

Economic benefits overstated and optimistic

- Inconsistent employment numbers reported in Modification 15. Initially claimed to be 1,800 however later revealed to be 940. The further you read Modification 15, the reported number of persons employed at Cadia keep declining.
- Construction/development workforce related to the modification
 - are temporary in nature, thereby no long-term benefits
 - Displaces labour from the local communities thereby directly competing with other business and industries, and/or imports labour from outside the region, often from outside NSW for specialised skill sets/capability
 - Wages paid to imported labour is repatriated to the individual's hometown (wages leakage)
- Page 17 states the minority of purchases made by Cadia during FY22 were from within NSW. Therefore, the majority of purchases were imported from outside NSW. Therefore, the majority of purchasing undertaken by CHPL increases economic activity outside NSW, that is minimal economic benefits to NSW.
- Many statements through the application state that further detail investigations are required, thereby Cadia Holdings Pty Ltd does not know what approval it actually seeks, needs or want and also DPE does not know what approval to grant, if any. Examples of further detailed investigations required include;
 - Panuara road realignment
 - Internal access road relocation
 - Temporary site access road
 - Mining lease boundaries for embankment buttressing
 - Additional vents shafts
 - Final landform for tailings dams
- I have 'opted in' to receive notifications and be included in community consultation with Cadia. However, I have not received notifications about this Modification 15. I have only heard about Modification 15 through very limited word of mouth. Many people within the community do not know about it.
- Table ES-1 claims to contain 'outcomes'. However, there are no actual outcomes stated. Rather the claimed outcomes are a tick box attempt to show 'consideration' has occurred, where in reality, they are all bias and self-interest statements.
- Noise
 - Page 15, table 1-2 clearly states 'fans on the surface result in higher noise emissions compared with underground fans.' No noise mitigations are proposed regarding the additional surface fans that approval is sought for.
 - I live approximately 10km (direct line) from the Cadia mine. I can clearly hear the mine operations at my residence all the time in its current state, let alone when additional noise is added. The additional fans and night time construction will only add to the existing noise.
 - Train arrivals and departures at Blayney will increase noise at Blayney particularly at night time directly and negatively impacting residents.
- Light emissions – additional night time activity will require additional lights which directly increase light pollution in the broader valley and region. CHPL have not provided any thought or contemplation to this critical aspect. The night time glow from my place is clearly visible in the current states, let alone with additional lights.

- Page 17 (section 2.2) clearly states ‘raise the embankment height of the TFS’ however CHPL have claimed they will not increase the tailing dams – contradictory statements.
- There is no rationale provided to expand the hydrocyclone sands plant. Why is this needed? The experience in Brazil by BHP demonstrates this is not a reliable method or technique for tailings dam walls or within mining operations. The demonstrated BHP experience illustrates the risks are real.
- Increased electrical demand
 - Creates a negative externality to the broader electrical network by placing additional load on the network directly impacting every other electrical user on the network.
 - The additional load directly increases the broader risk to electrical failure within the network as well as increasing further maintenance will be passed onto to all others who access the electrical network through Network operator charges via electricity retailers
- Dust
 - My house is located approximately 10km (direct line) from the CHPL operations site. CHPL conducted rainwater tank testing at my property during March 2023 demonstrating an exceedance for lead. The subsequent lead isotope report published by Professor Gulson (July 2023) identified for my rainwater tank (pg 34 sample TW124 sludge 43)

‘...both water and sludge isotopic date lie within the Ore field.... The ore signature may be more easily detectable in the sludge because of its low Pb (lead) concentration’

Moreover, my house and rainwater tank were both 16 months old at the time of testing with no identified lead containing materials used (as per building inspection report). This is very short timeframe and notable distance from the mine site to collect and accumulate dust identified to the mine site.

