

## ASSESSMENT REPORT

### Cadia East Gold/Copper Project

#### Molybdenum Recovery Plant Modification (06\_0295 – MOD 10)

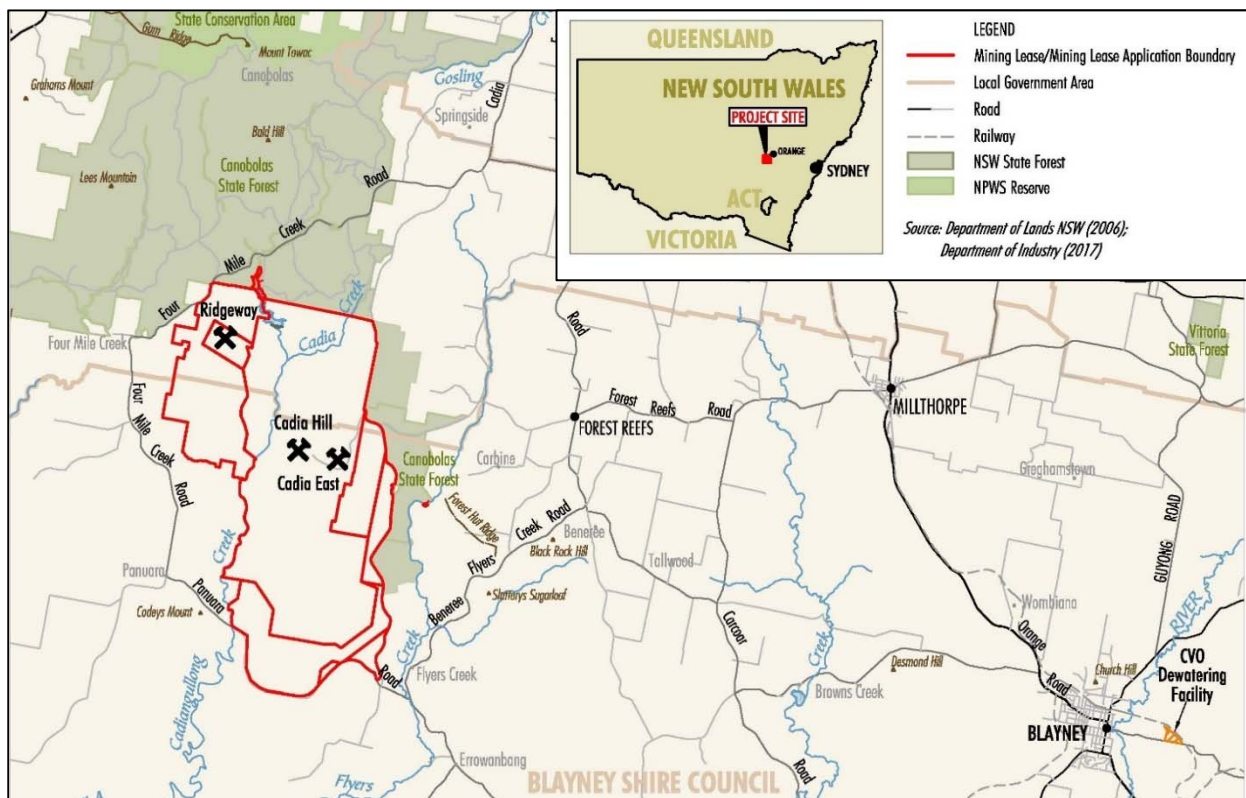
#### EXECUTIVE SUMMARY

Cadia Valley Operations is an operational mining complex in the Central Tablelands of NSW (see **Figure 1**). The mining complex includes the active Cadia East underground mine, the Cadia Hill open cut mine (which ceased operations in 2012), the Ridgeway underground mine (which was placed on care and maintenance in 2016) and the Blayney Dewatering Facility (located approximately 25 km east of the mine). The ore currently extracted at the Cadia East mine contains gold, copper and some molybdenum.

