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Submission of Objection
Bowdens Silver Project SSD-5765

Introduction

Central West Environment Council (CWEC) is an umbrella organization representing conservation groups and individuals in central west NSW working to protect the local environment for future generations.

CWEC has lodged a range of objections to the proposed lead, zinc and silver mine at Lue in the Mid-Western Region through the various iteration of amendments to the project. These objections have not been adequately addressed in the company's response to submissions or the Department of Planning and Environment (DPE) assessment report.

These issues include the lack of climate change predictions in water models, the lack of assessment of potential for acid mine drainage, the release of toxic heavy metals into the surrounding environment and the lack of adequate biodiversity assessment and offsets.

It is noted that a number of independent reviews were lodged in December 2022 that raise considerable questions about the project assessment, particularly in regard to water modelling and water quality assessment. DPE has not adequately addressed all the issues raised by independent experts.

CWEC considers that the environmental impacts of a project with high level of lead production have not been rigorously assessed. The proposed mitigation measures will not protect the natural environment, human health, or the integrity of neighbouring agricultural industries.

We continue to object to the proposed mine because of the unmitigated impacts on biodiversity, water, air quality and other industries through poor recommended conditions, poor cost benefits analysis and no assessment of alternatives.

The project assessment has not met all the Secretary's Environmental Assessment Requirements (SEARs).

Recommendation: That the project must be rejected because it lacks merit and impacts will not be mitigated by the proposed conditions of consent.

Key Issues

1. Biodiversity Impacts

CWEC strongly objects to the proposed destruction of habitat for the Koala, Regent Honeyeater and other species threatened with extinction. The fact that fourteen threatened species were recorded within the area of impact demonstrates the significance of the remnant habitat proposed for clearing. The biodiversity assessment has failed to assess all impacts.

1.1 Biodiversity offsets
The proposed three stage process for finding suitable biodiversity offsets is not acceptable. Taking up to 12 years to find and complete the proposed offsetting arrangements is not precautionary.

The recognized significant impact on Matters of National Environmental Significance (MNES) is a critical issue for this project. It is essential that all biodiversity offset requirements and species credit retirement are identified before the project is approved. Managing this important environmental compromise over three separate stages will have implications on the requirements of the EPBC Act under Part 9.

1.2 Failure to assess all MNES
The proponent has failed to assess the EPBC listed Temperate Highland Peat Swamps on Sandstone Endangered Ecological Community (EEC) that are known to occur in the Lue and Upper Cudgegong River region.

The EPBC referral decision that the proposal is to be assessed as a controlled action included the requirement that all protected matters that are likely to be significantly impacted are assessed and that it is the proponents responsibility to undertake an analysis of the significance of the relevant impacts.

CWEC disagrees with the DPE assessment report that '*the direct and indirect impacts of the project on threatened species, populations or ecological communities, or their habitats – both on the site and the broader study area*' have been assessed. (433 p70)

The failure to identify, map and assess the Temperate Highland Peat Swamps on Sandstone EEC for significant impact, including from groundwater drawdown caused by mining operations is a failure of the assessment process.

The project assessment has not met the requirements of the EPBC referral decision.

1.3 Failure to meet Biodiversity SEARs

1.3.1 Framework for Biodiversity Assessment
The 2019 revised SEARs requires '*an assessment of the likely biodiversity impacts of the development, in accordance with the Framework for Biodiversity Assessment, and having regard to OEH's requirements (see Attachment 2A and 2B)'*

The Framework for Biodiversity Assessment requires that:
9.2.3.6 Additional information required in the BAR for impacts on important wetlands:
(a) the category of wetland that is being impacted by the Major Project
(b) whether the wetland itself, and/or its buffer area, is being impacted
(c) the extent of impact to the wetland or buffer area
(d) the condition of the area of the wetland or buffer area subject to the impact
(e) any indirect impacts on wetlands, or on wetlands or watercourses downstream of the proposed development
(f) the measures proposed to minimise the impact on the biodiversity values of the wetland area.

The project assessment has failed to identify, map or assess the important wetlands known as Temperate Highland Peat Swamps on Sandstone EEC. Significant impact on this EEC, including from groundwater drawdown, is unknown.

