



**METROPOLITAN  
COLLIERIES PTY LTD**  
**ABN: 91 003 135 635**

31 Duncan Street  
Fortitude Valley Qld 4006

PO Box 402  
Helensburgh NSW 2508  
Australia  
Tel + 61 (0) 2 4294 7200  
Fax + 61 (0) 2 4294 2064

17 June 2025

NSW Department of Planning, Housing and Infrastructure  
Locked Bag 5022  
PARRAMATTA NSW 2124

**Attention: Mrs Jessie Evans, Director, Resource Assessments**

**By email:** [Jessie.Evans@planning.nsw.gov.au](mailto:Jessie.Evans@planning.nsw.gov.au)

Dear Jessie,

**RE: METROPOLITAN COAL MINE – METROPOLITAN COAL LONGWALLS 311-316  
EXTRACTION PLAN – IEAPM POST-ADVICE ON LONGWALLS 312-316**

Metropolitan Collieries Pty Ltd (Metropolitan Coal) is wholly owned by Peabody Energy Australia Pty Ltd, and operates the Metropolitan Colliery (Metropolitan Coal Mine), which is located adjacent to the township of Helensburgh and approximately 30 kilometres north of Wollongong in New South Wales (NSW). Project Approval (08\_0149) for the Metropolitan Coal Project was granted on 22 June 2009 by the Minister for Planning under section 75J of the NSW *Environmental Planning and Assessment Act 1979*.

In accordance with Condition 8, Schedule 7 of the Project Approval (08\_0149), an Independent Environmental Audit of the Metropolitan coal Mine was commissioned by the 31 December 2024. Metropolitan Coal submitted the Independent Environmental Audit to the Department of Planning and Environment on 16 June 2025.

In accordance with Condition 9, Schedule 7 of the Project Approval, Table 1 and Table 2 provided in Enclosure 1 presents the recommendations made in the Independent Environmental Audit and Metropolitan Coal's response to these recommendations.

Please do not hesitate to contact Mr Stephen Love (Environment & Community Superintendent) on (02) 4294 7384 should you wish to discuss.

Please do not hesitate to contact me should you have any queries or require additional information.

Yours sincerely,

**JON DEGOTARDI**  
Approvals Manager

**Table 1**  
**Independent Environmental Audit Recommendations and Metropolitan Coal Responses**

No.	Condition	Independent Environmental Audit Recommendations	Metropolitan Coal Response				
Project Approval (08_0149)							
Sch 2 Cond. 11a	<p>The Proponent shall ensure that all plant and equipment used at the site is:</p> <p>(a) maintained in a proper and efficient condition; and</p>	<p>Continue with the implementation of iron staining source investigation, remediation, and monitoring in accordance with the Approved Metropolitan Coal Stream Remediation Plan.</p> <p>In addition, it is recommended that Metropolitan establish a wet weather threshold criterion to trigger additional inspections.</p>	<p>In 2023 Metropolitan installed a real-time sediment monitoring system to assist in informing sediment management decision making in relation to site dams. Sediment is removed from site dams on a continual basis. Routine visual inspections of the surface water management infrastructure are also undertaken.</p>				
Sch 3 Cond.1 a)	<p>The Proponent shall ensure that the project does not cause any exceedances of the performance measures in Table 1.</p> <table><tr><td colspan="2">Watercourses</td></tr><tr><td>Eastern Tributary between the full supply level of the Woronora Reservoir and the main gate of Longwall 26</td><td><ul style="list-style-type: none"><li>Negligible environmental consequences over at least 70% of the stream length (that is no diversion of flows, no change in the natural drainage behaviour of pools, minimal iron staining and minimal gas release.</li></ul></td></tr></table>	Watercourses		Eastern Tributary between the full supply level of the Woronora Reservoir and the main gate of Longwall 26	<ul style="list-style-type: none"><li>Negligible environmental consequences over at least 70% of the stream length (that is no diversion of flows, no change in the natural drainage behaviour of pools, minimal iron staining and minimal gas release.</li></ul>	<p>Continue with the implementation of iron staining source investigation, remediation, and monitoring in accordance with the Approved Metropolitan Coal Stream Remediation Plan.</p>	<p>Metropolitan has progressively installed polyurethane (PUR) grout curtains at Eastern Tributary pools ETAH, ETAK, ETAL, ETAM and ETAO with additional shallow pattern grouting also undertaken at Pools ETAQ and ETAR since 2020 in accordance with the approved Metropolitan Coal Stream Remediation Plan. Metropolitan is currently monitoring pool drainage behaviour in the performance measure zone before potentially remobilizing to install additional grout curtains or undertake additional work at existing locations. It is expected that the reduction in surface water/groundwater interaction due to the installation of grout curtains along Eastern Tributary will reduce iron staining over time.</p>
Watercourses							
Eastern Tributary between the full supply level of the Woronora Reservoir and the main gate of Longwall 26	<ul style="list-style-type: none"><li>Negligible environmental consequences over at least 70% of the stream length (that is no diversion of flows, no change in the natural drainage behaviour of pools, minimal iron staining and minimal gas release.</li></ul>						
Sch 4 Cond. 1	<p>By the end of 2014, the Proponent shall ensure that the noise generated by the project does not exceed the noise impact assessment criteria in Table 2 at any residence on privately-owned land, or on more than 25% of any privately- owned land.</p>	<p>Continue the identification of nuisance noise sources and implementation of noise mitigation strategies.</p>	<p>Metropolitan Coal will continue to identify and implement opportunities to upgrade and/or mitigate site noise sources as they arise.</p>				

