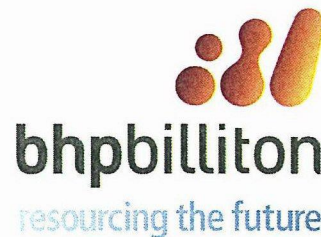


Illawarra Coal



Illawarra Coal Holdings Pty Ltd  
BHP Billiton Illawarra Coal Administration Centre  
Old Port Road Port Kembla  
New South Wales 2505 Australia  
PO Box 514 Unanderra  
New South Wales 2526 Australia  
Tel: +61 2 4255 3200 Fax: +61 2 4255 3201  
bhpbilliton.com

19 October 2010

Director-General  
Department of Planning  
23-33 Bridge Street  
SYDNEY NSW 2000



Attention: Mr Richard Pearson

Dear Mr Pearson

**Bulli Seam Operations Project (MP 08\_0150)  
Response to Planning Assessment Commission Recommendations**

As requested, this letter and its attachments form a response to the recommendations made in Section 18.2 of the report titled *Bulli Seam Operations PAC Report* (Planning Assessment Commission, July 2010) (PAC Report) in respect of the Bulli Seam Operations Project (MP 08\_0150) (the Project).

This response outlines which recommendations BHP Billiton Illawarra Coal considers to be either acceptable, not relevant to the existing project description (i.e. as modified by the Preferred Project Report [ICHPL, 2010]) or unacceptable (Enclosure 1). Enclosure 2 provides further information in regard to recommendations that BHP Billiton Illawarra Coal considers to be unacceptable.

Yours sincerely

John Brannon

General Manager  
Sustainable Development and External Affairs

BHP Billiton Illawarra Coal

Illawarra Coal Holdings Pty Ltd  
ABN 69 093 857 286

A member of the BHP Billiton Group, which is headquartered in Australia  
Registered Office: 180 Lonsdale Street, Melbourne, Victoria 3000, Australia  
ABN 49 004 028 077

## **ENCLOSURE 1**

### **SUMMARY RESPONSE TO PAC REPORT RECOMMENDATIONS**

Illawarra Coal Holdings Pty Ltd  
ABN 69 093 857 286

A member of the BHP Billiton Group, which is headquartered in Australia  
Registered Office: 180 Lonsdale Street, Melbourne, Victoria 3000, Australia  
ABN 49 004 028 077



**Bulli Seam Operations**  
**ICHPL Response to Planning Assessment Commission Recommendations**

PAC Report (July 2010) Recommendation	Relevant to the Project <sup>1</sup>	ICHPL Position	Clarification/Comment
<b>18.2.1 Chapter 3 Contextual Matters</b>			
1. <i>That the outline of the Study Area should constitute the limit of main development workings permitted under any Approval that may flow from this assessment.</i>	Yes	Unacceptable	Refer to Enclosure 2 for ICHPL comment.
2. <i>That main development roadways are the only form of mining that should be permitted within the 600 m zone between the Extent of Longwall Mining and the boundary of the Study Area.</i>	Yes	Unacceptable	Refer to Enclosure 2 for ICHPL comment.
3. <i>That longwall mining and main development roadways are the only forms of mining that should be permitted within the Extent of Longwall Mining under any Approval flowing from this assessment.</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Section 2 of the EA.
4. <i>That the design of all main development roadways within the Study Area should be approved through the Extraction Plan process prior to commencement of such development.</i>	Yes	Unacceptable	Refer to Enclosure 2 for ICHPL comment.
<b>18.2.2 Chapter 4 Subsidence Impacts and Consequences</b>			
5. <i>That exploration drilling and core testing be undertaken to establish the mechanical and hydraulic properties of rock strata in proximity to water-dependent systems including swamp systems (Detailed inspections to ascertain lithofacies parameters will promote a more complete understanding of potential failure modes and horizons in the sub strata);</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Section 5.5.3 of the EA.
6. <i>That mineralogical assessments of core be undertaken to ascertain presence and distribution of iron bearing minerals that might contribute to water quality impairment if surface water flows are redirected;</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Sections 5.5.3 and 5.6.3 of the EA.
7. <i>That sediment profiling in swamp systems be undertaken to characterise type, thickness and sensitivity to differential subsidence;</i>	No	-	There are no swamps located within 600 m of the Project extent of longwall mining area.
8. <i>That installation of a regional network of shallow piezometers targeting water dependent systems (especially swamp systems) and underlying rock strata (to at least 30m depth) be undertaken to inform an understanding of the hydrology and climatic implications;</i>	Yes	Acceptable	As described in the EA, ICHPL has established several networks of shallow piezometers targeting water dependent systems and underlying rock strata. The locations of the existing monitoring networks are shown on Figure 5-9 in the Main Text of the EA.  As provided in Table 5-12 of the Main Text of the EA, ICHPL has committed to expand the existing shallow piezometer networks to include new sites which would result in a regional network of shallow piezometers consistent with the PAC Report Recommendation No.8.



PAC Report (July 2010) Recommendation	Relevant to the Project <sup>1</sup>	ICHPL Position	Clarification/Comment
9. <i>That establishment of a network of deep pore pressure monitoring bores be undertaken to assess/quantify the impacts of fracturing within the subsidence zone. The Panel considers it is especially important to target areas where extracted panel widths are similar to the proposed Base Case widths (310m) in order to validate the prediction process;</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Section 5.5.3 of the EA.
10. <i>That numerical modelling be utilised to enhance the prediction of subsidence zone fracture distributions, connectivity and potential fracture conduit (groundwater) transmission capacities.</i>	Yes	Unacceptable	Refer to Enclosure 2 for ICHPL comment.
11. <i>That, as the BSO Study Area is very large and site conditions (such as geology) could vary across the Study Area, the IPM technique be recalibrated periodically as a precursor to preparing Extraction Plans over the course of the project.</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach.
12. <i>That, in any Approval, Performance Criteria designed to protect either significant natural features or items of built infrastructure must be framed such that they are insensitive to any changes in the Base Case mine layout.</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach.
13. <i>That at this time neither Approval conditions nor Extraction Plans should rely on remediation as a means of maintaining (or restoring) functionality of water-dependent natural features that are potentially exposed to subsidence-related impacts; and</i>	Yes	Unacceptable	The Project does not rely solely on remediation techniques as a means of maintaining (or restoring) functionality of water-dependent natural features exposed to subsidence-related impacts. Such features are managed through a range of approaches including: <ol style="list-style-type: none"> <li>1. Stream impact minimisation criteria variously applied in the design of longwall layouts.</li> <li>2. Implementation of recognised remediation techniques such as those successfully employed by ICHPL (e.g. at rockbars along the Georges River).</li> <li>3. Natural remediation processes which have been observed to occur (as documented in the Southern Coalfield Panel Report [DoP, 2008]).</li> <li>4. Commitment to offset, research and compensatory measures.</li> </ol>
14. <i>That research should continue to explore remediation techniques with a view to improving their effectiveness, expanding the range of impacts and features to which they may be applied, demonstrating their longevity, and minimising collateral impacts.</i>	Yes	Acceptable	Consistent with ICHPL overall approach and commitment to ongoing research.
<b>18.2.3 Chapter 5 Groundwater Impacts and Consequences</b>			
15. <i>That further core sampling and hydraulic properties testing (of the core) should be undertaken to validate assumptions with respect to regional continuity of those properties, particularly in the North Cliff area where no hydraulic properties testing has been conducted;</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Section 5.5.3 of the EA.  Any such requirement should be limited to the Project mining domains.  ICHPL notes that the EA used substantial hydrological property data from its own investigations as well as data from the Metropolitan Mine's LW 10 goaf hole, which is directly relevant to North Cliff.



PAC Report (July 2010) Recommendation	Relevant to the Project <sup>1</sup>	ICHPL Position	Clarification/Comment
16. <i>That a network of pore pressure monitoring bores and vertical arrays of pore pressure transducers be established to assess/quantify the height of connected and freely drainable fracturing as recommended in Chapter 4. Installations should be targeted above extracted panels with similar dimensions to the proposed Base Case mine layout;</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Section 5.5.3 of the EA.
17. <i>That a borehole census should be conducted on all potentially yield (or structurally) affected boreholes, and a long term monitoring program initiated. The census should catalogue bore location, construction parameters, pumping equipment and usage together with any other parameters considered necessary in the event of water supply replacement. Monitoring should include depth to standing water, basic water quality parameters (pH and EC), ionic speciation and any other parameters necessary to characterise the location to the satisfaction of the Director-General of the Department of Planning. Monitoring data should be regularly reviewed and trends in water levels and water qualities assessed using appropriate methodologies to establish the likelihood of sustained long term impacts on yield. The commitment to repair, replace or compensate any landholder suffering partial or complete loss of productive yield must include provision for post mining conditions.</i>	Yes	Unacceptable	Refer to Enclosure 2 for ICHPL comment.
18. <i>That in view of the numerous abnormalities identified in (EA) modelling outcomes, and the marked changes in outcomes reported for the revised groundwater model, a comprehensive independent audit of the revised groundwater model should be undertaken.</i>	Yes	Unacceptable	Refer to Enclosure 2 for ICHPL comment.
<b>18.2.4 Chapter 6 Swamp Impacts and Consequences</b>			
19. <i>That one of the following three options be implemented in relation to protection of upland swamps in the Study Area:</i>	No	-	There are no swamps located within 600 m of the Project extent of longwall mining area.
<b>18.2.5 Chapter 7 Surface Water and Aquatic Ecology</b>			
20. <i>That the following streams be afforded 'special significance status' throughout their length within the Project Area:</i> <ul style="list-style-type: none"> <li>• Nepean River</li> <li>• Cataract River (dam to Broughtons Pass Weir)</li> <li>• O'Hares Creek</li> <li>• Stokes Creek</li> <li>• Dahlia Creek</li> <li>• Cobbong Creek</li> <li>• Tributaries 1 &amp; 2 to O'Hares Creek</li> <li>• Woronora River and tributaries</li> <li>• Wallandoola Creek</li> <li>• Wallandoola East Creek</li> <li>• Cataract Reservoir Tributaries 1 &amp; 2</li> </ul>	Yes	Unacceptable	Refer to Enclosure 2 for ICHPL comment.

PAC Report (July 2010) Recommendation	Relevant to the Project <sup>1</sup>	ICHPL Position	Clarification/Comment
21. <i>That all streams afforded special significance status plus Lizard and Cascade Creeks and the Georges River in West Cliff Area 5 be protected by requiring, as part of any Approval, a performance criterion of negligible subsidence-related impact as defined below ie:</i>  <i>'no diversion of flows, no change in the natural drainage behaviour of pools, minimal iron staining, minimal gas releases and continued maintenance of water quality at its pre-mining standard'.</i>	Yes	Unacceptable	Refer to Enclosure 2 for ICHPL comment.
22. <i>That mining be permitted under the remaining streams listed in the EA subject to the stream impact minimization criteria and the management measures proposed in the EA.</i>	Yes	Acceptable	Consistent with current and/or proposed approach, refer Sections 2.5.2, 5.2.1 and 5.6.3 of the EA.
23. <i>That if the Panel's recommendations in relation to providing adequate protection for streams and swamps are not adopted then an adequate survey for threatened species that may occur in the Study Area or surrounds be conducted to standards agreed between DECCW and DII (Fisheries) before any mining is permitted under streams or swamps in the Study Area.</i>	Yes	Unacceptable	Refer to Enclosure 2 for ICHPL comment.
<b>18.2.6 Chapter 8 Terrestrial Ecology</b>			
24. <i>That where the depth of cover is 400m or less, or where valley closure predictions exceed 200mm, comprehensive flora surveys should be conducted to specifications provided by DECCW with a view to identifying EECs or threatened species and, where these are found, assessing population viability and risk from subsidence-related impacts of mining. If significant EECs or populations of threatened species are found, measures to protect those EECs and/or threatened species should be developed prior to any mining commencing. If longwall panel widths increase the depth of cover criterion should be reviewed.</i>	Yes	Unacceptable	Refer to Enclosure 2 for ICHPL comment.
25. <i>That, given the lack of survey effort (i.e. zero) in the whole of the northern part of North Cliff, comprehensive surveys should be conducted in that area (and also the unsurveyed area in the northern part of the eastern part of North Cliff) to determine whether threatened species are present and, if so, what actions might need to be taken to protect any significant populations should mining be allowed to occur in these areas. Survey design and execution should be supervised by DECCW to ensure that the required standard is achieved and the surveys and required management plans should be required well in advance of any proposed mining. In relation to management plans, the full suite of avoidance, mitigation and management approaches should be considered and, if adaptive management is an option, it should meet the test laid out in Stoneco.<sup>1</sup></i>	No	-	<p>The Project extent of longwall mining area no longer includes North Cliff. Notwithstanding the above, the northern part of North Cliff referred to by the Panel was comprehensively surveyed by FloraSearch and Niche Environment and Heritage in May 2010.</p> <p>In addition, extensive data sets for aquatic and terrestrial ecology exist for the Project area (including North Cliff). These datasets include vegetation and fauna surveys and mapping prepared by government agencies, other detailed flora and fauna studies by recognised experts and extensive monitoring data accumulated by ICHPL operations, all of which are referenced and reported in the EA as relevant background information that informed the Project flora and fauna surveys.</p>

<sup>1</sup> *Newcastle and Hunter Valley Speleological Society Inc v. Upper Hunter Shire Council and Stoneco Pty Limited* [2010] NSW LEC 48  
 Illawarra Coal Holdings Pty Ltd  
 ABN 69 093 857 286



PAC Report (July 2010) Recommendation	Relevant to the Project <sup>1</sup>	ICHPL Position	Clarification/Comment
25. (Cont.)			In addition, the species evaluations for the EA assessed potential impacts on all potential habitat as opposed to only known records for species. In this way, the impact assessment is considered to be conservative.
26. <i>That in relation to Appin Area 3, the same approach needs to be adopted as for the northern part of North Cliff. The survey work in Appin Area 3 was inadequate and the Panel is far from satisfied that further threatened species do not occur in this area.</i>	Yes	Unacceptable	Refer to Enclosure 2 for ICHPL comment.
27. <i>That for the western domains (Appin Areas 7, 8 and 9 and West Cliff) further targeted surveys for threatened species should be undertaken based on advice from DECCW. These surveys are designed to locate threatened species and provide sufficient information to allow assessment of any actions required to protect significant populations of threatened species from the potential impacts of the mining proposal. If mining is to occur in these western domains the Approval conditions will need to be sufficiently robust to ensure that the surveys and assessment are done to DECCW standards and that before mining proceeds the necessary management actions are in place to protect any significant populations of threatened species from mining impacts.</i>	Yes	Unacceptable	Refer to Enclosure 2 for ICHPL comment.
<b>18.2.7 Chapter 9 Cliffs and Steep Slopes</b>			
28. <i>That a hierarchy of mining-induced consequences on cliffs be established as follows:</i>  i. <i>nil environmental consequences – where nil has the meaning of none whatsoever.</i>  ii. <i>negligible environmental consequences – where negligible has the meaning ascribed in the Metropolitan Coal Project Approval of small and unimportant so as not to be worth considering<sup>2</sup>. Occasional displacement of boulders, hairline fracturing and isolated dislodgement of slabs from overhangs that in total do not impact on more than 0.5% of the total length of a cliffline are indicative of the scale of impacts falling within this category.</i>  iii. <i>minor environmental consequences – where minor has the meaning of relatively small in quantity, size and degree. Isolated rock falls of less than 30 m<sup>3</sup> that do not impact on aboriginal heritage, EECs, public safety and the like; which affect less than 5% of the total length of cliffs and associated overhangs; and which affect less than 10% of any 100 m interval of cliff line are indicative of the scale of impacts falling within this category.</i>	Yes	Unacceptable	Refer to Enclosure 2 for ICHPL comment.

