



Enforceable Undertaking

Section 336E of the *Water Management Act 2000*

1 Parties

Name: **Natural Resources Access Regulator (NRAR)**

Notice details: **4 Parramatta Square, 12 Darcy Avenue, Parramatta NSW 2150**

Attention: **Grant Barnes, Chief Regulatory Officer**

Name: **Boggabri Coal Operations Pty Ltd (BCOPL)**

ACN/ABN: **ABN 76 600 191 455**

Notice details: **386 Leard Forest Road, Boggabri, NSW 2382**

Attention: **Stewart Dunlop, Deputy General Manager**

2 Background

2.1 The Natural Resources Access Regulator (**NRAR**) created by the *Natural Resources Access Regulator Act 2017* (NSW) (**NRAR Act**) is the regulator responsible for compliance and enforcement measures for natural resources management legislation in New South Wales. It has responsibility for compliance and enforcement of the specified functions of the Minister administering the *Water Management Act 2000* (**WM Act**) as specified in Schedule 2 of the NRAR Act. Section 336E of the WM Act (read with section 11 of the NRAR Act) empowers the NRAR to accept enforceable undertakings from parties alleged to have breached the WM Act.

Boggabri Coal Operations Pty Ltd (**BCOPL**) operates the Boggabri Coal Mine (**BCM**) on behalf of Idemitsu Australia Pty Ltd (**IA**) and its joint venture partners. BCM is owned by the following joint venture partners:

- IA via its subsidiary company, Boggabri Coal Pty Limited – 80%;
- Chugoku Electric Power Australia Resources Pty. Ltd. – 10%; and
- NS Boggabri Pty Limited – 10%.

The joint venture partners identified above have owned the mine, in an unincorporated joint venture structure, since December 2014. BCOPL was appointed as operator of the mine when the joint venture was established.

BCM is located approximately 15 km north-east of the township of Boggabri in the Northwest Region of New South Wales (**NSW**) and is located wholly within the Narrabri Local Government Area. BCM is part of the Boggabri, Tarrawonga, Maules Creek Coal Mining Complex and is immediately adjacent to the Tarrawonga Coal Mine to the south and Maules Creek Coal Mine to the north. BCOPL is the lawful occupier of the Boggabri Coal Mine and the "landholder" for the purposes of the WM Act.

BCM has been operating as an open cut coal mine since 2006. Development consent was first obtained on 25 August 1989 (DA36-88) and the continuation project further approved in July 2012 (state significant development consent PA09_0182). Section 4.41(1)(g) of the *Environmental Planning Assessment Act 1979* operates such that approvals under sections 89, 90 and 91 of the WM Act are not required for state significant development authorised by

a development consent. BCOPL however must account for water taken from a water source that is the subject of a water sharing plan.

BCM's Water Management Plan relevantly includes a Surface Water Management Plan which sets out the management systems which apply to clean, dirty and contaminated water runoff and capture at the mine. Water required to satisfy the site demands is sourced from onsite surface water storages (consisting of contaminated water stored in mining water storages and pit void, and dirty water in sediment dams) and supplemented with imported water using ground water and river water. BCOPL holds specific groundwater water access licences (WALs) and general security and supplementary WALs for the Lower and Upper Namoi Regulated River Water Source.

2.2 Between 1 July 2019 and 20 April 2022, it is alleged that BCOPL took surface water from the Bluevale Water Source, being an unregulated river water source to which the *Water Sharing Plan for the Namoi and Peel Unregulated Rivers Water Sources 2012* applies, in the course of mining operations at the Boggabri Coal Mine, and without obtaining a requisite water access licence. Water was taken by capturing or impounding clean surface water from upstream third and fourth order streams in dams and water storages at the BCM.

On 7 April 2022, BCOPL was granted a zero-share unregulated river access licence (WAL 44134). Once registered, BCOPL acquired and transferred a total of 939ML of temporary account water in the Bluevale water source for the Water Year 2021-2022. BCOPL then further acquired and transferred 846ML of water entitlements to this WAL to account for potential water taken in the Water Year 2022/23.

2.3 The Alleged Contravention:

NRAR considers that the conduct referred to in paragraph 2.2 has contravened the following provision in the WM Act:

- a) Section 60A(2) makes it an offence for a person to take water from a water source to which Part 2 of the WM Act applies where that person does not hold an access licence for that water source.
- b) In accordance with section 60I of the WM Act, a person who takes water in the course of carrying out a mining activity is, for the purposes of the Act, taking water from a water source. Further, a person takes water in the course of carrying out a mining activity if, as a result of or in connection with, the activity or a past mining activity carried out by the person, water is removed or diverted from a water source (whether or not water is returned to that water source) or water is re-located from one part of an aquifer to another part of an aquifer.
- c) It is alleged that BCOPL took water in the course of carrying out its mining activities as referred to in section 60I(2) and did not hold a surface access licence for this take and the water was not otherwise lawfully taken (e.g. pursuant to a statutory exemption from the requirement for a WAL or harvestable rights).