No.	Condition	Independent Environmental Audit Recommendations	Metropolitan Coal Response
Sch 4 Cond. 14	<i>The Proponent shall ensure that all surface water discharges from the site comply with the discharge limits (both volume and quality) set for the project in any EPL.</i>	<p>Review all water discharges, determine the root causes of the discharges. Based on the lessons learned, review the management of surface water and revise the Surface Facilities Water Management Plan.</p> <p>Consider including specific design capacity criteria in the surface facilities water management plan and monitoring pond capacities. This would allow easier identification of any limitations in water management infrastructure to improve the future management of water related incidents.</p>	Metropolitan Coal has and will continue to undertake investigations to identify the root causes of any non-compliant discharges that may occur. Mitigation strategies are implemented as required in response to any such non-compliant discharges. Metropolitan Coal updated the Surface Facilities Water Management Plan in November 2023, which is currently under review by EPA. Metropolitan Coal will otherwise continue to operate the facility in accordance with the conditions of its Project Approval and EPL, particularly with respect to licensed discharges of surface water from the premises.
Sch 4 Cond. 15	<p><i>The Proponent shall prepare and implement a Water Management Plan for the surface facilities area and two ventilation shaft sites to the satisfaction of the Director-General. This plan must be prepared in consultation with NOW and OEH by a suitably qualified expert whose appointment has been endorsed by the Director-General and submitted to the</i></p> <p><i>Director-General for approval by the end of June 2010. In addition to the standard requirements for management plans (see condition 2 of schedule 7).</i></p> <p>...</p>	Review and revise the Surface Facilities Water Management Plan to reflect the current water management system and improvements implemented.	Metropolitan Coal updated the Surface Facilities Water Management Plan in November 2023, which is currently under review by the EPA.

No.	Condition	Independent Environmental Audit Recommendations	Metropolitan Coal Response
Sch 7 Cond. 4b	<p><b>Revision of Strategies, Plans &amp; Programs</b></p> <p><i>Within 3 months of the submission of an:</i></p> <p>...</p> <p><i>(b) incident report under condition 6 of schedule 7;</i></p> <p>...</p> <p><i>the Proponent shall review, and if necessary revise, the strategies, plans, and programs required under this approval to the satisfaction of the Director-General.</i></p>	<p>Review and revise the Surface Water Management Plan to ensure that the current water management system is accurately described and that relevant modifications to the Environment Protection Licence have been addressed.</p> <p>Review and if required all management plans (e.g. the Air Quality Management Plan) that may be impacted by previous variations to the EPL.</p>	Metropolitan Coal updated the Surface Facilities Water Management Plan in November 2023 and the Air Quality Management Plan in December 2023. These plans are currently under review by the EPA.
Sch 7 Cond. 4c	<p><b>Revision of Strategies, Plans &amp; Programs</b></p> <p><i>Within 3 months of the submission of an:</i></p> <p>...</p> <p><i>(c) the submission of an audit report under Condition 9 below; or</i></p> <p>...</p> <p><i>the Proponent shall review, and if necessary revise, the strategies, plans, and programs required under this approval to the satisfaction of the Director-General.</i></p>	Review and if required revise the Noise Management Plan.	Metropolitan reviews site Management Plans annually as part of the Annual Review process and will update the Noise Management Plan if and where required.
Sch 7 Cond. 6	<i>The Proponent shall notify the Director- General and any other relevant agencies of any incident associated with the project as soon as practicable after the Proponent becomes aware of the incident. Within 7 days of the date of the incident, the Proponent shall provide the Director-General and any relevant agencies with a detailed report on the incident</i>	Review the incident management and reporting procedures as documented in EMS and PIRMP to ensure that all potentially reportable incidents are reported to the relevant Authorities.	Metropolitan will continue to carefully review the particulars of any potential incident against reporting requirements as outlined in the relevant Management Plans and the PIRMP and notify relevant Authorities as and where required.
Sch 7 Cond. 10	<p><i>From the end of 2009, the Proponent shall make the following information publicly available on its website:</i></p> <p><i>(a) a copy of all current statutory approvals;</i></p>	Ensure that all documents loaded onto the website are the current versions.	Environment Protection Licence No. 767 has been updated to the current version on the Metropolitan website. All current statutory approvals which are required to be published are available on Metropolitan Coal's website.

