

NSW EPA: SUPPLEMENTARY ADVICE TO SENATE INQUIRY

The NSW Environment Protection Authority (EPA) wishes to provide supplementary information to the Senate Inquiry in relation to the following aspects of management of particle emissions:

1. Changes needed at national level
2. Protection of small communities
3. Regulatory responses in relation to coal mines

1. Changes needed at national level

In addition to state based actions, the NSW EPA supports Australia adopting national standards that will improve air quality for all Australian communities.

In its own approaches and programs to address particle pollution, the EPA is prioritising reduction of fine particles (PM_{2.5}) to maximise air quality benefits to NSW communities. In its recently released *Upper Hunter Air Particles Action Plan*, the EPA adopted the national annual advisory reporting standard of 8µg/m³ for PM_{2.5} as a firm target for the population centres of Singleton and Muswellbrook. As chair of the Air Thematic Oversight Group developing a National Plan for Clean Air for the Ministerial Standing Council on Environment and Water, the EPA is strongly supporting moving from advisory PM_{2.5} standards to adoption of mandatory 24 hour and annual standards for PM_{2.5} under the National Environment Protection (Ambient Air Quality) Measure.

While Australia has a policy of harmonising its vehicle emission standards with those of the United Nations Economic Commission for Europe and implements this through Australian Design Rules, it has no such policy or regulation to address various products and equipment that pollute significantly. For example, in contrast to Europe, the United States, China, Japan and India, Australia has no emission standards for non-road diesel equipment such as used in mining, construction and ports operations.

As part of the development of the National Plan for Clean Air, the EPA is advocating new Australian standards for non-road diesel engines and small spark ignition engines and tighter Australian standards for wood heaters. This is an opportunity for Australia to address harmful emissions of fine particles and fine particle precursors from combustion and diesel sources. Studies and economic analysis have demonstrated that substantial benefits can be achieved cost-effectively in Australia by bringing emission standards for these sectors into line with international best practice.

2. Protecting small communities from air pollution

In order to understand the measures being taken to mitigate the impact of air pollution on small communities in Australia, it is important to understand the air quality management framework in individual jurisdictions.

The EPA's approach to air quality management is designed to protect the whole NSW population. As outlined in the EPA's original Senate Inquiry submission, relevant principles to which the EPA is committed include:

- Reduce exposure and promote continuous improvement, recognising that even small reductions in particle concentrations and population exposure will deliver health gains
- Ensure industry minimises emissions where feasible and cost effective (as is implemented through the Dust Stop program – see below)
- Support local councils in improving air quality (as occurs, for example, through the wood smoke reduction program – see below).

Urban air pollution in major cities tends to result from a diverse range of activities and sources including transport, industrial, commercial and domestic activities. A variety of strategies and regulatory responses is required to address these sources. Air pollution in small communities is often attributable to a key source such as a nearby industry or wood smoke in winter, and is addressed through specific approval and licensing conditions on industry or specific local wood smoke initiatives

Management of industrial sources

If there is a proposal for a new or expanded industrial development, the primary tool for managing the impact on communities throughout NSW is provided by the *Environmental Planning and Assessment Act*. This legislation is administered in NSW by the Department of Planning and Infrastructure (for major developments) or local government.

The EPA provides technical assistance to the Department of Planning and Infrastructure or Council to assist those bodies in the environmental assessment of new industry proposals. The EPA may draft relevant environmental conditions of approval, but the approval agency is not bound to adopt those draft conditions.

Under the *Environmental Planning and Assessment Act 1979* the Director General of the Department of Planning and Infrastructure can require proponents of a development to include specific information such as detailed assessment of key environmental issues, risk analysis of environmental impacts, assessment of social and economic impacts and stakeholder consultation as part of the development application and/or environmental impact assessment. These are referred to as Director General's Requirements. When relevant the EPA may provide input to the development of these requirements. The Department of Planning and Infrastructure and the EPA are currently reviewing the Director General's Requirements for coal mines to ensure that proponents show that best practice controls to reduce dust are considered and that a monitoring and reporting framework will be applied.

