

28 October 2022

Stephen O'Donoghue
Director
Resource Assessments
Department of Planning and Environment

Via [Project Portal](#)

Dear Stephen,

RE: MOOLARBEN COAL COMPLEX – TREATED WATER DISCHARGE TIME EXTENSION

MCO request a further extension of time to address the treated water discharge quality related requirements of Project Approval 05_0117 Condition 32 as modified for the Open Cut Optimisation Modification (Mod 15).

On 20 June 2022 DPE granted MCO an extension until 30 September 2022. MCO is yet to receive written comment on the IWQS Report from the New South Wales (NSW) Environment Protection Authority (EPA). This correspondence is therefore seeking the agreement of the Secretary that MCO can continue to discharge at the current limit after 30 September 2022 under the Project Approval.

Please note that it is critical to operational continuity that MCO can continue to discharge treated water.

Previous correspondence provided to DPE detailed how each part of Condition 32A has been addressed (**Attachment A**). Since providing this correspondence to DPE, MCO have met with the EPA and provided written responses to comments regarding the IWQS (**Attachment B**).

Action

In consideration of the IWQS Report conclusion, MCO has not sought an increase in the current discharge limit of 685 $\mu\text{S}/\text{cm}$ at this time.

MCO kindly requests the agreement of the Secretary that MCO can continue to discharge at the existing electrical conductivity limit of 685 $\mu\text{S}/\text{cm}$ after 30 September 2022 under the Project Approval (05_0117).

It is critical to the operational continuity and management of water at the Moolarben Coal Complex that MCO can continue to discharge treated water, particularly given the recent wet conditions across the area.

MCO would be happy to arrange a meeting with the Department to discuss the IWQS findings or other relevant conditions.

Should you have any further queries or require any additional information regarding this matter, please do not hesitate to contact me on 0408 312 269 or Trent.Cini@yancoal.com.au.

Yours sincerely,



Trent Cini
Environment & Community Manager
Moolarben Coal Operations Pty Ltd

Attachment A – MCO Correspondence to DPE 10 June 2022

Attachment B – MCO Correspondence to EPA 7 September 2022

Attachment A – MCO Correspondence to DPE 10 June 2022

10 June 2022

Gen Lucas
 Team Leader - Resource Assessments
 Department of Planning and Environment

via email: gen.lucas@planning.nsw.gov.au

Dear Gen

RE: MOOLARBEN COAL COMPLEX – TREATED WATER DISCHARGE QUALITY LIMIT POST 30 JUNE 2022

The purpose of this correspondence is to address the treated water discharge quality related requirements of Project Approval 05_0117 Condition 32 as modified for the Open Cut Optimisation Modification (Mod 15).

Condition 32 establishes the electrical conductivity limit for Moolarben Coal Operations Pty Ltd (MCO) discharge until 30 June 2022 unless the Secretary agrees otherwise, at which point the limit may change to an alternative limit as determined under Condition 32A. As per the requirements of Condition 32A, MCO submitted an Independent Water Quality Study (IWQS) Report to the Department of Planning and Environment on 24 February 2022, which concluded that the existing limit is appropriate. On this basis, MCO proposes to maintain the existing limit.

To date, MCO has not received written comment on the IWQS Report from the New South Wales (NSW) Environment Protection Authority (EPA), and the NSW EPA has indicated that they will not be providing feedback until the end of June. This correspondence is therefore seeking the agreement of the Secretary that MCO can continue to discharge at the current limit after 30 June 2022 under the Project Approval.

Please note that it is critical to operational continuity that MCO can continue to discharge treated water.

See below for relevant excerpt from Project Approval 05_0117 (emphasis added):

32. *The Proponent shall comply with the performance measures in Table 11 to the satisfaction of the Secretary.*

Table 11: Water Management Performance Measures

Feature	Performance Measure
...	
Treated Water Discharge Quality	<ul style="list-style-type: none"> Electrical conductivity limit of 685 $\mu\text{S}/\text{cm}$ (100th percentile discharge limit) for up to 10ML/day until 30 June 2022 (unless the Secretary agrees otherwise) After 30 June 2022 (unless the Secretary agrees otherwise) an alternative electrical conductivity limit for treated water discharges as determined under condition 32A

The following section gives a summary of the requirements of Condition 32A and relevant submission.