No.	Condition	Independent Environmental Audit Recommendations	Metropolitan Coal Response				
Sch 3 Cond. 1	<p><i>The Proponent shall ensure that the project does not cause any exceedances of the performance measures in Table 1.</i></p> <table><tr><th colspan="2">Water Resources</th></tr><tr><td><i>Catchment yield to the Woronora Reservoir</i></td><td><i>Negligible reduction to the quality or quantity of water resources reaching the Woronora Reservoir.</i>  <i>No connective cracking between the surface and the mine.</i></td></tr></table>	Water Resources		<i>Catchment yield to the Woronora Reservoir</i>	<i>Negligible reduction to the quality or quantity of water resources reaching the Woronora Reservoir.</i>  <i>No connective cracking between the surface and the mine.</i>	Recommendation for Improvement – implement all recommendations made by the Independent Expert Advisory Panel for Mining in their 2023 report to be included in the LW311 to 318 Water Management Plans and Stream Remediation Plans.	<p>Metropolitan Coal accepted the majority of the Independent Expert Advisory Panel for Mining's (IEAPM's) recommendations outlined in the following reports:</p> <ol style="list-style-type: none"><li><i>Metropolitan Coal Mine: Independent review of environmental performance to 2022</i> (IEAPM, 2023a).</li><li><i>Water Quality Performance Measures for Metropolitan Coal Mine</i> (IEAPM, 2023b).</li><li><i>High Level Review - Large swamp environmental assessment requirements for the Extraction Plan for Longwalls 311 to 316</i> (IEAPM, 2023c).</li><li><i>Metropolitan Coal Mine Stage 1: Longwalls 311-312 Advice</i> (IEAPM, 2024).</li><li><i>Metropolitan Coal Mine Stage 2: Longwalls 312-316 Advice</i> (IEAPM, 2025).</li></ol> <p>Metropolitan Coal has commenced investigations to address several of the IEAPM's recommendations. Following completion of the relevant investigations, Metropolitan Coal will implement additional monitoring and management measures in the relevant management plan, where necessary.</p>
Water Resources							
<i>Catchment yield to the Woronora Reservoir</i>	<i>Negligible reduction to the quality or quantity of water resources reaching the Woronora Reservoir.</i>  <i>No connective cracking between the surface and the mine.</i>						
Sch 3 Cond. 1	<p><i>The Proponent shall ensure that the project does not cause any exceedances of the performance measures in Table 1.</i></p> <table><tr><th colspan="2">Water Resources</th></tr><tr><td><i>Catchment yield to the</i></td><td><i>Negligible reduction to the quality or</i></td></tr></table>	Water Resources		<i>Catchment yield to the</i>	<i>Negligible reduction to the quality or</i>	Recommendation for Improvement – PM02 logger should be investigated to understand why pressure increased after a new logger was installed after Jul 2023.	<p>Metropolitan Coal will engage SLR Consulting Australia Pty Ltd (SLR) to investigate the increase in water level readings following recovery of the data from a likely logger malfunction.</p> <p>It is anticipated the conclusions of the investigation will be reported in the 2025 Annual Review.</p>
Water Resources							
<i>Catchment yield to the</i>	<i>Negligible reduction to the quality or</i>						

No.	Condition		Independent Environmental Audit Recommendations	Metropolitan Coal Response
	Woronora Reservoir	quantity of water resources reaching the Woronora Reservoir.	Shallow sensors P60m, P108m and P155m at 9EGW2A/9EGW2-4 depressurizing from LW307 to LW309. The sudden increase in pressure from Sept 2023 onwards should be watched as deeper sensors showed this response prior to significant decreases in pressure.	It is noted that spikes in water level observed in piezometer 60 mgbl of 9EGW2A/9EGW2-4 is likely due to a logger malfunction (SLR, 2025).  Notwithstanding, Metropolitan Coal will continue to undertake regular monitoring of 9EGW2A/9EGW2-4 in accordance with the Longwalls 311-316 Water Management Plan. The monitoring data will be analysed and presented in the 2025 Annual Review.
		No connective cracking between the surface and the mine.	The hydrographs for 9EGW2A and 9EGW2-4 show as one hydrograph and should be separated for reporting purposes.	It is noted that the multi-level piezometer site 9EGW2A experienced failure of certain lower-level instrumentation. An additional hole was drilled adjacent to 9EGW2A (bore 9EGW2-4) to a depth of 557 m to install new piezometers at the same relative level as the failed piezometers in December 2017.  Notwithstanding, Metropolitan Coal will consider the preparation of two hydrographs for 9EGW2A and 9EGW2-4 in subsequent Annual Reviews.
Sch 7 Cond. 6	The Proponent shall notify the Director- General and any other relevant agencies of any incident associated with the project as soon as practicable after the Proponent becomes aware of the incident. Within 7 days of the date of the incident, the Proponent shall provide the Director-General and any relevant agencies with a detailed report on the incident.		Prepare and maintain a formal incident register.	<ul style="list-style-type: none"><li>Metropolitan Coal's existing reporting process documents all incidents in detail and this information is provided to relevant agencies as required in accordance with Schedule 7, Condition 6. The preparation of a formal incident register is a duplication of existing reporting and record keeping procedures. Such information is already readily available and the preparation of a separate formal register is not required for the purpose of achieving compliance with this condition.</li></ul>
Environmental Protection Licence 767				
L1.1	Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997.		Review all water discharges, determine the root causes of the incidents. Based on the lessons learned, review and revise the surface water management plan.	Metropolitan Coal updated the Surface Facilities Water Management Plan in November 2023, which is currently under review by the EPA.

