow rates, management methods and re-use options.
    g. Identification of proposed monitoring of hydrological attributes.

Flooding and coastal erosion

13. The EIS must map the following features relevant to flooding as described in the Floodplain Development Manual 2005 (NSW Government 2005) including:
    a. Flood prone land.
    b. Flood planning area, the area below the flood planning level.
    c. Hydraulic categorisation (floodways and flood storage areas).

14. The EIS must describe flood assessment and modelling undertaken in determining the design flood levels for events, including a minimum of the 1 in 10 year, 1 in 100 year flood levels and the probable maximum flood, or an equivalent extreme event.

15. The EIS must model the effect of the proposed development (including fill) on the flood behaviour under the following scenarios:
    a. Current flood behaviour for a range of design events as identified in 11 above. This includes the 1 in 200 and 1 in 500 year flood events as proxies for assessing sensitivity to an increase in rainfall intensity of flood producing rainfall events due to climate change.

16. Modelling in the EIS must consider and document:

    a. The impact on existing flood behaviour for a full range of flood events including up to the probable maximum flood.
    b. Impacts of the development on flood behaviour resulting in detrimental changes in potential flood affection of other developments or land. This may include redirection of flow, flow velocities, flood levels, hazards and hydraulic categories.
    c. Relevant provisions of the NSW Floodplain Development Manual 2005.

17. The EIS must assess the impacts on the proposed development on flood behaviour, including:

    a. Whether there will be detrimental increases in the potential flood affectation of other properties, assets and infrastructure.
    b. Consistency with Council floodplain risk management plans.
    c. Compatibility with the flood hazard of the land.
    d. Compatibility with the hydraulic functions of flow conveyance in floodways and storage in flood storage areas of the land.
    e. Whether there will be adverse effect to beneficial inundation of the floodplain environment, on, adjacent to or downstream of the site.
    f. Whether there will be direct or indirect increase in erosion, siltation, destruction of riparian vegetation or a reduction in the stability of river banks or watercourses.
    g. Any impacts the development may have upon existing community emergency management arrangements for flooding. These matters are to be discussed with the SES and Council.
    h. Whether the proposal incorporates specific measures to manage risk to life from flood. These matters are to be discussed with the SES and Council.
    i. Emergency management, evacuation and access, and contingency measures for the development considering the full range or flood risk (based upon the probable maximum flood or an equivalent extreme flood event). These matters are to be discussed with and have the support of Council and the SES.
    j. Any impacts the development may have on the social and economic costs to the community as consequence of flooding.

Attachment B – Project specific environmental assessment requirements

Biodiversity - nil
Aboriginal cultural heritage - nil
Historic heritage - nil
Water and soils - nil
Flooding and coastal erosion - nil

