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Dear Carl,

Colong Foundation response to the Coalpac submission in reply to the PAC review report and recommended refusal of the proposed Consolidation Project for an open-cut coal mine in Ben Bullen State Forest

Coalpac's response to the PAC1 report offers minimal changes to the proposed open-cut and highwall coal mining proposal. The omission of the Hillcroft area does not address any of the serious concerns raised in the PAC1 report, and does not reduce noise, dust and blasting impacts on the residents of Cullen Bullen. The Hillcroft area of 107 hectares is not a key area of environmental sensitivity and appears to have been excluded for economic and perhaps tactical reasons. As a discreet area, Hillcroft can be added to the mining project as a modification proposal at a later date. The other major change, the removal of the sand mining proposal, was expected. It was a premature proposal, and details were scant, and a major acid mine drainage risk was identified.

Coalpac's proposed removal of 196 hectares from the open-cut mine does not move the proposed mining operations that were close to the township of Cullen Bullen any further away or in any significant way delete areas of environmental sensitivity from the proposal. Approximately 673 ha of the Gardens of Stone Stage 2 reserve proposal (2005) would still be destroyed, as well as an estimated 15,428 *Eucalyptus cannonii* trees. Only about 89 hectares of Ben Bullen State Forest has been removed from the proposed open-cut, mostly on the western side of the highway, and the area of highwall mining has been increased. From examination of the maps the changes within the reserve proposal appear to be refinements of the open-cut proposal boundary. Such changes are typical for a project

moving forward towards implementation rather than as additional changes in design based upon environmental concessions.

The Clandulla Geebung habitat which is located in the north-west corner of the proposal and would save 320 plants and 3.28 hectares is an exception, but this area would become an isolated bushland remnant, if the mining proposal proceeds. The contraction proposed by Coalpac makes little environmental sense, as approximately 762 hectares of high conservation value native vegetation would be removed. Much of the area to be mined is mapped 'Tablelands Woodlands Grassy Complex', and Cumberland Ecology should acknowledge that they were incorrect to state otherwise.

The Colong Foundation does not accept the allegation that discontinuation of the sand mining proposal and the Hillcroft open-cut area will permit the proposal to meet noise, dust and blasting standards. Tyldesley Hill, an area of bushland about 800 hectares in size, separates Cullen Bullen from these discontinued aspects of the proposal and offers significant impact attenuation.

Instead of project modification of the open-cut and highwall mining areas near Cullen Bullen to east, south and north of the current Invincible colliery operations, Coalpac experts sought to criticise the assessment, findings and recommendations made by the PAC1 Commissioners. It appears that further reduction of the proposal in this sensitive area would prove fatal to it.

The Colong Foundation believes the review process should offer the PAC1 Commissioners an opportunity to reply to the March 2013 report by Coalpac, but we also acknowledge that the Commissioners are probably too busy to respond in detail. So it is up to PAC2 to decide whether the PAC1 merit review was so in error that its overall conclusion is flawed.

The Colong Foundation submits that the revised proposal does not adequately address the concerns of PAC1, and should be refused development consent. The Commissioners recommendations, particularly on the issue of the 300 metre buffer for pagoda areas and the need for proposal modification to reduce the noise, dust and blasting impacts on Cullen Bullen residents, were not supported by Coalpac, who still seek a 24 hours a day mining operation.

The Foundation believes that the proposal is fundamentally flawed because of its environmentally sensitive location and its high perimeter to area ratio, which maximises the environmental impacts from the 60 Mt of saleable coal available if this proposal is approved. The proposal is now small open-cut mine, with a large environmental impact.

Coalpac submission in reply adds little new to the existing debate

The arguments presented by Hansen Bailey on page 9 of the submission in reply are 'straw-arguments' attacking the PAC1 report, so framed to be subsequently proven by Coalpac's consultants, rather than considering and further addressing the problems with the proposal.

Much of the submission in reply adds nothing to the environmental impact assessment or debate already undertaken on behalf of Coalpac. For example, on page 2 the rhetorical remark that '*some of the environmental costs of the Project have already been incurred (i.e. the completion of the recovery of the remaining available coal resource will be at a lesser environmental cost than would otherwise be the case if this was a new development proposal)*' is a distracting exaggeration.

Bord and pillar underground mining does have some impacts, but open-cut coal mining causes much more damage. The existing open-cut mine has only just started to move into the state forest area, so the argument, at least as far as the Gardens of Stone Stage 2 reserve proposal is irrelevant.

The proponent appears to not adequately accept that permanent and significant environmental impact is caused by open-cut coal mining. Coalpac has owned old workings and overburden waste on fire for a decade, yet deny their impacts. Coalpac's proposed transfer of its rehabilitated mine areas to the NPWS as a state conservation area is further evidence of a lack of environmental sensitivity, as such a reserve would be nearly worthless for nature conservation.

Cumberland Ecology's reference to gold fields recovering a century after mining by hand ceased, cannot be compared with the open-cut mining proposal (see Appendix E, photographs 6.1, 6.2 and 6.3). The intensity of environmental impact from modern open-cut mining causes the collapse of near-surface groundwater. Just that impact alone makes open-cut coal mining for more destructive than gold mining, even if the gold miners entirely cleared the native vegetation where they were mining.

Cumberland Ecology mentions gold mining at Kiandra, where environmental damage is much still in evidence. The Kiandra mining area is in a national park but that does not mean the area has not been seriously impacted. In fact, the Kiandra gold workings were excluded by the boundaries of the NPWS identified Tabletop Wilderness in Kosciuszko National Park, due in part to the damage caused by these activities (NPWS, 2000, Southern Wilderness Assessment Report, page 101).

The claimed sacrifice of the state's coal resources allegedly to minimise amenity and environmental impacts is also an exaggeration. The talus slopes of Tyldesley Hill, the Great Dividing and Ben Bullen Ranges would continue to be scaped of all vegetation by the revised proposal, and its Disturbance Boundary remains a lengthy 48.28 km.

Environmental concessions have not minimised impacts but created a long and thin open-cut mine with a maximum environmental impact for the least return in poor quality coal.

Calculation of foregone coal value in billions is also misleading (Hansen Baily, page 6). Coal is not a benign energy resource and much of its environmental damage is not accounted for by cost benefit analysis, for example the impacts on scenery and tourism. These unpriced costs are great, and include an increased mortality rate in the local community. The question is not that there will not be increased mortality if this mining proposal is approved; what Coalpac is really arguing is the degree of mortality increase.

The coal resource is inferior, of less value than claimed and the unpriced costs associated with mining it were enough that the PAC1 Commissioners found that the resource is best retained in the ground. Nearby alternative resources would, if mined, yield the same sorts of economic returns foreseen for the Coalpac proposal, although economists may dispute the actual amounts.

Hansen Bailey's remarks regarding mine closures, particularly in regard to the brand new Airly mine, are misleading. The Airly mine could provide some of the resources required by the Mt Piper Power Plant and this will be facilitated if Delta Electricity constructs its already approved coal unloader at the power plant.

Also, the underground mines that originally provided for the needs of the two local power generators are planning to upgrade coal facilities for the needs of the Mt Piper Power Plant (see the following section).

NSW Treasury and the future of underground mining in electricity generation in NSW

The remarks by NSW Treasury regarding upward pressure on electricity prices (Hansen Bailey, page 4) should be considered in context. Developing nations, like India, use high quality thermal coal from the underground mines in the Western Coalfield to generate electricity. If developing countries manage to generate electricity using such Western Coalfield resources, then other key factors must be in play influencing the electricity price, including the gold plating of the poles and wire distribution network.

The feared change in coal price and its indirect effect on electricity prices should coal for Mt Piper Power Plant be sourced from underground suppliers seems exaggerated. If other countries can generate electricity economically from Western Coalfield thermal coal from underground mines, why can't NSW.

Two precedents: open-cut mining on talus slopes and the termination of thermal coal for local power plants sourced from underground mines

The value of the coal is just one consideration in weighing up this revised proposal. Of considerable importance, and it should be a primary consideration for DoPI, is the precedent that this proposal will set regarding open-cut mining of forested talus slopes below sandstone cliffs and pagoda landforms.

If DoPI and PAC2 give weight to NSW Treasury's views on this matter, then the provision of power generation by coal sourced from lower impact underground coal mines in NSW will be at an end.

In effect, NSW Treasury will have decided for the citizens of NSW that greater environmental impacts and fewer jobs arising from open-cut mining of poorer quality coal is more than compensated by avoiding a potential increase in electricity prices.

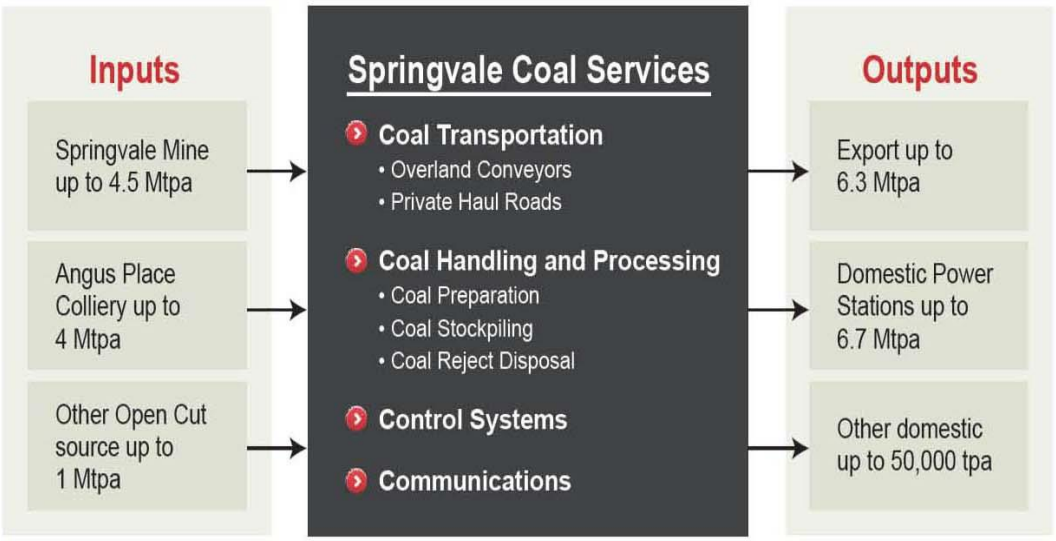
The difficulty the Colong Foundation has with the NSW Treasury argument is that these power plants had operated using coal from underground mines for over a generation. NSW Treasury and Gillespie Economics have unwittingly decided that citizens of NSW are no longer willing to pay for better environmental outcomes they enjoyed in the past.

