

Mining and Industry Projects
NSW Department of Planning & Infrastructure
GPO Box 39
Sydney NSW 2001

Dear Sir/Madam,

Friday May 2nd, 2014

**Submission on ENVIRONMENTAL ASSESSMENT INVINCIBLE COLLIERY PA
07_0127 MODIFICATION AND CULLEN VALLEY MINE DA 200-5-2003
MODIFICATION**

By the Colo Committee

(Dr Haydn Washington, Hon. Sec., contact: haydnwashington@bigpond.com)

1.0 Introduction

The Colo Committee is an environmental organisation that has been active since 1974 in the Wollemi and then the Gardens of Stone areas. We have several environmental scientists as members of the committee and have been active in assessing both the pagoda rock formations (and their biodiversity and geodiversity significance) and the extensive impacts of coalmines in the Western coalfields since 1980. The Colo Committee objects to the proposed modifications to the Invincible Colliery and Cullen Valley mine PA 07_0127 and DA 200-5-2003 and urges that they **not be approved**. PA 07_0127 is part of the previously proposed Coalpac Consolidation Project for which the Planning Assessment Commission on Dec 12, 2012 noted:

The Commission has found that, when the merits of the project are considered as a whole, the benefits of the project are substantially outweighed by the breadth and potential magnitude of the impacts. The Commission therefore recommends that the project should not be approved.

The Department of Planning similarly later found against that project. We believe that the current proposed projects *suffer from the same failings* as the original Coalpac Consolidation Project. We believe also that this is merely the first step in seeking to carry out the refused Coalpac Consolidation Project *one step at a time*. On balance this project and the ones that inevitably will be proposed to follow it will inevitably cause the same ‘breadth and potential magnitude of the impacts’ which is why the PAC refused the original proposal. Accordingly these two proposals should ***similarly be refused***.

The Colo Committee objects to the proposed modifications for the Invincible and Cullen Valley coal mines because they will adversely impact on the ***internationally significant*** pagoda landform complex (Washington and Wray, 2011) located on the western edge of the Great Dividing Range in Ben Bullen State Forest. This public forest, and particularly this

part of the forest, should instead be fully protected from open-cut mining and instead reserved in a State Conservation Area as soon as possible.

The **open-cut mining** would destroy 150 hectares of the Tablelands Grassy Woodland Complex. This community is integral to the ecological health of the pagoda landform complex community. The talus slopes of this community that stretch up to the cliff-lines act as ‘flying buttresses’ to support the cliffs and the pagodas found there. Accordingly this area is integral to the physical stability of the pagodas also. Open cut mining can thus have impact on pagoda geodiversity. Removal of the valley bottom woodland will clearly impact negatively on the biodiversity of adjacent areas on the pagodas.

The **highwall mining** of an additional 165 hectares is (given past experience over several decades or researching coal mining in the area) very likely to lead to cracking and localised subsidence (despite repeated assurances). This will impact on the internationally recognised pagoda rock formations. It would also impact negatively on cliffs and on associated Aboriginal heritage, and both are at risk of being damaged through subsidence during and following such coal mining. There is a very good chance that cracking caused by highwall mining will dry out and degrade the moist forests of the pagoda complex. The BMCC ‘Save our Swamps’ project (Hensen, 2010) identified that the swamps in this area had become desiccated, and that this *coincided closely* with past mining leases. This desiccation of communities such as the pagoda complex is likely to cause a loss of understorey species, such as orchids and ferns.

The Invincible modification proposal is **less than two kilometres from Cullen Bullen** and dust from this project will lead to increased morbidity and mortality in the community from respiratory and cardiovascular disease. The PAC report noted for the Coalpac Consolidation Project that:

The project cannot meet NSW air quality criteria at all residences and is close to the limit at many others. It is therefore at the limit of acceptability for air quality impacts.