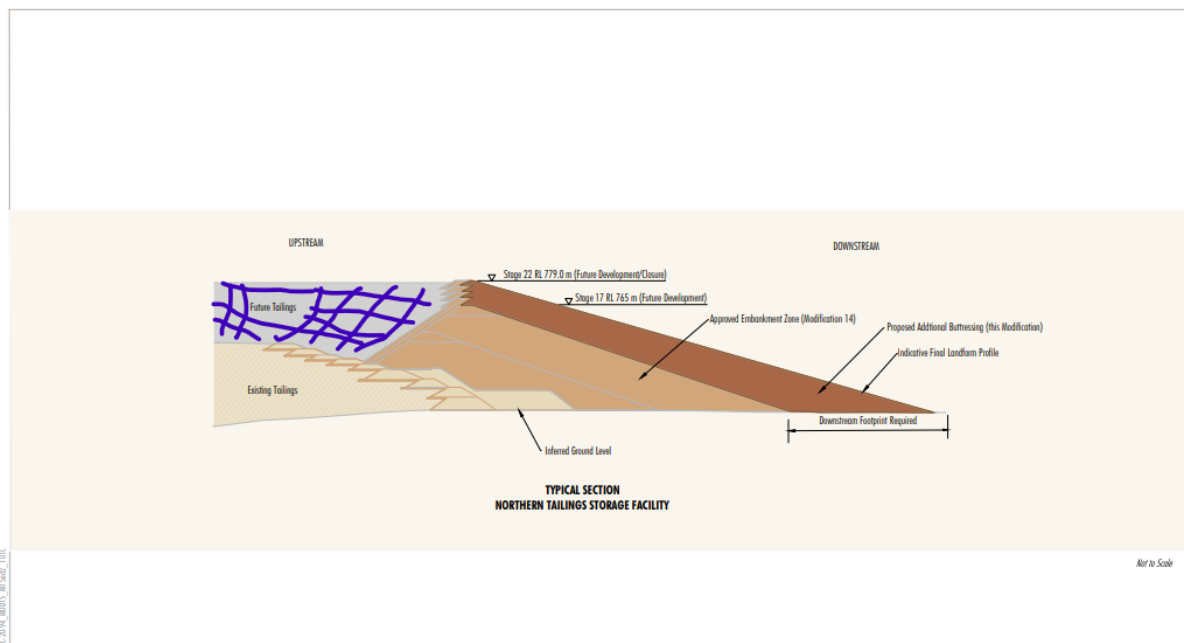
- CHPL has recently failed to comply with dust emission limitations which is evidence by the NSW Environmental Protection Agency issuing multiple fines and undertaking criminal proceedings, which CHPL has pleaded guilty for.
- The above dust emissions exceedance occurred while CHPL mining activities was below the licenced extraction and production limits. It is clear that CHPL is unable to undertake mining up to their licenced limits without exceeding dust emissions constraints. Despite this CHPL is seeking approval to undertake works to enable increased extraction and mining activities which will add to already demonstrated dust emissions exceedances.
- Installing additional extraction fans and vent rises will also only add to already known dust exceedances.
- Approving Modification 15 will only create future compliance and enforcement activity by the NSW Government and Public sector whilst simultaneously negatively impacting the environment and community.
- The Todoroski report titled ‘Cadia Valley Operations air dispersion model 2022 (4 July 2023)’ clearly states on page 33, in relation to ‘up cast vents’

‘... there is no ideal sampling location in the ducting per the EPA Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales, nor is there any alternative approved method available that may produce more reliable results.’

This means that up cast vents have been approved and constructed on site however there has been no demonstrated actual adherence to ensuring compliance with all relevant and necessary regulations. In this instance it is clear that requirements as per *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales* have not been complied with. Further, there has not been any compliance action by either the consent authority, NSW Department of Planning, the NSW EPA or any other regulator. Are regulators, including the NSW Department of Planning, simply accepting this corporate behaviour as acceptable?

Changes to the approved volume of tailings stored (pg ES-2)

Changing the tailings dam construction from upstream to centreline or downstream will result in a significant increase in storage capacity (blue cross hatched area). The dam wall will effectively be built in a line upwards rather than building over the current tailings dam. The Advisian model (Appendix D – Groundwater Impact Assessment) for the NTSF and STSF revises the cell matrix used to model the tailings dam footprints and identifies an increase in the tailings dam footprint area by 200 modelled cells, approximately 20% (Figure 5-2).