<sup>2</sup> DoP (2009b), p.1.  
Illawarra Coal Holdings Pty Ltd  
ABN 69 093 857 286



PAC Report (July 2010) Recommendation	Relevant to the Project <sup>1</sup>	ICHPL Position	Clarification/Comment
<p>29. That cliffs in the Study Area having the following attributes be afforded special significance status:</p> <p>i. Cliffs longer than 200 m.</p> <p>ii. Cliffs higher than 40 m.</p> <p>iii. Cliffs higher than 5 m that constitute waterfalls.</p>	Yes	Unacceptable	Refer to Enclosure 2 for ICHPL comment.
<p>30. That any approval be based on a Performance Criteria of negligible environmental consequences for all cliffs which have:</p> <p>i. Special significance status, or which</p> <p>ii. Flank or are within streams that have been described in this report as warranting special significance status.</p>	Yes	Unacceptable	Refer to Enclosure 2 for ICHPL comment.
<p>31. That any approval be based on a Performance Criteria of minor environmental consequences for all other cliffs in the Study Area.</p>	Yes	Unacceptable	Refer to Enclosure 2 for ICHPL comment.
<p>32. That any Approval be based on Performance Criteria that include a requirement that no additional risk be created for the public from mining-induced cliff instability. Therefore, no Extraction Plan should be approved that could create any additional risk from cliff instability to the public, including users of Douglas Park Drive, until all potential sources of the increased risk have been investigated to the satisfaction of the Director-General of the Department of Planning and the proposals in the Extraction Plan for avoidance, mitigation or management of any such risks ensure that users of Douglas Park Drive are not exposed to additional danger.</p>	Yes	Acceptable	<p>Section 5.3.2.1 in the Subsidence Assessment [Appendix A of the EA] identifies the cliffs along Douglas Park Drive and states:</p> <p><i>The closest longwalls, as shown in the Base Case layout, are located approximately 700 metres from the cliffs at their closest point. The likelihood of mining-induced impacts to these cliffs is considered to be extremely low at this offset distance.</i></p> <p>Notwithstanding the large offset distance, ICHPL would accept a condition consistent with the management plan approach as set-out in Section 5.3.2.1 in the Subsidence Assessment [Appendix A of the EA] as follows:</p> <p><i>The management plan would require input from geotechnical and subsidence engineers. The management measures may include:-</i></p> <ul style="list-style-type: none"> <li><i>Site investigation of the cliffs along Douglas Park Drive by a qualified geotechnical engineer,</i></li> <li><i>Detailed monitoring of absolute and differential movements of the cliffs,</i></li> <li><i>Regular review and assessment of the monitoring data,</i></li> <li><i>Development of a traffic management plan, and</i></li> <li><i>Implementation of planned responses if triggered by monitoring and inspections.</i></li> </ul>

PAC Report (July 2010) Recommendation	Relevant to the Project <sup>1</sup>	ICHPL Position	Clarification/Comment
33. <i>That the Major Cliff Line Risk Assessment (Appendix R of the EA) should not be relied upon in the environmental assessment process.</i>	No	-	<ul style="list-style-type: none"> <li>The Major Cliff Line Risk Assessment was prepared consistent with the steps described in Section 6.2 of the NSW Planning Assessment Commission's <i>Metropolitan Coal Project Review Report</i> (PAC, 2009). ICHPL considers the information contained in the Major Cliff Line Risk Assessment adequate for environmental assessment purposes for an EA under Part 3A of the EP&amp;A Act. In addition, Section R7 of the Major Cliff Line Risk Assessment describes that a Risk Management Plan would be prepared for each cliff line proposed to be directly mined beneath. As described in Section R7 of the Major Cliff Line Risk Assessment, the Risk Management Plans would identify: <ul style="list-style-type: none"> <li>(i) <i>the options for managing the risk based on one or a combination of avoidance, mitigation, remediation or tolerance and taking account of any assessment of special significance of the feature;</i></li> <li>(ii) <i>where relevant, the potential costs of those options;</i></li> <li>(iii) <i>a preferred option;</i></li> <li>(iv) <i>where relevant, a monitoring regime that will detect impact, measure actual impact against predicted impact and measure the effectiveness of the management strategies adopted;</i></li> <li>(v) <i>contingency plans for dealing with the situation where actual impact exceeds predicted impact; and</i></li> <li>(vi) <i>auditing of the implementation and effectiveness of the risk management plan.</i></li> </ul> </li> </ul>
34. <i>That the Performance Criteria in any Project Approval should include a requirement that, where any slopes are present that might be impacted by a proposed mining layout: all infrastructure not owned by the leaseholder remains in a safe, serviceable or repairable condition unless otherwise agreed by the infrastructure owner; no significant environmental harm is caused and risks to public safety are not increased.</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Sections 5.4.5 and Section 8 of the EA.
35. <i>That, where any slopes are present that might be impacted by a proposed mining layout, no Extraction Plan should be approved until:</i> <ul style="list-style-type: none"> <li><i>i. any risks associated with increased instability have been assessed to the satisfaction of the Director-General of the Department of Planning by a geotechnical engineer who is a recognised specialist in land slippage and utilising methodologies consistent with the Australian Standards, and</i></li> <li><i>ii. where such risks are present that the proposed avoidance, mitigation or management measures are capable of ensuring the Performance Criteria in the Approval are met.</i></li> </ul>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.



PAC Report (July 2010) Recommendation	Relevant to the Project <sup>1</sup>	ICHPL Position	Clarification/Comment
<b>18.2.8 Chapter 10 Aboriginal Heritage</b>			
<p>36. That a hierarchy of mining-induced consequences on Aboriginal cultural heritage sites be established as follows:</p> <ul style="list-style-type: none"> <li>i. nil consequences – where nil has the meaning of none whatsoever.</li> <li>ii. negligible consequences – where negligible has the meaning ascribed in the Metropolitan Coal Project Approval of small and unimportant so as not to be worth considering. Hairline fracturing and isolated dislodgement of smalls pieces of ground surface or overhangs that in total do not affect more than 5% of an aboriginal site and do not affect at all the physical condition of any item of aboriginal heritage or any cultural value, are indicative of the scale of impacts falling within this category.</li> <li>iii. minor consequences – where minor has the meaning of relatively small in quantity, size and degree. Isolated open cracking and rock falls of less than 2 m<sup>3</sup> that do not affect the physical condition of any item of aboriginal heritage or any aboriginal cultural value, are indicative of the scale of impacts falling within this category.</li> </ul>	Yes	Unacceptable	Refer to Enclosure 2 for ICHPL comment.
<p>37. That the following Aboriginal heritage sites be afforded special significance status:</p> <ul style="list-style-type: none"> <li>i. 52-2-0854</li> <li>ii. 52-2-3505</li> </ul>	No	-	<p>An assessment of special significance was undertaken for all Aboriginal heritage sites within 600 m of the edge of secondary extraction in a manner consistent with the steps described in the NSW Planning Assessment Commission's <i>Metropolitan Coal Project Review Report</i> (PAC, 2009). No Aboriginal sites were deemed to fulfil the PAC (2009) specifications to warrant special significance status.</p> <p>Sites 52-2-0854 and 52-2-3505 were both deemed by the archaeologist to be of high archaeological significance and by the Aboriginal community to be of particular cultural significance.</p> <p>Due to the Project changes, site 52-2-0854 would no longer be impacted by Project related subsidence. Site 52-2-3505 is located near the Stage 4 Coal Wash Emplacement and emplacement over this site was specifically avoided as part of the Stage 4 Coal Wash Emplacement design, as described in Section 5.10.2 of the EA.</p>
<p>38. That any approval should be based on a Performance Criteria of negligible environmental consequences for all Aboriginal heritage sites which have special significance status.</p>	Yes	Unacceptable	Refer to Enclosure 2 for ICHPL comment.

PAC Report (July 2010) Recommendation	Relevant to the Project <sup>1</sup>	ICHPL Position	Clarification/Comment
<p>39. <i>The Stage 4 Coal Wash Emplacement should not proceed until such time as the continued protection of significant sites that were specifically protected as part of the Stage 3 Coal Wash Emplacement approval process is resolved to the satisfaction of the Director General of Planning after:</i></p> <ul style="list-style-type: none"> <li><i>i. completion of an adequate Aboriginal Heritage assessment;</i></li> <li><i>ii. consultation with Department of Climate Change and Water (DECCW);</i></li> <li><i>iii. consultation with the relevant Aboriginal communities.</i></li> </ul>	Yes	Unacceptable	Refer to Enclosure 2 for ICHPL comment.
<p>40. <i>That before secondary extraction can commence under the Approval, the Director-General of the Department of Planning should:</i></p> <ul style="list-style-type: none"> <li><i>i. commission work to determine an appropriate standard for protection of Aboriginal heritage sites that are not classified as being of special significance;</i></li> <li><i>ii. include in that work appropriate research on how any such standards could be monitored and enforced; and</i></li> <li><i>iii. ensure that the requirements are included in Extraction Plans.</i></li> </ul>	Yes	Unacceptable	Refer to Enclosure 2 for ICHPL comment.
<p>41. <i>That any Approval be based on the Aboriginal Cultural Heritage Plan be externally audited every three years for the duration of the project by a suitably qualified person appointed by the Department of Planning in consultation with the DECCW and relevant Aboriginal communities. The audit is to include a focus on:</i></p> <ul style="list-style-type: none"> <li><i>i. The need to classify or reclassify any current or new sites as being of special significance, taking in consideration new and evolving knowledge of Aboriginal history and culture.</i></li> <li><i>ii. Verification that the performance standards set. [sic]</i></li> </ul>	Yes	Acceptable	<p>ICHPL notes the below quoted condition from the Project Approval for the Metropolitan Coal Project. ICHPL does not consider a separate audit process for Aboriginal heritage management necessary and would accept a similar condition to that quoted below.</p> <p><b>INDEPENDENT ENVIRONMENTAL AUDIT</b></p> <p>8. <i>By end of December 2011, and every 3 years thereafter, unless the Director-General directs otherwise, the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the project. This audit must:</i></p> <ul style="list-style-type: none"> <li><i>(a) be conducted by suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Director-General;</i></li> <li><i>(b) include consultation with the relevant agencies;</i></li> <li><i>(c) assess the environmental performance of the project and assess whether it is complying with the relevant requirements in this approval and any relevant EPL or Mining Lease (including any assessment, plan or program required under these approvals);</i></li> <li><i>(d) review the adequacy of strategies, plans or programs required under these approvals; and, if appropriate; and</i></li> <li><i>(e) recommend measures or actions to improve the environmental performance of the project, and/or any assessment, plan or program required under these approvals.</i></li> </ul> <p><i>Note: This audit team must be led by a suitably qualified auditor and include experts in any fields specified by the Director-General.</i></p>



PAC Report (July 2010) Recommendation	Relevant to the Project <sup>1</sup>	ICHPL Position	Clarification/Comment
<b>18.2.9 Chapter 11 Built Environment</b>			
<b>Main Southern Railway</b>			
42. <i>That mining is not to impact on the safe operation of the Main Southern Railway. (This condition is not intended to exclude the application of temporary controls such as speed restrictions in order to achieve this performance outcome.)</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.
43. <i>That mining is not to impact on the serviceability of the Main Southern Railway. (This condition is not intended to exclude the closure of one or both tracks to permit mitigation and remediation works to be undertaken to a planned schedule agreed with the owner of the infrastructure. However, it is intended to limit unplanned outages to durations of no more than several hours, unless contingency planning provides for longer outages with the agreement of the infrastructure owner.)</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.
44. <i>That the infrastructure owner has the prima facie right to determine what is safe, serviceable and repairable for their purposes, with any dispute with the leaseholder/mine operator being referred to a neutral arbiter selected by the Department of Planning and funded by the leaseholder/mine operator.</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.
45. <i>That the leaseholder/mine operator is to guarantee funding to undertake all risk assessment activities and all mitigation and remediate measures to return the Main Southern Railway to its pre-mining state as soon as practical after the completion of mining and to remediate any residual mining related impacts that may subsequently develop. This includes all the direct and indirect costs of the infrastructure owner in participating in this risk management process. (Given the incremental nature of subsidence development, a number of remediation campaigns may be required).</i>	Yes	Unacceptable	Refer to Enclosure 2 for ICHPL comment.
46. <i>That all activities related to undermining the Main Southern Railway are to be structured within a risk management framework that is consistent with ISO 31000 Risk Management.</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.  The risk management framework should prioritise meeting the requirements of the infrastructure owner. These requirements may or may not be consistent with ISO 31000.
47. <i>That the risk management system for undermining the Main Southern Railway is to be:</i>  <i>i. Audited externally for compliance with ISO 31000 prior to lodgement of associated Extraction Plans, with the auditor/s to be selected by the Department of Planning in consultation with the infrastructure owner, and the audit report to accompany the Extraction Plan application.</i>  <i>ii. Audited externally for compliance with ISO 31000 on an annual basis for the duration that the plan is invoked, with the auditor/s to be selected by the Department of Planning in consultation with the infrastructure owner.</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.  The risk management framework should prioritise meeting the requirements of the infrastructure owner. These requirements may or may not be consistent with ISO 31000.  ICHPL has existing management mechanisms/plans for this type of infrastructure that have been developed with and agreed to by the relevant infrastructure owner(s). These management mechanisms/plans stipulate audit and review requirements as deemed warranted by the infrastructure owner(s).

Illawarra Coal Holdings Pty Ltd  
ABN 69 093 857 286



PAC Report (July 2010) Recommendation	Relevant to the Project <sup>1</sup>	ICHPL Position	Clarification/Comment
47. (Cont.)  iii. <i>Reviewed externally for effectiveness on an annual basis for the duration that the plan is invoked, with the reviewer to be selected by the Department of Planning in consultation with the infrastructure owner.</i>			Duplication of an existing process that the infrastructure owners are satisfied with and that gives infrastructure owner's additional requirements is not necessary.  As suggested in PAC Report (July 2010) Recommendation 44, ICHPL would accept a condition that, in the event of a dispute between ICHPL and the infrastructure owner, the matter is to be referred to a neutral arbiter.
48. <i>That no Extraction Plan should be approved that could create any additional risk to the public from undermining of the Main Southern Railway, until all potential sources of the increased risk have been investigated to the satisfaction of the Director-General of the Department of Planning and the proposals in the Extraction Plan for avoidance, mitigation or control of any such risks ensure that users of the Main Southern Railway are not exposed to additional danger.</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.
<b>Hume Highway</b>			
49. <i>That mining is not to impact on the safe operation of the Hume Highway. (This condition is not intended to exclude the application of temporary controls such as speed restrictions in order to achieve this performance outcome.)</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.
50. <i>That Mining is not to impact of the serviceability of the Hume Highway. (This condition is not intended to exclude the closure of one of the dual carriageways from time to time to permit mitigation and remediation works to be undertaken. However, it is intended to exclude simultaneous closure of both carriageways for other than isolated periods restricted to several minutes duration. Alternative traffic flow arrangements, such as contra-flow, are to be in place prior to undermining any section of highway that may need to be closed for more than several minutes.)</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.
51. <i>That infrastructure owner has the prima facie right to determine what is safe, serviceable and repairable for their purposes, with any dispute with the leaseholder/mine operator being referred to a neutral arbiter selected by the Department of Planning and funded by the leaseholder/mine operator.</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.
52. <i>That the leaseholder/mine operator is to guarantee funding to undertake all risk assessment activities and all mitigation and remediate measures to return the Hume Highway to its pre-mining state as soon as practical after the completion of mining and to remediate any residual mining related impacts that may subsequently develop. This includes all the direct and indirect costs of the infrastructure owner in participating in this risk management process. (Given the incremental nature of subsidence development, a number of remediation campaigns may be required.)</i>	Yes	Unacceptable	Refer to Enclosure 2 for ICHPL comment.