The same is likely to apply to this proposal. Noise, truck movements and blasting from both modification proposals will also adversely impact on residents. These costs have in the past been seen as ‘externalities’ that are not the responsibility of the mining company. However they are very real impacts that will follow from the proposed project.

The proponent maintains on p. 18 of the EA:

The mine plans which are being proposed for these Modification applications for Invincible Colliery and Cullen Valley Mine promote:

- ☐ *The principles of Ecologically Sustainable Development (ESD);*
- ☐ *The minimisation of environmental and social impacts; and*
- ☐ *The optimisation of a rehabilitation strategy for the existing disturbed areas at each mine site.*

Given that the Hon. Secretary of the Colo Committee is an environmental scientist working in the sustainability area, it is clear from this that the proponent misunderstands (or is deliberately mis-construing) the principles of ESD. It is clear also that the proponent (as for the previous Coalpac Consolidation Project) has made no serious attempt to minimise environmental and social impacts.

The Colo Committee thus believes this project should be refused on **3 key grounds**:

- 1) Unacceptable environmental impact in terms of both significant biodiversity and internationally significant geodiversity of the pagodas
- 2) Unacceptable social and health impacts on local communities
- 3) Dubious economic rationale for the proposal, which produces low quality coal through a proposed activity that has such high environmental and social costs.

2.0 Specific issues

2(a) Poor discussion of climate impact of the project

The previous Coalpac Consolidation Project sought to deliberately confuse the climate science in its submission. It stated that human-caused emissions of CO₂ each year were 100 times larger, this was because they used the figure for the CO₂ atmospheric pool as that for human annual emissions. When this was pointed out by Dr Washington, they still sought to maintain this inaccuracy at the second stage. Hence Dr Washington had to get Prof. David Karoly of Melbourne university, a distinguished climate scientist, to make the same correction directly to the Commission of Inquiry held at Lithgow. The current proposal does not make that particular error, but does seek to *play down the significance* of the proposal in terms of its climate impact. Section 6.2.3 of their EA document seeks to emphasise the small 'scope one' emissions involved (due to fugitive emissions and staff travel) but fails to actually discuss in the text the total emissions produced when the coal will be burnt. These are shown in Table 8 as being just over 17 million tonnes of CO₂e over 4 years. This averages out at 4.5 million tpa CO₂e. Australia's annual CO₂ emissions (as noted by the Commonwealth's quarterly update) were 538.4 Mt CO₂-e. Thus just this one proposal thus has the same impact for each of the 4 years as 0.84% of Australia's total CO₂ emissions for each of those years. This is thus a significant project in terms of overall climate impact. The vast majority of climate scientists support leaving the majority of our fossil fuels in the ground if we are to avoid catastrophic runaway climate change. Australia, the driest inhabited country in the world, is one country at high risk from such climate change. Hence this project will help exacerbate negative climate impacts on future Australians.

Keeping carbon in the ground is the best way to prevent climate change disaster. Those determining fossil fuel proposals, including this one, should adopt a policy of permanently sequestering the carbon embodied in coal resources, particularly the poor quality resources or where sensitive environments and communities would be affected. A gradual transition towards ending fossil fuel use by 'resource sterilisation', particularly of inferior coal resources, is a pragmatic means to overcome mining and energy industry inertia in addressing

climate change. It will shorten the time taken to transition to a more sustainable such as renewable energy. Prof. Mark Diesendorf (2014) and colleagues of UNSW have demonstrated that a shift to 100% renewable energy for Australia is both feasible and economic. As development consents run for a 21 year period, changes to development control policy regarding sequestering coal need to occur now.

2(b) Flora and fauna

Concern about accuracy of flora and fauna surveys

The previous Coalpac Consolidation Project **missed 100 plants species**, including the threatened *Persoonia marginata* (which was found by a local botanist). It also missed the threatened Broad-headed snake. As members of the Colo Committee have been environmental consultants for many years, we find these mistakes quite incredible and unprofessional. They demonstrate an inadequate survey of the area. There is no indication that the surveys for this proposal have actually rectified those omissions, in fact they seem to rely on the same flawed surveys.