Further, two other factors seem to operate in relation to this critical question of underground coal supply for electricity. TRUenergy obtained consent for Delta Electricity to build a coal unloader in 2011 south of the Mt Piper Power Plant. As mentioned, the Airly Colliery would clearly be a contender to supply coal if the coal unloader were built.

More importantly, the Springvale Coal Upgrade Project (PEA, September 2012) will enable the existing operations of Angus Place Colliery and Springvale Coal Mine to have access to Mount Piper and Wallerawang Power Stations and export markets. In January 2013 in response to the PAC Report Centennial Coal stated to Mr David Kitto of DoPI that 'its existing operations at Springvale and Angus Place, with current approved capacity of 6.4MTpa, is well positioned to supply both Wallerawang and Mt Piper Power Stations.'

Centennial Coal does not plan to exit the local market for power supply. Regardless of what NSW Treasury alleges, Centennial Coal intends to supply coal to the power plants from Angus Place/Springvale of up to 6.7 Mtpa.

An overview of the project is shown in the following diagram.



Changes to the proposal – a contraction?

Consultants usually take a narrow view of their expertise and do not challenge a project but apply reductionist reasoning that can fail to see the bigger picture. It is up to the PAC and DoPI to integrate the issues of the proposal, and operate the development control framework to ensure, not just that professional standards are maintained, but also decide whether an appropriate development can be achieved.

In the determination of merit issues there are questions of values and ethics, as well as fact. There is an assumed right to ruin the Blue Mountains scenery, commencing with this precedent setting proposal seeking to mine the talus slopes of a very scenic part of the Great Dividing Range.

Mining the forested talus slopes below cliff lines is extremely damaging to the scenery of the region. The Colong Foundation's opinion on the worth of scenery is just as valid as Hanson Bailey's expert opinion. Most Australians would be opposed to the proposed talus slope mining for a poor quality coal resource. The extraction of the remaining narrow strips of coal left under the talus slopes from a century of underground mining would cause a disproportionate amount of environmental damage for the coal obtained. A very high perimeter to area ratio of mine disturbance of a large area is proposed for what is a relatively small amount of coal, 60Mt.

All the expert opinion provided does not defeat the reality of this proposal. It would have a high environmental impact, and, relative to other open-cut coal mines, would be a low-yield mine. What is more, being situated next to Cullen Bullen adds issues of adverse dust, noise, vibration and water pollution impacts on that community to an already adverse location as far as ecological impact is concerned.

The degree of impact mitigation to relieve the people of Cullen Bullen that the revised Coalpac proposal would achieve appears to be exaggerated. The removal of the Hillcroft area does not provide concessions for the ecology of the area, yet it comprises a large part of the contraction area in the revised proposal. The concessions by Coalpac seem more to do with economic and technical considerations than mitigation of environmental impacts. In addition if the so-called contracted proposal was approved, the Hillcroft area could be added to the mine as a modification to the development, at a later stage.

Coalpac's position is that the PAC1 Commissioners got it wrong in relation to noise, dust, and blasting impacts on Cullen Bullen residents. Coalpac believes that the mining should be allowed as close to Cullen Bullen as originally proposed.

There is no credible mitigation of environmental impact for Cullen Bullen residents offered by the contracted proposal. The removal of the Hillcroft open-cut and sand mining areas are remote from Cullen Bullen and the modelling results that suggest that the residents will obtain relief by the removal of these aspects of the proposal are questionable.

Air Quality

The Coalpac submission in reply gives no consideration to accumulative impacts from future emitters. Indeed Coalpac has taken the attitude that pollution limits are to be utilised, as if they were a resource, and first in takes the largest share. The approach of managing dust to as low as possible levels would have seen a contraction of the most sensitive areas in the east, south and north around the existing Invincible operations.

Coalpac have again used the sophistry of a 'straw-argument', to knock down the NSW Department of Health and the PAC1 Commissioners concerns over dust. These parties to the PAC understand the purpose of the proposed predictive tool in relation to dust management. Whether the tool will achieve much, is the question at issue. The PAC Commissioners were unconvinced all the mitigation techniques will offer compliance with standards and there is little further the tool can trigger in mitigation for the miner to do (except stop mining). As a result, the PAC1 Commissioners were not convinced that the tool would help much during mine operations.

NSW Health and PAC1 understood that dust modelling assumes a worse case with no mitigation in play. Coalpac in its reply, however, has assumed a 75% reduction on potential dust emissions from haulage roads from the proposed intensive use of watering trucks. This is an optimistic assumption as dust emission from the haulage roads, one of the main sources of dust from an open-cut mine, is notoriously difficult to aggressively manage in this manner.

It is not that hard to understand that if the worst case holds the potential for the dust standard to be exceeded, then it is likely that if any of the pollution controls fail, dust levels will exceed the standard. If further new open-cut coal mines are approved, and given Coalpac's attitude to cumulative impacts, dust standards will be exceeded at Cullen Bullen. Yet Coalpac argues that cumulative environmental impact is a problem for later on, after the issue of development consent, and rejects PAC1's recommendation to consider the matter as a prerequisite for consideration of the approval.

In its response for Coalpac, Pacific Environment did not respond to the concern that insufficient data was used in the dust modelling. The PAC report noted that the Air Quality Impact Assessment did not use continuous air monitors, unlike most open-cut mining operations, and only two high volume sampling sites were used to collect data. The Commissioners were also concerned that the air quality data from 2004 to January 2008, and after July 2010 was not made available to the inquiry, and nor has Pacific Environment explained these omissions. Given these unexplained omissions, the limited sample sites and absence of continuous monitors, the dust modelling results should not be relied upon.

As previously stated, the Colong Foundation does not believe that the removal of the remotely located Hillcroft open-cut area and the sand mine proposal from the contracted open-cut would have any material impact on dust levels on Cullen Bullen. The prevailing winds and the distance of these sites preclude influence on dust levels in most circumstances (see wind roses page 13, Vol 2, EA, fig 6.1).

Any changes in Cullen Bullen dust levels, given the prevailing winds, will not be due to the removal of the Hillcroft open-cut area and the sand mine proposal but from the assumption of dust mitigation as re-modelled by Pacific Environment which will allegedly achieve a 75% improvement in dust outcomes for road haulage (see page 30, paragraph 6). Given the absence of date, this is yet more sophistry. There will only be insignificant improvements in future outcomes in dust levels at the sensitive receivers in Cullen Bullen from the mine proposal and the views of the Commissioners regarding excessive dust levels should be upheld.

Noise

The contracted proposal will not reduce noise impacts in Cullen Bullen. The noise assessment in the Coalpac submission in reply is irrelevant. A padoga-studded mesa, called Tyldesley Hill, separates the discontinued mining proposals from Cullen Bullen. The differences noted in the Coalpac submission in reply are an artefact of the different modelling approaches, nothing more.

Blasting

Mining companies always claim negligible impact, no matter what. Coalpac has claimed that blasting can be conducted with vibrations of up to 100mm/s on (PPV) weathered pagoda outcrops without damage. This PPV will be approached by trials on sandstone outcrops. This blast testing will be conducted to determine the appropriate Peak Particle Velocity (PPV) appropriate for the area mapped as a Significant Pagoda Landform (SPL).

Terrock's Blasting Impact report **indicates a blast monitoring area that is outside the project area** (Figure 10 on page 32 of Appendix D) The proposed monitoring in this area close to the SPL area is intended to determine the site specific Kv factor used to define the PPV for the SPL area. The Colong Foundation believes this proposed monitoring area cannot be approved. A variation to expand the development application area would be required to enable such monitoring. Such an expansion should not be accepted at this stage in the development application process.

Shacking the ground at an intensity of up to 10cm a second would throw most people off their feet. How rock pillars, pedestals, table structures and other delicate and potentially friable pagoda formations could survive from such movements defies imagination. There will be damage and the proponent's proposal to monitor the damage is unreasonable.

The Colong Foundation believes that the blasting damage will be reported as negligible impact, or, as damage within acceptable limits. Until the community examines and reports the damage, there will be no critical account of the damage caused by the proposed blasting, unless something catastrophic occurs.

It is also interesting to note that Coalpac considers blasting (and subsidence) to be indirect effects of mining (Hansen Bailey, page 55). These impacts are caused directly by mining, not as a knock on effect of mining, so these effects should be termed direct impacts.

Coalpac's pagoda protection for the so-called sandstone outcrops emerges from the Terrock recommendation that proposes the application of **AS 2187.2 – 2006** that limits vibration to 100 mm/s PPV for <u>unoccupied structures of reinforced concrete and steel construction</u> (my emphasis). Terrock states that there are many successful examples of blasting in close proximity to structures and infrastructure to support this vibration level. These include Transgrid approving a 100 mm/s PPV limit for transmission towers. For unreinforced structures, however, a criterion of 15 to 20 mm/s is recommended (see Table 3. Page 7). Surely pagodas are more like weak, unreinforced structures than structures of reinforced

concrete and steel. The interim limit for the SPL area is 50mm/s till studies refine Terrock's standard seems to be three times what should be allowed.

Terrock claims blasting at the Cullen Valley Mine to within 57m of the Sandstone Outcrop resulted in ground vibrations predicted to be in the range 185 to 213 mm/s without discernible impact. This is not accompanied with a report of the pre- and -post blasting survey that would determine the damage caused by an agreed method. This remark by Terrock should be considered an assertion.

The proposal to undertake experiments and assessments to determine the sandstone cliff and pagoda damage to blast vibration relationships indicates that Terrock does not understand these relationships. Terrock proposes to conduct a multi-disciplinary investigation which includes analysing the effects of controlled and closely monitored blasts to prove and demonstrate the appropriateness of the 100 mm/s non-damaging limit initially for the Sandstone Outcrops in the Cullen Valley Mine. The proposed area for this exercise is highlighted in Figure 11, Appendix D.

Rather than an arbitrary distance, Terrock recommend a more effective control mechanism would be an interim vibration limit at the base of the Sandstone Outcrop of, say 50 mm/s while the so-called non-damaging limit exercise is conducted. The intent of this is to bring the buffer from 100 metres down to 50 metres, even perhaps for the SPL area as well. **Terrock's reductionist approach of focussing only on blasting ignores the request of the Commissioners that <u>pagodas should not be considered in isolation</u>.**

Terrock, the consultant proposing the monitoring and assessment regime, may have a pecuniary interest in this expensive monitoring exercise. The reporting and studies will generate an income for a blasting consultant, but may not see the environment protected. The Terrock monitoring proposals may become like the previous longwall mining monitoring of cliff falls at the Angus Place and Baal Bone collieries. These latter studies improved the science of mine subsidence but not environmental protection.