Where assessment criteria cannot be met through the controls proposed by an applicant, additional controls and or modification of the proposal may be required. Provisions under the *Environmental Planning and Assessment Act* also enable the health and amenity impacts of air pollution to be mitigated outside a mine site by the developer establishing buffer zones and acquisition zones, where the proponent may acquire properties affected by unacceptable levels of pollution.

Once an industry is established, the *Protection of the Environment Operations Act* (POEO Act) sets out the regulatory framework for managing air quality from industrial sources including licensing requirements. Environment protection licences, issued by the EPA, aim to

ensure that environmental impacts (including air quality) are managed in a manner that is consistent with the industry's planning approval.

Environment protection licences may specify legally binding emission limits and allow for the negotiation of pollution reduction programs where necessary. These programs are imposed to require a licensee to undertake specific measures to reduce emissions or impacts.

Air emissions standards are also prescribed in legislation:

- Section 128 of the POEO Act makes it an offence for emissions of air impurities to exceed “standards of concentration” as prescribed by the Protection of the Environment Operation (Clean Air) Regulation (POEO (Clean Air) Regulation). The standards are in-stack emission limits and are the maximum emissions permissible for an industrial source anywhere in NSW. The limits are based on levels that are achievable through the application of reasonably available technology and good environmental practices.
- In some instances, the EPA may prescribe emission limits that are more stringent than the requirements of the POEO (Clean Air) Regulation. The requirement for more stringent limits is typically informed by the air quality impact assessment process, which takes into account site-specific features such as meteorology, background air quality and the proximity of industry to potentially exposed receptors. In this manner, the EPA uses an approach to setting emission limits based on the potential impact of emissions on local air quality at all receptors across the State.
- The *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales* ('Approved Methods'), lists the statutory methods for assessing emissions of air pollutants from stationary sources anywhere in the State. The *Approved Methods* lists the EPA's air quality impact assessment criteria which must be applied. The assessment requirements and criteria published in the *Approved Methods* apply across NSW at all sensitive receivers, such as private dwellings.
- In instances where industrial facilities do not have specific discharge points, such as in the case of fugitive emissions from mining, the POEO Act outlines general requirements for operating and maintaining equipment and dealing with materials in a proper and efficient manner, as well as a general obligation that occupiers of premises take all practicable means to prevent or minimise air pollution. The EPA negotiates legally binding pollution reduction programs, such as the Dust Stop program aimed at ensuring continued improvement in emission control performance.
 - Under the Dust Stop program, all operational open cut coal mines in NSW, irrespective of location, have been required to undertake best practice studies and all have had pollution reduction programs attached to their licences (outlined below in section 2).

Management of domestic sources – wood smoke

Wood smoke is the dominant source of air emissions in winter in a number of small communities in NSW. The EPA runs a wood smoke reduction program throughout urban and regional NSW to support local councils in managing wood smoke emissions according to

local needs. Over \$1 million in grants is being made available to urban and regional councils over the winters of 2013 and 2014 for education on proper use of heaters, council enforcement of wood smoke regulations, and incentives to replace older heaters with lower emission heaters. Councils receiving grants include Muswellbrook, Singleton, Lithgow, Warrumbungle and Deniliquin.

Management of emissions from vehicles and fuels

Small communities benefit from a range of actions which are introduced primarily to address urban pollution issues. For example progressively tighter standards for vehicle emissions and fuels have been introduced in Australia and world wide to address urban air quality issues such as ozone, nitrogen dioxide and particles. These standards have also resulted in improved air quality in non-urban settings.

Diesel emissions management at mine sites

Off-road diesel vehicles and equipment can account for a significant proportion of man made PM2.5 particulate matter generated by coal mining operations. For example, according to the NSW Air Emissions Inventory, approximately 14 per cent of PM2.5 emissions in the Upper Hunter come from diesel equipment used in coal mines. The EPA is initiating a study to benchmark international best practice to reduce emissions from off-road vehicles and equipment at coal mines. Similar to the Dust Stop program, mines will be required to take feasible measures to reduce diesel emissions, via pollution reduction programs attached to their environment protection licences.