The 2012 Planning Assessment Commission report on the Coalpac Consolidation Project noted that OEH raised a number of issues with the accuracy of the proponent's vegetation community descriptions in its response to the Commission's questions. The Commission's report recommended that:

*given the controversy over this issue, any further survey work to establish the occurrence and distribution of vegetation communities on the site should be **fully independent** or directly oversighted by OEH at the Proponent's cost*

(p. 93 of PAC report and Commission's recommendation 49, 2012).

This recommendation for independent oversight of its vegetation survey work has **not been adopted by Cumberland Ecology** in the preparation of the EA report for the modifications. Instead, Cumberland Ecology has made comments regarding the significance of the vegetation that are contrary to the conclusions of the Commission, the OEH and the Department of Planning and Infrastructure. The comments made by Cumberland Ecology regarding the general merit of the native vegetation found on the proposal site are not substantiated by any new evidence that rebuts the views these agencies and the Commission. Cumberland Ecology relies on existing old data to understate the value of the vegetation on the site. The evidence provided to support Coalpac's position is weak and new evidence regarding the importance of the vegetation to be mined has been produced by Dr Steve Douglas. He confirms that there are several concerns regarding the vegetation survey work by Cumberland Ecology.

Failure to provide an adequate buffer from open cut to pagodas

The proposal does not provide the **300 metre minimum buffer** recommended by the Planning Assessment Commission report on the Coalpac Consolidation project in 2012 from

the base of the pagoda rock formations and the open-cut area. Such a buffer was recommended to protect fauna species. Such a buffer would provide some protection for wildlife, including many lyrebirds and the threatened broad-headed snake. The reason why it was not carried out here is clear, as if such a buffer were applied, no mine would be feasible. In other words a *safe* buffer zone cannot be reconciled with the proponent's desire to open-cut. Their proposal is thus not environmentally sound and should be rejected.

Concern over adequacy of biodiversity offsets

There are very real grounds to believe that the proposed offsets do not meet the criteria of 'like for like'. This was detailed in previous submissions on the Coalpac Consolidation Project. Figure 3 of the EA shows that a large part of the proposed offset is in fact cleared land to the west of the current Invincible open cut. This is not acceptable as a 'like for like' offset.

Contrary to Coalpac's claims, viable ecosystems **cannot** be replanted on farmland or after open-cut mining native forests. No mature woodland has ever been established on a mine rehabilitation area. The PAC on the Coalpac Consolidation Project found that rehabilitated areas **cannot be returned** to their pre-existing landforms across the project area and the biodiversity characteristics of rehabilitated areas **cannot replicate** the existing characteristics and will inevitably be less diverse and less species rich (PAC, 2012 p. 155). To suggest the rehabilitated modification areas as offsets lacks scientific credibility.

The biodiversity offsets are inadequate, and cannot replace a Gardens of Stone Stage 2 reserve over Ben Bullen State Forest (as proposed by a wide range of community groups). The Gulf Mountain proposed offset is 17 kilometres away from the modification proposals, and is not contiguous with existing NPWS reserves, unlike the Ben Bullen State Forest. This offset is located on undifferentiated Palaeozoic metamorphic rocks, and, contrary to the assertions in the EA are by definition unlike the sedimentary rocks of the Sydney Basin. No threatened flora species have been recorded on this property, suggesting that it is unsuitable as an offset property.

The other proposed offsets require substantial rehabilitation. In relation to the Hillview and Billabong properties it is proposed to conserve and rehabilitate similar vegetation to that located within the Modification Disturbance Boundaries. The area proposed to be mined is not in a degraded condition, unlike that of the proposed offsets. The proposed additional offset properties are adjoining offsets for previous mining operations, and also require substantial rehabilitation. The Environmental Assessment for the modification proposals does not deal with cumulative impacts either from Pine Dale and Neubecks Creek open-cut proposals or from future stages by Coalpac after this mine proposal is completed in four years. All these proposals will further degrade this intact remnant pagoda landscape complex.

