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Nature Conservation Saves for Tomorrow

BMCS Submission re Coalpac Consolidation Proposal
EPBC Act Referral Reference Number: 2010/5776

1. Preamble

The Society draws attention to the outrageous practice whereby a very substantial document is placed on public exhibition over the Xmas-New Year period. It has taken Coalpac and its various consultants at least 18 months to develop this proposal, yet the public exhibition period and opportunity to assimilate the document, and then make a submission is about 8 working days. This seems extraordinarily unbalanced, irrespective of the statutory requirements.

SEWPaC may see the period as adequate, but it should consider the following:

(a) The Society has about 900 members and is an entirely **volunteer** organisation run by a Management Committee. It has no paid consultants to call on and must rely on the very small number (<10) of our members who have sufficient expertise to deal with the issues.

(b) This is not the only massive document put out by State and/or Federal Governments relating to the Western Coalfield and requiring consideration by the Society over this holiday period – in fact, based on previous patterns, there seems to be a 'deliberate' attempt to place such documents on exhibition at a time when a properly considered evaluation is least likely – the author of this submission has two other such documents needing attention. The Society notes that "there is currently no statutory possibility for a period of *'non-acceptance of referrals'* over the Christmas/New Year holiday time" (Lucy Butterfield, 21/12/2010). This clearly shows that, as has long been apparent, big-budget companies aim to reduce input from environmental organisations by targeting the period when volunteers are maximally inconvenienced and least able to comply with rigid time-frames.

(c) The Preliminary Environmental Assessment under Part 3A of NSW has not yet been made available for public comment, and in the Coalpac Newsletter for October (received by BMCS on 06/12 from the Colong Foundation - not from the Company), another 7 stages of the process were needed before the DA was to be publicly advertised, and 8 stages before the DoP was to request a public response. There has been NO other chance for a community organisation to consider the proposal.

The Society appreciates that SEWPaC is constrained by statutory matters, but it must surely be clear that the present system is designed to accommodate 'big-ticket' organisations with salaried staff, whereas volunteer organisations with social and/or environmental concerns are substantially disadvantaged.

2. General considerations

2.1 Greenhouse gas emissions (GGE) and climate change

A price on carbon seems to be inevitable. NSW and Australia will struggle to meet GGE targets. 'Clean coal with geosequestration' continues to be experimentally feasible, but is far from being a practicable solution to coal-fired power production. At best, the technology (when/if finally developed on a commercial basis) will be applied on a limited scale in Queensland, but costs will generally be prohibitive and render it uncompetitive with renewable energy sources. The alternative is even more outrageous government (=taxpayer) subsidisation of the coal-fired power industry, which may attract the attention of the Australian Consumer and Competition Commission (see Brian Robins, *Coalmine subsidy will harm competition…*, SMH Dec 22 2010, News p6).

Despite the above, Coalpac is aiming to (PEA[1] p1) *"consolidate the operations and management of the Cullen Valley Mine and Invincible Colliery sites under a single, contemporary planning approval to allow coal mining operations within its current mining tenements to continue for a further period of 21 years."* It seeks this on the basis that the company will continue supplying coal (PEA p3) *"to the local Mount Piper Power Station (MPPS) and (emergency supply to) Wallerawang Power Station, with flexibility for supply to additional domestic destinations and Port Kembla for export"*.

The Society also notes that Coalpac intends to exploit the Marangaroo Sandstone horizon, immediately below the Lithgow Coal Seam in the northern coal mining area of Cullen Valley Mine. Coalpac proposes crushing on site for rail transport to Sydney (PEA p3). The implications for GGE are relatively minor, as long as rail transport rather than trucking is used. However, depending on the price per m^3 delivered in Sydney, it could compromise Sydney's expanding industry based on the highly desirable recycling of construction materials. In addition, it raises many questions about rehabilitation (see below).

2.2 Changing values

Partly due to GGE and climate change (section 2.1), but also due to a clearer understanding of the economic and social value of the environment at regional and local scales, it is no longer acceptable for coal mining to be approved regardless of consequences. It was once sufficient to provide (say) 30 jobs with flow-on effects, sponsor local events, mention 'community' benefits and emphasise royalty payments to gain approval, irrespective of the $millions flowing to the company and its shareholders. Now, from society's viewpoint, it would seem that the environmental and social costs may be of similar or even greater magnitude than the coal-profits foregone.

The above is illustrated by three excerpts from the report by the NSW Planning Assessment Commission (PAC) on the Bulli Seam Operations, July 2010, Parts 1 and 5[2].

PAC BSO Part 1 piv: *"The Panel is of the view that it is no longer a viable proposition for mining to cause more than negligible damage to pristine or near-pristine waterways in drinking water catchments or where these waterways are elements of significant conservation areas or significant river systems."*

PAC BSO Part 1 pv: *"…the benefits of protecting significant natural features…are likely to be of a similar magnitude to the mining profits that would have to be given up to ensure that protection. So while protection of the significant natural features would involve lower mine profitability, it is likely that society as a whole would gain more from the environmental protection recommended than it would lose in terms of foregone profits."*

PAC BSO Part 5 p394: *"Remediation is a frequently proposed strategy in the EA for managing risks of subsidence induced impacts and consequences for significant natural features…remediation cannot be considered at this time to be an alternative to prevention where the functionality of water-dependent natural features is an objective."*

2.3 A different perspective

Although not necessarily a matter for SEWPaC's consideration, the following may have bearing on Coalpac's share price and hope for consolidation.

