

CCSN Comments

Rehabilitation Strategy PA 06_0295

Doc N° 710 - 005-EN-STR-00XX

Rehabilitation strategy required within 3 months of Mod 14 Project Approval dated November 2021 (Condition 36 and Schedule 3).

Specific additional requirements of Mod 14

- 36 (f) Include a conceptual final landform and rehabilitation plan
- 36 (g) Include a life of mine rehabilitation and mining schedule which outlines key progressive rehabilitation milestones from the commencement of operations through to decommissioning and mine closure.
- 36 (h) Include managing and minimising any adverse socio - economic effects associated with mine closure.

The following sections were required to be revised and updated

- 36 (b) Consultation of Rehabilitation and Biodiversity offsets to include RR, MEG, BCS, DPIE, Water, Councils and CCC.
- 36 (c) Investigate options for future use of disturbed areas and closing voids upon completion of mining.
- 36 (d) Describe and justify the proposed rehabilitation strategy for the site.

Additional Requirements

36 (f) Conceptual final land form and rehabilitation plan

The conceptual final land form and rehabilitation plan presented in 3-1, 2 & 3 is completely different to Mod 14 fig 6.1A Land Form for NTSF and STSF. Drainage appears to be via Rodds Creek meandering through both tailings storage facilities. This would require water to flow uphill and result in a significant waterfall at Panuara Road. This is obviously a mistake.

The plan presented in Fig 3-1 Conceptual Final Landform and Rehabilitation Plan 1 (Features) is misleading. It is not possible to determine from this plan the extent of intended “agricultural” rehabilitation compared to “native” rehabilitation. It is therefore impossible to comment on the plan other than to state that any proposal including agricultural use of the surface of the tailings dams needs to consider the uptake of heavy metals and the risks and impacts of biomagnification and bioaccumulation through the food chain over time. Refer 36(d) below.

36 (g) Rehabilitation Schedule – key progressive rehabilitation milestones

The rehabilitation plan is a hypothetical study only as CVO has no intention of implementation, in 2031. The production schedule assumes a mine life until circa 2065 and potentially beyond. A key business strategy is to use the Cadia Tier 1 asset as a low cost highly profitable operation and use this resource to develop other projects, notably Red Chris in Canada. This strategy has been confirmed by Newmont as a prime reason to acquire Newcrest (refer Newmont Annc attached).

An integral part of the business strategy is to not incur any expenditure in the short term which can possibly be avoided, as demonstrated by the lack of progressive rehabilitation, and the selection of a

proposed additional tailings storage option which ensures any such expenditure is impossible (refer CCOP and hydrocyclone tailings technology).

A benefit of large tailings storage facilities covering a large area is that it discourages nearby stakeholders, who might monitor and object to the operation and generally makes further procurement of buffer zones more affordable.

A key assumption of the Rehabilitation Strategy is that a stable land form can be achieved in less than 4 years. The assumption is that the essentially flat 1° slope can be stabilised in a short time frame and that consolidation and settling will not create depressions and pooling on the surface resulting in seepage / contamination issues as differential settlement occurs. This assumption appears to be flawed, studies using finite element FLAC analysis and Goldsim's new software tools indicate final settlement can take 27 years.

Rehabilitation of the tailings dams will require the surface to dry out for several years before earthworks and rehab can begin. Based upon the community experience since the northern wall failed in 2018, this will mean the community will be exposed to significant dust events for several years. CVO has admitted that when the wind blows it cannot control the surface as the area is too large to treat rapidly. It is critically important that progressive rehabilitation be completed on a timely schedule and the uncovered area at any point in time be reduced. Any proposal which leaves the rehabilitation in effect until the end of the mine life and assumes thousands of acres can be treated at the same time is not achievable.

Capping issues, seepage and salinity are not addressed in the plan.

There has been a general assumption that the net seepage is inconsequential based on low infiltration and high permeability in the base of the tailings facility. This is a highly problematic assumption, particularly in view of the fact that in approximately 2016 the community was informed by Nedra Burns and Peter Sharpe (Mine Manager) at a Community Meeting that the underlying aquifer was totally contaminated by tailings and could be used as an unlicensed water resource on the basis that it was CVO tailings water!

Unsuccessful repair work on the NTSF wall has identified unconsolidated foundations which further places in doubt whether the required permeability of 10^{-9} m/s can be achieved. The management of seepage from the base of the tailings dams is likely to be an issue in perpetuity requiring mechanical pumping from the underlying aquifer and seepage ponds into the vacant voids.