1.3.2 NSW Biodiversity Offsets Policy for Major Projects
The 2019 revised SEARs requires '*a strategy to offset any residual impacts of the development in accordance with the NSW Biodiversity Offsets Policy for Major Projects'*

The Offsets Policy includes:
Further consideration by the consent authority required:

- impacts adjacent to important rivers and wetlands

The proposed biodiversity offset strategy for the project is not complete and does not consider impacts on Temperate Highland Peat Swamps on Sandstone EEC.

A staged biodiversity offset strategy for significant impacts on the critically endangered Box Gum Woodland Ecological Community does not meet the requirements of the NSW Biodiversity Offsets Policy for Major Projects.

2. Water Impacts

2.1 Failure to use the latest regional climate models developed by the NSW Government

The Government has developed new climate change models for the Macquarie Region to develop a 20 year Regional Water Strategy. '*The new modelling shows that our water supplies in NSW could be less secure than we thought. By using paleoclimate data we have factored in that droughts longer than those of the last*

130 years are likely at some point, and that we could see higher temperatures and less rainfall.'[1]

We have raised the issue of lack of climate change considerations in the assessment of the proposed zinc, lead and silver mine at Lue in a number of submissions. This issue has not been addressed in the DPE Assessment Report.

The modelling used to assess the mine, particularly for the water balance, does not address the climate scenarios and predictions used in the Government models. This is a failure of the assessment process and demonstrates a disregard of issues raised in submissions.

An increasing number of climate change driven extreme weather events will cause difficulty in managing the mine under its proposed design. More rigorous risk management assessment for extreme dry and extreme wet conditions is critical to make an informed judgement on the project's merit.

2.2 The necessary water supply has not been guaranteed in prolonged dry times when dust suppression is critical

CWEC has seen the impact of water shortages for mining across the region during the intense 2018/2019 drought. The large Cadia goldmine near Orange has progressively acquired more and more water licences in the region, taking water away from food production. More pressure was put on the Carcoar Dam that also supplies water to the town of Canowindra. The Cobar mines were also under stress and water was delivered to them from Burrendong Dam threatening water security for the city of Dubbo. This is contrary to the objectives of the NSW *Water Management Act 2000.*

Mining companies do not want to reduce operations during a drought and the Government has a record of favouring mine water supply above all other users. In a predicted drying climate, there will not be enough water supply to suppress lead dust during drought. The proposal that mining operations be reduced to meet water supply in a drought has not been demonstrated across the region.

This is a serious issue that cannot be solved through post approval management plans. The proponent has not demonstrated that there is a secure water supply for the project.

The DPE assessment report identifies that: *'The water balance modelling for the mine indicates that, with the exception of extreme drought periods, there would be sufficient water to supply all site water demands.'* (107 p24). DPE also acknowledges this failing in the report Evaluation (481 p80) stating that the mine would have to reduce operations to meet water supply.

[1] https://www.dpie nsw.gov.au/water/plans-and-programs/regional-water-strategies/climate-data-and-modelling

If the reduction in operations were to be put in place the loss of production over a possible prolonged period has not been factored into the economic analysis and could severely impact the stated benefits of the project. The costs benefits analysis must consider the impact of inadequate water supply during extreme drought periods.

The fact that new Macquarie Region climate data has predicted longer periods of extreme drought in the future emphasizes the critical nature of the water supply issue. The suppression of lead dust during extreme drought conditions is a key consideration for this project and will not be possible without a secure water supply. This will lead to serious environmental, health and agricultural production risks in the district. This issue of prolonged drought and insufficient water supply has not been adequately addressed in the DPE assessment report.

2.3 The assessment has not met the Secretary's Environmental Assessment Requirements in regard to water quality.

The amended SEARs dated June 2019 require under Specific Issues – Water:

an assessment of the water quality and management of the imported water, including spill/leak management.

The EPA requirements include:

'*Provide a water balance for the including water requirements (quantity, quality and source(s))….'*

Water quality has not been included in the site water balance model or assessed in regard to spills and leaks, as required.

Poor water quality arising from a heavy metals mining operation is a critical issue. The argument that the site will be nil discharge is incorrect because the tailings dam has been designed with a spillway to discharge in extreme wet weather events and sediment dams are also likely to overflow.

The lack of assessment of water quality is a major failure of the assessment for this project.