2.4 BCOPL acknowledges the alleged contravention and undertakes to carry out the commitments and preventative measures set out in this undertaking.



2.5 BCOPL has offered the commitments set out in this undertaking.

2.6 BCOPL considers that the commitments in this undertaking support the water management principles as outlined in section 5 of the *Water Management Act 2000* in the following ways:

- a) Improvements to the surface water management system through the metering, telemetry and monitoring commitments will:
 - i) provide a more accurate picture of water use at the site and in the area, enabling cumulative impacts on water sources to be considered and minimised; and
 - ii) encourage adaptive management of water sources and water use for the protection of those sources and their ecosystems.
- b) BCOPL's commitment to implement improved systems and report on its learnings and experiences to NRAR will promote adaptive management of water sources at an industry level. This information will provide NRAR with first hand data and accounts to assist it in its commitment to develop guidelines to improve water reporting across the mining sector. Industry wide improvements assist the community at large as improved systems for large water users ultimately protect water sources.
- c) The contribution to a community project will seek to support the protection of water sources and/or dependent ecosystems in the local/regional area.
- d) Consultation with Aboriginal communities and groups will support the promotion and protection of cultural values and practices that are affected by mining at the BCM.

3 Start of this Undertaking

3.1 This Undertaking comes into effect when both of the following are completed:

- a) this Undertaking is executed by BCOPL, and
- b) this Undertaking so executed is accepted by NRAR,

(Commencement Date).

4 Undertaking

4.1 BCOPL commits to the following undertakings, for the purposes of section 336E of the WM Act and NRAR:

- a) carry out the following measures as a way of redressing the effects its contravening conduct has had on the environment and community:
 - i) install additional water metering and telemetry at Boggabri Coal Mine's main water arterials to measure water transferred out of the pit into the mine water dams, as set out in Appendix 1, by 31 December 2023.



- ii) purchase and implement a GOLDSIM modelling license by 31 July 2023. To implement the license once purchased, BCOPL must undertake weekly monitoring of dam storage curves and pumping flow rates to enable the GOLDSIM site model balance to be updated regularly. Implementation of the GOLDSIM license must deliver as ongoing outputs (including beyond 31 July 2023)
 - (1) real time site water balances inclusive of all surface water inflows;
 - (2) forecast modelling to determine future surface water licensing requirements; and
 - (3) verification of water intakes and usage, and provide predictive modelling capacity for upcoming weather events
- iii) By 31 December 2023, submit to the NSW Department of Planning and Environment for its approval an updated site water management plan (**SWMP**). The SWMP must include information relevant to the additional metering, telemetry and monitoring referred to in paragraph 4.1a)i).
- iv) Use information and data derived from water metering, telemetry and monitoring improvements to report and account for surface water taken during each water year until 31 December 2027 in accordance with the methodology set out in Appendix 2.
- v) Within 28 business days of the Commencement Date, make a payment to NRAR in the amount of A\$54,240 in recognition of the value of the volume of water allegedly taken without an access licence during the relevant period of 1 July 2019 and 20 April 2022, calculated based on an estimated annual intake of 452 ML, for each of three 3 years (2019-20, 2020-21, 2021-22) at \$40/ML.
- vi) By 31 July 2023 submit to NRAR for approval, a proposal to make a financial contribution of A\$10,000 to a community project with a water management focus in the local and/or regional area proximate to but outside of the BCM. Payment of the financial contribution will be made within 30 days of receipt of NRAR's written approval. The obligation to provide a project to NRAR for approval under this clause continues beyond 31 July 2023 until a project is approved by NRAR. BCOPL acknowledges that NRAR will, in determining whether or not to approve the project, have regard to the water management principles, in accordance with s 9 of the WM Act.
- vii) Carry out consultation with the local Aboriginal community through the Boggabri Coal Aboriginal Stakeholder Consultative Forum, which includes members of Native Title Claimants, Local Land Council and Registered Aboriginal Parties. Initial consultation is to take place by 31 July 2023 and at six monthly intervals thereafter until 31 December 2024. The objectives of consultations undertaken will be to:
 - (1) consult on the impact of past and future water take on Aboriginal communities and their cultural practices and values;
 - (2) provide an opportunity for concerns to be raised and respond to should issues arise with the ongoing operation of the water management system at BCM; and

(3) where practical and reasonable, assist in promoting and protecting cultural values and practices in the area affected by mining operations of BCM.

viii) Report summaries of the consultations in BCOPL's Annual Review in accordance with the BCM Project Approval. Commitments arising out of the consultation must be included in revisions of BCOPL's Cultural Heritage Management Plan.