The project approval includes a molybdenum recovery plant, which has not yet been constructed. Cadia is seeking to modify its approval to relocate this plant from its approved location at the ore processing facilities to the eastern side of the mining complex. Cadia has advised that the new location is more suitable as it allows more space for construction and operation, and is located closer to the site access point. The proposed modification also involves a minor increase in the feed capacity of the molybdenum recovery plant, and an increase in the amount of molybdenum concentrate transported off-site.

The Department referred the application to key government agencies for comment and made it publicly available on its website from 15 February 2018. No public submissions were made, while the Department received advice from seven government agencies, including Blayney Shire and Cabonne councils, none of which object to the proposed modification.

The Department is satisfied that the proposed modification would not result in any significant environmental impacts beyond those assessed and approved for the original project. Consequently, the Department considers the modification is in the public interest and should be approved, subject to conditions.



**Figure 1: Regional Location**

## 1 BACKGROUND

Cadia Holdings Pty Ltd (Cadia) owns and operates the Cadia Valley mining complex, located approximately 25 km southwest of Orange. The complex is located within the Blayney Shire and Cabonne local government areas.

The mining complex operates under the Cadia East project approval (PA 06\_0295), granted by the Minister for Planning on 6 January 2010.

The project approval has been modified 9 times, and allows Cadia to undertake the following activities until 30 June 2031:

- extract ore from the Cadia and Ridgeway mines;
- process up to 32 million tonnes of ore a year; and
- transfer processed ore via a pipeline to the Blayney Dewatering Facility, where it is dewatered and transported via rail to Port Kembla for export.

The approval also allows the construction and operation of a molybdenum recovery plant, with capacity of approximately 460,000 tonnes per annum (tpa). The molybdenum recovery plant is a facility to further process the mineral concentrate and extract molybdenum, which is sold as a separate product. The approval allows transportation of 1,500 tonnes of molybdenum concentrate a year.

Cadia has now identified the need to relocate the plant due to the limited amount of space available to construct and operate the plant and its associated car park at its approved location. In addition, the proposed new location is adjacent to the new site access point and would allow better access to the plant.

## 2 PROPOSED MODIFICATION

Cadia is seeking to modify its project approval to:

- relocate its approved molybdenum recovery plant (which has not yet been constructed);
- increase the plant's feed capacity from the approved 460,000 tpa to 500,000 tpa;
- increase the amount of molybdenum product that would be transported off-site from the approved 1,500 tpa to 6,500 tpa; and
- relocate the intersection of the approved mine access road.

The molybdenum recovery plant would be relocated from the approved location at the ore processing facilities to the eastern side of the mining complex, adjacent to the Rodds Creek Water Holding Dam (see **Figure 2**). The proposed site is in an area of existing pine forest plantation (see **Figure 3**).

The proposed increase in the plant's concentrate feed capacity is due to the addition of a regrind circuit that would allow for increased molybdenum recovery. The option of a regrind circuit was previously assessed and approved as part of the original project approval.

The proposed increase in the amount of molybdenum that would be transported off-site is due to the increased molybdenum recovery rate.

The current project approval includes an upgraded access road off Cadia Road, which has not yet been constructed. Cadia is also proposing to relocate the intersection of this mine access road and Cadia Road 30 metres north of the approved intersection location.

No changes to the approved off-site transport routes or increases to the traffic volumes are proposed. The remaining mineral concentrate would continue to be transported via the approved pipeline to the Blayney Dewatering Facility.

Full details of the proposed modification are included in Cadia's Environmental Assessment (see **Appendix C**).