Source: *Alcoa CHPP (2023)*, *ATC Williams (2023)*

Newmont
CADVA
CADIA VALLEY OPERATIONS
Typical Cross Section through the
Northern Tailings Storage Facility
Main Embankment
Figure 2-1b

- Descriptions that buttressing the outer slopes of both the NTSF and STSF and moving to a centreline or downstream lift has no change in the volume of tailings material stored or the footprint of the stored tailings is false. The assertion that all tailings deposition would remain within existing MLs is totally misleading. The notice of exhibition for the Mod is deliberately intended to mislead and downplay the significance of Mod 15.

Alternative Proposals

- This Modification ignores NSW Resource Regulators directives away from conventional wet slurry tailings storage facilities. Use of a filtered tailings high density deposition system would be a feasible option as the TSF has been consolidating for nearly 10 years by the time it is recommissioned.

High density filtered tailings deposition would require no buttressing, provide a slope to efficiently shed water, reduce overall water usage by 75%, eliminate risk of slurry failure and allow progressive rehabilitation to occur over the complete mine life and future approval periods.

A constant slope from the STSF to the SW waste dump would allow additional tailings to be deposited over the existing footprint and minimise overall environmental damage

Filtered high density tailings deposition, if expanded to include the pit would allow increased tailings storage for future use and proper capping and rehabilitation of the pit area.

- Minor Realignment of Panuara Road – Executive Summary pp. 2 & 3
The modification includes “A minor realignment of Panuara Road in two locations to accommodate the STSF buttressing foot print.” This statement is misleading as the proposed road rerouting relates to more than 50% of the Panuara Road, from Cadia Road to the western edge of the mine lease.

Panuara Road is the only road in to Panuara authorised to carry heavy vehicles and is critical to the operation of a number of agricultural businesses in the district. If the road is to be closed for any period of time the closure must be timed to coincide with the operation of those enterprises.

Buttressing appears to be constructed within a few metres of the Panuara Road (Figure 3-1, Executive Summary p28).

The realignment of Panuara Rd within the proposed extended mine lease area is not consistent with the purpose of a mine lease. In the interests of public safety, the Panuara Rd should be wholly relocated outside the mine lease area prior to construction of the embankments.

- **Groundwater monitoring should include a requirement to test for contaminants from all activities on site including, the tailings dam, diesel storage and transport across site, concrete pant, Molybdenum plant etc**
- **CHPL test all groundwater bores for diesel contaminants**
Barium, Beryllium, Ethyl Benzene, Xylene, Total Petroleum Hydrocarbons including C6-9, C10-14, C15-28 and C29-36, Silver, Boron
- **All bores on site should to be tested for diesel and mine waste contamination (tailings):**

MB21	CB8A	MB51	MB50	MB52	MB82	CB14B	CB14A	MB1B	MB18
MB18	MB23	TW05MP	MB27	MB26A	MB26B	MB25	MB98	MB87	MB2B
MB5C	MB80	RO8	RO6A	RO6	RS09	RO7	PZ90	MB81	MB3A
MB91	MB7A	MB4A	MB4B	MB1A	MB10A	MB9A	MB70	MB68	MB69

- **Groundwater monitoring for contamination at the Blayney Dewatering Plant should be included in the EPL. The following sites need to be included to ensure the EPA have the ability to monitor groundwater impacts at the Blayney site:**
 - **MW1**

