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Dear Ms Cavaleri,

I refer to the request for the NSW Environment Protection Authority (EPA) requirements for the Secretary's Environmental Assessment Requirements (SEARs) for the proposed "Taronga Tin Mine" (SSD-74389710).

The EPA understands the proposal involves the construction and operation of an open cut tin mine and associated infrastructure including waste rock piles, tailings storage, onsite power generation, internal roads, water management works, magazine and maintenance and administration facilities. Up to 80.3 million tonnes of materials will be extracted over the life of mine, including around 39.7 million tonnes of tin ore. Up to 5 million tonnes of ore will be processed onsite annually to produce tin concentrate, with up to 7,300 tonnes of tin concentrate to be transported via road annually.

The EPA has considered the details of the proposal as provided by the Department of Planning, Housing and Infrastructure (DPHI) and has identified the information it requires to assess the application in **Attachment A**.

In summary, the EPA's key information requirements for the proposal include an assessment of:

1. Human Health Risk

Identify and assess human health risks associated with the construction and operation of the project. The assessment must be undertaken in accordance with *Environmental Health Risk Assessment: Guidelines for assessing human health risks from environmental hazards (enHealth)* and must include the inhalation of criteria pollutants and exposure from all pathways i.e., inhalation, ingestion and dermal to specific air toxics.

2. Air Quality

Identify and assess the potential air quality impacts from the proposal and detail the management and mitigation measures for those impacts. The assessment must be suitable to inform the human health risk assessment.

3. Noise, Vibration and Blasting

Identify and assess the potential noise, vibration and blasting impacts from the proposal and detail the management and mitigation measures for those impacts.

4. Waste, Chemicals and Hazardous Materials

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Detail the management of waste, chemicals and hazardous materials associated with the proposal. Provide a characterisation any tailings and any potentially acid forming materials associated with the proposal.

5. Surface Water and Groundwater

Identify and assess the potential impacts to surface and groundwaters from the proposal and detail the management and mitigation measures for those impacts.

6. Greenhouse Gas and Climate Change

Assess greenhouse gas impacts and climate change risks including how risks and impacts will be managed.

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

To assist the EPA in assessing the EIS, it is requested that the EIS document follow the format of DPHI's EIS guidelines and addresses the EPA's specific requirements outlined in the following attachments. If the necessary information is not adequately addressed in the EIS then delays in the development assessment process may occur.

The Proponent should be made aware that any commitments made in the Environmental Impact Statement (EIS) may be formalised as approval conditions and may also be placed as formal licence conditions.

The EPA notes that the existing activities at the premises are subject to Environmental Protection Licence (EPL) Number 21160. Based on the information provided to the EPA, the proponent will require an Environment Protection Licence ("EPL") for Mineral Processing and Mining for Minerals, Clause 27 and Clause 29 of Schedule 1 of the *Protection of the Environment Operations Act 1997* ("POEO Act"), to operate the proposed Mine.

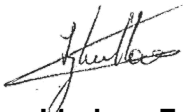
The proponent will need to make a separate application to the EPA to vary the licence at the completion of the assessment process should the proposal be approved. General information on licence requirements can be obtained from the EPA's Environment Line by calling 131 555 or on the EPA's website at www.epa.nsw.gov.au/licensing/licencePOEO.htm.

The Proponent should be made aware that, consistent with provisions under Part 9.4 of the POEO Act, the EPA may require the provision of a financial assurance and/or assurances. The amount and form of the assurance(s) would be determined by the EPA and be required as a condition of an EPL.

In addition, as a requirement of an EPL, the EPA will require the Proponent to prepare, test and implement a Pollution Incident Response Management Plan and/or Plans in accordance with Section 153A of the Act.

If you have any queries regarding this matter, please contact Jasmine Walden (Senior Operations Officer) on (02) 6773 7000 or at info@epa.nsw.gov.au.