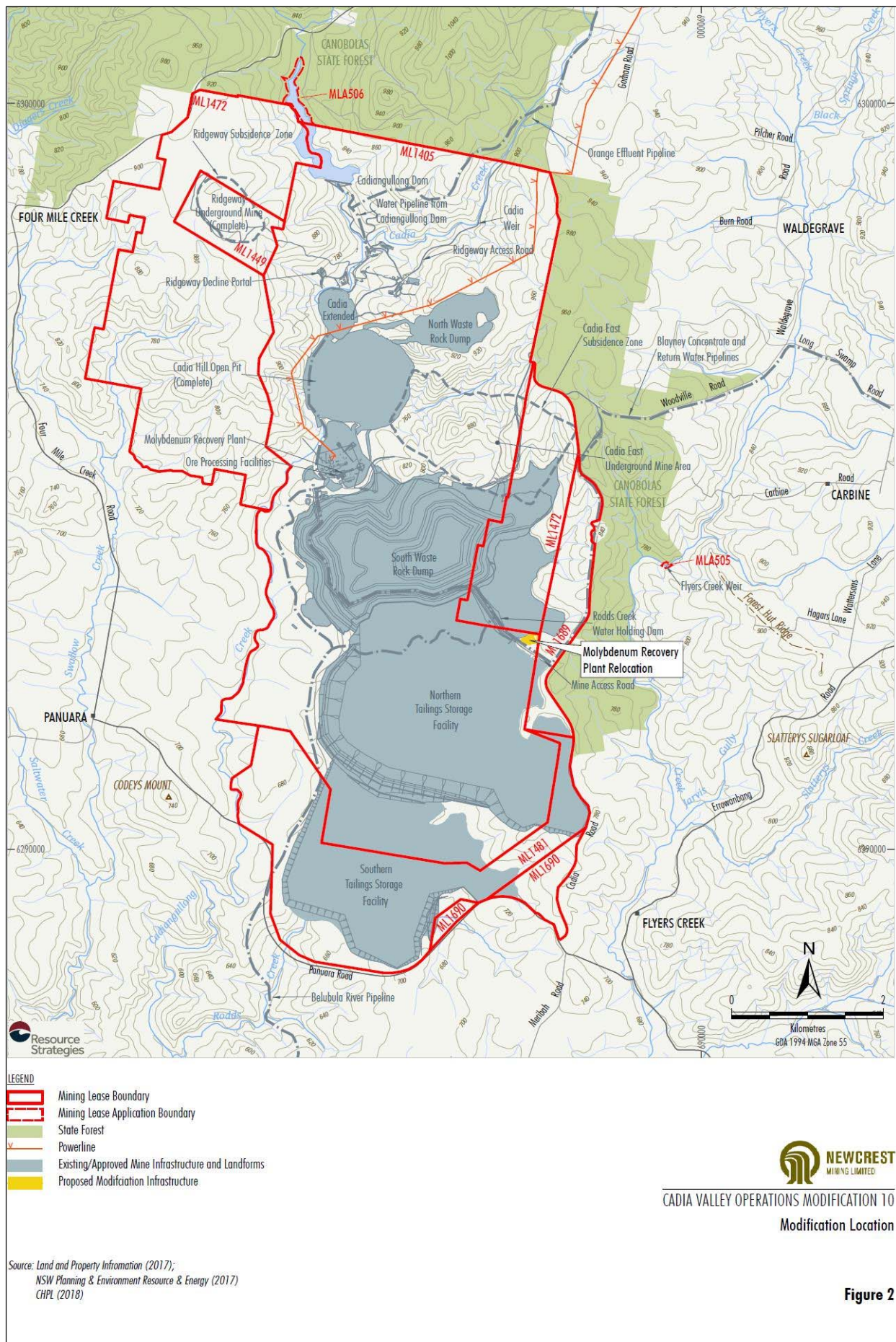