Condition 32A – Independent Water Quality Study

An Independent Water Quality Study (IWQS) Report was prepared by the University of Queensland – Sustainable Minerals Institute, an independent scientific organisation approved by the then Department of Planning, Industry and Environment (DPIE). Condition 32A is reproduced below:

By 1 December 2021, unless the Secretary agrees otherwise, the Proponent must complete an Independent Water Quality Study in accordance with ANZECC Guidelines, in consultation with EPA and to the satisfaction of the Secretary. The study must:

- a) be undertaken by an independent scientific organisation with suitable water expertise whose appointment has been approved by the Secretary;*
- b) collect and utilise water quality monitoring data in the Goulburn River using locations endorsed by the EPA;*
- c) determine appropriate background salinity and heavy metal levels for the Goulburn River upstream of the project site;*
- d) recommend an electrical conductivity limit for treated water discharges to the Goulburn River from the Moolarben Coal Complex based on the process outlined in the ANZECC Guidelines.*

The following details how each part of Condition 32A has been addressed.

Condition 32A(a) – The Secretary of the then DPE approved the University of Queensland – Sustainable Minerals Institute, led by Associate Professor Barry Noller, as the independent scientific organisation to undertake the IWQS via correspondence dated 18 July 2019.

Condition 32A(b) – During the development of the study, review of the regional water setting and available water quality showed that the monitoring site UCML SW01 / SW12 was the only appropriate site that could be used to determine background water quality conditions for the upper Goulburn River. UCML SW01 / SW12 was endorsed by the NSW EPA via correspondence received 22 May 2020.

Condition 32A(c) – The analysis indicated that 80th percentile background key heavy metals (filtered to <0.45 micrometres) and salinity concentrations were applicable for the Goulburn River. The background concentrations (as retrieved from the approved upstream reference site UCML SW01 / SW12) were determined, and included in the final report submitted 24 February 2022.

Condition 32A(d) – In accordance with the ANZECC guidelines, as well as the more recent ANZG (2018) guidelines, a “multiple lines of evidence” assessment was undertaken in order to determine the appropriate limit for electrical conductivity. Considering each of these lines of evidence, the IWQS concluded:

Based on multiple lines of evidence (including site-specific ecotoxicity studies, background concentrations, no apparent toxicity response to treatment waters and detailed salinity conversion factor considerations), the current NSW EPA limit for electrical conductivity (EC) of 685 $\mu\text{S}/\text{cm}$ is considered acceptable

Current Status

In accordance with the requirements of Condition 32A, the IWQS Report was prepared in consultation with the NSW EPA, including through NSW EPA endorsement of the monitoring data location, and provision of the completed report on 10 December 2021. No comment was received prior to the submission date (Attachment A).

The IWQS Report was submitted to the Department of Planning and Environment on 24 February 2022, in accordance with the due date revised through correspondence from the then DPIE (Attachment B).

On 7 June 2022, the NSW EPA provided correspondence to MCO indicating that they will not be providing written comments until the end of June.

Under Condition 32, the current electrical conductivity discharge limit is 685 $\mu\text{S}/\text{cm}$ until 30 June 2022, at which point an alternative electrical conductivity limit for treated water discharges as determined under Condition 32A may be implemented (unless the Secretary agrees otherwise).

As the IWQS Report completed under Condition 32A concluded that the limit of 685 $\mu\text{S}/\text{cm}$ is appropriate, MCO proposes to continue to discharge at this existing limit.

Action

In consideration of the IWQS Report conclusion, MCO has not sought an increase in the current discharge limit of 685 $\mu\text{S}/\text{cm}$ at this time.

MCO kindly requests the agreement of the Secretary that MCO can continue to discharge at the existing electrical conductivity limit of 685 $\mu\text{S}/\text{cm}$ after 30 June 2022 under the Project Approval (05_0117).

