

NEW SOUTH WALES MINERALS COUNCIL LTD

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Approved methods for modelling and assessment of air pollutants in NSW and Proposed amendment to the Protection of the Environment Operations (Clean Air) Regulation 2002

The NSW Minerals Council (NSWMC) appreciates the opportunity to provide comments on the Department of Environment and Conservation's (DEC) recently released documents titled "Approved Methods for the Modelling and Assessment of Air Pollutants in NSW" and "Proposed Amendment to the Protection of the Environment Operations (Clean Air) Regulation 2002".

The proposed changes to the current regulatory and policy regime on air quality in NSW are important to the NSW Minerals industry due to the potential for implications on the orderly and continuous operation of existing and future mining operations in NSW. Issues of specific concern and relevance to the minerals industry in NSW are set out below.

Role of the NSW Minerals Council (NSWMC)

NSWMC is a major stakeholder in many of the environmental, social, regulatory and economic issues crucial to the sustainable development of New South Wales. The minerals industry has long had an important role to play with the community and regulators in devising and delivering satisfactory environmental outcomes. The industry has a proud and demonstrable record of environmental management and continuous improvement, in no small part due to co-operative, consultative and constructive approaches towards ensuring balanced outcomes for sustainable development.

NSWMC is the pre-eminent body representing mineral exploration companies and the producers of coal, minerals and extractive materials in this State.

The NSW minerals industry has an annual production value of around \$7 billion, employing over 15,000 people, mainly in rural and regional areas. The minerals industry also provides indirect employment, estimated to be in the order of a further 45,000 people, in a large number of support industries, ranging from heavy engineering and equipment manufacturing to the provision of mine supplies and consumable items and specialised advisory, design and management services.

The industry contributes over \$1.2 billion per year to government revenues, with coal continuing to be the State's largest export earner at over \$4 billion per year. The export of Australian mining equipment, technology and services is also significant and is valued at well over \$3 billion per year nationally.

The industry's mining projects are subject to rigorous environmental assessment under the Integrated Development Approval procedures. The NSWMC always seeks to ensure that any environmental regulation and policy meets the basic criteria of effectiveness, efficiency and fairness. NSWMC and its member companies, as well as key minerals industry institutions, have worked with dedication and commitment to ensure that the minerals industry in this State is at the forefront of innovative ways to develop knowledge and know-how for implementing sustainable solutions to the challenges facing our sector; including, most importantly, matters pertaining to environmental management.



Approved Methods

The NSWMC welcomes the incorporation of risk assessment methodology for dealing with the cumulative effects of multiple toxic air pollutants (eg via inhalation, ingestion and dermal absorption). The revised procedures will require additional work by the minerals industry, however, the procedures are supported in principle to the extent they could provide a potential for sound science and risk based approaches in balanced decision making. The approach outlined in the document appears to be reasonable and it is encouraging to see that the document (refer Table 3.2) sets out guidance for interpreting the significance of the estimated risks.

Further comments on this paper are outlined below.

Respirable silica (PM 2.5)

One item of particular relevance to the minerals industry is the new ground level concentration criterion (listed in Section 3.3) pertaining to point source emissions for respirable crystalline silica (inhaled in the form of quartz or cristobalite) (measured as PM_{2.5}). The standard is 0.18 µg/m³ as a 1-hour average and applies only to point sources for which the minerals industry has only limited cases compared to its predominantly diffuse air emission sources. This standard is extremely stringent, and may affect the minerals industry via ventilation shafts on underground mines (eg gold mines and even possibly coal mines) as these could be inappropriately interpreted by regulators as fitting the description of point sources. The NSWMC also notes that this standard is more stringent than the current Occupational Health and Safety concentration standard for respirable crystalline silica (3 µg/m³ as an 8-hour average) and strongly questions why this is the case. (While it is recognised that environmental criteria will be more stringent than occupational standards the difference in this case is extreme.) The document presents no case to justify this proposed standard to apply at site boundaries. The Victorian EPA proposed a similar standard that has since been revised to a trigger level of 3 µg/m³ (annual average) which will be used as a guide to whether further Health Risk Assessment is required. We believe that 3 µg/m³ (annual average) standard is reasonable when measured against the NEPM Interim Reporting Standard and OHS standard and strongly suggest that DEC consider revising its standard accordingly. Introducing the standard at the currently proposed level of 0.18 µg/m³ will be opposed by the minerals industry and will result in the need for further investigations to determine its implications.