PAC Report (July 2010) Recommendation	Relevant to the Project <sup>1</sup>	ICHPL Position	Clarification/Comment
53. <i>That all activities related to undermining the Hume Highway are to be structured within a risk management framework that is consistent with ISO 31000 Risk Management.</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.  The risk management framework should prioritise meeting the requirements of the infrastructure owner. These requirements may or may not be consistent with ISO 31000.
54. <i>That the risk management system for undermining the Hume Highway is to be:</i> i. <i>Audited externally for compliance with ISO 31000 prior to lodgement of associated Extraction Plans, with the auditor/s to be selected by the Department of Planning in consultation with the infrastructure owner, and the audit report to accompany the Extraction Plan application.</i> ii. <i>Audited externally for compliance with ISO 31000 on an annual basis for the duration that the plan is invoked, with the auditor/s to be selected by the Department of Planning in consultation with the infrastructure owner.</i> iii. <i>Reviewed externally for effectiveness on an annual basis for the duration that the plan is invoked, with the reviewer to be selected by the Department of Planning in consultation with the infrastructure owner.</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.  The risk management framework should prioritise meeting the requirements of the infrastructure owner. These requirements may or may not be consistent with ISO 31000.  ICHPL has existing management mechanisms/plans for this type of infrastructure that have been developed with and agreed to by the relevant infrastructure owner(s). These management mechanisms/plans stipulate audit and review requirements as deemed warranted by the infrastructure owner(s).  Duplication of an existing process that the infrastructure owners are satisfied with and that gives infrastructure owner's additional requirements is not necessary.  As suggested in PAC Report (July 2010) Recommendation 51, ICHPL would accept a condition that, in the event of a dispute between ICHPL and the infrastructure owner, the matter is to be referred to a neutral arbiter.
55. <i>That no Extraction Plan should be approved that could create any additional risk to the public from undermining of the Hume Highway until all potential sources of the increased risk have been investigated to the satisfaction of the Director-General of the Department of Planning and the proposals in the Extraction Plan for avoidance, mitigation or control of any such risks ensure that users of the Hume Highway are not exposed to additional danger.</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.
56. <i>That, given the significance of the disruption if any of the main road thoroughfares, the effect of any approval under S.75V of the EP &amp; A Act on the RTA's powers to exercise control over mining impacts on state roads under Section 138 of the Road Act 1993 will need to be addressed in the Approval Conditions.</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.
<b>Roads</b>			
57. <i>That mining is not to impact on the safe use of roads in the Study Area.</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.

Illawarra Coal Holdings Pty Ltd  
ABN 69 093 857 286



PAC Report (July 2010) Recommendation	Relevant to the Project <sup>1</sup>	ICHPL Position	Clarification/Comment
58. <i>That mining is not to impact on the serviceability of roads in the Study Area. (This condition is not intended to exclude the application of temporary controls such as speed restrictions in order to achieve this performance outcome.)</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.
59. <i>That the leaseholder/mine operator is to guarantee funding to undertake all risk assessment activities and all mitigation and remediation measures to return roads to their pre-mining state as soon as practicable after the completion of mining and to remediate any residual mining related impacts that may subsequently develop. This includes all the direct and indirect costs of the infrastructure owner in participating in this risk management process. (Given the incremental nature of subsidence development, a number of remediation campaigns may be required.)</i>	Yes	Unacceptable	Refer to Enclosure 2 for ICHPL comment.
60. <i>That all activities related to undermining road networks are to be structured within a risk management framework that is consistent with ISO 31000 Risk Management.</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.  The risk management framework should prioritise meeting the requirements of the infrastructure owner. These requirements may or may not be consistent with ISO 31000.
61. <i>That no Extraction Plan should be approved that could create any additional risk to the public from undermining of the roads within the Study Area until all potential sources of the increased risk have been investigated to the satisfaction of the Director-General of the Department of Planning and the proposals in the Extraction Plan for avoidance, mitigation or control of any such risks ensure that users of the roads are not exposed to additional danger.</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.
<b>Fire Trails</b>			
62. <i>That no Extraction Plan should be approved that could create any additional risk to the users of fire trails from undermining of the roads within the Study Area until all potential sources of the increased risk have been investigated to the satisfaction of the Director-General of the Department of Planning and the proposals in the Extraction Plan for avoidance, mitigation or management of any such risks ensure that users of the fire trails are not exposed to additional danger.</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.
<b>Sydney Catchment Authority (SCA) Infrastructure</b>			
<b>Cataract Tunnel</b>			
63. <i>That future mining operations in the Study Area are not to impact on the safe and serviceable condition of the Cataract Tunnel. This condition is not intended to exclude planned outages of the tunnel for mitigation and remediation purposes or unplanned outages of a limited duration in order to undertake mitigation or remedial works related to mine subsidence impacts in order to maintain the tunnel in a safe and serviceable state.</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.



PAC Report (July 2010) Recommendation	Relevant to the Project <sup>1</sup>	ICHPL Position	Clarification/Comment
64. <i>That the infrastructure owner has the prima facie right to determine what is safe, serviceable and repairable for their purposes, with any dispute with the leaseholder/mine operator being referred to a neutral arbiter selected by the Department of Planning and funded by the leaseholder/mine operator.</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.
65. <i>That the leaseholder/mine operator is to guarantee funding to undertake all risk assessment activities and all mitigation and remediation activities associated with protecting the Cataract Tunnel from impacts due to mining operations in the Study Area so that it can be maintained in a safe and serviceable condition. This includes all the direct and indirect costs of the infrastructure owner in participating in this risk management process.</i>	Yes	Unacceptable	Refer to Enclosure 2 for ICHPL comment.
<b>Nepean Tunnel</b>			
66. <i>That the Nepean Tunnel is to remain in a safe and serviceable condition if undermined. This condition is not intended to exclude planned outages of the tunnel for mitigation and remediation purposes or unplanned outages of a limited duration in order to undertake additional mitigation or remedial works.</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.
67. <i>That the infrastructure owner has the prima facie right to determine what is safe, serviceable and repairable for their purposes, with any dispute with the leaseholder/mine operator being referred to a neutral arbiter selected by the Department of Planning and funded by the leaseholder/mine operator.</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.
68. <i>That the leaseholder/mine operator is to guarantee funding to undertake all risk assessment activities and all mitigation and remediation activities associated with maintaining the Nepean Tunnel in a safe and serviceable condition if it is undermined and to remediate any residual mining related impacts that may subsequently develop. This includes all the direct and indirect costs of the infrastructure owner in participating in this risk management process. (Given the incremental nature of subsidence development, a number of remediation campaigns may be required.)</i>	Yes	Unacceptable	Refer to Enclosure 2 for ICHPL comment.
69. <i>That all activities related to undermining the Nepean Tunnel are to be structured within a risk management framework that is consistent with ISO 31000 Risk Management.</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.  The risk management framework should prioritise meeting the requirements of the infrastructure owner. These requirements may or may not be consistent with ISO 31000.



PAC Report (July 2010) Recommendation	Relevant to the Project <sup>1</sup>	ICHPL Position	Clarification/Comment
<p>70. That the risk management system for undermining the Nepean Tunnel is to be:</p> <p>i. Audited externally for compliance with ISO 31000 prior to lodgement of associated Extraction Plans, with the auditor/s to be selected by the Department of Planning in consultation with the infrastructure owner, and the audit report to accompany the Extraction Plan application.</p> <p>ii. Audited externally for compliance with ISO 31000 on an annual basis for the duration that the plan is invoked, with the auditor/s to be selected by the Department of Planning in consultation with the infrastructure owner.</p> <p>iii. Reviewed externally for effectiveness on an annual basis for the duration that the plan is invoked, with the reviewer to be selected by the Department of Planning in consultation with the infrastructure owner.</p>	Yes	Acceptable	<p>Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.</p> <p>The risk management framework should prioritise meeting the requirements of the infrastructure owner. These requirements may or may not be consistent with ISO 31000.</p> <p>ICHPL has existing management mechanisms/plans for this type of infrastructure that have been developed with and agreed to by the relevant infrastructure owner(s). These management mechanisms/plans stipulate audit and review requirements as deemed warranted by the infrastructure owner(s).</p> <p>Duplication of an existing process that the infrastructure owners are satisfied with and that gives infrastructure owner's additional requirements is not necessary.</p> <p>As suggested in PAC Report (July 2010) Recommendation 67, ICHPL would accept a condition that, in the event of a dispute between ICHPL and the infrastructure owner, the matter is to be referred to a neutral arbiter.</p>
<p>71. That no Extraction Plan should be approved that could create any additional risk to the State's water supply system or the public from undermining of the Nepean Tunnel until all potential sources of the increased risk have been investigated to the satisfaction of the Director General of the Department of Planning and the proposals in the Extraction Plan for avoidance, mitigation or control of any such risks ensure that the functionality of the State's water supply system and public safety are not put in jeopardy.</p>	Yes	Acceptable	<p>Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.</p>
<b>Upper Canal – Excluding the Cataract and Nepean Tunnels</b>			
<p>72. That the Upper Canal System is to remain in a safe and serviceable condition if undermined. This condition is not intended to exclude planned outages of the tunnel for mitigation and remediation purposes or unplanned outages of a limited duration in order to undertake additional mitigation or remedial works.</p>	Yes	Acceptable	<p>Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.</p>
<p>73. That the infrastructure owner has the prima facie right to determine what is safe, serviceable and repairable for their purposes, with any dispute with the leaseholder/mine operator being referred to a neutral arbiter selected by the Department of Planning and funded by the leaseholder/mine operator.</p>	Yes	Acceptable	<p>Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.</p>



PAC Report (July 2010) Recommendation	Relevant to the Project <sup>1</sup>	ICHPL Position	Clarification/Comment
74. <i>That the leaseholder/mine operator is to guarantee funding to undertake all risk assessment activities and all mitigation and remediation activities associated with maintaining the Upper Canal System in a safe and serviceable condition if it is undermined and to remediate any residual mining related impacts that may subsequently develop. This includes all the direct and indirect costs of the infrastructure owner in participating in this risk management process. (Given the incremental nature of subsidence development, a number of remediation campaigns may be required.)</i>	Yes	Unacceptable	Refer to Enclosure 2 for ICHPL comment.
75. <i>That all activities related to undermining the Upper Canal System are to be structured within a risk management framework that is consistent with ISO 31000 Risk Management.</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.  The risk management framework should prioritise meeting the requirements of the infrastructure owner. These requirements may or may not be consistent with ISO 31000.
76. <i>That the risk management system for undermining the Upper Canal System is to be:</i>  <i>i. Audited externally for compliance with ISO 31000 prior to lodgement of associated Extraction Plans, with the auditor/s to be selected by the Department of Planning in consultation with the infrastructure owner, and the audit report to accompany the Extraction Plan application.</i>  <i>ii. Audited externally for compliance with ISO 31000 on an annual basis for the duration that the plan is invoked, with the auditor/s to be selected by the Department of Planning in consultation with the infrastructure owner.</i>  <i>iii. Reviewed externally for effectiveness on an annual basis for the duration that the plan is invoked, with the reviewer to be selected by the Department of Planning in consultation with the infrastructure owner.</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.  The risk management framework should prioritise meeting the requirements of the infrastructure owner. These requirements may or may not be consistent with ISO 31000.  ICHPL has existing management mechanisms/plans for this type of infrastructure that have been developed with and agreed to by the relevant infrastructure owner(s). These management mechanisms/plans stipulate audit and review requirements as deemed warranted by the infrastructure owner(s).  As suggested in PAC Report (July 2010) Recommendation 73, ICHPL would accept a condition that, in the event of a dispute between ICHPL and the infrastructure owner, the matter is to be referred to a neutral arbiter.  Duplication of an existing process that the infrastructure owners are satisfied with and that gives infrastructure owner's additional requirements is not necessary.
77. <i>That no Extraction Plan should be approved that could create any additional risk to the State's water supply system or the public from undermining of the Upper Canal System until all potential sources of the increased risk have been investigated to the satisfaction of the Director-General of the Department of Planning and the proposals in the Extraction Plan for avoidance, mitigation or control of any such risks ensure that the functionality of the State's water supply system and public safety are not put in jeopardy.</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.



PAC Report (July 2010) Recommendation	Relevant to the Project <sup>1</sup>	ICHPL Position	Clarification/Comment
<b>Broughtons Pass Weir</b>			
78. <i>That the mining in the Study Area is to result in nil incremental impacts on the structure, stability and functionality of Broughtons Pass Weir whilst the weir remains in service.</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Sections 5.2.1, 5.3.2 and 5.5.2 of the EA.
79. <i>That the leaseholder/mine operator is to guarantee funding to undertake all activities associated with monitoring Broughtons Pass Weir to verify that this Performance Criterion is being satisfied.</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach.
<b>Other Weirs</b>			
80. <i>That the Maldon, Douglas Park, Jordans Pass and Menangle Weirs are to remain in a safe and serviceable condition if impacted by mining operations in the Study Area. This condition is not intended to exclude mitigation and remediation measures to maintain the weirs in this condition.</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Sections 5.4.5 and 5.11.3 of the EA.
81. <i>That the infrastructure owner has the prima facie right to determine what is safe, serviceable and repairable for their purposes, with any dispute with the leaseholder/mine operator being referred to a neutral arbiter selected by the Department of Planning and funded by the leaseholder/mine operator.</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Sections 5.4.5 and 5.11.3 of the EA.
82. <i>That the leaseholder/mine operator is to guarantee funding to undertake all risk assessment activities and all mitigation and remediation activities associated with maintaining the Maldon, Douglas Park, Jordans Pass and Menangle Weirs in a safe and serviceable condition if they are impacted by mining in the Study Area and to remediate any residual mining related impacts that may subsequently develop. This includes all the direct and indirect costs of the infrastructure owner in participating in this risk management process. (Given the incremental nature of subsidence development, a number of remediation campaigns may be required.)</i>	Yes	Unacceptable	Refer to Enclosure 2 for ICHPL comment.
83. <i>That all activities related to maintaining the Maldon, Douglas Park, Jordans Pass and Menangle Weirs in a safe and serviceable state are to be structured within a risk management framework that is consistent with ISO 31000 Risk Management.</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.  The risk management framework should prioritise meeting the requirements of the infrastructure owner. These requirements may or may not be consistent with ISO 31000.