Coalpac is looking for consolidation to enable a 21-year coal-based mine-life and a supplementary 'sandstone' operation (Section 2.1). Coalpac would naturally benefit from this if it 'stayed the distance'. However, there are good reasons for believing that CET Resources, which has majority-ownership of Coalpac and is effectively driving the consolidation project, hopes to sell its interest[3]. In this way, CET Resources would benefit from the export demand for coal and avoid the impact of the impending carbon price on Coalpac's power-station contracts.

Should governments sanction the consolidation proposal in the face of environmental, social and heritage considerations, the liquidation of CET Resources' could be significant.

2.4 Cumulative impacts

The histories of the Cullen Valley and Invincible Mines are complex (PEA pp5-6). The Cullen Valley Mine evolved through consolidation of mines (initially underground operations) extending back to the late 1800's. The Invincible Mine commenced as an underground operation in 1901 and evolved via a second underground operation until the late 90's when open-cut extraction commenced. Both Mines have been intermittent as a function of coal-price fluctuations.

The salient points are that the region firstly experienced progressive consolidation of underground mines, and then witnessed movement to open-cut and high-wall mining with larger surface areas adversely affected. The region is now

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[1] *PEA = Preliminary Environmental Assessment, Hansen Bailey for Coalpac, 21/10/2010*
[2] *http://www.pac.nsw.gov.au/tabid/60/ctl/viewreview/mid/376/pac/44/Default.aspx*
[3] *http://www.theaustralian.com.au/business/liberman-family-plans-to-sell-coal-mines/story-e6frg8zx-1225944402236*

threatened by further consolidation and enlargement of the impacted surface areas. This has protracted and cumulative impacts on groundwater, surface water, and fauna and flora through destruction of habitat. Throughout much of this long history, there was little concern for environmental damage and equally little concern for rehabilitation.

In opposing the expansion of the Invincible Mine, the Society wrote[4]: *"Objection to the proposal is based on: inadequate justification of open cut operations; unacceptable visual impacts and safety issues; contentious water management practices; deceptively simplistic rehabilitation proposals; outrageous transport intentions; impacts on the Gardens of Stone Stage 2 proposal; availability of alternative modes of operation; and consultants' reports disregarding cumulative impacts."*

In relation to the cumulative impacts, the Society stated[4]: *"Consultants' reports in relation to mining applications apply the reductionist approach. This ensures that, by considering adverse effects in isolation, they are able to say there is 'unlikely to be a significant impact'. This is particularly the case in relation to a particular type of plant or animal. They then sum the apparent lack of significant impacts and conclude that the overall impact will be small or even negligible, particularly when minor remedial aspects are built into the conditions of approval. This approach is wrong. Environment health is intensely interactive such that degradation reflects the geometric product rather than the sum of its component parts. In effect, degradation is cumulatively exponential."*

And again: *"If the cumulative consequences of environmental and social degradation are considered for the 'postage stamps' of this specific application, the application should clearly be rejected rather than constrained by inadequately enforced conditions. If the consequences are further considered within the context of past and ongoing damage in adjacent areas, rejection becomes irrefutable."*

This was written in a submission (attached hereto as ***Appendix A***) dealing with an extension to the Invincible Mine. The current proposal to consolidate and significantly extend operations inevitably increases the capacity for cumulative impacts. The matter will be returned to in section 3 below.

2.5 Comment

The Hansen Bailey PEA is certainly 'preliminary'. As a PEA within the Part 3A process, it is a 'wish-list' concept plan which shows why Part 3A inadequately serves environmental interests and should be repealed.

Section 3 (Project description) looks at most operational facets and develops a set of mining concepts. Although some detail is provided, it is clear that Coalpac is essentially seeking to consolidate its coal activities and progress them as a function of coal price and available markets. The high levels of uncertainty associated with the timing of the differing types of coal mining and the anticipated markets and transport modes for the product should send a clear warning to government, to the extent that the proposal would seem to be an opportunistic grab for resources. Furthermore, beyond expressing a wish to extract and crush sandstone for the construction materials market, this only receives token consideration.

Section 7 identifies the spectrum of environmental and community issues. Each issue is then examined in terms of a 'background' summary, an identification of potential impacts, and a proposed assessment methodology. It is recognised repeatedly that, as the assessment processes generate more data, environmental and social management plans will necessarily be adjusted. In effect, this is a classical coal industry approach; it assumes that approval will be forthcoming, mining will proceed and all will be resolved through monitoring, 'optimistic' reports by consultants and, if all else fails, by so-called remediation.

Because of the extreme levels of uncertainty embodied in the 'project' and preliminary EA, the Society will await the next version before effecting a detailed analysis. Nevertheless, the Society will mention (below in section 3) a few deficiencies pertinent to the current EPBC referral and, in doing so, **hopes that SEWPaC will recognise the project will impact on matters of National Environmental Significance and should be deemed a 'Controlled Action'.**

3. Specific considerations

3.1 Discrete and cumulative impacts on ecology

PEA Table 6 p44 recognises that the ecology is at high environmental risk. PEA Table 7 pp45-46 recognises that Box Gum Woodland is critically endangered and endangered under Federal and State legislation respectively; it also covers flora and fauna species which are either present or expected to occur. The distribution (as currently 'known') of Matters of National Environmental Significance is shown on PEA Figure 3.

[4] *InvincibleMP05_0065BMCSFullSubmission060509.doc available from filing@bluemountains.org.au*

PEA p47 states: *"The Project is located largely within existing mining tenements [in?] the Ben Bullen State Forest, which is characterised by woodland vegetation communities that [sic] have been previously disturbed by forestry, grazing or mining related activities."* BMCS acknowledges some previous disturbance, but insists that previous damage should not be *carte blanche* for additional damage. The concept that a damaged area should be the focus for additional damage pervades too many EAs.