5 Reporting of compliance

5.1 BCOPL will:

- a) Within 7 days of their occurrence, notify NRAR in writing about the following matters:
 - i) its submission of an updated SWMP to the NSW Department of Planning and Environment as referred to in paragraph 4.1a)iii); and
 - ii) the payment of its financial contribution to the relevant community project as referred to in paragraph 4.1a)vi).
- b) Provide NRAR with quarterly progress reports on the status and outcomes of the new metering and telemetry referred to in paragraph 4.1a)i) in accordance with the commitments detailed in Appendix 2. The progress reports will include any learnings identified which may be relevant for NRAR in the development of best practice mining sector guidelines for water reporting in mining. A copy of the quarterly progress reports will be published on IA's website for the BCM. BCOPL will report to NRAR and publish quarterly progress reports until 31 December 2027.
- c) Provide NRAR with written progress reports every six months about the consultation referred to in paragraph 4.1a)vii). By 30 June 2025 a final report documenting how the consultation has achieved the objectives outlined in paragraph 4.1a)vii) will be provided to NRAR.

6 Payment of costs

6.1 BCOPL will:

- a) Within 28 days after the Commencement Date, BCOPL will reimburse NRAR in the sum of \$5,000 being agreed costs associated with investigating the Alleged Contravention and monitoring this Undertaking.
- b) Within 28 days after the Commencement Date, BCOPL will reimburse NRAR the sum of \$10,000 as a contribution towards its legal costs associated with accepting this Undertaking.

7 Acknowledgments

7.1 BCOPL acknowledges the following:



Natural Resources Access Regulator

Natural Resources Access Regulator

Locked Bag 5022,

Parramatta NSW 2124

T 1800 633 362

www.nrar.nsw.gov.au

- a) NRAR will make this Enforceable Undertaking publicly available including by publishing it on NRAR's website;
- b) NRAR will, from time to time, make public reference to this Enforceable Undertaking including in news media statements and in NRARs publications;
- c) this Enforceable Undertaking in no way derogates from the rights and remedies available to any other person arising from the alleged conduct; and
- d) this Enforceable Undertaking does not affect the ability of NRAR to take any other enforcement action for the contravention or alleged contravention of the WM Act to which this undertaking relates.



Executed as an Undertaking

Company

Executed by **Boggabri Coal Operations Pty Ltd ABN 76 600 191 455** pursuant to section 127(1) of the *Corporations Act 2001* by:

Signature of director:

Name of director: **Fumitake Uyama**

Date: 8 June 2023

Signature of director:

Name of director: **Tsutomu Kunomura**

Date: 8 June 2023

For NRAR

Signature:

Accepted by NRAR or its delegate pursuant to section 336E of the WM Act:

Name: **Grant Barnes**

Title: **Chief Regulatory Officer**

Natural Resources Access Regulator

(By delegation)

Date:

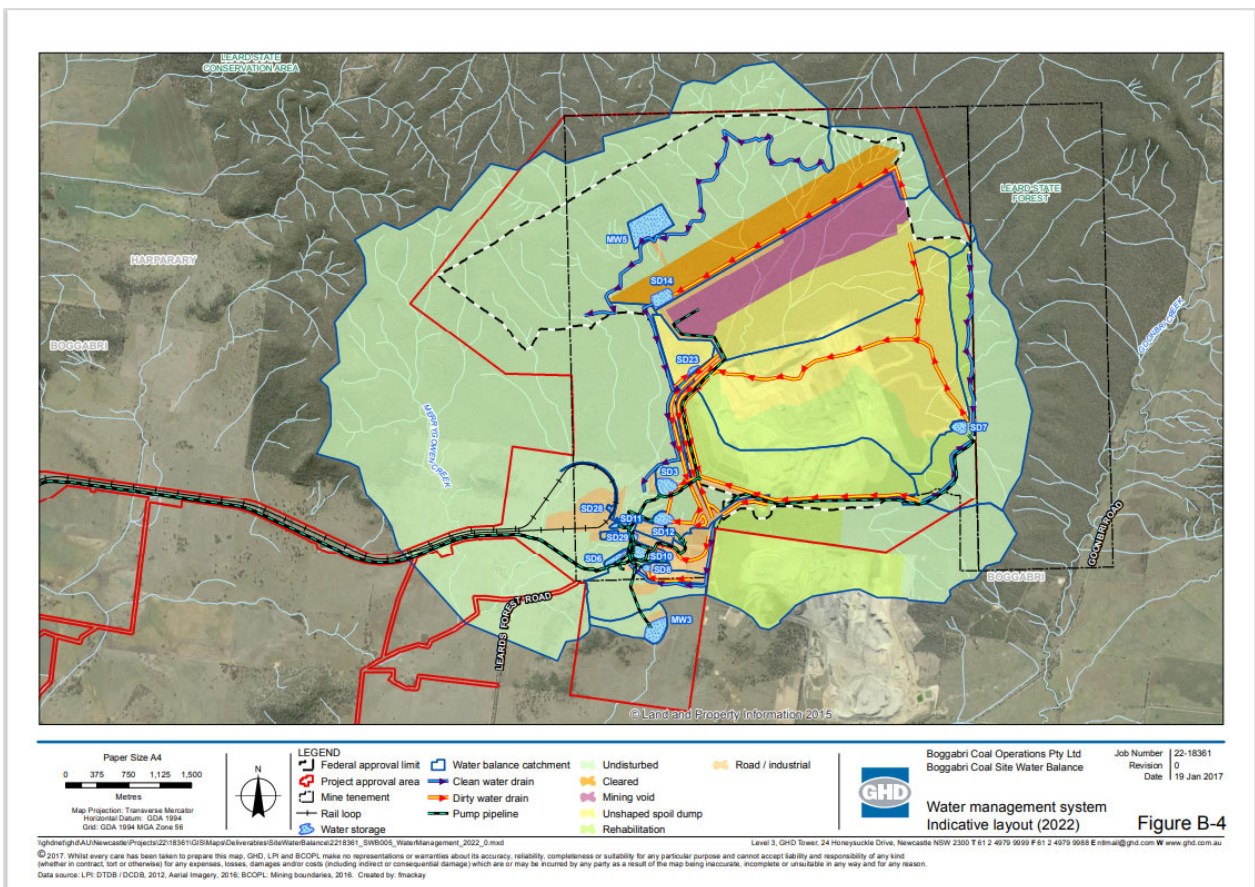
15-6-2023

Appendix 1 – proposed improvements to water metering and telemetry

The following water meter telemetry capability will be installed at the listed dams:

Dam	Remote start	Level monitors	Digital flow monitoring	Reporting to CITEC	Auto Water Sampling for pH, EC & TSS
MW5 - Electric	✓	✓	✓	✓	
MW5 - Diesel			✓	✓	
SD23 - Transfer	✓	✓	✓	✓	
SD23 - Fill point			✓	✓	
SD7 - Diesel	✓	✓	✓	✓	✓
SD3	✓	✓	✓	✓	✓
SD6	✓	✓	✓	✓	✓
SD12	✓	✓	✓	✓	
SD10	✓	✓	✓	✓	
MW3		✓			
SD8		✓			

The below plan shows the indicative layout of the water management system for the whole Boggabri Coal Mine. It identifies the locations of the dams listed in the above table, which will have meter telemetry installations:



Note: the above plan also shows the locations of dams which are not listed in the above table and will not have installations.



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The parties acknowledge that the metering and telemetry locations identified above may vary over time due to operational changes (for example, relocation of mine water dam locations) and this may impact on the data available for inclusion in BCOPL's reports. In this instance, BCOPL will ensure revised metering and telemetry locations are identified and notified to NRAR, and data from those revised locations is included in corresponding reports.

Appendix 2 – proposed surface water accounting and reporting methodology

Water balance model

BCOPL maintains a Site Water Balance model (**WBM**) that is used to predict how the mine Water Management System (**WMS**) will respond based on observed storage volumes, planned mine progression, and future climate variability. The WBM can also be verified by comparing modelled results to observed operational data. Model verification is important to provide confidence the WBM will also adequately represent the WMS response when predicting future outcomes during forecast modelling runs.

The WBM estimates runoff from the undisturbed catchment upstream of the mine using the Australian Water Balance Model (**AWBM**) rainfall runoff model. Relevant parameters of the AWBM were used to achieve a similar average annual runoff coefficient to the nearby Maules Creek catchment immediately north-west of the mine. Establishing parameters in the AWBM to gauge data provides confidence the model is adequately representing the local rainfall runoff relationship from undisturbed catchment areas in the absence of more site-specific data.