Monitoring and reporting

The National Environment Protection (Ambient Air Quality) Measure provides a protocol for nationally consistent monitoring and reporting of ambient air pollution and sets standards and goals against which jurisdictions report via the National Environment Protection Council.

While monitoring and reporting compliance under the Air NEPM framework focuses on larger population centres at locations that are representative of the air quality likely to be experienced by the general population, this is not the only monitoring undertaken or required in NSW.

Steps have been taken to ensure improved air quality monitoring in regional NSW as industry expands and affects communities. In addition to the Upper Hunter air quality monitoring network, the establishment of a new industry-funded air quality monitoring network in the New England North West area (encompassing Gunnedah and Narrabri) is being investigated in consultation with local communities as mining expands in the region. Other actions in the Strategic Regional Land Use Planning process to protect community health and amenity include development of a cumulative impact assessment methodology for mining and coal seam gas development.

Where a need is identified for better information about air quality OEH may conduct campaign monitoring. Industry can also be required to undertake and report on monitoring as part of their environment protection licence conditions.

Assessing health impacts

NSW Health is preparing a development assessment guideline for the impacts on human health from particle emissions. The guideline will identify maximum thresholds for both

incremental and cumulative dust, including at small towns and individual rural residences and is due for completion later in 2013.

3. Regulatory responses in relation to coal mines

Over the past five years, the EPA has been steadily improving its capacity and effectiveness in regulating air emissions from coal mines.

Members of the community are encouraged to report pollution incidents or other environmental issues to the EPA. Public reports play a vital role in assisting the EPA to identify potential environmental impacts and non-compliances. The EPA considers all alleged non-compliances to determine the necessary action to minimise impacts on the environment and the community and maximise deterrence.

Public reports and information from EPA's routine site inspections help to identify particular environmental issues that arise, and allow the EPA to prioritise compliance efforts based on achieving the greatest outcomes for the environment while making the best use of the resources available.

In 2009, the EPA initiated its *Dustbuster* campaign. The EPA undertook covert surveillance of mines across the Hunter Valley and, as a result, formal warning letters were issued to six mines for failing to minimise dust.

During this campaign, the EPA identified inconsistencies in the standards for dust control being applied by mines. In response, the EPA developed the *Upper Hunter Valley Open Cut Coal Mine (Interim) Dust Control Handbook*. This is a glovebox-sized pictorial guide to dust emissions from mining activities. The Handbook shows acceptable and unacceptable operational practices for drilling rigs and trucks on haul roads in relation to dust emissions. The guide not only provides an educational tool for use by mine operators, it also ensures consistency between regulators.

Using tools like the Handbook, EPA officers continue to regulate NSW coal mines. Where mine operators fail to control dust emissions, formal regulatory action has been taken.

While the Handbook clearly defines dust emission standards for haul roads and drilling operations, other mining activities, such as handling overburden, are not included because there are currently only limited practical controls that can be applied to dust emissions from these sources. This was confirmed by an international review of best practice dust controls carried out for the EPA by Katestone Environmental (*NSW Coal Mining Benchmarking Study: International Best Practice Measures to Prevent and/or Minimise Emissions of Particulate Matter from Coal Mining*).

As the next phase of the EPA's state-wide *Dust Stop* program, the EPA has issued a series of legally binding Pollution Reduction Programs (PRPs) to all open cut coal mines in NSW requiring them to reduce dust from unsealed roads, cease or modify operations in adverse weather conditions and investigate better ways of controlling dust during overburden handling, and to monitor the effectiveness of these actions. The PRPs are focussed on reducing dust emissions from mines and require the mines to report back to the EPA on the effectiveness of the controls and investigation by August 2014. Following successful

completion of these PRPs, the EPA anticipates being able to continue to improve its regulation of dust emissions.

In the meantime, the EPA will continue to investigate alleged breaches of licence conditions, complaints of excessive dust emissions and conduct coordinated campaigns to assess and audit the environmental performance of coal mines.