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Dear Ms Scott

## **Kwinana Industries Council (KIC) Submission on the Review of the National Environment Protection (Ambient Air Quality) Measure**

The Kwinana Industries Council (KIC) is pleased to be invited to provide comment into the review of the National Environment Protection (Ambient Air Quality) Measure (AAQ NEPM). The KIC has prepared this submission based on the report entitled "Discussion Paper Air Quality Standards" released by the National Environment Protection Council (NEPC) in July 2010.

The KIC welcomes the opportunity to provide input into what it considers to be a very important matter to its members.

### **1 Introduction**

By way of introduction, the KIC is an incorporated business association with membership drawn from the Kwinana Industrial Area (KIA). The current KIC membership is 12 full members, who include all the major industries found within the KIA, and 31 associate members covering the support and service sectors. The KIC was established in 1991 with its primary goals being:

- To promote a positive image of Kwinana industries;
- To work towards the long-term viability of Kwinana industry;
- To coordinate a range of intra-industry activities including water quality, air quality, monitoring and emergency management;
- To highlight the contribution Kwinana industry makes to community; and
- To liaise effectively with local communities, Government and Government agencies.

#### **INDUSTRY + COMMUNITY + ENVIRONMENT**

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The KIC is well recognised as being almost unique in Australia for what it represents, how it operates and for what it has achieved. It pursues its goals through a range of formal committees set up to provide input on a range of issues of common interest to the KIC member companies. Committee members are delegates with appropriate experience and authority drawn from the member companies. The output from the various committee activities is then used as the basis for communication to the KIC's stakeholders such that Kwinana industry is seen as speaking with one voice.

The KIC seeks to achieve its goals by focusing on developing and employing leading edge technology; giving workplace health and safety top priority; taking a committed, responsible and pro-active approach to environmental protection; and forging partnerships with the local community and with government.

The companies in the KIA:

- Have an annual output worth \$15.77 billion;
- Employ over 4,800 people, over 60% of whom live locally;
- Provide indirect employment to around 26,000 people;
- Have identified plans for capital expenditure of more than \$2,560 million over the next 10 years;
- Actively partner in local community activities, providing financial support and time for employee volunteering; and
- Support independent research to validate their own high standards and strict code of self-regulation, on health, safety and environmental issues.

In order for the benefits of industry to be retained, the businesses concerned must have a sustainable future. Such a future must allow for new investment in the KIA to be allowed to continue so that businesses can grow. At the same time, industry willingly acknowledges that it has a responsibility to the community to conserve the environment for current and future generations of Western Australians.

## **2 Response to Key Issues**

The KIC has reviewed the report entitled "Discussion Paper Air Quality Standards" released by the National Environment Protection Council (NEPC) in July 2010, focusing on the key issues outlined in the Feedback Form that the NEPC are seeking comments on. Additional comments that relate to the Review of the AAQ NEPM in general are also provided (refer to Section 3).

An important preface to this submission is that KIC has not attempted to review the accuracy or completeness of the information presented in the Discussion Paper describing new evidence of the health effects of criteria air pollutants from a technical view point, but rather focuses on the proposed developments in respect of the implementation of the AAQ NEPM that may have implications for Kwinana industries.

### **Is there enough evidence to recommend revising the current standards?**

Based on the evidence of the health effects of criteria pollutants presented in the Discussion Paper, the KIC agree that there is enough evidence to consider revising the current standards. If the NEPC decides to proceed with a variation, it is understood that a comprehensive cost benefit analysis would be conducted as part of the Impact Statement which would provide the opportunity for the KIC to consider and make a further submission

on the significance of any increased cost of abatement associated with the control of industrial sources in Kwinana.

Although it is clearly stated that the NEPM monitoring protocol (and by default the AAQ NEPM standards) does not apply to monitoring and controlling peak concentrations from sources such as major industries, the air quality standards in the AAQ NEPM do drive jurisdictional air quality management actions. Consequently, some jurisdictions do apply the AAQ NEPM standards to regulate 'peak' ambient concentrations from sources such as major industries in some instances. The KIC believes that it is important that jurisdictions across Australia apply the AAQ NEPM consistently and as it was intended to be applied.

