

Wollongong Coal Ltd Wongawilli Coal Mine Mod 2 North West Mains Development

Thank you for the opportunity to comment on the above coal mine expansion

I object to this proposal for the following reasons

1. it is not “substantially” the same project as Mod 1
2. it poses unacceptable risks to the Sydney/Illawarra drinking water catchment
3. it is contrary to the intention of the NSW EP&A Act’s Precautionary Principle and stated definition of intra and intergenerational equity and therefore should be deemed unlawful
4. there is no officially recorded information of cumulative impacts of coal mining in the Greater Sydney Drinking Water Catchment, used for this coal mining assessment or any other
5. there is no officially recorded information of cumulative impacts of coal mining plus urban & industrial development on the catchment of Lake Illawarra, used in the assessment of this or any such development
6. it will cause irreversible damage to EECs and unique biodiversity of the Schedule 1 Special Areas
7. it will significantly and unnecessarily add to NSW & Australia’s GHG emissions
8. historically WCL has shown it is not capable of responsibly operating a coal mine in the Greater Sydney Drinking Water Catchment, which indicates potential exacerbated risk from this proposal
9. It will retard the Illawarra’s transition to sustainable industry and employment

Please note - in relation to gathering information on the risks of coal mining in the Greater Sydney Drinking Water Catchment I have extensively used the open letter, (& its references), to the NSW premier written by 21 Scientists in 18th May 2020. The 21 Scientists have expertise in hydrology, geology & Earth sciences, environmental & ecosystem science & public health. They have brought their expertise to bear on the historical & current impacts of mining in the Schedule 1 Special Areas. Their conclusions lead them to “...urge an ongoing suspension of the approval processes for any further planning applications or post-approval plans (Subsidence Management Plans and Extraction Plans) for mining in the Schedule 1 Special Areas of the Sydney Drinking Water Catchment.” I commend their effort & recommend you read their letter carefully. Coming from their combined skills & knowledge, their letter is a credible document to support my argument here. The issues they raise include evidence that the damage is far more extensive than assumed & that the water loss because of changed hydrology & pollution is potentially escalating & will continue in perpetuity. There is no way of reliably predicting damage or of predicting the compounding impacts of new old & mining. These issues are deeply concerning & need to be addressed by government urgently. The “Open Letter to the Premier of NSW Regarding Coal Mining in the Schedule 1 Special Areas of the Sydney Drinking Water Catchment” can be found here - <https://sites.google.com/site/specialareasconcerns/> (NB The underlining in quotes taken from the letter are my emphasis).

1/ “The development as modified must be substantially the same development as the development authorised by consent” NSW Planning regulations

The current Mod 2 proposal should not be classified as a modification on a standing approval but be processed as a new project. The Mod 2 proposal has a much higher potential to adversely impact the Avon Reservoir than the approved Mod 1. The changed route involves an extra 2

tunnels under the dam & the length of the tunnelling has increased 150%. Both are indicative of the variations between Mod 1 & Mod 2, which cannot be considered “substantially” the same. Mod 2 vastly increases the risk to the integrity of the dam structure & the catchment over the already approved Mod 1. It puts the Avon Reservoir at greater risk & should not be approved. The Avon supplies Illawarra & is my water supply. I am justifiably concerned.

2/ Risk to Greater Sydney Drinking Water Catchment:-

2a) Avon Reservoir: In the following passage from their letter the 21 Scientists note the damage from mining that has occurred already to the reservoirs including the Avon.

- *Mining within the vicinity of the storage reservoirs can cause stored water loss into shear planes that may either facilitate diversion to the mine or take water away from the catchment (see appended Figs. 8 and 18). Shear plane leakage is known to have occurred at the Cataract[29] and Avon reservoirs[30], and appears to have occurred at Cordeaux reservoir.[31] Evidence of shear plane transport has been found 540 metres from Cataract Reservoir.[32] The available data suggest that leakage from Avon reservoir may exceed the tolerable loss limit of the Dams Safety Committee.[33] There is insufficient monitoring to determine whether or not this might also be the case for the other reservoirs. A 2017 recommendation by consultants PSM to follow-up leakage evidence at Cordeaux Reservoir does not appear to have been acted upon.[1], [5], [31] (My underlining for emphasis.)*

The Wongawilli Mod 2 proposal will further increase risks to the Avon Reservoir.

