Mandalong Mine Southern Extension Project SSD5144

Submission from Brian Byles PO Box 72 Morisset NSW 2264

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Introduction

I am the owner and occupier of the property known as 927 Mandalong Rd, Mandalong.

I will be seriously affected by changes to the environment which will take place if this project proceeds as described in the EIS. I purchased the property in 1971 with the object of being able to live in a quiet rural area. My wife and I have resided on the property since 1978. The property is very quiet. It fronts an unsealed secondary road, and is more than 5 km from the M1 Motorway and other busy roads. There is no industrial plant in the vicinity of the property. My wife and I have had 35 years of quiet enjoyment of the property. During this time, the only significant change to the local environment has been positive, namely the gradual restoration of native vegetation. This project has the potential to adversely affect the quiet enjoyment of this property.

I have made comments on these subjects:

- Noise from the mine ventilation fans
- Noise from shaft sinking
- Noise from the emergency generator
- Paddock contours, water catchment and water storage
- Tunnel soil erosion.
- Unauthorised traffic on the MSSS access road
- Transgrid TL24 relocation
- Visual impact
- Social Impact
- Community Consultation

Noise from the mine ventilation fans

The Mandalong South Services Site (MSSS) is located 1.15 km south east of my house and 80 metres higher than my house, with no higher ground in between. The line of sight is interrupted by an area of native vegetation about 400 metres wide. If the noise generated by equipment installed as part of the surface facility is not attenuated to an acceptable level, the noise will adversely affect the quiet enjoyment of my property.

By "acceptable level", I mean that the noise should not be heard in any habitable room of a house. This includes when any window or door is open. This is the same standard as is applicable in NSW to an air conditioner installed at a neighbour's house an urban area.

In such a situation, the appropriate action set out in 'The Noise Guide for Local Government' (http://www.epa.nsw.gov.au/resources/noise/20130127NGLG.pdf) is invoked.

The relevant section of this Guide is: Page 5.9 being: Part 5 Appendixes, Appendix 4, Air conditioner noise, 3.1 Air conditioners, heat pump water heaters, pool/spa pumps. This paragraph states:
"The Noise Control Regulation has provisions related to the use of air conditioners, heat pump water heaters and pool and spa pumps. A penalty notice may be issued, after a warning has been given, for this equipment where it is installed on residential premises and it can be heard in any habitable room of a neighbouring residence. This includes when any window or door is open.(A habitable room means any room other than a garage, storage area, bathroom, laundry, toilet or pantry)."

The noise generated by operational equipment installed as part of the surface facility will be similar to that generated by an air conditioner installed at a neighbour's house an urban area.

The EIS Executive Summary contains the following statement about how noise from operational plant will affect the closest house: "It is not likely that sleep disturbance would occur as a result of operation of the MSSS".
I interpret this to mean that: 'There may be some noise but it won't wake people up.'
The operational noise coming from the MSSS will have constant frequency and wave form. Even if it is true that the noise won't wake people up, the noise may make it difficult to get to sleep. Many people (including me) are likely to find this type of sound disturbing. Sound carries long distances in a quiet rural area such as Mandalong, especially at night.

I would like the project to be subject to the condition that the noise coming from the MSSS should not be heard in any habitable room of a house. This includes when any window or door is open.

This will ensure that Mandalong residents are given the same protection from noise as residents in urban areas.
As the mine ventilation fans will be the main source of the noise at night, it should be possible to design suitable fan discharge equipment, or build sound barriers, or both, to reduce the sound to an acceptable level.

<u>Noise from shaft sinking</u>

On page 46 of the Noise Impact Assessment, it is stated that "Shaft sinking activity is likely to occur 24 hours per day, seven days per week". This will continue for 78 weeks (Environmental Impact Statement Table 9).

This will create unacceptable noise pollution. 78 weeks is a long time for people to have to put up being deprived of one of their most valued amenities - rural peace and quiet.

It is reasonable to require that the noise generated by shaft sinking should be subject to the same conditions that I have requested for operational noise i.e. that the noise coming from shaft sinking should not be heard in any habitable room of a house.

During the last few years when boreholes were being drilled in Mandalong, I found the most evident noise was from the diesel engines used to drive the drill rig. As shaft sinking will occur after the completion of the access road and site excavation, it should be feasible to then build the Ausgrid 33kv power line so that the drill rig and the two 450kW hydraulic pumps can be driven by electric motors, which are not noisy.

Noise from emergency generator

Noise Impact Assessment Figure 3 - Proposed Mandalong South Surface Site Layout shows a small rectangle labelled 'Gen set'. Is this an emergency generator? If so, it should be included in the noise assessment. It would have to be run at regular intervals for testing purposes.

Paddock contours, water catchment and water storage.