In view of the above, we believe that the PAC's highly critical conclusion of 2012 regarding offsets **applies to the offsets to the proposed modifications**. The offset package is designed to exchange a number of fragmented areas that in some instances require extensive rehabilitation and are not considered suitable for reservation for a single area of high quality

habitat that is already proposed for reservation and which adjoins like areas of high quality habitat (p. 155).

Poor and inappropriate rehabilitation practice

Coalpac's claim that these two modifications should be granted development consent **in order to complete rehabilitation of mine pits** is not the first time this miner has sought such consideration. Coalpac made a similar application for extension to Invincible Open-cut mine and rehabilitation activities in 2006. While Coalpac should not be criticised for proposing to rehabilitate another company's abandoned workings, it *had eight years* to bring its rehabilitation works up to date.

This time around the reason for rehabilitation work being incomplete at both mines is because the Coalpac *deliberately retained open-cut highwalls* to facilitate future mining it now proposes. Page 126 of the EA states that 'there are currently three open cut mining voids at Invincible Colliery and a further three open cut mining voids at Cullen Valley Mine. *These voids were left open to facilitate the continuation of future mining activities* and will assist the recommencement of mining under this Modification.' This self-serving argument is not grounds to issue development consent.

The justification of mining to allow rehabilitation **should be rejected**. Coalpac's reasoning has the implicit assumption that a mining company determines when a mining project is completed, and not the determining authority when it formulated a consent. Both mines have operated under relatively new development consents require these voids to be rehabilitated, without the need for further development consents. Coalpac should be required to use its rehabilitation deposits and to sell company assets to ensure adequate rehabilitation of the six existing mine voids. The claim that there is not enough existing waste material to fill these six mine voids is nonsense. Open-cut mining create a surplus of mine overburden waste that can reshaped to fill the mining voids.

2(c) Geodiversity

Concern over proper investigation of geodiversity

The Colo Committee is similarly concerned over adequate investigation of the geodiversity of the area, given past history of the proponent in the Coalpac Consolidation Project proposal. The Hon. Sec. of the Colo Committee (author of this submission) is the co-author of a peer-reviewed scientific paper on the geomorphology of the pagodas (Washington and Wray, 2011). Dr Washington had visited the Coalpac area and clearly there were **both platy and smooth pagodas present**. However the previous EA by Coalpac had attempted to claim these were not present, and had even attempted to use Dr Washington's paper in support of their claim, which was clearly *completely incorrect*. Dr Washington accordingly had to inform the PAC of the proponent's misuse of that paper.

Coal resources are very poor compared to nearby alternatives

The coal proposed to be mined has high-ash (14 to 30%) content. It is full of shale bands, and has weathered, thin and discontinuous coal seams. Such poor quality coal is neither essential (nor good) for the on-going operation of Mt Piper Power Plant at Lidsdale.

Compared to the Ulan, Lithgow and Katoomba coal seams, the Lidsdale and Irondale seams in the Invincible and Cullen Valley Mines are inferior in quality, and the others, the Middle River and Moolarben seams, are hardly worth mining.

The Springvale Colliery was specifically developed by an Electricity Commission subsidiary for the needs of the Mt Piper Power Plant with a coal conveyor belt built directly to the plant. The Angus Place Colliery was also developed by an Elcom subsidiary and it has a purpose built haul road to the power plant. The Springvale and Angus Place coal mines can produce 8.5 million tonnes of coal a year. In 2006-07 the combined resources for these mines were 325.5 million tonnes of coal. These mines alone can provide sufficient coal to the power plant for the foreseeable future.