The proposal implicitly assumes that the protection of the beautiful forested talus slopes below the cliffs and pagodas of the Great Dividing Range, Ben Bullen Range and Tyldesley Hill can be reduced to the determination of a limit of blasting vibration that the pagodas can withstand.

As the Colong Foundation understands the Terrock process, there is no absolute buffer for the Significant Pagoda Landforms (SPL) area but monitoring will start at 200 metres from the SPL, and be reviewed downwards from there towards 50 metres, depending on impact: a blast it and see approach. For pagoda and cliff areas outside the Significant Pagoda Landforms (SPL) the boundary is simply that on Figure 7A. There is no additional reference to buffers for cliffs and isolated sandstone outcrops, while the many and various pagodas beyond the SPL zone are defined out of existence.

What about the destruction of the scenery? Somehow that consideration is omitted from the submission in reply. The proposed monitoring and blasting to within 50m of SPL pagodas is unacceptable for both scenic and ecological considerations.

The PAC1 recommended 300 metre set-back is necessary to protect all pagodas and cliff lines, not just from blasting but to save the scenery and ecology from permanent degradation.

Ecology

Having seen a broad-headed snake in the project area, I am at a loss to read that it is not present. The snake was there in 2011 and 2012. The location of one site was reported to the NPWS by Mr Ian Brown of Mt Victoria in 2011. Mr Brown would not have made a mistake recording the snake's locality and I witnessed the recording of the site on sandstone. The remarks by Dr White regarding this find are incorrect.

Herpetologists know that pagoda landscapes are good snake and reptile habitat. The allegation that the project area is not good broad-headed snake habitat is disappointing.

The threat of herpetologists collecting broad headed snakes is irrelevant to the issue of preventing the destruction of the snake's habitat. The complexity of pagoda landscapes offers reptiles protection from collectors, but the proposed removal of habitat downslope of pagodas by open-cut mining will remove of the snakes from the area. To deny the presence of the snake conveniently avoids the need for a 300 metre ecological protection buffer around all cliffs and pagodas.

Tablelands Grassy Woodland Complex

The Colong Foundation stands by its view that the Coalpac proposal area contains one of the best remnants of 'Tablelands Grassy Woodland Complex' on rolling landforms developed upon Permian sedimentary rocks of the Illawarra Coal Measures.

The project area contains a large area that was mapped in 1990 by Doug Benson and David Keith as 'Tablelands Grassy Woodland Complex'.

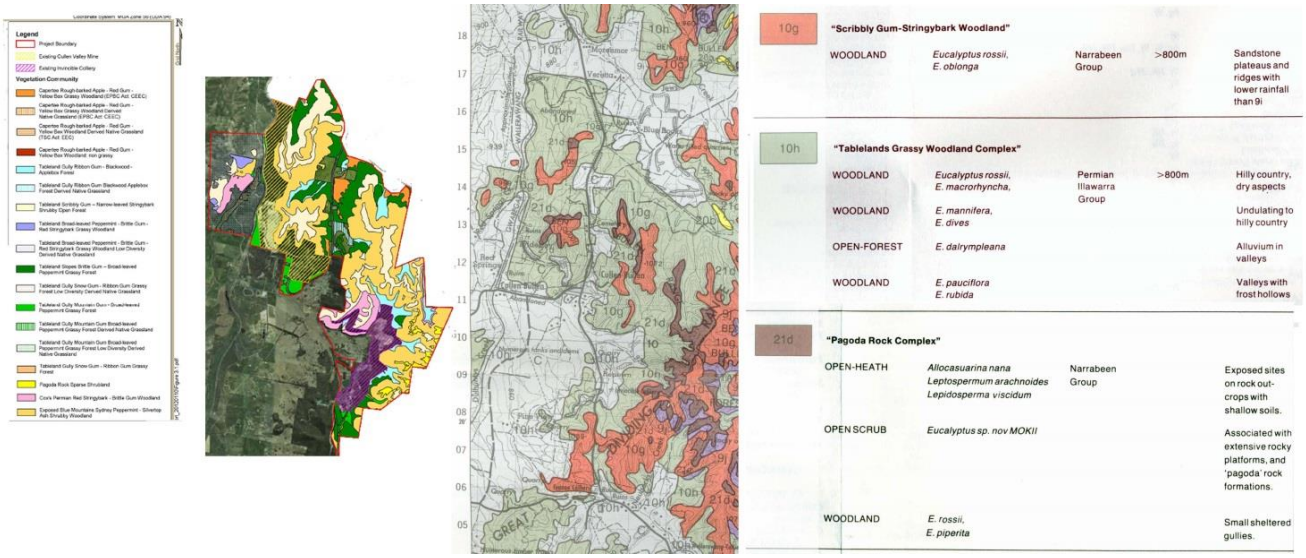
Cumberland Ecology in Appendix E, Section 5.1.4, page 5.15, in reply to the Coalpac PAC report writes: 'The slopes and forested valley floor has been mapped as "10i Talus-slope Woodland" not "10h Tableland Grassy Woodland Complex" by Benson and Keith (1990) (see Figure 5.3)'. This comment is incorrect.

Further, Cumberland Ecology also remarks: 'the "10h Tableland Grassy Woodland Complex" does not occur in the Project Boundary or adjacent the Project Boundary (Figure 5.3).' This unequivocal statement is also incorrect.

The Figure 5.3 has different vegetation typing to the map published in *Cunninghamia* Volume 2, Number 2, 1990 for the same shaped areas. Cumberland Ecology should have checked with the published map in *Cunninghamia* Volume 2, Number 2, 1990, before making the above statements.

Cumberland Ecology has not explained how the areas shown as "10h" on the 1990 published map have become areas of "10i" on its map in Figure 5.3, Appendix E, published in March 2013. The “10h” vegetation type is quite rare, however “10i” is common, so this difference is important, as the Colong Foundation explained in a previous submission.

The Colong Foundation for Wilderness considers the omission of an explanation for the change in vegetation typing made in figure 5.3 by Cumberland Ecology could be an example of unprofessional conduct. The Foundation hopes that DoPI and/or PAC2 will obtain an explanation from Cumberland Ecology for this unfortunate mapping error.



The area ‘Tablelands Grassy Woodland Complex’ is mapped 10h (rare) in 1990 and in 2012 is mapped as Exposed Blue Mountains Sydney Peppermint - Silvertop Ash Shrubby Woodland (very common)

The question: *What other part(s) of NSW contain intact and contiguous areas of “Tablelands Grassy Woodland Complex” on rolling terrain developed upon Permian sedimentary rocks of the Illawarra Coal Measures*, was not addressed by Cumberland Ecology for Coalpac. Rather, Cumberland Ecology examined the common vegetation type, 10i, “Talus-slope Woodland”. The latter vegetation type is located in rough, steep terrain, and this vegetation type is well protected in national parks.

For obvious reasons very little uncleared bushland exists on flat or rolling terrain of Permian geology on the Illawarra Coal Measures, particularly on public land that is suitable for reservation. It has higher nutrient status so most was cleared before state forests were reserved, and/or was mined for coal. There may be steep rugged Permian landscapes reserved, but very little flat Permian coal geology is reserved on Illawarra Coal Measures.

In addition to confusing the10h and 10i vegetation units, Cumberland Ecology Figure 5.2 shows all Illawarra Coal Measures without consideration of the effect of terrain on the ecology that the Colong Foundation emphasised in a previous submission. Most of the Illawarra Coal Measures are located in terrain that is very steep and covered with the “10i” vegetation unit, not the “10h”. The offset properties do not appear to contain intact native vegetation on flat to rolling Illawarra Coal Measures of Permian age but contain steep talus slopes, as Cumberland Ecology has confused the two.

To sum up, Cumberland Ecology has muddled the argument and the nature of the offset properties remains unclear.

Pagodas

The Cumberland Ecology definition of pagoda landscapes (Significant Pagoda Landforms - SPL) omits the interesting descending spurs with pagoda remnants and pagodas on isolated mesas like Tyldesley Hill, which sits at the terminal western end of the Ben Bullen Range. In some respects pagoda remnants are the most interesting parts of the pagoda landform.

The SPL definition also does not consider the relationship of the pagodas to the forests and woodlands below them, which is what the PAC Commissioners intended by their remark that the pagodas should not be considered in isolation. A definition of significant pagodas, as being clumped in an area of more than 10 hectares in size and with pagodas reaching a height greater than 60 metres, is intended to control public discourse on the subject. It is a very limiting definition that omits key parts of the pagoda landscape. It labels the less moist or less rugged aspects of the landscape as less 'significant' sandstone outcrops.

Tyldesley Hill, outside the SPL (Photo: B. Graetz)

Western end of the Ben Bullen Range, outside the SPL (Photo: K. Muir)

North trending spur off the Ben Bullen Range, outside the SPL (Photo: K. Muir)

The Colong Foundation does not accept the artificial distinction of sandstone outcrops from pagoda landscapes, such as the ones on the western end of the Ben Bullen Range that I have traversed many times. The definition of sandstone outcomes and significant pagoda landforms are both arbitrary and lack a rational geological or geomorphological basis.

The so-called sandstone outcrops are an important part of pagoda landform and the definition should incorporate this component. The controlling factors are the geology and geomorphology processes, not the presence of wet gullies or the clumped nature of some pagoda landforms. Dry pagoda landforms and linear clusters of pagodas on descending spurs are both typical pagoda landforms. In fact pagodas are less commonly clumped, so the definition appears to have another agenda influencing it.

