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23 February 2018

Secretary
Department of Planning and Environment

Attention: Clay Preshaw

Dear Clay

Re: Section 75W Modification to Project Approval MP10_0046 – Russell Vale Colliery Preliminary Works Project

Russell Vale Colliery is owned and operated by Wollongong Coal Limited (WCL). The Russell Vale Colliery (the site) is located within the Southern Coalfields Region of New South Wales, approximately 8 kilometres (km) north of Wollongong and 70 km south of Sydney, refer to **Figure 1**.

1.0 BACKGROUND

Under the current Part 3A Project Approval applying to the site (MP10_0046- Russell Vale Colliery Preliminary Works Approval) (see **Attachment 1**), WCL was required to implement diversion works on Bellambi Gully to manage pollution risks associated with flooding of the creek. The required diversion works are based on a design prepared by BECA in 2010 which were designed to divert surface flows around the stockpile area at Russell Vale Colliery to reduce pollution and flooding risks. These works were never implemented due to subsequent investigations undertaken by Cardno in 2014 (2014 Cardno Study) which identified that regular maintenance and upgrades to the existing drainage systems could achieve the same water management outcomes as would be achieved by the water diversion works designed by BECA at significantly lower costs.

The Underground Expansion Project (UEP) application under Part 3A of the EP&A Act was lodged in August 2009. The 2014 revised UEP project approval application included mine plan changes as well as a revised water management strategy based on the 2014 Cardno Study.

The first PAC Review Report into the UEP application made the following recommendation:

> ***Recommendation 11***
>
> *Any new approval should retain the existing requirement to realign Bellambi Creek or a full justification why this is no longer necessary to provide protection to the creek downstream from the pit top surface area.*

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Legend

- Russell Vale Colliery

FIGURE 1

Locality Plan

An updated Bellambi Gully Flood Study was subsequently prepared by Cardno (2015) to support this aspect of the UEP application. A copy of the 2015 Cardno Bellambi Gully Flood Study Report is included in **Attachment 2** for reference. The DPE Addendum Report prepared for the PAC included consideration of the 2015 Cardno Report and supported the revised Cardno design. Wollongong Council also supported the revised Cardno design.

While the PAC has identified that further information is required in relation to other aspects of the UEP application, in its Second Review Report dated March 2016, the PAC made the following findings in relation to the Bellambi Creek Flood Management (Section 4.7):

> ***Commission's Considerations and Findings***
>
> *The Commission is satisfied that the issue raised in the First Review Report has been adequately addressed and supports, if the project were to be approved, the inclusion of a condition of consent that requires the implementation of flood mitigation measures recommended in the Cardno 2015 Report within 12 months of the date of approval. It also supports the draft recommended condition requiring the installation of a swale alongside the stockpile access road, which should improve water management on the site, though it is noted that the discharge of dirty water from the site is regulated by the EPA under the site's Environment Protection Licence.*

In December 2016, the Department of Planning and Environment (DPE) issued a compliance order which requires WCL to implement the Bellambi Gully Diversion as originally proposed in the EA for Preliminary Works Project (i.e. the BECA design). As noted in the DPE Addendum Report, the 2015 Cardno Report delivers the same or improved flood management outcomes as the BECA diversions design but at less costs and lower environmental impact. Given the continued and ongoing delay in the assessment of the UEP application and regulatory action taken by DPE, WCL seek to modify MP10_0046 to remove the requirement to implement the Bellambi Gully Diversion works and instead require the implementation of the works identified in the Cardno 2015 Bellambi Gully Flood Study consistent with the recommendations made in the PAC Second Review Report.

Furthermore, in 2017, the Environment Protection Authority (EPA) added Pollution Reduction Program 8 (PRP 8) to Russell Vale Colliery's EPL 12040 as discharge of turbid stormwater from the premises during and after high volume rainfall events have been observed. It was determined that the discharge of turbid groundwater occurred due to groundwater ingress from fractures and degraded connections into the Bellambi Gully clean stormwater diversion pipe. In brief, PRP 8 required inspection of the Bellambi Gully diversion pipe to determine the condition of the pipe network and the maintenance required to prevent ingress of turbid water. Subsequently, Engeny Water Management (Engeny) was engaged to investigate the condition of the Bellambi Gully Diversion Pipe and to determine the maintenance required to prevent ingress of turbid water. A copy of the Engeny Bellambi Creek Diversion Pipeline Assessment Report (dated December 2017) is included in **Attachment 3**.

