

Coal Workers' Pneumoconiosis (Extended Terms Of Reference)

**Submission
23 June 2017**

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Abbreviations

BMA	BHP Billiton Mitsubishi Alliance
BMA Rail	BHP Billiton Mitsubishi Alliance Rail
BMC	BHP Billiton Mitsui Coal
CMSH Act	<i>Coal Mining Safety and Health Act 1999 (Qld)</i>
CMSH Regulation	<i>Coal Mining Safety and Health Regulation 2001 (Qld)</i>
COH	Certified Occupational Hygienist
CWP	Coal Workers' Pneumoconiosis
DEM	Dust Extinction Moisture
HPCT	Hay Point Coal Terminal
OEL	Occupational Exposure Limit
PPE	Personal Protective Equipment
SEG	Similar Exposure Group
Sim Review	<i>Review of Respiratory Component of the Coal Mine Workers' Health Scheme for the Queensland Department of Natural Resources and Mines, 12 July 2016 by Professor Malcolm Sim (Monash University)</i>

About BHP

BHP is a leading diversified resources company with a global footprint. Our workforce currently comprises more than 65,000 employees and contractors, working in numerous countries around the world. We are among the world's top producers of major commodities including iron ore, metallurgical and energy coal, conventional and unconventional oil and gas, and copper.

BHP has owned and operated coal mines in Queensland for over 40 years, with some of our operations, like Blackwater Mine which was developed in 1967, close to 50 years old.

Our operations in Queensland include nine operating mines – seven owned by BHP Billiton Mitsubishi Alliance (**BMA**) (with our 50% joint venture partner, Mitsubishi Development Pty Ltd) and two owned by BHP Billiton Mitsui Coal (**BMC**) (with a 20% joint venture partner, Mitsui & Co. (Australia) Ltd).

BMA also owns the Hay Point Coal Terminal (**HPCT**) and BMA Rail; a rail haulage operation consisting of four trains.

In everything we do, we are guided by *Our BHP Charter* values of:

- **Sustainability** – putting health and safety first, being environmentally responsible and supporting our communities
- **Integrity** – doing what is right and doing what we say we will do
- **Respect** – embracing openness, trust, teamwork, diversity and relationships that are mutually beneficial
- **Performance** – achieving superior business results by stretching our capabilities
- **Simplicity** – focusing our efforts on the things that matter most
- **Accountability** – defining and accepting responsibility and delivering on our commitments.

Our BHP Charter embodies our common purpose, our values, how we measure our success and the basis for our decision-making. Supporting *Our Charter* is our *BHP Code of Business Conduct*, which helps guide our daily work. It demonstrates how to practically apply the commitments and values set out in *Our Charter* and is reflected in many of the standards and procedures we apply throughout our organisation.

We are the largest private sector employer in Central Queensland. Our operations currently employ over 10,500 Queenslanders across our coal mines, rail operations and the HPCT; and account for around a third of Queensland's metallurgical coal exports and coal royalties generated in this State.

Around 92% of our operational workforce lives in Central Queensland. A further 850 people are employed in our Brisbane corporate office.

Summary

On 22 March 2017, the Coal Workers' Pneumoconiosis (CWP) Select Committee announced an extended terms of reference which focuses on the respiratory health and safety of coal port workers, coal rail workers, coal-fired power station workers and other workers who may have had exposure to coal dust.

This submission addresses the following in respect to our coal port and rail operations in Queensland:

- ***What we do to prevent*** occupational illness caused by exposure to coal dust at our port and rail operations, and;
- ***How we have supported our workforce*** at our port and rail operations since the re-identification of CWP.

BHP welcomes the extended terms of reference and the opportunity to make this written submission, as we share the CWP Select Committee's goal of improving the health outcomes for people directly and indirectly involved in coal mining.

Our assets and operations which are most relevant to the CWP Select Committee's extended terms of reference are:

- the Hay Point Coal Terminal, a coal export terminal at the Port of Hay Point, owned by BMA and operated by Hay Point Services, and;
- BMA Rail, a rail haulage operation owned by BMA.