Attachment C – Guidance material

Title	Web address
Relevant legislation	
Biodiversity Conservation Act 2016	https://www.legislation.nsw.gov.au/#/view/act/2016/63/full
Coastal Management Act 2016	https://www.legislation.nsw.gov.au/#/view/act/2016/20/full
Commonwealth Environment Protection and Biodiversity Conservation Act 1999	http://www.austlii.edu.au/au/legis/cth/consol_act/epabca1999588/
Environmental Planning and Assessment Act 1979	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+203+1979+cd+0+N
Fisheries Management Act 1994	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+38+1994+cd+0+N
Marine Parks Act 1997	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+64+1997+cd+0+N
National Parks and Wildlife Act 1974	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+80+1974+cd+0+N
Protection of the Environment Operations Act 1997	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+156+1997+cd+0+N
Water Management Act 2000	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+92+2000+cd+0+N
Wilderness Act 1987	http://www.legislation.nsw.gov.au/viewtop/inforce/act+196+1987+FIRST+0+N
Biodiversity	
Biodiversity Assessment Method (OEH, 2017)	http://www.environment.nsw.gov.au/resources/bcact/biodiversity-assessment-method-170206.pdf
Guidance and Criteria to assist a decision maker to determine a serious and irreversible impact (OEH, 2017)	http://www.environment.nsw.gov.au/resources/bcact/guidance-decision-makers-determine-serious-irreversible-impact-170204.pdf
NSW Guide to Surveying Threatened Plant	http://www.environment.nsw.gov.au/resources/threatenedspecies/160129-threatened-plants-survey-guide.pdf
Fisheries NSW policies and guidelines	http://www.dpi.nsw.gov.au/fisheries/habitat/publications/policies,-guidelines-and-manuals/fish-habitat-conservation
List of national parks	http://www.environment.nsw.gov.au/NationalParks/parksearchatoz.aspx
Revocation, recategorisation and road adjustment policy (OEH, 2012)	http://www.environment.nsw.gov.au/policies/RevocationOfLandPolicy.htm
Guidelines for developments adjoining land and water managed by the Department of Environment, Climate Change and Water (DECCW, 2010)	http://www.environment.nsw.gov.au/protectedareas/developmntadjoiningdecc.htm
Heritage	
The Burra Charter (The Australia ICOMOS charter for places of cultural significance)	http://australia.icomos.org/wp-content/uploads/The-Burra-Charter-2013-Adopted-31.10.2013.pdf
Statements of Heritage Impact 2002 (HO & DUAP)	http://www.environment.nsw.gov.au/resources/heritagebranch/heritage/hmstatementsofhi.pdf
NSW Heritage Manual (DUAP) (scroll through alphabetical list to 'N')	http://www.environment.nsw.gov.au/Heritage/publications/

Title	Web address
Aboriginal cultural heritage	
Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW, 2010)	http://www.environment.nsw.gov.au/resources/cultureheritage/commconsultation/09781ACHconsultreq.pdf
Code of Practice for the Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW, 2010)	http://www.environment.nsw.gov.au/resources/cultureheritage/10783FinalArchCoP.pdf
Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW (OEH 2011)	http://www.environment.nsw.gov.au/resources/cultureheritage/20110263ACHguide.pdf
Aboriginal Site Recording Form	http://www.environment.nsw.gov.au/resources/parks/SiteCardMainV1_1.pdf
Aboriginal Site Impact Recording Form	http://www.environment.nsw.gov.au/resources/cultureheritage/120558asirf.pdf
Aboriginal Heritage Information Management System (AHIMS) Registrar	http://www.environment.nsw.gov.au/contact/AHIMSRegistrar.htm
Care Agreement Application form	http://www.environment.nsw.gov.au/resources/cultureheritage/20110914TransferObject.pdf
Acid sulphate soils	
Acid Sulfate Soils Planning Maps via Data.NSW	http://data.nsw.gov.au/data/
Acid Sulfate Soils Manual (Stone et al. 1998)	http://www.environment.nsw.gov.au/resources/epa/Acid-Sulfate-Manual-1998.pdf
Acid Sulfate Soils Laboratory Methods Guidelines (Ahern et al. 2004)	http://www.environment.nsw.gov.au/resources/soils/acid-sulfate-soils-laboratory-methods-guidelines.pdf This replaces Chapter 4 of the Acid Sulfate Soils Manual above.
Flooding and coastal erosion	
Reforms to coastal erosion management	http://www.environment.nsw.gov.au/coasts/coastalerosionmgmt.htm
Floodplain development manual	http://www.environment.nsw.gov.au/floodplains/manual.htm
Guidelines for Preparing Coastal Zone Management Plans	Guidelines for Preparing Coastal Zone Management Plans http://www.environment.nsw.gov.au/resources/coasts/130224CZMPGuide.pdf
NSW Climate Impact Profile	http://climatechange.environment.nsw.gov.au/
Climate Change Impacts and Risk Management	Climate Change Impacts and Risk Management: A Guide for Business and Government, AGIC Guidelines for Climate Change Adaptation
Water	
Water Quality Objectives	http://www.environment.nsw.gov.au/ieo/index.htm
ANZECC (2000) Guidelines for Fresh and Marine Water Quality	www.environment.gov.au/water/publications/quality/australian-and-new-zealand-guidelines-fresh-marine-water-quality-volume-1
Applying Goals for Ambient Water Quality Guidance for Operations Officers – Mixing Zones	http://deccnet/water/resources/AWQGuidance7.pdf