Based on information provided by a member[5] and presented as ***Appendix B***, the 1088 ha proposed for clearing includes 40 ha of Box Gum Woodland and occurrences of *inter alia* Eucalyptus cannonii, Derwentia blakelyi and Acacia asparagoides. There is no doubt that damage over this wide region must adversely impact on the whole ecosystem, including components of the flora and fauna, irrespective of their degrees of protection by State and Federal legislation. This in itself should be sufficient to make the project a 'Controlled Action'.

In addition to the discrete damage in the project area, the destruction compounds the vast amount of regional damage caused by clearing for open-cut mining (see ***Appendix B***). Such cumulative damage tends to be disregarded by EAs and by the approach adopted by governments when assessing development applications. In essence, if ecological continuity is to be maintained, rather than be fragmented through piecemeal assessments, ill-conceived conservation offsets and rehabilitation practices, due consideration must be given to the regional picture**. Ecosystems can be remarkably resilient, but how many straws are required to break the camels back and over what time-frame should this be determined?**

3.2 Discrete and cumulative impacts on the surface water regime

PEA Table 6 p44 recognises that surface water management carries a high environmental risk, while the geochemistry of water discharged from the workings and treatment facilities is deemed a significant risk.

Surface water flows are NW and W via the Turon and Macquarie Rivers, and then onto the Darling. Although currently under the influence of La Niña, the impacts of El Niño are not forgotten; and neither should be the anticipated impacts of climate change.

PEA pp55-58 looks at the potential impacts and the assessment methodology in a **discrete** context. Form a discrete viewpoint, the Society is mainly concerned with (i) impacts to surface water quality from the saline Coal Measures stratigraphy, (ii) impacts to surface water quality arising form soluble oils, diesel and other chemicals associated with the mining and treatment processes, and (iii) impacts on drainage paths and catchment yields. Very little of this is directly addressed in the PEA's assessment methodology. Assurances are given, but more is required in the context of the overall Murray-Darling Management Plan.

Reference is made to current practices in accordance with EPLs and (for geochemical issues) the experience gained from the management of existing mining operations at Invincible Colliery and Cullen Valley Mine, but the Society has little confidence in these. In general, companies are required to test for an insufficient number of contaminants, and the testing which is stipulated permits inappropriately high limits and commonly expresses these limits as averages. **There is need to re-examine and improve the whole process of ensuring that mine-related waters meet acceptable water quality standards.**

Water pollution from the existing mines and their proposed extensions (within the project area), will compound the **cumulative regional damage** from mining, irrespective of whether the system flows ultimately to the Darling or to Warragamba.

In section 3.3 of a recent submission[6] to the Department of Planning, the Lithgow Environment Group notes that water discharged from coal mines has a *"…detrimental downstream effects on water chemistry, and aquatic ecosystem integrity, health and diversity."* The principal issues are identified as:

(a) Salinity – LEG states that the *"…SCA Water quality monitoring program Trigger Value for Electrical Conductivity in the Sydney drinking water catchment is 300 µS/cm"* and that the *"…ANZECC (2000) Water quality guideline trigger values for Aquatic ecosystems in an Upland river in NSW are 30-350 µS/cm."*

(b) Heavy metals – LEG reports that the *"ANZECC (2000) trigger value for Iron is 0.3 mg/L, Manganese 1.9 mg/L, Aluminium 0.055mg/L, Nickel 11.0 µg/L, and Zinc 8.0 µg/L".* These levels are regularly exceeded in mine water discharges.

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[5] *Email on 18/12/2010 from Mr Chris Jonkers, who is also a member of the Lithgow Environment Group and a resident of Blackman's Flat.*

[6] *Related to the Baal Bone Colliery Continued Operations Project - App. No. 09_0178 and available from BMCS Admin Officer as BaalboneExtension_LEGSubmission_2010.pdf*

(c) Solcenic oil residues – water-soluble hydraulic oils are a common component of mine water discharges. According to LEG, "…recent tests conducted by the EPA indicate that quite low concentrations of these oils in water may be harmful to some aquatic organisms in creeks and rivers." As insufficient research has been done to determine the toxicity of such oils to all species within aqueous ecosystems, it is critical that the quantity and fate of water-soluble oils be carefully audited.

(d) Thermal pollution – this is less critical for open-cut mines, but may become significant if waters are pumped from old workings. The SCA Streamwatch Manual raises several concerns about discharging mine waters into streams where the background temperatures are significantly cooler. LEG cites the Water Quality Guidelines of the WA Department of Minerals & Energy: "*Discharge water should not cause the receiving water temperature to vary by more than 2 degrees C from its seasonal background levels."*

(e) Dissolved oxygen – LEG reports that, although a low dissolved oxygen level (<5–6 mg/L) may not directly kill an organism, it promotes an increased susceptibility to other detrimental factors. Dissolved oxygen should therefore be monitored.

As implied with item (e), the above factors behave synergistically in that their combined impact on water quality and water-dependent ecosystems exceeds the sum of the parts. Individual monitoring is only effective if the target levels are set with due regard for synergistic behaviour.

Particularly under El Niño conditions, the Society is concerned that relatively undiluted discharges will impact on riparian ecosystems, bleed into the groundwater regime, and possibly impact on bores and stock dams in the region west of the project. These potential impacts should be considered from discrete and cumulative viewpoints. The Society concurrently notes that the combined mining activities in the region of headwater creeks feeding the west-flowing rivers could, through water harvesting, reduce essential run-off.

3.3 Discrete and cumulative impacts on the groundwater regime

PEA Table 6 p44 recognises that groundwater, including its geochemistry, poses a significant risk.

PEA p56 indicates that the old underground workings contain large volumes of groundwater, the sandstone resource beneath the Lithgow Seam is an aquifer, as also to varying degrees are the seven coal seams (PEA pp16-17) which will be exploited.