PAC Report (July 2010) Recommendation	Relevant to the Project <sup>1</sup>	ICHPL Position	Clarification/Comment
<p>84. <i>That the risk management system for managing mining impacts on the Maldon, Douglas Park, Jordans Pass and Menangle Weirs Upper Canal System is to be:</i></p> <p>i. <i>Audited externally for compliance with ISO 31000 prior to lodgement of associated Extraction Plans, with the auditor/s to be selected by the Department of Planning in consultation with the infrastructure owner, and the audit report to accompany the Extraction Plan application.</i></p> <p>ii. <i>Audited externally for compliance with ISO 31000 on an annual basis for the duration that the plan is invoked, with the auditor/s to be selected by the Department of Planning in consultation with the infrastructure owner.</i></p> <p>iii. <i>Reviewed externally for effectiveness on an annual basis for the duration that the plan is invoked, with the reviewer to be selected by the Department of Planning in consultation with the infrastructure owner.</i></p>	Yes	Acceptable	<p>Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.</p> <p>The risk management framework should prioritise meeting the requirements of the infrastructure owner. These requirements may or may not be consistent with ISO 31000.</p> <p>ICHPL has existing management mechanisms/plans for this type of infrastructure that have been developed with and agreed to by the relevant infrastructure owner(s). These management mechanisms/plans stipulate audit and review requirements as deemed warranted by the infrastructure owner(s).</p> <p>Duplication of an existing process that the infrastructure owners are satisfied with and that gives infrastructure owner's additional requirements is not necessary.</p> <p>As suggested in PAC Report (July 2010) Recommendation 81, ICHPL would accept a condition that, in the event of a dispute between ICHPL and the infrastructure owner, the matter is to be referred to a neutral arbiter.</p>
<p>85. <i>That no Extraction Plan should be approved until the risks associated with mining in the Study Area in the vicinity of the Maldon, Douglas Park, Jordans Pass and Menangle Weirs have been investigated to the satisfaction of the Director General of the Department of Planning and the proposals in the Extraction Plan for the management of any risks are consistent with maintaining each weir in a safe, serviceable and repairable condition.</i></p>	Yes	Acceptable	<p>Generally consistent with current and/or proposed approach, refer Sections 5.4.5 and 5.11.3 of the EA.</p>
<b>Cataract Dam</b>			
<p>86. <i>That mining in the Study Area is to result in a nil impact outcome for the dam wall of Cataract Reservoir.</i></p>	No	-	<p>Project mining within the Notification Area of the Cataract Dam is no longer proposed.</p>
<p>87. <i>That the leaseholder/mine operator is to guarantee funding to undertake all activities associated with monitoring the dam wall of Cataract Reservoir to verify that this Performance Criterion is being satisfied.</i></p>	No	-	<p>Project mining within the Notification Area of the Cataract Dam is no longer proposed.</p>
<p>88. <i>That all activities related to ensuring a nil impact outcome for the dam wall of Cataract Reservoir are to be structured within a risk management framework that is consistent with ISO 31000 Risk Management.</i></p>	No	-	<p>Project mining within the Notification Area of the Cataract Dam is no longer proposed.</p>



PAC Report (July 2010) Recommendation	Relevant to the Project <sup>1</sup>	ICHPL Position	Clarification/Comment
<p>89. <i>That the risk management system for ensuring a nil impact outcome for the dam wall of Cataract Reservoir is to be:</i></p> <p>i. <i>Audited externally for compliance with ISO 31000 prior to lodgement of associated Extraction Plans, with the auditor/s to be selected by the Department of Planning in consultation with the infrastructure owner, and the audit report to accompany the Extraction Plan application.</i></p> <p>ii. <i>Audited externally for compliance with ISO 31000 on an annual basis for the duration that the plan is invoked, with the auditor/s to be selected by the Department of Planning in consultation with the infrastructure owner.</i></p> <p>iii. <i>Reviewed externally for effectiveness on an annual basis for the duration that the plan is invoked, with the reviewer to be selected by the Department of Planning in consultation with the infrastructure owner.</i></p>	No	-	Project mining within the Notification Area of the Cataract Dam is no longer proposed.
<p>90. <i>That no Extraction Plan should be approved until the Director-General of the Department of Planning is satisfied that the proposals in the Extraction Plan for the management of risk are consistent with achieving a nil impact outcome for the dam wall of the Cataract Reservoir.</i></p>	No	-	Project mining within the Notification Area of the Cataract Dam is no longer proposed.
<b>Gas Infrastructure</b>			
<p>91. <i>That mining activities in the BSO Study Area are not to jeopardize public safety or security of gas supply.</i></p>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.
<p>92. <i>That mining is not to impact on gas reticulation systems and devices such that they cannot be maintained in a safe, serviceable and repairable condition.</i></p>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.
<p>93. <i>That the infrastructure owner has the prima facie right to determine what is safe, serviceable and repairable for their purposes, with any dispute with the leaseholder/mine operator being referred to a neutral arbiter selected by the Department of Planning and funded by the leaseholder/mine operator.</i></p>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.
<p>94. <i>That the leaseholder/mine operator is to guarantee funding to undertake all risk assessment activities and all mitigation and remediation activities associated with maintaining in a safe and serviceable condition, all gas reticulation systems that are impacted by mining operations. This includes all the direct and indirect costs of the infrastructure owner in participating in this risk management process. (Given the incremental nature of subsidence development, a number of remediation campaigns may be required.)</i></p>	Yes	Unacceptable	Refer to Enclosure 2 for ICHPL comment.
<p>95. <i>That all activities related to maintaining security of gas supply and gas reticulation systems in a safe, serviceable and repairable state are to be structured within a risk management framework that is consistent with ISO 31000 Risk Management.</i></p>	Yes	Acceptable	<p>Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.</p> <p>The risk management framework should prioritise meeting the requirements of the infrastructure owner. These requirements may or may not be consistent with ISO 31000.</p>



PAC Report (July 2010) Recommendation	Relevant to the Project <sup>1</sup>	ICHPL Position	Clarification/Comment
<p>96. <i>That the risk management system for mining in the vicinity of gas reticulation systems is to be:</i></p> <p>a. <i>Audited externally for compliance with ISO 31000 prior to lodgement of associated Extraction Plans, with the auditor/s to be selected by the Department of Planning in consultation with the infrastructure owner, and the audit report to accompany the Extraction Plan application.</i></p> <p>b. <i>Audited externally for compliance with ISO 31000 on an annual basis for the duration that the plan is invoked, with the auditor/s to be selected by the Department of Planning in consultation with the infrastructure owner.</i></p> <p>c. <i>Reviewed externally for effectiveness on an annual basis for the duration that the plan is invoked, with the reviewer to be selected by the Department of Planning in consultation with the infrastructure owner.</i></p>	Yes	Acceptable	<p>Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.</p> <p>The risk management framework should prioritise meeting the requirements of the infrastructure owner. These requirements may or may not be consistent with ISO 31000.</p> <p>ICHPL has existing management mechanisms/plans for this type of infrastructure that have been developed with and agreed to by the relevant infrastructure owner(s). These management mechanisms/plans stipulate audit and review requirements as deemed warranted by the infrastructure owner(s).</p> <p>Duplication of an existing process that the infrastructure owners are satisfied with and that gives infrastructure owner's additional requirements is not necessary.</p> <p>As suggested in PAC Report (July 2010) Recommendation 93, ICHPL would accept a condition that, in the event of a dispute between ICHPL and the infrastructure owner, the matter is to be referred to a neutral arbiter.</p>
<p>97. <i>That no Extraction Plan should be approved that could create any additional risk to the State's gas supply system from mining activities until all potential sources of the increased risk have been investigated to the satisfaction of the Director-General of the Department of Planning and the proposals in the Extraction Plan for avoidance, mitigation or control of any such risks ensure that the functionality of the State's gas supply system is not put in jeopardy.</i></p>	Yes	Acceptable	<p>Generally consistent with current and/or proposed approach, refer Sections 5.4.5 of the EA.</p>
<b>Electrical Reticulation</b>			
<p>98. <i>That mining activities in the BSO Study Area are not to jeopardize public safety or security of power supply.</i></p>	Yes	Acceptable	<p>Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.</p>
<p>99. <i>That mining is not to impact on electrical reticulation systems and devices such that they cannot be maintained in a safe, serviceable and repairable condition.</i></p>	Yes	Acceptable	<p>Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.</p>
<p>100. <i>That the infrastructure owner has the prima facie right to determine what is safe, serviceable and repairable for their purposes, with any dispute with the leaseholder/mine operator being referred to a neutral arbiter selected by the Department of Planning and funded by the leaseholder/mine operator.</i></p>	Yes	Acceptable	<p>Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.</p>
<p>101. <i>That the leaseholder/mine operator is to guarantee funding to undertake all risk assessment activities and all mitigation and remediation activities associated with maintaining in a safe, serviceable and repairable condition, all electrical reticulation systems that are impacted by mining operations. This includes all the direct and indirect costs of the infrastructure owner in participating in this risk management process. (Given the incremental nature of subsidence development, a number of remediation campaigns may be required.)</i></p>	Yes	Unacceptable	<p>Refer to Enclosure 2 for ICHPL comment.</p>

Illawarra Coal Holdings Pty Ltd  
ABN 69 093 857 286



PAC Report (July 2010) Recommendation	Relevant to the Project <sup>1</sup>	ICHPL Position	Clarification/Comment
102. <i>That all activities related to maintaining security of power supply and electrical reticulation systems in a safe, serviceable and repairable condition are to be structured within a risk management framework that is consistent with ISO 31000 Risk Management.</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.  The risk management framework should prioritise meeting the requirements of the infrastructure owner. These requirements may or may not be consistent with ISO 31000.
103. <i>That the risk management system for mining in the vicinity of electrical reticulation systems is to be:</i>  a. <i>Audited externally for compliance with ISO 31000 prior to lodgement of associated Extraction Plans, with the auditor/s to be selected by the Department of Planning in consultation with the infrastructure owner, and the audit report to accompany the Extraction Plan application.</i>  b. <i>Audited externally for compliance with ISO 31000 on an annual basis for the duration that the plan is invoked, with the auditor/s to be selected by the Department of Planning in consultation with the infrastructure owner.</i>  c. <i>Reviewed externally for effectiveness on an annual basis for the duration that the plan is invoked, with the reviewer to be selected by the Department of Planning in consultation with the infrastructure owner.</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.  The risk management framework should prioritise meeting the requirements of the infrastructure owner. These requirements may or may not be consistent with ISO 31000.  ICHPL has existing management mechanisms/plans for this type of infrastructure that have been developed with and agreed to by the relevant infrastructure owner(s). These management mechanisms/plans stipulate audit and review requirements as deemed warranted by the infrastructure owner(s).  Duplication of an existing process that the infrastructure owners are satisfied with and that gives infrastructure owner's additional requirements is not necessary.  As suggested in PAC Report (July 2010) Recommendation 100, ICHPL would accept a condition that, in the event of a dispute between ICHPL and the infrastructure owner, the matter is to be referred to a neutral arbiter.
104. <i>That no Extraction Plan should be approved that could create any additional risk to the State's electrical supply system from mining activities until all potential sources of the increased risk have been investigated to the satisfaction of the Director-General of the Department of Planning and the proposals in the Extraction Plan for avoidance, mitigation or control of any such risks ensure that the functionality of the State's electrical supply system is not put in jeopardy.</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Sections 5.4.5 of the EA.
<b>Telecommunications</b>			
105. <i>That mining activities in the BSO study Area are not to cause an interruption to state and national cable based telecommunication systems. This condition is not intended to exclude contingencies that involve temporarily switching to an alternative communications system or corridor in the event of a loss of serviceability, provided that there is no loss of communications.</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.
106. <i>That mining activities in the BSO Study Area are not to result in a loss of local cable based telecommunications systems. This does not preclude the provision of alternative local communication systems (mobile phones, VHF radio) for brief periods whilst the normal telecommunication system is restored.</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.



PAC Report (July 2010) Recommendation	Relevant to the Project <sup>1</sup>	ICHPL Position	Clarification/Comment
107. <i>That mining is not to impact on cable telecommunication systems and devices such that they cannot be maintained in a safe, serviceable and repairable condition.</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.
108. <i>That the infrastructure owner has the prima facie right to determine what is safe, serviceable and repairable for their purposes, with any dispute with the leaseholder/mine operator being referred to a neutral arbiter selected by the Department of Planning and funded by the leaseholder/mine operator.</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.
109. <i>That the leaseholder/mine operator is to guarantee funding to undertake all risk assessment activities and all mitigation and remediation activities associated with maintaining in a safe, serviceable and repairable condition, all cable telecommunication systems that are impacted by mining operations. This includes all the direct and indirect costs of the infrastructure owner in participating in this risk management process. (Given the incremental nature of subsidence development, a number of remediation campaigns may be required.)</i>	Yes	Unacceptable	Refer to Enclosure 2 for ICHPL comment.
110. <i>That all activities related to maintaining security of telecommunication and telecommunication systems in a safe, serviceable and repairable condition are to be structured within a risk management framework that is consistent with ISO 31000 Risk Management.</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.  The risk management framework should prioritise meeting the requirements of the infrastructure owner. These requirements may or may not be consistent with ISO 31000.
111. <i>That the risk management system for mining in the vicinity of cable telecommunication systems is to be:</i>  a. <i>Audited externally for compliance with ISO 31000 prior to lodgement of associated Extraction Plans, with the auditor/s to be selected by the Department of Planning in consultation with the infrastructure owner, and the audit report to accompany the Extraction Plan application.</i>  b. <i>Audited externally for compliance with ISO 31000 on an annual basis for the duration that the plan is invoked, with the auditor/s to be selected by the Department of Planning in consultation with the infrastructure owner.</i>  c. <i>Reviewed externally for effectiveness on an annual basis for the duration that the plan is invoked, with the reviewer to be selected by the Department of Planning in consultation with the infrastructure owner.</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.  The risk management framework should prioritise meeting the requirements of the infrastructure owner. These requirements may or may not be consistent with ISO 31000.  ICHPL has existing management mechanisms/plans for this type of infrastructure that have been developed with and agreed to by the relevant infrastructure owner(s). These management mechanisms/plans stipulate audit and review requirements as deemed warranted by the infrastructure owner(s).  Duplication of an existing process that the infrastructure owners are satisfied with and that gives infrastructure owner's additional requirements is not necessary.  As suggested in PAC Report (July 2010) Recommendation 108, ICHPL would accept a condition that, in the event of a dispute between ICHPL and the infrastructure owner, the matter is to be referred to a neutral arbiter.



PAC Report (July 2010) Recommendation	Relevant to the Project <sup>1</sup>	ICHPL Position	Clarification/Comment
112. <i>That no Extraction Plan should be approved that could create any additional risk to the State's cable telecommunications systems from mining activities until all potential sources of the increased risk have been investigated to the satisfaction of the Director-General of the Department of Planning and the proposals in the Extraction Plan for the avoidance, mitigation or control of any such risks ensure that the functionality of the State's telecommunication systems.</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.
<b>Survey Control Marks</b>			
113. <i>That Approval conditions include a requirement to relocate and/or reinstate survey control marks to a standard determined by the NSW Land and Property Management Authority.</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.
<b>Industrial and Commercial Premises</b>			
<b>Maldon Cement Works</b>			
114. <i>That any form of mining within 600m of the footprint of the Maldron Cement Works not be approved until such time as the risk to the structures that comprise the complex have been assessed and arrangements put in place for avoidance, mitigation and/or control of the risks and these arrangements are detailed in the relevant instruments that would permit mining to proceed.</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Sections 5.4.5 and 5.11.3 of the EA.
<b>Allied Mills Flour Mill</b>			
115. <i>That any form of mining within 600 m of the footprint of the Allied Mills Flour Mill not be approved until such time as the risk to the structures that comprise the complex have been assessed and arrangements put in place for avoidance, mitigation and/or control of the risks and these arrangements are detailed in the relevant instruments that would permit mining to proceed.</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.
<b>Douglas Park Petrol Station</b>			
116. <i>That any form of mining within 600 m of the footprint of the Douglas Park Petrol Station not be approved until such time as the risk to the structures that comprise the complex have been assessed and arrangements put in place for avoidance, mitigation and/or control of the risks and these arrangements are detailed in the relevant instruments that would permit mining to proceed.</i>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Section 5.4.5 of the EA.



PAC Report (July 2010) Recommendation	Relevant to the Project <sup>1</sup>	ICHPL Position	Clarification/Comment
<b>Non-Aboriginal Heritage</b>			
<p>117. That a Performance Criterion of nil impact on the heritage value of the following sites be imposed in any Approval conditions, where nil means no mining induced change of any description in heritage value. In the case of sites which may have already been impacted by past mining operations, e.g. Broughton's Pass Weir, nil impact has the meaning of no additional mining induced change of any description. These sites are:</p> <p>a. Cataract Dam Wall.</p> <p>b. Broughtons Pass Weir.</p> <p>c. St James Church, Menangle.</p> <p>d. St Mary's Tower, Douglas Park.</p>	Yes	Unacceptable	Refer to Enclosure 2 for ICHPL comment.
<p>118. That any Approval requires that no Extraction Plan is to be approved unless:</p> <p>i. A survey has been undertaken of all non-Aboriginal heritage sites within an area defined by a 600 m wide boundary around the mining area to which the Extraction Plan relates;</p> <p>ii. The heritage value of each site within this boundary has been determined by appropriately qualified persons in consultation with the Heritage Branch;</p> <p>iii. Measures necessary to preserve the heritage value of all heritage sites of significance are incorporated into a Heritage Management Plan as an element of the associated Extraction Plan including incorporation of effective adaptive management provisions for responding to unpredicted anomalous and non-conventional subsidence effects.</p> <p>iv. The Heritage Management Plan has been peer reviewed by a person appointed by the Department of Planning and the Director-General of the Department of Planning is satisfied that the predicted impacts of the proposed mining operations will not have an adverse effect on the heritage values of any significant heritage sites;</p>	Yes	Unacceptable	Refer to Enclosure 2 for ICHPL comment.
<b>Future Built Infrastructure</b>			
<p>119. That the MSB review its design requirements for new structures in the Study Area in light of the subsidence predictions contained in the EA and consideration is given to locating new surface infrastructure in areas that have already been undermined.</p>	No	-	ICHPL agrees with this recommendation however it is of no relevance to the setting of Project Approval conditions.



