

**REVIEW OF THE NATIONAL ENVIRONMENT PROTECTION
(AMBIENT AIR QUALITY) MEASURE
AIR QUALITY STANDARDS DISCUSSION PAPER**

Title: Mr Name: Edward Campbell

Position:

Company:

Postal Address:

Suburb: Armidale

State: NSW

Postcode: 2350

Telephone:

Facsimile:

Email address:

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The headings below have been extracted from the discussion paper. **Chapter 5: Issues to be considered in evaluation of NEPM standards** (page 140 of *AAQNEPM Review Air Quality Standards Discussion Paper*) provides further discussion on these questions.

ISSUES TO BE CONSIDERED

Q1. Is there sufficient new health evidence to support a revised standard and if so, for which pollutants?

Yes. The case for a PM_{2.5} standard is now very compelling. According to WHO 2005, "It is recommended that countries with areas not meeting the 24-hour guideline values (PM_{2.5} 25µg/m³) undertake immediate action to achieve these levels in the shortest possible time." The discussion paper documents well the recent research on the long term and short term effects of PM_{2.5} pollution.

Q2. Does the current approach, which allows for a number of exceedences of the standard, meet the requirement for adequate protection or are there alternative methods that could provide more consistency in the level of health protection associated with complying with the NEPM standards?

No. Because of the different sources of PM2.5, exceedences could be due to natural sources such as dust storms and bushfires. These clearly have health effects, but need to be dealt with separately, when developing management strategies. Consecutive daily exceedences need to be given particular attention, because of accumulative daily effects. The annual average provides an indicator which is better related to the long term health effects.

It is also important to make clear to people that the daily limit set is not a threshold, and that adverse health effects can occur at lower levels.

In 2009, C.A. Pope concluded that "Relatively low levels of fine particulate exposure from either air pollution or secondhand cigarette smoke are sufficient to induce adverse biological responses increasing the risk of cardiovascular disease mortality. The exposure-response relationship between cardiovascular disease mortality and fine particulate matter is relatively steep at low levels of exposure and flattens out at higher exposures."

Q3. Should changes be made to the reporting protocols that would lead to a greater transparency and better understanding of the causes of exceedences in jurisdictions, the potential risk to population health, and management approaches being undertaken to address these exceedences?

There is a need to extend PM2.5 measurements to known problem areas, which may have populations less than 25,000, and currently have no NEPM monitoring. In order to better manage air quality issues, it is probably necessary to review what are the acceptable standard protocols which would allow wider distribution of measurement locations, including possibly mobile measurement stations.

Reporting in real-time is necessary so that people can minimise their exposure.

Source apportionment has to be considered in order to satisfy people of the causes for exceedences, and to develop abatement strategies.

Q4. Any other issues you wish to raise?

There has been considerable delay in carrying out the NEPM review. Setting a PM2.5 standard should be considered a high priority, so that the health effects from PM2.5 can be communicated more effectively. This is especially relevant to local regulators preparing air quality policies where the lack of authoritative health messages can result in less than satisfactory policies being implemented.