

## NRAR Quarterly Report 2: Q4 2023

12/01/2024

To: Alex Bowlay  
Senior Investigator  
Natural Resources Access Regulator (NRAR)

## Enforceable Undertaking Commitments

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### Water Balance Model (WBM).

The Goldsim WBM has been implemented and reported internally every month which is assisting in guiding a wholistic approach to water management, across the site.

The WBM is also allowing BCOP to validate water intercepted from undisturbed catchments and forecast when groundwater/river extraction will be required due to low site water storage.

### Proposed Water Metering.

All metering and telemetry capabilities have been installed as mentioned in Appendix 1 of the EU.

The improvements to the metering and telemetry of the pumping system have included:

- Standardising controllers for all pumps.
- Introducing remote start capabilities for diesel pumps and utilising solar for start batteries to reduce time in jump starting pumps that are used infrequently.
- Regular email reports are provided to the site team to inform the Water Balance Model and support day to day decision making.

### Calculating Water Take

A verification model was run to assess the model’s accuracy in representing the rainfall runoff response to the WMS and to estimate the volume of runoff intercepted from the undisturbed catchment in the previous quarter.

The Site Water Balance data in **Figure 1** indicates the modelled storage volume (blue line) is similar to the observed storage volume (orange line) with similar responses to rainfall occurring for both results. Although there was increased rainfall over Q3 2023, due to the dry previous dry months there was likely increased infiltration into the soil which resulted in low runoff.

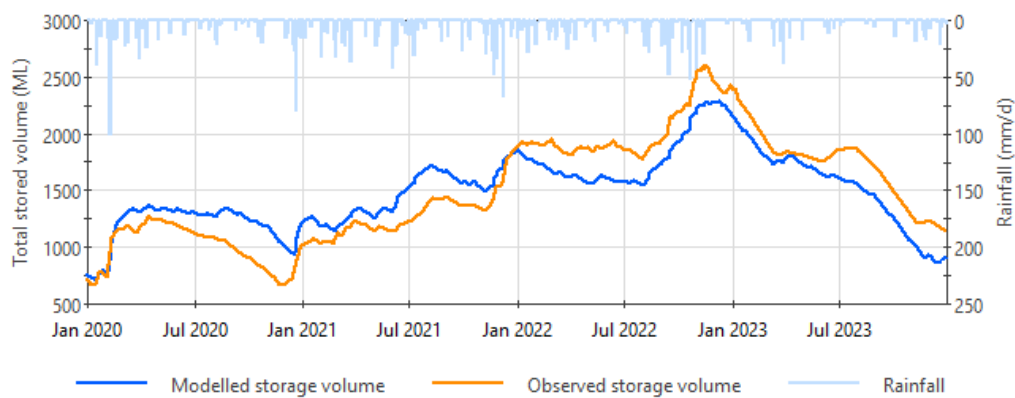


Figure 1: Water Model Run as of 31 December 2023.

Table 1: Rainfall during reporting period

Month	Rainfall (mm)
October 2023	17.6
November 2023	106
December 2023	67.6

Table 2: Estimated & Actual volume of runoff intercepted from soil stockpile dam undisturbed catchment Oct-Dec 2023

	Estimated runoff Volumes into Soil Stockpile dam from undisturbed catchment	Metered pump volumes Actual Interception (Soil Stockpile dam)
Volume (ML)	6.36ML	8.7ML

Despite the actual pumped values out of the Soil Stockpile Dam being slightly higher, the model is generally doing a good job at estimating runoff out of the undisturbed catchment.

Table 3: Total Licensable take for Oct-Dec 2023

	Runoff from Third order and higher watercourses	Runoff from minor watercourses in excess of landholdings' harvestable rights
Volume (ML)	19.23ML	0ML

Bluevale water used Water Year to date: 19.23ML

### Forecasting water take for acquisition allocation

A Water Balance Model forecast was run to ensure BCOPL holds sufficient water allocation to account for future surface water take (See figure 2). See results below:

Three-month BOM Climate Outlook Jan-Mar: Wet

Table 4: Predicted water take Jan-Mar 2024

	Predicted Runoff from Third order and higher watercourses	Predicted runoff from minor watercourses in excess of landholdings' harvestable rights	Predicted volume requiring licencing
Volume (ML)	92.27	0	92.27

Current allocation held in WAL44134: 250ML

93 Unit Shares of Bluevale Unregulated Water licence was purchased on 15 December 2023. Although this does not increase allocation for the 23/24 Water Year, but will provide greater water security in future years. Additional temporary water will continue to be acquired as necessary.