Similarly, the so-called isolated pagoda, or sandstone rock outcrop, is not so isolated as alleged. All so-called isolated pagodas were 'calved' from the eroding sandstone plateau above them. There are many so-called isolated pagodas, sometimes emerging from the forest canopy, sometimes not. These so-called sandstone isolates were not rafted tens of

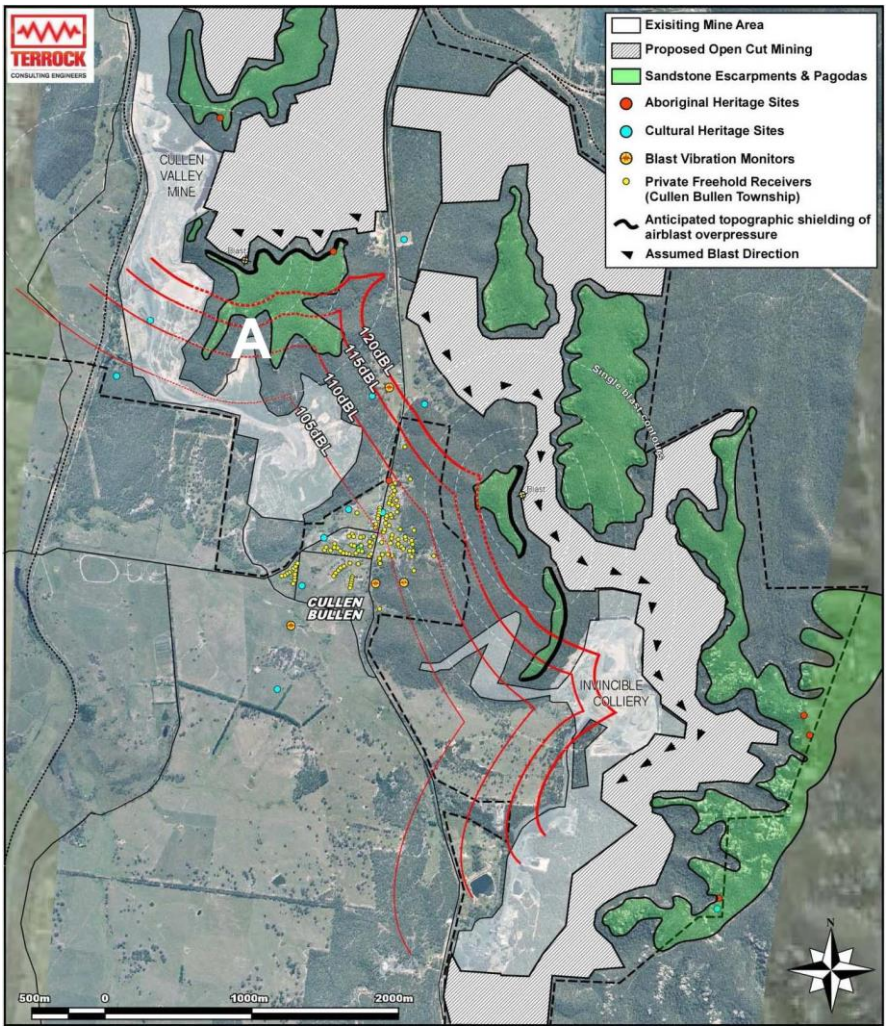
kilometres on an icesheet into position in isolation from the surrounding geology, but occur in association with the other aspects of the pagoda landform through sandstone weathering processes.

The SPL definition seeks to cut the “head, arms and legs” off possible future protection outcomes for pagoda environments subject to open-cut mining, including some of its most interesting remnants. This semantic exercise has no scientific basis, and is not supported by by Dr H. Washington who has provided a separate detail response regarding his concerns on the effect of the SPL definition.

Buffers

In relation to the pagodas and talus slopes, very little is offered as a contraction of the original proposal, a mere 11.9 ha, which includes just 9 ha of additional protection from open-cut mining for the so-called SPL area. A few additional valley environments below the pagodas would not be open-cut mined if this revised proposal were approved.

Buffers are not accepted, although Coalpac’s consultant Terrock has retained delineation of ‘Sandstone Escarpments and Pagodas, at this in part of their evidence:



The above, Figure 7B in Appendix D of the Coalpac submission in reply, reveals that Terrock is mapping what appears to be buffers in relation to "pagodas and sandstone escarpments" beyond the SPL area. Coalpac apparently wishes to define these 'buffers' out of existence as indicated by Hansen Bailey submission in reply Figures 7A and 7B.

I have marked with a white capital "A" the apparent buffer for the previous mining at Cullen Bullen that look, judging by reference to the scale in the figure, to be up to 300 metres wide in relation to the areas mapped as "pagodas and sandstone escarpments".

Coalpac appears to be winding back buffer protection that has been previously adopted either voluntarily or as prescribed for its Cullen Bullen open-cut mine. Coalpac has wound back protection on previous occasions through a succession of development consent modifications at Invincible Mine, as I have mentioned in a previous submission.

The consistent adoption of a 300 metre buffer, like at "A", as proposed by the PAC1 Report would apparently render the proposed open-cut area unviable. In response the proponent has abandoned buffers altogether. The Colong Foundation believes the revised development proposal should be refused consent as Coalpac and its consultants seek to reduce previous levels of environmental protection in this environmentally sensitive area.

Given the above Terrock Figure 7B and the obvious considerations behind it, the Colong Foundation is very disappointed by the minimal nature of this concession offered to protect the Gardens of Stone reserve proposal, 2005. The environment groups anticipated that any efforts to revise the mining proposal would address the area within the Gardens of Stone reserve proposal.

No significant reduction in open-cut mining below the pagoda environments has been offered and the linear analysis of reduction of edge effects is quite misleading given the remaining extent of impacts clearly indicated on the Hansen Bailey map Figure 7A. The removal of buffers means that the lines on this map would be indicative boundaries, and that the only consideration may well be whether or not blasting causes 'significant' damage to pagodas or cliffs.

Figure 8 on page 24 of the Hansen Bailey main report reveals the small extent of the proposed changes relative to the vast area of native forest that would be mined, 762 hectares.

Further, while the text states that highwall mining will not occur in the SPL, figure 7B shows otherwise. Given Coalpac's past behaviour regarding development, the miner is very likely to seek a subsequent development modification to mine the SPL area by highwall method and to vary open-cut mining areas given the removal of buffers. In fact, the reason for omitting buffers would seem to be to remove certainty of protection and the idea of protection zones, apart from the SPL.

As has been seen at this and many other mines, protection is not permanent once mining is approved (e.g. the protection zone for Area 3B, Dendrobium colliery in the southern coalfield). The Colong Foundation finds the highwall concessions confusing and potentially

misleading given that the map and text in the submission in reply are inconsistent on the point of avoidance of the SPL area.

The tactical purpose of Coalpac's SPL is revealed by the following remark: '*when OEH map and analyse what is purported to be "geodiversity features and alternative standoff zones" they have mapped broad areas of potential standoff zones around areas where there are clearly no SPL*'(page 50). Hansen Bailey is retrospectively criticising OEH for including buffers areas for sandstone outcrops that were subsequently not mapped as SPL habitat. Coalpac has used this 'straw-argument' to criticise OEH. Perhaps Hansen Bailey should also accuse Terrock of ignoring the SPL.

Pagodas are very complex structures that are the geomorphological equivalent of old growth forests. Cumberland Ecology quote the PAC1 Report: *'Importantly, the PAC recognised (p.76) that "the pagodas cannot be considered as structures in isolation"'* (emphasis added) (CE, page 2.16).

Cumberland Ecology reverse the intended meaning of the above statement in the PAC1 report. Cumberland Ecology did not consider pagodas within the context of the landscape and protect the pagodas with a 300 metre buffer below these outcrops as proposed in the PAC1 report. Instead of protection, Cumberland Ecology excludes what they allege to be isolated pagodas (alias the sandstone outcrops) from protection in the landscape, and offers the SPL area very little additional protection from that offered in the 2012 EA report, where open-cut mining was proposed only 50 metres downslope. In other words, for pagodas outside the SPL there is no protection offered and only a trivial increase in protection, of only 9 ha, below the SPL on the talus slope. The need for any buffer to protect the forested talus slope, the scenery, biodiversity and the broad-headed snake is eliminated by this inverted logic.

Status of the Gardens of Stone reserve proposal

Hansen Bailey state that '*in meetings with the proponent during February and March 2013, both OEH and the Office of the Minister for the Environment and Heritage advised that there is no existing proposal generated by Government or under consideration by Government, to extend the Gardens of Stone National Park'* (page 54, submission in reply 8 March, 2013).

The following correspondence describes a long-term commitment to the reservation of Ben Bullen State Forest as a state conservation area by OEH and Environment Ministers past and present, and provides evidence contrary to the above assertion.

Since 2006, the NSW Department of Environment, Climate Change and Water, now Office of Environment and Heritage, has been exploring the possibility of reservation of Ben Bullen State Forest with the Department of Industry and Investment (references: The Hon Bob Debus Ministerial correspondence to the Colong Foundation 24 Aug 2006; and Frank Sartor's office, Ministerial correspondence with the Nature Conservation Council of NSW 13 Aug, 2010).

On 16 February 2011, then Minister Frank Sartor wrote that '*Following the reservation of Mount Airly, the next priority will be the Ben Bullen/Wolgan State Forests.'*

On 7 May 2011, A Henchman, Director, Metropolitan Parks and Wildlife wrote to state that '*the Department has demonstrated its conservation commitment to this area, which recognises existing mining interests. The planning process applied to Mugii Murum-ban SCA will provide a model for further cooperation with the Department of Trade and Investment, Regional Infrastructure and Services, colliery owners, and relevant stakeholders, for reservation of Ben Bullen/Wolgan State Forests, which includes the northern part of the Baal Bone Colliery lease.'*

On 2 August 2011, Minister Robyn Parker wrote that '*I have asked the Office of Environment and Heritage to actively investigate the Gardens of Stone Stage 2 Proposal and to examine options for maximising conservation outcomes. To this end, OEH will initiate discussions with other Government land use agencies over the Ben Bullen and Wolgan State Forests section of the proposal.'*

The claim that it will only harm a small part of the reserve proposal is misleading. The harm will be maximised as the Coalpac proposal winds its way below escarpments and pagodas along the talus slopes of the Great Dividing Range, the Ben Bullen Range and Tyldesley Hill. Such a mine has a very high perimeter to area ratio, maximising edge effects and impacts for the relatively small amount of inferior coal produced. The claim that these steep areas can be adequately rehabilitated is unproven and unlikely – the best tourism asset of the region, its natural scenery, will be lost forever.

Mining Operations

Professor Hebblewhite's confidence in risk management is not consistent with the level of environmental damage caused in the last ten years by the coal mining industry to areas like the Waratah Rivulet, the Ben Bullen State Forest (cliff falls) and the upland swamps on Newnes Plateau.

Risk management is a matter of what is acceptable, and generally the mining industry has set the bar of environmental impact too low. Loss of stream flow in drinking water supply catchments, damage to upland swamps, cliff falls, and in this case, the proposed scalping of the talus slope along the Great Dividing Range are considered acceptable under risk management programs, but not by the general public or the Colong Foundation.

Risk management should not be an issue for open-cut mining. There is absolute certainty that the native vegetation in area to be mined will be removed and it then cannot be restored to a natural condition by rehabilitation.

Risk management is relevant to the proposed highwall mining. The 1.3 factor of safety (FoS) assumes that the mining will operate perfectly. A FoS of 1.3 would become less than one if the mining is not implemented in accordance with the mine plan and survey. The Colong Foundation understands that one of the problems with highwall mining is that it does not

always proceed in accordance to plan. The mining can go out of survey alignment, coal pillars are then narrowed and that can lead to pillar failures. Unknown faults and joints also lead to failures.