No.	Condition	Independent Environmental Audit Recommendations	Metropolitan Coal Response
O2.1	All plant and equipment installed at the premises or used in connection with the licensed activity: a) must be maintained in a proper and efficient condition; and	Ensure that the routine inspection of all surface water management infrastructure, including sediment ponds is undertaken and that all required cleaning and maintenance is undertaken.	In 2023 Metropolitan installed a real-time sediment monitoring system to assist in informing sediment management decision making in relation to site dams. Sediment is removed from site dams on a continual basis. Routine visual inspections of the surface water management infrastructure are also undertaken.
<b>Standard Mining Lease Conditions of the Mining Regulation 2016</b>			
Division 1 Cond. 4	(1) <i>The holder of a mining lease must take all reasonable measures to prevent, or if that is not reasonably practicable, to minimise, harm to the environment caused by activities under the mining lease.</i> ...	Review all water discharges, determine the root causes of the discharges. Based on the lessons learned, review and revise the surface water management plan.	Metropolitan Coal updated the Surface Facilities Water Management Plan in November 2023, which is currently under review by the EPA.
Division 4 Cond. 17	<b>Records demonstrating compliance</b> <i>The holder of a mining lease must create and maintain records of all actions taken that demonstrate compliance with each of the conditions set out in this Part.</i> <b>Note—</b> <i>The Act, sections 163D and 163E provide for the form in which records must be kept and the period for which they must be retained.</i>	Establish and maintain compliance records as required by Condition D4 - 17	Metropolitan Coal experienced a number of delays and disruptions to its submission of documents required by the Resources Regulator under the rehabilitation reforms implemented in 2022 as a result of technical issues with the RR Portal rollout. Metropolitan subsequently submitted all required documents when able and records saved where these were provided. It should be noted that during this transition period the RR Portal did not reliably provide external evidence of submissions such as emails.
Division 3 Cond. 18	<b>Report on non-compliance</b> (1) <i>The holder of a mining lease must provide the Minister with a written report detailing any non-compliance with-</i> <i>(a) a condition of the mining lease,</i> ...	Establish and maintain compliance records as required by Condition D4 - 17	As above.

No.	Condition	Independent Environmental Audit Recommendations	Metropolitan Coal Response
Division 4 Cond. 19a	Nominated contact person <i>(1) The holder of a mining lease must nominate a natural person to be the contact person with whom the Secretary can communicate in relation to the mining lease for the purposes of the Act.</i>	Ensure that submissions to the RR meet the timelines required by the Mining Lease Standard Conditions.	Metropolitan Coal provided additional contact person details once requested by RR. Metropolitan Coal personnel were already a registered contact person with RR.
<b>Consolidated Coal Lease 703</b>			
25	<i>The lease holder shall provide and maintain to the satisfaction of the Minister efficient means to prevent contamination, pollution, erosion or sedimentation of any river, stream, creek, tributary, lake, dam, reservoir, watercourse or catchment area or any undue interference to fish or their environment and shall observe any instruction given or which may be given by the Minister with a view to preventing or minimising the contamination, pollution, erosion or sedimentation of any river, stream, creek, tributary, lake, dam, reservoir, watercourse or catchment area or any undue interference to fish or their environment.</i>	Review all water discharges, determine the root causes of the discharges. Based on the lessons learned, review and revise the surface water management plan.	Metropolitan Coal updated the Surface Facilities Water Management Plan in November 2023, which is currently under review by the EPA.



