

7 June 2018

Mr Jack Murphy  
Environmental Assessment Officer  
Resource Assessments - Planning Services  
GPO Box 39  
Sydney NSW 2001

Dear Mr Murphy

**DPE request for SEARs - Glendell Continued Operations Project - SSD 9349**

I refer to your email dated 31 May 2018 requesting Singleton Council input into the Secretary's Environmental Assessment Requirements (**SEARs**) for the Glendell Continued Operations Project (**SSD9349**). Council has reviewed the Preliminary Environmental Assessment and provides the following recommendations for inclusion in the SEARs.

**Approval Requirements**

Whilst it is correct that the consent authority is not required to re-assess the likely impact of the continued development of the Glendell Mine, as approved under DA80/952; the consent authority *'may modify the manner of the continued development for the purposes of consolidation of the development consents applying to the land concerned'* (clause 4.63 (3)(c)).

The proposed project includes complex interactions with other approved, and yet to be approved, operations in the vicinity of the proposal. These complex interactions will require careful consideration within the Environmental Impact Statement, particularly in the areas of final landform and final land use, set within the local and regional context.

**Hebden Road**

The proposed project is seeking to relocate Hebden Road. As Hebden Road is a local road, Council should be consulted during the assessment phase to ensure local traffic requirements are met. Council would recommend that the SEARs include a requirement to consult with Council on the realignment of Hebden Road, as well as an assessment of all options, including the no relocation option.

**Ravensworth Homestead**

The Ravensworth Homestead is listed on Council's Local Environment Plan as an item of local heritage significance. The community interest in the proposed relocation of the Ravensworth Homestead cannot be understated. The Proponent has proposed one option for the management of the Homestead. This option will result in the maximum benefit to the Proponent. Council recommends that the SEARs include

a requirement for the Proponent to consider all options regarding the long term, in perpetuity management and maintenance of the Ravensworth Homestead, including (but not limited to) relocation, alternative mining methods that will avoid or minimise impacts to the Homestead and its surrounds, and not relocating the Homestead. These options should include a full and detailed social and economic analysis, including a local effects analysis, specific to the proposed impacts on Ravensworth Homestead.

### **Voluntary Planning Agreement**


Council anticipates that the proposed project will impact Council's infrastructure and services. The proponent and Council have commenced discussions around a Voluntary Planning Agreement for the proposed project. Council recommends that the SEARs reflect the need to consult and agree to a VPA.

### **Consideration of Singleton Council's Community Strategic Plan**

The Singleton Council Community Strategic Plan (2017-2027) is the document that underpins Council's strategic planning for the future of Singleton. This Plan identifies community concerns regarding the long term environmental, social and economic sustainability of the Singleton community, and Council's planned response to these concerns. Concerns raised by the community during the development of this Plan included a planned transition away from mining. Council recommends that, in addition to consideration of the strategic planning documents (including the Singleton Land Use Strategy or it's latest equivalent) under the *Environmental Planning and Assessment Act 1979*, the Proponent consider the strategic planning documents developed by Council under the *Local Government Act 1993*.

I would like to thank you for the opportunity to provide input into the SEARs for the proposed project. Please contact me on 02 6578 7290 if you have any questions.

Yours sincerely

A handwritten signature in dark ink, appearing to be 'Mary-Anne Crawford', with a stylized, somewhat circular flourish at the end.

Mary-Anne Crawford  
**Manager Development and Environmental Services**

OUT18/7907

Mr Jack Murphy  
Resource Assessments  
NSW Department of Planning and Environment

[Jack.Murphy@planning.nsw.gov.au](mailto:Jack.Murphy@planning.nsw.gov.au)

Dear Mr Murphy

**Glendell Continued Operations Project (SSD 9349)  
Comment on the Secretary's Environmental Assessment Requirements (SEARs)**

I refer to your email of 17 May 2018 to the Department of Industry (DoI) in respect to the above matter. Comment has been sought from relevant branches of Lands & Water and Department of Primary Industries (DPI), and the following requirements for the proposal are provided:

**DoI - Water**

- 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 DPI Water Guidelines for Controlled Activities on Waterfront Land (2012) and the relevant Water Sharing Plans (available at <http://www.water.nsw.gov.au/>).

**DoI - Crown Lands**

Crown Land and Crown Roads within the 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 and within 12 months of Project Approval. The Compensation Agreement may include conditions requiring the Mining Lease Holder to purchase of any Crown land impacted on by mining activity.

### **DPI - Fisheries**

DPI Fisheries has significant concerns about the changed geomorphology, slope and length of the proposed diversion of Yorks Creek compared to the existing Creek. This has the potential to impact the receiving waters of Bowmans Creek, which DPI Fisheries has listed as a Key Fish Habitat. Therefore, DPI Fisheries requires a comprehensive assessment of the diversion of Yorks Creek, with the following information being included in the EIS:

- The complete design of the creek diversion including changes in slope, length and habitat structures proposed in the diversion compared to the existing creek line.
- A detailed outline on how a “natural” system can be created in this landscape.
  - Note - the preliminary report identifies the difficulty in establishing natural systems within large engineered cuttings, and is recommending a cutting of approximately 2km in length and 20 to 30m in depth in soil that is considered erodible. DPI Fisheries does not consider a trapezoidal rock lined drain as an appropriate natural system.
- Identification of how the design will mitigate or offset the areas of aquatic habitat that is lost due to the shortening of the creek by the proposed diversion.
- A complete assessment of the fish population in Yorks Creek to determine the presence or absence of any threatened fish species. Reliance on past assessments may not give a complete picture as the species are small and similar species in inland waters have been shown to be quite mobile in ephemeral streams. This information is required to complete the required test of Significance under Part 7a of the *Fisheries Management Act 1994*.
- An assessment of the diversion shall also include an assessment on the changes in flows entering Bowmans Creek at the proposed junction and ascertain how these flows can be introduced to the stream without creating erosion and turbidity issues in Bowmans Creek.

Relevant Guidelines/policies for assessment of impacts and requirements that should be addressed can be found in DPI Fisheries Policy & Guideline document: *Policy and Guidelines for Fish Habitat Conservation and Management* (2013 update) available on the Department's website at [www.dpi.nsw.gov.au/fishing/habitat/publications/pubs/fish-habitat-conservation](http://www.dpi.nsw.gov.au/fishing/habitat/publications/pubs/fish-habitat-conservation).

Any further referrals to DoI can be sent by email to [landuse.enquiries@dpi.nsw.gov.au](mailto:landuse.enquiries@dpi.nsw.gov.au).

Yours sincerely



Alex King  
**Director Cabinet and Legislation Services**  
**Lands and Water - Strategy and Policy**  
31 May 2018

Mr Jack Murphy  
Environmental Assessment Officer  
Resource Assessments - Planning Services Division  
Department of Planning & Environment  
GPO Box 39  
SYDNEY NSW 2001

[Jack.Murphy@planning.nsw.gov.au](mailto:Jack.Murphy@planning.nsw.gov.au)

Dear Jack

**Glendell Continued Operations Project  
Request for Secretary's Environmental Assessment Requirements (SEARs)**

I refer to your email dated 17 May 2018 inviting the Division of Resources & Geoscience (the Division) to provide comments on the Glendell Continued Operations Project (the Project) submitted by Umwelt, on behalf of Glendell Tenements Pty Limited, a subsidiary of Glencore (the Proponent).

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

Consistent with the intent of the Indicative Secretary's Environmental Assessment Requirements (SEARs) for state significant mining developments (October 2015), to ensure that the Project and its environmental interactions can be understood and assessed by the Division, an Environmental Impact Statement (EIS) should provide a comprehensive description of all aspects, including the mineral extraction and mining purposes, of the project.

The Division notes that this proposal is located wholly within existing mining titles suitable for the extraction of coal as detailed in the supplied Preliminary Environmental Assessment (PEA) and recommends that the following SEARs be applied:

**MAPPING REQUIREMENTS**

1. In terms of text, plans or charts, it must clearly show the proposed extent and sequence of the development.
2. Clearly identify (in text and maps):
  - a. Existing coal (and Group 9) authorisations over the project area, and
  - b. Final proposed mining lease areas for coal and ancillary mining activities including the location and depths of applications lodged, or to be lodged.

**GEOLOGY**

1. Provide a summary of the regional and local geology, including information of the stratigraphic unit or units within which the resource is located.
2. 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.

**RESOURCE AND RESERVE STATEMENT**

1. Include an 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). 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 must 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.