Title	Web address
Approved Methods for the Sampling and Analysis of Water Pollutant in NSW (2004)	http://www.environment.nsw.gov.au/resources/legislation/approvedmethods-water.pdf

Planning & Environment
Resources Regulator

Our Ref: DOC19/432956

Colin Phillips
Team Leader
Resource Assessments
Planning Services
Department of Planning and Environment
GPO Box 39
Sydney NSW 2001

By email: Colin.Phillips@planning.nsw.gov.au

Newstan Extension Project (SSD No. 10333): Request for Resources Regulator Secretary's Environmental Assessment Requirements

Dear Colin,

I refer to the Department of Planning and Environment – Resources Assessments (DPE – Resources & Assessment) email dated 20 May 2019 inviting the Resources Regulator to provide Secretary's Environmental Assessment Requirements (SEARs) for the Newstan Extension Project (SSD No. 10333) relating to Newstan Extension Scoping Report May 2019 (DOC19/422604).

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.

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 Newstan Colliery is an underground operation located approximately 25 kilometres from Newcastle, NSW. The Newstan Mine Extension Project proposes to:

- continue mining within the West Borehole seam,
- extract up to 25.9 million tonnes (Mt) over a fifteen year period,
- develop first workings and mine by partial extraction and total extraction by bord and pillar, including total extraction,
- use existing Newstan Colliery surface facilities,
- construct electrical infrastructure, four gas drainage boreholes, a gas flaring facility, six service boreholes and install ventilation fans (using existing boreholes) at the Awaba Colliery Surface Site,

- extract underground water at the Fassifern Pump Station at the Newstan Colliery surface facilities.

Sensitive infrastructure and environmental features within the proposed extraction area include second and third order streams, the Main Northern Railway, a 132 kV transmission line, a 132 kV substation, the Eraring Power Station and the Eraring Ash Dam wall.

It is understood that areas impacted by historic extraction of the Great Northern Seam will be under mined and the mine design has considered impacts from multiseam subsidence conditions that potentially lead to reactivation of subsidence related to historic extraction.

It is proposed to develop a rehabilitation strategy for the Awaba Surface Infrastructure Area as part of the EIS.

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).

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

Yours sincerely

MONIQUE MEYER
Manager Environmental Operations (Eastern)

On behalf of
Matthew Newton
Director Compliance Operations
Resources Regulator
NSW Department of Planning and Environment

28 May 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) 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 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.

(n) 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;

(o) 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);

(p) 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

(q) 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)

NSW RURAL FIRE SERVICE

The Secretary
Department of Planning and Environment
GPO Box 39
SYDNEY NSW 2000

Your reference: SSD-10333
Our reference: D19/1678

28 May 2019

Attention: Colin Phillips

Dear Colin,

State Significant Development – Newstan Colliery - Miller Road Fassifern

Reference is made to correspondence dated 21 May 2019 seeking input regarding the preparation of Secretary's environmental assessment requirements for the above State Significant Development 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 advises that a bush fire assessment report shall be prepared which identifies the extent to which the proposed development conforms with or deviates from the relevant provisions of *Planning for Bush Fire Protection 2006* or subsequent edition.

If you have any queries regarding this advice, please contact Matthew Apps, Development Assessment and Planning Officer, on 1300 NSW RFS.

Yours sincerely,

Kalpana Varghese
Team Leader, Development Assessment and Planning
Planning and Environment Services (East)

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

CR2019/002230
SF2012/004312
MJD

27 May 2019

Department of Planning & Environment
Resource Assessments
GPO Box 39
SYDNEY NSW 2001

Attention: Colin Phillips

SEARS REQUEST – NEWSTAN MINE EXTENSION PROJECT, MILLER ROAD FASSIFERN
SEARS 10333

Reference is made to Department of Planning and Environment's email dated 20 May 2019, requesting Roads and Maritime Services' (Roads and Maritime) requirements under Schedule 2 of the *Environmental Planning and Assessment Regulation 2000.*

Transport for NSW and Roads and Maritime's primary interests are in the road network, traffic and broader transport issues. In particular, the efficiency and safety of the classified road network, the security of property assets and the integration of land use and transport.