The shallow north-eastward dip suggests that undisturbed groundwater flow will be towards the northeast, but where transacted by the open cut and highwall, flow will be laterally (SE and NW) and back (SW) into the workings. Where such groundwater becomes additionally contaminated within the open cut and through recycling within mining and treatment processes, factors (a) to (e) in section 3.2 apply.

The Society has several concerns from both the discrete and broader cumulative viewpoints:

(a) Contamination of the groundwater regime and/or lowering of the watertable to the west of the mining regions could affect riparian ecosystems, impact on stock watering and have adverse social consequences.

(b) Depressurising the various aquifers could impact on 'undisturbed' stands of Box Gum Woodland and floristic species listed under State or Federal legislation. Naturally, any impact on flora has potential to affect the viability of fauna within the destabilised ecosystem.

(c) Should the need arise (as yet unclear) to supplement operational water supplies by pumping from the old underground mines, the contamination problems envisaged under item (a) and also in section 3.2 will be exacerbated.

(d) As a separate issue, pumping from the old workings could lead to instability and collapse.

3.4 Mining considerations

Open-cut mining would seem to extend back to the cliffs (PEA Fig. 5 p21), effectively to the 'not to be disturbed' zones (PEA Fig. 2). Highwall mining is then scheduled for beneath some 'not to be disturbed' zones (PEA Figs. 5 and 2).

The Society is extremely concerned about the height of the wall at the back (the east face) of the open cut and the stability of the highwall mining process. The open-cut back could become extremely unstable. Any collapse could propagate in the highwall mining zones with detrimental consequences to cliffs and pagodas, and also to their ecology with its listed species.

The Society believes that damage to scenic values and the potential impacts of collapses on flora and fauna merit total rejection of this part of the proposal. **SEWPaC should certainly deem this risky proposition a 'Controlled Action'.** Failure to do so will be another example of placing trust in the 'guesstimates' of experts paid to put the best spin on a risky

proposition; or do we believe it is possible to remediate collapsed cliffs and pagodas and re-plant them with appropriate species?

3.5 Future use and rehabilitation

PEA pp63-64 state: *"The surrounding land use for the Project is predominantly NSW State Forest. With the cessation of logging in the area, it is now primarily relied upon for recreational uses such as hunting, motorcycling, four wheel driving and bushwalking……adjacent to the Project area are the coal mines of Baal Bone Colliery, Angus Place Colliery, Pinedale Mine, Lamberts Gully Mine and Ivanhoe Colliery, as well as the MPPS to the south." "…the continued operation of Invincible Colliery and Cullen Valley Mine is consistent with the primary land uses in the vicinity of the Project and the wider LGA in general."*

This is consistent with the principle that if a region is, in part, environmentally compromised, the only viable option is to trash it completely.

Ben Bullen State Forest has magnificent scenic values and contains a spectrum of listed flora and fauna comprising complex ecosystems. It also has substantial aboriginal heritage. Extensive discussions with DECCW indicate that much of the region merits reservation as a State Conservation Area. This is a true measure of the fact that, although affected by mining and high-impact recreational pursuits, **the inherent values are worth protecting through reservation, while the region progressively undergoes natural recovery.** This is a far cry from heaping desecration on a partially damaged region.

PEA p64 makes much of 'progressive rehabilitation' *"…in accordance with conceptual landform design objectives and guidelines so that disturbed areas are returned to a condition that is compatible with the surrounding landscapes of the Ben Bullen State Forest and is sustainable in the long term."* It emphasises that to *"…ensure the establishment of a stable final landform, the majority of final overburden emplacement slopes will continue to be shaped to 14 degrees or less at Invincible Colliery and 18 degrees or less at the Cullen Valley Mine."*

The Society contends that rehabilitation which focuses solely on contouring and slope stability is a mockery. Having excavated deeply below the surface, such rehabilitation barely deserves to be called a band-aid solution. The original stratigraphic layering with anisotropic hydraulic conductance is replaced with irregularly jumbled material with unknown hydraulic properties; a different hydraulic regime is thereby created. Furthermore, as all 7 coal seams will be exploited, and the sandstone beneath the Lithgow Seam will be crushed and the separated clay-rich fines pumped into the old underground workings of Tyldesley Colliery (PEA p29), there must be a substantial volume deficiency[7].

Despite waste being emplaced up to the final rehabilitation level and shaped by bulldozers before being covered by a clay blanket and topsoil (PEA p20), and despite being seeded with native flora to *"…re-establish vegetation communities similar to those of the pre-mining landscape…"* (PEA p64), infiltration will be inhibited and the hydraulic regime will be substantially modified[8]. **'Rehabilitation' is at best a cosmetic process designed to hide permanent damage.**

3.6 Discrete and cumulative other impacts

Many matters of environmental and social concern such as: noise and blasting, traffic and transport, visual pollution, and social and economic matters seem not to comprise Matters of National Environmental Significance and are unlikely to be considered in determining whether or not the consolidation project should become a controlled action under the EPBC.

All of these matters are of concern to the Society and will most certainly be addressed at a later stage of the Part 3A process when many of the extensive uncertainties in the PEA are better resolved.

4. Conclusions

- The potential impacts of the consolidation proposal on plant and animal species listed under Federal and/or State legislation should be a more than adequate reason for the consolidation proposal to be deemed a 'Controlled Action'.
- The potential impacts on the surface water and groundwater regimes, particularly under El Niño conditions, in terms of flow quantities and water quality and their affects on water-dependent ecosystems merit government action.
- The potential risks from the open-cut and highwall mining of 7coal seams for cliff and pagoda collapses and their consequent impacts on flora and fauna merit government action.