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

### **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:

1. 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.
2. In terms of text, plans or charts, an EIS must clearly show the proposed extent and sequence of the development.
3. An estimate of which market segment that product tonnes would be sold into, for example, export/domestic thermal/metallurgical coal.

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 Division requires the Proponent to provide its best estimate of their market mix at the initial stages of the Project.

### **BIODIVERSITY OFFSETS**

The Division requests that the Geological Survey of NSW – Land Use team be consulted in relation to the proposed location of any biodiversity offset areas (both on and off-site) or any supplementary biodiversity measures to ensure there is no consequent reduction in access to prospective land for mineral exploration or potential for sterilisation of mineral or extractive resources.

For further enquiries regarding this matter please contact:

Adam W. Banister, Senior Advisor - Resources Development & Operations,  
Assessment Coordination Unit, (02) 4063 6601 or [advisory.services@planning.nsw.gov.au](mailto:advisory.services@planning.nsw.gov.au).

Yours sincerely



Matthew Gagan  
**Manager Assessment Coordination**  
31 May 2018

31<sup>st</sup> May, 2018

Jack Murphy  
Environmental Assessment Officer  
Resource Assessments | Planning Services  
NSW Dept of Planning & Environment  
GPO Box 39  
SYDNEY NSW 2001

Our ref: 10.121.046

Your ref: SSD 9349

Dear Jack,

**Re: Glendell Continued Operations Project SDD 9349:**

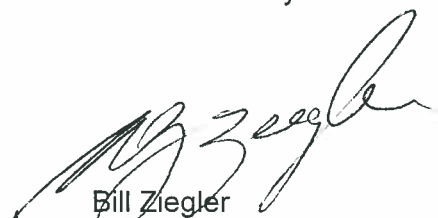
The DSC has reviewed the Preliminary Environmental Assessment for the proposal to expand the Glendell Operations (SSD 9349), as requested in your email of 17/05/2018.

The project application area appears to overlap with; the Mount Owen North, Mount Owen and Ravensworth East Notification Areas which surround the Mount Owen North Void Tailings Dam, Mount Owen Rail Loop Tailings Dams and Ravensworth Void 4 East Tailings Dam respectively. The Tailings Dams are prescribed dams of significant consequence category in the event of dam failure.

Proposed mining undertaken as part of the Glendell Continuation Project within the Notification Areas will need to be endorsed by the DSC and the Company will need to apply to the DSC to this end. The companies' PEA has not recognised the Dams Safety Act 1978 as requiring compliance.

If you have any further queries please do not hesitate to contact me on 9842 8077.

Yours Sincerely



Bill Ziegler  
Manager Mining Projects  
Dams Safety Committee

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DOC18/335609; EF13/4478

Department of Planning & Environment  
Resource Assessment, Planning Services  
GPO Box 39  
SYDNEY NSW 2001

Attention: Jack Murphy  
Email: [jack.murphy@planning.nsw.gov.au](mailto:jack.murphy@planning.nsw.gov.au)

30 May 2018

Dear Mr Murphy

**Glendell Continued Operations Project – Open cut coal mine  
666 Hebden Road, Ravensworth - SSD 9349**

**SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS**

I refer to your email to the Environment Protection Authority (EPA) dated 17 May 2018, seeking the EPA's recommended Secretary Environmental Assessment Requirements (SEARS) for the proposed Glendell Continued Operations Project at Ravensworth.

The EPA has considered the proposal and has identified in **Attachment A** the information it requires to assess the project. In summary, the EPA's key information requirements for the project include an adequate description and assessment of:

1. Impacts on air quality, including any potential for spontaneous combustion of coal,
2. Potential impacts on water quality and site water management,
3. Potential noise impacts,
4. Waste management and disposal.

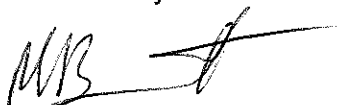
In carrying out the assessment, the proponent should refer to the relevant guidelines listed in **Attachment B** and any relevant industry codes of practice and best practice management guidelines.

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.



If you require any further information regarding this matter please contact Bill George on 4908 6821 or by email to [hunter.region@epa.nsw.gov.au](mailto:hunter.region@epa.nsw.gov.au).

Yours sincerely

A handwritten signature in black ink, appearing to read 'MB', followed by a long horizontal stroke that extends to the right and then curves upwards.

**MITCHELL BENNETT**  
**Head Strategic Programs Unit - Hunter**  
**Environment Protection Authority**

Encl:    **Attachment A** – EPA's Recommended Secretary's Environmental Assessment Requirements – Glendell  
Continued Operations Project at Ravensworth – SSD 9349

**Attachment B** – Guidance Material

## **ATTACHMENT A**

### **EPA's Recommended Secretary's Environmental Assessment Requirements – Glendell Continued Operations Project at Ravensworth SSD 9349**

#### **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**

The Glendell Mine currently holds Environmental Protection Licence (EPL 12840) under s48 Protection of the *Environment Operations Act* ("POEO Act") and is also part of the Mount Owen Complex.

Should project approval be granted, the proponent will need to make a separate application to EPA for a variation to the existing Environment Protection Licence No. 12840. Additional information is available through EPA's *Guide to Licensing* document.

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;
- Appropriate land use zoning;
- Maps/diagrams showing topography, 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; and
- Methods to mitigate any expected environmental impacts of the development.

## 4 Air Issues

### 4.1 Air quality

The EIS must 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:

#### Assessment Objective

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.

#### Assessment Criteria

- Define applicable assessment criteria for the proposed development referencing the Approved Methods for the Modelling and Assessment of Air Pollutants in NSW, including appendices and updates
- 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).

#### Existing Environment

- Provide a detailed description of the existing environment within the assessment domain, including:
  - geophysical form and land-uses;
  - location of all sensitive receptors;
  - existing air quality; and
  - local and regional prevailing meteorology.
- Justify all data used in the assessment, specifically including analysis of inter-annual trends (preferably five consecutive years of data), availability of monitoring data, and local topographical features.
- Meteorological modelling must be verified against monitored data. Verification should involve comparative analysis of wind speed, wind direction and temperature, at a minimum.
- A review of all existing, recently approved and planned developments likely to contribute to cumulative air quality impacts must be completed.

#### Emissions Inventory

- 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.
- Estimate emissions of TSP, PM<sub>10</sub>, PM<sub>2.5</sub>, NO<sub>x</sub>, (tonnes per year), at a minimum, for all identified sources during each key development stage. The emissions inventory should:
  - utilise USEPA (1995) (and updates) emission estimation techniques, direct measurement or other method approved in writing by EPA;
  - calculate uncontrolled emissions (with no particulate matter controls in place); and
  - calculate controlled emissions (with proposed particulate matter controls in place).

- The emissions inventory must be explicitly coupled with the project description.
- Provide a detailed summary and justification of all parameters adopted within all emission estimation calculations, including site specific measurements, proponent recommended values or published literature.
- Document, including quantification and justification, all air quality emission control techniques/practices proposed for implementation during the project. As a minimum, consideration must be given to source control techniques, emission control through mine planning and reactive/predictive management techniques.
- Blasting emission estimation should provide specific details on likely activities, including the frequency of blasts, area per blast, amount and type of explosives used and blasting hours.

#### Best Practice Determination

- Based on the TSP, PM<sub>10</sub> and PM<sub>2.5</sub> emissions inventories calculated for the proposed development, undertake a site-specific best practice determination, in accordance with the document Coal Mine Particulate Matter Control Best Practice – Site specific determination guideline.
- Demonstrate that the proposed control techniques/practices are consistent with best management practice.
- Detail all sources possible sources of air pollution and activities/processes with the potential to cause air pollutants, including odours and fugitive dust emissions and odours; and
- Describe in detail the measures proposed to mitigate the impacts and quantify the extent to which the mitigation measures are likely to be effective in achieving the relevant environmental outcomes.

#### Dispersion Modelling and Interpretation of Results

- Atmospheric dispersion modelling should be undertaken in accordance with the Approved Methods for the Modelling and Assessment of Air Pollutants in NSW, including appendices and updates.
- Modelling must implement fit for purpose modelling techniques that:
  - have regard for the most up to date and scientifically accepted dispersion modelling techniques;
  - contextualise all assumptions based on current scientific understanding and available data; and
  - include a thorough validation of adopted methods and model performance.
- Use an appropriate atmospheric dispersion model to predict, at a minimum, incremental ground level concentrations/levels of the following:
  - 24-hour and annual average PM<sub>10</sub> concentrations;
  - 24-hour and annual average PM<sub>2.5</sub> concentrations; and
  - 1-hour and annual average NO<sub>2</sub> concentrations. NO<sub>2</sub> concentrations should be assessed using a well justified approach for the transformation of NO<sub>x</sub> to NO<sub>2</sub>.
- Ground level concentrations of pollutants should be presented for surrounding privately-owned properties, mine-owned properties and other sensitive receptors (as applicable).
- Undertake a cumulative assessment of predicted impacts. The contribution of all identified existing and recently approved developments should be accounted for in the cumulative assessment.
- Cumulative 24-hour PM<sub>10</sub> and PM<sub>2.5</sub> concentrations must be assessed in accordance with the Approved Methods for the Modelling and Assessment of Air Pollutants in NSW, including appendices and updates, and/or a suitably justified probabilistic methodology.