PAC Report (July 2010) Recommendation	Relevant to the Project <sup>1</sup>	ICHPL Position	Clarification/Comment
<b>Regional Stability</b>			
120. That conducting of seismic monitoring on a regional basis, analysis of outcomes and correlation with mining operations should be a requirement of all Extraction Plans for the BSO Project and that this information is reported to the Department of Planning on an annual basis.	Yes	Unacceptable	Refer to Enclosure 2 for ICHPL comment.
121. That seismic monitoring data and analysis is reviewed externally every 3 years by a suitably qualified person nominated by the Department of Planning.	Yes	Unacceptable	Refer to Enclosure 2 for ICHPL comment.
122. That any identified associations or trends between the seismic data and mining activities should constitute a trigger that requires: <ul style="list-style-type: none"> <li>a. mine planning to be reviewed internally by the leaseholder/mine operator and externally by a person nominated by the Department of Planning; and</li> <li>b. a risk assessment to be undertaken of the potential impacts and consequences of seismicity for man-made features and natural features associated with the BSO Project.</li> </ul>	Yes	Unacceptable	Refer to Enclosure 2 for ICHPL comment.
<b>18.2.10 Chapter 12 Mine Surface Infrastructure</b>			
<b>Goaf Gas Drainage</b>			
1.[sic] That the government consider the implications of including surface goaf gas drainage facilities in an Approval where there has been no opportunity for the public to comment on the details of any proposals and there are potential impacts of construction and operation of the facilities on both public and private land.	Yes	Unacceptable	Refer to Enclosure 2 for ICHPL comment.
<b>18.2.11 Chapter 13 West Cliff Coal Wash Emplacement</b>			
124. That any Approval for the Stage 4 Coal Wash Emplacement should specify in sufficient detail and with sufficient precision the measures necessary for: <ul style="list-style-type: none"> <li>i. maximising the opportunity for natural regeneration (i.e. by early use of topsoil from the site),</li> <li>ii. only using endemic species and in appropriate habitat mixes, and</li> <li>iii. maximising retention of suitable habitat features for fauna.</li> </ul>	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Sections 5.3.3 and 5.8.3 of the EA.
125. That ICHPL continues to pursue options for the underground disposal of coal wash, including adherence to the proposed pilot scale research and development trial.	Yes	Acceptable	Generally consistent with current and/or proposed approach, refer Section 8 of the EA.



PAC Report (July 2010) Recommendation	Relevant to the Project <sup>1</sup>	ICHPL Position	Clarification/Comment
<p>126. That no Extraction Plan be approved until:</p> <ul style="list-style-type: none"> <li>i. The management measures proposed in the EA for the protection of <i>P. hirsuta</i> become formal requirements of the Extraction Plan that are enforceable and monitored;</li> <li>ii. A management plan for the conservation of the Broad-Headed Snake is developed in consultation with and to the satisfaction of DECCW;</li> <li>iii. A management plan for the conservation of the Southern Brown Bandicoot is developed in consultation with and to the satisfaction of DECCW.</li> <li>iv. Piezometers are installed both in the coal wash in Stages 1 and 2, and in future emplacement areas in accordance with the Stage 3 emplacement management plan and design criteria<sup>3</sup>; and</li> <li>v. Piezometers are installed in the Hawkesbury Sandstone downstream of Brennans Creek Dam in sufficient number so as to be able to define groundwater flow directions, magnitudes and groundwater qualities.</li> </ul>	Yes	Unacceptable	<p>ICHPL does not accept the timing recommended by the PAC Report.</p> <p>ICHPL considers it appropriate for timing of developing detailed threatened species management measures to be linked to disturbance associated with the Stage 4 Coal Wash Emplacement.</p> <p>In regard to piezometer installation, ICHPL would accept a condition requiring these works be undertaken with 12 months of the date of Project Approval.</p> <p>ICHPL also considers it appropriate that any such management measures be developed in consultation with DECCW to the satisfaction of DoP as the central agency for administration of Part 3A Project Approvals.</p> <p>With the exception of the above, ICHPL accepts the recommendation as it is generally consistent with measures proposed in Sections 8.2, 5.8.4, 5.9.3 and 5.9.4 of the EA (for threatened species) and in the Stage 3 Coal Wash Emplacement Management Plan (for piezometer installation).</p>
127. That future Pollution Reduction Programs address the improvement in discharge water quality with a goal of less than 1000 $\mu\text{S/cm}$ within 10 years.	Yes	Unacceptable	Refer to Enclosure 2 for ICHPL comment.
<b>18.2.12 Chapter 14 Roads and Traffic</b>			
<p>128. That any approval for the project contain a requirement that the issues listed below are resolved to the satisfaction of the Director-General of Planning prior to any increase in coal production being permitted:</p> <ul style="list-style-type: none"> <li>i. The Proponent clarify if the number of additional traffic movements generated by the proposal require recalculation to accommodate weekend operations of the proposal;</li> <li>ii. The Proponent provide the Department with the figures regarding the percentages of heavy and light vehicles (included loaded and unloaded) attributed to the proposal at key locations on haulage routes and at key intersections;</li> <li>iii. The RTA verify the Proponent's SIDRA analysis;</li> <li>iv. The RTA undertake a thorough assessment of the proposal including its cumulative impact and any supplementary information provided by the Proponent;</li> </ul>	No	-	<p>The NSW Roads and Traffic Authority (RTA) has provided a letter to the DoP on 31 August 2010 which states:</p> <p><i>Reference is made to a letter received by the Roads and Traffic Authority (RTA) on 11 August 2010 from Gary Brassington of BHP Billiton containing additional information regarding the subject major project application forwarded to the RTA for consideration.</i></p> <p><i>The RTA has reviewed the submitted information and will not object to the major project application subject to the following issues being addressed prior to determination: ...</i></p> <p>All of the remaining issues identified by the RTA relate to details associated with intersection upgrades. The RTA raised no objections in their advice to the DoP regarding:</p> <ul style="list-style-type: none"> <li>• weekend Project vehicle movements;</li> </ul>

<sup>3</sup> Cardno Forbes Rigby, 2007  
Illawarra Coal Holdings Pty Ltd  
ABN 69 093 857 286



PAC Report (July 2010) Recommendation	Relevant to the Project <sup>1</sup>	ICHPL Position	Clarification/Comment
<p>128. (Cont.)</p> <p>v. The RTA review the impact of undertaking peak hour turning count surveys on Easter Thursday</p>			<ul style="list-style-type: none"> <li>Traffix Pty Limited's SIDRA analysis conducted for the Project (provided by ICHPL to the RTA in March 2010); or</li> <li>conducting peak hour turning count surveys on Thursday 9 April 2009 (which was not a public holiday nor within a school holiday period).</li> </ul>
<b>18.2.13 Chapter 15 Issues Raised in Submissions</b>			
<b>Dharawal State Conservation Area (SCA)</b>			
129. That any Approval to mine under Dharawal SCA should be conditional on negligible subsidence related impacts on the significant natural features in the SCA including upland swamps, streams EECs and areas of habitat containing viable populations of threatened species, significant cliff lines and significant Aboriginal cultural heritage sites.	Yes	Unacceptable	Refer to Enclosure 2 for ICHPL comment.
<b>Peer Review</b>			
130. That the Department of Planning review the use of peer review with the objective of determining whether independent selection, briefing and engagement of the reviewers should be the norm, even if the cost were to be borne by the Proponent.	No	-	
<b>Economics</b>			
131. That future economic studies of environmental values in connection with mining proposals are undertaken at a sufficient level of detail to allow robust comparisons between benefits of mining and benefits of protection of natural features. Critical to this is that the study design provides survey respondents with an adequate description of the environmental attributes in the Study Area and the potential consequences for them of subsidence-induced impacts. Obvious heterogeneity in environmental attributes across the Study Area must also be accounted for.	No	-	<p>ICHPL is of the opinion that the Choice Modelling Study conducted for the Project (which surveyed the attitudes of &gt;2,900 people in NSW) is robust and provides a suitable mechanism to estimate societal monetary values for key environmental attributes for which market values are not available.</p> <p>The Choice Modelling Study conducted for the Project was Peer reviewed by Dr John Rolfe.</p>
<b>Traffic Noise</b>			
132. That if after 2013 the noise generated by traffic associated with the project persistently exceeds the relevant criteria at any residence on privately owned land then the Proponent should provide appropriate insulation and ventilation for affected houses at the request of the relevant landowners.	Yes	Unacceptable	Refer to Enclosure 2 for ICHPL comment.
133. That the Proponent should commit to a Road Traffic Noise Management Plan that includes provisions to ensure that the road haulage fleet represents best practice in terms of equipment and operation.	Yes	Acceptable	<p>Generally consistent with current and/or proposed approach, refer Sections 5.12.5 and 5.15.3 of the EA.</p> <p>ICHPL expects that (as per the Project Approval for the Metropolitan Coal Project) management of road traffic noise associated with the Project would be described in the Noise Management Plan and Traffic Management Plan (as relevant) rather than an additional Road Traffic Noise Management Plan.</p>



PAC Report (July 2010) Recommendation	Relevant to the Project <sup>1</sup>	ICHPL Position	Clarification/Comment
<b>18.2.14 Chapter 16 Adequacy of Information</b>			
134. <i>That, where information is deemed to be inadequate for a proper assessment of the subsidence-related impacts on significant natural features or items of built infrastructure, Approval should only be considered where the Performance Criteria are sufficiently robust to ensure that the recommended levels of protection will be achieved by the proposed Extraction Plans for the mining operation</i>	Yes	Unacceptable	Refer to Enclosure 2 for ICHPL comment.
<b>18.2.15 Chapter 17 Geographically Based Alternative</b>			
135. <i>That the 'Defined Area' concept as set out in Chapter 17 of this Report be adopted in the context of any Approval for the BSO Project Proposal.</i>	No	-	ICHPL does not agree with the approach proposed by the PAC Report in regard to the "Defined Area".  However, the "Defined Area" as proposed by the PAC Report is no longer within the Project extent of longwall mining area.
136. <i>That the Defined Area shown in Figure 61 of this Report be adopted as the minimum such area to which the standard of negligible subsidence-related impact be applied for significant natural features within the BSO Project Study Area.</i>	No	-	ICHPL does not agree with the approach proposed by the PAC Report in regard to the "Defined Area".  However, the "Defined Area" as proposed by the PAC Report is no longer within the Project extent of longwall mining area.

<sup>1</sup> As defined by the Preferred Project Report (ICHPL, 2010).



## **ENCLOSURE 2**

### **DETAILED RESPONSE TO RELEVANT PAC REPORT RECOMMENDATIONS**

Illawarra Coal Holdings Pty Ltd  
ABN 69 093 857 286

A member of the BHP Billiton Group, which is headquartered in Australia  
Registered Office: 180 Lonsdale Street, Melbourne, Victoria 3000, Australia  
ABN 49 004 028 077



## CONTEXTUAL MATTERS

### PAC Report (July 2010) Recommendations 1 and 2:

1. *That the outline of the Study Area should constitute the limit of main development workings permitted under any Approval that may flow from this assessment.*
2. *That main development roadways are the only form of mining that should be permitted within the 600 m zone between the Extent of Longwall Mining and the boundary of the Study Area.*

### ICHPL Response:

The Subsidence Assessment *study area* should not be used to define areas where Project development workings are permitted, as it does not include the previous mine development areas that also form part of the Project. The PAC Report recommendations 1 and 2 as currently posed may limit ICHPL's ability to develop roadways in existing mining areas (e.g. in the proximity of the existing pit tops). Development roadways are designed to be non-subsiding and should not be constrained to the degree indicated by this recommendation.

### PAC Report (July 2010) Recommendation 4:

4. *That the design of all main development roadways within the Study Area should be approved through the Extraction Plan process prior to commencement of such development.*

### ICHPL Response:

ICHPL does not accept that first workings (which are non-subsiding) should be the subject of assessment through an Extraction Plan. Such an approach is not consistent with contemporary Project Approvals which include a requirement for Extraction Plans.

## SUBSIDENCE IMPACT AND CONSEQUENCES

### PAC Report (July 2010) Recommendation 10:

10. *That numerical modelling be utilised to enhance the prediction of subsidence zone fracture distributions, connectivity and potential fracture conduit (groundwater) transmission capacities.*

### ICHPL Response:

ICHPL would accept a condition consistent with Section 5.5.3 of EA which states:

*The numerical model developed as part of the Groundwater Assessment would be used as a management tool for the prediction of groundwater impacts throughout the Project life. The results of the geological investigation programme and groundwater monitoring programme would inform progressive development of the numerical model. Revised outputs from the numerical model would be reported in the relevant Extraction Plans over the life of the Project.*



## GROUNDWATER IMPACTS AND CONSEQUENCES

### PAC Report (July 2010) Recommendation 17:

- 17. That a borehole census should be conducted on all potentially yield (or structurally) affected boreholes, and a long term monitoring program initiated. The census should catalogue bore location, construction parameters, pumping equipment and usage together with any other parameters considered necessary in the event of water supply replacement. Monitoring should include depth to standing water, basic water quality parameters (pH and EC), ionic speciation and any other parameters necessary to characterise the location to the satisfaction of the Director-General of the Department of Planning. Monitoring data should be regularly reviewed and trends in water levels and water qualities assessed using appropriate methodologies to establish the likelihood of sustained long term impacts on yield. The commitment to repair, replace or compensate any landholder suffering partial or complete loss of productive yield must include provision for post mining conditions.**

### ICHPL Response:

ICHPL considers its proposed approach to managing potentially affected boreholes to be comprehensive, and would accept a condition consistent with Section 5.5.3 of EA, which states:

*Over the Project life, ICHPL would:*

- *Confirm, where the landholders consent, the location of landholder bores and report these details in relevant Extraction Plans.*
- *Develop a comprehensive groundwater monitoring programme to measure the actual groundwater effects of the Project (including triggers for investigation).*
- *Monitor the spread of groundwater depressurisation effects.*
- *If, in the event groundwater monitoring and investigation determines that an adverse Project-induced effect on the productive yield of a landholder's bore is occurring, implement appropriate contingency measures, for the period during which such effects continue (determined in consultation with the affected landholder), which could include:*
  - *lowering of the pumps in the landholder's affected bore;*
  - *deepening of the landholder's affected bore;*
  - *development of a new bore(s);*
  - *provision of an alternative water supply (i.e. of at least the same standard of quality and quantity as the landholder's bore prior to the land being affected by the Project), the nature of which would depend on the location of the affected landholder and the availability of nearby sources; or*
- *if the above measures cannot be implemented, provision of compensation to the affected landholder for any loss of bore productivity arising from the Project induced effects.*

*The contingency measures provided in point 4 above would be aimed at ensuring the landholder continues to have a water supply of at least the same standard of quality and quantity as the landholder's bore prior to the land being affected by the Project.*

*If, in the event groundwater monitoring and investigation determines that Project-related subsidence effects have resulted in physical damage to the bore (e.g. shearing resulting in the bore casing being affected) or in-hole pump sets, contingency measures and/or compensation for the physical damage would be determined in consultation with the MSB.*



## **PAC Report (July 2010) Recommendation 18:**

- 18. That in view of the numerous abnormalities identified in (EA) modelling outcomes, and the marked changes in outcomes reported for the revised groundwater model, a comprehensive independent audit of the revised groundwater model should be undertaken.**

### **ICHPL Response:**

The revised groundwater model results were provided to the PAC Panel for its review following a specific request.

