BHP Submission – Workplace Exposure Standards for Airborne Contaminants Regulatory Impacts Statement

Background

BHP views the potential exposure to our people by airborne contaminants as one of our most important health risk. Our approach to their management involves:

1. OELs

   Recognising the significant lag that often exists between new scientific evidence suggesting an increased health risk at regulatory OELs and updates to those OELs.

   For our most material exposures, we:

   - monitor and review the scientific literature
   - engage with regulators and OEL setting agencies
   - benchmark against peers and
   - seek independent advice in setting our own internal OELs that provide sufficient protection for our people.

   Frequently our internal levels are significantly lower than those OELs established by State-based regulators or required under the National Workplace Exposure Standards (see table 1 below).

   For all other exposures we require our operations to comply with the stricter of local requirements or Health and Safety Executive (HSE) Workplace Exposure Limits (WELs) published by the HSE in EH40/2005 2nd Edition 2011.

2. Exposure profile

   All of our operations are required to establish and maintain their exposure profile following internationally recognised standards and methodologies, utilising qualified occupational hygienists

3. Exposure control

   Exposure controls are implemented following the hierarchy of controls

4. Exposure reduction

   Since 2011, we have had a public commitment to reduce potential exposures to airborne contaminants. Between FY 2012 and FY 2017 we reduced the number of potential exposures that exceeded baseline OELs requiring the use of personal protective equipment by 76%. At the end of FY 2018 we committed a further 50% reduction in the number of workers with exposures that exceeded 0.05 mg/m^3 for silica (50% lower than regulatory requirements), 0.03 mg/m^3 for diesel exhaust (70% lower than regulated or recommended levels) and 2 mg/m^3 for coal mine dust (1/3 lower than Queensland regulatory requirements) by FY2022. By the end of FY 18 we achieved a 31 % reduction against baseline (and as of the end of FY 2018 there were no workers with exposures that potentially exceeded regulatory requirements).

Preferred Option

BHP supports **Option 2**: Maintain mandatory workplace exposure standards and implement a streamlined methodology to review and update the workplace exposure standards, and add or remove hazardous chemicals to the WES list as indicated.

We believe Option 2 will have limited impact on our business in light of our pro-active approach to OEL setting.

We believe that Option 2 will drive healthier work environments across the mining sector through the adoption of evidence-based OELs that result in lower OELs for the most important exposures (e.g. diesel exhaust, respirable crystalline silica and coal mine dust), resulting in fewer serious occupational illnesses, such as pneumoconiosis and lung cancer.

If **Option 3 (advisory standards only)** were adopted**,** it would not change our approach to the management of airborne particulates as we would still require compliance to the stricter of our own internal or regulatory levels.

Changes to OELs

It is important that any change to an OEL:

- is informed by good science,
- considers local context,
- is prioritised by the magnitude of potential impact (considering both the number of people potentially exposed and the health end point seeking to protect from),
- takes into account the feasibility of achieving control; and
- allows a sufficient transition period to enable controls to be implemented on a sustainable basis.

It is our experience that the minimum time frame required to achieve compliance with a change in OEL on a sustainable basis is 3 years:

- Year 1 – undertaking necessary exposure monitoring to identify work groups at risk of exceeding reduced OEL
- Year 1 and 2 – identifying potential new controls required to achieve necessary level of control and where capital expenditure is required, designing, budgeting and planning for the necessary works
- Year 2 to 3 (and ongoing) – implementing necessary controls and reviewing effectiveness
- Years 3 and ongoing – demonstrating compliance with new controls

Table 1: Comparison between BHP OELs and National Workplace Exposure Standards

Substance	BHP OEL (mg/m3 unless otherwise listed)	National Workplace Exposure Standards
Benzene	TWA 0.5 PPM STEL 2.5 PPM	TWA 1 PPM
Benzo(a)pyrene	TWA 0.2 µg/m^3	NA
Coal mine dust (respirable)	TWA 2.0 R. Operations to achieve management of exposures to a TWA less than 1.5 R as soon as reasonably practicable and no later than 1 July 2020.	TWA Coal dust (containing < 5% quartz) (respirable dust) TWA 3.0

Coal tar pitch volatiles (as benzene/cyclohexane soluble fraction (BSF/CSF) of total particulate matter	TWA 0.05 (BSF) TWA 0.035 (CSF)	TWA 0.2 (BSF)
Diesel particulate as elemental carbon	As low as technically feasible and no higher than TWA 0.03.	NA
Manganese (all forms), as Mn	TWA 0.5 I TWA 0.1R	TWA: Dust and compounds 1 Fume 1
Nickel: elemental and compounds, as Ni	TWA 0.05 I,T	TWA: Metal 1 Soluble 0.1 Sulfide 1
Silica, crystalline	TWA 0.1 R . Operations to achieve management of exposures to a TWA less than 0.05R no later than 1 July 2021.	TWA 0.1
Sulphuric acid (thoracic fraction)	TWA 0.2	TWA 1

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