2.4 The DPE assessment report is contradictory on the matter of water discharges:

'*The mine has been designed to avoid offsite discharges except from sediment dams if the water quality is suitable. Key infrastructure has been designed to limit the risk of failure, overflow or seepage, and ongoing monitoring and adaptive design is proposed to minimise the risk of water pollution*.' (pv)

'The proposed mine has been designed to avoid any off-site discharges of runoff from mine affected areas, except from sediment dams servicing areas that do not contain acid forming materials or other contaminants.' (142 p31)

'the site water balance model indicates that all mine affected water could be contained without discharging through the project life under a range of meteorological conditions.' (143 p31)

'While no discharge is proposed from the TSF, the facility has been designed with an emergency spillway, and the facility has been designed to contain all runoff for events up to the 1 in 100 year 72 hour storm event.' (144 p31)

'The design includes an emergency spillway on the TSF embankment that would provide for overflows in extreme events.' (163 p34)

'manage the mine on a nil discharge basis (for water that has come into contact with PAF and other potential contaminants), with no discharges from the site except in accordance with an EPL' (196 p37)

DPE has recommended a condition of consent that counters the argument that the mine has been designed to *'avoid any off-site discharges of runoff from mine affected areas'* (142 p31):

Condition B45. The Applicant must ensure that all surface discharges from the site comply with all relevant provisions of the POEO Act, including any discharge limits (both volume and quality) set for the development in any EPL.

2.5 Water Quality assessment

It is critical to have an analysis of the chemical and heavy metal content of the tailings dam and sediment dams. Heavy metals accumulate in the environment and must be given greater consideration than occurs in the DPE assessment report.

A full water quality analysis must be undertaken to understand the level of potential pollution of receiving waterways.

The potential for Acid Mine Drainage has not been adequately assessed or managed. The fact that over 50% of the waste rock will be potential acid forming material is a critical issue that has not been addressed.

CWEC strongly objects to the classification and verification of potential acid forming waste rock being undertaken after approval. This issue has major implications on the management of water quality impacts off-site and on the economic viability of the project.

This assessment must be carried out prior to a decision being made.

2.6 Final Void

The issue of the size of the final void and management of a groundwater sink rather than a flow through structure has not been concluded. This issue cannot be left to be managed under proposed conditions for rehabilitation objectives.

A final void should not be retained in the landscape in perpetuity.

2.7 Tailings Dam

It is entirely inadequate for the tailings dam liner design and verification to be resolved post approval. The management of the highly toxic heavy metal residue from the proposed mining and silver processing operations is a critical issue for the project. The impact of toxic pollution is key to the consideration of the merit of the proposal. The tailings dam is a major component of the project that must be fully assessed prior to a decision on the project merit.

2.8 Water Management Plan

It is critical that the above important matters regarding water management are resolved prior to approval and not relegated to a post approval management plan as proposed in the recommended conditions of approval.

The project must have certainty around these complex water quantity and quality issues before consent can be granted.

3. Alternative options

3.1 Feasibility of underground mine

There has been no assessment of the feasibility of underground operations to mitigate the extent of impacts on biodiversity, water, air, noise, Aboriginal cultural heritage or agricultural and tourism industries. The DPE assessment report identifies additional resource deeper than the current proposed mining operations.

There is '*approximately 43 million ounces of silver equivalent resource below the proposed open cut. This means that there may be opportunities for mining to continue beyond the project life currently proposed (subject to further approvals).'* (27 p9)

'it is worth noting that based on further drilling and resource definition, Bowdens Silver has indicated that more of the resource may be economically extractable and, if anything, the economic position is likely to be improved.' (470 p75)

If the low grade silver is as important to the NSW economy as claimed by DPE then all options for mine design should be considered.

An underground mine would resolve the water shortage and dust suppression issues, and reduce the noise impacts, the removal of critical biodiversity habitat and the disturbance of significant Aboriginal cultural heritage sites.

The lack of assessment of an underground mine that significantly reduces the impact costs to the community and environment is a failing of the process.

3.2 Silver recycling industry

The other alternative to supply the necessary silver for the various industrial uses outlined in the DPE assessment report is to facilitate the growth in silver recycling rather than to continue damaging the environment, communities and the agricultural industry through greenfield mining operations.

An enhanced silver recycling industry will create regional jobs and grow the economy, save waste and energy and not have the environmental and social costs of continuing down the direction of mining new sources of the metal.

4. Proposed conditions will not protect the environment or community

CWEC does not support the DPE position that the recommended conditions of consent are strict. Many of the critical unresolved environmental and social impacts are pushed to post approval management plans.