Whilst the concentration value of the standards is an important component, the way in which any revised standards are implemented and applied is also an important consideration, as outlined below.

#### Time allowed to achieve compliance with standards

From a KIC perspective, one of the most important elements of the implementation of any revisions to the AAQ NEPM is to ensure that sufficient time is allowed to enable industry to achieve compliance with any revised standards. KIC would support an approach similar to that applied to the current AAQ NEPM that established a goal of achieving compliance with any revised standards (and allowable exceedances) within a ten year timeframe. KIC would also consider the merits of the implementation of an alternative form of the standards provided that it included forewarning of the revised standards, and that reasonable time for industry to achieve compliance was allowed.

#### Application of AAQ NEPM standards to general population of a region (or sub-region) and not at individual sensitive receptors

It is clearly stated in the Discussion Paper that the standards included in the AAQ NEPM were designed to be measured at specifically nominated performance monitoring stations located to give an average representation of general air quality and of population exposure to the six main pollutants, and that the NEPM monitoring protocol does not apply to monitoring and controlling peak concentrations from major sources such as major industries, which is outside the scope of the AAQ NEPM.

Any application of the AAQ NEPM standards at individual sensitive receptors, as has been proposed in the Draft State Environmental (Ambient Air) Policy for Western Australia (2009) (Draft State Air EP), represents a far more stringent application of the AAQ NEPM standards than was intended by the NEPC during the formulation of the AAQ NEPM. This is particularly of concern in the case for the Kwinana Industrial Area as there are residences located within the industrial buffer zone defined by the Kwinana Environmental Protection Policy (Kwinana EPP). The withdrawal of the Kwinana EPP and the implementation of the Draft State Air EP would force compliance of the AAQ NEPM in this buffer zone which would come at a significant cost to Kwinana industry. The imposition of such costs may be at the expense of other initiatives that could provide broader improvements to regional air quality.

## National Guidance on the Application of AAQ NEPM standards for the regulation of industrial sources

The objective of the National Environment Protection Measures (NEPMs) is to ensure:

- that people enjoy the benefit of equivalent protection from air, water and soil pollution and from noise, wherever they live; and
- that decisions by businesses are not distorted and markets not fragmented by variations between jurisdictions in relation to the adoption or implementation of major environment protection measures.

As discussed above, the Draft State Air EP , represents a far more stringent application of the AAQ NEPM standards than is required or intended by the NEPM, and could act to counter the objectives of the NEPM, particularly in respect of maintaining a 'level playing field' between jurisdictions in terms of regulation of major industry. To address potential inconsistencies that may arise between jurisdictions, clear national guidance in respect of the application of the AAQ NEPM standards for the regulation of major industrial sources should be developed.

### **Is there enough evidence to recommend revising the current PM<sub>2.5</sub> advisory reporting standard and/or including PM<sub>2.5</sub> as a compliance standard with goals?**

Based on the evidence of the health effects of PM<sub>2.5</sub> presented in the Discussion Paper, the KIC agree that there is enough evidence to recommend including PM<sub>2.5</sub> as a compliance standard with goals. It is however noted that the comparison to other selected international air quality criteria for PM<sub>2.5</sub> (presented in Table 4.7 of the Discussion Paper), shows that Australia's current advisory reporting standard represents the most stringent criteria for PM<sub>2.5</sub>.

The NEPC (2010) refers to the role of particle size and composition in determining adverse health effects of particulate matter (PM). It is noted that there is increasing evidence that the coarse (thoracic) fraction (PM<sub>10-2.5</sub>) is associated with adverse health effects, and that toxicological studies provide evidence that aspects of particles other than mass alone determine toxicity (NEPC, 2010).