- MW2
- MW3
- MW4
- All testing should be conducted with independent organisations as agreed with the appropriate regulators, such as EPA, Resources Regulator, Dams Safety etc.
- There should be no change to the operating hours for construction of the TSFs.
- The realignment of Panuara Road should be reconsidered and the safety of the community prioritised.
- There needs to be careful planning and consultation with the community before any work begins on Panuara Road to ensure disruption to neighbouring agricultural businesses is minimised.
- CHPL provide a water balance for the operation showing the impact of the centre pivot irrigation and hydro cyclone and additional water sprays required for construction.
- Centre pivots should be operated using clean water to minimise efflorescent salt build up.
- CHPL be required to correctly define closure risks and develop control measures in advance of closure.
- Cadia provide information for the repair of the NTSF and timeframes for when this will be completed.
- Cadia investigates more appropriate tailings deposition in line with the Resource Regulators directives.
- Installation and operation of two additional Cadia East Underground Mine upcast surface ventilation fans
- All existing vent fans for Cadia East were installed after the underground mine commenced operations in 2010. We believe all emissions should be categorised as Group 6 (plant installed after 2005) and the relevant concentration limit pursuant to Schedule 2 of the Protection of the Environment Operations (Clean Air) Regulation 2022 per vent shaft is 20mg/m³.
- The installation of two additional booster surface fans substantially increases the vertical upstream velocity and momentum of the discharge air.
- Todoroski assumes that the discharge points from VR81- 1,2,3 may be modelled by dividing the flow in the main upcast VR8 between the 3 smaller ducts. That is Todoroski assumes the flow in the 4.7m diameter vent shaft is divided between the 3 smaller surface booster fans and discharges at the same velocity as the main vent shaft (15 m/s). However, this is not consistent with Ektimo who measured a flow velocity of 24m/s through a sampling plane of 5.9m diameter. The Todoroski assumption potentially underestimates the point of discharge upstream velocity from the surface fans that are actually powerful turbo compressors. The discharge from the booster fans is highly turbulent and concentrated in a narrow stream in a vertical direction. Increasing the upstream velocity by a factor of 2-3 significantly alters the area of dust dispersal.

- Installation of the turbo booster fans by CHPL on VR8 was originally intended to clear the mine of excess dust and to a lesser degree byproducts from diesel combustion. Prior to installation of the booster fans a bogger was employed removing mud and debris from the base of the ventilation shaft. Mine ventilation for RCS and DPM did not comply with WorkSafe 12 hour criteria or safe visibility for truck operation underground.
- Emissions from VR 8 are currently the subject of criminal charges by the NSW EPA as the point discharge rate at 360mg/m³ was 18 times that allowed by the NSW POA Act 1997 for Group 6 emissions. Increasing the air flow in an attempt to reduce dust levels in the mine by dispersal, dilution in the atmosphere is not a responsible or sustainable solution.
- 2.3 Installation of more and more fans is a poor solution for a badly designed ventilation system.
- The ventilation requirement is primarily a function of installed internal combustion equipment.
- An alternative that should have been included in Section 1.4 Table 1-2 (Analyses of Alternatives) and a more efficient alternative is the use of electric loaders and vehicles underground. This change would materially reduce the air volume required and power consumption of the fan. Removal of diesel operated equipment from underground operations would drastically reduce the Scope 1 emissions.
- It is noted that the CHPL operation over the 25 years of operation has made absolutely no effort
- to reduce carbon emissions, other than an agreement with a wind farm in Victoria to purchase
- electricity in 2025.
- Based on past performance S 6.10.5 mitigation measures are nothing more than greenwashing.
- The installation of multiple fans each measuring at 50 - 100mg/m³ must not be allowed to be a method to circumvent the regulations.

I request that:

- **The EPL be updated to reflect the scale and nature of Cadias operation. Cadia is a Group 6 polluter and must be held to those regulations – 20mg/m³ for each vent point discharge.**
- **Upcast fans must not be considered as an alternative to installing effective dust control systems.**
- **Total emissions from the mine site be capped at current levels.**
- **Dust should be collected and filtered at the point of source.**
- **Upcast fans must be constructed or altered to allow real time measurement and monitoring of emissions.**
- **Increasing air flow at point of discharge should not be allowed to be a method to circumvent dust point of discharge requirements of the POEO Act.**
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Social License Issues