Ensuring the health and safety of all of our people is a core value of BHP. We care for our workers and are committed to protecting the respiratory health of our employees and contractors, across all of our operations. We remain committed to working with the CWP Select Committee, industry, the health sector, government, the community and other key stakeholders to address the health risks from coal dust, and to support those affected by it.

What we do to manage coal dust exposure risk at our port and rail operations

BHP adopts a consistent approach to managing the risks of coal dust exposure, across all our operations – mine, port and rail. The elements of our approach to the effective prevention and management of CWP at our port and rail operations include:

1. **Setting an appropriate occupational exposure limit (OEL)** – the internal OEL for coal dust of 2mg/m³ adopted by BHP in 2012 applies equally across all our operations, including our port and rail operations. BHP periodically reviews our OELs against the latest science and are supportive of any review of the regulatory OEL which is also grounded in science.¹
2. **Effective dust exposure monitoring** – BHP applies the same risk-based monitoring approach for workers at our port and rail operations as we do for our mines. This monitoring regime is designed by occupational hygienists in accordance with applicable

¹ We are mindful of the CWP Select Committee's recommendation to reduce the regulatory OEL for coal dust to 1.5mg/m³ with immediate effect, but do not propose to specifically respond to that recommendation in this submission.

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Australian Standards, and includes monitoring the dust exposure of a range of similar exposure groups (**SEGs**) at our port and rail operations. Importantly, our monitoring shows that **dust exposure at our port and rail operations is low** – consistently below our internal OEL and the regulatory OEL. These monitoring results have previously been provided to the CWP Select Committee.

- 3. Effective dust management controls** – There are a range of dust management controls in place across our logistics chain (from mine through our rail and port operations), which limit generation of and workers' exposure to coal dust. These include moisture controls, veneering, and separation of workers from sources of coal dust.
- 4. Respiratory health assessments** – The exposure assessments at our port and rail operations do not indicate significant exposure to coal dust, and on this basis, there is no statutory requirement for periodic respiratory health assessments for rail and port workers. We have however offered free respiratory health assessments (to the same standard adopted for our mine workers) to all employees at our port and rail operations who have any concerns, and a number of people have chosen to participate in this. To the best of our knowledge, we do not believe that any of these workers have been diagnosed with CWP.

Support for our workforce – including retired employees

The support provided to our rail and port workforce in response to the re-identification of CWP is consistent with the support we have provided our workforce at our mines, and includes the offer of health assessments noted above, as well as extensive information and education campaigns, and the offer of counselling services to any workers with concerns.

We have also undertaken an advertising campaign to publicize our free respiratory health assessment service for retired employees. This is available to all retired employees, and includes retired rail and port employees as well as employees from our current and former mining operations. To date, more than 100 retired employees have made use of the service. We do not believe that any have been diagnosed with CWP as a result of the assessments undertaken.

Context

The re-identification of CWP and BHP's response

The safety and wellbeing of our people is our highest priority. We were deeply concerned to learn of the first newly diagnosed cases of CWP in almost 40 years in late 2015, and have been involved in a range of activities to address CWP since then. This has included:

- Supporting our employees diagnosed with CWP, including provision of medical support, counselling, and where possible arranging redeployment to other roles in BHP mines in accordance with specialist medical advice. Regrettably, we are aware of four current employees who have been diagnosed with CWP. Two have been successfully redeployed into new roles and we continue to work on opportunities for the other two.
- Providing extensive and regular information updates to our workforce, and offering counselling support and comprehensive respiratory health testing to concerned workers, outside of the usual coal mine workers' health scheme testing cycle.
- Reviewing and improving dust controls across all our operations on a continuous basis.

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- Contributing to the improvement of the health surveillance scheme by assisting the Sim/Monash review, and providing input into a range of initiatives arising from the Queensland Government's implementation of the recommendations from that review.
- Supporting the development of, and implementing the improvements to, the coal mine workers' health scheme under the amended CSMH Regulations and working with our contractors to ensure they are aware of the requirements;
- Actively participating in joint government/industry working groups developing new Recognised Standards for the monitoring and management of coal dust, and participating in industry workshops aimed at sharing best practice.
- Initiating, and working with industry and the government to review the Workers Compensation legislation to address gaps in the current legislation, in order to better support workers with CWP, and testing for retired workers.