Despite extensively referencing the USEPA (2009) Integrated Science Assessment for Particulate Matter, the review fails to note that this meta-study focuses primarily on the assessment of PM<sub>2.5</sub>, PM<sub>10-2.5</sub> (thoracic) and ultrafine particles. Furthermore the review does not note that the US revoked its annual PM<sub>10</sub> standard due to inadequate causal determinations for long-term exposure to coarse particles, and plans to replace its PM<sub>10</sub> daily standard with a PM<sub>10-2.5</sub> daily standard.

Considering recent health evidence and international trends in relation to PM, it is warranted that provision be made for undertaking the local studies and monitoring needed to enable thoracic particles (PM<sub>10-2.5</sub>), ultrafine particles and chemical constituents of PM to be potentially included in future AAQ NEPM revisions.

### **Is there enough evidence to recommend including benzene and/or PAHs in the AAQ NEPM and establishing a standard?**

It is difficult to make an assessment as to whether there is enough evidence to recommend including benzene and PAHs in the AAQ NEPM as the discussion lacks interpretation of the health studies in the context of existing levels of these pollutants in ambient air throughout Australia. Notwithstanding, the KIC do not have an objection to including benzene and PAHs in the AAQ NEPM on the basis that there was strong support during previous consultation for this to occur (NEPC, 2010).

However, the KIC would support the adoption of “advisory reporting standards” for benzene and PAHs in the AAQ NEPM, as per the approach used for PM<sub>2.5</sub>. Such an approach would facilitate data collection to ensure that sufficient data are available for the setting of appropriate compliance standards for benzene and PAHs in the future.

### **Does the current approach, which allows for a number of exceedances of the standard, meet the requirement for adequate protection, or do you support an alternative method?**

The KIC strongly supports the provision of an allowable number of exceedances (or alternatively using a percentile form) in assessing compliance with the AAQ NEPM standards that apply to short-term (1-hour to 24-hour) averaging periods. The basis of KIC’s position is outlined below.

- The ambient air quality impacts associated with emissions from industrial areas such as Kwinana exhibit high temporal variability due to the variable nature of atmospheric emissions from complex industrial facilities, and the variability in meteorological conditions influencing pollutant dispersion. An allowable number of exceedances provide a degree of flexibility in the management of variable emissions from industrial processes. It also takes into account that ‘worst-case’ meteorological conditions tend to occur very infrequently, and therefore there is a significant cost-benefit advantage in allowing even a very small number of exceedances.
- The vast majority of selected international ambient air quality criteria (presented in Table 4.7 of the Discussion Paper) make provision for exceedances of the standard, in the form of an allowable number of exceedances or alternatively using a percentile form.
- The introduction of a ‘not to be exceeded’ approach would represent a significant tightening of the standards, and has the potential to significantly increase compliance costs for industry, yet provide limited public health benefits compared to the current ‘allowable exceedances’ approach in terms of both the size of the population exposed to industrial emissions, and the frequency of exposure.
- The ‘not to be exceeded’ approach is not entirely consistent with the exposure-reduction approach that has been adopted by some international agencies in response to the result of epidemiological studies indicating that there is no threshold for the health effects associated with the pollutants included in the AAQ NEPM. The exposure-reduction approach is based on the principle that for pollutants with a low or zero threshold for adverse effects, it will generally be more beneficial to public health, and potentially more cost-effective to reduce pollutant levels across the whole population of an urban area or region than in a specific localised area for compliance purposes (NEPC, 2010).

Currently, as the magnitude of exceedances is not restricted by the AAQ NEPM standards, the requirement for national consistency may not be achieved with the provision of allowable exceedances of the standard. Consideration could be given to the ‘margin of tolerance’

concept, as per the EU Directive 2008/50/EC. For example the 24-hour  $PM_{10}$  limit value is specified as  $50 \mu\text{g}/\text{m}^3$ , with a 50% margin of tolerance. This means that exceedances, when they occur, should not exceed  $75 \mu\text{g}/\text{m}^3$ . A similar approach has been successfully incorporated in the Kwinana EPP, where Limits (shall not be exceeded) and Standards (desirable not to exceed) have been defined for sulphur dioxide and total suspended particulate in ambient air within the Kwinana region. The 1-hour average Limits applied to various protective areas (i.e. industrial, buffer and residential) defined in the Kwinana EPP have been set equal to twice that of the Standards.