- Mod 14 Conditions have not been completed
- Mod 14 required multiple management plans to be updated, many of these remain outstanding or have been delivered months and years after their due date. It appears that one of the largest gold and copper mines in the Southern hemisphere is operating without many of its key management plans in place and approved by the Regulators.
- Cadia has demonstrated a complete disregard for its commitments under Project Approval 06-0295 and EPL 5590 and has demonstrated that they cannot be trusted to behave in a moral and ethical manner.
 - The following have been identified:
 - Traffic Management Plan: due March 2022, approved October 2023
 - Dewatering Facility Water Management Plan: due March 2023, approved October 2023.
 - Water Management Plan: due June 2022, approved August 2023
 - Blast Monitoring Plan hasn't been updated/reviewed since August 2020 due March 2022.
 - Biodiversity and Land Management Plan not updated since August 2021 due for completion in June 2022. Large scale clearing works occurred under Mod 14 in 2023.
 - Noise Monitoring Plan not updated since August 2021
 - EMS last updated in June 2021 – there have been multiple triggers for review (see page 31 of document) and it being due in June 2022.
 - Rehabilitation Plan last updated November 2011, required to be updated by March 2022.
 - Forward Works Program, that ceases in 2025, has only 2 commitments, both of which have not been started, has no plans for any preparation of land for rehabilitation at all during the period, but somehow, expects to have 2.35 ha of ecosystem and land use establishment by 2025. The constructed wetlands trial is allowing leachate into the environment via the wetlands. This is not allowed under the development consent which ensure the protection of the receiving environment from such leachate. The scientific consensus is that wetlands do not remove leachate from the environment, but over a 30-year period, wetlands can assist in rehabilitating leachate affected areas, so long as there is no additional inputs of leachate.
 - Air Quality and GHG Management Plan: required to be completed by March 2022. It is not on the website so we assume this plan has not been completed.

Length of Modifications

- It would appear that the mining industry believes the length of the modification document is of greater importance than the quality and relevance of the information. This Mod 15 is an exercise in repetition, with many significant issues either ignored entirely or brushed over and other areas of lesser consequence reviewed and discussed repeatedly.
- Many of the expert reports included in Mod 15 have been drafted over several months. The community and the CCC should have been briefed on the contents and conclusions of these reports ahead of the Mod being produced.
- Given the short time frame available to communities to review and comment on modifications delivering a 2,000 + pages shortly before Christmas not only favours the proponent but creates significant inefficiencies for the multiple regulators and advisors trying to comprehend voluminous modifications in a short time.

- The modification document demonstrates a strategy by CHPL designed to obfuscate and cover up areas of the operation which should be receiving significantly greater regulatory attention. We believe that in the interests of sustainability for the mine and the community greater emphasis should be placed on diligent compliance with regulatory requirements.

Community Health and drinking water impacts

- In October 2022 the Independent Air Quality report (“Zephyr Report”) required by DPE as a condition of Mod 14 was made available to the community. The regulators received this report in August 2022. This report identified that the main vent extracting dust from the crusher was constructed with no filtration and a fan installed in early 2020 was operating at close to 100km/hr. In effect as the community had been telling the regulators for years, the dust from the underground operation was passing up and over the air quality monitors on the boundary of the mine area and landing on the area where the residents live.
- In late 2022 and early 2023 the community in the Cadia district conducted, with Assoc Professor Dr. Ian Wright (University of Western Sydney), a series of water tank tests aimed at determining if the visible dust leaving the mine site was being deposited on our roofs and in our water tanks. We regard the water tanks as a deposition gauge and a simple reliable way to inform us if something has been deposited in our tanks which usually would not be expected.
- The results of this series of water tank tests were a huge surprise to the community and led to some 40 people having blood and hair samples tested, along with a control group in the Lue area near Mudgee NSW. The results of this human health testing led to a Parliamentary Inquiry and a growing realisation amongst many residents in mining districts and some regulators and politicians that it would appear the regulation and monitoring of mining is failing to protect the residents who are most adversely affected by the mines and living closest to the operations (Attachment D - Section A CCSN submission to the Parliamentary Inquiry).
- Cadia has consistently attempted to claim that “no dust leaves the site” despite 5 criminal charges this year from the EPA, 3 of which Cadia has already pleaded guilty to. Mod 15 continues the theme of there being no link between Cadia’s operations and the contamination in water tanks in the district.
- Table 5-2 Key Outcomes of Recent Environmental Studies (Executive Summary p. 66) includes the following **incorrect** claims:
 - Lead isotope report found no evidence linking Cadia to the lead sampled in districts rainwater tanks. This statement is **untrue**, refer Attachment E - *Prof Brian Gulson says Cadia Hill goldmine could not be ruled in or out as the source of the lead, despite miner saying there was ‘no evidence’* The Guardian 21 July 2023.