- Cumulative annual average PM<sub>10</sub>, PM<sub>2.5</sub>, and NO<sub>2</sub> should be assessed using a sufficiently justified background concentration(s);
- Results of dispersion modelling should be presented as follows:
  - isopleth plots showing the geographic extent of maximum pollutant concentrations (incremental and cumulative);
  - 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
  - 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.

#### Air Quality Emission Control Measures

- 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;
  - monitoring methods (location, frequency, duration);
  - response mechanisms;
  - responsibilities for demonstrating and reporting achievement of KPIs;
  - record keeping and complaints response register; and
  - compliance reporting.

#### Air Quality Impact Assessment (Blasting)

- The AQIA must also be undertaken to determine the potential impacts of blasting activities. This must include assessment and modelling to determine the level of potential impacts (dust, gases and offensive odour) and how these potential impacts would be mitigated.

### **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.

#### Operational Noise

- Operational noise from all industrial activities (including private haul roads) to be undertaken on the premises should be assessed using the EPA's "A Guide to the Noise Policy for Industry". (EPA October 2017)

#### General

- 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 can comply 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).

### 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.
- Describe how all mine water storage dams, creek diversions, erosion and sediment control structures and other treatment systems will be constructed and managed to ensure that water discharges from these water management systems comply with the requirements of the *Protection of the Environment Operations Act 1997* and the *Protection of the Environment Operations (Hunter River Salinity Trading Scheme) Regulation 2002*.

#### 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, 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.
- Assess the potential for acid forming materials to generate acid mine drainage.

### 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).
  - Mass movement (landslides) – in accordance with Landslide risk management guidelines presented in Australian Geomechanics Society (2007).
  - Urban and regional salinity – guidance given in the Local Government Salinity Initiative booklets which includes Site Investigations for Urban Salinity (DLWC, 2002).
- 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:

- 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;
- 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;
- 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;
- 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.
- 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;
- 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;
- 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;
- 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:
  - 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; and
  - measures to be implemented to minimise erosion, leachate and sediment mobilisation.
- Provide details of how any leachate will be:
  - kept separate from stormwater runoff;
  - treated (if applicable); and
  - any proposed transport and disposal of leachate off-site.

- Provide details of waste rock emplacement areas with particular attention to:
  - quantity of waste rock likely to be generated;
  - geochemical assessment of the waste rock;
  - proposed strategies for the handling, reuse/recycling and disposal of waste rock, considering the outcomes of the geochemical assessment; and
  - designation of transport routes for the transport of waste rock.
- Identify the management and disposal methods for coal washery rejects (including tailings generated at the mine site), including:
  - quantity of coal washery rejects to be generated;
  - proposed strategies for the handling, storage, reuse/recycling and disposal of coal washery rejects; and
  - 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 utilise
- Assess Environment Protection Licensing requirements for all waste activities associated with the proposal.

## **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 remediation of the site to ensure that the works achieve 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
<b><u>Relevant Legislation</u></b>	
<i>Environmentally Hazardous Chemicals Act 1985</i>	<a href="http://www.legislation.nsw.gov.au/maintop/view/inforce/act+14+1985+cd+0+N">http://www.legislation.nsw.gov.au/maintop/view/inforce/act+14+1985+cd+0+N</a>
<i>Environmental Planning and Assessment Act 1979</i>	<a href="http://www.legislation.nsw.gov.au/maintop/view/inforce/act+203+1979+cd+0+N">http://www.legislation.nsw.gov.au/maintop/view/inforce/act+203+1979+cd+0+N</a>
<i>Protection of the Environment Operations Act 1997</i>	<a href="http://www.legislation.nsw.gov.au/maintop/view/inforce/act+156+1997+cd+0+N">http://www.legislation.nsw.gov.au/maintop/view/inforce/act+156+1997+cd+0+N</a>
<i>Water Management Act 2000</i>	<a href="http://www.legislation.nsw.gov.au/maintop/view/inforce/act+92+2000+cd+0+N">http://www.legislation.nsw.gov.au/maintop/view/inforce/act+92+2000+cd+0+N</a>
<i>Contaminated Land Management Act 1997</i>	<a href="http://www.legislation.nsw.gov.au/#/view/act/1997/140">http://www.legislation.nsw.gov.au/#/view/act/1997/140</a>
<b><u>Licensing</u></b>	
Guide to Licensing	<a href="http://www.environment.nsw.gov.au/licensing/licenceguide.htm">www.environment.nsw.gov.au/licensing/licenceguide.htm</a>
<b><u>Air Issues</u></b>	
<b>Air Quality</b>	
Approved methods for the Modelling and Assessment of Air Pollutants in NSW (2016)	<a href="http://www.epa.nsw.gov.au/resources/epa/approved-methods-for-modelling-and-assessment-of-air-pollutants-in-NSW-160666.pdf">http://www.epa.nsw.gov.au/resources/epa/approved-methods-for-modelling-and-assessment-of-air-pollutants-in-NSW-160666.pdf</a>
Approved methods for the Sampling and Analysis of Air Pollutants in NSW (2016)	<a href="http://www.epa.nsw.gov.au/resources/air/07001amsaap.pdf">http://www.epa.nsw.gov.au/resources/air/07001amsaap.pdf</a>
Coal Mine Particulate Matter Control Best Practice – Site specific determination guide	<a href="http://www.epa.nsw.gov.au/resources/air/20110813coalmineparticulate.pdf">www.epa.nsw.gov.au/resources/air/20110813coalmineparticulate.pdf</a>
POEO (Clean Air) Regulation 2010	<a href="http://www.legislation.nsw.gov.au/maintop/view/inforce/subordleg+428+2010+cd+0+N">http://www.legislation.nsw.gov.au/maintop/view/inforce/subordleg+428+2010+cd+0+N</a>
<b><u>Noise and Vibration</u></b>	
Interim Construction Noise Guideline (DECC, 2009)	<a href="http://www.environment.nsw.gov.au/noise/constructnoise.htm">http://www.environment.nsw.gov.au/noise/constructnoise.htm</a>
Assessing Vibration: a technical guideline (DEC, 2006)	<a href="http://www.environment.nsw.gov.au/noise/vibrationguide.htm">http://www.environment.nsw.gov.au/noise/vibrationguide.htm</a>
Australian and New Zealand Environment Council – Technical basis for guidelines to minimise annoyance due to blasting overpressure and ground vibration (ANZEC, 1990)	<a href="http://www.environment.nsw.gov.au/noise/blasting.htm">http://www.environment.nsw.gov.au/noise/blasting.htm</a>
NSW Industrial Noise Policy, Noise Policy for Industry (2017), Implementation and Transitional arrangements for the Noise Policy for Industry (2017).	<a href="http://www.epa.nsw.gov.au/resources/noise/ind_noise.pdf">http://www.epa.nsw.gov.au/resources/noise/ind_noise.pdf</a> <a href="https://www.epa.nsw.gov.au/publications/noise/17p0524-noise-policy-for-industry">https://www.epa.nsw.gov.au/publications/noise/17p0524-noise-policy-for-industry</a> <a href="https://www.epa.nsw.gov.au/publications/noise/17p0293-implement-transition-arrange-noise-pol-industry">https://www.epa.nsw.gov.au/publications/noise/17p0293-implement-transition-arrange-noise-pol-industry</a>
NSW Road Noise Policy (DECCW, 2011)	<a href="http://www.epa.nsw.gov.au/resources/noise/2011236nswroadnoisepolicy.pdf">http://www.epa.nsw.gov.au/resources/noise/2011236nswroadnoisepolicy.pdf</a>



