



New South Wales Government
Independent Planning Commission

Mining and Petroleum Gateway Panel Conditional Gateway Certificate Cadia Valley Operations Modification 15

Division 4 of *State Environmental Planning Policy (Resources and Energy) 2021*

Pursuant to section 2.31 of the *State Environmental Planning Policy (Resources and Energy) 2021*, we determine the application made by Cadia Holdings Pty Limited by issuing this certificate.

We certify that in the opinion of the Mining and Petroleum Gateway Panel (**Gateway Panel**), with regard to the relevant criteria in section 2.31 of *State Environmental Planning Policy (Resources and Energy) 2021*, the proposed development described in Schedule 1:

- does meet the following relevant criteria:
 - section 2.31(4)(a)(v)
- does not meet the following relevant criteria:
 - section 2.31(4)(a)(i)
 - section 2.31(4)(a)(ii)
 - section 2.31(4)(a)(iii)
 - section 2.31(4)(a)(iv)
 - section 2.31(4)(a)(vi)
- does not include any Critical Industry Cluster land in the Application area, and therefore section 2.31(4)(b) does not apply.

The reasons for forming the opinion on each of the relevant criteria, together with recommendations of the Gateway Panel, are contained in Schedule 2.

Prof Neal Menzies
**Member of the Gateway
Panel (Chair)**

Dr Clinton Foster PSM
**Member of the Gateway
Panel**

Mr Hugh Middlemis
**Member of the Gateway
Panel**

Date certificate issued: 16 August 2023

This certificate will remain current for 5 years after the date of issue.

SCHEDULE 1

Site:

The site is located approximately 25 kilometres south-west of Orange, in the Central Tablelands region of NSW. It is located in the Cabonne Shire and Blayney Shire Local Government Areas.

Development description:

Modification 15 to Project Approval (PA 06_0295) for the Cadia Valley Operations gold and copper mine, which was initially granted on 6 January 2010.

The Modification includes changes to the embankment footprints of the northern and southern tailings storage facilities such that the associated disturbance area includes areas outside the existing mining leases. The Modification also includes restarting the Ridgeway Underground Mine 1, various infrastructure upgrade works, and realignment of Panuara Road to accommodate the changes to the tailings storage facility embankment footprints.

Applicant:

Cadia Holdings Pty Limited.

SCHEDULE 2

| Section 2.31(4) The <i>relevant criteria</i> are as follows – | | |
|---|---|--|
| (a) in relation to biophysical strategic agricultural land – that the proposed development will not significantly reduce the agricultural productivity of any biophysical strategic agricultural land, based on a consideration of the following – | | |
| Relevant criteria | Consideration | Recommendations |
| <i>(i) any impacts on the land through surface area disturbance and subsidence,</i> | <p>The Gateway Panel finds that 0.8 ha of BSAL land will be impacted, and the duration of impacts on BSAL resulting from surface area disturbance associated with the Application will extend indefinitely as the slope of this land will be increased to greater than 1:3. The Gateway Panel also notes that the overall area of disturbance to BSAL is minimal.</p> <p>The Gateway Panel considers overall the likelihood of subsidence impacts to BSAL as a result of the Application is low but notes that further consideration should be given to the long-term monitoring and management of the tailings storage facilities (TSF) with respect to the potential for subsidence to influence water flows, potentially causing water to concentrate in defined flow paths, reducing the overall stability of the landform.</p> | <p>The Gateway Panel recommends that the EIS:</p> <ul style="list-style-type: none"> (a) establishes a baseline to allow any subsidence over the life of the project to be determined; and (b) give further consideration to the long-term monitoring and management of the TSF with respect to the potential for subsidence to influence water flows, potentially causing water to concentrate in defined flow paths, and reducing the overall stability of the landform. |
| <i>(ii) any impacts on soil fertility, effective rooting depth or soil drainage,</i> | <p>The Gateway Panel finds that 0.8 ha of BSAL will be subject to increased slope as a result of the Application and that this will alter soil drainage and may impact rooting depth.</p> | <p>No recommendations provided.</p> |
| <i>(iii) increases in land surface micro-relief, soil salinity, rock outcrop, slope and surface rockiness or significant changes to soil pH,</i> | <p>The Gateway Panel considers that the proposed STSF embankment will result in slopes that are sufficiently steep that they will constrain future land uses on 0.8 ha of BSAL and present an erosion risk that will need to be managed.</p> | <p>The Gateway Panel recommends a management plan be prepared as part of the EIS to address post-mine land use and future land management, including strategies and measures to avoid, mitigate or reduce potential impacts associated with the TSFs. If the TSFs are likely to present environmental risks, such as if they</p> |