The Trigger, Action, Response Plan (TARP) approach also has a difficulty for pagoda protection. Mine safety is the paramount consideration during mine operations. If any pagoda stability concerns arise, particularly during highwall mining, these must be dealt with by removal of the hazard, that is, by removal of the pagoda. The Colong Foundation suspects that outside the SPL, removal of pagodas and other isolated unstable rock outcrops may become part of mining practice in this area to ensure the safe mine operation.

The FoS of 1.3 is in line with modern practice, which aims to reduce FoS to low levels to maximise coal yield. Low FoS has increased the intensity of underground coal mining and contingent environmental degradation. For example, the tonnage of coal extracted from areas subject to regulation by the Dam Safety Committee last year was FORTY TIMES the tonnage mined a decade ago (Dam Safety Committee, *Annual Report*, 2011/2012, page 4). Such mining is subject to greater risks under 'management', in this example dam structures that should clearly not be subjected to greater risks.

Prof. Hebblewhite says that *the mining method does not carry any excessively more significant risks than other underground mining methods*. The Colong Foundation disagrees. Apart from highwall mining, there is no other system of underground mining operating under cliff lines. Cliffs and pagodas are naturally unstable features, prone to sudden failure and collapse; otherwise the cliff line would not be present. Mining under cliffs and residual sandstone outcrops outside the SPL will be an inherently a dangerous activity, as these massive outcrops of sandstone remnants weighing many thousands of tonnes are inherently unstable. The house sized lumps of sandstone that are found at the base of cliffs are testimony to this fact.

Economics

The Colong Foundation has presented strong evidence of other nearby sources of coal for electricity generation that can be used instead of the Coalpac proposal. In the very recent past these sources of coal provided all the coal to the Mt Piper Power Plant.

It is not important to the economy or power generation if a relatively small amount of poor quality thermal coal is not mined. Other coal that is available nearby from underground mines can provide similar, if not more regional benefits to the community with less adverse environmental effects.

The PAC report explained that Coalpac exaggerated the benefits of their proposal. Hansen Bailey claims that the environmental impacts are internalised. This is not correct. Approximately 762 ha of publicly-owned forest, much defined as high conservation value native vegetation (Benson and Keith, 1990) will be lost, and the acquisition other forests for conservation will not replace it.

Cumberland Ecology has unsuccessfully misrepresented the vegetation that would be affected as less important. The amount of intact native forest on rolling Illawarra Coal Measures is finite, and diminishing. This loss is not internalised in a way that stops the loss, such as by substituting an underground mining option for the proposed open-cut mining. The environmental offset approach requires other alternatives to the removal of the vegetation to be considered as the first option. Ecosystems are not commodities, as losses cannot be recovered at a later date.

The precedent of scalping visually prominent forested talus slopes on the western side of the Blue Mountains for remnant coal resources cannot be compensated. Such an approval could see more mines approved to operate along forested talus slopes, such as Pine Dale, Neubeck Creek and the Wolgan Road open-cut proposals.

If this mine is approved, the absurd situation would develop where good thermal coal from underground mines is entirely exported halfway around the world to generate electricity, while the regional generators of electricity would rely completely on inferior coal from open-cut mines.

The benefits that Mr Gillespie outlined for this mine, especially to the local community, would also flow if the proposed development was diverted to the development of nearby underground coal mines.

This high-impact open-cut coal mining proposal will significantly degrade the scenery of the western Blue Mountains and should not be approved.

In economic terms, the value of the Coalpac proposal should be determined as the marginal cost difference in coal produced at this mine compared to the next cheapest producer, LESS the additional environmental costs from this high impact mine. This sum is probably a negative figure, and if its climate impacts were truly assessed it would be a very poor outcome indeed.

The PAC1 Commissioners made the right decision in recommending refusal of this proposal. The alleged cheaper coal that NSW Treasury covets is actually dirty coal that comes from more environmentally damaging open-cut mines. It is a false economy that will create a bleak landscape in one of the most scenic parts of the Blue Mountains: the Gardens of Stone.

The Colong Foundation does not agree with exporting all the clean thermal coal overseas, because it makes more profits, while poor quality thermal coal is burnt in NSW where it causes more environmental damage. This is not what was planned when the power plants were developed in association with the Springvale and Angus Place mines.

NSW should continue to burn good quality coal, for the same reasons it is in demand by overseas consumers. In a climate changing world, poor quality coal should stay in the ground forever as it produces excessive greenhouse gases, and to protect natural wonders like the Gardens of Stone.

More jobs are created by underground mining and they are skilled and well-paid jobs. Underground mining benefits the local community more, and creates more opportunities for local business. There is no need to greatly expand open-cut mining in the southern part of the Western Coalfield as will happen if this proposal is approved.

PAC Recommendations

Coalpac's responses to the PAC1 findings and recommendations are from a company that is confident it can stare down the PAC's efforts to improve, or at least maintain, environmental and health standards for the state of NSW. Such hubris makes incremental improvement of environmental dust or noise management through pollution control notices almost impossible once a development consent is issued.

Coalpac's Proposals Recommendation 38 seeks to replace the certainty of a 300 metre setback with a blast risk management process that permits mining to intensify to a maximum with minimum protection to pagodas. No buffers would be certain under this arrangement. By reducing buffer setback considerations to individual components Hansen Bailey inverts a key statement of the PAC1 report that these pagoda landforms cannot be considered in isolation from the high conservation value forests below them, their sensitive fauna, and the stunning scenery of their internationally significant geodiversity.

The ultimate effect of the Coalpac proposal to do away with the 300 metre buffer will set a precedent that then would be followed by open-cut mining of talus slopes at the proposed open-cut mines at Pine Dale, Newbecks Creek, Wolgan Road in the upper Coxs Valley and also elsewhere, such as in the upper Hunter Valley.

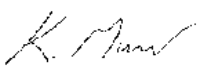
These long thin strips of steep and elevated land will be very difficult to rehabilitate and will become, for many long millennia, areas of visual blight, destroying the Lithgow Region's greatest tourist asset, its stunning scenery.

Such an action would be unwise and the recommendation of PAC1 to refuse development consent should be upheld.

Appendix A below reiterates the Colong Foundation's response to the PAC1 recommendations and is provided in this submission to DoPI for ready reference.

Thank you for the opportunity to make a further submission.

Yours faithfully,



Keith Muir O.A.M.
Director
The Colong Foundation for Wilderness Ltd

Appendix A

Substantive response to the recommendations of PAC1 regarding the Coalpac Consolidation Project

Introduction

The Coalpac Consolidation Project is a complex proposal involving the integration and considerable expansion of two smaller existing open-cut coal mines over an area where most of the coal that could be extracted by underground methods has been removed over the last 100 years. In other words, this proposal seeks to remove mostly low quality coal remnants, the high quality coal having already been mined out.

The proposal is widely accepted to be in an area of high conservation value that has been identified for reservation by the Office of Environment and Heritage (OEH).

This proposal is not a 'finely balanced' one, where an adjustment of the proposal could produce an acceptable approval outcome. The proponent has made it clear in its dealing with the Planning Assessment Commission (PAC) that variation of the proposal which would further reduce the coal take would not acceptable to them.

In response to concerns of PAC Commissioners, the proponent should have moved the open-cut area well back from the town of Cullen Bullen and from the environmentally sensitive elements of the Ben Bullen State Forest. If such measures were taken, however, it becomes apparent that insufficient second-rate thermal coal resources would remain available to justify the development.

No mining jobs would be lost upon closure of Coalpac operations. Other coal mines would expand production, such as at Mt Airly, which is currently in care and maintenance. The demand for coal by Mt Piper Power Plant would be provided by these other mines in the southern part of the Western Coalfield. As most of these mines are underground operations, employment is likely to increase, not decrease, in order to meet the needs of the Mt Piper power plant. Nor will the cost of wholesale electricity increase by 42%, a ludicrous allegation.

Given the vast range of problems with this proposal, the PAC recommendations should be the justification for the refusal of this proposal, rather than the basis for framing the consent conditions. This proposal cannot be adjusted to ensure the amenity and health of affected neighbours or the protection of the natural environment. It should be refused consent.

[Note: The comments by the Colong Foundation on the PAC recommendations listed below are *italicised*.]

Air Quality (Section 5.1)

Recommendation 1: The Commission recommends that the emission estimate predictions should be updated and reconfirmed using the most relevant emission variables as recommended by the EPA prior to any determination of the project.

The Colong Foundation considers that enough information is available to indicate that the central part of the proposal in the Invincible and East Tyldesley open-cuts and the southern part of Cullen Valley must be excised from the open-cut proposal if it is to meet dust, noise and vibration criteria. The recommendation's proposed review of emission parameters will only confound the associated dust issues with new conflicting information and delay decision-making.

According to the Environmental Assessment, the open-cut coal mining proposal is only just able to meet dust standards by adopting a complex chain of pollution controls. These controls are unlikely to be all achieved at the levels necessary to deliver the predicted outcomes. In these circumstances it is necessary to excise a large part of the proposal to ensure compliance.

Deferral of decision-making to allow a subordinate process and further consideration will almost certainly ensure that the necessary buffer areas for compliance with dust standards are not established. The time for decisions is now, as enough information is available to estimate the physical set backs necessary for the open-cut mine areas in order to protect the health and amenity of the residents of Cullen Bullen.

Recommendation 2: The Commission recommends the current acquisition criterion for PM10s, 150 µg/m3 24-hour average from all sources, should be reviewed from a health perspective given the NEPC criteria of 50 µg/m3 and more recent advice from NSW Health about mortality and morbidity impacts. This should be done in consultation with NSW Health and the EPA prior to any final approval for the Coalpac project.

This proposed dust assessment will re-identify the unacceptable proximity of the proposed open-cut to the town of Cullen Bullen but this extra assessment is not designed to resolve the problem.

The implicit and erroneous assumption for the proposed dust assessment is that the Coalpac proposal can utilise the entire output of dust allowed for emissions and that other sources, including future dust from other open-cut mines, are minor. This is the wrong approach as other mines and proposed mines, as well as the Mt Piper power plant needs to be considered in the dust assessment. If all dust sources generate the maximum set down by the dust emission standard, then this approach to the emission standard will see it exceeded.

Discussions should determine what parts of the proposal need to be excised to ensure that only 30% of the dust emission standard is contributed by this proposal. Any higher level will not enable cumulative impacts to be adequately addressed.

Recommendation 3: The Commission recommends the NSW long-term acquisition criterion for annual average particulate matter less than 10 microns (PM10) of 30 µg/m3 should be reviewed against the WHO goal of 20 µg/m3 for this parameter.

Clearly the time to establish a new standard is now before the southern part of the Western Coalfield becomes as dusty as the lower part of the Hunter Valley.

Remember, the Lithgow Region is not a broad expanse, like the Hunter Valley. It's a narrow airshed, confined to the west by an escarpment. As the DoPI would appreciate, the Lithgow Region has had problems with wood-fired stoves in the recent past because of its airshed parameters.