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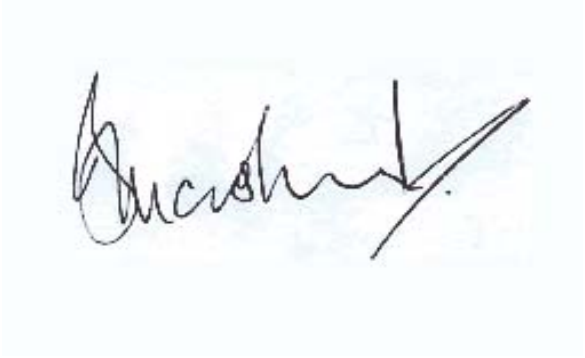
[7] *It is appreciated that dumped and returned material has a larger total volume than the in situ strata due to looser packing, but unless the material is very poorly compacted (undesirable for other reasons), a volume deficiency is probable.*

[8] *E.g. the nature of surface flow, the shape of the watertable and the direction of groundwater flow.*

- The Preliminary Environmental Assessment is largely conceptual and relies heavily on past studies linked to approvals given to Cullen Valley and Invincible Mines. Because of the many uncertainties, the staged nature of the exploitation, and the proposal's major impact on other uses for the Ben Bullen State Forest, the Society opposes the proposal in its entirety.
- The consolidation proposal would seem to be a grab for resources when coal prices are high and perhaps before the Part 3A process is modified or abandoned. Approval would presumably inflate Coalpac's market value and provide a handsome return to CET Resources should it successfully sell its majority holding.



Dr Brian Marshall,
For the Management Committee ***27 December 2010***

APPENDIX A

May 9 2006

Major Development Assessment
Department of Planning
GPO Box 39
SYDNEY NSW 2001

Dear Mr Phillips,

Objection to MP 05_0065 Open Cut Coal Mine Extension,
Invincible Colliery, Castlereagh Highway, Cullen Bullen

The proposal includes: extending open cut mining operations; extracting 720,000 tonnes of coal at a maximum rate of 350,000 tonnes a year; crushing coal on site before trucking it on public roads to either Mt Piper power station or domestic markets; and progressively rehabilitating the site. It was brought to our attention late yesterday (8 May) via the Nature Conservation Council of NSW, who only became aware of the proposal yesterday, and by the Colong Foundation for Wilderness. As the closing date for exhibition is today, this submission is necessarily hurried.

Objection to the proposal is based on:

- Inadequate justification of open cut operations.
- Unacceptable visual impacts and safety issues.
- Contentious water management practices.
- Deceptively simplistic rehabilitation proposals.
- Outrageous transport intentions.
- Impacts on the Gardens of Stone Stage 2 proposal.
- Availability of alternative modes of operation.
- Consultants' reports disregard cumulative impacts.

1. Inadequate approval.

The original operation (up to 2001) on the Invincible lease by the Coalpac Company consisted of an underground mine. Records of open cut operations prior to the Blaxland Shire Council IDO No 1 in 1969 are apparently not provided, and Lithgow City Council seems to have no records of such open cut operations being approved. The claimed 'existing use' rights, offered in justification of an open cut operation, are therefore ill-founded and possibly unlawful.

2. Unacceptable visual impacts and safety

The 'overburden' stripping and open cut extraction will create a significant cliff and massive scar that will be visible from the Castlereagh Highway and extend along the Great Dividing Range for about 1.5 km. The development will also be visible from the Gardens of Stone Stage 2 Proposal and greatly detract from the scenic values of the region. There is negligible evidence that visual impacts have received consideration in the environmental assessment.

As well as visual pollution, such unstable cliffs do not respond well to so-called rehabilitation (see later) and will be a perpetual safety concern, during and subsequent to mining.

3. Contentious water management

The Blue Mountains Conservation Society and Lithgow Environment Group have raised concerns about the degradation of Long Swamp on the headwaters of Cox's River. The degradation is attributed to polluted water being pumped into Long Swamp from the abandoned Invincible underground mine workings. Long Swamp is part of the category of *Temperate Highland Peat Swamps* that are endangered under the Commonwealth *EPBC Act*. It is also within a broad category of swamps that have been recommended to the NSW Scientific Committee by the Minister for the Environment (The Hon Bob Debus) for listing as *Vulnerable Ecological Communities.* Protection by DEC is urgently needed.

The above is raised because it appears that run-off from up-slope of the open cut will be allowed to gravitate into the old mine workings. This would increase the need for pumping to Long Swamp and enhance the general disruption to the region's hydrology. This may further damage Long Swamp wand, intentionally or otherwise, enhance the water resources available to Delta Electricity.

The effects of these activities are not adequately explained in the documents and merit more detailed investigation.

4. Simplistic rehabilitation notions

Past environmental damage on Mining Lease 68, now consisting of a 'moonscape' housing floral and faunal 'weed' infestations, is deplorable. No mention is made of rehabilitating this region, yet established facilities will be utilised in the open cut proposal. There are clearly strong grounds for ensuring full rehabilitation rather than solely dealing with rehabilitation of the 'new'10 ha open cut site. This is typical of the postage-stamp mentality that sees each proposal in isolation; damage is cumulative and the need for rehabilitation is cumulative.

The specific rehabilitation proposals for the 'new' workings make all the usual noises about collecting indigenous seed, negligible loss of vegetation in terms of gross area containing the vegetation types, and little substantial damage to habitat. This again disregards the cumulative impact of destruction in the region at large by a range of causes. It also makes no acknowledgement of the time-frame over which the environment will be damaged and fragmented, and the time-frame needed for replanted areas to grow to any form of viable habitat.

The proposals also disregard the impacts of stripping and changing the gradient of talus slopes in terms of protracted long-term erosion, and the near-impossibility of restoring the landform and successfully rehabilitating the newly created cliffs.