<b><u>Waste</u></b>	
Waste Classification Guidelines (EPA, 2014)	<a href="http://www.epa.nsw.gov.au/wasteregulation/classify-guidelines.htm">http://www.epa.nsw.gov.au/wasteregulation/classify-guidelines.htm</a>
Resource recovery exemptions	<a href="http://www.epa.nsw.gov.au/wasteregulation/recovery-exemptions.htm">http://www.epa.nsw.gov.au/wasteregulation/recovery-exemptions.htm</a>
Resource recovery orders and exemptions	<a href="http://www.epa.nsw.gov.au/wasteregulation/orders-exemptions.htm">http://www.epa.nsw.gov.au/wasteregulation/orders-exemptions.htm</a>
NSW Waste Avoidance and Resource Recovery Strategy 2014-2021	<a href="http://www.epa.nsw.gov.au/wastestrategy/warr.htm">http://www.epa.nsw.gov.au/wastestrategy/warr.htm</a>
<b><u>Contaminated Sites Assessment and Remediation</u></b>	
Contaminated Land – EPA website	<a href="https://www.epa.nsw.gov.au/your-environment/contaminated-land">https://www.epa.nsw.gov.au/your-environment/contaminated-land</a>
Managing land contamination: Planning Guidelines – SEPP 55 Remediation of Land	<a href="http://www.epa.nsw.gov.au/clm/planning.htm">http://www.epa.nsw.gov.au/clm/planning.htm</a>
Guidelines for Consultants Reporting on Contaminated Sites (EPA, 2000)	<a href="http://www.epa.nsw.gov.au/resources/clm/20110650consultantsglides.pdf">http://www.epa.nsw.gov.au/resources/clm/20110650consultantsglides.pdf</a>
Guidelines for the NSW Site Auditor Scheme - 2nd edition (DEC, 2006)	<a href="http://www.epa.nsw.gov.au/resources/clm/auditorglines06121.pdf">http://www.epa.nsw.gov.au/resources/clm/auditorglines06121.pdf</a>
Sampling Design Guidelines (EPA, 1995)	<a href="http://www.epa.nsw.gov.au/resources/clm/95059samppgdline.pdf">http://www.epa.nsw.gov.au/resources/clm/95059samppgdline.pdf</a>
National Environment Protection (Assessment of Site Contamination) Measure 1999 (or update)	<a href="http://www.scew.gov.au/nepms/assessment-site-contamination">http://www.scew.gov.au/nepms/assessment-site-contamination</a>
<b><u>Water and Soils</u></b>	
<b>Soils – general</b>	
Soil and Landscape Issues in Environmental Impact Assessment (DLWC 2000)	<a href="http://www.dnr.nsw.gov.au/care/soil/soil_pubs/pdfs/tech_rep_34_new.pdf">http://www.dnr.nsw.gov.au/care/soil/soil_pubs/pdfs/tech_rep_34_new.pdf</a>
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 <a href="http://www.landcom.com.au/whats-new/publications-reports/the-blue-book.aspx">http://www.landcom.com.au/whats-new/publications-reports/the-blue-book.aspx</a> Vol 2 - <a href="http://www.environment.nsw.gov.au/stormwater/publications.htm">http://www.environment.nsw.gov.au/stormwater/publications.htm</a>
Landslide risk management guidelines	<a href="http://www.australiangeomechanics.org/resources/downloads/">http://www.australiangeomechanics.org/resources/downloads/</a>
Site Investigations for Urban Salinity (DLWC, 2002)	<a href="http://www.environment.nsw.gov.au/resources/salinity/booklet3siteinvestigationsforurbansalinity.pdf">http://www.environment.nsw.gov.au/resources/salinity/booklet3siteinvestigationsforurbansalinity.pdf</a>
Local Government Salinity Initiative Booklets	<a href="http://www.environment.nsw.gov.au/salinity/solutions/urban.htm">http://www.environment.nsw.gov.au/salinity/solutions/urban.htm</a>
<b>Water</b>	
Water Quality Objectives	<a href="http://www.environment.nsw.gov.au/leo/index.htm">http://www.environment.nsw.gov.au/leo/index.htm</a>
ANZECC (2000) Guidelines for Fresh and Marine Water Quality	<a href="http://www.mincos.gov.au/publications/australian_and_new_zealand_guidelines_for_fresh_and_marine_water_quality">http://www.mincos.gov.au/publications/australian_and_new_zealand_guidelines_for_fresh_and_marine_water_quality</a>
Applying Goals for Ambient Water Quality Guidance for Operations Officers – Mixing Zones	<a href="http://deccnet/water/resources/AWQGuidance7.pdf">http://deccnet/water/resources/AWQGuidance7.pdf</a>
Approved Methods for the Sampling and Analysis of Water Pollutant in NSW (2004)	<a href="http://www.environment.nsw.gov.au/resources/legislation/approvedmethods-water.pdf">http://www.environment.nsw.gov.au/resources/legislation/approvedmethods-water.pdf</a>
Water Pollution and Treatment (EPA)	<a href="http://www.environment.nsw.gov.au/water/polltreatment.htm">http://www.environment.nsw.gov.au/water/polltreatment.htm</a>

<i>Protection of the Environment Operations (Hunter River Salinity Trading Scheme) Regulation 2002</i>	<a href="http://www.legislation.nsw.gov.au/#/view/regulation/2002/856/full">www.legislation.nsw.gov.au/#/view/regulation/2002/856/full</a>
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File No: SF18/40017  
Ref No: DOC18/320036

Mr Jack Murphy  
Environmental Assessment Officer  
Resource Assessments  
Department of Environment & Planning  
GPO Box 39  
SYDNEY NSW 2001

Email: [jack.murphy@planning.nsw.gov.au](mailto:jack.murphy@planning.nsw.gov.au)

Dear Mr Murphy

**Secretary's Environmental Assessment Requirements (SEARs) for Glendell Continued Operations Project – Open cut coal mine, 666 Hebden Road, Ravensworth (SSD 9349)**

I refer to your correspondence received on 17 May 2018 requesting advice on SEARs from the Heritage Council of NSW in relation to a proposed extension of mining at Glendell into a new mining area immediately north of the existing operation known as the Glendell Continued Operations Project.

It is noted that the major components of the proposal include: the realignment of a section of Hebden Road; the diversion of Yorks Creek; the relocation of Ravensworth Homestead; the demolition/relocation of the existing Glendell Mine Infrastructure Area (MIA) and construction of a new MIA or utilisation and augmentation of the existing MIA at Liddell or the Mount Owen Mine MIA.

It is noted that no State Heritage Register (SHR) items, under the *Heritage Act 1977*, are present within the proposed project area; however, there is a local heritage item, Ravensworth Homestead, listed as item I41 on the Singleton Local Environmental Plan (SLEP) 2013).

It is noted that Ravensworth Homestead was one of 19 places identified as a very early Homestead in a Heritage Council comparative study of Homestead Estates in the Hunter Valley (2013) and the Heritage Council NSW has recommended it for nomination on the State Heritage Register (SHR). The advice provided below is on the basis that this place is of State significance.

The accompanying report prepared by Umwelt, *Glendell Continued Operations Project, Preliminary Environmental Assessment* (PEA), outlining the background, the proposal, the planning context and key Environmental and Social issues to be assessed, dated May 2018, has been reviewed and following comments provided:

- The proposed relocation of state significant heritage items is not considered appropriate. The current context and setting of a heritage item, like Ravensworth Homestead, are significant values that contribute to the heritage significance of an item and their loss from a relocation is a major impact on its heritage values.

- The proposed relocation has the potential to result in catastrophic damage to the significant fabric of Ravensworth Homestead.
- Adaptive reuse of heritage items of buildings from the 1820s presents challenges and a new use can impact on the heritage values.
- A homestead of the era is likely to have a significant garden with early plantings and archaeology that will be lost as a result of the open cut mining activities.