The PAC did not seem to expressly consider the narrow, confined nature of this airshed and significant air temperature inversions that the Lithgow Region suffers from and which will further confine dust emissions.

Recommendation 4: The Commission recommends that any approval for the project should include the relevant condition from the Ashton South East Open Cut Coal Project determination relating to air quality exceedences at mine owned residences. These conditions relate to adequate notification of the tenant, termination of the tenancy without penalty, air mitigation measures and ongoing monitoring information and notification of the owners of the land with an option for acquisition.

These provisions need to ensure the health of resident children and other sensitive people, such as asthmatics. Dust sensitive people should not be residents in mine-owned housing.

Recommendation 5: The Commission recommends that blasting should only be conducted when the wind will transport fumes away from the Cullen Bullen School, Cullen Bullen village and any residences.

This provision is a further indicator of unacceptable proximity of the proposed open-cut mine.

Recommendation 6: The Commission recommends the proposed Air Quality Management Plan (AQMP) should include key performance indicators and outcomes across the full range of potential sources of air emissions. The AQMP should be developed in consultation with the EPA and be approved by the Director-General of the Department prior to commencement of works associated with the development. Specific attention should be given to the performance outcomes to achieve the air quality criteria.

The AQMP can not mitigate the elevated ambient dust levels from the mine being too close to the town of Cullen Bullen. It can only reduce peaks in dust emission levels through adaptive management. The AQMP is not an appropriate substitute to a minimum set back of open-cut coal mines from the town, such as the five kilometre set back criteria proposed by the National Party in its submission to the SRLUP.

Recommendation 7: The Commission recommends that the total area of active mining and unrehabilitated dumps should not exceed 180 hectares at any one time.

A disturbance area of 1.8 kilometres square is excessive and it seems to be an arbitrary figure. The PAC report notes that 'the potential for particulate emissions increases dramatically as the area of disturbed surface is increased.' The minimum disturbance area

should be much smaller than 180 hectares given the dust problems identified by the EA and the PAC. The disturbance area should be as small as possible.

Recommendation 8: The Commission recommends that operational conditions are sufficiently rigorous to ensure the Real Time Air Quality Management System is used predictively and that failure to do this amounts to non-compliance.

Exceeding dust standards should be treated as a non-compliance with the pollution licence. The RTAQMS risks being a weasel mechanism that 'tolerates' high levels of dust through studies and monitoring. These mechanisms can become a substitute to effective controls, and effective controls should be embedded in the development consent. As in the opinion of the PAC Commissioners all practical dust suppression measures are already proposed, it is necessary that the proposed open-cut be set back the mine from the town.

Recommendation 9: The Commission recommends that auditing requirements are imposed to assess compliance and to assess whether additional management responses are required. It is also necessary to ensure long-term commitment to effective use of the Real Time Air Quality Management System.

These management responses to dust mitigation will not happen. All practical measures have already been proposed in the EA. The RTAQMS seeks to defer the consequences of non-compliance and explain away the high levels of dust with studies, when the decision-maker must instead exclude large areas of the proposal to protect the health of town residents.

Recommendation 10: The Commission recommends that shutting down of operations should be adopted as a management response in this airshed to ensure the air quality criteria are met.

This action will be deflected by studies and assessments through the RTAQMS weasel mechanism, contrary to recommendation 8. Once development consent is issued, the pollution licence regulators cannot 'unscramble the egg' and stop the contingent dust pollution.

Recommendation 11: The Commission recommends restriction of hours as well as production limits to be included if the Real Time Air Quality Management System doesn't deliver all required outcomes.

Unfortunately this will never happen because the regulatory environment is not robust enough to ensure compliance. Again this recommendation implies that this proposal will not comply with dust standards, because it is too close to the town.

Recommendation 12: The Commission recommends that an evaluation should be conducted of Real Time Air Quality Management Systems (RTAQMS) including their effectiveness in controlling emissions from open-cut mines. This should include investigation of the relationship between suppression of peak emission levels and the effect (if any) on annual average emission levels from open-cut mines in NSW.

This recommendation needs to be undertaken by independent experts from or commissioned by the Department of Health.

Noise (Section 5.2)

Recommendation 13: The Commission recommends the proposed review of the Industrial Noise Policy include a review of the minimum default background noise level of 30dBA.

Strongly support this measure, the existing standard is unacceptably high for quiet rural communities.

…

Recommendation 15: The Commission recommends that the proposed exemptions for the highwall miner from some of the management zone recommendations should be justified before any final determination of the project.

The highwall mining operations should be removed from this proposal, unless restricted to operate in valley bottoms, as specified by the current development consent. The proposed location of highwall mining operations to elevated areas of the landscape, such as talus slopes, will produce unacceptable noise impacts. The protection zone proposed by Blue Mountains Conservation Society that precludes highwall mining under the pagodas has the benefit of limiting noise pollution from the highwall miner.

Recommendation 16: The Commission recommends the Proponent should stop or modify operations under certain weather conditions where noise criteria are predicted to be exceeded and should stop noise generating operations if acceptable noise criteria are exceeded. In addition the Proponent's performance should also be independently audited.

This PAC recommendation replicates similar provisions proposed for dust (recommendation 10). As the proposal is too close to Cullen Bullen, this recommendation has been proposed. The appropriate solution is to excise large areas of the mining proposal around the town, to ensure compliance rather than propose complex arrangements that may never produce satisfactory noise amenity. The EPA should not be burdened with likely noise pollution contingencies that should be avoided in the framing of the consent.

…

Recommendation 18: The Commission recommends that road haulage of export coal to Port Kembla should not be permitted once the rail facility has been constructed.

The consent conditions also should set a date for construction of the rail facility.

Recommendation 19: The Commission recommends that road haulage of export coal to Port Kembla before the rail facility is operational should be not be permitted without further assessment of the traffic impacts.

Road haulage of coal to Port Kembla through Blue Mountains villages is unacceptable to Blue Mountains City Council as it would create a major truck traffic problem. Other collieries would then seek concessions based on this proposed precedent, as Clarence Colliery has attempted in the past. In no time at all the Great Western Highway would be choked with

coal trucks. This proposed recommendation is not appropriate or necessary, the haulage should not be permitted under any circumstances.

…

Recommendation 30: The Commission recommends there should be no increase in production until the Real Time Noise Management System is established and demonstrated to be operating effectively under all weather conditions, including temperature inversions.

The RTNMS does not prevent persistent noise, and is best at identifying acute problems.

Recommendation 31: The Commission recommends a comprehensive evaluation of the effectiveness of real time monitoring and proactive and reactive management systems used for air and noise management in mines in NSW.

The Colong Foundation does not accept that second order determination processes, such as RTNMS and RTAQMS, can appropriately determine pollution controls for important pollution issues, like noise and dust, especially when the proposal is on the border of being non-compliant with the relevant standards. Such arrangements ensure that the controls for these key amenity and health factors are deferred until after the issue of the development consent. Such deferral of key factors in pollution regulation would defeat the purpose of consent conditions that are intended to protect the health and amenity of the public. Given that the noise and dust are estimated to be high in the town area, this proposal should be refused consent.

The PAC consent authority should not rely on these second order processes to deliver adequate outcomes by hypothetical measures yet unspecified, especially when all practical measures, other than set backs from the town, have already been proposed. The consent authority should ensure certainty of outcome for health and amenity. The proposed approach will not ensure health and amenity of the residents in Cullen Bullen and is opposed.

Recommendation 32: The Commission recommends an independent audit should be conducted at the end of 12 months and then every three years to investigate and report on the effectiveness of the Real Time Noise Management System in maintaining noise levels within the relevant criteria.

As previously stated once development consent is issued, the regulatory authorities cannot 'unscramble the egg'. In the Colong Foundation's experience, such processes can lead nowhere but to further studies, decades of debate and regulatory failure.

Recommendation 33: The Commission recommends any approval for the project should include a condition that the mining only proceed in stages until it demonstrates compliance with the noise criteria.

Staged approvals also do not 'unscramble the egg' once consent has been issued. In the case of the Dendrobium Colliery in the Southern Coalfield, for example, changes in consent have wound back protection of swamps in Area 3 that were established by the initial Commission of Inquiry. Staged approval unfortunately operates on the premise of an on-going operation, somewhat defeating its purpose of continual improvement in environmental performance.

Staged consents must be made contingent upon improvement of environmental performance. If there is no rule that subsequent consents will better protect the environment and amenity, they may instead lead to environmental degradation.

See also comments to the above recommendations 32 and 33.

Blasting (Section 5.3)

Recommendation 34: The Commission recommends ground vibration criteria for Aboriginal heritage rock shelters should not be greater than the criteria set out by the Proponent, that is half the recommended ground vibration criteria and 3dB below the overpressure criteria. The Blast Management Plan should demonstrate how blasting can occur with negligible mining-induced damage of the Aboriginal rock shelter RCK2-10.

Aboriginal rock shelters are irreplaceable assets and merit a zero tolerance of damage, identical to the standards applied in recommendation 35 below.

Recommendation 37: The Commission recommends that the Proponent's approach to controlling noise and vibration from blasting at residences by reducing the MIC and increasing the number of blasts to be rejected as imposing an unreasonable impact on the residents. Any exceedence of the ANZECC guideline for blasting frequency should be strictly limited, particularly when the expected noise or vibration levels are likely to be at or close to the limits.

Exceedences of the blasting frequency limit in these circumstances would be unacceptable as a development consent condition. Exceedences could perhaps be tolerated in an existing mine where the standard had changed. To assume exceedences at this proposed open-cut mine is to assume unacceptable impacts on resident amenity.

There is no alternative but for the proposed mining to be set back from Cullen Bullen residents sufficiently to ensure protection for the residents. Such set backs are just as necessary for the protection of geodiversity as specified under recommendation 38.

Recommendation 38: The Commission recommends that there should be no impacts to the pagodas and cliff lines from blasting. The Commission does not accept that a 50m buffer will guarantee this outcome, but is unable to determine a satisfactory buffer distance from the available information. To accommodate this situation the Commission recommends that no blasting occur within 300m of the pagodas or cliff lines without an independent geotechnical surveyor certifying that the blasting proposed will not cause impact to the pagodas or cliff lines. In any event a minimum stand-off distance of 100m must be maintained for blasting from all pagodas, cliffs and other rocky outcrops.

The open-cut should be set back at least 300m from the pagodas, the escarpment and cliff lines. No adequate research is available to determine the appropriate amount of blast vibration movement. The vibration criteria for heritage buildings and structures are the available analogues to consider regarding acceptable levels.

