Objection to the Underground Expansion Project for South 32 Dendrobium Coal Mine

Thank you for your time and expertise which you bring to this Independent Planning Commission. My wife and I recognise you have a very difficult task which is so important for the environment and the future generations who will live and work in the Greater Sydney and Wollongong areas.

I strongly object to the Underground Expansion Project for South 32 Dendrobium as it will result in further ecosystem degradation and contamination of water our most precious resource

The Dendrobium Mining Project operated by South 32 has already been responsible for very damaging impacts in the drinking water catchments of the Avon and Cordeaux Dams. Extending South 32's underground long-wall mining operations under and/or near the Greater Sydney & Wollongong water catchment areas for another 28 years is unsustainable.

It is well known that cracks in the overlying strata will occur throughout the mining area as a result of any mining operation, be it long-wall or pillar and stope methods. The size, distribution and extent of the resulting cracks cannot be accurately predicted. Those cracks which are visible usually occur in stream beds where the bedrock is exposed. Smaller cracks may be largely indistinguishable from the pre-existing surface landscape. However all cracks in stream beds will affect water flows, and those away from stream beds will still have a direct effect on lowering the water table. Current mitigation processes to alleviate stream flow loss (e.g. filling cracks with concrete) are quite ineffective. They can only be applied to larger visible cracks, if and when they are detected, however smaller cracks & cracks not visible from the surface have no method for identification nor remediation. Also note, while some cracks may appear on the surface they will form 3 dimensional networks of interconnected channels or water conduits. The extent, direction and volume of these networks is entirely unknown and unpredictable.

The impact of this mine and the proposed expansion is that stream flows will diminish and lakes and swamps will be drained, directly affecting vegetation and species specific communities altering their distribution. Specifically it will undermine 25 upland swamps, an uncounted number of streams, come to within 300 metres of the edges of the Avon and Cordeaux dams, and to within 1000m of the dam walls, which Water NSW claims is too close. This dewatering, exacerbated by drought and climate change, will significantly impact the biodiversity in the area. The environment will be irreparably damaged and lose the ability to sustain native plants, animals, birds, reptiles and insects in the area. This will definitely happen if this project is approved. I refer you to recent studies related to degradation of the ecosystem due to mining underneath water catchment areas:

1) Aquatic Ecology Specialist Catherine Cunningham (Sydney Water) has studied and reported the devastating impact of long wall mining within Sydney's water catchment areas, specifically Woronora Dam water catchment. The detrimental environmental and ecological impacts are described in her study entitled: 'The effect of subsidence from long wall coal mining on the ecology and water quality of streams'
2) Dr Ian Wright (Western Sydney University) a specialist in water quality and water management has studied the pollution from mining activities and subsequent ecological impact on streams and rivers including the Wingecarribee and Grose Rivers. His findings include high levels of nickel, zinc and manganese in the water discharged from mines in catchment areas of these rivers which had negative impacts on the abundance and diversity of aquatic insect life which animals such as the platypus rely on for food.

The most disturbing aspect of underground mining activities such as the South 32 Dendrobium mine is the environmental and ecological impacts when underground mines are no longer economical and operations cease. Although mining activities stop, water discharge into streams and rivers will continue for decades. Therefore dissolved metals including sulphur will continue to negatively impact aquatic river life and the ecosystem for many years. Unfortunately our sons and daughter and grandchildren will inherit this terribly damaged ecosystem and have to find ways to remediate it, if remediation is possible.

Alternatives

Possible options are:

- Limiting mine widths to lessen subsidence
- Continuing to mine Bulli Seam coal nearby but outside the drinking water catchment, (so eliminating the need to mine Area 5 of the Dendrobium area)
- Changing the Blue Scope blast furnace coal blend, so that the Wongawilli coal from Area 6 of the Dendrobium area is not required.

Conclusion
I understand there are some economic benefits which will be short term (perhaps 10-20 years) depending on many market and political factors. However there is evidence of permanent environmental degradation resulting in severely compromised water resources and ecosystems.

This project does not fill me with confidence that South 32 and the NSW Government will protect the environment for our children and grandchildren and future generations. The proposed South 32 Dendrobium Underground Expansion Project is not in the public interest.

I look forward to the Independent Planning Commission rejecting this Underground Expansion Project for South 32 Dendrobium coal mine.

Regards
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10 Riverview Avenue, Kyle Bay, NSW
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