Upper Hunter Mining Dialogue

Water Accounting Framework

2018 Water Use Summary Report

Introduction

The nine coal producers of the Upper Hunter, through the Upper Hunter Mining Dialogue (the Dialogue), have agreed to provide contextual information on water stewardship through the Water Accounting Framework annual project to provide a regular report to stakeholders on water use by Upper Hunter mining operations.

Key goals of the Joint Environment Working Group regarding water quality and stewardship include:

- Goal 1 - Develop a better understanding of the region's water resources and the existing and potential impacts of development on the Hunter Valley catchment; and
- Goal 2 - Demonstrate and promote responsible and efficient use and management of water in the Hunter Valley.

Annual Water Management Statement and Contextual information

Following feedback received at the 2018 Annual Forum Discussion Sessions, the Dialogue's Steering Committees and Working Groups noted that while the Water Accounting Framework is improving the transparency of industry's water management practices, the results are provided in the absence of contextual information that may be relevant to the figures published.

Members supported the Dialogue secretariat liaising with industry to prepare an annual water management statement and other contextual information regarding stewardship initiatives for each company, to coincide with the provision of data for the annual water accounting project. This project will address the identified gaps and provide context to the published results, while helping to fulfil the second water-related goal of the Working Group in providing information to the community on water stewardship initiatives.

Industry was asked to:

1. Provide an overview of the 2018 water accounting framework data submitted by your company. This could incorporate any contextual information regarding water efficiency, reuse, recycling and management programs onsite.
2. Provide any information regarding specific water stewardship programs or initiatives implemented onsite that the Dialogue could include as a case study.

Responses from each company have been collected and included on the following pages.

Bengalla Mining Company
2018 Annual Statement

Bengalla Mining Company (BMC) has implemented a water management system which includes surface and groundwater management.

In April 2018, BMC secured temporary transfer of 431 ML from various WALs to WAL001106, increasing BMC WAL001106 entitlement to 1,880 ML until 30 June 2018. The 1,571 ML of water pumped from the Hunter River by Bengalla during 2018 was consistent with WAL001106 entitlements and the prediction in the Bengalla EIS that up to 1,680 ML would be required to support a production rate of 10.7 Mt ROM coal.

During the reporting period there were no variations from the current MOP related to water management activities. BMC did not discharge any water to the Hunter River from its licensed discharge point under the Hunter River Salinity Trading Scheme (HRSTS) during the reporting period. This was due to the limited rainfall in 2018, with the Hunter River in low flow and no discharges permitted.

BMC used more water from the Hunter River in 2018 compared to the previous year. During the reporting period, BMC used approximately 3,448 ML of water for various purposes including coal handling and processing, dust suppression and use in the industrial area. **4.2% of this water was recycled back into the water management system.** This is an increase in water usage compared to the 3,252 ML used in 2017.

BMC continue to identify water saving opportunities and implement water management programs onsite to improve efficiencies.

BHP - Mt Arthur Coal
2018 Annual Statement

The largest input to site is typically rainfall as outlined in the modification project environmental assessment, however this was not the case during the reporting period due to ongoing drought conditions and rainfall below fifth percentile. The largest input to the site was licensed extraction from the Hunter River of 3,264 ML.

Mt Arthur Coal continued to source water from the Muswellbrook Shire Council treated effluent scheme to reduce the demand from other external sources. An estimated 573 ML of recycled effluent was brought onto site for reuse in site operations. This supply contract renewal is in negotiation and planned to continue in FY20.

Bloomfield (Rix's Creek North and Rix's Creek South)
2018 Annual Statement

With the recent acquisition of the Rix's Creek North (RCN) open cut mines and associated infrastructure, including all dirty and clean water management infrastructure, there is the opportunity to integrate water management across both the RCN and Rix's Creek South (RCS) areas – the combined operations being referred to as the Rix's Creek Mine. The Rix's Creek Mine Water Management Plan was reviewed to ensure statutory compliance to particular approvals for relevant areas, while also enabling flexibility in water management outcomes by enabling the movement of water between the northern and southern areas to better utilise water resources and optimise operational activities.

Rix's Creek Mine continue to identify water saving opportunities and implement water management programs onsite to improve efficiencies. In 2019 its anticipated that approximately 1.5km of clean water diversions are scheduled to be constructed to ensure that clean water is separated from dirty mine water catchments and allows clean water to enter into clean water catchments.