Based on the above issues, it is recommended that the following SEARS be included:

1. The Environmental Impact Statement (EIS) must include a comprehensive Statement of Heritage Impacts which details all possible opportunities to keep Ravensworth Homestead in its original location.
2. The EIS must include a heritage assessment of current context and setting of Ravensworth Homestead, and identify any significant values that contribute to the heritage significance of an item whether their loss from a relocation would be a major impact on its heritage values.
3. However, if it can be demonstrated satisfactorily that relocation of the Ravensworth Homestead is the only option to ensure its preservation, the EIS must include a detailed work statement on how this relocation would be done, an analysis of where the homestead would be relocated to, timelines for relocation, a heritage significance assessment of the item in its new location and a detailed structural analysis which outlines whether the homestead is able to be relocated and what method of relocation would be best to ensure the homestead's survival during this process.
4. The EIS must outline proposed adaptive reuse ideas for the new homestead and outline whether there are any impacts from these new uses on the homestead fabric or significance.
5. The EIS must contain a heritage assessment of the existing garden and landscape immediately surrounding Ravensworth Homestead. If the EIS finds the existing garden is significant, a measured survey and recording of the garden and its features should be prepared by a suitably qualified landscape heritage consultant.
6. If significant garden features or planting are found the EIS must detail how they will be relocated or replicated at a new site.
7. The Applicant must undertake a comprehensive historical archaeological assessment prepared by a suitably qualified historical archaeologist in accordance with the Heritage Division, Office of Environment and Heritage Guidelines *Assessing Significance for Historical Archaeological Sites and 'Relics'* 2009. This assessment should identify what relics, if any, are likely to be present, assess their significance and consider the impacts from the proposal on this potential resource. Where harm is likely to occur, it is recommended that the significance of the relics be considered in determining an appropriate mitigation strategy. If harm cannot be avoided in whole or part, an appropriate Research Design and Excavation Methodology should also be prepared to guide any proposed excavations.

Please note that this advice does not relate to Aboriginal archaeological and cultural heritage values. A request for SEARs regarding Aboriginal cultural heritage and archaeology should be separately referred to the Regional Operations Planning Unit of the Office of Environment & Heritage.

In addition, the following list of documents are recommended to be included in the SEARs as policy and guideline reference material:

- **Heritage Council of NSW. Archaeological Assessments Guidelines 1996.**

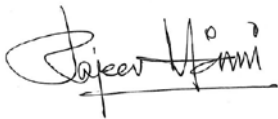
Which are located in Appendix 8.7 of Heritage Council of NSW, Local Government Guidelines March 2002

<http://www.environment.nsw.gov.au/resources/heritagebranch/heritage/localgovernment/heritageguidelines.pdf>

- **Heritage Council of NSW. Assessing significance for historical archaeological sites and relics 2009.**  
<http://www.environment.nsw.gov.au/resources/heritagebranch/heritage/ArchSignificance.pdf>
- **Heritage Council of NSW. Criteria for the Assessment of Excavation Directors. Updated 2011.**  
<http://www.environment.nsw.gov.au/resources/heritagebranch/heritage/excavationdirectors.pdf>

If you have any questions regarding the Glendell Continued Operations Project, please contact James Quoye, Senior Heritage Assessment Officer, at the Heritage Division, Office of Environment and Heritage on (02) 9873 8612 or [james.quoye@environment.nsw.gov.au](mailto:james.quoye@environment.nsw.gov.au).

Yours sincerely



**Rajeev Maini**  
**Acting Director, Heritage Operations**  
Heritage Division  
Office of Environment and Heritage  
**AS A DELEGATE OF NSW HERITAGE COUNCIL**  
31 May 2018

**From:** Chris Barker  
**To:** [Jack Murphy](#)  
**Subject:** DPE request for SEARs - Glendell Continued Operations Project - SSD 9349  
**Date:** Tuesday, 22 May 2018 11:07:43 AM

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Hi Jack,

Our environmental and development planning teams have no comments.

Thank you

**Chris Barker**

Team Leader Development Planning and Relations | Hunter Water Corporation  
36 Honeysuckle Drive Newcastle NSW 2300 | PO BOX 5171 HRMC NSW 2310  
T 02 4979 9564 | Twitter: [@hunterwater](#)  
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31 May 2018

Mr Jack Murphy  
Environmental Assessment Officer  
Resource Assessments - Planning Services  
GPO Box 39  
SYDNEY NSW 2001

Dear Mr Murphy

**GLENDELL CONTINUED OPERATIONS PROJECT – OPEN CUT COAL MINE – SSD 9349 - SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS (SEARs)**

I refer to your email of 17 May 2018 requesting input into the SEARs for the Glendell Continued Operations Project (the Project) located in the Singleton Local Government Area.

The proposed development seeks to extend the footprint of the current Glendell open cut coal mine by approximately 1050 hectares to the north, and extend the life of the current approval by 20 years until 2044. The production rate would eventually increase at Glendell pit from the currently approved maximum of 4.5 Mtpa to 10 Mtpa ROM coal, as two neighbouring pits reach their end of life. The current practice of transporting the ROM coal to the Mount Owen CHPP for washing will continue, and the annual limit of 17 Mtpa at the CHPP will be maintained. However the Project will require an extension of life for the Mount Owen CHPP for 14 years beyond the current approval until 2045. The Project includes other changes such as relocation of the mining infrastructure area, and realignment of roads and pipelines.

It is noted that the proponent has developed a comprehensive Stakeholder Engagement Strategy in line with the Department of Planning and Environment's Social Impact Assessment Guidelines. The Preliminary Environmental Assessment (PEA) also identified as key issues for inclusion in the Environmental Impact Assessment (EIS) environmental aspects that are most likely to impact on human health, including air quality, noise, surface water and groundwater, and social impacts.

Hunter New England Population Health (HNEPH) has reviewed the PEA and provides the following points to be further considered in the EIS.

**Stakeholder Consultation**

It is recommended that the proponent seeks additional specialist advice in relation to ensuring robust community engagement and stakeholder consultation processes.

**Human Health Risk Assessment**

It is noted in the PEA that public safety and health risks have been identified as "other issues" without specialist reports. It is recommended that the EIS include the requirement of a human health risk assessment that considers the potential adverse effects from human exposure to acute and cumulative project related environmental hazards, in line with Point 9 in Section 4 – General

**Hunter New England Local Health District**  
ABN 63 598 010 203

**Hunter New England Population Health**  
Locked Bag 10  
Wallsend NSW 2287  
Phone (02) 4924 6477 Fax (02) 4924 6490  
Email HNELHD-PHEnquiries@hnehealth.nsw.gov.au  
www.hnehealth.nsw.gov.au/hneph



Mr Jack Murphy  
31 May 2018

Standard SEARs in the Planning and Environment document *Critical State Significant Infrastructure Standard Secretary's Environmental Assessment Requirements (SEARs)* (December 2015). The assessment should be conducted in accordance with the enHealth document *Environmental Health Risk Assessment: Guidelines for assessing human health risk from environmental hazards* (2012) and be submitted as part of the EIS.

The assessment should include, but not be limited to:

- Assessment of the human exposure risks to acute and cumulative impact of noise,
- Air quality - particulates and cumulative impact of particulates with reference to the new standards for PM10 and PM2.5 published in 2016 and the proposed standards from 2025 which will prevail during the life of this Project (<http://www.nepc.gov.au/resource/variation-ambient-air-quality-nepm-%E2%80%93-particulates-standards>);
- The risk of contamination of stormwater and drinking water including ground water, surface water and rain water tanks.

When assessing health risks, both incremental changes in exposure from existing background pollutant levels and the cumulative impacts of specific and existing pollutant levels should be addressed at the location of receptors. Exposure should be assessed at the location of the most affected receptors and also for the other sensitive receptors which may include childcare centres, hospitals and aged care facilities. Consideration should also be given to the size of the population exposed to environmental hazards.

### **Potable Water Supply**

The PEA for the Project does not mention a potable water supply for the facilities and employees at Glendell open cut coal mine. It is expected that there is no town water supply to the site and therefore the assessment should include comment on issues associated with drinking water quality and rainwater tanks. The peak reference document in Australia for information in relation to rainwater tanks is enHealth's *Guidance on use of rainwater tanks* (2010), which is accessible at: <http://www.health.gov.au/internet/main/publishing.nsf/Content/ohp-enhealth-raintank-cnt.htm>

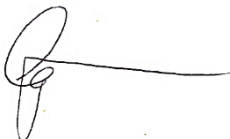
Businesses or facilities that supply drinking water from an independent water supply (i.e. not town water) need to follow the *NSW Health Private Water Supply Guidelines* (2014). The *Public Health Act 2010* and the *Public Health Regulation 2012* require drinking water suppliers, including private water suppliers, to develop and adhere to a 'quality assurance program' (or drinking water management system). Further information and templates can be found at: <http://www.health.nsw.gov.au/environment/water/Pages/private-supplies.aspx>

NSW Health recommends regular testing of drinking water at facilities with a private supply. If a private water supply is contaminated, or is not monitored or not treated then consumers should be warned.

We look forward to reviewing the proponent's EIS when on exhibition.

Should you require any additional information in relation to the above, please contact Ms Carolyn Herlihy, Environmental Health Officer on 4924 6477.

