Submission No 247

INQUIRY INTO PERFORMANCE OF THE NSW ENVIRONMENT PROTECTION AUTHORITY

Organisation: NSW Mining

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Inquiry into the Performance of the NSW Environment Protection Authority

NSW Minerals Council Submission

September 2014

NSW MINERALS COUNCIL

Executive Summary

The Terms of Reference for the NSW Legislative Council General Purpose Standing Committee No.5 inquiry into the Performance of the NSW Environment Protection Authority include a specific reference to *"EPA investigations and public statements about the effects of coal dust pollution in the Hunter"*.

The NSW Minerals Council has prepared this submission primarily to inform discussions around the *"effects of coal dust pollution in the Hunter"*. The submission presents facts about the impact of mining and transportation of coal on air quality in the Hunter, its relative significance compared to other sources, as well as the programs in place to help reduce impacts.

The amount and quality of data about air quality in the Hunter has increased substantially in recent years. The data has provided new insights about air quality in the region and can help shape strategies to ensure air quality meets the desired standards.

Air quality data

While there is a lot of attention directed toward the impact of coal-related activities on air quality, the evidence shows that there is a much broader range of contributors to particulate matter exposure in the Hunter. In particular, for PM2.5 – the smallest particles of greatest health concern – there are other more significant causes of air pollution than coal mining.

Some of the main findings from air quality studies in recent years include:

- In the Upper Hunter, smoke from domestic woodheaters is the biggest contributor to PM2.5 exposure – the smallest particulates of greatest health concern – causing up to 30% of annual PM2.5 exposure in Muswellbrook. 'Soil' (including coal and other soil particulate matter sources) contributed around 11-12% of PM2.5 exposure.

- Since the Upper Hunter Air Quality Monitoring Network recorded its first full year of data in 2011, only one of the three large population centre monitors has not met the national air quality standard for PM10 (Singleton, which met the standard in one of the three years). The Office of Environment and Heritage review of the 2013 data noted that *"Smoke from bushfires contributed to high pollution on a number of days during January, October and November"*, indicating that sources unrelated to mining contribute to air quality standards being exceeded.

- In the Lower Hunter, the Office of Environment and Heritage has found that *"Overall air quality in the Lower Hunter is as good – or better than – air quality in Sydney and the Illawarra."*[1] National air quality standards for PM10 have been met at all Office of Environment and Heritage ambient air quality monitors in the Lower Hunter for the last 10 years, with the exception of 2009 when dust storms affected air quality across the State.

- Long term monitoring by ANSTO at Mayfield in Newcastle has shown that automobiles (27%), secondary sources (23%), smoke (20%) and sea salt spray (16%) are the major sources of PM2.5 in the region – the smallest particulates of greatest health concern. Industry and soil combined make up 14%, of which coal dust is a proportion along with industrial facilities and agriculture.

[1] http://www.epa.nsw.gov.au/resources/NCCCE/120298AirQualLH.pdf

- Statistical analysis of trackside air quality monitoring data by Professor Louise Ryan from UTS has found that coal trains and freight trains both increase particulate levels by approximately 10% on average. This is a relatively minor, temporary increase in particulate matter levels within the rail corridor as coal and freight trains pass by. It does not indicate that dust from coal trains has a significant effect on ambient air quality outside the rail corridor, nor does it indicate that covering coal wagons would significantly reduce dust emissions.

The evidence shows that coal-related activities are just one of many sources of particulate matter in the Hunter and that in many cases air quality is better than what is sometimes portrayed in the media.

Air quality initiatives

There is broad range of industry and government initiatives to improve air quality management in relation to coal mining and coal transportation. These initiatives include air quality monitoring to collect improved data, mine site operational improvements to reduce fugitive dust emissions, and reviews of management practices relating to dust emissions from coal trains.

NSWMC believes that strategies and programs to improve air quality have been skewed towards coal-related activities. For example, the Upper Hunter Particle Actions Plan, which has a goal of meeting the national PM2.5 annual average advisory standard, has a large focus on particulate emissions from coal mines but very little focus on other, more significant, sources of PM2.5.