2/ b) Causes of water loss:- In the Mod 2 proposal Groundwater report, p43, SLR says that in its assessment there will be negligible subsidence from the Mod 2 proposal emphasising in graphic terms the risks of subsidence resulting from the longwall mining method. This implies to me that WCL has chosen the bord & pillar mining method for this expansion because it believes there will be minimal subsidence or cracking. WCL have stated this in public announcements.

However in stark contrast, the 21 Scientists state in their letter, p1 *“The extent of bord and pillar mining with pillar extraction in the Special Areas, which can cause the same levels of subsidence as longwall extraction, is poorly documented. The long term, intergenerational, stability of the remaining pillars is not known.”*

Further on p6 & 7 of the letter:-

- *Large voids created by total pillar extraction in some of the old mines in and around the Special Areas may also have resulted in the drainage zone approaching or reaching the catchment surface. This may, at least in part, be the reason for the rainfall dependence of inflows at the Wongawilli mine, which vary between 4.3 and 10.4 million litres a day.[7]*
- *The 2010 groundwater impact assessment for the 2010 longwall mining proposal for the Nebo area of the Wongawilli mine reports: “bord and pillar as well as pillar extraction and longwall mining has been conducted in the adjacent Wongawilli, Elouera and Dendrobium Area 2 workings, and that vertical hydraulic connection has been observed at some locations between surface streams and the underlying workings”.[23]*

Of multi seam extraction they say:

- Reflecting a lack of monitoring installations, there is no knowledge of the extent of the drainage zone formed over multi-seam extractions. Multi-seam extractions have taken place at the Russell Vale and Wongawilli mines. The drainage zone may have reached the surface over some of these extractions.”

On p3 they make the following comment on the unknown quantity of water lost to pooling in mines:

“• The volume of water accumulated to date in the mines in and around the Special Areas is unknown but substantial, possibly comparable or greater than the water volume held in the reservoirs. The mining companies may have data that would clarify the extent and magnitude of underground pooling and draining.” (my underlining emphasis).

I do note that in contradiction to its 1st statement, in its ground water report, SLR noted, (p42, 3.4.2 Mine Effects), the following serious impacts to the quality & quantity of Sydney water from previous mining that must be considered as vastly increasing the risk factor of the Mod 2 proposal-“Blue Panels 2 and 4 were mined from 125 m to the north of the Project area. Coal was extracted via the bord and pillar method and partial pillar extraction secondary workings has since occurred which typically results in the partial collapse of the immediate roof structure strata over the mined void (IESC, 2014). Thus the void space within the mined area increases as does the hydraulic conductivity above the goaf due to induced or increased cracking.” Also it admits “..... A number of major dykes have been mapped in the within the Project area which may provide conduits for groundwater to enter the former workings (GeoTerra, 2010). During initial mining inflows to Panels 2 and 4 were reported to Recharge to the Panel 4 workings was observed to be of low significance, however inflows substantially increased after secondary extraction was completed. Inflows to Blue 2 Panel were interpreted as being sourced from storage within the confined aquifer system, that was not sustained from rainfall recharge whereas inflows to Blue 4 Panel were interpreted as being derived from a groundwater system sustained by rainfall recharge. It is also possible that inflows can increase where dykes provide a conduit between the workings and aquifer storage.” My underlining is to emphasise the foolhardiness of secondary mining & multi level mining anywhere near Upland Swamps, water courses or storage. This new mining at Wongawilli is not only planned to pass as close as 60 mtrs beneath Avon Reservoir, it is 125mtrs from the Blue Panels 2 & 4 as mentioned by SLR above, & as Fig 5 from their report shows, appears perilously close to the maze of old workings near the Ventilation shaft 1. There are 2 Upland Swamps above the Mod 1&2 areas that will be vulnerable to damage if this mining is approved.