Yours sincerely



Dr Craig Dalton  
Acting Service Director - Health Protection



DOC18/318104-6  
SSD 18\_9349

Jack Murphy  
Environmental Assessment Officer, Resource Assessments  
Department of Planning and Environment  
[jack.murphy@planning.nsw.gov.au](mailto:jack.murphy@planning.nsw.gov.au)

Dear Jack

**Input into Secretary's Environmental Assessment Requirements – Proposed Glendell Continued Operations Project – 666 Hebden Road, Ravensworth (SSD 18\_9349)**

I refer to your e-mail dated 5 June 2018 in which the Department of Planning and Environment (DP&E) sought clarification from the Office of Environment and Heritage (OEH) on whether the Upper Hunter Strategic Assessment (UHSA) was an appropriate biodiversity assessment option to include in the Secretary's Environmental Assessment Requirements (SEARs) for the proposal to extend the mine life of the Glendell open cut coal mine.

OEH has considered this request and provides new SEARs (**Attachment A**) that replace the previous SEARs dated 30 May 2018. There are no project-specific SEARs provided for this project (**Attachment B**).

The proponent will need to ensure that the BDAR is fully consistent with the requirements of the BAM. Details of guidance documents to assist with this process 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.

Yours sincerely

A handwritten signature in dark ink, appearing to be 'SC', with a long horizontal stroke extending to the right.

**STEVEN COX**

**Senior Team Leader - Planning  
Hunter Central Coast Branch  
Regional Operations Division**

Enclosure: Attachments A, B, C

5 June 2018

## Attachment A – Standard environmental assessment requirements

<p><b>Biodiversity</b></p> <ol style="list-style-type: none"> <li>1. Biodiversity impacts related to the proposed development (SSD 18_9349) are to be assessed in accordance with the <a href="#">Biodiversity Assessment Method</a> (BAM) and documented in a Biodiversity Development Assessment Report (BDAR), or, subject to agreement with OEH and the consent authority, under the Upper Hunter Strategic Assessment (UHSA).</li> <li>2. If assessed under BAM, the BDAR must include information in the form detailed in the <i>Biodiversity Conservation Act 2016</i> (s6.12), <i>Biodiversity Conservation Regulation 2017</i> (s6.8) and <a href="#">Biodiversity Assessment Method</a>.</li> <li>3. If assessed under BAM, 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 <a href="#">Biodiversity Assessment Method</a>.</li> <li>4. If assessed under BAM, the BDAR must include details of the measures proposed to address the offset obligation as follows; <ul style="list-style-type: none"> <li>• The total number and classes of biodiversity credits required to be retired for the development/project;</li> <li>• The number and classes of like-for-like biodiversity credits proposed to be retired;</li> <li>• The number and classes of biodiversity credits proposed to be retired in accordance with the variation rules;</li> <li>• Any proposal to fund a biodiversity conservation action;</li> <li>• Any proposal to conduct ecological rehabilitation (if a mining project);</li> <li>• Any proposal to make a payment to the Biodiversity Conservation Fund.</li> </ul> <p>If seeking approval to use the variation rules, the BDAR must contain details of the <a href="#">reasonable steps</a> that have been taken to obtain requisite like-for-like biodiversity credits.</p> <li>5. If assessed under BAM, 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 <i>Biodiversity Conservation Act 2016</i>.</li> </li></ol>
<p><b>Aboriginal cultural heritage</b></p> <ol style="list-style-type: none"> <li>6. 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 <a href="#">Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (DECCW, 2011)</a> and consultation with OEH regional branch officers.</li> <li>7. Consultation with Aboriginal people must be undertaken and documented in accordance with the <a href="#">Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW)</a>. The significance of cultural heritage values for Aboriginal people who have a cultural association with the land must be documented in the ACHAR.</li> </ol>

8. 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**

9. 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**

10. 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.

<p>11. The EIS must describe background conditions for any water resource likely to be affected by the development, including:</p> <ol style="list-style-type: none"> <li>Existing surface and groundwater.</li> <li>Hydrology, including volume, frequency and quality of discharges at proposed intake and discharge locations.</li> <li>Water Quality Objectives (as endorsed by the NSW Government <a href="http://www.environment.nsw.gov.au/ieo/index.htm">http://www.environment.nsw.gov.au/ieo/index.htm</a>) including groundwater as appropriate that represent the community's uses and values for the receiving waters.</li> <li>Indicators and trigger values/criteria for the environmental values identified at (c) in accordance with the <a href="#">ANZECC (2000) Guidelines for Fresh and Marine Water Quality</a> and/or local objectives, criteria or targets endorsed by the NSW Government.</li> </ol>
<p>12. The EIS must assess the impacts of the development on water quality, including:</p> <ol style="list-style-type: none"> <li>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.</li> <li>Identification of proposed monitoring of water quality.</li> </ol>
<p>13. The EIS must assess the impact of the development on hydrology, including:</p> <ol style="list-style-type: none"> <li>Water balance including quantity, quality and source.</li> <li>Effects to downstream rivers, wetlands, estuaries, marine waters and floodplain areas.</li> <li>Effects to downstream water-dependent fauna and flora including groundwater dependent ecosystems.</li> <li>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).</li> <li>Changes to environmental water availability, both regulated/licensed and unregulated/rules-based sources of such water.</li> <li>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.</li> <li>Identification of proposed monitoring of hydrological attributes.</li> </ol>
<p><b>Flooding and coastal erosion</b></p>
<p>14. The EIS must map the following features relevant to flooding as described in the Floodplain Development Manual 2005 (NSW Government 2005) including:</p> <ol style="list-style-type: none"> <li>Flood prone land.</li> <li>Flood planning area, the area below the flood planning level.</li> <li>Hydraulic categorisation (floodways and flood storage areas).</li> </ol>
<p>15. 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.</p>



16. 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.

17. 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.

18. 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 affection 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 of 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**

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<b>Biodiversity</b> - nil
<b>Aboriginal cultural heritage</b> - nil
<b>Historic heritage</b> - nil
<b>Water and soils</b> - nil
<b>Flooding and coastal erosion</b> - nil