2.0 APPROVAL PATH

WCL seeks a modification of the Project Approval under Section 75W of the EP&A Act. Although Part 3A has been repealed, Clause 3(1) of Schedule 6A of the *Environmental Planning and Assessment Regulation 2000* provides transitional arrangements for the continued use of Section 75W to modify project approvals granted under Part 3A.

A meeting was held with DPE on 5 December 2016 with a further teleconference held on 7 March 2017 to discuss the proposed modification and the approval pathway. DPE indicated that the use of the Section 75W approval pathway was appropriate for the proposed modification.

3.0 PROPOSED MODIFICATION

WCL proposes to modify Project Approval 10_0046 to:

- Amend the statement of commitments (Appendix 3 of Project Approval 10_0046) to remove the following soil and water commitments:
    - The underground pipe section of Bellambi Gully Creek will be replaced with a suitably designed and engineered open bypass channel constructed on the southern side of the coal stockpile area. This will include:
        - A dissipation pond will be constructed at the end of the bypass channel to reduce the energy of flows back into Bellambi Gully Creek;
        - Upgrades to the existing channel including Reno mattresses and Gabion drop structures to reduce the velocity of water flowing down the gully; and
        - Regular maintenance to minimise souring during major flow events.
    - Construction of Bellambi Gully Creek will be undertaken in accordance with engineering plans prepared in general to meet the design parameters outlined in Coffey (2010).
- Replace the above commitments with a requirement to implement the alternate mitigation measures identified through Bellambi Gully Flood Study undertaken by Cardno, 2015 and the works schedule identified in the Bellambi Creek Diversion Pipeline Assessment undertaken by Engeny, 2017.

No other modifications are proposed, WCL will continue to operate all other aspects of the existing operation in accordance with the Statement of Commitments (as modified) and the conditions of MP10_0046.

4.0 ENVIRONMENTAL IMPACT ASSESSMENT

4.1 Runoff and Flooding Risk Assessment

The proposed modification relates to flood mitigation and management works only and is supported by the Bellambi Gully Flood Study undertaken by Cardno in January 2015 (2015 Cardno Report) , the BECA Stormwater Hydrology Review (2010) and the Bellambi Creek Diversion Pipeline Assessment undertaken by Engeny, 2017.

Cardno modelled three scenarios to assess flooding risk to the site, these included the current stormwater pipes being completely blocked, 20% blocked and fully operational during the 100 year ARI event. The modelling results indicate that flooding within the site is significant during all three scenarios however overland flows are mainly contained within the stockpile area. In order to manage flood risk on site, the proposed alternate flood mitigation measures are designed to reduce clean runoff entering the stockpile area, while conveying all site runoff in a controlled way to Bellambi Creek.

The proposed mitigation measures include:

- Upgrade existing stockpile area access road including installation of 6m span culvert to convey site runoff across the access road and into a proposed grass-lined swale before discharging into Bellambi Creek.
    - Installation of an additional debris control structure at the 1800m diameter pipe and M3 culvert opening to reduce probability of blockage within the system due to debris from upstream catchment.
    - Formalise the swale in the vicinity of the existing 600mm clean water inlet. This would provide increased temporary storage for stormwater which helps to manage peak flows from the upstream catchment and to ensure all the clean water runoff is captured before entering the stockpile area.
    - Appropriate maintenance to be carried out immediately upstream and downstream of the existing debris control structures within the Bellambi Gully to minimise the potential for blockage of the system.
    - Culverts may be installed across the access road along the northern boundary of the site to direct flows from catchment M8 directly towards Bellambi Creek, in order to reduce clean water runoff conveyed into the stockpile area.

Flood modelling included applying a 25% blockage to the proposed 6m culvert and a 100% blockage applied to all culverts upstream, the modelling results demonstrate that the proposed road upgrade, 6m culvert and swale are adequate to convey the 100 year ARI flows.