Flexibility required in methodologies

In Section 4.2, the document specifies methods for estimating emission rates and source release parameters using direct measurements on existing plant. The NSWMC has been advised that there are a significant number of sources where the standard methods for testing are not appropriate, for example, in very wet plumes as would apply in some asphalt plants especially those operated in batch mode. Although there are provisions for flexibility in developing alternative methods to test these types of sources, these are often very time-consuming to develop and require quite complicated negotiations with the DEC. Often it is difficult to access DEC officers who can provide a useful interface between the DEC and the industry representative trying to develop the alternative method. The NSWMC would like the DEC to rectify this problem to ensure flexibility for industry.

Treatment of background levels

Section 5 deals with background concentrations and methods of estimating them for inclusion into impact assessments based on dispersion models. This component of the assessment process is often the most difficult since background concentrations vary spatially and over time and in most cases, the only method of estimating background concentration is by using data from widely dispersed monitoring sites. Monitoring data, even in locations with dense monitoring networks such as might be found in the Hunter Valley, are not able to properly reflect the true complexity in the variability of background concentrations over space and time. The NSWMC understands the DEC's requirement that background concentrations are included in the assessment; however it is imperative that the guidelines reflect a practical approach.

Excessive prescription in mixing height estimation

In Section 6.5 there is discussion as to how mixing height should be estimated. The document makes reference to methods specified by the US EPA in their meteorological pre-processors for regulatory models. The approach is somewhat prescriptive and difficult to apply in the Australian context where the number of upper air monitoring stations is very much smaller than is the case in the US. It would be useful if the description in this section were broadened to allow alternative methods to be used. In fact, Section 6.6 of the document suggests that procedures used in the TAPM model would also be

acceptable so there is an implied flexibility in the Manual which appears to be contradicted by the section titled "Mixing Height" in Section 6.5.

Need to rationalise supporting information to be supplied

Section 10 of the document describes the structure of impact assessment reports. In the final bullet point, under dispersion modelling, there is a requirement that all input, output and meteorological files used in the dispersion modelling be supplied in hard copy and in a Microsoft Windows compatible format. In some cases, supply of the meteorological data files in hard copy would seem to be inappropriate given the fact that these will often run to several thousand pages.

Proposed amendment to the POEO (Clean Air) Regulations 2002

The NSWMC accepts the need to control particulate matter and other pollutants and to control them in the most cost effective way practicable to address local requirements. The NSWMC is particularly interested in Appendix 6 of this document, which details concentration limits of emissions from various classes of pollution sources as well as regulations that apply to the operation of equipment that can result in air pollution.

Comments on this document are summarised below.

Particulate emissions standards

The most stringent concentration allowed for particulate matter emissions is 20 mg/m³ which would apply to some items of plant installed after the commencement of the regulations. This is a technically achievable concentration limit using the best available technology; however, it is a tightening in the standard that can not be justifiably imposed for all circumstances.

Deficiencies in health cost/benefit assessment

One item of significant concern in the justification of air quality control is that the data used to estimate the damage and costs of air pollutants does not appear to have taken into account the revised estimates of health affects as determined by the Health Effects Institute in 2003 (HEI, 2003). For example, on Page 61, the POEO document refers to the NSW study which indicates that overseas studies have consistently shown that a 1% increase in daily mortality occurs as a result of a 10 µg/m³ increment in PM₁₀. The Health Effects Institute's revised study suggests that the increase in mortality is approximately 0.21 to 0.27% for a 10 µg/m³ increase in PM₁₀ concentration depending on the method used in the statistical analysis. On Page 65 the document states that the value of mortality is a driver of total health costs, therefore since the effect of PM₁₀ on mortality has been overestimated by a factor nearly five, the estimates of cost per tonne of PM₁₀ would presumably need to be divided by a similar amount. The NSWMC believes that the HEI study is a good news story that has not received appropriate recognition and encourages the DEC to update these figures in the document to present an up to date information source and an accurate estimate of the effects of air pollution. (A copy of the HEI report can be obtained by contacting the undersigned).

Conclusion

The NSWMC recognises the need to control air emissions and to continually improve the air quality in NSW in accordance with risk based approaches. It is hoped that DEC review the comments and suggestions outlined above to further improve the regulation and assessment of air quality in the state, with a view to ensuring sufficient flexibility to account for different sectoral circumstances.

If any further information is required on matters raised in this submission, or to obtain a copy of the HEI report, please contact the undersigned (email: psmith@nswmin.com.au or tel: 02 8202 7218).

Yours sincerely



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