## Attachment C – Guidance material

Title	Web address
<b>Relevant legislation</b>	
<i>Biodiversity Conservation Act 2016</i>	<a href="https://www.legislation.nsw.gov.au/#/view/act/2016/63/full">https://www.legislation.nsw.gov.au/#/view/act/2016/63/full</a>
<i>Coastal Management Act 2016</i>	<a href="https://www.legislation.nsw.gov.au/#/view/act/2016/20/full">https://www.legislation.nsw.gov.au/#/view/act/2016/20/full</a>
<i>Commonwealth Environment Protection and Biodiversity Conservation Act 1999</i>	<a href="http://www.austlii.edu.au/au/legis/cth/consol_act/epabca1999588/">http://www.austlii.edu.au/au/legis/cth/consol_act/epabca1999588/</a>
<i>Environmental Planning and Assessment Act 1979</i>	<a href="http://www.legislation.nsw.gov.au/maintop/view/inforce/act+203+1979+cd+0+N">http://www.legislation.nsw.gov.au/maintop/view/inforce/act+203+1979+cd+0+N</a>
<i>Fisheries Management Act 1994</i>	<a href="http://www.legislation.nsw.gov.au/maintop/view/inforce/act+38+1994+cd+0+N">http://www.legislation.nsw.gov.au/maintop/view/inforce/act+38+1994+cd+0+N</a>
<i>Marine Parks Act 1997</i>	<a href="http://www.legislation.nsw.gov.au/maintop/view/inforce/act+64+1997+cd+0+N">http://www.legislation.nsw.gov.au/maintop/view/inforce/act+64+1997+cd+0+N</a>
<i>National Parks and Wildlife Act 1974</i>	<a href="http://www.legislation.nsw.gov.au/maintop/view/inforce/act+80+1974+cd+0+N">http://www.legislation.nsw.gov.au/maintop/view/inforce/act+80+1974+cd+0+N</a>
<i>Protection of the Environment Operations Act 1997</i>	<a href="http://www.legislation.nsw.gov.au/maintop/view/inforce/act+156+1997+cd+0+N">http://www.legislation.nsw.gov.au/maintop/view/inforce/act+156+1997+cd+0+N</a>
<i>Water Management Act 2000</i>	<a href="http://www.legislation.nsw.gov.au/maintop/view/inforce/act+92+2000+cd+0+N">http://www.legislation.nsw.gov.au/maintop/view/inforce/act+92+2000+cd+0+N</a>
<i>Wilderness Act 1987</i>	<a href="http://www.legislation.nsw.gov.au/viewtop/inforce/act+196+1987+FIRST+0+N">http://www.legislation.nsw.gov.au/viewtop/inforce/act+196+1987+FIRST+0+N</a>
<b>Biodiversity</b>	
Biodiversity Assessment Method (OEH, 2017)	<a href="http://www.environment.nsw.gov.au/resources/bcact/biodiversity-assessment-method-170206.pdf">http://www.environment.nsw.gov.au/resources/bcact/biodiversity-assessment-method-170206.pdf</a>
<u>Biodiversity Certification Assessment Methodology</u>	<a href="http://www.environment.nsw.gov.au/resources/biocertification/110170biocertassessmeth.pdf">http://www.environment.nsw.gov.au/resources/biocertification/110170biocertassessmeth.pdf</a>
<u>Biobanking Assessment Methodology 2014</u>	<a href="http://www.environment.nsw.gov.au/resources/biobanking/140661BBAM.pdf">http://www.environment.nsw.gov.au/resources/biobanking/140661BBAM.pdf</a>
Guidance and Criteria to assist a decision maker to determine a serious and irreversible impact (OEH, 2017)	<a href="http://www.environment.nsw.gov.au/resources/bcact/guidance-decision-makers-determine-serious-irreversible-impact-170204.pdf">http://www.environment.nsw.gov.au/resources/bcact/guidance-decision-makers-determine-serious-irreversible-impact-170204.pdf</a>
NSW Guide to Surveying Threatened Plant	<a href="http://www.environment.nsw.gov.au/resources/threatenedspecies/160129-threatened-plants-survey-guide.pdf">http://www.environment.nsw.gov.au/resources/threatenedspecies/160129-threatened-plants-survey-guide.pdf</a>
Fisheries NSW policies and guidelines	<a href="http://www.dpi.nsw.gov.au/fisheries/habitat/publications/policies,-guidelines-and-manuals/fish-habitat-conservation">http://www.dpi.nsw.gov.au/fisheries/habitat/publications/policies,-guidelines-and-manuals/fish-habitat-conservation</a>
List of national parks	<a href="http://www.environment.nsw.gov.au/NationalParks/parksearchatoz.aspx">http://www.environment.nsw.gov.au/NationalParks/parksearchatoz.aspx</a>
Revocation, recategorisation and road adjustment policy (OEH, 2012)	<a href="http://www.environment.nsw.gov.au/policies/RevocationOfLandPolicy.htm">http://www.environment.nsw.gov.au/policies/RevocationOfLandPolicy.htm</a>
Guidelines for developments adjoining land and water managed by the Department of Environment, Climate Change and Water (DECCW, 2010)	<a href="http://www.environment.nsw.gov.au/protectedareas/developmentadjoiningdecc.htm">http://www.environment.nsw.gov.au/protectedareas/developmentadjoiningdecc.htm</a>
<b>Heritage</b>	
The Burra Charter (The Australia ICOMOS charter for places of cultural significance)	<a href="http://australia.icomos.org/wp-content/uploads/The-Burra-Charter-2013-Adopted-31.10.2013.pdf">http://australia.icomos.org/wp-content/uploads/The-Burra-Charter-2013-Adopted-31.10.2013.pdf</a>

Title	Web address
Statements of Heritage Impact 2002 (HO & DUAP)	<a href="http://www.environment.nsw.gov.au/resources/heritagebranch/heritage/hmstatementsofhi.pdf">http://www.environment.nsw.gov.au/resources/heritagebranch/heritage/hmstatementsofhi.pdf</a>
NSW Heritage Manual (DUAP) (scroll through alphabetical list to 'N')	<a href="http://www.environment.nsw.gov.au/Heritage/publications/">http://www.environment.nsw.gov.au/Heritage/publications/</a>
<b>Aboriginal cultural heritage</b>	
Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW, 2010)	<a href="http://www.environment.nsw.gov.au/resources/cultureheritage/commconsultation/09781ACHconsultreq.pdf">http://www.environment.nsw.gov.au/resources/cultureheritage/commconsultation/09781ACHconsultreq.pdf</a>
Code of Practice for the Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW, 2010)	<a href="http://www.environment.nsw.gov.au/resources/cultureheritage/10783FinalArchCoP.pdf">http://www.environment.nsw.gov.au/resources/cultureheritage/10783FinalArchCoP.pdf</a>
Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW (OEH 2011)	<a href="http://www.environment.nsw.gov.au/resources/cultureheritage/20110263ACHguide.pdf">http://www.environment.nsw.gov.au/resources/cultureheritage/20110263ACHguide.pdf</a>
Aboriginal Site Recording Form	<a href="http://www.environment.nsw.gov.au/resources/parks/SiteCardMainV1_1.pdf">http://www.environment.nsw.gov.au/resources/parks/SiteCardMainV1_1.pdf</a>
Aboriginal Site Impact Recording Form	<a href="http://www.environment.nsw.gov.au/resources/cultureheritage/120558asirf.pdf">http://www.environment.nsw.gov.au/resources/cultureheritage/120558asirf.pdf</a>
Aboriginal Heritage Information Management System (AHIMS) Registrar	<a href="http://www.environment.nsw.gov.au/contact/AHIMSRegistrar.htm">http://www.environment.nsw.gov.au/contact/AHIMSRegistrar.htm</a>
Care Agreement Application form	<a href="http://www.environment.nsw.gov.au/resources/cultureheritage/20110914TransferObject.pdf">http://www.environment.nsw.gov.au/resources/cultureheritage/20110914TransferObject.pdf</a>
<b>Acid sulphate soils</b>	
Acid Sulfate Soils Planning Maps via Data.NSW	<a href="http://data.nsw.gov.au/data/">http://data.nsw.gov.au/data/</a>
Acid Sulfate Soils Manual (Stone et al. 1998)	<a href="http://www.environment.nsw.gov.au/resources/epa/Acid-Sulfate-Manual-1998.pdf">http://www.environment.nsw.gov.au/resources/epa/Acid-Sulfate-Manual-1998.pdf</a>
Acid Sulfate Soils Laboratory Methods Guidelines (Ahern et al. 2004)	<a href="http://www.environment.nsw.gov.au/resources/soils/acid-sulfate-soils-laboratory-methods-guidelines.pdf">http://www.environment.nsw.gov.au/resources/soils/acid-sulfate-soils-laboratory-methods-guidelines.pdf</a> This replaces Chapter 4 of the Acid Sulfate Soils Manual above.
<b>Flooding and coastal erosion</b>	
Reforms to coastal erosion management	<a href="http://www.environment.nsw.gov.au/coasts/coastalerosionmgmt.htm">http://www.environment.nsw.gov.au/coasts/coastalerosionmgmt.htm</a>
Floodplain development manual	<a href="http://www.environment.nsw.gov.au/floodplains/manual.htm">http://www.environment.nsw.gov.au/floodplains/manual.htm</a>
Guidelines for Preparing Coastal Zone Management Plans	Guidelines for Preparing Coastal Zone Management Plans <a href="http://www.environment.nsw.gov.au/resources/coasts/130224CZMPGuide.pdf">http://www.environment.nsw.gov.au/resources/coasts/130224CZMPGuide.pdf</a>
NSW Climate Impact Profile	<a href="http://climatechange.environment.nsw.gov.au/">http://climatechange.environment.nsw.gov.au/</a>
Climate Change Impacts and Risk Management	<a href="#">Climate Change Impacts and Risk Management: A Guide for Business and Government, AGIC Guidelines for Climate Change Adaptation</a>
<b>Water</b>	
Water Quality Objectives	<a href="http://www.environment.nsw.gov.au/ieo/index.htm">http://www.environment.nsw.gov.au/ieo/index.htm</a>
ANZECC (2000) Guidelines for Fresh and Marine Water Quality	<a href="http://www.environment.gov.au/water/publications/quality/australian-and-new-zealand-guidelines-fresh-marine-water-quality-volume-1">www.environment.gov.au/water/publications/quality/australian-and-new-zealand-guidelines-fresh-marine-water-quality-volume-1</a>

Title	Web address
Applying Goals for Ambient Water Quality Guidance for Operations Officers – Mixing Zones	<a href="http://deccnet/water/resources/AWQGuidance7.pdf">http://deccnet/water/resources/AWQGuidance7.pdf</a>
Approved Methods for the Sampling and Analysis of Water Pollutant in NSW (2004)	<a href="http://www.environment.nsw.gov.au/resources/legislation/approvedmethods-water.pdf">http://www.environment.nsw.gov.au/resources/legislation/approvedmethods-water.pdf</a>



Our Ref: DOC18/341699

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

By email: [jack.murphy@planning.nsw.gov.au](mailto:jack.murphy@planning.nsw.gov.au)

**Glendell Mine**  
**Glendell Continued Operations Project (SSD – 9349)**

Dear Jack

I refer to the Department's email dated 17 May 2018 inviting the Resources Regulator to provide Secretary's Environmental Assessment Requirements (SEARs) for Project Glendell Continued Operations Project (SSD-9349).