### **Industry learnings**

- The installation of real-time metering has allowed BCOP water managers to make real-time decisions around storages and water movement across the site.
- Additional pumping, pipework and filtration installed as part of the process has facilitated the use of dam water in the Coal Processing Plant, thereby reducing the requirement for the use of bore water.
- The real-time storage monitoring will also reduce the need for regular survey pickup of dam storage levels which is a strain on resources and can vary with human error.
- The Goldsim model has provided reliable modelling of our site water storages recently during dry times which has allowed the mine to adequately prepare groundwater bore infrastructure and implement water saving initiatives on site.

### **Surface Water Management Plan (SWMP)**

BCO is currently reviewing the SWMP with a view to providing an update to the to the DPE.

BCO is in the process of seeking a Modification (MOD8) to its Project Approval and a determination is expected within the next quarter.

BCO has requested permission from DPE to delay the submission of the revised SWMP until Modification 8 is determined. DPE has granted BCO permission to submit the SWMP no later than 3 months after the determination date, or as otherwise agreed by The Secretary. (Ref: Appendix 1). However, we have provided a draft version to NRAR on 19 December 2023.

### **Consultation**

Initial consultation has been conducted with members of the local Aboriginal community (25 July 2023) to discuss the background to the Enforceable Undertaking and to commence the discussion on past impact of water take on Aboriginal communities and their cultural practices. The next ASCF is planned for Q1 2024.

A copy of this report will be disseminated to the Registered Aboriginal Parties (RAPs)

Consultation also took place at the October 2023 CCC meeting. No issues were raised.

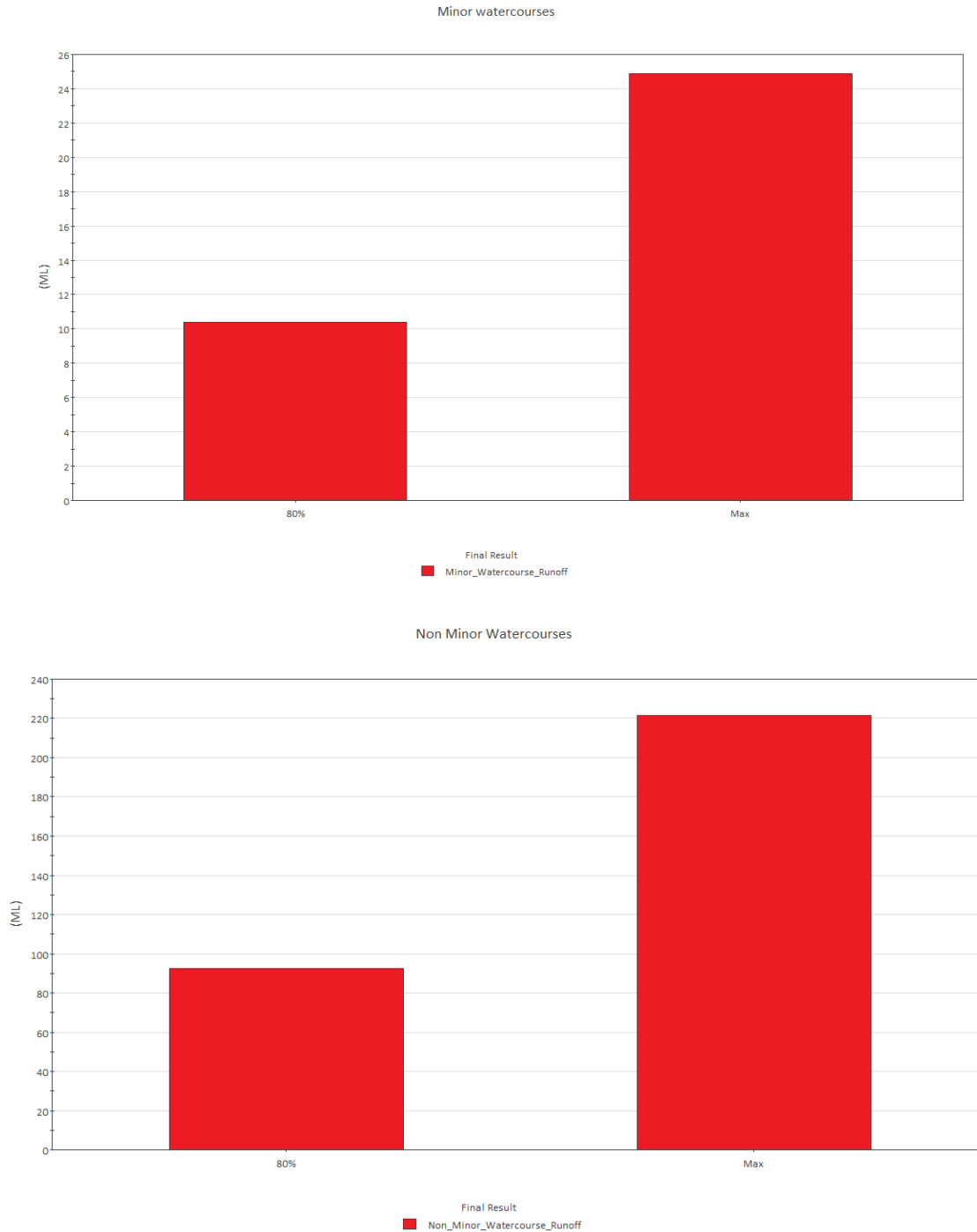


Figure 2: Predicted licensable water take for Jan-Mar 2024.