The CWP Select Committee's Inquiry and BHP's participation to date

The CWP Select Committee was established on 15 September 2016 to inquire and report on the re-identification of CWP amongst coal mine workers in Queensland, which was first re-identified in late 2015.

BHP appeared before the CWP Select Committee on three occasions, provided written submissions, written responses to questions taken on notice, and some 5,000 documents in respect of a document summons from the CWP Select Committee. Much of that evidence is also relevant to the extended terms of reference. BHP also extended an invitation to the CWP Select Committee to attend the BMA Broadmeadow underground coal mine, to demonstrate our controls and provide an opportunity to speak to our workforce directly.

The CWP Select Committee published its report on its original terms of reference (focussed primarily on workers in coal mines) on 29 May 2017. The report is comprehensive, and it is not proposed to respond to the report in this submission.

Internal Health & Hygiene Standards

As noted above, we have strong systems in place for monitoring and managing dust exposure for our port and rail workers, including dust monitoring and health screening for workers. Exposures for port and rail workers are low, below our internal OEL. Furthermore, robust controls are in place to ensure that exposures remain low. These processes and controls include:

- Periodic reviews of all BHP activities by a Certified Occupational Hygienist (COH), or a competent person working under the supervision and direction of a COH, whereby initial site and hazard characterization, qualitative exposure assessment and a quantitative exposure assessment and data analysis are undertaken. The COH reviews the adequacy of these measures and endorses the program for all our sites.
- Occupational exposure limits, which apply to everybody at all of our operations, including port and rail. Current BHP internal OELs for coal dust as a time-weighted-average (TWA) are as follows:
 - Respirable coal dust – 2.0 mg/m³.

- Respirable crystalline silica – 0.1 mg/m³ (reducing to 0.05mg/m³ from 2021).
- Respirable particulates not otherwise specified (PNOS) – 3.0mg/m³.

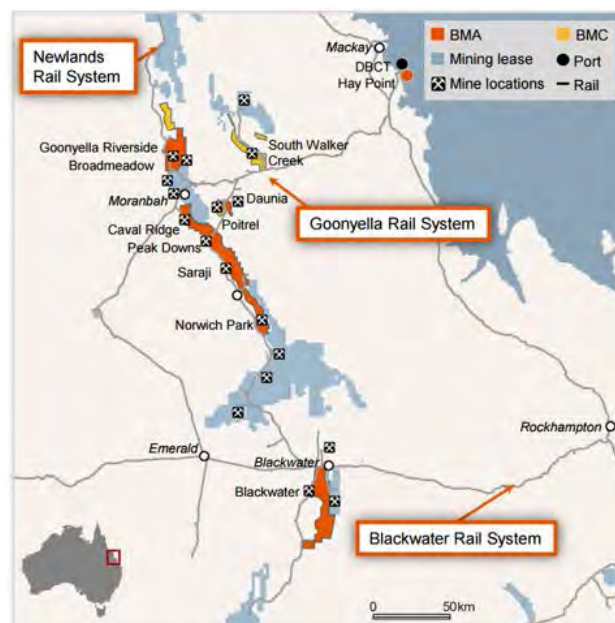
BHP periodically reviews its internal OELs in accordance with the latest science. We are currently in the process of reviewing our OELs to determine whether they should be adjusted, however that review process is not yet complete. We are mindful of the CWP Select Committee's recommendations in respect of the regulatory OEL and would of course comply with any applicable regulatory OEL.

BMA Rail

a. Background

As noted above, BMA Rail is a rail haulage operation, owned by BMA and consisting of four trains (comprising three locomotives and 126 wagons), which operates on Aurizon's Goonyella Rail Network. From an operational perspective, BMA Rail reports into the General Manager of the HPCT.