**Table 2**  
**Independent Environmental Audit Technical Report Recommendations and Metropolitan Coal Responses**

No.	Relevant Environmental Issue/Performance Measure	Recommendations	Metropolitan Coal Response
<b>Water Specialist Report (EMM Consulting Pty Ltd, 2025)</b>			
1	Surface Water	Consider incorporating within the EP WMP TARP Level 3 actions to refer to incident or non-compliance procedure (as defined by the development consent). Currently the TARP is not clear that a Level 3 trigger may require notification to regulators that an incident has occurred.	<p>An incident is defined as a set of circumstances that causes or threatens to cause material harm to the environment, and/or breaches or exceeds the limits or performance measures/criteria in the Project Approval.</p> <p>It is noted that an incident may not result in a Level 3 trigger of a TARP detailed in the Longwalls 311-316 Water Management Plan.</p> <p>The Trigger Action Response Plans (TARPs) provided in the Longwalls 311-316 Water Management Plan detail the reporting requirements relevant to Level 1, Level 2 and Level 3 triggers.</p> <p>Metropolitan Coal undertakes reporting of incidents in accordance with Condition 6, Schedule 7 of Project Approval (08_0149). Further detail on the incident reporting is provided in Section 5.2 of the Longwalls 311-316 Extraction Plan and Section 13 of the Longwalls 311-316 Water Management Plan.</p> <p>Notwithstanding, Metropolitan Coal will consider this recommendation in any future revisions to the Longwalls 311-316 Water Management Plan.</p>

**Table 2 (Continued)**  
**Independent Environmental Audit Technical Report Recommendations and Metropolitan Coal Responses**

No.	Relevant Environmental Issue/Performance Measure	Recommendations	Metropolitan Coal Response
<b>Water Specialist Report (EMM Consulting Pty Ltd, 2025) (Continued)</b>			
2	Surface Water	Consider incorporating within the EP WMP TARP Level 3 actions to refer to incident or non-compliance procedure (as defined by the development consent). Currently the TARP is not clear that a Level 3 trigger may require notification to regulators that an incident has occurred.	As above.
3	Surface Water	Update future annual review document template to cover the correct water licence information (i.e. the water supply work approvals for both groundwater and surface water [now expired], and respective WALs). The reference to licences issued under the <i>Water Act 1912</i> are now superseded by licences issued under the <i>Water Management Act 2000</i> following the commencement of water sharing plans within the catchment (i.e. water sharing plans for the Greater Metropolitan Region Groundwater Sources 2023 and Greater Metropolitan Region Unregulated River Water Sources 2023).	It is noted that the 2024 Annual Review (Table 13) includes a summary of cumulative water take (1 July 2023 to 30 June 2024) for WAL 10BL603595. Table 13 details the Water Sharing Plan, Source and Management Zone (as applicable), Entitlement, Passive Take/inflow and Active Pumping during the water reporting year. This table will be incorporated into subsequent Annual Reviews.
4	Surface Water	Consultation be undertaken with NSW DCCEEW as part of any identified changes in surface water flow volumes potentially occurring as a result of mining induced subsidence.	The Longwalls 311-316 Water Management Plan details the consultation requirements to be undertaken with the NSW Department of Climate Change, Energy, the Environment and Water, (NSW DCCEEW) following a Level 3 trigger of surface water flow changes in Waratah Rivulet and Pools T to W on Waratah Rivulet (Tables 24 and 28, respectively).

**Table 2 (Continued)**  
**Independent Environmental Audit Technical Report Recommendations and Metropolitan Coal Responses**

No.	Relevant Environmental Issue/Performance Measure	Recommendations	Metropolitan Coal Response
<b>Water Specialist Report (EMM Consulting Pty Ltd, 2025) (Continued)</b>			
5	Surface Water	With any new EP WMP, all associated related management plans (such as the CMP) should be revised and updated to ensure consistency in information.	<p>The Extraction Plans are prepared in accordance with the conditions of the Project Approval (08_0149) and in consideration of the DPE (2022) <i>Extraction Plans Guideline</i>. The Catchment Monitoring Program does not form part of the Extraction Plan process.</p> <p>Notwithstanding, in accordance with Condition 4(a), Schedule 7, Metropolitan Coal will review the Catchment Monitoring Program within three months of the submission of an audit.</p> <p>In consideration of the above, Metropolitan Coal will review the Catchment Monitoring Program and if required, submit a revised management plan by 1 August 2025.</p>
6	Groundwater	The CMP is recommended to be revised to incorporate new monitoring locations, up to date observation data and updated mine plans to reflect current groundwater conditions.	<p>In accordance with Condition 4(a), Schedule 7, Metropolitan Coal will review the Metropolitan Coal Catchment Monitoring Program within three months of the submission of an audit.</p> <p>In consideration of the above, Metropolitan Coal will review the Metropolitan Coal Catchment Monitoring Program and if required, submit a revised management plan by 1 August 2025.</p>

**Table 2 (Continued)**  
**Independent Environmental Audit Technical Report Recommendations and Metropolitan Coal Responses**