Yours sincerely,



Lindsay Fulloon
Manager Operations
Western Districts



ATTACHMENT A: Environmental Assessment Requirements – Taronga Tin Mine, SSD-74389710

Environmental impacts of the project

- 1.1. The EIS must address the requirements of Section 45 of the *Protection of the Environment Operations Act 1997* (POEO Act) by determining the extent of each impact and providing sufficient information to enable the EPA to determine appropriate conditions, limits and monitoring requirements for an Environment Protection Licence (EPL).
- 1.2. Impacts related to the following environmental issues need to be assessed, quantified and reported on:
 - **Human Health Risk Assessment** - Identify and assess human health risks associated with the construction and operation of the project. The assessment must be undertaken in accordance with *Environmental Health Risk Assessment: Guidelines for assessing human health risks from environmental hazards (enHealth)* and must include the inhalation of criteria pollutants and exposure from all pathways i.e., inhalation, ingestion and dermal to specific air toxics.
 - **Air Quality** - Identify and assess the potential air quality impacts from the proposal and detail the management and mitigation measures for those impacts. The assessment must be suitable to inform the human health risk assessment.
 - **Noise, Vibration and Blasting** - Identify and assess the potential noise, vibration and blasting impacts from the proposal and detail the management and mitigation measures for those impacts.
 - **Waste, Chemicals and Hazardous Materials** - Detail the management of waste, chemicals and hazardous materials associated with the proposal. Provide a characterisation any tailings and any potentially acid forming materials associated with the proposal to inform assessment of potential impacts to surface and groundwaters.
 - **Surface Water and Groundwater** - Identify and assess the potential impacts to surface and groundwaters from the proposal and detail the management and mitigation measures for those impacts.
 - **Greenhouse Gas and Climate Change** - Assess greenhouse gas impacts and climate change risks including how risks and impacts will be managed.

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.

2. Licensing requirements

- 2.1. The development is a scheduled activity under the *Protection of the Environment Operations Act 1997* (POEO Act) and will therefore require an Environment Protection Licence (EPL) if approval is granted.

- 2.2. Should project approval be granted, the proponent will need to make an application to the EPA to vary EPL 21160 prior to commencing the development. Additional information is available through the *EPA Guide to Licensing* document (www.epa.nsw.gov.au/licensing/licenceguide.htm).

SPECIFIC ISSUES

3. Human Health Risk Assessment

- 3.1. The EIS must include a human health risk assessment undertaken in accordance with *Environmental Health Risk Assessment: Guidelines for assessing human health risks from environmental hazards* (enHealth) (2012) available at: <https://www.health.gov.au/resources/publications/enhealth-guidance-guidelines-for-assessing-human-health-risks-from-environmental-hazards?language=en>. The assessment must include the inhalation of criteria pollutants and exposure from all pathways i.e., inhalation, ingestion and dermal to specific air toxics.

4. Air Quality

- 4.1. The EIS must 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 (2002)*.
- 4.2. The EIS must include an air quality impact assessment (AQIA). The AQIA must be carried out in accordance with the document, *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW* (2022), available at: <https://www.epa.nsw.gov.au/your-environment/air/industrial-emissions/approved-methods-for-the-modelling-and-assessment-of-air-pollutants>.
- 4.3. Air dispersion modelling must be conducted in accordance with: *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW* (2022) <https://www.epa.nsw.gov.au/your-environment/air/industrial-emissions/approved-methods-for-the-modelling-and-assessment-of-air-pollutants>; and Generic Guidance and Optimum Model Settings for the CALPUFF Modelling System for Inclusion into the 'Approved Methods for the Modelling and Assessments of Air Pollutants in NSW Australia' (TRC Environmental Corporation, 2011) <https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/air/calpuffmodelguidance.pdf>
- 4.4. The EIS must detail emission control techniques/practices that will be employed at the site and identify how the proposed control techniques/practices will meet the requirements of the POEO Act, *POEO (Clean Air) Regulation* and associated air quality limits or guideline criteria.
- 4.5. The EIS must identify all sensitive receptors in proximity to the proposed development and present the potential impacts on those receptors including worst case scenarios.

5. Noise, Vibration and Blasting

The EIS must assess the following noise and vibration aspects of the proposed development.

- 5.1. Construction noise associated with the proposed development should be assessed using the *Interim Construction Noise Guideline* (DECC, 2009). These are available at: <https://www.epa.nsw.gov.au/your-environment/noise/industrial-noise/construction-noise>.