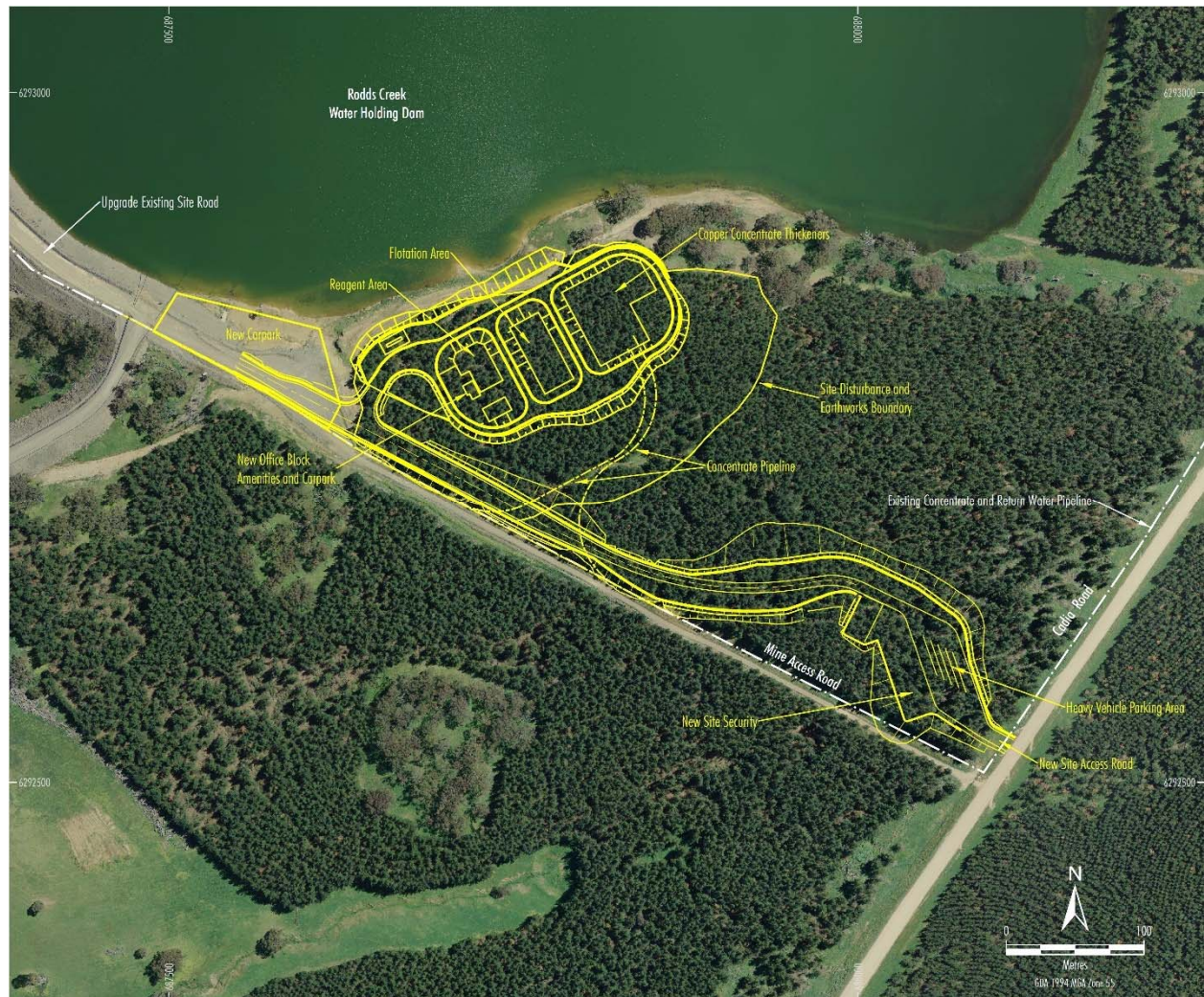