Optimistic claims for rehabilitation are rarely borne out. But by that time it is too late!

5. Outrageous transport intentions

Apparently 16 to 25 trucks per day will transport coal via the Blue Mountains to Bombaderry on the South Coast. This is mindless! Rail transport over such distances is the only environmentally responsible option. Existing roads are already heavily utilised and residents do not want noise, damage to infrastructure and risk to property increased. Certainly not when there must surely be suitable coal resource much closer to the consumption site. More rises in diesel prices will compromise the economic viability of this intention.

6. Impacts on the Gardens of Stone Stage 2

Visual impacts were raised under item 2.

An additional matter involves the incursion of open cut mining into the proposed GoS2 State Conservation Area. An SCA can be compatible with underground mining, but open cut mining totally destroys the surface environment and is incompatible with any area of high conservation value. Progressive nibbling of the marginal portions of the proposed SCA (e.g. as with ML 68) would create an unacceptable precedent for what are very small quantities of coal (720,000 t). There is much more to be gained from protecting the region's environmental values, than from destroying these values in the interests of scavenging the remaining minuscule amounts of coal by open cut methods.

7. Alternative modes of operation

Although some sterilization of coal resources along the Great Dividing Range and in the headwaters of the Cox's River might result from rejection of this application, the amounts are small compared to the coal resources accessible by underground methods. Preservation of environmental values, reduced pollution of the Cox's River, and longer-term enhancement of tourism more than compensate the sacrifice of such coal.

The applicant prefers open cut mining because it has cost advantages. However, the applicant's bottom line should not be the determinant of Government policy. It is here argued that extraction should be by relatively low impact underground methods and, where this is not practicable, the coal should remain in the ground.

8. Cumulative impacts

Consultants' reports in relation to mining applications apply the reductionist approach. This ensures that, by considering adverse effects in isolation, they are able to say there is 'unlikely to be a significant impact'. This is particularly the case in relation to a particular type of plant or animal. They then sum the apparent lack of significant impacts and conclude that the overall impact will be small or even negligible, particularly when minor

remedial aspects are built into the conditions of approval. This approach is wrong. Environment health is intensely interactive such that degradation reflects the geometric product rather than the sum of its component parts. In effect, degradation is cumulatively exponential.

If the cumulative consequences of environmental and social degradation are considered for the ‘postage stamps’ of this specific application, the application should clearly be rejected rather than constrained by inadequately enforced conditions. If the consequences are further considered within the context of past and ongoing damage in adjacent areas, rejection becomes irrefutable.

Yours sincerely,

Dr Brian Marshall, President,
For the Management Committee.

APPENDIX B

18/12/2010

……Concerns are:

1. CUMULATIVE LOSSES

This loss of 1088 Ha including 40 Ha on Box Gum Woodland, more Eucalyptus cannonii (V), Derwentia blakelyi (V), Acacia asparagoides etc, endangered Fauna species wtc comes on top of similar large losses in the immediate area and wider region in the last decade including:

- Charbon Colliery just got approval to clear Box Gum Woodland & E. cannoni, but don't know how much
- Lambert's Gully Mine (35 Ha last extension, 100's more Ha's prior to that)
- Ivanhoe North Rehabilitation Project (13 Ha and ultimately 70 Ha)
- Invincible Colliery 1 (10 Ha), Extension 2 (100Ha?), Extension 3 (??)
- Cullen Valley Mine (100's of Ha since 1999)
- Pine Dale Mine propose to clear another 27 Ha over the next 2 years and 220 Ha over 20 years
- The Extension of Mt Piper will see more E. cannoni lost
- Extension of Mt Piper Ash Dam will see more lost
- Many Derwentia blakelyi were lost when East Wolgan Swamp and narrow Swamp died

The environmental offsets to date have been a joke. The mine rehabilitation standards to date have been woefully inadequate.

2. ERRORS AND OMISSIONS

There are some obvious errors and omissions in Attachment 2: Coalpac Consolidation Project Species List

SPECIES **SIGHTED WITHIN** THE PROPOSED 1,088 HA DISTURBANCE AREA THAT **ARE NOT LISTED** ON THE PROJECT SPECIES LIST:

ANTHERICACEAE

- *Thysanotus tuberosus* - Fringe Lily - heaps in flower right now on lower slopes on E side of Cullen Valley Mine

APIACEAE

- *Xanthosia pilosa* - common in both Cullen Valley and Invincible mine areas

ASTERACEAE

- *Leucochrysum graminifolium* - Pagoda Rock Daisy (ROTAP?) - on pagodas above Invincible Colliery

BLECHNACEAE

- *Blechnum wattsii* - Hard Water Fern - in rock overhang halfway up Tyldsley Hill above Cullen Valley Mine

CARYOPHYLLACEAE

- *Scleranthus biflorus* - Cushion Bush, Two flowered Knawl - On moist rocks W side Tyldsley Hill. Not that common in Lithgow LGA and most W/Atlas records are 15+ years old

CASUARINACEAE

- *Allocasuarina littoralis (*and probably *Allocasuarina distyla* and *Allocasuarina nana)*

CUPRESSACEAE

- *Callitris rhomboidea* - Port Jackson Pine - occurs in pagodas above Invincible Colliery and is probably more common than *C. endilicheri* which is listed

DILLENIACEA

- *Hibbertia monogyna* - common in Cullen Valley Mine and Invincible Colliery areas

- *Hibbertia serpyllifolia* - on top of Tyldsley Hill behind Cullen Valley Mine

DROSERACEAE

- *Drosera peltata* - Sundew - on moist area at N end above most recent Cullen Valley Mine highwalls

ERICACEAE

- *Epacris paludosa* - montane heath area on Tyldsley Hill above Cullen Valley Mine