For example, while the evidence suggests that wood smoke from home heating sources can have a significant impact on air quality in the Upper Hunter, particularly in winter, NSW Government efforts to reduce this impact are at best token, with just $1m allocated for this purpose.

The EPA's air quality strategies should be based on expert analysis of the available air quality data, an assessment of the relative risks of different sources of particulates, and the costs and benefits of mitigation options for each source. The community should be engaged throughout this process.

The industry supports the EPA's efforts to improve the air quality evidence on which decisions about air quality strategies can be made.

Increasing EPA regulatory intervention

As a broader issue, the NSW mining industry notes the increasing trend of regulatory intervention of the EPA; the financial impact of its initiatives on the industry; and queries whether the EPA's initiatives are fair and the best use of the EPA's resources. Some examples include:

1. Implementing a new fee structure for risk-based licensing from 1 July 2016, which will result in some operations paying higher environmental protection licence fees - up to double - if they have been subject to enforcement actions. This means licence holders could receive two financial penalties for the same offence: once for the offence and then again as a result of increased licence fees (which could be a greater amount than the original offence).

2. Introducing Australia's highest environmental penalties for deterrence and strongest sentencing laws, with a 10x increase in from $1,500 to $15,000 for some on-the-spot fines.

3. Combined with the increase in environmental penalties and the flow-on implications for licence fees under risk based licensing, anecdotal feedback from the industry indicates an increase in the EPA's enforcement activity, including penalties and prosecutions for incidents with minimal environmental impact.

4. Requiring coal mines to complete four Pollution Reduction Programs (PRPs) to assess and implement options for reducing fugitive dust emissions, with a further PRP soon to be implemented. More consultation with the industry could have allowed the outcomes from these PRPs to be achieved more efficiently.

5. Moving to further regulate management practices around fugitive dust emissions from coal trains, despite evidence showing that the impact of these emissions is relatively small and that industry-led studies to identify improvements were already underway, which the EPA had been consulted on.

6. Moving to regulate non-road diesel exhaust emissions at coal mines, ahead of the process for national standards, despite the regulation of high power diesel equipment used at coal mines being much less advanced throughout the world than the regulation of lower power engines and the fact there are other much larger contributors to particulate pollution in mining regions that do not appear to be attracting the same level of regulatory attention.

7. Planning a new regional air quality monitoring network in the Gunnedah Basin coal mining region, under the assumption that it will be 100% funded by the coal mining industry, despite the fact that that the contribution of the coal mining industry to cumulative air quality impacts in the region is unclear and that the industry already funds nearly all the existing air quality monitoring in the region.

The industry believes that regulatory initiatives need to be based on the available scientific evidence; regulatory effort should be directed towards the greatest risks; and that fines, licensing fees and other costs imposed on the industry should be relative to level of impact.

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Introduction

The NSW Minerals Council (NSWMC) is the peak mining industry association in NSW, representing more than 90 producers, operators, explorers and associated service providers. A large proportion of our membership is subject to substantial regulation by the NSW Environment Protection Authority (EPA), largely through the provisions of the *Protection of the Environment Operations Act 1997* and specific Environment Protection Licence conditions that are applied to individual mining operations.

The mining industry has extensive experience working under the regulatory framework administered by the EPA and has a good understanding of the environmental issues that are the focus of much of the EPA's policy and programs.

Purpose of this submission

The inquiry's Terms of Reference include a specific reference to *"EPA investigations and public statements about the effects of coal dust pollution in the Hunter"*.

The purpose of this submission is primarily to provide information that will inform discussions around the *"effects of coal dust pollution in the Hunter"*. The submission presents facts about the impact of mining and transportation of coal on air quality in the Hunter, its relative significance compared to other sources, as well as the programs in place to help reduce impacts.

The submission also briefly addresses the mining industry's concerns about the growing regulatory intervention of the EPA, which is having a significant effect on the operating costs of the industry and could be questioned as to whether it is the best allocation of resources.