Proposed water metering

To provide site-specific data for undisturbed catchment runoff, BCOPL will install water metering on pump transfers that divert inflows (which primarily occur from an undisturbed catchment area) from the watercourse upstream of the soil stockpile area. The recorded pump volumes can be used to:

- directly quantify water take from the watercourse that drains to the soil stockpile area
- be used on a pro-rata basis to quantify water take from undisturbed catchment areas that are intercepted by the mine, but for which metering is not practical; and
- verify the WBM AWBM parameters are adequately representing the rainfall runoff relationship from undisturbed catchment areas upstream of the mine.

Calculating water take

Water accounting will be completed on a quarterly basis by BCOPL.

BCOPL will use the following approach to calculate and verify water take over each previous quarter:

1. Update the WBM to include observed rainfall, evaporation, water use and storage volume data over the previous quarter.
2. Run the WBM to estimate the volume of runoff intercepted from the undisturbed catchment over the previous quarter.
3. Verify the WBM is adequately representing the rainfall runoff response by:
 - a) comparing simulated and observed storage volumes to confirm the model is adequately representing the rainfall runoff response to the WMS; and

- b) comparing runoff volumes from the AWBM model to metered pump volumes (where available) to confirm the model is adequately representing the rainfall runoff response from the undisturbed catchment area.
4. Once the WBM outputs are verified, the total licensable take (volume) over the previous quarter will be calculated as the sum of:
 - a) runoff from all third order and higher watercourses; and
 - b) the volume of runoff from minor watercourses in excess of the landholdings' harvestable rights.

Metered pump volumes may also be used to calculate the volume of water take from the undisturbed catchment using a pro-rata approach. Where possible and practical, metered volumes will be used to improve the reliability of the WBM estimates to provide a consistent and long-term methodology for determining water take from the undisturbed catchment area.

Forecasting water take for allocation acquisition

BCOPL will use the WBM to forecast water take over each following quarter to ensure BCOPL holds sufficient water allocation in its water account ahead of surface water take. The following approach is proposed to estimate water take and thus water allocation requirements over each following quarter:

1. Obtain the three-month climate outlook from the Bureau of Meteorology (BoM) website to determine the climate condition 'scenario' (very dry, dry, average, wet or very wet) to be applied to the forecast modelling.
2. Run the WBM for the climate condition scenario using a probabilistic simulation approach where the historical climate record is used to estimate future rainfall and runoff.
3. The probabilistic simulation will output a range of possible water take volumes for the following quarter for the climate condition scenario. For the very dry, dry and average scenarios, it is proposed to adopt the maximum predicted water take volume when determining future allocation assignment requirements. For the wet and very wet scenarios, the 80th percentile values will be used. Under these scenarios, further allocations can be assigned as the quarter progresses if the wet or very wet conditions are more extreme than the 80th percentile. This strategy ensures that sufficient allocation can be held prior to any take without having to purchase allocation up front that in all likelihood would not be required.
4. The total water allocation required over the following quarter will be calculated as the sum of:
 - a) the predicted volume of runoff from all third order and higher watercourses as outlined above; and
 - b) the predicted volume of runoff from minor watercourses in excess of the landholdings' harvestable rights.

Forecast modelling for periods further in the future than three months are not considered appropriate for the purposes of water accounting due to the difficulty in predicting long-term weather conditions.



Proposed water accounting approach

BCOPL will use WBM outputs for each previous quarter and forecast model results for each following quarter in combination to determine the total volume of water allocation required. Additional allocation will be acquired if the WBM outputs indicate:

1. Water take over the previous quarter exceeded the allocation held in BCOPL's water allocation account; or
2. Water take over the following quarter is predicted to exceed the allocation held by BCOPL.

BCOPL will undertake quarterly reporting of water take volumes to NRAR and relevant groups identified below. Reporting will be in the form of:

- Minutes of quarterly Community Consultative Committee (CCC) meetings
- Quarterly email to NRAR
- Quarterly email to Registered Aboriginal Parties (RAPs) and Biannual ASCF meetings.
- Annual reporting of water accounts to WaterNSW
- Annual reporting of water accounts in the Annual Review

Annual reviews of model

BCOPL will undertake annual reviews of the WBM performance in conjunction with BCOPL's Annual Review process. The WBM is currently reviewed annually against observed WMS data such as storage volumes and water use. It is proposed to also include a review of how well the model simulates runoff from the undisturbed catchment by comparing modelled runoff volumes against observed runoff volumes recorded at the proposed pump metering location upstream of the soil stockpile area. The AWBM parameters for undisturbed catchment area may need to be revised if there are significant differences between the modelled and observed runoff volumes.

The parties acknowledge that the WBM and WMS may evolve over time as mining progresses, for example, new dams may be added and existing dams removed from the water monitoring program.