Figure 2: Proposed Plant Location





**Figure 3: Proposed Modification – Molybdenum Recovery Plant and Access Road design**

### 3 STATUTORY CONTEXT

#### 3.1 Section 75W Modifications

The Cadia East Gold / Copper Project was originally approved under Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

Although Part 3A was repealed on 11 October 2011, the project remains a “*transitional Part 3A project*” under Schedule 6A of the EP&A Act, and hence any modification to the approval must be made under the former Section 75W of the Act.

Based on its assessment, the Department considers that the proposal can be characterised as a modification as it would not change the approved mining, processing and transport methods, the extraction rate, and would not significantly increase the environmental impacts of the project as approved. Consequently, the Department considers that the proposed modification is within the scope of Section 75W of the EP&A Act.

#### 3.2 Approval Authority

The Minister for Planning is the approval authority for the modification application. However, under the Minister’s delegation dated 16 February 2015, the Director, Resource and Energy Assessments, may determine the application. This is because no public submissions in the form of objections were received on the proposal, no reportable political donations were made and Cabonne and Blayney Shire councils did not object to the proposal.

## 4 CONSULTATION

The Department referred the application to key government agencies for comment and made it publicly available on its website from 15 February 2018. Cadia also undertook its own consultation with the project Community Consultative Committee (CCC). No concerns were raised by the CCC and no public submissions were received by the Department.

The Department received advice from seven government agencies, none of which object to the proposed modification. A summary of the advice is provided below. Full copies of the advice and Cadia's response are provided in **Appendix D**.

The **Department of Industry – Crown Lands & Water (CL&W)** initially recommended that the proposed works comply with the standard guidelines for controlled activities on waterfront land. The Department notes that the Rodds Creek Water Holding Dam is located in a controlled water management system with no discharge to the downstream environment. Following further consultation, CL&W advised that the guidelines relating to controlled activities on waterfront land are therefore not relevant in this instance.

The **Environment Protection Authority (EPA)** requested clarification that the plant would not result in any emissions requiring regulation under the *Protection of the Environment Operations (Clean Air) Regulation 2010*. Following provision of additional information by Cadia, EPA does not have any residual concerns. EPA also advised that no changes to the noise limits would be required for the current project Environment Protection Licence (EPL).

The **Division of Resources and Geoscience** noted it had no concerns or issues relating to resource sterilisation or titles as the proposed modification would be within the existing Mining Lease 1405.

The **Office of Environment and Heritage (OEH)** advised that it has no concerns relating to biodiversity or heritage matters, noting that the proposed site of the relocated molybdenum recovery plant contains no native vegetation or Aboriginal objects.

**Roads and Maritime Services (RMS)** made several recommendations relating to traffic safety, including ensuring appropriate sight distances at the new intersection, avoiding school bus times, and the preparation of a driver code of conduct and management plan for staff commuting. RMS has confirmed that Cadia's response satisfies these requirements.

**Blayney Shire Council** requested that the conditions of approval include a requirement to ensure the proposed mine access road / Cadia Road intersection is constructed to the satisfaction of Council, which the Department has included in the recommended conditions of approval.

**Cabonne Shire Council** advised it had no objection to the modification.

## 5 ASSESSMENT

In assessing the merits of the modification application, the Department has considered the:

- Environmental Assessment (EA) and previous EAs for the project;
- modification application and existing conditions of approval;
- agency comments on the application;
- Cadia's response to agency comments; and
- requirements of the EP&A Act.

A summary of the Department's assessment of the relevant issues is provided in **Table 1**.

**Table 1: Assessment of Issues**

<b>Issue</b>	<b>Consideration</b>	<b>Recommendation</b>
<i>Traffic and Transport</i>	<ul style="list-style-type: none"> <li>• Although higher quantities of molybdenum product would be produced, there would be no increase to the number of transport movements, as B-doubles would be used instead of trucks to transport the product in higher quantities (i.e. a reduction from 6 truck movements to 4 B-doubles per week).</li> <li>• The Department has updated the conditions to include a requirement for the intersection upgrade to be undertaken to the satisfaction of Blayney Shire Council.</li> </ul>	<ul style="list-style-type: none"> <li>• Upgrade intersection to satisfaction of Blayney Shire Council.</li> <li>• Minimise potential for conflict with school buses.</li> <li>• Comply with existing conditions relating to road safety.</li> </ul>