Bridges Acoustics adopts the ANZECC guideline vibration criteria at 5mm/s PPV (PAC report pg 135). This guideline also recognises that blast effects cannot always be controlled

accurately and therefore allows a higher limit of 10mm/s PPV for up to 5% of blasts in a 12-month period. Such criteria are 10 and 20 times more stringent than the vibration movement proposed for pagodas of 100 mm/s. Pagodas and talus slopes are unlikely to be protected by the proposed 100mm/s blast criteria.

The Blue Mountains Conservation Society has advocated a 310m buffer zone on the basis that the highwall equipment has the capacity to 'drill' 300m from the face. The extra 10m is proposed to give a Factor of Safety, which ensures no undermining of pagodas and their associated cliff lines (see Recommendation 46).

The Colong Foundation also supports the remarks of Dr Washington regarding more recognition of joints and cracks in pagodas which blasting may activate and lead to collapse. The Foundation agrees that the 300 metre set back is consistent with the habitat buffer prescription and this is a minimum that should not be subject to a possible reduction by a more narrowly-based geotechnical assessment, even if it is independently undertaken. The precautionary principle should not be replaced with a risk management model where mining is intensified until damage to the geodiversity occurs. Such an approach is inappropriate for two reasons. The pagodas are of international significance and so should not be damaged by so-called risk management. In addition the ecological requirements of wildlife that utilise the pagodas need to be considered.

Recommendation 39: The Commission recommends that strict monitoring requirements which allow detection of any blasting-induced impacts to pagodas, cliff lines or rocky outcrops be required in the event that the project proceeds.

Recommendation 39 does not require protection of geodiversity and alteration of mining operations if any damage occurs.

Never in the three decades that the Colong Foundation has been involved in coal mine regulation have monitoring requirements resulted in improved environmental protection for the features monitored. Monitoring simply records the environmental damage with no adapation of mine operations if damage occurs. The Colong Foundation does not support monitoring of damage to geodiversity as a substitute for requirements that would ensure adequate environmental protection, such as recommendation 38.

Recommendation 40: The Commission recommends that the Department review the mechanism used to assess complaints of blast damage to private property with a view to providing the residents with confidence that their claims are being assessed by a qualified person who is transparently independent from the Proponent.

Common law rights protect private property and require compensation for damage. The natural environment has no such rights.

Visual Impact (Section 5.4)

Recommendation 41: The Commission recommends that the Proponent should provide the Department with the construction schedule for the noise and visual mitigation bunds as well as specifications and other technical details prior to construction.

The precedent of severe visual blight set by this proposal will not be mitigated by earth bunds.

The scenery of the Lithgow region will be severely degraded and the future tourism potential will be lost if open-cut coal mining along the talus slope is approved. Such mining will be atrociously ugly and very difficult to rehabilitate to a stable landform.

The proposed Coalpac open-cut mining would, if approved, set the precedent of open-cut mining along the western facing slopes of the Great Dividing Range to within 50 metres of the pagoda studded sandstone cliff lines. Such ugly mining may then expand along the escarpment from Capertee Valley to Hartley Valley (see Recommendation 47 that protects the Lithgow region from visual blight).

Recommendation 42: The Commission recommends that the onsite treatments outlined in the EA, Volume 1, Section 8, pp.151-152 be developed as conditions of approval.

The visual blight that will be caused by open-cut coal mining of talus slopes on part of the Great Dividing Range in an area of outstanding natural scenic beauty would be an act of vandalism, especially given the poor quality remnant of thermal coal resource proposed for mining.

Recommendation 43: The Commission recommends that the Proponent be required to report to the Department and the local community on a regular basis on the implementation of rehabilitation and mitigation measures, with the frequency and the extent of reporting to be determined by the Department.

Rehabilitation can't replace the lost woodland ecosystems, it is cosmetic work that produces a fragmented vegetation cover comprising some of the more hardy plant species and not a functional ecosystem. Rehabilitation on steep slopes will not be very effective or stable. Steep slopes are difficult and expensive to rehabilitate. As a result the rehabilitation will be a poor substitute for the natural environment that will be destroyed.

Recommendation 44: The Commission recommends that the construction hours of operation should form a condition of any approval, in part to alleviate light pollution impacts on residents and other users of the area.

Mine construction should be constrained to daytime hours.

Pagodas and Associated Environments (Section 6.2)

Recommendation 45: The Commission recommends that the pagodas and the associated escarpments be considered natural features of special significance and that they be fully protected from any mine-induced impacts.

Full protection from mine-induced impacts must be precisely specified. A similar generally stipulated recommendation was made by Commissioner Simpson in regard to the protection of cliffs and pagodas following the Commission of Inquiry for Angus Place Colliery in the early 1970s. It was ignored by the mining company. Instead of compliance, cliff falls were monitored at the Angus Place mine, and incidentally reported back to Commissioner Simpson

in 1991 at the Airly Colliery Commission of Inquiry as an example of monitoring compliance. Full protection needs to be specified in detail if the recommendation is to be complied with, otherwise compliance will take the form of monitoring environmental degradation.

For the above reasons the buffer of 310m and prohibition of highwall mining under cliffs and pagodas must be specified to protect pagodas from the blasting associated with open-cut mining and subsidence from highwall mining. The 300m buffer ensures protection of wildlife dependent on the pagoda habitat.

Recommendation 46: The Commission recommends that highwall mining not be permitted under the pagodas or escarpments in the project area.

The Blue Mountains Conservation Society has advocated a 310m buffer on the basis that the highwall mining equipment has the capacity to 'drill' 300m from the face and the extra 10m was proposed to give a Factor of Safety, which ensures no undermining of pagodas and their associated cliff lines.

Protection is justified by the significance of pagoda landscapes and its surrounding woodlands.

Recommendation 47: The Commission recommends that to provide adequate protection for threatened species and other fauna that use the pagoda landform, a minimum setback distance of 300m be maintained from the open-cut highwall to the pagodas and the escarpments.

See additional scientific material provided in Appendix A. The Colong Foundation for Wilderness supports the ecological requirements of wildlife determining buffers for the open-cut areas. The Colong Foundation agrees with Dr Washington that a 500 metre habitat buffer would seem essential to prevent adverse impacts on the pagoda landform fauna. This proposed buffer would protect the threatened fauna for most of their entire ranges and also protect mapped vegetation of significance and concern.

The proposed 310m set back requirement is a compromise and it may not be adequate given edge effects associated with open-cut mining. The 310m set-back would also help to prevent visual blight, and protect pagodas, escarpments and cliffs from blasting and subsidence impacts.

Cumulative impacts of the proposed open-cut mine, including cumulative impacts on flora and fauna need to be addressed. The proposal will have significant impacts on high conservation values and this alone justifies the refusal of the development consent, especially given the poor quality of the proposed remnant coal resource and the availability of ample alternative coal resources.

Recommendation 48: The Commission recommends that, given the significance and sensitivity of the pagodas and the pagoda landform environment, before the project is submitted for determination the uncertainties in the Proponent's supporting information identified in section 6.2 are resolved and the caveats and qualifications on the various commitments are removed so that the Determining Authority has an unequivocal understanding of what the outcomes will be and the risks associated with them.

The PAC Commissioners have concurred that the pagodas are of international significance and merit the highest level of protection. The DoPI would recall that protection of pagodas has been required for all modern underground coal mines. Protection zones are stipulated around pagoda formations to completely protect these features from surface subsidence during underground coal mining.

The Commissioners' language in this recommendation seems to be based upon risk management rather than that of the precautionary principle that was the basis of the previous recommendations. Risk management of this nature is not compatible with the highest levels of protection or with past practice as applied to pagoda protection zones associated with underground mining, where the so-called 'angle of draw' defines the no surface subsidence boundary limit of the protect zone.

Open-cut coal mining should also fully protect pagodas. The absence of adequate data to give full protection of the pagoda rocks and associated wildlife habitats requires the application of the Precautionary Principle. The entire pagoda habitat should be protected, with a buffer of 500m.

The Colong Foundation does not agree with the application of risk management principles as interpreted by the mining industry to pagodas or pagoda habitats. Risk management is taken by the mining industry to mean risk taking, and has in this case produced the unacceptable 50m buffer and 100mm/sec blast vibration criterion. Such risk taking will cause damage, as acknowledged by the environmental assessment though the use of conditional language when expressing the level of protection offered by the proposed buffer and blast provisions.

Terrestrial Ecology (Section 6.3)

Recommendation 49: The Commission recommends that concerns about the adequacy of the flora assessment and identification of the vegetation associations present in the project area be resolved to the satisfaction of OEH prior to approval of any extension to open-cut mining in the project area and prior to any assessment of adequacy or otherwise of the biodiversity offset package.

The Colong Foundation supports the finding by the Commissioners that the flora in the proposal area is generally intact and diverse, and the acknowledgement that rare (ROTAP listed) species in addition to threatened species and cumulative impacts upon them are important considerations.

The Foundation believes Cumberland Ecology wrongly mapped the 'Exposed Blue Mountains Sydney Peppermint – Silvertop Ash Shrubby Woodland' vegetation community. This community is named after the two most commonly found eucalypt trees in the Greater Blue Mountains Region. The same locations within the project area were mapped by Benson and Keith in 1990 as the 'Tablelands Grassy Woodland Complex', which is a poorly reserved plant community.

The 'Tablelands Grassy Woodland Complex' located in the project area should be reserved. The Colong Foundation considers that the large areas mapped by Cumberland Ecology as

'Exposed Blue Mountains Sydney Peppermint – Silvertop Ash Shubby Woodland' (a very common woodland type) incorrectly characterises the vegetation.

The Gardens of Stone National Park located two kilometres to the north is mostly Permian sedimentary rocks of the Shoalhaven Group, underlain by a basement of Palaeozoic metamorphic rocks and even some Silurian limestone, not the rocks of the Illawarra Coal Measures that develop different vegetation types. The Illawarra Coal Measures rocks do not outcrop extensively in the Gardens of Stone National Park or the Mugii Murum-ban State Conservation Area. Where these strata do outcrop in these reserves they do so on steeply sloping talus slopes that develop different vegetation, mapped by Benson and Keith as the well conserved Talus-slope Woodland, not the poorly conserved 'Tablelands Grassy Woodland Complex'.

Recommendation 50: The Commission recommends that, given the acknowledged high quality and species richness of the native vegetation present in the project area, the assessment focus should be on the overall quality of the habitat under threat and its biodiversity value rather than just on the threatened species component which is the focus of the EA.