3/ EP&A Act:

3/ a) Precautionary Principle: the NSW Environmental Planning and Assessment (EP&A) Act adopted the same definition of the Precautionary Principle as outlined in the Protection of the Environment Operations (POEO) Act “ that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.”

The evidence of damage to the Special Areas of the Sydney drinking water catchment gathered since the start of coal mining is substantial and concisely summarised in the open letter to the NSW premier, May 2020, (see link above) by the 21 Scientists.

The views of the 21 Scientists if considered with evidence from many expert reports over recent decades, also referred to in the same letter, raise huge doubts about the true extent of damage and subsequent water loss. In particular questions need to be answered about ongoing water losses. Water diversion into mines is inevitably permanent, and the water becomes polluted. What is clear is that there is no current known or emerging technology that can fix this damage. This equates to a "...lack of full scientific certainty..." referred to in the EP&A Act.

Dr Ian Wright, an environmental scientist & 1 of the 21 Scientists who wrote to Premier Berejiklian, has done extensive work on water quality in rivers surrounding Sydney, particularly the Nepean system and the Blue Mountains, testing outflows from coal mines in these areas. I have heard a senior EPA officer say his work is invaluable to the EPA. He has stated that water diversion through mines and its subsequent pollution has become so extensive it is essential to learn how to stop the loss to protect our water supplies and to be able to keep our catchment environments healthy to ensure clean water. The problem is exacerbated by reduced maintenance when mines close. It is also worth noting that under today's system of rehabilitation obligations, the cost of the research to find a fix and then applying the fix will inevitably fall on the public purse.

3/ b) Intra and intergenerational equity is also in the group of Ecological Sustainable Development principles included in the EP&A Act. Of intergenerational equity, the Act says "...the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations." Both the precautionary and intra/intergenerational principles are applicable to the approval assessment of this mine expansion in regards to the potential impacts on quality and quantity of drinking water, available for people now and for future generations.

4/ Cumulative mining impacts:- It is not possible to predict the impact of the reopening & expansion of the Wongawilli Colliery on the natural environment and its water resources without having a comprehensive, scientific body of knowledge of the condition of old mine workings, as well as current workings from other mines in its proximity. Regardless of the large body of evidence of damage from all the coal mining in the Greater Sydney Drinking Water Catchment, there has been no assessment undertaken that addresses the cumulative impacts of the current and past coal extraction from the Schedule 1 Special Areas.

Equally there is no common understanding of what is the quantity of water that can be lost from the whole of the catchment of the reservoirs, without compromising the Greater Sydney Drinking Water supply currently & in the future. A recent article in The Conversation co written by Pete Dupen, a former mining manager for WaterNSW, states *"Several years ago, WaterNSW developed cumulative impact criteria to be applied to mining developments before approval. But the document remains a draft & has not been published, for reasons unknown."* (A major coal mine expansion was knocked back today, but where's the line in the sand? February 5, 2021 12.31pm AEDT). Such criteria as described in this article are essential in the assessment of coal mining.

5/ Lake Illawarra catchment: The Mod 2 proposal is in the Lake Illawarra Catchment. It includes no upgrade of water treatment at the Wongawilli mine. There has been extensive urban development in the catchment of Lake Illawarra since Mod 1 was approved to use the current settling ponds, approximately 10 years ago. Water pollution & catchment development (including industrial development) have been identified as the main threats to the environmental health of the Lake & its catchment. (*Lake Illawarra Coastal Management Program 2020, Table 2.2 Identified Threats Impacting Lake Illawarra*).