| | | |
|--|---|---|
| | <p>Furthermore, the TSFs may present a range of other environmental risks to BSAL that need to be properly considered by the Applicant.</p> | <p>become acid-generating in the long-term, the consequential impacts on groundwater and soil fertility should be addressed.</p> |
| <p><i>(iv) any impacts on highly productive groundwater (within the meaning of the Aquifer Interference Policy),</i></p> | <p>The Gateway Panel finds that further details of the design, construction and predicted performance of the TSF embankments modified by the Application are essential to understanding the risks of failure and subsequent impacts on water resources, including highly productive groundwater.</p> <p>Incidental water take includes the hydrological capture or interception of water that would otherwise be runoff and/or infiltration, such as due to expansion of the southern TSF. The Gateway Panel finds that such incidental take could potentially affect the Orange Basalt, which is defined under the Aquifer Interference Policy as a highly productive groundwater source.</p> <p>An improved understanding is required of the potential leakage pathways from the TSFs, the quantity and quality of leakage, and the potential receptors that could be impacted by the leakage. Compaction and loading arising from the modified embankment may change the volume, rate and/or flowpaths of seepage currently occurring beneath the TSFs. These leakage pathways require more detailed evaluation (e.g. internal erosion pathways or those associated with faulting) to ensure that the embankment works are designed to minimise leakage.</p> <p>The likely extent and magnitude of groundwater level increases from the project and their potential impacts on nearby GDEs and surface waters have not been quantified. Historical increases in groundwater levels have been observed but only limited explanation is provided. The source of these increases needs to be comprehensively examined with consideration of tailings deposition (e.g., timing, volumes) to understand how the TSFs are affecting groundwater levels and risks to downstream water resources during and after construction and post-closure.</p> | <p>The Gateway Panel recommends additional data gathering and analysis be prepared as part of the EIS to:</p> <ul style="list-style-type: none"> (a) quantify the extent of the Orange Basalt; (b) explain discrepancies between the Applicant's and DPE-Water's mapping of the extent of the Orange Basalt; (c) detail the design, construction and predicted performance of the modified TSF embankments, including how the existing and new works will be keyed into the bedrock base and valley sides, operation of the TSFs, and tailings volumes to be stored; (d) quantify the risk and duration of incidental water take; (e) quantify the risk and duration of groundwater level changes and associated potential impacts (including to Groundwater Dependent Ecosystems); (f) quantify the risk of TSF failure and consequential impacts on downstream water resources; (g) identify strategies and measures to avoid, mitigate or reduce the likelihood and significance of potential impacts to water-related resources, including a monitoring plan and infrastructure to detect leachate movement past the TSF containment system; (h) describe suitable Trigger Action Response Plans (TARPs) that will ensure any leakage |

| | | from the TSFs is identified and managed in a timely manner to minimise impacts to significant water-related resources. |
|---|---|---|
| <i>(v) any fragmentation of agricultural land uses,</i> | The Gateway Panel finds that the BSAL land impacted by the Application is contiguous with existing areas of disturbed land, so there is no significant fragmentation of agricultural land uses. | The Gateway Panel recommends that a management plan is included in the EIS to ensure that the area of land proposed to be temporarily disturbed by the Application is rehabilitated to a Land and Soil Capability (LSC) class appropriate for agriculture at the end of the project life. |
| <i>(vi) any reduction in the area of biophysical strategic agricultural land,</i> | The Gateway Panel finds that the Application will not have a significant impact as the total area of BSAL disturbance is 2.0 ha, with a permanent loss of 0.8 ha of BSAL. | No recommendations provided. |
| Section 2.31(4) The <i>relevant criteria</i> are as follows – (b) in relation to critical industry cluster land – that the proposed development will not have a significant impact on the relevant critical industry based on a consideration of the following – | | |
| Relevant criteria | Consideration | Recommendations |
| <i>(i) any impacts on the land through surface area disturbance and subsidence,</i> | The Gateway Panel finds that no critical industry cluster land is likely to be impacted by this Application and therefore there is no duration of impact, and no avoidance, mitigation, offset or rehabilitation measures are proposed. | No recommendations provided. |
| <i>(ii) reduced access to, or impacts on, water resources and agricultural resources,</i> | | |
| <i>(iii) reduced access to support services and infrastructure,</i> | | |

| | | |
|---|--|--|
| <i>(iv) reduced access to transport routes,</i> | | |
| <i>(v) the loss of scenic and landscape values.</i> | | |

Note: Further information on the Gateway Panel's reasoning in relation to the relevant criteria is contained in the Conditional Gateway Certificate Report available at: <https://www.ipcn.nsw.gov.au/cases/2023/05/cadia-valley-operations-gateway-application>