What is *"coal dust pollution in the Hunter"*?

NSWMC assumes that the term "coal dust" is intended to refer to the range of particulate matter emissions associated with coal mining, coal transportation and port activities in the Hunter region.

It should be noted that in relation to coal mining, coal itself is actually a small proportion of particulate matter emissions generated by mining activities. The majority of particulate matter emissions are derived from the earth that lies above and between coal seams, known as overburden.

The NSW Health Fact Sheet *Mine Dust and You*[2] provides a description of the different sizes of particulate matter:

Particle Size	Description
TSP	Total Suspended Particulate Matter (TSP) refers to the total of all particles suspended in the air. Even the largest of these particles is barely half the width of a human hair.
"larger than"PM10	A subset of TSP, and refers to all particles of size 10 µm in diameter and greater.

[2] http://www.health.nsw.gov.au/environment/factsheets/Pages/mine-dust.aspx

PM10	Also a subset of TSP, and includes all particles smaller than 10 µm in diameter (smaller than 1/7th of a hair width). Particles in the size range 2.5 µm to 10 µm in diameter are referred to as coarse particles (PM 2.5-10).
PM 2.5	A subset of both PM10 and TSP categories and refers to all particles less than 2.5µm in diameter. PM2.5 is referred to as fine particles and is mainly produced from combustion processes such as vehicle exhaust.

The NSW Health fact sheet goes on to state that *"The vast majority of dust from mining activities consists of coarse particles (around 40 per cent) and particles larger than PM10, generated from natural activities such mechanical disturbance of rock and soil materials by dragline or shovel, bulldozing, blasting, and vehicles on dirt roads. Particles are also generated when wind blows over bare ground and different types of stockpiles. These larger particles can have amenity impacts as well as health impacts.*

Fine particles from vehicle exhausts and mobile equipment are also produced at mine sites, though they only account for about 5 per cent of the particles emitted during the mining process. Fine particles produced at mine sites are manly from vehicle and mobile equipment exhausts."

"Generally, it is thought that fine particles below 2.5 µm in diameter may be of a greater health concern than larger particles as they can reach the air sacs deep in the lungs. However, coarse particles (PM 2.5-10) could also be associated with adverse health effects."

Structure of this submission

This submission separately addresses the potential impacts of "coal dust" on air quality and the initiatives in place to manage it in two parts of the Hunter:

- The Upper Hunter, which contains a high concentration of open cut coal mining activities as well as power generation, agriculture, other industries and emission sources.
- The Newcastle region and around the rail corridor, which contains coal export terminals, the main coal, freight and passenger railway and a high concentration of urban development and other industries and emission sources.

The submission finally outlines the industry's concerns about the growing regulatory intervention of the EPA.

Air Quality in the Upper Hunter Valley

Discussions around air quality in the Upper Hunter often focus on the impacts of coal mining. However, the evidence shows that there is a much broader range of contributors to particulate matter exposure in the region and in relation to PM2.5 – the particles of greatest health concern – there are other more important causes of air pollution in the region.

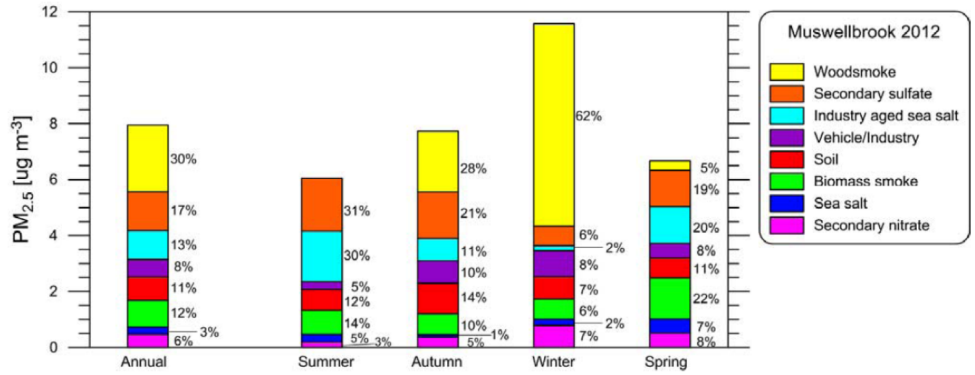
Upper Hunter fine particle characterisation study