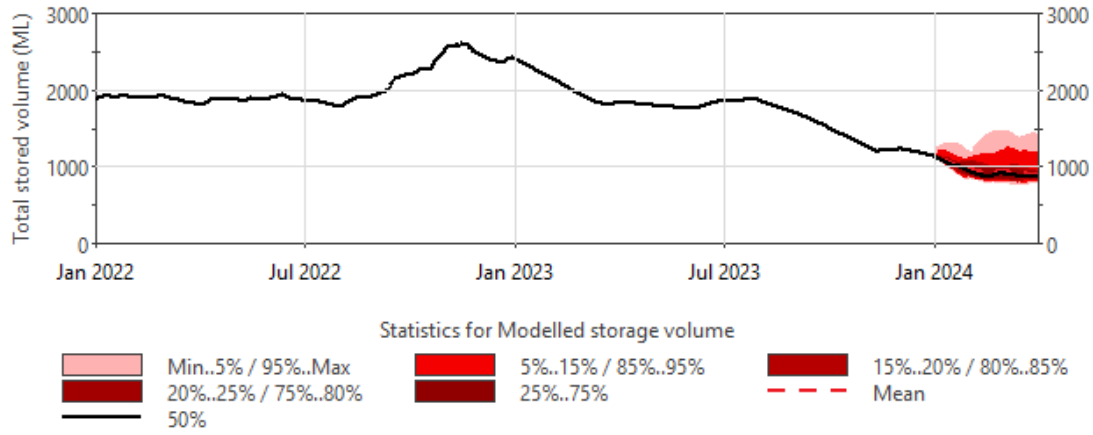


Figure 3: Predicted Site storage Volumes Jan-Mar 2023.

[REDACTED]

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**From:** [REDACTED]  
**Sent:** Tuesday, 3 October 2023 7:01 AM  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** FW: BCO submission of Management Plans as per 2021 AR action plan

#  
#  
Regards

[REDACTED]  
ENVIRONMENTAL COMPLIANCE SUPERINTENDENT

[REDACTED]

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#  
**From:** Heidi Watters [REDACTED]  
**Sent:** Thursday, 28 September 2023 4:26 PM  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** Re: BCO submission of Management Plans as per 2021 AR action plan

[WARNING: This email originated outside of Our Company. DO NOT CLICK links or attachments unless you recognize the sender and know the content is safe.]

Hi Alex

Brittany has forwarded you request to the Compliance branch since the action to revise the management plans stemmed from the 2021 IEA RAR and 2021 Annual Review.

The February 2023 IEA RAR update included a target date of 30/09/2023 to submit revised management plans to the department. With the impending determination of MOD 8, an extension to the submission date is approved. The revised management plans are to be submitted within 3 months of the determination of MOD 8, or as otherwise agreed by the department.

If you have any further queries, please contact myself.

Regards

**Heidi Watters**  
**Team Leader Compliance**

Development Assessment | Department of Planning and Environment

[REDACTED]  
Suite 14, Level 1, 1 Civic Avenue, Singleton NSW 2333  
[www.dpie.nsw.gov.au](http://www.dpie.nsw.gov.au)



*The Department of Planning and Environment acknowledges that it stands on Aboriginal land.*

*We acknowledge the traditional custodians of the land and we show our respect for elders past, present and emerging through thoughtful and collaborative approaches to our work, seeking to demonstrate our ongoing commitment to providing places in which Aboriginal people are included socially, culturally and economically.*

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**From:** [REDACTED]  
**Sent:** Wednesday, 27 September 2023 11:39 AM  
**To:** Brittany Golding [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** BCO submission of Management Plans as per 2021 AR action plan

Hi Brittany

Thanks for your time on the phone earlier. As discussed BCO submitted an action plan requested by DPE in relation to acceptance of BCO 2021 Annual Review (see attached). Due to modification 8 approval theoretically drawing closer and to avoid an unnecessary increased work load for the Department, BCO are requesting permission to postpone the submission of the management plans mentioned in the action plan until the determination of Mod 8.

We appreciate your time in considering this matter.

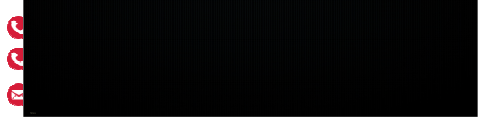
Regards

**Environmental Compliance Superintendent**

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**Idemitsu Australia Pty Ltd**

386 Leards Forest Road, Boggabri



[idemitsu.com.au](http://idemitsu.com.au)