Poor terrain for open cut

The proposed approach to mining differs from a typical open cut coal mine, due to the **high relief and steep slopes**. The terrain is unsuited to open-cut mining operations because it requires intricate and inefficient operations with truck and shovel machines. This sort of operations is not 'Ecologically Sustainable Development', because the proposed intensification of mining methods will damage an internationally significant pagoda landscape complex, and destroy part of the significant Tableland Grassy Woodland complex.

Spurious claims of highwall 'safety'

The proposed highwall mining of the Lithgow Seam at the Invincible Colliery apparently ignores the cumulative impact of the old workings and sequential highwall mining. The estimates of factors of safety at both mines do not appear to consider the cumulative effects of the mining of successive coal seams. The net effect of the high wall mining is the sum of all the highwall mining proposed. Given the uncertainties involved with multi-seam mining and in the case of Invincible reworking former mining areas, the proposed highwall mining is inappropriate.

P. 77 of the EA states: 'By designing with an adequate FoS the stability of the surface over highwall mining areas over the long term is ensured'. This is statement without proof, as no evidence for this is provided. Similarly p. 78 states 'the potential for surface subsidence to occur as a result of highwall mining is negligible (i.e. less than 20 mm)'. Again, this cannot be said as a *statement of fact*. The Colo Committee has heard many such statements since 1980. When cliff collapse later occurs, the miner essentially says 'oops!'. Given that there can be joints and stresses in the cliff face and pagoda formations, subsidence due to highwall mining may in fact cause damage and collapse. Given that highwall mining in fact produces comparatively little coal compared to the open cut, one can only wonder *why* the proponent

continues with a practice under what they do acknowledge is an area of international significance?

2(d) Concern over economic analysis

The economic analysis is based purely on a neoclassical cost benefit analysis. This ignores all such ‘externalities’ such as the impact of dust on the health of the community (and biodiversity and ecosystems), impact on water tables, impact on potential tourism to the Gardens of Stone area, etc. As such it is a *flawed economic analysis* that only looks at ‘values’ associated with selling coal on the market, and not values of keeping this natural area as it is, along with its natural heritage and ecosystem services. By comparison, the Institute of Sustainable Futures at UTS carried out an ecological economics study of the previous Coalpac Consolidation Project that showed the *negatives outweighed the positives*. The same would apply here. These modification proposals would not be economic were it not for the diesel fuel subsidy. The claim of increased costs to electricity consumers if the Coalpac proposal does not proceed is a wild exaggeration. Nearby underground mines have provided for local electricity power plants for over 20 years without the price hikes foreseen by Coalpac.

2(e) Concern over adequacy of Aboriginal archaeology

The Aboriginal cultural heritage assessment lacks credibility because it did not find a cave art site in the highwall disturbance area for the Cullen Valley Mine proposed modification. The claim (EA, p. 109) that no Aboriginal archaeological sites or artefacts have been located in the Modification Disturbance Boundary at Cullen Valley Mine is incorrect. Previous studies had missed another important Aboriginal cave art site in the project area of the Invincible Colliery.

Conclusion

This proposal is an attempt to carry out the Coalpac Consolidation Project in stages, with this being the first step. The Planning Assessment commission found conclusively for the original proposal that Coalpac should not proceed as the *negatives far outweighed the positives*. Similarly here the negatives outweigh any dubious positives. We accordingly **urge you to refuse this application.**

References

Diesendorf, M. (2014) *Sustainable Energy Solutions for Climate Change*, NewSouth Publishing, Sydney, and Routledge-Earthscan, Abingdon UK.

Hensen, M. (2010) *Newnes Plateau Shrub Swamp: Aerial Condition Assessment Project*, Save Our Swamps, Blue Mountains City Council

Washington, H. and Wray, R. (2011) ‘The geoheritage and geomorphology of the sandstone pagodas of the north-western Blue Mountains region (NSW)’, *Proc. Linn. Soc. N.S.W.* **132**:131-143