Mod 2 proposes that the Wongawilli mine will release more than 7 million litres of polluted water daily from Licensed Discharge Point 2 to Robbins Ck in the catchment of Lake Illawarra. The changes to land use in the catchment of the Lake since Mod 1 was approved underlines the need for improved discharged water quality requirements under EPA licenses. It is imperative when assessing any new development that ALL detrimental impacts are considered as a cumulative whole.

The open letter to the premier from the 21 Scientists states on p3:-

- “.....Provided on request by Wollongong Coal, Figure 3 depicts pooling at the Wongawilli mine. The printed text on the graphic states: “Approximate potential position of underground ponded water. Note: some water levels dynamic - some areas inaccessible so confirmation of levels not possible”. The handwritten note states “Water as high as 212 RL on ISG plans”; it’s not known which part of the mine is referred to in this comment. The Nebo area was closed in 2019 for safety reasons. The mine’s Community Consultative Committee has been told that it’s anticipated that when the ponding reaches about 205 RL, water will begin to drain from a portal in the escarpment, near Dombarton.” Dombarton is in the catchment of Lake Illawarra.

6/ The Upland Swamps are classified under NSW state & Federal law as an Endangered Ecological Community that requires protection. There are 2 Upland Swamps in the area of Mod 1 & 2. In their open letter to the premier the 21 Scientists say of coal mining in the Special Areas, p14 – ‘*• Ongoing degradation and loss of the upland swamps (see Fig. 21) through bedrock cracking with linkage to drainage pathways. Reduced bushfire resistance and catchment resilience to drought is eroded through the loss of runoff filtering and moderation capacity. There are no known effective means of swamp remediation.[1], [3] These concerns are compounded by inappropriate swamp loss offsets. Commenting on offsets for damage to swamps over the Dendrobium mine, WaterNSW points out the following[4]: “The proposed biodiversity offsets for swamps are not within WaterNSW’s Special Areas or the Sydney drinking water catchment and therefore would not result in any compensatory effect in the water quality, water quantity, aquatic ecosystem or ecological integrity of these resources.”’*

Dr Ann Young is a scientist who has studied the Upland Swamps for 4 decades. Her 2017 book “*Upland Swamps of the Sydney Region*” describes their uniqueness & the species, some endangered, that rely on them. The ability of the Upland Swamps to store & release water slowly to the environment is essential to the water storage & water regulation of Sydney’s & the Illawarra’s water supplies. What hasn’t been properly recognised are their flood mitigation services to infrastructure within their drainage domain & to urban development on the flood plains below them. Chapter 9 of Dr Young’s book, “*The canaries above the coal mine*” describes the detrimental impacts of coal mining on the Upland Swamps.

The importance of the Upland Swamps of the Greater Sydney Water Catchment as carbon sinks is outlined clearly in the research paper “*Forgotten peatlands of eastern Australia: An unaccounted carbon capture & storage system*” Kirsten L. Cowley, Kirstie A. Fryirs * Department of Earth & Environmental Sciences, Macquarie University, North Ryde, NSW 2109, Australia
<https://www.sciencedirect.com/science/article/abs/pii/S0048969720325845?via%3Dihub>

7/ GHG emissions & CC impacts:- I strongly object to the Mod2 proposal because of its contribution to climate change. It offers no plan to mitigate its greenhouse gas emissions which

are substantial. Regardless of whether it is Australian or NSW government policy to include Scope 3 or not in the assessment of such projects as this one, Australia is particularly vulnerable to human induced climate change whether emissions are Scope 1,2 or 3, & generated here or in India or anywhere else. We have very little time to reduce emissions to keep temperature rise to between 1.5 & 2 degrees pre industrial levels; impacts of higher temperature rises on climate will be catastrophic, far, far greater & more frequent than the dreadful fires, droughts, storms & scorching days we have experienced in recent years.

8/ WCL has shown it is not capable of operating a coal mine in the Greater Sydney Drinking Water Catchment: If the Dept of Planning will not consider this point in the context of whether WCL is 'fit & proper' to operate this mine, then it must consider it under the Precautionary Principle as stated in the NSW EP&A Act, see point 3/ a).

