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Context – Existing Mining Operations
Context – Existing Mining Operations

Cullen Bullen
Context – Existing Mining Precinct

[Map showing the location of Cullen Valley and Baal Bone]
Context – Coalpac Consolidation Project
Context – Proposed Modification
Proposed Modification

- Extending mine life by up to 8 years
- Extracting 2.7 million tonnes of coal
- Transporting coal to Shoalhaven Starches and Mount Piper Power Station
- 50 ha of disturbance
## Comparison to Prior Applications

<table>
<thead>
<tr>
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<th>Coalpac Consolidation Project</th>
<th>Expansion Modifications</th>
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<tbody>
<tr>
<td>Disturbance</td>
<td>794 ha</td>
<td>152 ha</td>
<td>50 ha</td>
</tr>
<tr>
<td>Open Cut mining</td>
<td>456 ha</td>
<td>57 ha</td>
<td>6 ha</td>
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<td>within 300m of pagodas</td>
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<tr>
<td>Highwall mining</td>
<td>269 ha</td>
<td>163 ha</td>
<td>0 ha</td>
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<td>within 300m of pagodas</td>
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Engagement

• 2 Interagency Site Visits

• Several Interagency Meetings

• Submissions
  - 856 in total
  - 299 Objections
  - 12 from residents of Cullen Bullen, all of which support the proposal
Key Issues

1. Landscape
2. Biodiversity
3. Water Resources
4. Economic
5. Traffic
6. Other
**Invincible – Key Issues**
*Landscape Impacts – Landscape Values*

- Pagodas form part of an internationally significant landscape

- The pagoda complex includes the formations, gullies, and the wooded slopes below the pagodas.

- Recommended 300 m buffer from these features.

- Highest and best use of the site is for conservation purposes
Invincible – Key Issues

Landscape Impacts – Key Impacts and Risks

• Blasting Impacts

• Final landform slope instability

• Visual impacts from exposed mining areas and rehabilitation
**Invincible – Key Issues**

*Landscape Impacts - Mitigation Measures*

4 options:

- Reduce slopes to a maximum of 20 degrees
- Retain a highwall
- Avoid steepest section of the site (i.e. 30 degrees)
- Avoid all steep slopes
Key Issues – Landscape Values
Key Issues – Landscape Values

Cliff Line

Pagoda

200 m

300 m
Key Issues – Landscape Values
Key Issues – Landscape Values
Key Issues – Landscape Values
Comparison of Landform Options
Section A-A'
**Invincible – Key Issues**

*Biodiversity*

- Removal of 50 ha of native vegetation
- Impacts to Capertee Stringybark, Squirrel Glider and Broad-headed Snake
- 368 ha land based offset
- Supplementary Measures for Broad-headed Snake
Invincible – Key Issues

Water Resources

• Dewatering approximately 701 ML

• Storage of water within old Underground workings

• Continued discharge in accordance with an EPL and strict discharge criteria

• Small amount of groundwater inflow and migration of water to Baal Bone
Invincible – Key Issues

Economic

• Economic benefits of up to $80 million

• Employment of up to 35 employees

• Supply to Shoalhaven Starches and Mount Piper Power Station
Invincible – Key Issues

Traffic

• Ongoing transport to Mount Piper Power Station

• Small amount of truck movements to Shoalhaven Starches

• Conditions to limit haulage movements and avoid school bus times.
Summary

The project should only be approved subject to restricting mining from being undertaken on steep sloped areas.

Other impacts are able to be managed, mitigated, or offset.