The Colong Foundation believes that the proposal area contains one of the best remnants of 'Tablelands Grassy Woodland Complex' on rolling landforms developed upon Permian sedimentary rocks of the Illawarra Coal Measures. Comparisons of the project area's vegetation with the vegetation in the Gardens of Stone National Park, Marangaroo National Park, Kanangra-Boyd National Park and Winburndale Nature Reserve are largely irrelevant because these parks are on different geologies. Different geologies and terrain produce different ecosystems.

Recommendation 51: The Commission recommends that calculation of edge effects be required to the satisfaction of OEH before the project is submitted for determination.

Edge effects should be contained within the Coalpac proposal area, not on land managed by other entities. Edge effects are important for managing adjacent land uses, including the proposed Gardens of Stone Stage 2 reserve. Edge effects: weeds, feral animals, trail bikes and fire need to be identified and managed through a site management plan, and should not be calculated as this recommendation proposes to do. Coalpac's poor weed management record and lack of a plan to control the specified edge effects are further evidence that development consent should not be granted.

Recommendation 52: The Commission recommends that the cumulative impacts on the biodiversity values of Ben Bullen State Forest and the region of this project, together with the proposed Pine Dale Stage 2 Extension, be considered before any assessment of this project is finalised.

In determining cumulative impacts DoPI should consider that these also include the destruction of the talus slopes and forested stream flats directly below the Great Dividing Range where the Range swings most easterly and reaches within the Sydney Basin. Surely such an impact will be a significant one for biodiversity.

If the Coalpac proposal is approved, the second part of this recommendation is very unlikely to be undertaken before the environmental assessment for the proposed Pine Dale open-cut is released. ***One cumulative impact will be that electric power generation in the Lithgow Region will become dependent upon poor quality thermal coal from open-cut mines. As a result, the highly scenic Gardens of Stone region will become 'bath ringed' by open-cut coal mining operations, including areas in the headwaters of the Coxs River catchment.***

Recommendation 53: The Commission recommends that the following three principles be accepted as underpinning assessment of biodiversity impacts for this project:

rehabilitation cannot restore the existing vegetation associations or ecological balance of the area;

rehabilitation to mature woodland is unproven for open-cut mines in NSW; and

the impacts on biodiversity from this project are incompatible with reservation proposals for Gardens of Stone Stage II.

The biodiversity assessment should also note that the unique topographic position and geology of the proposal area should be assessed. The 'irreplacability' of the proposal area should be assessed. What other part of NSW contains broadly intact and contiguous areas of 'Tablelands Grassy Woodland Complex' on rolling landforms developed upon Permian sedimentary rocks of the Illawarra Coal Measures?

Recommendation 54: The Commission recommends that, given the considerable uncertainties concerning the likelihood of rehabilitation on this project area being capable of delivering a satisfactory biodiversity outcome, rehabilitation not be given credence as a mitigation strategy in the assessment.

The Colong Foundation encourages all mining companies to improve rehabilitation standards through research, but rehabilitation can never restore a natural area. Once open-cut mined, an area's near-surface groundwater is lowered, the soils are mixed with subsoils, surface drainage increases downwards, and for a natural area, its ecosystems are gone forever.

In regard to biodiversity and restoration of talus slopes, the best rehabilitation merely visually screens the damage done to the natural environment, and to varying degrees, reduces the inevitable erosion and water pollution. The recovery of common species at much lower densities may be possible on talus slopes but such areas will never be suitable habitat for threatened wildlife or suitable for passive recreation.

Recommendation 55: The Commission recommends that, until the baseline biodiversity characteristics of the site have been resolved to the satisfaction of OEH, assessment of the adequacy or otherwise of the revised offset package should not proceed. The Commission also recommends that particular attention be given in the assessment to the essential nature of the trade-off being proposed, i.e. it is a proposal designed to exchange a number of fragmented areas that generally require extensive rehabilitation work and are currently not considered suitable for reservation, for a single area of high quality habitat that adjoins other areas of high quality habitat and is already proposed for reservation.

This is a very prescient recommendation by the Commissioners.

Ecological integrity should be more highly regarded than it is currently, as it is the most endangered aspect of the natural environment. The proposal area can be reserved as part of an interconnected system of national parks and reserves stretching from the Hunter Valley to the Southern Highlands and beyond. This area would make an excellent contribution to the reserve system because of its internationally significant pagodas that are surrounded by poorly reserved woodland and forest communities. There are few reservation opportunities of this quality and potential remaining in NSW, especially where such areas can be easily added to the existing reserve system.

Water (Section 7)

Recommendation 56: The Commission recommends the discharge from Invincible Colliery, Licensed Discharge LDP001, should be discontinued.

This discharge bore should be physically removed and the site in Ben Bullen State Forest rehabilitated so the potential for this open-cut mining proposal to pollute the Coxs River catchment is terminated.

…

Recommendation 58: The Commission recommends the Proponent should reassess predicted depressurisation and groundwater inflows, in consultation with NOW to provide a greater level of confidence that problems will not arise with groundwater or surface water resources. If this cannot be achieved because of insufficient monitoring then production should not be increased for two years while additional monitoring and modelling is carried out to confirm the predictions in the EA.

The boundaries of the underground workings are poorly known and the Colong Foundation supports the exclusion of highwall mining from the proposal to eliminate the risk of depressurising the old workings. The mine water in the old workings is polluted and should not be released into surface waters.

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Recommendation 63: The Commission recommends the predicted changes in weather due to climate change in NSW should be included in the water balance modeling for the life of the project unless it can be demonstrated the modelling to date has been conservative enough to account for this.

Concur with Dr Washington's remarks.

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Recommendation 67: The Commission recommends endorsement of DRE's requirement for extinguishment of all subsurface combustion in overburden emplacement areas and underground mine workings to occur before mining is conducted within 1 km of these areas.

The DRE takes a precautionary approach when the issue is mine safety. Environmental protection is of equal importance to mine safety and should also receive a genuine precautionary approach, rather than the compromised form of risk management currently in operation at most collieries.

Traffic and Transport (Section 8.2)

Recommendation 68: The Commission recommends that the concerns about the proposed 13% increase in heavy vehicle movements on the Great Western Highway raised by Blue Mountains City Council and Lithgow City Council be referred to the RMS for advice as part of any further assessment of the project.

A 13% increase in heavy vehicle movements on the Great Western Highway as a result of this proposal is unacceptable due to the impact on the amenity and road safety of Blue Mountains towns and villages.

All coal product from the southern part of the Western Coalfield must continue to be hauled by rail. The incremental increases in road haulage that will inevitable come via various future development consents for coal mining will very unpopular with Blue Mountains residents.

The haulage of sand by truck from this remote area is also unacceptable.

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Recommendation 71: The Commission recommends that the Proponent satisfies the Department that transport of sand cannot be undertaken by rail in whole or in part.

Sand haulage by road through the Blue Mountains communities is unacceptable due to the impact on the amenity and road safety of Blue Mountains towns and villages.

The proposed sand mining will delay and increase the complexity of mine rehabilitation. The sand mining proposal should not proceed.

A sand proposal must be subjected to an adequate environmental assessment. There are no details regarding the sand mining proposal.

Adding a sand mine proposal to a coal mine proposal is no way to regulate the environmental impacts of the extractive industry, especially if the sand is from acid forming sandstone rock – the Marangaroo Formation. The management of acid generating sulphide materials within the sandstone has not been explained.

Recommendation 72: The Commission recommends that no export coal is permitted to be carried by road to Port Kembla without further assessment of the potential traffic impacts.

The determination of the development consent is the time when a decision to refuse truck haulage should be made. Rail haulage is a long-standing practice and the only appropriate means to haul coal from the Western Coalfield to Port Kembla. The deferral of decisions of this matter until further studies is, in effect, countenancing a delayed approval of haulage of

coal by truck. Impacts on the communities which must suffer more dangerous, noisy trucks are well known and there is no reason for a change in policy by decision-makers. Truck haulage from the Western Coalfield to Port Kembla for coal should not be tolerated.

Recommendation 73: The Commission recommends that approved hours for the transport of coal and/or sand by road be restricted to between 0700 and 2130 hours Monday to Saturday with no transport on Sundays or Public Holidays.

Except for haulage to power plants on an emergency basis, the Colong Foundation opposes these arrangements for mines in the Lithgow Region.

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Recommendation 75: The Commission recommends that all trucks leaving the project site have their loads covered so as to prevent the spillage of coal and emission of coal dust.

Coal hauled by train is not different from the coal hauled by truck and in both cases the load should be covered to prevent coal dust emissions.

Aboriginal Cultural Heritage (Section 8.3)

Recommendation 76: The Commission supports AECOM's recommendation that a detailed assessment of identified rock shelters is required prior to commencement of any mining operations within 500m of each identified rock shelter.

A qualified independent archaeologist should undertake an assessment of all escarpments in the project area, not just some escarpments as was done for the environmental assessment. The remaining unexamined escarpments need to be walked and examined. Given recent discoveries of Aboriginal heritage in the area, more rock shelters of interest are likely to be found.

Recommendation 77: The Commission recommends that Aboriginal rock shelters in the project area should not be exposed to mining-induced impacts that could produce more than negligible consequences for the rock shelters. The Aboriginal Cultural Heritage Plan and the Blast Management Plan must contain measures to ensure that this outcome is achieved. Failure to achieve this outcome should be clearly identified as a breach of the approval and operations in the vicinity should cease until the project is compliant.

The last part of this recommendation is not logical. Damaged rock shelters cannot be restored. If damage occurs, penalties should be issued. Also, rock shelters must be known to be protected, so a further examination of the project area is necessary.

Recommendation 78: The Commission recommends that a monitoring regime is required that establishes the current condition of the rock shelters, that is capable of detecting any mining induced impacts and that includes comprehensive reporting requirements.

The determining authority must ensure that all rock shelters are identified before this recommendation is applied.

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Recommendation 80: The Commission recommends that if the Department recommends approval an Aboriginal Cultural Heritage Management Plan (ACHMP) should be required by way of a recommended condition to protect ACH sites and artefacts including the rock shelters. The ACHMP should include elements set out by AECOM (2011), address matters raised by the OEH in relation to the scope of the ACHMP in its submission dated 4 June 2012 and also address relevant matters set out in OEH's letter dated 4 December 2012 including retrieval of information from the rock shelters.

DoPI should not recommend approval.

Non-Aboriginal Cultural Heritage (Section 8.4)

Recommendation 81: The Commission recommends that the standard for blasting to be applied to both the Carleon Coach House and the Cullen Bullen General Cemetery is for 'negligible impact', and this standard and the method to achieve it should be included in any conditions of approval and the relevant management plan(s).

Blasting standards need to be specified to ensure negligible impact to cultural heritage sites, not the proposed ad hoc trial and error approach. The mining industry's risk management approach seeks to maximise coal recovery and minimise environmental protection when precautionary standards are omitted for consent conditions.

…