Malabar Coal
2018 Annual Statement

The Maxwell Infrastructure site is currently in the closure phase of the operation with rehabilitation activities and some ancillary activities such as grading of roads and maintenance of equipment occurring.

Maxwell Infrastructure manages water use and impacts in accordance with the Water Management Plan. The site's water management system does not actively draw water from external surface or groundwater sources, nor discharge to the environment. Water passively enters the site water management system through surface water runoff and passive aquifer intake into the open cut pit. Water is used for vehicle and equipment wash-down and for dust suppression and returned to water storages or lost through evaporation. A small volume of potable water is used on-site for human use and to provide cattle with drinking water.

Water consumption has reduced substantially over the long-term at Maxwell Infrastructure, particularly since mining ceased in 2016. The associated reduction in operational activity has decreased raw water demand and the reduction in the number of people on site has decreased demand for potable water.

Mount Pleasant Operation
2018 Annual Statement

MACH Energy Australia Mt Pleasant Operations (MPO) continued construction and commenced mining operations in 2018. Coal was first mined in July, which formed the base of the ROM stockpile. With pending commissioning of the bypass circuit in the CHPP, coal mining recommenced in November 2018. Off-site coal transport also commenced in 2018.

During 2018, 372.0 millimetres (mm) of rain was recorded over 35 wet days at the MPO weather station M-WS4.

MPO operates under a Water Management Plan prepared and approved on 16 March 2018. There were no water discharges from the MPO in 2018. Any future discharges of mine water will be undertaken in accordance with Development Consent DA 92/97 (Condition 26, Schedule 3), Development Consent SSD-5170 (i.e. Bengalla Mine's Development Consent) and EPL 20850.

A total of 1,208 ML of water was taken from Hunter Regulated River Water Source for use at the MPO during 2018. MPO has 15 credits under the Hunter River Salinity Trading Scheme (HRSTS), however, no discharges to the Hunter River occurred during the reporting period.

Muswellbrook Coal Company
2018 Annual Statement

Muswellbrook Coal Company (MCC) operates in accordance with a Water Management Plan that has been approved by Muswellbrook Shire Council. A site water balance has been prepared to assist with modelling and prediction of water supply and usage under different climatic scenarios.

MCC obtain all of the water required for mining from water that has collected in old underground workings. This water is not suitable for use in irrigation or for stock water. MCC do not extract any water from the Hunter River or local creeks.

MCC are a nil discharge site meaning that we don't not discharge any water into the surrounding environment.

At least 50% of coal produced by MCC doesn't require washing and this significantly reduces the amount of water required in the coal processing process.

Peabody Energy
2018 Annual Statement

Wambo Coal Pty Ltd (WCPL) has implemented a water management system which includes surface and groundwater management. An annual site water balance is prepared and reported in the Annual Review.

During the reporting period there were no variations from the current MOP related to water management activities. During the reporting period, WCPL did not discharge any water to the Hunter River from its licensed discharge point under the Hunter River Salinity Trading Scheme (HRSTS). This was due to the ongoing dry conditions experienced in 2018.

During the reporting period, WCPL used approximately 2606 ML of water for various purposes including coal handling and processing, dust suppression, underground and potable consumption.

WCPL continue to identify water saving opportunities and implement water management programs onsite to improve efficiencies.

Yancoal
2018 Annual Statement

Yancoal operates multiple sites across the Upper Hunter, including Mt Thorley Warkworth (MTW), which is located approximately 70km north-west of Newcastle, in the Hunter Valley region of New South Wales. MTW operations consist of two adjacent open cut mines (Mount Thorley Operations and Warkworth Mining Limited). MTW produced 12.1 million tonnes of saleable coal in 2018.

MTW has an extensive network of water management system monitoring data, including the following:

- Automatic weather station at Charlton Ridge.
- Fortnightly water level/storage inventory readings.
- Metered haul road dust suppression usage.
- Metered pipeline raw water usage.
- Metered pump transfers at various locations around the site.
- Plant ROM and product tonnages.
- Plant tailings volume and solids flow rates.
- Controlled offsite discharges.
- Water quality in site dams and surrounding waterways.

Total rainfall recorded during 2018 was 456 mm, which is significantly below the long-term average.

Catchment areas and associated land use classifications within the mine have been determined from topographic mapping and aerial photography. Due to mine disturbance, infiltration of overburden emplacement areas may report to either the open cut pit or the surface drainage system. This is accounted for in the OPSIM model by specifying separate surface flow and baseflow catchments.