NSW Health and the NSW Office of Environment and Heritage commissioned a research study to better understand the composition and source of fine particles (PM2.5) in the major population centres of Singleton and Muswellbrook[3]. PM2.5 was the focus of the study because it is associated with greater health risks than coarser particles. Sampling and analysis of PM2.5 was carried out over a 12-month period (to cover all seasons) during 2012.

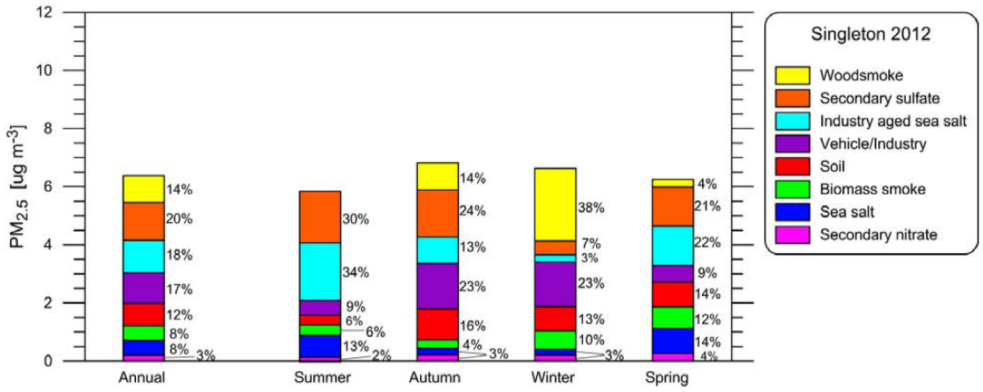
The results clearly show the major influence that woodsmoke from domestic heaters has on PM2.5 exposure in the Upper Hunter, particularly in Muswellbrook where it contributed 30% of PM2.5 on average and up to 62% during winter.

In comparison, the 'soil' category, (which includes coal and other soil particulate matter sources) made up 12% of annual $PM_{2.5}$ concentrations in Singleton and 11% of annual $PM_{2.5}$ concentrations in Muswellbrook. The 'vehicle/industry' category, which includes exhaust emissions from mining equipment but also on-road vehicles and other industrial emission sources, made up 8% of PM2.5 composition in Muswellbrook and 17% in Singleton on average.

The seasonal distribution of $PM_{2.5}$ composition in Muswellbrook and Singleton is shown in the graphs below.



[3] http://www.environment.nsw.gov.au/aqms/uhaqmnfpcs.htm



What these results demonstrate is that for PM2.5 - the particle size which carries the greatest health risk - mining is just one source of particulates and there are several sources other than mining that have a greater impact on air quality.

The results also show that emissions inventories, such as the National Pollutant Inventory and the EPA's Air Emissions Inventory, are not always a good indicator of what the actual causes of particulate matter exposure are in population centres.

Air quality strategies must focus on the full range of particulate matter sources, and consider their relative influence on population exposure, if they are to achieve their goals.

Upper Hunter Air Quality Monitoring Network (UHAQMN)

Upper Hunter coal producers and power generators funded the construction and continue to fund the operational costs of the UHAQMN, which is run by the Office of Environment and Heritage. The newtork provides the community, the industry and regulators with real-time information about regional air quality and complements the extensive network of monitors run by individual mine sites.

The UHAQMN consists of 14 monitoring stations located throughout the region. PM10 is monitored at all 14 stations. While there is currently no national standard for PM2.5, the UHAQMN measures PM2.5 at three stations in Singleton, Muswellbrook and Camberwell for research purposes.