No.	Relevant Environmental Issue/Performance Measure	Recommendations	Metropolitan Coal Response
<b><i>Water Specialist Report (EMM Consulting Pty Ltd, 2025) (Continued)</i></b>			
7	Groundwater	<p>The EP WMP and CMP have adequate performance criteria to identify groundwater impacts. However, the following is recommended to improve the readability of six monthly reviews:</p> <ul style="list-style-type: none"> <li>• A summary table detailing previous trigger exceedances and investigation outcomes would clearly provide historical context for impacted sites and help identify recurring patterns or ongoing issues.</li> <li>• Swamp groundwater levels could be compared in metres below ground level (mbgl), rather than metres Australian height datum (mAHD). This will reduce the number of y-axes and make comparisons of swamp groundwater levels more intuitive.</li> <li>• Cumulative rainfall deviation (CRD) could be presented on VWP hydrographs to provide better understanding of climatic influences on groundwater responses, particularly in the Hawkesbury Sandstone.</li> <li>• The six monthly reviews should be focused on the review period and prioritise monitoring bores within the impact area for detailed discussion. This could be presented as a table that would allow readers to quickly identify site-specific trends during the six month review window.</li> <li>• Historical information on groundwater level and quality trends could be placed in a table and moved to an appendix. This would keep the body of the report concise and focused on current conditions, while still maintaining historical data for reference.</li> </ul>	Metropolitan Coal will consider this recommendation in the preparation of subsequent Six Monthly Reports.

**Table 2 (Continued)**  
**Independent Environmental Audit Technical Report Recommendations and Metropolitan Coal Responses**

No.	Relevant Environmental Issue/Performance Measure	Recommendations	Metropolitan Coal Response
<i>Aquatic Ecology Specialist Review (GHD Pty Ltd, 2025)</i>			
8	<b>Biodiversity Management Plan</b> <b>Performance Indicator:</b> <i>The aquatic macroinvertebrate and macrophyte assemblages in streams are not expected to experience long- term impacts as a result of mine subsidence.</i>	<b>Change to analysis/assessment method:</b> <p>While the monitoring program is considered adequate for the impacts being assessed in relation to LWs 20- 27, and Bio-Analysis reports are thorough, some changes to the data analysis is recommended. As the sites in the LW20-27 monitoring program are now in the post-mining phase, assessment methods could be redefined and simplified, as there is a reduced likelihood of mining impacts being identified (pending prolonged dry period when changes to pool draining behaviour may be exaggerated).</p> <p>The PERMANOVA analysis testing differences in macroinvertebrate diversity/abundance/assemblage between groups is complex. Control Plots (i.e. box and whisker plots) showing range of results at each site (both control and impact) Before/After mining may be a simpler alternative in addition to the temporal plots presented in the Bio-Analysis reports. Some small changes to wording of the TARP levels would be required to remove reference to 'significance'.</p> <p>If statistical tests for significance are continued, it is recommended that the design be reconsidered to better articulate impacts from recent mining from historical mining.</p>	<p>Metropolitan Coal notes the current monitoring program for aquatic ecology has been developed by Metropolitan Coal and specialist consultants in consideration of location of monitoring sites, analysis methodology and potential impacts as a result of mining. The monitoring program has also been subject to Government review and revisions.</p> <p>Metropolitan Coal considers the collection and analysis of data in a consistent manner critical to detecting potential impacts to aquatic macroinvertebrates and macrophytes assemblages as a result of mining, regardless of extraction timing.</p>
		<p>The monitoring reports have detailed notable changes to pool water levels and other evidence of subsidence impacts such as iron staining or bedrock fractures. However, these confirmed impacts are not clearly demonstrate in plots/tables and get lost in the analysis. The difference between observed impacts and pre-mining/post-mining 'treatments' should be explored for relevant sites. As all the sites in the LW20-27 monitoring program are now in the post-mining phase, subset analyses would also be of interest at sites where impacts from subsidence have been confirmed, to identify whether macroinvertebrate communities have recovered to pre-mining conditions, particularly at sites where bedrock fractures have been remediated and water levels have stabilised.</p> <p>Similarly, assessments of potential impacts from extraction of LWs 301-311 (as opposed to historical impact from LWs 20-27 or earlier mining), should be more clearly articulated.</p>	<p>Metropolitan Coal will consider the recommendations with regards to presentation of data in the ongoing aquatic ecology monitoring reports as part of future preparation of relevant reports.</p>

**Table 2 (Continued)**  
**Independent Environmental Audit Technical Report Recommendations and Metropolitan Coal Responses**