Figure 1. BMA Rail Map



b. Coal Handling

Before leaving the BMA and BMC mines, coal that is bound for the HPCT is sprayed with a dust-veneer product that bonds to the coal and restricts the generation of dust while the coal is in transit between the mines and the HPCT.

The moisture of all coals transported to the HPCT is also monitored to ensure it remains above the DEM². If coal falls below the DEM, it will be more prone to create dust. Where the moisture

² The Dust Extinction Moisture (DEM) level, as determined by procedure AS4156.6:2000, is described as the moisture level at which a dust number of 10 is achieved on the dust/moisture curve.

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is not at the required level, water is added to the dump stations. This means that dust should not be generated at the dump station or following transfer points at the HPCT.

These coal handling measures mitigate the generation of coal dust in rail corridors and the impact on communities along those corridors.

c. Operator Conditions

The overall exposure to coal dust for a BMA Rail operator is very low. Train Crew conduct a majority of their tasks within an air conditioned, positive pressure cabin which is part of the pressurized body of the locomotive and further isolated from the locomotive body by a sealed door. Train Crew operate all three locomotives in the train from the first locomotive, which is followed by a series of wagons carrying coal. Furthermore, as noted above, coal moisture is monitored and the majority of coal transported between the mines to the HPCT is covered with a dust-veneering agent that restricts the generation of dust.

d. Health Monitoring

The *Queensland Transport (Rail Safety) Act 2010* prescribes the requirement for the management of the health and fitness of rail workers. The Act requires rail workers health and fitness to be assessed in a manner consistent with the National Standard for Health Assessment of Rail Safety Workers.

Periodic health assessments for BMA Rail workers are conducted by a third party in accordance with the requirements identified in the National Standard for Health Assessment of Rail Safety Workers. The frequency of periodic health assessments are determined by risk category.

Hay Point Coal Terminal

a. Background

The HPCT is a BMA terminal and a key asset in BMA's operations, providing the export port for coal from BMA and BMC mines. The HPCT has two in-loading stations, three berths and three ship loaders.

Figure 2. Hay Point Coal Terminal



b. Coal Handling

As noted above, before leaving any of the BMA and BMC mines, coal that is bound for the HPCT is moisture controlled and the surface is sprayed with a dust-veneering agent that bonds to the coal and restricts the generation of dust while the coal is in transit between the mines and the HPCT.

Coal handling at the HPCT is highly automated, with operations controlled from air-conditioned central control centres away from the working environment. While some operators are working nearer to the coal-handling equipment, the dust-generation is minimised due to moisture-controls applied prior to the coal's arrival at the HPCT.

When the trains arrive at the HPCT, they pass through an enclosed dump station facility. The rail wagons pass over a chute and the bottom of the wagon opens, allowing the coal to fall into a collection hopper.

The collection hopper feeds coal onto a conveyor, which takes the coal out of the dump station, through a series of conveyors and transfer stations and then to an automated stacker reclaimer machine. This machine deposits the coal onto stockpiles, which are sorted based on product type.

When the coal is loaded onto the ships for export, the coal is reclaimed from the stockpiles by the same machines that load conveyors, before running along a 1.8km trestle to the ship-

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loading berths. That coal is then transferred from the ship-loading berth to the ship by a conveyor and a telescopic chute that extends from the ship-loader directly into the hull of the vessel.

c. Operator Conditions

BHP/BMA has well-developed controls and systems to minimise coal dust exposure during coal handling at the HPCT.

- Moisture of the coal is controlled to minimise the generation of dust.
- Roads are sealed and washed to prevent dust lift-off from vehicle travel.
- Whilst not occurring frequently, operators that are required to be near an unloading train are required to wear Personal Protective Equipment (PPE).
- Most of the conveyors and transfer stations are enclosed. Conveyors that are not – for example, on the stacker reclaimer machines - are fitted with dust suppression sprays to mitigate any dust generation.
- Positive pressure air conditioned cabs minimise exposure to coal dust.
- Once the ships have been loaded via a telescopic chute, a vessel's hatches are sealed, eliminating the possibility of dust lift-off during vessel movements using towage services.