Issue	Consideration	Recommendation
	<ul style="list-style-type: none"> <li>RMS requested that haulage operations and shift changeover times avoid coinciding with school bus times. While the peak mine related traffic times (i.e. 6-7 am and 6-7 pm) fall outside school bus times, Cadia has also committed to minimising haulage during school bus times. RMS has confirmed it has no residual issues.</li> <li>The Department is satisfied that the proposed modification would not result in any significant impacts on the local and classified road network, or on road safety.</li> </ul>	
Biodiversity	<ul style="list-style-type: none"> <li>Approximately 6.6 hectares of exotic pine forest would be removed for the modification. No native vegetation would be removed.</li> <li>34 threatened fauna species were identified to potentially occur in the study area, with two species - the Flame Robin and the Scarlet Robin - potentially utilising the area for foraging following dispersal from their breeding areas. However, it is considered unlikely that these populations would be adversely affected due to the poor quality of the habitat.</li> <li>No threatened ecological communities, populations or critical habitat listed under the <i>Biodiversity Conservation Act 2017</i> or the <i>Environment Protection and Biodiversity Conservation Act 1999</i> occur in the study area.</li> <li>No tree species listed under the <i>State Environmental Planning Policy No 44 - Koala Habitat Protection</i> were found to occur in the modification area. Additionally, no Koala species were found to occur near the modification area.</li> <li>The existing conditions of approval relating to flora and fauna management and rehabilitation would continue to apply to the modification area.</li> <li>OEH did not raise any concerns about biodiversity impacts and the Department is satisfied that the modification would not alter the biodiversity impacts from the project, and can be managed by the existing approval conditions.</li> </ul>	<ul style="list-style-type: none"> <li>Comply with existing conditions.</li> </ul>
Noise	<ul style="list-style-type: none"> <li>The predicted operational and construction noise levels would be generally lower than the project-specific criteria at each assessed receiver location during daytime, evening and night-time operations for all modelled scenarios.</li> <li>The Department is satisfied the proposed modification would not increase the noise impacts of the project on any surrounding residences.</li> </ul>	<ul style="list-style-type: none"> <li>Comply with existing conditions.</li> </ul>
Aboriginal Cultural Heritage	<ul style="list-style-type: none"> <li>Archaeological field surveys of the proposed site were undertaken in accordance with the <i>Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW</i>.</li> <li>No Aboriginal cultural heritage places or objects were found in the proposed modification area, and none were considered likely to occur.</li> <li>The proposed site area has been heavily disturbed by past earthworks, which means that there is little probability of archaeological material surviving on the surface or being buried beneath the soil.</li> <li>The potential for uncovering previously unidentified cultural heritage was considered negligible to low.</li> <li>Notwithstanding the approved <i>CVO Aboriginal Heritage Management Plan (AHMP)</i> includes measures for dealing with unexpected finds.</li> <li>OEH did not raise any concerns about Aboriginal heritage and the Department is satisfied that the existing conditions of approval are adequate to manage Aboriginal heritage at the site.</li> </ul>	<ul style="list-style-type: none"> <li>Comply with existing conditions.</li> </ul>
Air Quality	<ul style="list-style-type: none"> <li>The main potential impacts of particulate matter emissions would occur during the construction phase of the project.</li> </ul>	<ul style="list-style-type: none"> <li>Comply with existing conditions.</li> </ul>