It is critical to the operational continuity and management of water at the Moolarben Coal Complex that MCO can continue to discharge treated water, particularly given the recent wet conditions across the area.

MCO would be happy to arrange a meeting with the Department to discuss the IWQS findings or other relevant conditions.

Should you have any further queries or require any additional information regarding this matter, please do not hesitate to contact me on 0408 312 269 or Trent.Cini@yancoal.com.au.

Yours sincerely,



Trent Cini
Environment & Community Manager
Moolarben Coal Operations Pty Ltd

ATTACHMENT A

NEW SOUTH WALES ENVIRONMENT PROTECTION AUTHORITY CORRESPONDENCE



DOC22/132241-1

Mr Trent Cini
Environment and Community Manager
Moolarben Coal Operations Pty Limited

Via e-mail: trent.cini@yancoal.com.au

23 February 2022

Dear Mr Cini

**INDEPENDENT WATER QUALITY STUDY
Moolarben Coal Mine**

I refer to your e-mail, dated 10 December 2021, and your request for the Environment Protection Authority (EPA) to provide comment on the Independent Water Quality Study (IWQS) prepared for the Moolarben Coal Mine.

The EPA is currently seeking expert review of this report and requires further time to review the IWQS and provide meaningful comment on the findings of the report and potential next steps. This review will not be able to be completed prior to your submission of this report to the Department of Planning and Environment (DP&E).

The EPA will provide these comments to you once they are available and, in consultation with DP&E, will then contact Moolarben Coal Operations to arrange a time to discuss these comments and any implications for your Environment Protection Licence.

If you have any specific questions regarding this matter please contact Mr Andrew Helms on 6333 3805 or via e-mail at EPA.Southopsregional@epa.nsw.gov.au. For general enquiries to the EPA please call (02) 9995 5000 or e-mail info@epa.nsw.gov.au.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'Lucy Apps', with a stylized flourish at the end.

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ATTACHMENT B

DEPARTMENT OF PLANNING, INDUSTRY AND ENVIRONMENT CORRESPONDENCE

Mr Trent Cini
Environment and Community Manager
Moolarben Coal Operations Pty Ltd
12 Ulan-Wollar Road
Ulan NSW 2580

15/11/2021

Dear Mr Cini

**Moolarben Coal Complex Stage 1 (05_0117)
Extension of Time to Submit Independent Water Quality Study**

I refer to your request for an extension of time to submit an Independent Water Quality Study (the study) for the Moolarben Coal Complex Stage 1.

Under condition 32A of Schedule 3 of the above development consent, the study is required to be submitted by 1 December 2021. Extensive investigation work has been completed, including additional sampling, eco-toxicological studies and independent expert review, and that the study is in the final stages of preparation. However, additional time is needed to finalise consultation with the Environment Protection Authority.

The Department considers this request to be reasonable and the Secretary has granted an extension of time until 28 February 2022.

If you wish to discuss the matter further, please contact Gen Lucas on 9274 6489.

Yours sincerely



Stephen O'Donoghue
Director Resource Assessments

As nominee of the Secretary

Attachment B – MCO Correspondence to EPA 7 September 2022

7 September 2022

RE: MOOLARBEN COAL COMPLEX – INDEPENDENT WATER QUALITY STUDY COMMENTS

Dear Sheridan,

In regard to the Independent Water Quality Study (IWQS) for the Moolarben Coal Complex required under Condition 32A of Project Approval 05_0117, we note:

- The IWQS was undertaken by a suitably qualified expert (Professor Barry Noller), who was endorsed by the Secretary of the Department.
- The EPA was consulted, as required under Condition 32A. In particular the proposed methodology to support the IWQS was provided to the EPA (refer letter dated 9 March 2020), and all comments and recommendations on the proposed methodology were incorporated into the final IWQS, including the carrying out the sampling from the EPA-endorsed upstream monitoring site and the undertaking of ecotoxicity testwork on site-specific aquatic species (refer letter dated 22 May 2020).
- Professor Barry Noller's conclusion reached in accordance with the process required under Condition 32A was:

Based on multiple lines of evidence (including site-specific ecotoxicity studies, background concentrations, no apparent toxicity response to treatment waters and detailed salinity conversion factor considerations), the current NSW EPA limit for electrical conductivity (EC) of 685 $\mu\text{S}/\text{cm}$ is considered acceptable

Given this is the acceptable limited determined in accordance with the approved process we would consider that it is appropriate for the complex.