These have no independent oversight and are compromised by the economic pressure to get the mining operation commenced.

Many significant considerations of merit must be addressed before consent is granted. CWEC objects to the following recommended conditions:

4.1 Removal of consultation

A16. If the Planning Secretary agrees, a strategy, plan or program may be staged or updated without consultation being undertaken with all parties required to be consulted in the relevant condition in this consent.

CWEC strongly objects to the removal of consultation requirements. This condition is contrary to the concept of DPE's claim of '*a stringent and precautionary set of conditions*' (487 p81)

4.2 Management of acid forming material

B34 The Applicant must prepare a Materials Classification Verification Program to validate the acid mine drainage risk classification system to the satisfaction of the Planning Secretary. This program must:

(a) be prepared by a suitably qualified expert(s);
(b) be based on a sampling and testing program that has been approved by the Planning Secretary, that includes:
(i) static geochemical testing to verify the proposed classification of waste rock material as non-acid forming (NAF) or potentially acid forming (PAF); and
(ii) kinetic geochemical testing to quantify acid generation and duration rates (including lag time and longevity) from PAF waste rock; and
(c) include a final report on the results and analysis of the testing program that:
(i) identifies and verifies the suitability of the adopted sulphur cut-off value(s) for classifying waste rock materials as NAF; and
(ii) demonstrates that there is sufficient NAF material available for construction of the mine and to successfully rehabilitate the site, including full encapsulation of PAF materials.

B35. The Applicant must not commence construction of the development until the Materials Classification Verification Program is approved by the Planning Secretary

If there is not enough NAF to encapsulate all PAF there will be additional environmental and/or economic impacts on the project that have not been assessed

All the assessment outlined in Condition B34 must be undertaken before a decision can be made on the project.

It is imperative that the issue of acid forming material is resolved before the project can be approved

4.3 Water Supply

B36. The Applicant must ensure that it has sufficient water for all stages of the development, and if necessary, adjust the scale of the development to match its available water supply.

The lack of climate change predictions in the water model prevents analysis of the adjustment of the scale of the development needed to match available water supply. The loss of production under this condition has not been assessed for economic impact and raises questions of the validity of the costs benefits analysis.

4.4 Water Discharge

B45. The Applicant must ensure that all surface discharges from the site comply with all relevant provisions of the POEO Act, including any discharge limits (both volume and quality) set for the development in any EPL.

This condition is counter to DPE claims that the mine has been designed for nil discharge

B46. Water management performance measures

The conditions on water storage design are not adequate to manage extreme wet weather events without polluting discharge.

4.5 Final Void

B78. Rehabilitation Objectives

CWEC objects to the issues regarding the size, water quality and management of the final void being left to a rehabilitation management plan and strategy.

All matters relating to a final void, including consideration of backfilling, must be assessed before a decision can be made on the merit of the project.

4.6 Health Impacts

B 30 (e (iii) including a trigger-action-response protocol and contingency measures for elevated particulate matter, dust or metal concentrations

B83. (f) (i) blood lead level monitoring and tracking over time;

These conditions are an admission that lead and other heavy metals pollution will migrate off the mine site. There is no description of what a trigger-action-response-plan would involve if lead levels in children increase. There is no requirement for base line lead levels to be assessed. The social and health impacts of lead pollution have not been adequately assessed or mitigated by proposed conditions.

4.7 Management plans:

CWEC notes that the proposed conditions of consent include the following issues being resolved under management plans post approval:

B22 Noise and Blasting
B30 Air Quality & Greenhouse Gas Emissions
B47 Water – including site water balance, erosion and sediment control plan, Surface Water Management Plan, Groundwater Management Plan, Acid Mine Drainage Management Plan, Waste Rock Emplacement design & verification, TSF Liner design & verification
B51 Biodiversity
B57 Heritage
B64 Traffic
B72 Hazardous materials
B76 Fire
B82 Rehabilitation
B83 Social Impact

CWEC does not consider that the assessment of critical information needed to inform a decision on the merit of the proposal will be adequately addressed post approval. These conditions are not stringent or precautionary.

Conclusion

This submission has outlined key issues that need to be addressed before the Independent Planning Commission, as the consent body, can make an informed decision on the merit of the Bowdens Silver Project.

Central West Environment Council recommends the project be rejected.

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