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Department of Planning, Housing and Infrastructure

Via Major Projects Portal

EPA Advice on Modification Application - MOD 16 - NTSF hydrocyclone sands buttressing - MP06_0295-Mod-16

Dear Mandana

I am writing in response to your request for the NSW Environment Protection Authority (EPA) to review the Modification Application for the proposed MOD 16 - NTSF hydrocyclone sands buttressing - MP06_0295-Mod-16 located at 1460 Cadia Rd, Orange, NSW (Premises).

The EPA has reviewed the following documents:

- *Modification Report - Modification 16 Northern Tailings Storage Facility Buttress Optimisation*, prepared by Newmont Cadia Holdings Pty Ltd, with reference number 01340680 (Modification Report)
- *Appendix C – Cadia Modification 16 – Air Quality Impact Assessment*, prepared by Airen Consulting, dated 18 December 2025

The EPA understands the proposal is for:

- using recovered sand to buttress the southern wall of the Northern Tailings Storage Facility (NTSF);
- emplacing/stockpiling excess recovered sand within the approved Southern Tailings Storage Facility (STSF) disturbance footprint; and
- integrating the recovered sand demonstration embankment approved under Modification 15 to PA 06_0295 with the proposed NTSF southern wall recovered sand buttress, with the integrated structure to remain and form part of the final landform.

The EPA is responsible for pollution control and environmental management under the *Protection of the Environment Operations Act 1997* (POEO Act). Cadia Holdings Pty Limited (Licensee/Applicant) hold Environment Protection Licence No. 5590 (Licence), issued pursuant to the POEO Act for scheduled activities being undertaken at the Premises.

The EPA has reviewed the modification application and considers that additional information is required to allow us to complete our assessment. The EPA has the following comments and recommendations below, with more details in **Attachment A**.

1. Matters to be addressed prior to determination

- a. Hydrocyclone sands tailings pilot plant
- b. Chemical composition and dispersive characteristics of the recovered sand
- c. Human Health Risk Assessment
- d. Potential risk for dust

2. Other matters

The EPA advises that the following documents are still being reviewed and the EPA will provide further advice to the Department of Planning, Housing and Infrastructure (DPHI) on the review once completed:

- *Appendix B - Cadia Modification 16 - Noise Impact Assessment*, prepared by RWDI Australia Pty Ltd, dated 16 December 2025

Please note that all activities associated with the proposed modification will be subject to EPA regulation in accordance with the Licence, including those that may result in potential off-site impacts during both the construction and operational phases of the modification.

Should the modification application be approved, we recommend that the Licensee contact the EPA directly about any concerns relating to variation of the Licence that may result from the modification of the consent.

If you have any questions about this request, please contact Geo Lapina via email at environmentprotection.planning@epa.nsw.gov.au.

Yours sincerely



DARREN WALLETT
Manager - Environment Protection Planning
NSW Environment Protection Authority

Attachment A – NSW EPA detailed comments on Modification Report - MOD 16 - NTSF hydrocyclone sands buttressing - MP06_0295-Mod-16

1. Matters to be addressed prior to determination

a. Hydrocyclone sands tailings pilot plant

The EPA notes the Modification Report mentions the approved Modification 15, which is part of the Consolidated Approval PA 06_0295. The approved modification allowed for the construction of a larger tailings pilot plant and associated sand embankment (known as hydrocyclone sands).

The EPA understands condition 50B included in the Consolidated Approval for PA 06_0295, requires the Applicant to submit a report on the performance of the Hydrocyclone Sands Tailings Pilot Plant. The EPA understands the Applicant is yet to provide the Performance Report, and it is unclear if the hydrocyclone sands tailings pilot plant has been completed.

Condition 50B also requires the Applicant to provide a geochemical evaluation to assess any acid generating and acid neutralising potential from the pilot in the Performance Report.

As Modification 16 seeks approval for the continued use of this method on a long-term large scale basis, the Applicant should demonstrate the proposed technique to be used for the final landform is robust and mitigates any environmental risk. The EPA believes it is important to review the Performance Report and other related documents to understand the outcomes of the pilot and to ensure there is no potential risk of harm to human health or the environment prior to approving an expansion of this tailings management technique.

Recommendation:

The EPA recommends that DPHI seek clarification on the completion of the Hydrocyclone Sands Tailings Pilot Plant and the Performance Report required under Condition 50B, and a copy of this report be provided to the EPA for review to allow an adequate assessment of the proposal.

b. Chemical composition and dispersive characteristics of the recovered sand

The EPA notes the Modification Report does not include information on the chemical composition or dispersive characteristics of the recovered sand produced by the hydrocyclone process. Additional detail is required on the chemical composition and dispersive characteristics of the sand, including any potential traces of elements such as metals and silica, to assess possible impacts to human health and the environment.

Recommendation:

The EPA recommends further information is provided on the chemical composition and dispersive characteristics of the recovered sand, including the particle sizes of the elements. Depending on the results, the EPA may require revision of the air quality impact assessment.

c. Human Health Risk Assessment

Based on the Modification Report, the EPA notes that an updated human health risk assessment has not been provided which considers the chemical composition of the recovered sand.

Recommendation:

The EPA recommends that DPHI consider if an updated Human Health Risk Assessment is required that identifies and assesses human health risks associated with the construction, operation and long-term rehabilitation of this modification. If required, the assessment must be undertaken in accordance with *Environmental Health Risk Assessment: Guidelines for assessing human health risks from environmental hazards* (enHealth) and must include the inhalation of criteria pollutants and exposure from all pathways i.e., inhalation, ingestion and dermal, specific to the results of the chemical composition of the recovered sand.

d. Potential risk for dust

The EPA notes from Section 3.2.5 Rock Armouring that the recovered sand buttress will be covered with a layer of rock, and Section 3.2.6 Buttress Rehabilitation mentions the capping with topsoil for revegetation.

The EPA acknowledges the intention of the rock armouring and buttress rehabilitation. However, the activity may generate dust during the construction phase, with the potential for off-site impacts in the short- to longer-term, which must be appropriately managed. Also, the length of time of sand exposure prior to rock capping and revegetation may increase the risk of particulate matter migrating from the site.

Recommendation:

The EPA recommends DPHI seeks further information on the design of the rock armouring and details of the proposed capping, such as layering and thickness, including any mitigation measures proposed during construction. The EPA also requests information on the length of time of sand exposure on the tailings dam walls and any required mitigation measures to ensure dust generation of these exposed areas is appropriately managed. The EPA may require revision of the air quality impact assessment depending on the information provided by the Applicant.

2. Other matters

a. Resources Regulator at NSW Resources

The EPA understands that the Resources Regulator is the appropriate regulatory authority responsible for overseeing the safe design, construction, operation and decommissioning of tailing storage facilities in New South Wales.

Recommendation:

The EPA recommends DPHI consult with the Resources Regulator for advice regarding the engineering suitability of this proposal for long-term rehabilitation of the tailings dam.