No mention is made of reshaping parts of some paddocks which will be necessary to preserve the existing pattern of water run-off into dams after subsidence has taken place. Will this be done by the Company or Mines Subsidence Board? Will temporary water supply be provided?

A 200 metre long section of Morans Creek that runs through Lots 59 and 60 is level and the average water depth is about one metre. This water is regarded as a valuable resource as it has never completely dried up, so is available for the wildlife and stock watering. If cracking occurs in the creek bed, the water could be lost. This may not become evident until a dry period is experienced. A management plan should be agreed to with the land owners involved that would define the Company's future responsibilities. This part of the creek will be above the chain pillar between LW26 and LW27, so some excavation may be required to preserve this asset. At what stage of the project will matters of this type be discussed with the land owners and what recourse do they have if proposals are considered unsatisfactory?

Tunnel soil erosion

Certain areas of Mandalong are susceptible to tunnel soil erosion. Active and controlled examples can be seen both on private land and Olney State Forest in the paths of LW25 and LW26. The erosion is thought to have been initiated about 50 years ago by land clearing on the private land and logging in the forest. This insidious type of erosion is extremely difficult to detect in the early stages, and once established, to control.

There is no reference to tunnel erosion in the EIS. The Decommissioning and Rehabilitation Strategy (Appendix E) is deficient as it does not detail any procedure for overcoming the environmental damage liable to be caused by tunnel erosion.
The Soil and Land Capability Assessment (Appendix N) does not mention tunnel erosion but in the section 5.0 Disturbance Management reference is made to the factors that result in tunnel erosion: "Surface cracking has the potential to cause long term erosion problems, which may be exacerbated by the sodic nature of several of the soil types throughout the Study Area"

The following description of the erosion process was copied from the NSW DPI website.
"Tunnel erosion occurs when surface water moves into and through dispersive subsoils. Dispersive soils are poorly structured so they erode easily when wet. The tunnel starts when surface water moves into the soil along cracks or channels or through rabbit burrows and old tree root cavities. Dispersive clays are the first to be removed by the water flow. As the space enlarges, more water can pour in and further erode the soil. As the tunnel expands, parts of the tunnel roof collapse leading to potholes and gullies. Indications of tunnel erosion include water seepage at the foot of a slope and fine sediment fans downhill of a tunnel outlet. Remediation actions include breaking open existing tunnels, revegetation, and increasing soil organic matter."

The erosion may take several years between the time the process starts and when it becomes active and can be detected. This depends on the amount of rain that falls. Because the early signs are not obvious, it is necessary to carefully survey suspect areas at regular intervals after the land has been disturbed. As the erosion is always on or below steep sloping land, which in Mandalong is covered with native vegetation, new erosion tunnels are not always obvious. See Photos 1 and 2 in attachment 2 . Photos 3 & 4 show controlled erosion. The size of the particles in the silt is too small to be caught in silt traps so most of it enters the creek.

The ultimate result of any erosion in the Project area is the deposition of silt in Lake Macquarie. The amount of silt that could be involved is large and would be likely to undermine the Lake Macquarie City Council's efforts to control run off from building sites similar disturbed areas.

When subsidence caused by longwall mining occurs, there will be some change in the arrangement of particles in the soil at all levels between the surface and the mine floor. Before mining, the arrangement of undisturbed soil is stable, as it was established long ago influenced by natural forces such as rainfall and vegetation. Any unstable soil would have been eroded away over the thousands of years it has taken to shape the landscape. So long as the soil and vegetation remains undisturbed rainwater can percolate into the soil until it is saturated without causing the soil structure to become fluid. This stable system will be upset by any subsidence-induced stretching of the soil, whether or not cracks are evident. This changes the relationship between the components of the soil. When water enters the soil, it can move in a different way than it did in the stable system. Given susceptible conditions of topography and soil type, a subterranean column of fluid can form down a steep slope, and will eventually break out to the surface at the change of grade. The fact that there is never any sign of a hole where water enters a tunnel supports this explanation.

Based on my experience of 40 years controlling the tunnel erosion that was present when I bought my land, I recommend that before this project is approved:
1. The parts of the Project area that are susceptible to tunnel erosion be identified.
2. Modify the mine plan so that longwall mining is not used in these areas.
3. Include protocols for preventing, detecting and dealing with tunnel erosion in the Mandalong Centennial Coal Erosion and Sediment Control Plan.

The recent longwall induced environmental disaster near Mount Sugarloaf, illustrates the importance, of the people responsible for identifying and managing environmental risks, looking beyond the obvious.

The best solution this problem is not to create the conditions that initiate the erosion.