- 5.2. 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). These are available at: <https://www.epa.nsw.gov.au/your-environment/noise/industrial-noise/assessing-vibration>.
- 5.3. If blasting is required for any reasons during the construction or operational stage of the proposed development, blast impacts should be demonstrated to be capable of complying with the guidelines contained in *Australian and New Zealand Environment Council – Technical basis for guidelines to minimise annoyance due to blasting overpressure and ground vibration* (ANZEC, 1990). These are available at: <https://www.epa.nsw.gov.au/your-environment/noise/industrial-noise/interim-construction-noise-guideline>.
- 5.4. Operational noise from all industrial activities (including private haul roads and private railway lines) to be undertaken on the premises should be assessed using the guidelines contained in the *NSW Noise Policy for Industry* (EPA, 2017). [https://www.epa.nsw.gov.au/your-environment/noise/industrial-noise/noise-policy-for-industry-\(2017\)](https://www.epa.nsw.gov.au/your-environment/noise/industrial-noise/noise-policy-for-industry-(2017)).
- 5.5. 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* and associated application notes (EPA, 2011). <https://www.epa.nsw.gov.au/your-environment/noise/transport-noise>

6. Waste, Chemicals and Hazardous Materials

- 6.1. The EIS must assess all aspects of waste generation, management and disposal associated with the proposed development.
- 6.2. The EIS must demonstrate compliance with all regulatory requirements outlined in the POEO Act and associated waste regulations.
- 6.3. The EIS must identify, characterise and classify the following in accordance with the EPA's *Waste Classification Guidelines (2014)* and associated addendums:
 - (i) All waste that will be generated onsite through excavation, demolition or construction activities, including proposed quantities of the waste.
 - (ii) All waste that is proposed to be disposed of to an offsite location, including proposed quantities of the waste and the disposal locations for the waste. This includes waste that is intended for re-use or recycling.

Note: The EPA's *Waste Classification Guidelines (2014)* and associated addendums are available at: <https://www.epa.nsw.gov.au/your-environment/waste/classifying-waste>

- 6.4. The EIS must address:
 - (i) The quantity of spoil and potentially acid forming materials likely to be generated.
 - (ii) Strategies for the handling, stockpiling, reuse/recycling and disposal of spoil.
 - (iii) The likelihood of contaminated material, and where relevant, measures for the management of any contaminated material.
 - (iv) Strategies for the management of potentially acid forming materials exposed or stockpiled during construction and/or operations to prevent acid drainage and protect surface waters and groundwaters and soils/land from contamination.
 - (v) Treatment of leachate through a wastewater treatment plant (if applicable).
- 6.5. The EIS must outline contingency plans for any event that may result in environmental harm, such as excessive stockpiling of material, or dirty water volumes exceeding the storage capacity available on-site.

- 6.6. The EIS must address the type and quantify of any chemical substances to be used or stored and describe arrangement for their safe use and storage.
- 6.7. The EIS must demonstrate that appropriate spill containment will be provided for storage, filling and loading of all fuels and other chemicals to be used on site, in accordance with the relevant Australian Standard.

7. Surface Water and Groundwater

- 7.1. The EIS must demonstrate how the proposed development will meet the requirements of section 120 of the POEO Act.
- 7.2. The EIS must 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.
- 7.3. If the proposed development intends to discharge waters to the environment, the EIS must demonstrate how the discharge(s) will be managed in terms of water quantity, quality and frequency of discharge and include an impact assessment of the discharge on the receiving environment. This should include:
 - (i) Description of the proposal including position of any intakes and discharges, volumes, water quality and frequency of all water discharges.
 - (ii) Description of the receiving waters including upstream and downstream water quality as well as any other water users, including groundwater users.
 - (iii) Demonstration that all practical options to avoid discharge have been implemented and environmental impact minimised where discharge is necessary.
 - (iv) Characterisation of any contaminated tailings and leachate generated from potentially acid forming materials.
- 7.4. The EIS must refer to Water Quality Objectives for the receiving waters and indicators and associated trigger values or criteria for the identified environmental values of the receiving environment. This information should be sourced from the ANZECC (2018) Guidelines for Fresh and Marine Water Quality, available at: <https://www.waterquality.gov.au/anz-guidelines>
- 7.5. The EIS must describe how stormwater will be managed in all phases of the project, including details of how stormwater and runoff will be managed to minimise pollution. Information should include measures to be implemented to minimise erosion, leachate and sediment mobilisation at the site. The EIS should consider the guidelines *Managing urban stormwater: soils and construction*, vol. 1 (Landcom 2004) and vol. 2 (A. Installation of services; C. Unsealed roads; D. Main Roads; E. Mines and quarries) (DECC, 2008).
- 7.6. The EIS must describe any water quality monitoring programs to be carried out at the project site. Water quality monitoring should be undertaken in accordance with the *Approved Methods for the Sampling and Analysis of Water Pollutants in NSW* (2022) which is available at: <https://www.epa.nsw.gov.au/licensing-and-regulation/licensing/environment-protection-licences/licensing-under-poeo-act-1997/licensing-to-regulate-water-pollution/approved-methods-for-sampling-and-analysing-water-pollutants>
- 7.7. The EIS must include a hydrogeological impact assessment addressing:
 - (i) The long-term fate of contaminants.
 - (ii) An assessment of potential impacts on groundwater quality.
 - (iii) Proposed mitigation and monitoring measures to address potential impacts.