No.	Relevant Environmental Issue/Performance Measure	Recommendations	Metropolitan Coal Response
<b><i>Aquatic Ecology Specialist Review (GHD Pty Ltd, 2025) (Continued)</i></b>			
8 (Cont.)	As above.	Where there is a confirmed subsidence impact at a site (i.e. changes to water levels, water quality or iron staining have been confirmed through surface water assessments or similar) and investigations/remediation has been undertaken in a previous sampling event, consider whether these known issues should be identified again as an exceedance of the performance measure.	Should remediation measures be undertaken in response to an observed impact as a result of mining, metropolitan Coal continues to undertake monitoring to validate the success of the remediation measures. Should the TARP trigger level continue to be exceeded post implementation of remediation measures, an assessment against the performance measure will be undertaken.
		Consider potential impacts from iron staining on periphyton communities.	Ongoing monitoring includes an assessment of the habitat characteristics (i.e. percentage cover of algae) at aquatic ecology monitoring locations and would be considered in any performance measure assessments.

**Table 2 (Continued)**  
**Independent Environmental Audit Technical Report Recommendations and Metropolitan Coal Responses**

No.	Relevant Environmental Issue/Performance Measure	Recommendations	Metropolitan Coal Response
<i><b>Aquatic Ecology Specialist Review (GHD Pty Ltd, 2025) (Continued)</b></i>			
9	<p><b>Performance measure:</b> Negligible impact on Threatened Species, Populations or Ecological Communities</p>	<p>Currently, the performance measure for aquatic biota, as outlined in the LW 311-316 BMP is related to threatened species. However, exceedance of the TARP (even at level 3, where a long-term change to macrophyte / macroinvertebrate richness is identified due to mining influence) does not imply impacts to threatened species. There were no potential threatened aquatic macrophyte species of concern identified in relation to the Metropolitan Coal Project (Bio-Analysis 2008). For macroinvertebrates, there is a small chance of Sydney Hawk or Adam's Emerald Dragonfly occurring but there have been no records in the area. Therefore, it is misleading, in regards to the risk to threatened aquatic species, populations and communities, to have changes in macrophyte or macroinvertebrate community structure identified as exceedances of this performance measure. It is recommended that the performance indicator, that is linked this performance measure is revised to be more specific about identifying potential impacts to Sydney Hawk or Adam's Emerald Dragonfly. This process is already in place for existing monitoring locations relating to mining of LWs 20-27 (i.e. screening macroinvertebrate data for these species), as documented in the Bio-Analysis aquatic ecology monitoring reports. However, this process should be formalised through revision of the TARP.</p> <p>Assessments relating to threatened amphibians in the Audit Period have determined no significant impact would be expected to threatened frogs from observed changes in macroinvertebrate and macrophyte communities. Therefore, it is recommended to remove this as a required investigation when there is an exceedance of the Performance indicator relating to changes in macroinvertebrate and macrophyte assemblages.</p>	<p>As described in the Longwalls 311-316 Biodiversity Management Plan, if data analysis indicates a biodiversity performance indicator has been exceeded (i.e. Level 3 trigger of a TARP), an assessment will be made against the biodiversity performance measure and the need for management measures will be considered. The trigger levels have been designed in consultation with relevant specialists to provide an early measure against the Performance Indicator to prevent a mining induced impact from occurring that would result in an exceedance of the Performance Measure. The triggers have been designed to identify a potential precursor to a mining-related impact and have been assigned as a hierarchy (i.e. Levels 1 to 3) to identify potential intervention activities that may be undertaken to minimise further impacts. As such, an exceedance of the TARP trigger level does not directly imply an impact to threatened species against the Performance Measure as the TARP trigger levels are designed to prevent a mining impact that would result in an exceedance of the Performance Measure.</p>

**Table 2 (Continued)**  
**Independent Environmental Audit Technical Report Recommendations and Metropolitan Coal Responses**

No.	Relevant Environmental Issue/Performance Measure	Recommendations	Metropolitan Coal Response
<b><i>Aquatic Ecology Specialist Review (GHD Pty Ltd, 2025) (Continued)</i></b>			
9 (Cont.)	As above.	As above.	<p>Should a TARP Level 3 be triggered, an assessment against the performance measure will be undertaken and it will consider all relevant information and data to provide a conclusion on the performance measure and the occurrence of any mining-related impacts.</p> <p>Metropolitan Coal agrees that there was no potential threatened aquatic macrophyte species identified in the <i>Metropolitan Coal Project Environmental Assessment</i>. Notwithstanding, Table 1 of Condition 1, Schedule 3 of the Project Approval sets out the performance measure for biodiversity which is as follows '<i>negligible impact to threatened species, populations or ecological communities for biodiversity</i>'.</p> <p>In consideration of the above, Metropolitan Coal are of the position that the current Performance Indicator is suitable.</p>



**Table 2 (Continued)**  
**Independent Environmental Audit Technical Report Recommendations and Metropolitan Coal Responses**