The project will involve the:

- Diversion of Yorks Creek.
- Relocation of Hebden Road.
- Construction of a Mining Infrastructure Area.
- Construction of a heavy vehicle access road.
- Relocation of a water transfer pipeline between Mt Owen and Ravensworth Operations.
- Potential use of Liddell voids for tailings disposal.
- Rehabilitation of areas disturbed by mining activity.

The Resources Regulator has reviewed the SEE in the context of both mine safety and mine rehabilitation and recommends that:

- a) The standard mining development rehabilitation SEARs, provided in the **Advice Response** section, be applied to this project.
- b) The following SEARs be applied due to the identification of potential risk(s) as noted in the Project Details & Assessment section above:

Where a creek diversion is proposed:

- (i) a geotechnical assessment of the proposed location of the diversion to identify risks with regard to stability during construction and for long term (post mining);
- (ii) a detailed design that identifies and demonstrates how the risks identified above would be managed to meet objectives for the ecological function of the diversion, integration with surrounding land uses, as well as final

landuse, and for water quality with consideration given to the water source and volume and flow velocity.

- (iii) an assessment of constraints and opportunities with regard to soils salvaged during channel decommissioning and final land uses.

These non-standard SEARs are in addition to the standard SEARs and are also included in the Advice Response section.

Should you have any questions of the Resources Regulator over this matter, please don't hesitate to contact me on 4063 6444.

Yours sincerely

A handwritten signature in dark ink, appearing to be 'Matthew Newton', with a long horizontal stroke extending to the right.

Matthew Newton  
Director Compliance Operations  
NSW Resources Regulator

29 May 2018



## 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 preliminary 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 assumptions (eg. production milestones) 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) 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.

The following risks have been identified that require the application of non-standard SEARs:

- (s) Where a creek diversion is proposed:
- (i) a geotechnical assessment of the proposed location of the diversion to identify risks with regard to stability during construction and for long term (post mining);
  - (ii) a detailed design that identifies and demonstrates how the risks identified above would be managed to meet objectives for the ecological function of the diversion, integration with surrounding land uses , as well as final landuse,, and for water quality with consideration given to the water source and volume and flow velocity; and
  - (iii) an assessment of constraints and opportunities with regard to soils salvaged during channel decommissioning and final land uses.

<sup>1</sup> 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  
NSW Department of Planning & Environment  
GPO Box 39  
SYDNEY NSW 2001

Your reference: SSD 9340  
Our reference: D18/5644  
DA18052113160AB

Attention: Mr Jack Murphy

1 June 2018

Dear Mr Murphy

**Agency Comment: Request for SEARs (SSD 9340) - Glendell Continued Operations Project - Open Cut Coal Mine - 666 Hebden Road, Ravensworth**

I refer to your correspondence dated 17 May 2018 seeking comments from the NSW Rural Fire Service (NSW RFS) with respect to the above State Significant Development (SSD) application.

The NSW RFS understands the SSD application seek approvals the following development activities:

- *Extension of the open cut coal mining void to the north of the current operations;*
- *Relocation of Ravensworth homestead;*
- *Realignment of Hebden Road;*
- *Diversion of Yorks Creek;*
- *Relocation of the mining infrastructure area;*
- *Relocation of existing water transfer pipeline.*

The NSW RFS is the primary response agency for either bush/grass or structural fires impacting on the development and associated infrastructure.

The NSW RFS has reviewed the Preliminary Environment Assessment report provided with the SSD referral and provides the following comment:

The EA shall include the following information:

- › identification of bush fire prone land within 140 metres of the proposed development;
- › the aims and objectives of 'Planning for Bushfire Protection 2006';

- › identification of potential ignition sources during construction and operation of the development (including spontaneous ignition sources);
- › storage of fuels and other hazardous materials including any explosives for blasting;
- › stockpiling of mulched vegetation;
- › proposed bushfire protection measures for the development, including vegetation management and fire suppression capabilities;
- › operational access for fire fighting appliances to the site; and
- › emergency and evacuation planning.

For any queries regarding this correspondence please contact Alan Bawden on 6691 0400.

Yours Sincerely



**John Ball**  
**Manager - Customer Service Centre Coffs Harbour**

*The RFS has made getting information easier. For general information on 'Planning for Bush Fire Protection, 2006', visit the RFS web page at [www.rfs.nsw.gov.au](http://www.rfs.nsw.gov.au) and search under 'Planning for Bush Fire Protection, 2006'.*



23 May 2018

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

**Attention: Jack Murphy**

**SEARS 9349 – GLENDELL CONTINUED OPERATIONS PROJECT – OPEN CUT COAL MINE, 666 Hebden Road.**

Reference is made to Department of Planning and Environment's email dated 17 May 2018, requesting Roads and Maritime Services' (Roads and Maritime) requirements under Schedule 2 of the *Environmental Planning and Assessment Regulation 2000* for the Environmental Impact Statement (EIS) for the proposed Glendell Continued Operations Project – Open cut coal mine at 666 Hebden Road, Ravensworth.

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 Preliminary Environmental Assessment, prepared by Umwelt(Australia) Pty Limited, and dated May 2018, and provides the following comments:

Roads and Maritime understands the development to be for the extension of the life of coal mining operations at Glendell to approximately 2044 this proposed extension would extract an additional 140 million tonnes (Mt), approximately, of run-of-mine (ROM) coal.

Roads and Maritime response & requirements

The 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, and,
- Section 2 Traffic Impact Studies of Roads and Maritime's *Guide to Traffic Generating Developments 2002*.

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.
- 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.
- 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
  - 95<sup>th</sup> percentile back of queue lengths
  - Delays and level of service on all legs for the relevant intersections
  - Electronic data for Roads and Maritime review.
- 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 4924 0688 or by emailing [development.hunter@rms.nsw.gov.au](mailto:development.hunter@rms.nsw.gov.au).

Yours sincerely



**Peter Marler**  
 Manager Land Use Assessment  
 Hunter Region





Jack Murphy  
Environmental Assessment Officer  
Resource Assessments | Planning Services  
NSW Department of Planning and Environment  
GPO Box 39  
SYDNEY NSW 2001

Dear Mr Murphy

**Glendell Continued Operations Project – Open cut coal mine**

I refer to your email dated 17 May 2018 inviting comment in relation to the requirements of the Secretary of the Department of Planning and Environment for the preparation of an Environmental Impact Statement for the Glendell Continued Operation Project. Subsidence Advisory NSW (SA NSW) understands the project involves the extension of the existing open cut mining operations until approximately 2044.

The project involves the realignment and relocation of infrastructure directly associated with the mine extension. As the proposed project and open cut mine is located within the Patrick Plains Mine Subsidence District, it should be noted development applications for infrastructure relocation will require SA NSW approval prior to construction.

If you would like to discuss this further, please don't hesitate to contact me by email at [matthew.montgomery@finance.nsw.gov.au](mailto:matthew.montgomery@finance.nsw.gov.au) or by phone on 0425 275 564.

Yours sincerely

**Matthew Montgomery**  
Infrastructure Manager, Subsidence Advisory NSW

31<sup>st</sup> May 2018

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

Dear Mr Murphy

**Request for SEARs – Glendell Continued Operations Project  
Open cut coal mine (SSD 9349)**

Thank you for your correspondence dated 17 May 2018 requesting Transport for NSW (TfNSW) provide input to the Secretary's Environmental Assessment Requirements (SEARs) for the subject proposed development.

TfNSW has reviewed the documentation and provides the following comment for inclusion in the SEARs:

- An assessment of the likely transport impacts of the development on the capacity, safety and efficiency of the rail network and the local State road network.

The transport assessment should address the relevant planning provisions, goals and strategic planning objectives in the following:

- Future Transport 2056 and supporting documents
- Draft NSW Freight and Ports Plans
- Guide to Traffic Generating Developments (RMS)
- Austroads Guide to Traffic Management Part 12: Traffic Impacts of Development.

If you have any further questions, Mr Lee Farrell, Transport Planner, Land Use Planning and Development, would be pleased to take your call on (02) 8265 9943. I hope this has been of assistance.

Yours sincerely



31/5/2018

Mark Ozinga  
Principal Manager, Land Use Planning and Development  
**Freight, Strategy and Planning**

CD18/04704