

Planning and Assessment, Department of Planning, Industry and Environment
Locked Bag 5022
PARRAMATTANSW 2124
Attn: Stephen O'Donoghue

Dear Stephen O'Donoghue

By email: **Submission by Major Project Website**

Bowden Silver Project (SSD-5765)

I refer to the Bowden Silver Project Environmental Impact Statement (EIS) placed on exhibition 2 June 2020. The NSW Resources Regulator has reviewed this document in consideration of our recommended Secretary's Environmental Assessment Requirements (SEARs) initially communicated in 2016 through the former Division of Resources and Energy.

Development Details

The proposed development includes construction of an open cut mine and associated infrastructure associated with the mining and processing of ore to produce silver/lead and zinc concentrates. The proposed development is located 2.5 km northeast of Lue village, 26 km east of Mudgee. The proposed development involves:

- Open cut pits (one main, two satellite) covering an area of 52 ha
- Processing plant, mining facility and related infrastructure covering an area of 22 ha
- Waste rock emplacement covering an area of 77 ha
- Other stockpiles facilities (including Southern barrier area) covering an area of 54 ha
- Tailings storage facility covering an area of 117 ha
- Other disturbance areas (roads, water management, soil and NAF stockpiles) covering an area of 107 ha
- Relocation of Maloneys Road and water supply pipeline from Ulan and Moorlarben Coal Mines (approximately 58.5 kms)

The proposed development is expected to have an annual ore extraction of 2.07 million tonnes to produce 66.3 million ounces of silver, 130 000 tonnes of zinc and 95 tonnes of lead over the 23 year project life, which includes a 7 year period for final rehabilitation and maintenance.

Environment and Rehabilitation

The Mining Act Inspectorate within the Resources Regulator has responsibility for providing strategic advice for environmental issues pertaining to the proposed project in so far as they relate to or affect rehabilitation. Based on the review of the EIS and supporting documentation, the Resources Regulator requires further information on the following items to confirm the rehabilitation strategy:

Post mining landuse:

1. Taking into consideration the post mining landuse has been nominated as agricultural production (grazing) involving both native vegetation and modified pasture, further information is required to clarify the vegetation communities that will be reinstated on disturbed areas. Information is required on the post mining vegetation community type, the specific location across each mining domain and clear

commitment for the rehabilitation objective for re-vegetation, including land and soil capability class (see related point below).

2. Clarification is required for the commitment provided in the EIS to maintain the pre-disturbance soil and capability class upon rehabilitation. In some circumstances, this maybe difficult to achieve e.g. class 3 land located in footprint of Waste Rock Emplacement. In other areas, an improvement to land capability would be desirable and achievable.

3. Further information is required on the intended post mining land use of "grazing controlled" nominated for the Tailings Storage Facility and Waste Rock Emplacement areas. Further analysis of the post mining management and maintenance is required for this land use to ensure the capping/covers in these areas will support the intended final landuse without unsustainable land management restrictions. Based on this analysis, further clarification is required as to whether "grazing controlled" or another land use is more appropriate given the post mining constraints associated with these features.

4. Further information is required on the capping/cover design on both the Tailings Storage Facility and Waste Rock Emplacement to accommodate tree growth. The TSF and WRE Closure Cover Design report referred to in the EIS states that further work is required to assess the vegetation species suitable for the cover. Clarification is required that the proposed cover design can adequately support the vegetation proposed, including tree species nominated in Table A5.11 of the EIS.

Post mining Landform

5. The EIS does not provide consideration of geomorphic design for rehabilitated landforms. Consideration of geomorphic landforms should be assessed for the Waste Rock Emplacement to ensure the final landform is stable and of similar characteristics of the surrounding natural landscape. Assessment of geomorphic design should be coupled with an analysis of long-term stability, such as those provided by landform evolution models.

Final void:

6. Further information is required to demonstrate that void ministration has been adequately considered. Clarification is required of the optimisation analysis for the mining void creation undertaken and if backfilling of voids was adequately considered as part of this process.

7. Further information is required on the expected water quality and any post mining management options in the open cut void, noting the potential for sulphide mineralisation to contribute to acidification and elevated metals concentrations.

8. Clarification why vegetation screening in the final void has been stipulated for upper benches only i.e. limited to those above 590 m AHD, considering the water level is modelled to reach approximately 574 m AHD after a considerable period of time (at least 50 years). Consideration of extending appropriate vegetation screening to lower benches in final void, potentially below the modelled final water level taking into account the time frame for recharge.

It should be noted that the Resources Regulator's does not provide any endorsement of the proposed rehabilitation methodologies presented in the EIS. Under the conditions of a mining authority granted under the *Mining Act 1992*, the Resources Regulator requires an authority holder to adopt a risk-based approach to achieving the required rehabilitation outcomes. The applicability of the controls to achieve effective and sustainable rehabilitation is to be determined based on the site specific risk assessments conducted by an authority holder. An authority holder may also be directed by the Resources Regulator to implement further risk control measures that may be required to achieve effective rehabilitation outcomes.

The proponent has acknowledged that a Rehabilitation Management Plan (currently covered by the Mining Operations Plan requirement under the *Mining Act 1992*) will be required prior to the mining activities commencing. As part of the submission of the Rehabilitation Management Plan/Mining Operation Plan, the Resources Regulator will seek clarification on rehabilitation risks, identification of risk treatment controls, their implementation and monitoring of effectiveness.

It is noted that the proponent has made reference to the need for a Conceptual Mine Site closure plan / Final Void Management Plan. The Resources Regulator advises that the Rehabilitation Management Plan (or Mining Operation Plan) will address consideration of mine closure and final void management requirements.

The Resources Regulator requests a review of the draft development consent conditions prior to finalisation and any granting of development consent.

Work Health and Safety

The Mine Safety Inspectorate within the Resource Regulator is responsible for ensuring the mine operators' compliance with the Work Health and Safety (WHS) legislation, in particular, the effective management of risks associated with the principal hazards as specified in the Work Health and Safety (Mines and Petroleum Sites) Regulation 2014. The Mine Safety Inspectorate will undertake assessments of the mine operators' proposed mining activities under clause 33 of the Work Health and Safety (Mines and Petroleum Sites) Regulation 2014 as well as necessary regulatory actions in response to any identified non-compliances.

The Resource Regulator reserves the right to communicate directly with the proponent in regards significant WHS matters.

If you require additional information, please contact the Resources Regulator on 1300 814 609 (Option 2, then 5), or via email at nswresourcesregulator@service-now.com.

Yours sincerely,

Matthew Newton
Principal Inspector Environment & Rehab
Mining Act Inspectorate
Resources Regulator

31 July 2020