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Senders ref: SSD 10367

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13 November 2020

Dear Mr Nevill

**Subject: Cowal Gold Operations Underground Development Environmental Impact Statement (SSD 10367)**

Thank you for your email dated 21 October 2020 seeking comments from the Biodiversity and Conservation Division (BCD) of the Department of Planning, Industry and Environment (the Department) about the Environmental Impact Statement (EIS) for the Cowal Gold Operations Underground Development (SSD-10367)

We have reviewed the exhibited EIS against the Secretary's Environmental Assessment Requirements (SEARs) provided by the Department to the proponent on 26 August 2020.

BCD considers that the EIS **does** meet the Secretary's requirements for biodiversity, contingent on the applicant addressing the issue identified in **Attachment A**.

While the Biodiversity Development Assessment Report (BDAR) meets Biodiversity Assessment Method (BAM) requirements, this is an unusual situation where there are no direct and immediate above-ground impacts expected on biodiversity or habitat. The potential impact of subsidence causing change to subsurface hydrology is proposed to be addressed by a monitoring program, with mitigation predicated on the backfilling of stopes.

BCD is reliant on the assessment of the adequacy of these design and mitigation measures by other agencies and independent experts to have confidence that there is negligible risk of wetland habitat loss and associated impacts to threatened species.

A summary of our assessment, advice and recommended conditions of approval is provided in **Attachment A**. Detailed comments are in **Attachment B**.

All plans required as a Condition of Approval that relate to biodiversity should be developed in consultation with, and to the satisfaction of, BCD to ensure that issues identified in this submission are adequately addressed.

If you have any questions about this advice, please contact me via [rog.southwest@environment.nsw.gov.au](mailto:rog.southwest@environment.nsw.gov.au) or 02 6022 0623.

Yours sincerely



Andrew Fisher  
**Senior Team Leader Planning**  
**South West Branch**  
**Biodiversity and Conservation Division**  
**Department of Planning, Industry and Environment**

ATTACHMENT A – BCD Assessment Summary for Cowal Gold Operations Underground Development Environmental Impact Statement (SSD 10367)

ATTACHMENT B – Detailed comments for Cowal Gold Operations Underground Development Environmental Impact Statement (SSD 10367)

**ATTACHMENT A BCD Assessment Summary for Cowal Gold Operations  
Underground Development Environmental Impact Statement  
(SSD 10367)**

**Key Issue**

1.	<i>Subsidence impacts</i>	<p>If subsidence (in the form of chimneying) occurs it will result in underground mine failure, and impact on threatened species through loss of surface water and wetland habitat at Lake Cowal, if the lake is inundated at the time.</p> <p><b>Recommended action:</b></p> <ul style="list-style-type: none"> <li>• <i>Pending advice from relevant agencies/technical experts on the risks associated with subsidence related impacts such as chimneying, the design and mitigation measures are to be revised in the BDAR and EIS.</i></li> </ul>
	<i>Extent and Timing</i>	Pre-determination

## **ATTACHMENT B Detailed comments for Cowal Gold Operations Underground Development Environmental Impact Statement (SSD 10367)**

**The Biodiversity Development Assessment Report (BDAR) at Appendix H does meet the Secretary's requirements for biodiversity.**

Specific comments on the BDAR and related sections in the EIS are as follows:

### ***Biodiversity Development Assessment Report***

#### **7.1.2 Potential Indirect Impacts (page 31)**

Key issue identified is the potential impact to the wetland habitat at Lake Cowal through subsidence in the form of 'chimneying'.

The BDAR (page 32) states that:

*Stope failure to surface (chimneying) along major faults is a hazard for all underground stoping mines. Stope failure (or crown pillar failure) to surface is not common, but it does very occasionally happen.*

The BDAR goes on to state that the risk of chimneying associated with the proposal would be strictly controlled by Evolution Mining adopting various control measures, including filling of stopes with a cement paste immediately following extraction.

Although modelling by Evolution Mining and assessment by Beck Engineering has removed weaker saprolite layers (with a higher risk of chimneying), clearly there is still a risk that stope failure may occur. BCD is reliant on the assessment by DPIE - Water, the Natural Resources Access Regulator and independent experts on the adequacy of the proposed design and mitigation measures.

As the BDAR (page 26) states:

*the periodic flooding and drying events of Lake Cowal mean that various threatened species will be present during distinct phases in the hydrological cycle. For example, wetland birds will be present when Lake Cowal is inundated and move away when the lake dries.*

It is BCD's understanding that if chimneying occurs it will result in catastrophic failure of the underground mine. This will in turn result in a concomitant impact on threatened species through draining of surface water and loss of wetland habitat at Lake Cowal, if stope failure were to occur during a period when the lake is inundated and wetland birds are present in numbers.

#### **Recommended action:**

- *Pending advice from relevant agencies/technical experts on the risks associated with subsidence related impacts such as chimneying, the design and mitigation measures are to be revised in the BDAR and EIS*