FABACEAE

- *Acacia asparagoides (ROTAP 2R)* - occurs throughout Ben Bullen SF including near Invincible Colliery's 2 licenced Boreholes (if they start up again salinity & metals could kill these plants).
- *Acacia caesiella* - Tablelands Wattle - castlereagh Hwy Cullen Bullen and probably within proposal area
- *Acacia rubida* - Red-stemmed Wattle - common on slopes E side of Cullen Valley Mine

GLEICHENIACEAE

- *Gleichenia dicarpa* - Pouched Coral Fern - in rock overhang halfway up Tyldsley Hill above Cullen Valley Mine

GOODENIACEAE

- *Goodenia bellidifolia* - Daisy-leaved Goodenia - currently in flower and common E side Cullen Valley Mine and above Invincible

LAMIACEAE

- *Prostanthera saxicola* - huge patch on top of Tyldsley Hill above existing Cullen Valley Mine high-walls. Rare in Lithgow LGA, only 2 W/Atlas records - Bogee, and end of Sunnyside Ridge Rd overlooking Wolgan Valley. We have found only 1 other patch, near E end of Baal Bone Colliery LW20

LILIACEAE

- *Dianella caerulea* - Blue Flax Lily - common on E side Cullen Valley Mine. Several other Dianella species also likely to occur within proposal area
- *Stypandra glauca* - Nodding Blue Lily - rocky heath areas on Tyldsley Hill and above Invincible highwalls
- *Thelionema caesposita* - Tufted Blue Lily - SW side of Tyldsley Hill above older Cullen Valley Mine highwalls

MYRTACEAE

- *Callistemon linearis* - Narrow-leaved Bottlebrush - on lower slopes E side of Cullen Valley Mine
- *Eucalyptus stricta* - Blue Mountains Mallee Ash - common in montane heath and pagoda areas above Cullen Valley and Invincible mines

ORCHIDACEAE

- *Acianthus exsertus* - Mosquito Orchid - W/Atlas record E of Rail line near S end of Cullen Valley Mine
- *Caladenia sp (White flowering form)* - heaps in flower in Oct/Nov on lower slopes on E side of Cullen Valley Mine
- *Caleana major* - Duck Orchid - moist rocky heath area on Tyldsley Hill near *Kunzea parvifolia*
- *Corybas hispidus* – Bristly Helmet Orchid – Wildlife Atlas record (1956) near SW end of Cullen Valley mine, one of only 2 records for this species in the Lithgow LGA
- *Diuris sulphurea* - Tiger Orchid - heaps in flower in Oct/Nov on lower slopes on E side of Cullen Valley Mine and on ridge above Cullen Valley Mine high-walls
- *Dendrobium striolatum* - Streaked Rock Orchid - on cliff face E side of Cullen Valley Mine
- *Glossodia major* - roadside above Invincible Colliery. Not recorded on W/Atlas as occurring in Ben Bullen SF
- *Paracaleana minor* - Small Duck Orchid - growing on mossy rock on Tyldsley Hill near *Scleranthus biflorus*. Rare in Lithgow LGA, only 1 W/Atlas record - Hartley 1948
- *Pterostylis truncata* - Little Dumplings – W/Atlas record for Cullen Bullen

PROTEACEAE

- *Hakea dactyloides* - exceedingly common above Cullen Valley and Invincible. *Hakea laevipes ssp laevipes* probably also occurs in montane heath areas.
- *Hakea microcarpa* - W/Atlas record near Cullen Valley Mine in 1993 (this is a Key Indicator Species for the EEC of Montane Peatlands and Swamps)
- *Isopogon anemonifolius* - Broad-leaf Drumsticks - rock and pagoda areas above Cullen Valley and Invincible
- *Lomatia silaifolia* - on E slopes of Tyldsley Hill behind Cullen Valley Mine
- *Petrophile pulchella* - Conesticks - above Invincible Colliery highwalls

RUTACEAE

- *Phebalium squamulosum ssp. squamulosum* - Alpine Phebalium - W side Tyldsely Hill above Cullen Valley Mine highwalls
- *Phebalium squamulosum ssp. ozothamnoides* - Forest Phebalium - Tyldsely Hill above Cullen Valley Mine highwalls
- *Philotheca myoporoides subsp. myoporoides* - Long-leaf Waxflower - 3 lovely patches on cliffs above Invincible Colliery high-walls. Not common in Lithgow area, we havsn't seen it anywhere else. W/Atlas has records but they are all old: Lidsdale SF(1899), Mt Walker (1936 & 1951), GoS1 (1984), Valley of Swamps (1959), Hartley (1904)
- *Zieria asphalathoides* - pagoda areas above Cullen Valley and Invincible mines

SAPINDACEAE

- *Dodonaea boroniifolia* - next to Castlereagh Hwy N end Cullen Valley Mine proposal. Uncommon in Lithgow LGA. Some W/Atlas records for it are actually *Dodonaea multijuga*
- *Dodonaea multijuga* - S end of Tyldsley Hill above old Cullen Valley Mine high-walls. Also above Invincible Colliery high-walls.