- 7.8. The EIS must include detailed design information for the construction of any proposed tailings storage facilities / contaminated water storage facilities, including specifications for the proposed lining of any storage facilities. The EIS must set out details of a quality assurance / quality control program to ensure compliance with any proposed specifications.

8. Potential impacts on land

- 8.1. The EIS must include an assessment of potential impacts on soil and land resources, 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:

- (i) 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; C. Unsealed roads; D. Main Roads; E. Mines and quarries) (DECC, 2008) which is available at <https://www.environment.nsw.gov.au/research-and-publications/publications-search/managing-urban-stormwater-soils-and-construction-volume-1-4th-edition>.
- (ii) Mass movement (landslides) – in accordance with Landslide risk management guidelines presented in Australian Geomechanics Society (2007).
- (iii) Urban and regional salinity – guidance given in the Local Government Salinity Initiative booklets which includes Site Investigations for Urban Salinity (DLWC, 2002).

- 8.2. The EIS must document the proposed rehabilitation measures that will be implemented to restore the mining pathway.

9. Greenhouse Gas and Climate Change

- 9.1. The EIS must include a Greenhouse Gas Assessment prepared in accordance with the EPA's *Greenhouse Gas Assessment Guide for Large Emitters* (or its most recent version that is available on the EPA website). Input data and assumptions must also be robustly justified by providing supporting evidence to assist the EPA's assessment.

For projects estimated to emit 25,000 tonnes or more of scope 1 and 2 emissions (CO₂-e) in any financial year during the operational life of the project (based on planned operational throughput and as designed):

- 1. A GHG Mitigation Plan must be provided in accordance with the EPA's *Greenhouse Gas Assessment Guide for Large Emitters* (or its most recent version that is available on the EPA website).
- 2. A Climate Change Adaptation Plan that incorporates the following components:
 - a. A climate change risk assessment that addresses predicted climatic changes and the potential impacts of climate hazards on the environmental performance of the project.

Notes:

- A climate hazard is defined as a physical event (hydro-meteorological or oceanographic) that can harm human health, livelihoods, or natural resources. These could be direct climate hazards such as flooding of a sewage treatment plant, causing water pollution to nearby waterways, or indirect hazards such as a drought, where water is not available for dust suppression.
- A climate risk is the potential for adverse consequences for human or ecological systems from climate hazards (adapted from IPCC).

- The risk assessment must take into account AdaptNSW regional climate change projections, for the near future and for the life of the project.
- Regional climate change projections are available on the [AdaptNSW website](#).

- b. An assessment of measures to reduce climate risk, including:
 - i. a description of measures that would be implemented to reduce likely climate change risks and potential impacts on the environmental performance of the project.
 - ii. an assessment of:
 - the likely effectiveness of these measures
 - whether these measures will remain effective over time as climate change risks increase
 - whether contingency plans will be necessary to manage any residual risks.
 - iii. if contingency measures are deemed necessary under (ii) above, a description of how the project is designed so that these contingency measures can be readily implemented if and when necessary.
- c. A description of how the effectiveness of measures to reduce climate risk will be monitored over time, including:
 - i. a description of metrics that will be used to periodically evaluate the effectiveness of the adaptation management measures.
 - ii. a description of the measures that would be implemented to monitor and periodically report on against these metrics.
- d. A timetable for review of the project's Climate Change Adaptation Plan that reflects the project's lifespan and incorporates at each review the latest knowledge about predicted climate risks in the short and long term.

Notes:

Further guidance on considering climate adaptation can be found in the following resources:

- [ISO 31000](#)
- [ISO/TS 14092](#)
- [AS 5334](#)
- [Climate Risk Ready NSW Guide](#) (while this guide was developed for NSW Government agencies, the principles, steps and resources may assist the proponent to prepare a Climate Change Adaptation Plan).

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