No.	Relevant Environmental Issue/Performance Measure	Recommendations	Metropolitan Coal Response
<i>Aquatic Ecology Specialist Review (GHD Pty Ltd, 2025) (Continued)</i>			
9 (Cont.)	As above.	As above.	<p>The Sydney Hawk Dragonfly and Adam's Emerald Dragonfly were not recorded during the numerous aquatic macroinvertebrate surveys during the <i>Metropolitan Coal Project Environmental Assessment</i> and have not been recorded at the Metropolitan Coal Mine during surveys to date. Threatened fauna species records from the BioNet database do not display records of the Sydney Hawk Dragonfly or Adam's Emerald Dragonfly in the vicinity of the Metropolitan Coal Mine and surrounds. As such, Metropolitan Coal does not propose to include regular monitoring or incorporate of the species in the TARP for the Sydney Hawk Dragonfly or Adam's Emerald Dragonfly.</p> <p>Metropolitan Coal notes that there is currently no requirement of an investigation of amphibian species following an exceedance of an aquatic macroinvertebrates or macrophytes trigger level.</p>

**Table 2 (Continued)**  
**Independent Environmental Audit Technical Report Recommendations and Metropolitan Coal Responses**

No.	Relevant Environmental Issue/Performance Measure	Recommendations	Metropolitan Coal Response
<b><i>Aquatic Ecology Specialist Review (GHD Pty Ltd, 2025) (Continued)</i></b>			
10	<p><b>Performance indicator:</b></p> <p>The aquatic macroinvertebrate and macrophyte assemblages in streams are not expected to experience long- term impacts as a result of mine subsidence</p>	<p>Regardless of their conservation status, macroinvertebrate / macrophyte communities are important as necessary components of healthy aquatic ecosystems. Expectations of DPI Fisheries in regards to activities influencing watercourses include minimising impacts to what is termed “key fish habitat”, in addition to avoiding impacts to threatened aquatic species, populations (DPI Fisheries 2013). Therefore, despite the above recommendation to revise the performance indicator related to the performance measure on threatened species, it is appropriate to retain the performance indicator and associated monitoring. A new performance measure could be identified that is not linked to threatened species, with revised TARP levels.</p> <p>It is recommended that a definition of “long-term” (e.g. four consecutive sampling events) be identified so that there is a clearer threshold for determination of an exceedance.</p> <p>It is recommended that the TARP wording be revised to consider performance criteria for impacts from mining recent (i.e. the longwalls that are the subject of the extraction plan), in addition to / as an alternative to impacts from historical mining, most of which have been identified previously as exceedances.</p>	<p>Metropolitan Coal acknowledges the recommendation to retain the performance indicator and associated monitoring as described in the Longwalls 311-316 Biodiversity Management Plan.</p> <p>As described above, Table 1 of Condition 1, Schedule 3 of the Project Approval sets out the performance measure for biodiversity which is as follows ‘<i>negligible impact to threatened species, populations or ecological communities for biodiversity</i>’. Threatened species, populations and ecological communities include those listed under the TSC Act, EPBC Act or <i>Fisheries Management Act 1994</i> at the time of Project Approval (i.e. the lists current as at 22 June 2009).</p> <p>Furthermore, it is difficult to determine ‘long-term’ resulting from mining as climatic changes can impact macroinvertebrate and macrophyte assemblages.</p>

No.	Relevant Environmental Issue/Performance Measure	Recommendations	Metropolitan Coal Response
11	<b>Performance indicator:</b> The aquatic macroinvertebrate and macrophyte assemblages in streams are not expected to experience long- term impacts as a result of mine subsidence	Where there is the opportunity to collect baseline macrophyte/macroinvertebrate data in watercourses associated with future mining area, this should be undertaken. In addition to capturing information on macroinvertebrate/macroinvertebrate communities under environmental conditions as relevant as possible to the time of mining, baseline macroinvertebrate monitoring is also important to identify the presence (although considered unlikely) of threatened Sydney Hawk or Adam's Emerald Dragonfly, prior to mining activities. In cases where aquatic ecology monitoring is considered to be impractical due to site conditions (e.g. in the Woronora Reservoir full supply level), this should be stated in the BMP and aquatic ecology monitoring reports. It is acknowledged that other relevant monitoring is undertaken that may be used as a surrogate for assessing potential impacts to aquatic biota, including monitoring of water quality and quantity (including WaterNSW monitoring in Woronora Reservoir) and riparian vegetation.	Metropolitan Coal acknowledges this recommendation and will collect baseline macrophyte and macroinvertebrate data in associated watercourses for future mining areas.  Relevant species will be considered in the baseline data collection.
<b>Mine Subsidence Impact Management Review (<i>Ditton Geotechnical Services Pty Ltd, 2025</i>)</b>			
12	-	No further actions to those already being proposed are considered necessary at this stage.	Noted.