The lead isotope report matched lead in the bottom of district water tanks to the Cadia ore field as far as 18km from the mine site.

- Sage Human Health Risk Assessment (HHRA) concluded the risks to human health were low and acceptable. **However**, this report is required by regulators to be rewritten to reflect the revised Air Dispersion Modelling (Todoroski). The revised Sage report has not yet been received by the community.
- Cadia makes no reference to the **5 criminal charges** for dust contamination brought by the EPA, or that it has already pleaded guilty to 3 of these charges.

- Cadia does not refer to the NSW Health Fact Sheet “Mine Dust and You” issued in June 2023, after the CCSN had approached NSW Health for support in relation to heavy metal contamination in our blood tests (Attachment F). This Fact Sheet states:

“Can Mine dust contaminate drinking water?

Yes, ***dust can land on house roofs and flow into water tanks during rain***”

Environmental Sustainability

- Removal of striped legless lizard and pink tailed legless lizard species credits on the basis they are now not found on the mine licence area is not justified. This is a petty demonstration of CHPLs reluctance to accept any responsibility for the impact of their activities on the surrounding environment.
- The fact that these creatures are not now found close to the mining operation and that the surveys “were only stratified around suitable patches of the best available habitat left” (Biodiversity Monitoring Service S 2.2). This is not surprising as the habitat and food source of ant nests has possibly already been severely restricted by the mine tailings (not conducive to healthy ants), mining activities and seepage from the TSF.
- The small cost of inclusion of the legless lizard credits reflects poorly on CHPLs environmental credentials and demonstrates the unethical basis of their determination for a minimum expenditure environmental strategy.

Superb Parrots

- Superb parrot nesting trees are identified in ES Fig 6.5, which shows the elimination of approximately 30 nesting sites. Superb parrot nesting sites are the product of hundreds of years of tree growth and adaptation, they are irreplaceable within a meaningful timeframe for the survival of the species in the Cadia district.
- Purchase of credits on the open market does not address biodiversity loss within the Cadia community.

Dust exceedances

- Incremental impact of deposited dust allows 5 exceedances of the criteria over the life of the mine. We note data in Table 6.5 Cadia Annual Environment Report FY 2022 reports the following exceedances:
 - DG 9 - 7 exceedances,
 - DG 1 - 2
 - DG L06 – 1
 - DG L08 – 3
 - DG L09 – 1
 - DG 5A – 4
- A total of 18 exceedances in a single year.
- We also note the EPA has charged CHPL with 5 criminal dust exceedances relating to VR8 and the tailings dam.
- Clearly Cadia has exceeded the permitted 5 dust exceedances over the life of the mine within the 2022/2023 period.

I CCSN requests that:

- **DPE conduct an independent audit of all Management Plans and seek enforcement of the conditions in the CHPL Project Approval, stakeholders review all mine operating plans.**
- **Timeframes to review Modification and Licence applications be adjusted to reflect the length of a document.**
- **all future modifications for Cadia Valley Operations are required to be filed in any given year by 1st November and any new mine licence application must be filed by 1st September.**
- **DPE to investigate high premature mortality rates due to respiratory disease as identified by NSW Health and Sage for the community adjacent to CHPL (2x NSW and North Orange average).**
- **Legless lizard biodiversity credits to be retained**
- **Nesting boxes for superb parrots to be established within the Cadia district to support existing populations of superb parrots and other vulnerable species.**
- **Printouts of Modification documentation to be issued to stakeholders prior to the review period commencing.**
- **Public exhibition notices to be displayed at least 60 days prior to the review period commencing.**
- **Cadia must be held to account for false and misleading conduct. Cadia's representation and manipulation of the expert reports investigating contamination of local residents is unacceptable. There have been many instances of this behaviour and attempts to rewrite history.**
- **Potable water to be supplied to all affected residents.**
- **Dust exceedances should at all measurement stations to be investigated and appropriate penalties to be imposed for all exceedances.**