The Office of Environment and Heritage makes it clear that only the large population centre monitors in Singleton, Muswellbrook and Aberdeen should be directly compared to the national air quality standards. The other 11 monitors are classed as background, diagnostic and small community monitors and have been established to help identify the distribution of dust levels throughout the region and the dust levels close to major dust sources. They are not representative of the air quality experienced by the general population in the region.

UHAQMN results

The table below shows the years in which the national air quality standards for PM10 have been met in the Upper Hunter's large population centres since the UHAQMN was established. The Singleton and Muswellbrook monitors' first full year of operation was 2011 and the Aberdeen monitor's first full year of operation was 2012. The national air quality standard for PM10 is a maximum average concentration of 50ug/m3 for any given day. The national standard allows five days in the calendar year to exceed the 24 hour standard to account for events such as dust storms and bushfires.

Years that the PM10 National Air Quality Standards have been met in the large population centres of the Upper Hunter

Year	Singleton Central	Muswellbrook Central	Aberdeen
2011	✔	✔	-
2012	✗	✔	✔
2013	✗	✔	✔

Singleton is the only large population centre monitor that has not met the national standards over the last three years. While mining contributes to particulate matter in the Upper Hunter, the Office of Environment and Heritage reviews of the air quality monitoring data have highlighted that bushfires and dry and windy regional weather conditions have contributed to exceedences of the PM10 standards.

Misinterpretation of the UHAQMN data

Despite clear guidance about the interpretation of monitoring results from the UHAQMN, some interest groups present misleading interpretations of the data that heighten community concern.

For example, the Hunter Community Environment Centre stated that there were 171 exceedences of air quality standards in the Hunter and Newcastle during 2013[4]. This figure not only counted exceedences from diagnostic monitors located close to mines away from population centres, but also added together exceedences at different monitors on the same day, which are generally a result of regional air quality events.

In contrast, the Office of Environment and Heritage reivew of the 2013 data[5] identified 16 days where the national PM10 air quality standards were exceeded across all the large population centre monitors in the Newcastle and Hunter regions. Only one of the large population centre monitors recorded more than the 5 days of exceedences permitted under the national air quality standards (Singleton). The Office of Environment and Heritage report noted that *"Smoke from bushfires contributed to high pollution on a number of days during January, October and November"*, indicating that mining is just one of many sources of particulate matter in the region.

Air quality initiatives in the Upper Hunter

Upper Hunter Particle Action Plan

The EPA's Upper Hunter Particle Action Plan outlines a series of actions and research being undertaken to improve air quality in the Upper Hunter. The initial goal of the plan is:

[4] http://www.hcec.org.au/20140119/premier-urged-control-air-pollution-2014-50-increase-air-pollution-breaches-newcastle-and

[5] http://www.environment.nsw.gov.au/resources/aqms/140057nswairqual13.pdf

Reduce PM2.5 concentrations as measured at Singleton and Muswellbrook air quality monitoring stations to an annual average of less than or equal to 8µg/m3, consistent with the national advisory reporting standard for PM2.5, as set under the National Environment Protection (Ambient Air Quality) Measure.

The Upper Hunter Particle Action Plan was developed before the results of the Upper Hunter Particle Characterisation Study were known. NSWMC believes that the plan now requires review based on the results of that study.

The plan's goal focuses on PM2.5, yet the vast majority of actions under the plan relate to dust emissions from coal mining, which contributes a relatively small proportion to PM2.5 exposure at Singleton and Muswellbrook. There is only brief mention of two programs relating to other emission sources – non-road diesel emission reduction subsidies provided by the EPA (that are not available to coal mines) and promotion around domestic woodheater emissions.

If the PM2.5 goal is to be achieved in the Upper Hunter, there will need to be a much greater level of attention and resources directed towards the reduction of all emissions sources. NSWMC believes the Upper Hunter Particle Action Plan should be revised to reflect this.

'Dust Stop' Pollution Reduction Programs

The EPA has placed legally binding Pollution Reduction Programs on all open cut mines' Environment Protection Licences requiring them to complete studies and change operational practices to improve dust management. These include:

- Requiring an 80% control of dust emissions (or more) from haul roads.
- Implementing plans to modify operations during adverse weather conditions to reduce dust emissions.
- Conducting research into potential dust control techniques when handling overburden.

