

## Submission

Department of Planning, Industry & Environment  
Attention Director – Resource Assessments

**Re: Cadia East Gold/Copper Project – Modification 14 (MP06\_0295-Mod14)**

Dear Officer

Thank you for the opportunity to object to this proposal, because water issues (present and future) associated with the proposal, have not been adequately considered in this application.

Everyone (community members – local and regional, councils, Government agencies, NSW Government) should be concerned with the proposed increase in water take, (about 10%) stated in this application, when all are attempting to conserve water. The proposed increased water take should be clearly quantified.

At Orange City Council's water forum, in Nov 2019 many attendees were questioning the social licence that Cadia Valley Operations (**Cadia, CVO**) has, because of the adverse impacts:

- not paying for the water transferred from the sewer treatment plant (STP) to Cadia, which averages about 9 ML/day (megalitres per day) – from Council reports
- the conditions to the Agreement are unknown to the public, which causes some angst. A very senior past employee of Cadia has publicly stated that the Agreement referred to the initial Cadia Hill project which finished in about 2012. The pit was available for further drives into further underground gold deposits, but that option has been eliminated with the use of the pit as a tailings dam - whilst the existing tailing dams are being repaired.
- inability for Council to consider alternative use of the STP discharge because of contractual arrangements with Cadia Valley Operations:
  - total disruption to Council's planned use of the STP discharge for the recycled water pipeline area of Orange (refer to CRC Water Sensitive Cities: Case Study, Orange Stormwater to Potable pp 23-25). There is no reliable alternative water for use in the recycled water pipeline.  
[www.watersensitivecities.org.au](http://www.watersensitivecities.org.au)
  - the Orange community requiring severe water restrictions (level 5 & considering level 6) and existing under emergency conditions – Critical Needs Bill (2019), whilst Cadia received the effluent transfer. The discharge could have been used in the recycled water pipeline and for environmental flows in Summer Hill Creek - which were stopped under an application by Council. Please note from the attachment: 16 Feb, Council meeting the difference between Council's usage target and the actual consumption.

- the expected 4 500 new homes in the recycled water pipeline area will probably be less energy efficient because credit is given on BASIX for using recycled water. A legacy that will continue into the future at a great cost to the owners and the environment (see attachment).
  - the water users of Orange are paying more for water because of the need for Orange to rely on more expensive alternative water sources to a much greater extent (Macquarie Pipeline and Stormwater Harvesting) to supplement its water supply.
  - the requirement (NCAT Dec 2015) on Council to maintain an environmental flow in Summer Hill Creek by discharges from Suma Park Dam – Orange’s main water supply storage and potable water extraction point. Refer to Entura report for the environmental impact on Summer Hill Creek. It must be noted that this stream, and the Macquarie Catchment, received this discharge up until 1998 and so the aquatic life of the catchment suffers from the loss of about 9 ML/day. I do note that Cadia did allocate 2 ML/day of the discharge from the STP to Summer Hill Creek for about 60 days over the last summer period. Too little to have any environmental benefit to Summer Hill Creek.
- the transfer (9 ML/day) of water from the Macquarie Catchment to the Lachlan Catchment. The aquatic environment of the Macquarie catchment, nor the Lachlan benefit from this transfer.
  - In giving evidence - representing Orange and Region Water Security Alliance - to the NSW Upper House Water Augmentation Inquiry, I stated that Cadia Valley Operations was the most disruptive influence on the area’s water balance. I’m still of that opinion.
- This application appears to ignore the impact of Climate variability and the predictions of a hotter and drier climate in the next 20 years. (refer to the Draft Regional Water Strategies – Macquarie & Castlereagh and Lachlan). I made comprehensive submissions to both Strategies that could be useful to read in-conjunction with this submission.
  - The expected reduction of surface water (up to 50%) will put additional demand on groundwater sources and trading of water to maintain Cadia’s water supply into the future. Groundwater can’t be the ultimate supplier of unlimited water demand into the future. I’ve had anecdotal reports that bores adjacent to Cadia are affected by drawdown. In order to protect the sustainability of groundwater supplies, I would suggest that extractions be DNA tested to determine its age. If the water is 10 000 years old that would suggest it may take 10 000 years to recharge and that groundwater shouldn’t be extracted.