XANTHORRHOEACAE

- *Xanthorrhoeae sp* (possibly X. resinosa) - quite a number near road bulldozed up W side of Tyldsley Hill above Cullen Valley Mine high walls

WEED SPECIES MISSED

Foeniculum vulgare (Fennel) near Cullen Bullen Tip*; Genista monspessulana* (Cape Broom) - rampant in Cullen Bullen area; *Scabiosa atropurpurea - rampant roadside weed in Cullen Bullen area; Sisyrinchium iridifolium* - near Cullen Bullen Tip*; Verbascum thapus* (Blanketweed); *Verbena bonariensis* (Purpletop), *Crataegus monogyna* (English Hawthorn) - rampnat environmental weed; *Salix sp* (Willows)

ERRORS IN SPECIES LIST

- *Allocasuarina torulosa* is listed - but have not sighted it and doubt it occurs on such poor soils. Have sighted *Allocasuarina littoralis* in bush on E side of Cullen Valley Mine, and are fairly sure that both *Allocasiuarina distyla* and *Allocasuarina nana* occur on pagodas above Invincible Colliery
- 'Phebalium lambrophyllum' is listed - there is no such species. They are either referring to *Phebalium squamulosum ssp ozothamnoides* which occurs on Tyldsley Hill above Cullen Valley Mine and on the slopes above Invincible Colliery, or *Leionema lambrophyllum ssp orbiculare* (ROTAP 2R-P3) which occurs above Invincible Colliery.
- Isopogon dawsonii is listed - we have only sighted *Isopogon anemonifolius* above Cullen Valley and Invincible, and doubt that dawsonii occurs their.

PLANTS OF CONCERN

- *Boronia rigens* - whilst listed it is very uncommon in the Lithgow LGA only listed on W/Atlas at 6 sites, many of which are very old records where it may no longer exist
- *Coopernookia barbata* - whilst listed it is uncommon in the Lithgow LGA, its best known occurrence is in and around the proposal area
- *Correa reflexa* - whilst listed it is not common in the Lithgow LGA only listed on W/Atlas at 4 sites, most are old, 1 is Kersosne Vale which is now buried in fly-ash
- *Diuris punctata (Purple Donkey Orchid)* - very rare in Lithgow LGA. NO records on the W/Atlas for the Lithgow LGA. This proposal should be rejected for this reason alone.
- *Kunzea parvifolia* - not common in Lithgow LGA, the best patches occur on the proposal site, and otherwise on mostly unprotected road reserves near Jews Creek.

PLANTS MISSED THAT DO OCCUR IN BEN BULLEN SF, AND ARE LIKELY TO OCCUR WITHIN THE PROPOSAL AREA

ROTAP LISTED SPECIES
Acacia asparagoides (2R) - throughout Ben Bullen/Wolgan SF
*Acacia matthewii (*3RC-) - Wolgan Pinnacle, GoS1
Boronia ruppii (E1) - Wolgan Pinnacle
Derwentia blakelyi (V) - Ben Bullen SF, Pine Dale Mine
Diuris aequalis (E1) - Montane communities near Lithgow
Eucalyptus cannonii (V) - occurs within proposal area
Eucalyptus gregsoniana (3Rca) - could occur in area
*Leionema lamprophyllum subsp. orbiculare (*2R-P3) - only W/Atlas records are above Invincible Colliery mine lease, Dargan Dams, Snow Gum Reserve, Dunns Swamp, and Corricudgy SF
Leucochrysum graminifolium (ROTAP? - Pagoda Rock Daisy - on pagodas throughout Ben Bullen SF including above Invincible Colliery
Persoonia marginata (V) - Wolgan Valley
*Philotheca obovalis (*3Rca) - Baal Bone Gap, Wolgan Gap, Baal Bone Colliery Long Wall Panel 23
Prostanthera cryptandroides (V) - Baal Bone Creek, Cape Horn
Prostanthera hindii - Baal Bone Gap, Cape Horn, Baal Bone Colliery Long Wall Panel 20 - 23

OTHER RARE OR UNUSUAL SPECIES
Acianthus fornicatus - not recorded on W/Atlas in Lithgow LGA - sighted near Wolgan Gap Trig on 2/6/2010
Actinotus helianthi - not recorded on W/Atlas in Ben Bullen SF - sighted just west of proposal area above Baal Bone Colliery Long Wall Panel 13 on 1/12/2010
Actinotus forsythia - W/Atlas record above Baal Bone Gap (1990)
Boronia anethifolia - not recorded on W/Atlas in Ben Bullen SF - sighted above baal Bone Colliery LW 21-23 on 17/10/2010
Boronia rubiginosa - not recorded on W/Atlas in Ben Bullen SF - sighted at 6 sites in Ben Bullen/Wolgan SF and Cape Horn in 2010
Cryptostylis sp - not recorded on W/Atlas in Ben Bullen SF - sighted at 6 sites in Ben Bullen/Wolgan SF
Calytrix tetragona (Yellow bracts) - unusual from sighted near Cape Horn on 12/12/2010
Chiloglottis sp - not recorded on W/Atlas in Ben Bullen SF - sighted at 11 sites in Ben Bullen SF in 2010
Logania albiflora - not recorded on W/Atlas in Ben Bullen SF - sighted above Baal Bone Colliery LW21 in 2010
Ochrosperma oligomerum - not common in Lithgow LGA, but occurs near proposal area
Prostanthera hindii - not common in Lithgow LGA, sighted at 6 sites in Ben Bullen/Wolgan SF during 2010
Prostanthera howelliae - not recorded on W/Atlas in Ben Bullen SF, but sighted at 16 sites in Ben Bullen SF since 2008, many of which are near proposal area
Prostanthera saxicola - not recorded on W/Atlas in Ben Bullen SF, occurs on Tyldsley Hill within proposal area. Only one W/Atlas record - edge of Wolgan Valley
Xanthorrhoea resinosa - not common in area, large specimens occur on Tyldsley Hill
Zieria aspalathoides - not common in Lithgow area - occur on Tyldsley Hill and above Invincible Colliery
Zieria cytisoides - not common in Lithgow area - best occurrence is in Ben Bullen SF
Zieria laevigata - not common in Lithgow area - isolated occurrence in Ben Bullen SF

That's all I have time for. Am sure there are many more significant flora species up there…

Regards