These requirements have now been completed, helping to reduce dust emissions from mines in areas such as the Upper Hunter.

Non-road diesel exhaust emissions

The EPA has outlined its intention to look at opportunities to reduce particulate emissions from non-road diesel exhaust equipment. Emissions from non-road diesel equipment are currently unregulated in Australia while they are regulated, to varying degrees, overseas. There is also a heightened awareness about the impacts of diesel exhaust emissions given their declaration as a carcinogen.

However, some of the public debate around non-road diesel exhaust emissions is oversimplified. There are some important facts that should be made clear in any EPA public statements around non-road diesel exhaust emissions:

- NSW is not lagging behind the rest of the world in terms of emissions regulation for high power mining equipment, which generally uses over 90% of diesel at open cut mine sites. The regulation of high power engines is far from universal, with only the U.S./Canada regulating

these engines, and even there the regulation of high power equipment is behind lower power categories.

- While there are no emissions standards for non-road equipment in Australia, a large proportion of equipment imported for use at NSW mine sites is certified to overseas emissions standards and we therefore gain some of the benefit of overseas standards.

- The NSW open cut mining industry uses high quality diesel fuel (the same fuel as the on-road fleet), which reduces particulate emissions. It is a higher quality fuel than what is used in non-road equipment in the U.S. and in some other non-road uses in Australia.

- Diesel exhaust emissions have been declared a carcinogen because of the ability to isolate their effects in occupational studies, which is difficult for other types of particulates. There isn't evidence to suggest that they warrant specific attention over other forms of particulate matter such as woodsmoke.

Upper Hunter Mining Dialogue

Since 2010 the Upper Hunter coal industry has conducted a community engagement project called the Upper Hunter Mining Dialogue (UHMD). The industry-wide project, coordinated by the NSW Minerals Council, is designed to address the cumulative impacts of mining in the region and complements the community engagement activities of the individual mine sites.

The UHMD Emissions & Health Joint Working Group, which includes community representatives, has helped to develop and deliver projects to improve operational practices and provide the community with information about air quality and health in the Upper Hunter region, including:

- A weather forecasting project to ensure that all mining operations in the Upper Hunter are accessing and using weather forecasts in a systematic way to help them prepare for adverse weather conditions that may lead to increased dust generation.

- A communications strategy to ensure regular information sharing between government, industry and the community about air quality and health. To date the NSW Minerals Council has faciliated three community information sessions with speakers from NSW Health, the EPA and the Department of Planning and Environment, which have attracted up to 50 attendees. A further two sesssion are planned for October 2014.

Air Quality in Newcastle and Around the Rail Corridor

Air quality in Newcastle and around the rail corridor has become a major focus of some interest groups who are opposed to the expansion of the coal export terminals in Newcastle. Long term air quality monitoring conducted in the region suggests the impact of coal transportation and handling activities is not as significant as has been made out.

Air quality in the Newcastle region is comparable to other urban areas in NSW

Air quality in Newcastle is good and comparable to other urban areas in NSW. National annual air quality standards for PM10 have been met at the NSW Office of Environment and Heritage monitors in the Lower Hunter region for the last 10 years, except for 2009 when dust storms affected air quality across NSW.

A report prepared by the Office of Environment and Heritage in 2012 concluded that *"Overall air quality in the Lower Hunter is as good – or better than – air quality in Sydney and the Illawarra."*[6]

Mayfield, in Newcastle, has had long term independent sampling and analysis of PM2.5, the particlates of greatest health concern. The sampling and analysis has been undertaken by the Australian Nuclear Science and Technology Organisation (ANSTO) between 1998-2009 and provides a detailed insight into the sources of PM2.5.

The monitoring has shown that automobiles (27%), secondary sources (23%), smoke (20%) and sea salt spray (16%) are the major sources of PM2.5 in the region. Industry and soil combined make up 14%, of which coal dust is a proportion along with industrial facilities and agriculture.