As part of the UEP, WCL proposes to construct a 6 ML capacity dry sedimentation basin to treat runoff from the pit-top prior to discharging into Bellambi Creek from the licenced discharge point. The 2015 Cardno Report recommends that the proposed design of the sedimentation basin be reviewed following adoption of the proposed mitigation measures to ensure adequate treatment capacity can be achieved for dirty runoff. The DPE Addendum Report, November 2015, (see **Attachment 4**) for the UEP states that *"the Department is satisfied that the existing water performance measure requiring dams to be designed, installed and maintained in accordance with the series "Managing Urban Stormwater: Soils and Construction – Volume 1 and Volume 2 Mines and Quarries" is otherwise sufficient to ensure the treatment of runoff water within the stockpile area prior to discharge.*

The Addendum Report also states that *"the Department is satisfied that the proposed flood mitigation works would reduce clean runoff entering the stockpile area, while conveying all site runoff in a controlled way to Bellambi Creek. Wollongong Council has also confirmed that it is satisfied with the proposed flood mitigation measures".*

WCL will continue to carry out maintenance work within the upper reaches of Bellambi Gully creek, as originally detailed within the Preliminary Works EA including stabilising areas as required with appropriately designed structures or supporting material where required and removing obstructions from drainage channels in order to minimise downstream blockages. Maintenance of the debris structures recommended by the Cardno 2015 Report has also been undertaken.

4.2 Bellambi Gully Pipeline Assessment

The Bellambi Gully Pipeline is a clean water diversion pipe that conveys upslope runoff from the Bellambi Gully catchment area under the coal stockpile at the Russell Vale Colliery pit top to the creek line downstream. The alignment of the pipeline is depicted in Appendix A of the Engeny 2017 report (see **Attachment 3**).

A remote closed-circuit television (CCTV) inspection was undertaken in June 2017 to investigate the current structural condition of the pipeline. Engeny reported that a total of 76 observations, of which 62 were defects, were observed. Defects mainly relate to unknown connections to pipes, connections with poor workmanship (possibly due to displacement), infiltration at pipe joints, encrustation/scale, defective repairs, deformation/bulging of pipe walls (in corrugated lined sections) and rusting of exposed reinforcing. Structural damage, identified by exposed reinforcement, cracking or vertical deformations of the pipeline, has been recorded in several sections along the pipeline. Deformations potentially associated with past external loadings were identified in two locations.

The 2017 Engeny Report includes a risk assessment of each of the identified defects in the pipeline. The risk assessment included consideration of pipe failure and pollution risks. The risk assessment process is set out in Section 2 of the 2017 Engeny Report.

There were no critical defects identified in the assessment. Defects assessed as having a *moderate* to *high* pollution risk were considered to require remediation works within a six month period, while defects having a *low* to *very low* risk are unlikely to require remediation works in the next year.

A total of 13 high risk defects were identified (all in the upper 60m of the pipe). Five of the high risk defects relate to structural deficiencies which can be readily rectified. The remaining eight high risk defects relate to intruding or defective connections which present a risk of pollution associated with turbid groundwater; these risks are the primary subject of PRP8 and the 2017 Engeny Report identifies reasonable and feasible repair options for these defects. None of the high risk defects have been identified as presenting an immediate risk to the operation of the pipeline and all are identified as being readily repairable within a 6 month timeframe.

There were 25 moderate risk defects identified. The moderate risks primarily (16 of the 25) relate to infiltration risks; these can be readily repaired through pressure grouting or epoxy and/or replacement or repairs to bands/connections. The other nine moderate risk defects relate to pipe deformations. The do not affect the immediate integrity or operation of the pipeline and remediation measures for each of the defects have been identified in the 2017 Engeny Report.

For a full list of defects and recommended remediation works, refer to Appendix B of the 2017 Engeny Report (**Attachment 3**).

As identified in **Section 3.0** above, the proposed modification would require the implementation of the recommendations in the 2017 Engeny Report and compliance with the remedial works timeframe set out in that report.

Consistent with the 2017 Engeny Report Recommendations an ongoing monitoring program be implemented to determine whether remediation works has been effective and to detect further deteriorating of the *low* and *very low* ranked defects. The monitoring programme is required to be implemented as part of the PRP for the Russell Vale Colliery Site.

The 2017 Engeny Report does not conclude that the pipeline is inadequate to meet the performance requirements assumed in the 2015 Cardno Report.

There are two areas of the pipeline where vertical deformations of the pipeline have been identified that may be associated with vertical loading. The Preliminary Works Approval conditions currently prevent mining operations from being carried out on site and the Site is in Care and Maintenance. Operations on the site will be managed to avoid/minimise the use of heavy vehicles over the areas where deformations have been observed until these sections of the pipe have been remediated as assessed as being structurally adequate. These restrictions can be applied to these areas without significant constraints on care and maintenance operations.