<u>Unauthorised traffic on the Mandalong South Services Site access road</u>

The Traffic Impact Assessment makes no mention of the point of entry of the new access road that runs from Mandalong Road to the MSSS site.
If the point of entry is not locked, there is a risk that the access road could be used by unauthorised vehicles. This would create a noise problem for nearby residents.
I would like the project to be subject to the condition that the entry point must be locked at all times except when being used by authorised vehicles.

Transgrid TL24 relocation

The Flora and Fauna Assessment does not take into account the impact on the environment of the relocation of power line TL24. During a community information session, we were informed by members of the project team that, in order to make the project viable, a section of TL24 had to be relocated because some towers would require uneconomical modification to compensate for subsidence.
Statements indicating that this is being considered are made in several different places in the EIS. For example: Appendix M - Subsidence Predictions and General Impact Assessment, Page 135 states: "Five tension towers along TL 24 are currently within the proposed limits of the longwall extraction with two towers inside a 26.50 angle of draw from the panel limits (no.s 27 and 28). These towers are likely to be subjected to cumulative tensile or compressive strains in excess of 1 mm/m. *It is understood that these towers will be relocated prior to mining impacts."*

If the transmission is relocated, then parts, if not all, the of new easement would be cleared to meet the Transgrid standard. The area involved is estimated at at least 10 hectares. New tower access roads would be required. Any route selected for the relocated line would intersect hills and steep gullies. This country is mainly covered by undisturbed native vegetation. As the size of this land is comparable to that of the proposed Service Site, it is reasonable that the impact of both should be assessed concurrently.
I request that the EIS for the relocation of TL24 be prepared and put on exhibition and assessed in conjunction with the mine Extension Project.

Visual impact - SSSM

The Visual Impact Assessment, Table 2 Visual Impact Matrix states that Visual Impact Matrix for residence R5 is: "Short to medium distance views toward the surface facility will be partially screened by undulating topography and **tree cover**."
Also The Bushfire Risk Assessment - 4.2.1. Bushfire Treatment Options states that "Hazard reduction burns and track maintenance (SFAZ): more suited to forest vegetation outside the designated APZ. Mosaic burns on a cyclic basis will reduce overall fuel loads approaching the assets." As the "tree cover" referred to above is likely to be within the area subject to hazard reduction burns, the preservation of the visual screening function must be taken into consideration in developing and implementing the fire protection strategy. Reduction in tree cover could also affect the view from R10 and R11.

Visual impact relocation of Transgrid TL24

As stated above, the Project Team have indicated that, for this project to be viable, sections of the transmission line TL24 will have to be relocated.
Regardless of the route selected, the 60 metre wide easement for this 330kv line would would traverse the ridge that is east of Morans Creek. A tower would be on the top of the ridge which would make it visible from Mandalong Road. This area is covered with native vegetation and appears as an attractive natural skyline. There would be an adverse visual impact if the power line was relocated. The soil on this ridge is thought to be susceptible to tunnel erosion which could develop if the trees were removed.

Flooding of Mandalong Road

There is a floodway on Mandalong Road at the location where it crosses LW25. See Surface Water Assessment Figure 3.8(2). Regular floods up to half a metre deep are experienced at this location. See: Surface Water Assessment Figure 3.8. During most of these flood events, the road is passable by heavy vehicles but not by cars. When the expected subsidence takes place, the floodwater will be deeper unless appropriate downstream excavations are made or the level of the road raised. As most of the excavations will be done on private land, negotiations and the resulting work should be completed before mining starts so that the deeper flooding can be avoided.

Social Impact

The Social Impact Assessment fails to identify any benefits for the local residents who will be impacted by this project. For this small group of people, the effects will all be negative. It has the potential to deprive them of one of their most precious amenity, which is the complete absence of continuous intrusive background noise. This amenity is one of the key reasons most of us live in the area and forgo the benefits of living in town. No amount of money could compensate for its loss. I can see no technical reason why the Company could not install sound barriers and fan outlet silencers, to reduce the sound level to an acceptable level (as defined above). It is reasonable to expect the Company to spend a small additional amount to overcome this problem. A similar problem was evident when Eraring Power station was first commissioned. The induced draft fans were too noisy, so the outlet ducts were modified to completely overcome the problem.

Subsidence will change the profile of the land surface. This probably will not be noticeable in the hilly areas. However, along the valley floor, the profile will change from relatively flat areas to a profile that has a gully above each longwall panel and hills above the chain pillars. This will have a major impact on the appearance of the properties, which are relatively small when compared with broadacre properties in other parts of the country where longwall mining has been done.

Community Consultation

Centennial Coal must be complemented on their public relations during the planning phase of this project. Personally I developed great respect for members of the Project Team. I hope that, should the Mandalong South project be approved, similar good relations can be established between the public and those who construct and run the operational mine.
I would like the project to be subject to the condition that the local community should be informed and consulted about matters relating to the progress of the project.