For assessing compliance with the AAQ NEPM standards that apply to annual averaging periods, the same degree of flexibility afforded by the provision of allowable exceedances is not required, and as such KIC would not be opposed to having 'not to be exceeded' annual standards.

**Do you support allowing 'natural' or 'exceptional' events to be excluded from the assessment of whether the air quality in a region is in compliance with the standards or not?**

KIC supports the exclusion of "natural" and "exceptional" events for the purposes of assessing compliance with the standards. A clear framework for defining "natural" and "exceptional" events would need to be developed, and should be strictly limited only to those events that are not reasonably controllable or preventable. Further, the process used to determine whether an event is deemed to be a "natural" or "exceptional" event should be transparent and open to public review.

The benefit of such an approach is that it recognises that there are circumstances that can adversely affect air quality that are not reasonably controllable or preventable, and that the cost associated with attempting to mitigate the impacts of such "natural" and "exceptional" events can be far greater than the air quality benefits of doing so. Ultimately this ensures the efficient use of resources for the management of air quality.

However, KIC does not support the exclusion of such events from the ambient monitoring datasets, or the exclusion of such events from publicly reported monitoring results as such exclusions would undermine the veracity of the ambient air quality monitoring data. The KIC believes that all valid ambient monitoring data should be reported and that any "natural" or "exceptional" events are identified and documented as part of the reporting.

### **3 Additional Comments**

#### AAQ NEPM Review Process

The review of the AAQ NEPM is being conducted in stages. Stakeholder views were initially sought on the Issues Scoping Paper (NEPC, 2005), followed by the Discussion Paper which examined the current framework of the NEPM, and its monitoring and reporting protocols (NEPC, 2007). Once submissions on the current Discussion Paper have been received and analysed, and if the NEPC decides to proceed with a variation, a detailed and comprehensive cost-benefit analysis and impact assessment would be conducted to assess the economic and social impact of any revised standards.

Options outlined in NEPC (2007) comprise substantial changes to the NEPM framework within which air quality standards are to be implemented. Notably, possible alteration or expansion of monitoring to a range of sites (urban, rural, background, traffic, industrial) for more holistic exposure assessment in line with international practice have been suggested. Uncertainties regarding the NEPM framework within which standards are to be implemented hinder the effective evaluation of suitable air quality standards during the current stage of the review.

Further stakeholder consultation is requested when potential options are more coherently proposed (including framework; monitoring protocols; air quality standards) prior to options being selected for detailed cost-benefit analysis and impact assessment.

#### Assessment of 'Unintended Consequences'

In light of the comments received the review of the AAQ NEPM will include consideration of the environmental, economic and social impact of the measure, including unintended consequences. The assessment of 'unintended consequences' should include consideration of the direct use of the AAQ NEPM standards specified for average population exposures, by State/Territory jurisdictions for the regulation of 'peak' concentrations from sources such as major industries.

Thank you for the opportunity to make a submission on the review of the AAQ NEPM. We would be pleased to respond to any questions arising from our submission, and look forward to being involved in the next phase of the consultation.

Yours sincerely,  
Kwinana Industries Council



**Chris Oughton**  
Director



## 4 References

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NEPC (2005). Issues Scoping Paper: Review of the National Environment Protection (Ambient Air Quality) Measure. October 2005.

NEPC (2007) Discussion Paper: Review of the National Environment Protection (Ambient Air Quality) Measure. June 2007.

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USEPA (2007). Federal Register Part II Environmental Protection Agency 40 CFR Parts 50 and 51 Treatment of Data Influenced by Exceptional Events; Final Rule. 22 March, 2007.

USEPA (2009). Integrated Science Assessment for Particulate Matter, EPA/600/R-08/139F. December 2009.