5.0 CONSULTATION

Extensive Agency and Community consultation was undertaken as part of the UEP which included a review of the proposed mitigation works (Cardno 2015). In relation to the proposed modification DPE requested that WCL undertake further consultation with the EPA, Wollongong Council and the Community Consultative Committee (CCC).

Wollongong Council, the EPA and the CCC supported the implementation of the flood mitigation works (Cardno 2015). A briefing was provided regarding the proposed modification, no objection to the proposed flood mitigation works was raised.

In the 7 March 2017 teleconference DPE conveyed that discussions with EPA regarding the proposal indicated that EPA had no opposition to the proposed modification, subject to the integrity of the pipeline being confirmed and ability to withstand heavy equipment.

The CCC was been briefed on the proposed modification in May 2017 and again in November 2017. CCC members were generally supportive of the modification with only one member disagreeing with the proposal (**Attachment 5**).

6.0 PROJECT JUSTIFICATION

The Bellambi Gully Flood Study (Cardno 2015) identifies that regular maintenance and upgrades to the existing drainage systems, at significantly lower costs and level of disturbance, could achieve the same water management outcomes as would be achieved by the approved water diversion works designed by BECA. The approved BECA design Bellambi Gully diversion works are extensive and would require removal following closure of the mine. The final rehabilitation of the site would require the reinstatement of a channel for Bellambi Gully and this could be more readily achieved as part of the works associated with the removal of the Bellambi Creek Pipeline. As the 2015 Cardno Report and 2017 Engeny Reports indicate that the remediation of the existing pipe and the installation of onsite drainage management works and an additional trash rack can achieve the same outcomes as the BECA works at significantly lower costs, there is no environmental, practical or economic benefit in pursuing the diversion works.

The merits of the 2015 Cardno Report design have already been considered by the PAC and relevant agencies and are supported. The 2017 Engeny Report identifies defects in the Bellambi Gully Pipeline and establishes a schedule for the implementation of remedial works based on a risk assessment of each defects. These defects will also address some of the ongoing concerns from the EPA and community regarding the quality of water in Bellambi Gully downstream of the site.

7.0 Conclusion

The Bellambi Gully flood Study (Cardno 2015) identifies mitigation and management measures could achieve the same water management outcomes as the water diversion works originally proposed and included within the Statement of Commitments from MP10_0046. An assessment of the diversion pipeline (Engeny 2017) identified a number of defects with low to high pollution risks. The proposed modification seeks approval for a more cost effective means of managing flooding and pollutions risks at the site than the currently approved development. The proposed modification will also involve less disturbance and environmental impacts than the currently approved diversion.

The relative merits of the proposed modification were assessed as part of the assessment of the Part 3A UEP Project Application. The proposed drainage works were considered to be appropriate by the PAC and other relevant stakeholders during the assessment of the UEP (See PAC Second Review Report) however the delay in approval of this project due to residual concerns regarding other aspects of the Project has meant that the current approval requires a separate modification application to seek approval for these works to be undertaken instead of the approved diversion works.

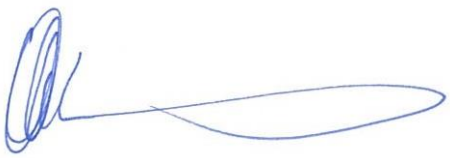
As part of the preparation of this Environmental Assessment, a further assessment of the Diversion Drain has been undertaken and remedial works identified and prioritised based on pollution risks presented by the defects (Engeny 2017). The Proposed modification includes a commitment to implement the remedial works identified in the Engeny Report in accordance with the timetable identified in that Report.

The proposed modification will allow WCL to implement these works which are supported by DPE and Wollongong Council (as part of the current UEP application) while the revised plan for the UEP is being assessed. WCL will continue to operate in accordance with the Statement of Commitments (as modified) and the conditions of MP10_0046 subject to the changes to the Statement of Commitments proposed as part of this modification.

Your earliest consideration of this matter would be greatly appreciated.

If you would like any further information, please don't hesitate to contact either David Holmes on (02) 4950 5322, or Wayne Sly from WCL on (02) 4223 6832 or 0406 671 011.

Yours sincerely



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