Air quality data suggests coal trains have little effect on ambient air quality

A series of studies around the rail corridor has shown that coal trains have a limited impact on air quality in the region.

Monitoring along the rail corridor indicates air quality is comparable to the broader region

Long term monitoring at the NSW Office of Environment and Heritage Beresfield monitor, less than 400m from the main coal transport rail line, shows that national air quality standards for PM10 have been met 9 of the last 10 years[7]. The only year when standards were exceeded was 2009, when significant dust storms affected air quality across the state. These are similar results to other areas of the region and do not indicate a significant impact from train movements within the rail corridor.

Monitoring shows more dust settles next to the highway than the railway

Two dust deposition gauges have measured the amount of dust that settles each month at two locations in Thornton since January 1997 - one next to the rail corridor and another 1.2 kilometres

[6] http://www.epa.nsw.gov.au/resources/NCCCE/120298AirQualLH.pdf
[7] Sourced from OEH air quality data: http://www.environment.nsw.gov.au/AQMS/search.htm

away next to the New England Highway. Dust deposition is a measure of amenity.

The results show that both gauges meet annual regulatory standards for amenity and, on average, more dust settles at the monitor next to the highway than at the monitor next to the rail corridor.[8] This indicates that dust levels next to the rail corridor aren't necessarily higher than other parts of the region and meet the annual amenity standards.

There is little difference in the dust generated by coal, passenger and freight trains

Statistical analysis of 61 days of trackside air quality monitoring data commissioned by the EPA and undertaken by Professor Louise Ryan from UTS showed that coal trains and freight trains both elevate particulate levels by approximately 10% above background levels.[9]

Apart from being a relatively small, temporary increase in particulate matter levels as coal and freight trains pass by, the results suggest that most dust is stirred up from the ground within the rail corridor rather than being emitted from within the coal wagons. The results do not suggest that covering coal wagons would have any significant impact on dust generation by coal trains.

Several Queensland studies have not found significant impacts from coal trains

While studies undertaken in Queensland are not directly transferrable to NSW due to differences in weather conditions, coal types, travel distances and other conditions, the trackside monitoring conducted in Queensland's central and south west systems have found that coal dust from trains does not significantly contribute to ambient particulate levels along the rail corridor.[10]

Covering coal wagons has not been demonstrated to be a practical dust control measure

There has been much discussion around the Commonwealth Senate Inquiry into the Impacts on Health of Air Quality[11] recommendation to implement covers on all coal wagon fleets.

There was no objective evidence in the inquiry report that supported the Committee's recommendation. The Committee made the recommendation despite its belief that the amount and nature of pollution emanating from coal trains was a contested point. The Committee provided no information on the costs and practicality of its recommendation and did not point to any examples of where this dust mitigation measure had been used previously.

Coal wagon covers will involve significant capital costs for the thousands of wagons and dozens of loading points in the network, have ongoing maintenance costs, reduce the capacity of each wagon, and there are significant ramifications of lid failure on rail network reliability.

Given that the air quality evidence shows that coal dust emissions from trains are a relatively small source of particulates, it is questionable whether the significant costs and practical implications of coal wagon covers are justified when there are other mitigation options that have been found to be

[8] http://www.bloomcoll.com.au/Portals/5/Files/AEMR%202013_Final.pdf
[9] http://www.epa.nsw.gov.au/resources/air/ARTCreanalysisFeb2014.pdf
[10] https://www.aurizon.com.au/Downloads/South%20West%20System%20Coal%20Dust%20Management%20Plan.pdf
[11] http://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Community_Affairs/Completed_inquiries/2010-13/airquality/report/~/media/wopapub/senate/committee/clac_ctte/completed_inquiries/2010-13/air_quality/report/report.ashx

preferable in other jurisdictions.

Initiatives to improve the management of dust from coal trains

Industry studies

While the scientific evidence to date suggests coal dust emissions from trains do not have a significant impact on ambient air quality, the industry has commissioned further research to identify whether there are additional practical measures that could be taken to further reduce potential coal dust emissions from trains.