d. Health Monitoring

The *Work Health and Safety Regulation 2011* places specific duties on a person conducting a business or undertaking to provide health monitoring if the worker:

- Is carrying out ongoing work using, handling, generating or storing hazardous chemicals and there is a significant risk to the worker's health because of exposure to a scheduled chemical or asbestos;
- Is using, handling, generating or storing hazardous chemicals and there is a significant risk the worker will be exposed to hazardous chemicals other than scheduled chemicals and either:
 - Valid techniques are available to detect the effect on the worker's health, or;
 - A valid way of determining exposure is available and it is uncertain on reasonable grounds whether exposure has resulted in the biological exposure standard being exceeded.

To determine whether there are any such significant risks, BHP/BMA conducts an occupational hygiene exposure assessment process at regular intervals (previously described). Where the outcome of the assessment process suggests that health monitoring may be required, BHP/BMA has a rigorous health monitoring process with the following features:

- Health monitoring is carried out by or under the supervision of a registered medical practitioner with experience in health monitoring, and;

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- a health monitoring report is provided to the employer by the medical practitioner, which details the outcome of the health surveillance performed and any required action, and;
- this information is also to be provided to the worker.

Our assessments indicate that HPCT workers are not placed at significant risk.

In addition to compliance with these regulatory requirements, we provide opportunities for employees to have their health assessed and monitored. For instance, we currently require employees to undertake a health assessment before they commence employment with BHP/BMA. Employees concerned about their respiratory health are also encouraged to participate in our concerned workers' screening program.

HPCT contractors are similarly required to undergo a pre-commencement medical assessment, which is valid for five years unless otherwise specified by a qualified medical practitioner.

Shipping service providers (including shipping agents, marine pilots and water taxi drivers) are exempt from medical assessments or requirements for the following reasons:

- Inability to enforce site access requirements to Federal Government employees, such as Border Force and Australian Quarantine Inspection Service employees.
- Shipping agents, marine pilots and taxi drivers are engaged by the Shipping companies or through the Port Authority. Therefore, the HPCT operator BMA is unable to enforce site access requirements.

Retired Worker Health Process

In our previous submissions we referred to a BHP program to provide a free health screening service for retired workers who many have concerns about their historical dust exposure and whether they may have CWP. That program includes (where appropriate) the taking of digital chest x-rays and the review of those x-rays using the same process as used for current coal mine workers.

Following our last appearance before the CWP Select Committee, we sought to more widely communicate the existence of this service to retired BMA, BMC and BHP employees.

This communication was undertaken through advertisements encouraging former BMA, BMC and BHP employees with concerns about coal dust exposure to contact our specialist health service Resile. The advertisement was published across the following dates and publications:

- 15 March 2017 – *Mackay Daily Mercury, Rockhampton Bulletin.*
- 22 March 2017 – *Whitsunday Coast Guardian*
- 23 March 2017 – *Whitsunday Times*
- 24 March 2017 – *Central Queensland News*
- 29 March 2017 – *Whitsunday Coast Guardian*

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- 30 March 2017 – *Whitsunday Times*
- 31 March 2017 – *Central Queensland News*
- 28 April 2017 – *Mackay Daily Mercury, Rockhampton Bulletin, Central Queensland News*
- 3 May 2017 – *Whitsunday Coast Guardian*
- 4 May 2017 – *Mackay Daily Mercury, Rockhampton Bulletin, Whitsunday Times*
- 5 May 2017 – *Central Queensland News*
- 10 May 2017 – *Whitsunday Coast Guardian*
- 11 May 2017 – *Whitsunday Times*

More than 100 people have contacted this service to date. We are not aware of any retired workers who have been diagnosed with CWP following their free health assessments.

This service is available to all retired employees, and includes retired rail and port employees as well as employees from our current and former mining operations.

Conclusion

As stated above, ensuring the health and safety of all of our people is a core value of BHP. We care for our workers and are committed to protecting the respiratory health of our employees and contractors, across all of our operations.

We remain committed to working with the CWP Select Committee, industry, the health sector, government, the community and other key stakeholders to address the health risks from coal dust and to support those affected by it.