In addition, the revised groundwater model was peer reviewed by Dr Frans Kalf (letter dated 2 June 2010), who relevantly stated:

*This letter report is to confirm that I have now examined the reported revised modelling and updated report Revision A dated 21 May 2010 by Heritage Computing, that was prepared in response to the NSW Planning Assessment Commission (PAC), in support of the Environmental Impact Statement for the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 assessment.*

...

*Based on the evidence presented and the modelling conducted I concur with the report conclusions and management and mitigation measures presented. The updated results do not differ appreciably from the conclusions presented previously.*

Based on the above, ICHPL considers an additional independent peer review is not warranted. Notwithstanding, as explained above in response to PAC Report (July 2010) Recommendation 10, the groundwater numerical model would be subject to continual improvement.

## **SURFACE WATER AND AQUATIC ECOLOGY**

### **PAC Report (July 2010) Recommendation 20:**

- 20. That the following streams be afforded 'special significance status' throughout their length within the Project Area:**

- **Nepean River**
- **Cataract River (dam to Broughtons Pass Weir)**
- **O'Hares Creek**
- **Stokes Creek**
- **Dahlia Creek**
- **Cobbong Creek**
- **Tributaries 1 & 2 to O'Hares Creek**
- **Woronora River and tributaries**
- **Wallandoola Creek**
- **Wallandoola East Creek**
- **Cataract Reservoir Tributaries 1 & 2**

### **ICHPL Response:**

In relation to 'special significance' the Metropolitan PAC Report provides the following (page 42):

*'Special Significance Status' is based on an assessment of a natural feature that determines the feature to be so special that it warrants a level of consideration (and possibly protection) well beyond that accorded to others of its kind. It may be based on a rigorous assessment of scientific importance, archaeological and cultural importance, uniqueness, meeting a statutory threshold or some other identifiable value or combination of values.*

The PAC Report (July 2010) states (page 153):

*If a natural feature achieves 'special significance' status then its value is elevated to the point where it automatically receives special consideration for protection that would ensure negligible change in its values from the impacts of mining.*



The PAC Report (July 2010) outlines detailed consideration of a number of factors, including naturalness, landuse, connectivity within swamp complexes, threatened species and ecological communities and stakeholder comments. Based on this assessment the PAC Report identifies 18 of the 53 stream reaches (i.e. 34%) as being of 'special significance'.

ICHPL does not accept that the streams (18 of 53 stream reaches) identified by the PAC are of 'special significance' status. ICHPL's position is stated in the Stream Risk Assessment [Appendix P of the EA]:

*Based on the Metropolitan PAC Report's description of special significance, the authorities may consider the Nepean River as a stream that warrants special significance status.*

It is noted that a number of the recommendations in the PAC Report (July 2010) in relation to providing protection for streams are no longer relevant due to the proposed changes to the Project as described in the Preferred Project Report (PPR). ICHPL notes that of the streams considered by the PAC Report to be of 'special significance', only the Nepean River is located within 600 m of the Project extent of longwall mining area as modified by the PPR. ICHPL's proposed performance criteria for the Nepean River is detailed in Table 5-2 of the EA.

#### **PAC Report (July 2010) Recommendation 21:**

**21. That all streams afforded special significance status plus Lizard and Cascade Creeks and the Georges River in West Cliff Area 5 be protected by requiring, as part of any Approval, a performance criterion of negligible subsidence-related impact as defined below ie:**

***'no diversion of flows, no change in the natural drainage behaviour of pools, minimal iron staining, minimal gas releases and continued maintenance of water quality at its pre-mining standard'.***

#### **ICHPL Response:**

PAC Report recommendation 20 outlines the streams recommended to be afforded 'special significance' status. This list does not include Lizard Creek, Cascade Creek or Georges River and the PAC Report (July 2010) provides no justification to warrant the inclusion of these additional streams for the requirement of negligible impact. The inclusion of these streams is contrary to the risk assessment approach outlined in both the Metropolitan PAC Report (PAC, 2009) and the PAC Report (July 2010).

In addition, it is noted that the Georges River (in West Cliff Area 5) is not included in the list of streams considered for 'special significance' status (Table 15 of the PAC Report [July 2010]), however is included in the list of streams for which the negligible subsidence criterion is proposed.

Applying a performance criterion of negligible subsidence related impacts to the Georges River, as defined by the PAC Report, would be of significant concern to ICHPL in regard to maintaining continuity of mining operations. Notwithstanding, ICHPL's current mining operations in the vicinity of the Georges River are designed to minimise potential subsidence impacts in accordance with existing approval conditions outlined the SMP Approval Conditions for Longwalls 34 to 36. This has included the implementation of adaptive management procedures, whereby the finish point of the longwall has been adjusted as required to meet performance criteria.

#### **PAC Report (July 2010) Recommendation 23:**

**23. That if the Panel's recommendations in relation to providing adequate protection for streams and swamps are not adopted then an adequate survey for threatened species that may occur in the Study Area or surrounds be conducted to standards agreed between DECCW and DII (Fisheries) before any mining is permitted under streams or swamps in the Study Area.**

#### **ICHPL Response:**

It is noted that a number of the recommendations in the PAC Report (July 2010) in relation to providing protection for streams and swamps are no longer relevant due to the proposed changes to the Project description as described in the PPR.



The PAC Report includes a number of conclusions in relation to survey effort for the aquatic and terrestrial ecology assessment conducted as part of the EA. Extensive data sets for aquatic and terrestrial ecology exist for the Project area. These datasets include vegetation and fauna surveys and mapping prepared by government agencies, other detailed flora and fauna studies by recognised experts and extensive monitoring data accumulated by ICHPL operations, all of which are referenced and described in the EA as relevant background information that informed the Project flora and fauna surveys.

In addition, the species evaluations for the EA assessed potential impacts on all potential habitat as opposed to only known records for species. In this way, the impact assessment is considered to be conservative.

As described in the EA, Biodiversity Management Plans would form a component of the Extraction Plan process where additional surveys would be conducted if required.

Notwithstanding the above, as described in Section 5.7.3 of the EA:

*The aquatic ecology components of the Biodiversity Management Plan would be developed in consultation with the NSW Fisheries and other relevant authorities and to the satisfaction of the DoP.*

...

*Consistent with the recommendations of the SCPR (DoP, 2008), the aquatic ecology monitoring programme would be designed to:*

- i. monitor subsidence-induced impacts on aquatic ecology; and*
- ii. monitor the response of aquatic ecosystems to the implementation of stream remediation and management works.*

*The aquatic ecology monitoring programme would be described in detail in the Biodiversity Management Plan and would:*

- include monitoring at an appropriate frequency and scale for a period prior to, during, and following the completion of mining;*
- include monitoring at an appropriate frequency and scale prior to, during, and following the implementation of stream remediation and management activities;*
- take into account the seasonality and inter-annual variability of the systems under study;*
- target the collection of a minimum of two years pre-mining data, where practicable;*
- ...*
- be peer reviewed by an appropriately qualified specialist.*

## TERRESTRIAL ECOLOGY

### PAC Report (July 2010) Recommendation 24:

**24. That where the depth of cover is 400m or less, or where valley closure predictions exceed 200mm, comprehensive flora surveys should be conducted to specifications provided by DECCW with a view to identifying EECs or threatened species and, where these are found, assessing population viability and risk from subsidence-related impacts of mining. If significant EECs or populations of threatened species are found, measures to protect those EECs and/or threatened species should be developed prior to any mining commencing. If longwall panel widths increase the depth of cover criterion should be reviewed.**

### PAC Report (July 2010) Recommendation 26:

**26. That in relation to Appin Area 3, the same approach needs to be adopted as for the northern part of North Cliff. The survey work in Appin Area 3 was inadequate and the Panel is far from satisfied that further threatened species do not occur in this area.**

## PAC Report (July 2010) Recommendation 27:

**27. That for the western domains (Appin Areas 7, 8 and 9 and West Cliff) further targeted surveys for threatened species should be undertaken based on advice from DECCW. These surveys are designed to locate threatened species and provide sufficient information to allow assessment of any actions required to protect significant populations of threatened species from the potential impacts of the mining proposal. If mining is to occur in these western domains the Approval conditions will need to be sufficiently robust to ensure that the surveys and assessment are done to DECCW standards and that before mining proceeds the necessary management actions are in place to protect any significant populations of threatened species from mining impacts.**

### ICHPL Response:

The PAC Report has failed to acknowledge the substantial ecological data sets that exist across the Project area. In addition to the results of the surveys specifically undertaken for the EA, the EA utilised all relevant reported data, including the extensive data sets prepared by government agencies and extensive monitoring data accumulated by ICHPL operations.

Evaluations of potential impacts of the Project on threatened species and ecological communities undertaken as part of the EA assessed potential impacts on all potential habitat as opposed to only known records for species. In this way, the impact assessment is considered to be conservative.

As described in the EA, Biodiversity Management Plans would form a component of the Extraction Plan process where additional surveys would be conducted if required.

Assessment of the potential impacts of mine subsidence on threatened species and ecological communities was undertaken as part of the EA.

The EA makes it clear that any changes to the current mine plan would need to demonstrate (through the Extraction Plan process) compliance with the environmental outcomes described in the EA. As stated in Section 7.6.2 of the EA:

*As a component of the Extraction Plan process (Section 7.3.1), longwall geometry would be reviewed and the width of longwalls and pillars would be determined to achieve the environmental outcomes described in this EA and authorised by the Project Approval while maximising economic return on investment.*

...

*In addition to the above, in the event that the environmental impacts associated with mine subsidence exceed that authorised by the Project Approval, in addition to remediating the impacts, adaptive management measures would be applied to bring the impacts back within the EA predictions. Such adaptive management measures would include reducing longwall width, increasing pillar widths or shortening a longwall to reduce subsidence effects at the surface.*

In addition, the EA proposes various management measures and impact avoidance commitments in relation to threatened species and communities, as follows:

*Potential surface disturbance areas would be surveyed for threatened flora. If any threatened flora species are identified, the proposed site would be relocated so as to avoid any associated impacts, where practicable.*

*Clearing of EECs would be avoided apart from some minor clearing in the widely distributed Shale/Sandstone Transition Forest EEC and the Moist Shale Woodland in the Sydney Basin Bioregion EEC (mapped as p2 – Cumberland Shale Sandstone Transition Forest and p514 - Cumberland Moist Shale Woodland, respectively, on Figures 5-13 to 5-17) in which clearing would be kept to a maximum of 9 ha and 3 ha, respectively.*

*To minimise impacts to these two EECs, the Biodiversity Management Plan would include the following measures:*

- *On-site validation that the vegetation present represents the relevant EEC as mapped.*
- *Relocation of infrastructure to avoid validated EECs, wherever practicable within the technical constraints of the necessary surface activities.*
- *Location of infrastructure along existing landholder access tracks or existing disturbed portions of validated EEC's wherever practicable within the technical constraints of the necessary surface activities.*



- *If clearing is required, implementation of appropriate management measures (e.g. pre-clearance surveys of the specific location to be cleared, demarcation of clearance zone to constrain clearance to a minimum, implementation of erosion and sediment control works and progressive rehabilitation works).*

*Vegetation clearance would not take place in upland swamps, except for very minor clearing for environmental monitoring purposes or mitigation measures.*

*In addition to the above measures for threatened flora, the Biodiversity Management Plan would include measures to minimise disturbance to all natural vegetation, including:*

- *avoiding or minimising vegetation clearance by siting surface infrastructure in previously disturbed areas, where practicable;*
- *the use of existing fire trails or tracks where practicable;*
- *lopping of branches, rather than the removal of trees, where practicable;*
- *restricting vegetation clearance to the slashing of vegetation (i.e. leaving the lower stem and roots in-situ to maximise the potential for natural regrowth), where practicable;*
- *limiting the amount of soil disturbance to the minimum required for moving, placing and operating equipment, and for maintaining access to equipment;*
- *measures to encourage natural regeneration, for example, placing stockpiled seed bearing vegetative material over cleared areas; and*
- *rehabilitation measures including weed control or the planting of tubestock cultivated from locally collected seed where natural regeneration is not progressing satisfactorily.*

As described in the EA, Biodiversity Management Plans would form a component of the Extraction Plan process, where the commitments and processes outlined above (and in the EA) would be further detailed and where additional surveys would be conducted (by relevant specialists with appropriate qualifications and DECCW survey licenses) if required.

ICHPL considers that the above commitments and processes provide threatened species and communities with adequate protection and therefore do not consider PAC Report (July 2010) Recommendation 24 as an appropriate basis for developing a Project Approval condition.

## CLIFFS AND STEEP SLOPES

### PAC Report (July 2010) Recommendation 28:

**28. That a hierarchy of mining-induced consequences on cliffs be established as follows:**

- i. nil environmental consequences – where nil has the meaning of none whatsoever.*
- ii. negligible environmental consequences – where negligible has the meaning ascribed in the Metropolitan Coal Project Approval of small and unimportant so as not to be worth considering<sup>4</sup>. Occasional displacement of boulders, hairline fracturing and isolated dislodgement of slabs from overhangs that in total do not impact on more than 0.5% of the total length of a cliffline are indicative of the scale of impacts falling within this category.*
- iii. minor environmental consequences – where minor has the meaning of relatively small in quantity, size and degree. Isolated rock falls of less than 30 m<sup>3</sup> that do not impact on aboriginal heritage, EECs, public safety and the like; which affect less than 5% of the total length of cliffs and associated overhangs; and which affect less than 10% of any 100 m interval of cliff line are indicative of the scale of impacts falling within this category.*

### ICHPL Response:

The Major Cliff Line Risk Assessment (Appendix R of the EA) was prepared consistent with the risk management framework described in Section 6.2 of the Metropolitan PAC Report (PAC, 2009). ICHPL considers the framework described in Section 6.2 of the Metropolitan PAC Report is adequately addressed in Appendix R of the EA.

<sup>4</sup> DoP (2009b), p.1.  
Illawarra Coal Holdings Pty Ltd  
ABN 69 093 857 286

In addition, Section R7 of Appendix R of the EA describes that a Risk Management Plan would be prepared for each cliff line proposed to be directly mined beneath. As described in Section R7 of Appendix R of the EA, the Risk Management Plans would identify:

- (i) *the options for managing the risk based on one or a combination of avoidance, mitigation, remediation or tolerance and taking account of any assessment of special significance of the feature;*
- (ii) *where relevant, the potential costs of those options;*
- (iii) *a preferred option;*
- (iv) *where relevant, a monitoring regime that will detect impact, measure actual impact against predicted impact and measure the effectiveness of the management strategies adopted;*
- (v) *contingency plans for dealing with the situation where actual impact exceeds predicted impact; and*
- (vi) *auditing of the implementation and effectiveness of the risk management plan.*

The establishment of a hierarchy of mining-induced consequences on cliffs is at odds with the risk management framework described above and the arbitrary physical descriptors proposed do not adequately account for site specific attributes of cliffs within the Project area.

#### **PAC Report (July 2010) Recommendation 29:**

**29. That cliffs in the Study Area having the following attributes be afforded special significance status:**

- i. Cliffs longer than 200 m.**
- ii. Cliffs higher than 40 m.**
- iii. Cliffs higher than 5 m that constitute waterfalls.**

#### **ICHPL Response:**

Step 3 of the risk assessment framework involves the identification of any cliff lines of special significance. In relation to 'special significance', the Metropolitan PAC Report (PAC, 2009) provides the following (page 42):

*'Special Significance Status' is based on an assessment of a natural feature that determines the feature to be so special that it warrants a level of consideration and possibly protection well beyond that accorded to others of its kind. It may be based on a rigorous assessment of scientific importance, archaeological and cult importance, uniqueness, meeting a statutory threshold or some other identifiable value or combination of values.*

The arbitrary physical descriptors proposed do not adequately account for a site specific assessment of 'Special Significance Status' of cliffs within the Project area.