The proposed area of wetland evaporation ponds is, based upon community experience at the nearby disused Junction Reefs mine, completely inadequate. Cadia is situated in a high rainfall cool climate, evaporation is comparatively low and the relative area required is significant compared to the surface area of the tailings dams. In order to avoid overflow into the environment of concentrated contaminated water, it would be necessary to run a pump / recycle system potentially in perpetuity. Even if the wetland area was significantly larger this approach in our lived experience will not be a passive system.

Desiccation times and the issues associated with dust control and controlling supernatant water in winter have not been considered.

Social impacts have not been considered, CVO states that the Social Impact Assessment Guide for State Significant Projects 2021 trigger date based on PA06 – 0295 30/6/2031 does not require it to be done (S 6.2).

Based upon a review of the SIA Guidelines we believe that if the specific Project Approval requires a specific condition then that applies. Hence we believe the omission of the Social Impact considerations is a non – compliance with approval PA06 -0295.

Regardless of the specifics of the SIA requirements, to suggest this Guide is not relevant based upon a technicality demonstrates the level of disregard CVO has for its impact on the community. In the final analysis the rehabilitation of the site is critical to determining the future socio – economic impacts post mine closure.

We believe the social impact of the rehabilitation is an important consideration in the design of the strategy and should be pro-active rather than reactive.

Revised and Updated

36 (b) Consultation of Rehabilitation

Following Mod 14, November 2021 a Rehabilitation Working Group was formed under the advice of the regional operations manager, interested CCC members and stakeholders. Non of this work is included or even mentioned in Section (6) Stakeholder Consultation.

The voluntary work of this group was further inhibited by multiple resignations over the last two years: Newcrest CEO (Sandeep Biswas), the Newcrest Chief Operations Officer (Phil Stephenson), Cadia Mine Manager (Aaron Brannigan), Community Relations Manager 2 times, Environment Superintendent 2 times, mine operations manager, approvals manager and others.

Comments from this Working Group are attached.

As a result there has been no effective stakeholder engagement, the proposal presented appears to be the work of Umwelt Consulting with little input from the operations or consideration of historic understanding between CVO management and the community.

The existing strategy specifies consultation with RR, DPE-water, BCS, MEG, CCC, OCC, BSC and CSC. Leading Practice Sustainable Development program for Tailings Management considers community engagement as particularly important in the decommissioning and closure of tailings storage facilities at which time stakeholder consultation, information sharing and dialogue should intensify. The greater the uncertainty the more proactive the approach should be.

36 (c) Investigate options for future use of disturbed areas including voids upon completion of mining.

The rehabilitation plan proposes no rehabilitation of the voids. As potential water sources they have no use, being saline and acidic. Both the open pit and the Ridgeway slump area have potential for tailings deposition and total rehabilitation. This approach would minimise degradation of land for storage of tailings, minimise evaporative water losses and improve environmental water flows in perpetuity.

Underground flooded tunnels and infrastructure can be used as an energy storage system using compressed air storage supplying peak demand electricity generation. This system, which is used elsewhere in redundant underground mines, is probably the only useful option for these areas.

36 (d) Proposed rehabilitation strategy for the site

The proposed treatment of the tailings dams based on 200mm of soil would not provide a stable ecosystem / soil biota and due to the presence of soluble heavy metals could not be used for agricultural purposes. To enable effective use of the tailings storage area consideration should be given to a capillary break, a clay seal and a greater depth of soil.

Suitable capping systems are described in Leading Productive Sustainable Development Program for the Mining Industry 2016.

Consideration should also be given to better contouring of the existing flat surface by the use of dewatered tailings to improve water shedding and conformation with the existing land forms, this would reduce the final tailings footprint and provide a more stable better drained less permeable surface.

Consideration should be given to both the Australian Government Ips/dp Tailings Management handbook and the NSW RR Compliance Priorities Outcomes July 2020. Both publications outline the issues and limitations in regard to the rehabilitation of wet tailings dams and suggest and recommend alternatives such as Dry Filtered Tailings (Prof DS Williams QUT).

There is a high likelihood that the site cannot be effectively rehabilitated and will need to be managed in perpetuity, the development of sustainable uses such as electricity generation and storage may provide alternate economic options.

The current rehabilitation bond assumes the site will be a passive system and has not factored in ongoing management, monitoring and rehabilitation costs in perpetuity. The bond is probably significantly understated due to issues with the NTSF foundations which cannot be repaired and known contamination of the underlying aquifer.

We highly recommend that a request be made for a Ministers Review of the assessed security deposit under S261 B of the Mining Act 1992.