<b>Issue</b>	<b>Consideration</b>	<b>Recommendation</b>
	<ul style="list-style-type: none"> <li>The Department is satisfied that dust emission controls implemented in accordance with the approved <i>Air Quality Monitoring Program</i>, such as the watering of exposed areas during construction activities, would be sufficient to adequately control any potential dust emissions during construction.</li> </ul>	
<i>Visual</i>	<ul style="list-style-type: none"> <li>The molybdenum recovery plant would be up to 18 m high in an area surrounded by existing mature pine forest.</li> <li>Although the modification would result in the removal of some of this plantation, views of the plant from Cadia Road would be limited by the remaining pine plantation and intervening topography.</li> <li>No views from private receivers further east of Cadia Road are expected, as Cadia Road generally follows the ridgeline and catchment divide between Cadiangullong / Rodds Creeks and Flyers Creek.</li> <li>The nearest residence to the relocated plant is located approximately 1.8 km to the southeast and would have no views of the plant given its location beyond Cadia Road and the abovementioned intervening ridgeline and pine plantation.</li> <li>The existing conditions of approval also require Cadia to minimise the visual impacts of the project.</li> <li>Consequently, the Department is satisfied that the modification would not result in any significant visual impacts for road users and surrounding residences.</li> </ul>	<ul style="list-style-type: none"> <li>Comply with existing conditions.</li> </ul>
<i>Soil and Water Resources</i>	<ul style="list-style-type: none"> <li>The proposed modification would be located within the operational catchments of the adjacent Rodds Creek Holding Dam and Northern Tailings Storage Facility.</li> <li>Although the proposed new infrastructure location may result in a minor increase to the area of disturbance, the existing approval includes requirements for the preparation and implementation of an Erosion and Sediment Control Plan.</li> <li>The Department is satisfied that the modification does not alter the impact to soil and water from the project and can be managed by the existing approval conditions.</li> </ul>	<ul style="list-style-type: none"> <li>Comply with existing conditions.</li> </ul>

## 6 RECOMMENDED CONDITIONS

The Department has drafted a Notice of Modification (see **Appendix A**) and a consolidated version of the development consent as modified (see **Appendix B**), including some minor administrative changes to the conditions.

Cadia has reviewed the proposed conditions and has raised no concerns.

## 7 CONCLUSION

The Department has assessed the merits of the modification in accordance with the relevant requirements of the EP&A Act.

The Department considers that the proposed modification to relocate the molybdenum recovery plant and increase the design concentrate feed capacity can be undertaken with no significant impacts on biodiversity, heritage, water resources or the amenity of surrounding residences.

Overall, the Department considers the modification would not result in any significant change in environmental impacts beyond those already assessed and approved for the original project. The proposed modification would allow Cadia to construct the molybdenum recovery plant in a more suitable location.

Consequently, the Department believes the proposed modification is in the public interest and should be approved, subject to conditions.

## 8 RECOMMENDATION

It is recommended that the Director, Resource and Energy Assessments, as delegate of the Minister for Planning:

- **considers** the findings and recommendations of this report;
- **determines** that the request falls within the scope of section 75W of the EP&A Act;
- **modifies** the approval [06\_0295]; and
- **signs** the attached notice of modification (**Appendix A**).

Recommended by:

 11/4/2018

**Iwan Davies**  
**Senior Environmental Assessment Officer**  
**Resource and Energy Assessments**

Recommended by:

 11/4/2018

**Phillipa Duncan**  
**Team Leader**  
**Resource and Energy Assessments**

## 9 DECISION

The recommendation is: Approved / Not approved by:

 12/4/18

**Clay Preshaw**  
**Director, Resources and Energy Assessments**  
as delegate of the Minister for Planning.



**APPENDIX A: NOTICE OF MODIFICATION**

## **APPENDIX B: CONSOLIDATED PROJECT APPROVAL**

## **APPENDIX C: ENVIRONMENTAL ASSESSMENT**

See the Department's website at

[http://majorprojects.planning.nsw.gov.au/index.pl?action=view\\_job&job\\_id=9160](http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=9160)



## **APPENDIX D: AGENCY ADVICE AND APPLICANT'S RESPONSE**

See the Department's website at

[http://majorprojects.planning.nsw.gov.au/index.pl?action=view\\_job&job\\_id=9160](http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=9160)