



REQUEST FOR ADVICE

Summary			
Requesting agency/agencies	NSW Mining and Petroleum Gateway Panel (Gateway Panel)		
Project title	Cadia Continued Operations Project	Proponent	Cadia Holdings Pty Limited
Reference no.		State	NSW
Project stage	<p>An Application for a Gateway Certificate has been made to the Gateway Panel. Under s 2.30 of the NSW <i>State Environmental Planning Policy (Resources and Energy) 2021 (Resources & Energy SEPP)</i>, the Gateway Panel must refer the Application to the IES Committee for advice regarding the impact of the proposed development on water resources.</p> <p>The Gateway Panel must determine this Application by issuing a Gateway Certificate in accordance with Division 4 of the Resources & Energy SEPP. The Gateway Panel will consider the IES Committee's advice in determining whether the application meets the "relevant criteria" and what, if any, recommendations should be included on the Gateway Certificate in accordance with s 2.31 of the Resources & Energy SEPP.</p> <p>A Development Application has not yet been lodged by the Applicant.</p>		
Timing	<p>The Gateway Panel must determine the Application by 28 October 2024. The Gateway Panel requests that the IESC provide its written advice by 15 October 2024.</p>		
Documentation	<p>The following documents are provided to the IES Committee for review:</p> <ol style="list-style-type: none"> 1. Gateway Application Form 2. Gateway Application Report 3. Appendix 1 - BSAL Site Verification Assessment 4. Appendix 2 - Soil Survey Summary and Soil Profile Descriptions 5. Appendix 3 - Certificates of Analysis 6. Appendix 4 - Land and Soil Capability Assessment Ratings 7. Appendix 5 - Site and Technology Selection Report 		
Description of the proposed project			
Development type	<input type="checkbox"/> Coal Seam Gas	<input type="checkbox"/> Open cut coal mine	<input type="checkbox"/> Underground coal mine
	<input checked="" type="checkbox"/> Other: Gold/Copper Mine	Site	<input type="checkbox"/> New <input checked="" type="checkbox"/> Expansion
Operational life	The Applicant is intending to seek development consent to continue operations beyond 2031 (end date of current consent) for a period of 25	Scale	Processing of up to 35 Mtpa of gold/copper/molybdenum ore on site

	years from the date of approval (nominally to 2050).		
Geological basin	Murray-Darling Basin	Coal resource	NA
Assessment of impacts to water resources			
Surface water catchment	Belubula (Lachlan)	Groundwater basin	Murray-Darling Basin (Lachlan Fold Belt)
Key water related assets	<p>Surface water assets</p> <ul style="list-style-type: none"> • Rodds Creek and Cadiangullong Creek are located within the Site. • Flyers Creek is located immediately to the east of the Site. • Several un-named first and second order ephemeral streams occur within the Site. <p>Groundwater assets</p> <p>Both of the following groundwater sources are located within the Site:</p> <ul style="list-style-type: none"> • Orange Basalt Aquifer Source • Lachlan Fold Belt MDB Groundwater Source 		
Relevant water management policies, regulations or information	<ul style="list-style-type: none"> • The Project resides in the Lachlan Fold Belt MDB Groundwater Source of the Water Sharing Plan for the NSW MDB Fractured Rock Groundwater Sources 2020. The Lachlan Fold Belt MDB Groundwater Source is subdivided into management zones and the Project resides in the 'Lachlan Fold Belt MDB (Other) Management Zone'. • The Cadia Southern TSF is sited on the upper part of (what was) Rodds Creek, which drains to Cadiangullong Creek (after about 2km) and thence to the Belubula River (after about 3km), which is part of the Lachlan River and thus the Murray- Darling Basin system. 		
Key issues (identified by the requesting agency)	<p>The Gateway Panel notes that:</p> <ul style="list-style-type: none"> • No increase is proposed to groundwater take, but there is potential for increased seepage from the larger footprint TSF to the underlying fractured rock system, and thence possibly to Rodds Creek and/or Cadiangullong Creek. Such seepage may affect high priority groundwater dependent ecosystems along Cadiangullong Creek that are listed in the Water Sharing Plan. • The Gateway Report summarises the changes in terms of the key metrics of stream flows, groundwater levels, seepage and water quality, and demonstrates that the modelling results are consistent with monitoring to 2023 (eg. pp 63-66). Groundwater quality trigger exceedances were also identified (pp 19-20), although the chemical similarity between the TSF decant water and natural groundwater invokes uncertainties in attribution of causes. • Uncertainty applies to estimating impacts on interactions between surface water and groundwater resources and related Groundwater Dependent Ecosystems, and the Gateway Report outlines the uncertainty analysis methods applied to the groundwater modelling impact assessment approach. 		
Request for Advice			

In accordance with section 2.30(1) of the Resources & Energy SEPP, the IES Committee is requested to provide advice regarding the impact of the proposed development on water resources. This request includes, but is not limited to, the following matters:

- 1) **Have all relevant water resources been adequately defined? If not, what further work is required?**

The Applicant has outlined these resources in pp 12-18 of the Gateway Report. The Gateway Panel notes there are uncertainties relating to the extent and/or distribution and properties of the Orange Basalt highly productive groundwater resource in the Cadia area. The Panel also notes the advice from the Water Group Chief Knowledge Officer (10 August 2023) on the Cadia Mod 15 Gateway Application that the highly productive categorisation applies to the 'whole groundwater resource', and that the locally variable conditions would not affect that categorisation.

- 2) **Have all potential water resource impact pathways been adequately identified by the Applicant? If not, what further work is required?**

The Gateway Panel notes that the Applicant is currently undertaking this work as described in pp 57-59 of the Gateway Report, but detailed reporting on ecohydrological conceptual models and related impact pathway diagrams have not (yet) been presented.

- 3) **Is the Applicant's proposed approach to assessing the potential impacts fit for purpose? If not, what further work is required?**

The Gateway Panel notes that the Applicant is currently undertaking this work consistent with the Aquifer Interference Policy, as described in several places of the Gateway Report (eg. pp 59-61), including incremental and cumulative impact assessment (p.57), and that there have been improvements to the monitoring data and modelling tools to inform the assessment (eg. Cadia Mod 15 Groundwater Impact Assessment, Nov. 2023).

- 4) **Have appropriate strategies and measures to avoid, mitigate or reduce, to a practicable extent, the likelihood and significance of impacts to significant water-related resources been proposed? Are there additional strategies, mitigation or offsetting measures that should be considered to address any residual impacts of the project on water resources and related GDEs?**


The Gateway Panel notes that the Applicant is currently undertaking this work as described in pp 59-61 of the Gateway Report.

Contact information


Agency contact officer/s	Brad James Principal Case Manager Office of the Independent Planning Commission NSW bradley.james@ipcn.nsw.gov.au (02) 9383 2146
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Approval

Agency Delegate	Stephen Barry Planning Director Office of the Independent Planning Commission NSW
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Signature		Date	16 August 2024
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Agency Delegate	Professor Neal Menzies Mining and Petroleum Gateway Panel Chair
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Signature		Date	16 August 2024
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