#### **PAC Report (July 2010) Recommendation 30:**

**30. That any approval be based on a Performance Criteria of negligible environmental consequences for all cliffs which have:**

- i. Special significance status, or which**
- ii. Flank or are within streams that have been described in this report as warranting special significance status.**

#### **ICHPL Response:**

Arbitrarily relating cliffs of Special Significance to streams of Special Significance does not adequately provide for the assessments of 'Special Significance Status' for cliffs within the Project area as required by Step 3 of the risk assessment framework. The Major Cliff Line Risk Assessment (Appendix R of the EA) was prepared in a manner consistent with the risk management framework described in Section 6.2 of the Metropolitan PAC Report (PAC, 2009).



**PAC Report (July 2010) Recommendation 31:**

- 31. That any approval be based on a Performance Criteria of minor environmental consequences for all other cliffs in the Study Area.**

**ICHPL Response:**

ICHPL does not consider this recommendation reasonable or practical given the random nature of rockfalls. ICHPL would accept a condition similar in nature to that included in the Metropolitan Coal Project Project Approval, whereby rockfall is limited to a percentage of the total length of clifflines.

**SECTION 8 ABORIGINAL HERITAGE**

**PAC Report (July 2010) Recommendations 36, 38 and 40:**

- 36. That a hierarchy of mining-induced consequences on Aboriginal cultural heritage sites be established as follows:**
- i. nil consequences – where nil has the meaning of none whatsoever.**
  - ii. negligible consequences – where negligible has the meaning ascribed in the Metropolitan Coal Project Approval of small and unimportant so as not to be worth considering. Hairline fracturing and isolated dislodgement of small pieces of ground surface or overhangs that in total do not affect more than 5% of an aboriginal site and do not affect at all the physical condition of any item of aboriginal heritage or any cultural value, are indicative of the scale of impacts falling within this category.**
  - iii. minor consequences – where minor has the meaning of relatively small in quantity, size and degree. Isolated open cracking and rock falls of less than 2 m<sup>3</sup> that do not affect the physical condition of any item of aboriginal heritage or any aboriginal cultural value, are indicative of the scale of impacts falling within this category.**
- 38. That any approval should be based on a Performance Criteria of negligible environmental consequences for all Aboriginal heritage sites which have special significance status.**
- 40. That before secondary extraction can commence under the Approval, the Director-General of the Department of Planning should:**
- i. commission work to determine an appropriate standard for protection of Aboriginal heritage sites that are not classified as being of special significance;**
  - ii. include in that work appropriate research on how any such standards could be monitored and enforced; and**
  - iii. ensure that the requirements are included in Extraction Plans.**

**ICHPL Response:**

Appendix G of the EA describes the risk based assessment of potential impacts to Aboriginal heritage sites. The assessment is based on previous studies from the region that have identified structural features important in identifying the potential and likelihood of an Aboriginal heritage site being impacted by mine subsidence. As stated in Appendix G of the EA:

*The highest category used for risk of impact is moderate: this recognises the difficulty in making precise statements of impact, and to incorporate the results of previous monitoring programs—described in detail above—that show generally impacts to sites are rare (occurring in approximately 11% of monitored cases which have focused on sites with higher risk of impact) and that when impacts have been recorded they have been relatively minor (rarely impacting art surfaces for example). Hence the category moderate means impacts are possible, but likely to occur in less than 10% of cases.*

*The other categories used to describe risk include sites whose features, size and landscape position place them in a class that has not previously shown to be impacted from subsidence in formal monitoring programs and therefore are considered to be even less likely to be affected by subsidence. These categories are: low (impacts are unlikely); very low (impacts are highly unlikely); and negligible (impacts are highly unlikely, and would likely be indistinguishable from the natural background environment and natural deterioration processes).*

*Open stone artefact sites and scarred trees in all cases are highly unlikely to be impacted by mine subsidence, and hence they are attributed a negligible risk assessment. For open sites that occur on rock platforms whether or not the rock platform is situated in the valley bottom is the primary risk factor considered in the risk assessment.*

An assessment of special significance was undertaken for all Aboriginal heritage sites within 600 m of the edge of secondary extraction in a manner consistent with the steps described in the NSW Planning Assessment Commission's *Metropolitan Coal Project Review Report* (PAC, 2009). No Aboriginal sites were deemed to fulfil the PAC (2009) specifications to warrant special significance status.

Sites 52-2-0854 and 52-2-3505 were both deemed by the archaeologist to be of high archaeological significance and by the Aboriginal community to be of particular cultural significance. Due to the Project changes, site 52-2-0854 would no longer be impacted by Project related subsidence. Site 52-2-3505 is located near the Stage 4 Coal Wash Emplacement and emplacement over this site was specifically avoided as part of the Stage 4 Coal Wash Emplacement design.

Consistent with the Project Approval for the Metropolitan Coal Project and the subsequent approved *Metropolitan Mine Longwalls 20-22 Heritage Management Plan* (HCPL, April 2010), ICHPL proposes the following performance criteria for Aboriginal heritage sites:

*Less than 10% of Aboriginal heritage sites within the mining area are affected by subsidence impacts to an extent that results in one or more of the following consequences that cannot be attributed to natural weathering or deterioration*

- *overhang collapse;*
- *cracking of sandstone that coincides with Aboriginal art or grinding grooves; or*
- *rock fall that damages Aboriginal art.*

In addition to the above, ICHPL would also accept a condition in relation to special significance as follows:

*If any Aboriginal site(s) with the potential to be impacted by the Project were deemed to be 'special' in the future, specific management and mitigation measures are to be developed in consultation with the Aboriginal community and DECCW and documented in the relevant Extraction Plan to the satisfaction of the Director-General.*

#### **PAC Report (July 2010) Recommendation 39:**

**39. The Stage 4 Coal Wash Emplacement should not proceed until such time as the continued protection of significant sites that were specifically protected as part of the Stage 3 Coal Wash Emplacement approval process is resolved to the satisfaction of the Director General of Planning after:**

- i. completion of an adequate Aboriginal Heritage assessment;**
- ii. consultation with Department of Climate Change and Water (DECCW);**
- iii. consultation with the relevant Aboriginal communities.**

#### **ICHPL Response:**

The Aboriginal Cultural Heritage Assessment (Appendix G of the EA) includes an adequate assessment of the potential impacts on Aboriginal heritage in the vicinity of Stage 4 of the West Cliff Coal Wash Emplacement.

The Aboriginal Cultural Heritage Assessment (Appendix G of the EA) was peer reviewed by R.G. Gunn, who relevantly concluded (Attachment 3 of the EA):

*I therefore consider that the Bulli Seam Operations ACHA provides an adequate and reasonable assessment and consider the recommendations contained in the report to be appropriate and acceptable.*



Consultation with the Aboriginal community and DECCW in regard to management of Aboriginal heritage (including in relation to the Stage 4 Coal Wash Emplacement) would continue to be conducted with DECCW and the Aboriginal community. As described in Section 5 of the EA:

*An Aboriginal Heritage Plan (AHP) would be developed for the Project in consultation with the Aboriginal community and the DECC. The AHP would be active throughout the life of the Project and would incorporate the outcomes of monitoring, survey and fieldwork, analysis and consultation. The AHP would include a protocol for the involvement of the Aboriginal community over the life of the Project with participation of Aboriginal community representatives in cultural heritage monitoring, management and mitigation works. The AHP would detail the statutory requirements to be met throughout the life of the Project regarding the management of Aboriginal heritage and include the mitigation measures described in the sub-sections below.*

...

*The AHP would describe requirements for the management and representative salvage works for Aboriginal heritage sites that would be impacted by surface development including the proposed Stage 4 Coal Wash Emplacement. Management measures would be of a scale commensurate with the Aboriginal heritage sites' archaeological and cultural significance.*

Based on the above, it is ICHPL's view that the potential impacts on Aboriginal heritage associated with the Stage 4 Coal Wash Emplacement have been transparently assessed and provides an adequate Aboriginal heritage impact assessment.

The "significant sites that were specifically protected as part of the Stage 3 Coal Wash Emplacement approval process" mentioned in PAC Report (July 2010) Recommendation 39 include Sites 52-2-1373 (BC7) (moderate archaeological significance), 52-2-3533/3616 (D11) (moderate archaeological significance) and 52-2-3506 (WC3) (potential archaeological deposit – no recorded artefactual material). The Stage 3 Coal Wash Emplacement was able to be designed so that the downstream limit of the emplacement avoided burial of these three sites.

Two of these sites (52-2-1373 [BC7] and 52-2-3533/3616 [D11]) are unable to be protected as part of the Stage 4 Coal Wash Emplacement if the existing emplacement landform continues down Brennans Creek valley, as proposed. A redesign of the Stage 4 Coal Wash Emplacement to avoid these two sites would result in a larger than current disturbance footprint, with additional vegetation clearance required. The Stage 4 Coal Wash Emplacement was able to be designed to avoid 52-2-3506 (WC3).

In addition and as stated in Section 5 of the EA, the Stage 4 Coal Wash Emplacement was designed to:

- Avoid three Aboriginal heritage sites, including the only highly significant (both culturally and archaeologically) site (i.e. 3505) in the Stage 4 Coal Wash Emplacement area (including 52-2-3506 [WC3] discussed above).
- Minimise vegetation clearing.
- Avoid disturbance to upland swamps.
- Avoid disturbance to over 90% of a population of the Hairy Geebung (*Persoonia hirsuta*), listed as endangered under the NSW *Threatened Species Conservation Act, 1995* and the Federal *Environment Protection and Biodiversity Conservation Act, 2000*.

As stated above, the proposed approach for managing impacts to Aboriginal heritage from the Stage 4 Coal Wash Emplacement is to conduct detailed recording and where appropriate archaeological salvage of a sample of occupation deposit, consistent with that successfully employed for the Stage 3 Coal Wash Emplacement area.

Based on the above, ICHPL considers that the Stage 4 Coal Wash Emplacement design is justified.



## BUILT ENVIRONMENT

PAC Report (July 2010) Recommendations 45, 52, 59, 65, 68, 74, 82, 94, 101, and 109 are very similar in content and state:

45. *That the leaseholder/mine operator is to guarantee funding to undertake all risk assessment activities and all mitigation and remediate measures to return the Main Southern Railway to its pre-mining state as soon as practical after the completion of mining and to remediate any residual mining related impacts that may subsequently develop. This includes all the direct and indirect costs of the infrastructure owner in participating in this risk management process. (Given the incremental nature of subsidence development, a number of remediation campaigns may be required).*
52. *That the leaseholder/mine operator is to guarantee funding to undertake all risk assessment activities and all mitigation and remediate measures to return the Hume Highway to its pre-mining state as soon as practical after the completion of mining and to remediate any residual mining related impacts that may subsequently develop. This includes all the direct and indirect costs of the infrastructure owner in participating in this risk management process. (Given the incremental nature of subsidence development, a number of remediation campaigns may be required.)*
59. *That the leaseholder/mine operator is to guarantee funding to undertake all risk assessment activities and all mitigation and remediation measures to return roads to their pre-mining state as soon as practicable after the completion of mining and to remediate any residual mining related impacts that may subsequently develop. This includes all the direct and indirect costs of the infrastructure owner in participating in this risk management process. (Given the incremental nature of subsidence development, a number of remediation campaigns may be required.)*
65. *That the leaseholder/mine operator is to guarantee funding to undertake all risk assessment activities and all mitigation and remediation activities associated with protecting the Cataract Tunnel from impacts due to mining operations in the Study Area so that it can be maintained in a safe and serviceable condition. This includes all the direct and indirect costs of the infrastructure owner in participating in this risk management process.*
68. *That the leaseholder/mine operator is to guarantee funding to undertake all risk assessment activities and all mitigation and remediation activities associated with maintaining the Nepean Tunnel in a safe and serviceable condition if it is undermined and to remediate any residual mining related impacts that may subsequently develop. This includes all the direct and indirect costs of the infrastructure owner in participating in this risk management process. (Given the incremental nature of subsidence development, a number of remediation campaigns may be required.)*
74. *That the leaseholder/mine operator is to guarantee funding to undertake all risk assessment activities and all mitigation and remediation activities associated with maintaining the Upper Canal System in a safe and serviceable condition if it is undermined and to remediate any residual mining related impacts that may subsequently develop. This includes all the direct and indirect costs of the infrastructure owner in participating in this risk management process. (Given the incremental nature of subsidence development, a number of remediation campaigns may be required.)*
82. *That the leaseholder/mine operator is to guarantee funding to undertake all risk assessment activities and all mitigation and remediation activities associated with maintaining the Maldon, Douglas Park, Jordans Pass and Menangle Weirs in a safe and serviceable condition if they are impacted by mining in the Study Area and to remediate any residual mining related impacts that may subsequently develop. This includes all the direct and indirect costs of the infrastructure owner in participating in this risk management process. (Given the incremental nature of subsidence development, a number of remediation campaigns may be required.)*
94. *That the leaseholder/mine operator is to guarantee funding to undertake all risk assessment activities and all mitigation and remediation activities associated with maintaining in a safe and serviceable condition, all gas reticulation systems that are impacted by mining operations. This includes all the direct and indirect costs of the infrastructure owner in participating in this risk management process. (Given the incremental nature of subsidence development, a number of remediation campaigns may be required.)*



**101. That the leaseholder/mine operator is to guarantee funding to undertake all risk assessment activities and all mitigation and remediation activities associated with maintaining in a safe, serviceable and repairable condition, all electrical reticulation systems that are impacted by mining operations. This includes all the direct and indirect costs of the infrastructure owner in participating in this risk management process. (Given the incremental nature of subsidence development, a number of remediation campaigns may be required.)**

**109. That the leaseholder/mine operator is to guarantee funding to undertake all risk assessment activities and all mitigation and remediation activities associated with maintaining in a safe, serviceable and repairable condition, all cable telecommunication systems that are impacted by mining operations. This includes all the direct and indirect costs of the infrastructure owner in participating in this risk management process. (Given the incremental nature of subsidence development, a number of remediation campaigns may be required.)**

**ICHPL Response:**

As described in Section 7.3.1 of the EA, under the *Mine Subsidence Compensation Act, 1961* (MSC Act) a Mine Subsidence Board (MSB) is established, which operates for the community in coal mining areas of NSW and is responsible for administering the *Mine Subsidence Compensation Act, 1961* (MSC Act).

Under the MSC Act (section 10) a Mine Subsidence Compensation Fund has been established into which colliery holders are required to make annual payments. From this fund the MSC Act provides for compensation or repair services where property improvements are damaged by mine subsidence resulting from the underground extraction of coal.

Claims can be made for damage to improvements (which includes all types of construction) and if a claim is accepted, the MSB may offer the owner the option of having repairs carried out by the MSB's contractors or of having the MSB provide a financial settlement. The usual practice is for the MSB to arrange, supervise and pay for the repairs (MSB, 2007).

The MSB may also carry out preventative or mitigation works to reduce subsidence damage on an improvement in accordance with section 13A of the MSC Act:

*The Board may carry out, or cause to be carried out such works as, in its opinion, would reduce the total prospective liability of the Fund by preventing or mitigating damage that the Board anticipates would, but for those works, be incurred by reason of subsidence, whether or not the damage anticipated is damage to improvements or household or other effects on the land on which the works are to be carried out.*

ICHPL experience indicates that the MSB only fund (and levy) a proportion of the overall subsidence management costs incurred. However, the very important role of the MSB should be incorporated into any condition of a Project Approval that refers to the funding and management, remediation and mitigation of subsidence impacts on property improvements and built infrastructure.