WCL states in its Mod 2 Report Vol 2 p184 it is willing to incur a financial loss on Mod 2, gambling that it will succeed in approval for further profitable mining in the N/W & S/W Mains. These are shaky grounds indeed for a company to operate such a large, costly enterprise. However it is even more risky for the Dept of Planning to consider risking the integrity of the Greater Sydney Drinking Water supply which includes the unique environment of the Schedule 1 Special Areas, in approving this mine expansion.

WCL is in a precarious financial position; its 2020 audit showed its liabilities exceeded assets by \$1,089,243,000. In August 2020 it was delisted from the Australian Stock Exchange. It was first suspended from trade on the Australian Stock Exchange in 2017 when it failed to lodge its half-yearly report. At this time it made public statements that it could not pay its creditors. It has not paid corporate tax since taking over Russell Vale mine in 2013 therefore it is reasonable to expect it will be unable to meet its rehabilitation commitments which inevitably exceed security payments held by government.

A history of bad dealings:

- There are good reasons for WCL's poor reputation in the local community. It has a history of bad dealings in the Illawarra that clearly shows disregard for the local community. Non compliance of its previous approval conditions & agreements have had long & agonising impacts on the surrounding residents of WCL's Russell Vale mine. Conditions not met include - realignment of Bellambi Gully Creek that was to be completed 8 years ago & continues to have flooding implications for nearby properties; limiting its stockpile to 80,000 tonnes of coal (the stockpile in fact reached 407,000 tonnes & is uphill of properties, causing great local concern as to its stability). WCL has an agreement with Wollongong City Council to dedicate four lots of land & pay a security deposit, this is outstanding since 1989. A 2014 Council audit of the Emplacement Area found almost half of the 54 conditions were not being met. Residents also say a commitment to developing proper truck loading facilities to reduce dust & noise is still outstanding. WCL is still loading off the stock-pile with tractors & its promises to sweep Bellambi Lane & to build sound walls have not been kept.
- Serious safety concerns placed WCL's Wongawilli mine in official care & maintenance some 2 years ago, all but a few maintenance staff lost their jobs.
- WCL has very recently made a third attempt to change its work place agreement which does not bode well for future workers' conditions
https://www.illawarramercury.com.au/story/6955972/wollongong-coals-third-attempt-to-scrap-russell-vale-mine-agreement/?cs=12&utm_source=website&utm_medium=index&utm_campaign=sidebar

9/ The Mod 2 proposal, if approved, will retard the Illawarra's transition to environmental & economic sustainable industry and employment. Eloquently argued in this article

<https://grattan.edu.au/report/start-with-steel/>

Conclusion:-

As NSW Chief Scientist Mary O'Kane stated in 2014, Sydney's water supply is the only public water supply in the world that allows coal mining in its "protected" areas near & under its water storages. I believe there is very good reason that this is not common practice globally. The evidence of damage from coal mining is clear regardless of whether longwall or bord & pillar methods are used. The impacts are grave - diversion & pollution of water from the catchment of Greater Sydney's drinking water storages, damage to the reservoirs & irreversible damage & desiccation of the Upland Swamps. The water holding & slow release capacities of the Upland Swamps are essential to the operation of the water supplies of the biggest city in Australia & of the Illawarra & Blue Mountains.

Coal extracted from WCL mines here offer no value adding for Australia, because it is all exported. Equally the rate of royalty returns is likely doubtful when the coal selling price is arranged between the 2 partner companies. WCL is yet again, unlikely to pay any tax. Approval of this proposal would equate to a sell out, for a very small monetary return, of liveable climate for Australians now & for future generations of Australians as well as access to reliable supplies of clean drinking water for the largest city in the country, the Illawarra & other areas that rely on the Greater Sydney Drinking Water Catchment for their water.

The reopening & expansion of the Wongawilli mine should not be approved.

Yours sincerely Annie Marlow, Berkeley NSW 2506