In the email dated 20 July 2022, the EPA made comments in regard to the IWQS. Responses to these comments are provided below:

Comment: **The IWQS appears to have relied on only one sample (taken 24 June 2021) for toxicity testing**

Ecotoxicity testing was undertaken to derive Species Sensitivity Distributions (SSDs) for the Upper Goulburn River using one bulk sample from SW12 for the control (Goulburn River upstream). Ecotoxicity testing was also undertaken using Dilute Mineral Water (DMW) control (or a United States Environmental Protection Agency culture media control *Raphidocelis subcapitata*) along with Water Treatment Plant (WTP) Filtrate, WTP Discharge water and WTP Permeate. These test waters provided comparative toxicity results with the Upper Goulburn River control water.

UCML SW01 / SW12 has been used as a control site for all ecotoxicology testing consistent with the EPAs recommendation on 7 May 2020 that salinity toxicity curves to be based on water in the River.

MCO confirmed the IWQS ecotoxicology assessments would be based on a control sample of Goulburn River water in correspondence to the EPA (20 May 2020).

"Professor Noller proposes to sample water from the upstream site (Site Ulan SW01) on the Goulburn River to satisfy the ANZECC Guidelines (i.e., the "control site"). Mine water would be added to the control sample to increase salinity to establish the species sensitivity distribution curves consistent with EPA's advice."

Section 7.6 of the IWQS concludes that:

"The UCML SW01 / SW12 is considered suitable as a control for the ecotoxicity testing purposes; the control water was representative of the geochemical background of the upper Goulburn River."

The SSDs were determined based on Upper Goulburn River control water corresponding to its background water quality condition. This is supported by an extensive data base that shows the bulk control water to be representative of the Upper Goulburn River water quality, and detailed examination of the significance of salinity from different sources at the chosen Control site.

Comment: The EC level of current discharges

The IWQS objectives were to determine background water quality for the Goulburn River upstream of the project site and to recommend an electrical conductivity limit for treated water discharges to the Goulburn River.

Water released is controlled (and varied as required) by the control system. Section 6.2 of the IWQS describes the discharged water as follows:

"WTP Discharge water comprises a blend of WTP Filtrate and WTP Permeate with ratios of each set by the WTP control system."

The EC level of MCO releases does not impact either the background concentrations or the toxicology assessments used to determine the recommended electrical conductivity limits.

Comment: Salt loads - The background salt load to the Upper Goulburn River based on SW01 data is between 600 and 735 tonnes/annum. MCO LDP1 currently adds an additional 457 to 469 tonnes/annum of salt to the Upper Goulburn River system

As described in Section 5.1 of the IWQS, water quality guidelines developed for the protection of aquatic fauna, as well as the results of direct ecotoxicity testing, are expressed in terms of concentration. As such, the guideline values developed through the IWQS process, using the methodology reviewed by the EPA, are expressed in terms of concentration rather than loads.

Closing

Consistent with the conclusions of the report required by, and carried out in accordance with, Section 32A the suitably qualified expert (Professor Barry Noller) in the IWQS. MCO propose to continue discharge at the previously agreed electrical conductivity limit of **685 µS/cm** for the discharge volumes currently described in the Project Approval and EPL (i.e. 15 ML/day during mining operations in UG4 and 10 ML/day before and after mining operations in UG4).

Should you have any queries please don't hesitate to contact me on 0408 312 269 or Trent.Cini@yancoal.com.au.

Yours sincerely,



Trent Cini
Environment & Community Manager
Moolarben Coal Operations Pty Ltd