Roads and Maritime have reviewed the Newstan Mine Extension Project Scoping Report by Centennial Coal, dated May 2019. It is understood that the proposal be for the extraction of up to 4Mtpa, and a total of 25.9Mt over a 15 year mine life.

Roads and Maritime response & requirements

Roads and Maritime recommends that the Environmental Impact Statement (EIS) should refer to the following guidelines with regard to the traffic and transport impacts of the proposed development:

- Road and Related Facilities within the Department of Planning EIS Guidelines,
- Section 2 Traffic Impact Studies of Roads and Maritime's *Guide to Traffic Generating Developments 2002*, and
- Austroads Guide to Traffic Management, Part 12, Traffic Impacts of Developments.

Furthermore, a traffic and transport study shall be prepared in accordance with the Roads and Maritime's *Guide to Traffic Generating Developments 2002* and is to include (but not be limited to) the following:

- Assessment of all relevant vehicular traffic routes and intersections for access to / from the subject properties.

- Current traffic counts for all of the traffic routes and intersections.

- The anticipated additional vehicular traffic generated from both the construction and operational stages of the project.

- The distribution on the road network of the trips generated by the proposed development. It is requested that the predicted traffic flows are shown diagrammatically to a level of detail sufficient for easy interpretation.

- Consideration of the traffic impacts on existing and proposed intersections, and the capacity of the local and classified road network to safely and efficiently cater for the additional vehicular traffic generated by the proposed development during both the construction and operational stages. The traffic impact shall also include the cumulative traffic impact of other proposed developments in the area.

- Traffic analysis of any major / relevant intersections impacted, using SIDRA or similar traffic model, including:
  - Current traffic counts and 10 year traffic growth projections
  - With and without development scenarios
  - 95th percentile back of queue lengths
  - Delays and level of service on all legs for the relevant intersections
  - Data files for Roads and Maritime review.

- Identify the necessary road network infrastructure upgrades that are required to maintain existing levels of service on both the local and classified road network for the development. In this regard, preliminary concept drawings shall be submitted with the EIS for any identified road infrastructure upgrades. However, it should be noted that any identified road infrastructure upgrades will need to be to the satisfaction of Roads and Maritime and Council.

- Any other impacts on the regional and state road network including consideration of pedestrian, cyclist and public transport facilities and provision for service vehicles.

On determination of this matter, please forward a copy of the SEARs to Roads and Maritime for record and / or action purposes. Should you require further information please contact Hunter Land Use on 4908 7688 or by emailing development.hunter@rms.nsw.gov.au.

Yours sincerely

Peter Marler
Manager Land Use Assessment
Hunter Region

117 Bull Street, Newcastle West NSW 2302
Tel 02 4908 4300 | www.subsidenceadvisory.nsw.gov.au
24 Hour Emergency Service: Free Call 1800 248 083
ABN 87 445 348 918

Colin Phillips
Team Leader, Resource Assessments
Department of Planning and Environment
320 Pitt Street
SYDNEY NSW 2001

Dear Mr Phillips

Newstan Colliery (SSD 10333) – Newstan Extension Project

Thank you for the opportunity to provide comment in relation to the Newstan Extension Project (State Significant Development SSD 10333).

It is understood the Project involves;

- Extraction of up to 25.9 million tonnes of coal at a maximum rate of 4 million tonnes per annum at the Newstan Colliery; and
- First workings, partial extraction and total extraction by bord and pillar techniques within the West Borehole Seam within the areas defined in 2219878-REP-1-Newstan Extension Scoping Report.

Subsidence Advisory notes the Environmental Impact Statement (EIS) scoping worksheet identifies built environment for inclusion within the EIS. Subsidence Advisory has no further comment.

If you would like to discuss this further, please don't hesitate to contact me by email at matthew.montgomery@finance.nsw.gov.au or by phone on 4677 1967.

Yours sincerely

Matthew Montgomery
Infrastructure Manager, Subsidence Advisory NSW

5 June 2019