

Ms Michelle Baxter
Chief Executive Officer
Safe Work Australia
By email: WESConsult@swa.gov.au [REDACTED]

Re: Consultation on proposed workplace exposure standard for diesel particulate matter

Dear Ms Baxter,

I am writing to provide comments from SafeWork NSW on the Safe Work Australia (SWA) *Consultation on a proposed workplace exposure standard (WES) for diesel particulate matter (DPM)*.

SafeWork NSW recognises the adverse health impacts associated with excessive exposure to DPM. For this reason, SafeWork NSW supports the inclusion of an exposure standard for DPM. Exposure standards are an essential tool for regulators to enforce compliance and to minimise the risks of workplace hazards.

Please find enclosed SafeWork NSW's comments on the questions posed in the submission paper. I have no objection to this letter and enclosed information being published, if required, as part of this consultation process.

Thank you for the opportunity to provide comment on this important issue.

Yours sincerely,

[REDACTED]

Natasha Mann
Deputy Secretary, Better Regulation Division
Head of SafeWork NSW

[REDACTED]

[REDACTED]

Your details and background

(Please leave blank if you wish to remain anonymous)

1. Name or organisation

SafeWork NSW

2. Email used to log into Engage

N/A

Questionnaire

If you are commenting on particular aspects of the expert report, please identify the particular sections or pages concerned. Your response should, where possible, provide evidence to support your statement.

1. Do you support the proposed workplace exposure standard (WES) for diesel particulate matter (DPM) to protect workers from the adverse health effects of exposure to diesel engine emissions (DEE)?

Yes

No

2. What are your reasons for your response to Question 1? Please provide evidence or information to support your response.

SafeWork NSW recognises the adverse health impacts associated with excessive exposure to diesel particulate matter (DPM). For this reason, SafeWork NSW supports the inclusion of an exposure standard for DPM.

However, based on the available information, SafeWork NSW does not support the proposed Time Weighted Average (TWA) of 15 µg REC/m³ for DPM. Noting the proposed TWA is to be applied in conjunction with the WES for other components of diesel engine exhaust (DEE), such as nitrogen dioxide.

SafeWork NSW has concerns about the methods used to derive the candidate value and the exclusion of research which considers the feasibility and measurability of the proposed exposure standard.

Statistical methods used to derive the proposed WES

SafeWork NSW considers the approaches used to establish a health-based 8-hour TWA for DPM have resulted in a candidate value which is significantly lower than that suggested by the literature or other values set by local and international jurisdictions.

While SafeWork NSW considers the use of a factor of 3 for interspecies extrapolation uncertainties, and a factor of 10 for interindividual human variation in sensitivity to be standard practice in toxicology, SafeWork NSW considers that the application of these

uncertainty factors on already cautious values has led to a proposed WES which does align with the evidence currently available.

In addition, SafeWork NSW considers the report has inaccurately considered the risk of lung cancer caused by DEE. The International Agency for Research on Cancer has classified DEE as a (Confirmed Human) Group 1 Carcinogen, and SafeWork NSW supports this determination. However, as highlighted by report, the dose response relationship is unknown and therefore it is unclear at what level of exposure a 'no response effect' to increased lung cancer risk exists.

Practical implementation of the proposed WES

SafeWork NSW notes the report prepared by SLR Consulting does not address whether compliance with an exposure value of 15 µg REC/m³ in current workplaces is practical, achievable or measurable. SafeWork NSW considers that compliance with the proposed WES would require considerable control efforts across a large number of Australian industries. However, further research is necessary to fully understand the feasibility and costs associated with limiting sources of exposure and implementing suitable control strategies.

3. Is there an alternative WES to DPM as respirable elemental carbon, or additional WES that should be considered to protect workers from DEE? Please provide evidence or information to support your response.

SafeWork NSW supports introducing a WES of 50 µg REC/m³, in line with the action level recommended by the Australian Institute of Occupational Hygienists (AIOH).

The AIOH recommends limiting worker exposure to DPM to as low as reasonably practicable below an 8-TWA guidance exposure value of no more than of 100 µg REC/m³, measured as submicron elemental carbon. However, the AIOH also state a TWA value of 50 µg/m³, should be applied as an action level which triggers investigation of the sources of exposure and implementation of suitable control strategies.

SafeWork NSW is of the opinion that a WES of 50 µg REC/m³ for DPM is a balance between the factors of minimising irritation and minimising the potential for risk of lung cancer to a level that is not detectable in a practical sense in the work force. Whilst more research is necessary, SafeWork NSW considers that a WES of 50 µg REC/m³ for DPM provides an achievable limit for PCBU's to implement suitable control strategies.

4. What changes would you need to make in your workplace (over and above any controls currently in place) to ensure workers and others at the workplace are not exposed to levels of DPM above the proposed WES?

a. Please include in your response:

- i. a description of the control measures currently in place at your workplace(s) to minimise exposure of workers and others to DEE.**
- ii. details of any costs to implement the WES for DPM (e.g., upgrade of ventilation systems in area X, costing approximately \$XXX).**

SafeWork NSW considers the details of control measures and costs would be best answered by a PCBU.

5. Is there additional evidence or information that you think should be considered?

Not applicable.

6. Are there any additional comments you would like to make? (free text box with option to upload an attachment)

Implementation period and guidance

NSW recommends that any inclusion of a WES for DPM would require a minimum one year implementation period. Further, as part of communicating the implementation of a new WES for DPM, SafeWork NSW recommends a guidance document that outlines the importance of also monitoring for other components of the emissions including nitrogen oxides, polycyclic aromatic hydrocarbons, and aldehydes when assessing worker exposure to DEE. As indicated in the research report prepared by SLR for this consultation, elemental carbon may not be the most appropriate exposure limit for DEE in new technology engines. It is the combined approach that is required to assess overall risk of adverse health outcomes from exposure to DEE.

As low as reasonably practicable

Notwithstanding SafeWork NSW's proposed WES of 50 µg REC/m³, SafeWork NSW strongly supports the principle that DPM be controlled to levels that are as low as reasonably practicable, pursuant to the Work Health and Safety (WHS) legislation.