- The proposed water infrastructure, associated with the possible enlargement of Lake Rowlands and a pipeline to transfer water from Lake Rowlands (town water supply) to Carcoar Dam (an irrigation dam), can only be seen as a means to use any water to the maximum allowable level when the message is to “conserve”. Increasing Lake Rowlands’ capacity to 9 GL, its original design, could be acceptable/justifiable but not to a capacity of say 26 GL with a pipeline to Carcoar Dam. All of this infrastructure would impact on the health of Coombing Creek and the regulated section of the Belubula River. An unsatisfactory environmental outcome in a hotter and drier future.
- This statement in the Executive Introduction: “The modification would not change the following... water supply and storage infrastructure” may require some clarification. Cadia may find it necessary to obtain more water by trading (permanent or temporary), or purchasing, bore licences to satisfy future increased demand. The proposed increased size of the tailings storage facilities (TSF) would be at odds with the statement.
- The application indicates in the section on Water Management (p 29) that Mod 14 would “not change water licencing”. This maybe so, but it doesn’t negate the use of other licences for Cadia’s purpose - which could have foreseeable impacts. It could include water that isn’t possibly available as is the case of the “13 ML/day “from Orange. My reading of Cadia’s DA application to Orange City Council in 1996 (available in City Library) reads to the effect that: up to 10 ML/day and another 3 ML/day if it becomes available. I do not know whether Council has any discretionary power to not make the additional 3 ML available.

Modification 14 - Would the Cadiangullong catchment decrease by 0.8%? If this is correct then Cadia should be willing to decrease their water take from that catchment by 1% (p37 - Assessment of Potential Impacts)

In the discussions for the Centroc Water Study – 2009- a proposed pipeline from Wyangala Dam was mooted to guarantee water security for the area. It was definitely supported by Cadia. I supported the idea in my submissions to the draft Local Strategic Plan Statements for Bathurst Regional Council and Orange City Council. It would be a very small quantity of water from Wyangala that would satisfy the emergency needs of Blayney, Orange, Bathurst and the Central Tablelands Water network.

Orange and Region Water Security Alliance argued for the return of some of the STP discharge to Orange for its use in their submissions to the DA for the Macquarie Pipeline. Peter Lee’s letter to the Editor – CWD Aug 9 2010 – “Water down the mine” is worth noting (see attachment). Cr McRae raised the possibility of reusing the effluent by Council at its 4 Feb meeting in 2020. As far as I know, Council is still in Court discussing the matter. This Mod 14 application could present an opportunity to finally resolve the issue.

Council used a water demand figure of 404 LPD (litres per person per day) to support their case for the Macquarie Pipeline, but now has set a figure of 220 LPD in the newly adopted "Permanent Water Saving Standards". Cadia may investigate how it could reduce its water demand into the future.

Admittedly, Cadia has achieved a recycle water reuse to about 80%, by using the Cadia Hill pit for a tailings dam. This will only last for about 18 months – 2 years, then the less efficient surface tailings dams will be utilised for the remaining life of the mine.

Even so, Cadia consumes about 20 times the quantity of water as does all the activity in Orange.

**Conclusion:** no decision for the approval, in regard to increasing water take as outlined in Mod 14, until there is some certainty of the outcomes from (but not limited to):

- Draft Regional Water Strategies – Macquarie - Castlereagh and Lachlan
- Adoption of the new Water Sharing Plans and compliance to the Murray-Darling Basin Plan and Water Resource Plans
- Adoption of any recommendations from the Orange Raw Water - Audit
- A public acknowledgement of the settlement of the dispute between Orange City Council and Cadia Valley Operations regarding the use of the Sewer Treatment Plant discharge.

If a temporary approval is given, so that Cadia Valley Operations can continue with their preparations for the expansion, then there should be some qualifying conditions set to allow for this. One suggested condition would be: no increase water take on current take levels ie effluent transfer from Orange should not exceed the average take of 9 ML on any given day.

Yours sincerely