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Dear Phillipa

## **Proposed Dargues Gold Mine Project Modification 3**

Thank you for the opportunity to respond to the Proponents Response to Submissions report for the Dargues Gold Mine proposed Modification 3 dated November 2015.

In its response, the Proponent concludes that "as the use of cyanide no longer forms a component of the Proposed Modification, it has removed the principal grounds for Eurobodalla Shire Council's objection".

While Council acknowledges that the use of cyanide was a principal matter of concern, the proponent has not adequately addressed Council's concern regarding the long-term stability of the Tailings Storage Facility.

Risk of failure of the Tailings Storage facility is discussed in Section 5.15.4 of the Response to Submissions Report. However, the response focuses only on design of the Tailings Storage Facility, and not on the consequences of failure.

The Proponent contends "The risk of catastrophic failure of the Tailings Storage Facility is required to be taken into consideration when determining the Hazard Rating for the facility at the outset of the design stage in accordance with the following guidelines:

- Dams Safety Committee of New South Wales DSC3A Consequence categories for dams
- Dams Safety Committee of New South Wales DSC3F Tailings Dams
- Australian National Committee on large Dams (ANCOLD) Guidelines on the consequence categories of dams.

Dam consequence categories are based on *Potential Loss of Life* from a dam collapse, and do not consider other consequences – such as impact on human health and the environment.

An assessment of the wider impacts of a catastrophic failure of the Tailings Storage facility should be carried out to provide a better basis for locating, designing, operating and after care of the Tailings Storage Facility.

The consequence of a catastrophic failure is that tens of thousands of tonnes of fine sediment will be released into the drinking water catchment.

The proponent contends "The Tailings Storage facility has been designed in accordance with the following guidelines:

- Dams Safety Committee of New South Wales DSC3A Consequence categories for dams
- Dams Safety Committee of New South Wales DSC3F Tailings Dams
- Australian National Committee on large Dams (ANCOLD) Guidelines on the consequence categories of dams".

However, the approved Tailings Storage Facility was not designed in accordance with the requirements of the Dams Safety Committee's DCS3F Tailings Dams guideline, as this guideline postdates the original dam design.

Critical review of all elements should be undertaken, including the capacity and stability of cut-off drains above the Tailing Storage Facility.

The Proponent contends that "The proposed enlargement of the Tailings Storage Facility has been removed from the project" and so "the risk of failure would be unchanged from the approved project". However, as the proposed modification includes an increase in the total resource to be extracted, there will be an increase in the volume of tailings to be stored. A separate assessment of the approved Tailings Storage Facility's ability to handle the additional tailings volume will be required to demonstrate that the proposed increase in tailings will not adversely affect the long term stability of the dam.

The proponent also contends "As the Tailings Storage Facility would be consistent with the approved facility and relevant Dams Safety Committee of NSW requirements, the risk of catastrophic failure of the facility would be in line with similar facilities throughout NSW". However, Council maintains that the proposed valley fill Tailings Storage Facility poses a significant risk due to:

- Erosive runoff velocities due to the slope of the embankment (18°)
- Instability due to geological faults in the vicinity of the TSF
- Subsidence due to previous mining activity at the site.

Council therefore contends that the proposed Tailings Storage facility is inappropriately located.

Eurobodalla and Palerang Councils engaged Dr Peter Beck of GHD Pty Limited to carry out a technical review of the Proposed Modification 3 Environmental Assessment and to provide comment on the risks the proposed modifications may pose to the Deua River, and subsequently the Eurobodalla drinking water supply. Council has further engaged Dr Beck to comment on the Response to Submissions report. A copy of the GHD comment is attached, which should be considered an integral part of this submission.

Should you wish to discuss the above, please phone our Division Manager Water and Sewer Brett Corven on 02 44747458.

Yours sincerely

Warren Sharpe OAM

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**Director Infrastructure Services**