The studies include:

- A literature review to identify coal train dust management practices.
- A survey of coal chain participants to identify current infrastructure and management practices relating to coal train dust management; coal types and volumes transported from each loading point; and feedback on the practicality of potential mitigation options.
- A series of wind tunnel tests to help develop a risk matrix that will help guide decisions on whether to apply water or veneer to the surface of loaded coal wagons, looking at the influence of coal type, travel distance and wind speeds.
- Consultation with the industry, community and government.

The studies are being conducted by independent consultants with expertise in air quality management. The studies are ongoing and the industry expects reports to be prepared before the end of 2014.

EPA coal train dust management audits

Subsequent to the industry commencing its studies investigating opportunities to improve coal train dust management practices, the EPA announced its own program of audits of loading and unloading points to identify potential coal train dust management improvements.

NSWMC understands that the site inspections have been completed and audit reports are being drafted. The industry will review the outcomes of the audits along with the results of the industry-led studies underway.

NSW Government Lower Hunter air quality studies

The NSW Government is undertaking several further studies to improve knowledge about air quality in the Lower Hunter region:

- Expanding the Newcastle air quality monitoring network, adding three monitors to the network to create a total of six monitors in the region

- Conducting a dust deposition study, which measure and analyse deposited dust samples over a 12 month period to identify the amount of dust the settles at the monitors and its likely source.

- Conducting a particle composition study, which will analyse PM2.5 samples from March 2014-February 2015 at four sites throughout the Newcastle region. PM10 will also be measured at two of the sites near Newcastle Port.

These studies are positive initiatives that will create stronger evidence on which to base air quality management strategies.

Increasing EPA regulatory intervention

As a broader issue, the NSW mining industry notes the increasing regulatory intervention of the EPA, the financial impact of its initiatives on the industry and queries whether the EPA's initiatives are fair and the best use of the EPA's resources. Some examples include:

1. Implementing a new fee structure for risk-based licensing from 1 July 2016, which will result in some operations paying higher environmental protection licence fees - up to double - if they have been subject to enforcement actions. This means licence holders could receive two financial penalties for the same offence: once for the offence and then again as a result of increased licence fees (which could be a greater amount than the original offence).

2. Introducing Australia's highest environmental penalties for deterrence and strongest sentencing laws, with a 10x increase in from $1,500 to $15,000 for some on-the-spot fines.

3. Combined with the increase in environmental penalties and the flow-on implications for licence fees under risk based licensing, anecdotal feedback from the industry indicates an increase in the EPA's enforcement activity, including penalties and prosecutions for incidents with minimal environmental impact.

4. Requiring mines to complete four Pollution Reduction Programs (PRPs) to assess and implement options for reducing fugitive dust emissions, with a further PRP soon to be implemented. More consultation with the industry could have allowed the outcomes from these PRPs to be achieved more efficiently.

5. Moving to further regulate management practices around fugitive dust emissions from coal trains, despite evidence showing that the impact of these emissions is relatively small and that industry-led studies to identify improvements were already underway, which the EPA had been consulted on.

6. Moving to regulate non-road diesel exhaust emissions at coal mines, ahead of the process for national standards, despite the regulation of high power diesel equipment used at coal mines being much less advanced throughout the world than the regulation of lower power engines and the fact there are other much larger contributors to particulate pollution in mining regions that do not appear to be attracting the same level of regulatory attention.

7. Planning a new regional air quality monitoring network in the Gunnedah Basin coal mining region, under the assumption that it will be 100% funded by the coal mining industry, despite the fact that that the contribution of the coal mining industry to cumulative impacts in the region is unclear and that the industry already funds nearly all the existing air quality monitoring in the region.

The industry believes that regulatory initiatives need to be based on the available scientific evidence; regulatory effort should be directed towards the greatest risks; and that fines, licensing fees and other costs imposed on the industry should be relative to level of impact.