## PAC Report (July 2010) Recommendation 117:

**117. That a Performance Criterion of nil impact on the heritage value of the following sites be imposed in any Approval conditions, where nil means no mining induced change of any description in heritage value. In the case of sites which may have already been impacted by past mining operations, e.g. Broughton's Pass Weir, nil impact has the meaning of no additional mining induced change of any description.**

**These sites are:**

- a. Cataract Dam Wall.**
- a. Broughtons Pass Weir.**
- b. St James Church, Menangle.**
- e. St Mary's Tower, Douglas Park.**

## ICHPL Response:

It is noted that with the decision not to seek application to mine Appin Area 2 Extended and the majority of Appin Area 3 Extended of the Project, the Cataract Dam and Broughtons Pass Weir are no longer proximal to the Project Extent of Longwall Mining area.

With respect to the St James Church and St Mary's Towers the EA states the following (Section 5.11.3):

### *Heritage Building Structures*

*All heritage buildings would be managed in accordance with the dwelling management measures and Mine Subsidence Compensation Act, 1961 provisions outlined in Section 5.4. This would include the development of a Built Features Management Plan incorporating recording, monitoring and repair provisions where required.*

*Table 5-27 lists preliminary management and mitigation measures for heritage buildings of a higher level of significance (state and/or national) that have been identified in Appendix H. The preliminary management and mitigation measures would be reviewed and refined following a detailed structural assessment and the preparation of an individual Statement of Heritage Impact (SOHI) for each of these items as a component of future Extraction Plans.*

*Management measures would be employed for buildings of high significance such as the St James Anglican Church (Table 5-27) to maintain the key contribution of these items ...*

Table 5-27 of the EA provides the following preliminary recommendations to maintain the heritage values of the St James Church (that would be reviewed following preparation of a SOHI):

- *Maintain structural stability and serviceability.*
- *Minimise damage to external brickwork to cracks in a small number of bricks only and any continuous cracking to be limited to the mortar only.*
- *Avoid damage to leadlight windows, timber panelling and other key aspects of the heritage fabric that cannot be readily restored without loss of heritage values in the event of damage.*
- *Avoid damage to services that may require substantial works to the heritage fabric to repair or replace.*
- *Document the heritage values of the item and complete a detailed SOHI for the management of mine subsidence effects with input from a Conservation Architect and Structural Engineer.*
- *Manage any other key features of the heritage fabric that may be identified in the SOHI investigations appropriately to maintain heritage values.*

Table 5-27 of the EA provides the following preliminary recommendations to maintain the heritage values of St Mary's Towers (that would be reviewed following preparation of a SOHI):

- *Maintain structural stability and serviceability.*
- *Minimise damage to external brickwork and stonework to cracks in a small number of stones/bricks only and any continuous cracking to be limited to the mortar only.*
- *Avoid damage to any key aspects of the heritage fabric that cannot be readily restored without loss of heritage values in the event of damage (such as brick detailing and stone carving, leadlight windows, etc.).*
- *Avoid damage to services that may require substantial works to the heritage fabric to repair or replace.*



- Document the heritage values of the item and complete a detailed SOHI for the management of mine subsidence effects with input from a Conservation Architect and Structural Engineer.
- Manage any other key features of the heritage fabric that may be identified in the SOHI investigations appropriately to maintain heritage values.

It is noted that the language adopted by the PAC Report is not markedly different to the EA, however, the EA terminology targets maintenance of heritage values for the state and/or national significance items, whereas the PAC Report terminology may potentially restrict the ability for any change (e.g. minor damage and repair) to occur. Given the fact that it is likely that some effect that requires repair (e.g. hairline cracks) will potentially occur when mining is undertaken in the vicinity of these heritage items, the EA approach is more appropriate for the management of Project non-Aboriginal heritage sites of state and/or national significance.

#### **PAC Report (July 2010) Recommendation 118:**

**118. That any Approval requires that no Extraction Plan is to be approved unless:**

- i. A survey has been undertaken of all non-Aboriginal heritage sites within an area defined by a 600 m wide boundary around the mining area to which the Extraction Plan relates;**
- ii. The heritage value of each site within this boundary has been determined by appropriately qualified persons in consultation with the Heritage Branch;**
- iii. Measures necessary to preserve the heritage value of all heritage sites of significance are incorporated into a Heritage Management Plan as an element of the associated Extraction Plan including incorporation of effective adaptive management provisions for responding to unpredicted anomalous and non-conventional subsidence effects.**
- iv. The Heritage Management Plan has been peer reviewed by a person appointed by the Department of Planning and the Director-General of the Department of Planning is satisfied that the predicted impacts of the proposed mining operations will not have an adverse effect on the heritage values of any significant heritage sites;**

#### **ICHPL Response:**

The PAC Report recommendation 118 is not sufficiently clear as to what constitutes a *significant* heritage site in this context.

Section 5.11.3 of the EA states the following for the management of non-Aboriginal heritage through the extraction plan process.

##### *Extraction Plans*

*Detailed subsidence assessment and (if required) site-specific structural assessments would be conducted for each listed non-Aboriginal heritage item in the Project extent of longwall mining area (Table 5-25) as a component of future Extraction Plans.*

*The Extraction Plan process for managing non-Aboriginal heritage items would involve the following key components:*

- *A detailed subsidence assessment for each non-Aboriginal heritage item on the basis of the final detailed design of longwall layouts.*
- *For heritage items that are occupied or are of regional, state and/or national heritage significance, a detailed structural assessment would be undertaken to determine the structure's sensitivity to the subsidence predictions.*
- *All heritage items would be recorded and documented in detail to the standard required by the Heritage Branch of the DoP (according to their heritage significance), prior to undermining.*
- *For heritage items of state and/or national significance that may be adversely affected by the Project the following measures would be implemented:*
  - *ICHPL would complete an individual SOHI.*

- According to the sensitivity and heritage values of the various sub-components of the listed item, ICHPL would design and implement pre-mining management or mitigation measures for the item where required in consultation with the owner. These measures would be designed utilising the subsidence assessment and structural assessment findings and, where relevant, input from a Conservation Architect and/or Structural Engineer.
- Options to manage or mitigate potential impacts on the heritage values may include the implementation of engineering measures (e.g. bracing/ strengthening) on the advice of a suitably qualified Structural Engineer and Conservation Architect.
- In the case that the heritage values cannot feasibly (either economically or technically) be maintained using engineering mitigation measures for items of state and/or national significance, adjustment to the mine plan would be considered to achieve the same. The management context and condition of the item, and the likelihood of long-term conservation being achieved would inform decision making.
- Where relevant, for occupied heritage items of local and regional significance, ICHPL would design and implement management or mitigation measures in consultation with the owner to maintain safety and serviceability.

In addition, Appendix H of the EA (Section 4.2) outlines the following:

*The Conservation Architect and Structural Engineer would, where relevant, advise ICHPL on the following aspects during the preparation of BFMPs for items of local and regional significance and SOHIs for items of state and/or national significance:*

- *Identification of individual components or features of the heritage item that may be more robust and hence can tolerate greater subsidence effects (e.g. sturdy exterior walls), and conversely components or features that are at higher risk of damage due to their state of repair or construction (e.g. existing deteriorated render).*
- *The types of damage to the heritage fabric that can be repaired without loss of heritage values (e.g. cracks in internal painted masonry walls).*
- *Consideration of the risk of damage to individual components or features of the heritage item with the predicted subsidence effects, and whether stabilisation methods are available to readily reduce the risk of subsidence damage to that component or feature.*
- *Where engineering mitigation measures are to be implemented, the potential for the engineering measures to adversely affect heritage values and methods to minimise such impacts.*
- *The suitability of pre-mining repairs that could be undertaken to stabilise existing unstable or poorly maintained building elements, to reduce the risk of damage during mine subsidence.*
- *Repair methods that should be adopted for various components of the heritage item (e.g. methods for repair of cracked render, mortar, brick or stone work, internal plaster) such that heritage values are conserved in the event of subsidence damage.*
- *For items of state and/or national significance, a protocol for the ongoing monitoring, management, documentation and repair of subsidence impacts during mine subsidence that is appropriate for various components or features of the item, and its potential sensitivity to subsidence impacts.*

ICHPL believes the mechanisms outlined in the EA are appropriate for the management of non-Aboriginal heritage items through the extraction process, including the management of items of state and/or national significance.



**PAC Report (July 2010) Recommendation 120:**

**120. That conducting of seismic monitoring on a regional basis, analysis of outcomes and correlation with mining operations should be a requirement of all Extraction Plans for the BSO Project and that this information is reported to the Department of Planning on an annual basis.**

**PAC Report (July 2010) Recommendation 121:**

**121. That seismic monitoring data and analysis is reviewed externally every 3 years by a suitably qualified person nominated by the Department of Planning.**

**PAC Report (July 2010) Recommendation 122:**

**122. That any identified associations or trends between the seismic data and mining activities should constitute a trigger that requires:**

- a. mine planning to be reviewed internally by the leaseholder/mine operator and externally by a person nominated by the Department of Planning; and**
- b. a risk assessment to be undertaken of the potential impacts and consequences of seismicity for man-made features and natural features associated with the BSO Project.**

**ICHPL Response:**

ICHPL acknowledges that seismic activity was an issue identified by some stakeholders during the EA process. Although it is unlikely to be a significant issue ICHPL would agree to conduct limited regional seismic monitoring, analysis of outcomes and correlation with mining operations. However, this should not be a requirement of all Extraction Plans for the Project and rather be a component of a Landscape Management Plan. Proposed seismic monitoring, analysis and review would be outlined in the Landscape Management Plan and be approved by the Director General of the Department of Planning.

**MINE SURFACE INFRASTRUCTURE**

**PAC Report (July 2010) Recommendation 123 [1]:**

**1. [sic] That the government consider the implications of including surface goaf gas drainage facilities in an Approval where there has been no opportunity for the public to comment on the details of any proposals and there are potential impacts of construction and operation of the facilities on both public and private land.**

**ICHPL Response:**

As described in Section 2.5.5 of the EA, as a component of the Surface Goaf Gas Drainage Management Plan process ICHPL has committed to obtain suitable landholder agreements or easements over land for gas drainage sites, surface infrastructure and associated vehicular access (where required).

The Surface Goaf Gas Drainage Management Plan would also include targeted noise and air quality assessments to ensure compliance with relevant criteria is achievable, targeted visual impact assessment, a Vegetation Management Protocol, design of erosion and sediment control and site water management measures, site-specific Aboriginal and non-Aboriginal heritage inspections to ensure avoidance of any identified objects and progressive rehabilitation.

The Surface Goaf Gas Drainage Management Plan would be prepared to the satisfaction of the DoP.

## WEST CLIFF COAL WASH EMPLACEMENT

### PAC Report (July 2010) Recommendation 127:

**127. That future Pollution Reduction Programs address the improvement in discharge water quality with a goal of less than 1000 µS/cm within 10 years.**

#### ICHPL Response:

As described in Section 5.6.2 of the EA:

*ICHPL is currently conducting assessments and trials in accordance with an existing PRP [Pollution Reduction Program] under EPL 2504, in relation to the continued licensed release of water from Brennans Creek Dam to the Georges River. Further discussion is provided in Section 5.6.3 (i.e. Water Quality Management Measures).*

...

*The current PRPs at Appin West and Appin East pit tops would continue to be addressed and relevant improvements implemented to enable future pit top water management to be conducted in compliance with EPL conditions.*

As described in Section 5.6.3 of the EA:

*ICHPL is conducting ecologically based studies and trials to determine an appropriate water quality release limit for salinity from Brennans Creek Dam under dry weather flow conditions, with the intention to include this limit in EPL 2504 for the West Cliff pit top.*

...

*Methods needed to achieve compliance with applicable limits (e.g. water treatment) would be the subject of a separate PRP. A plan to implement the preferred option would then follow for completion prior to July 2013 in accordance with the PRP under EPL 2504.*

ICHPL will continue to work with DECCW in regard to the current pollution reduction program and potential future pollution reduction programs and the implementation of any outcomes reflected in ICHPL's Environment Protection Licenses. In recognition of the above processes, it is not appropriate to pre-emptively set an arbitrary 1000 µS/cm goal.

## ISSUES RAISED IN SUBMISSIONS

### PAC Report (July 2010) Recommendation 129:

**129. That any Approval to mine under Dharawal SCA should be conditional on negligible subsidence related impacts on the significant natural features in the SCA including upland swamps, streams EECs and areas of habitat containing viable populations of threatened species, significant cliff lines and significant Aboriginal cultural heritage sites.**

#### ICHPL Response:

The Project as modified by the PPR includes mining under only a very small proportion of the Dharawal State Conservation Area (West Cliff Area 5 domain). Within this area there are no identified swamps, cliff lines, Aboriginal sites or streams of third order (or greater).

ICHPL proposes that impacts to natural features within the small section of the Dharawal State Conservation Area within the West Cliff Area 5 domain (e.g. Aboriginal heritage sites, threatened ecological communities, threatened species or their habitats) be limited to those described in the EA with mitigation and management measures implemented as described in the EA.



#### **PAC Report (July 2010) Recommendation 132:**

***132. That if after 2013 the noise generated by traffic associated with the project persistently exceeds the relevant criteria at any residence on privately owned land then the Proponent should provide appropriate insulation and ventilation for affected houses at the request of the relevant landowners.***

#### **ICHPL Response:**

Traffic noise is cumulative, in that it is measured over a defined period and all traffic in that period contributes to measured traffic noise levels. Multiple traffic sources therefore typically contribute to measured traffic noise exceedances in a location.

In addition, traffic noise levels at receivers that are located in close proximity to roads in NSW commonly exceed the ECRTN criterion, even in rural areas.

As part of the Noise Impact Assessment, the offset distances at which Environmental Criteria for Road Traffic Noise criteria would be achieved were calculated for Macarthur Road and Douglas Park Drive for existing traffic, and predicted traffic in Year 3 and Year 10 of the Project (Section I6 of Appendix I of the EA). Predicted traffic noise results for all receivers located close to the road between the southern end of Macarthur Road and the freeway at the northern end of Douglas Park Drive were also detailed in ICHPL's responses to submissions.

In summary, with existing road traffic numbers, a total of up to 36 residences in this area are already predicted to experience traffic noise levels exceeding the ECRTN criteria. Under the most conservative Project traffic assumptions, traffic noise is predicted to increase and an additional 29 residences are predicted to experience exceedances (i.e. total 65). In practice this would be dependant on a number of factors including Project shift change times, pit top workforce distribution, employee car pooling rates and background traffic growth.

Consistent with other recent mining Part 3A Project Approvals it is suggested that a general Project Approval condition requiring ICHPL to implement reasonable and feasible measures to minimise mine traffic on these two roads would be appropriate.

#### **ADEQUACY OF INFORMATION**

#### **PAC Report (July 2010) Recommendation 134:**

***134. That, where information is deemed to be inadequate for a proper assessment of the subsidence-related impacts on significant natural features or items of built infrastructure, Approval should only be considered where the Performance Criteria are sufficiently robust to ensure that the recommended levels of protection will be achieved by the proposed Extraction Plans for the mining operation.***

#### **ICHPL Response:**

The subsidence assessment provided as Appendix A of the EA meets contemporary standards. ICHPL also notes that the subsidence assessment was peer reviewed by Professor Bruce Hebblewhite, who is the Head of the School of Mining Engineering at the University of New South Wales and Executive Director of Mining Education Australia. Professor Hebblewhite also chaired the Independent Inquiry into Underground Coal Mining in the Southern Coalfield.

ICHPL agrees that performance criteria included in the Project Approval should be robust. ICHPL recognises that any Extraction Plan must demonstrate compliance with the Project Approval, including demonstrating that the relevant performance criteria can be achieved.