
UPPER HUNTER AIR QUALITY MONITORING NETWORK (UHAQMN) – ADVISORY COMMITTEE

MEETING MINUTES – Meeting 9

Date: 18 April 2013

Time: 10:00am – 2:00 pm

File: EF13/5718 DOC13/85096

Meeting Location: Singleton Library Meeting Room.

In attendance: Cathy Cole (Chairperson), Wayne Bedggood, Craig Dalton, Craig Flemming, Diane Gee, Ben Harrison, Melinda Holland, Lyn MacBain, Kenneth McDonald, Patrice Newell, Andrew Speechly, Wendy Wales.

Office of Environment and Heritage (OEH): Matt Riley, Alan Betts.

Environment Protection Authority (EPA): Mitchell Bennett, Leanne Graham.

Apologies: Scott Brooks, Carol Russell, John Watson.

Agenda Item:

1. Acknowledgement of Country

2. Apologies (see above)

3. Previous Meeting Minutes and Actions

The Advisory Committee adopted the minutes from the meeting held on 17 May 2011, incorporating amendments to Item 9, requested by Craig Dalton.

4. Community Feedback

EPA distributed media articles referring to the network, from October 2012 to April 2013. An electronic copy will be provided with the meeting minutes.

Committee members reported feedback from the community on the network:

- A community representative commented that while the community value the network, people want to know the meaning of the results and what the EPA is doing to improve air quality. The EPA referred to the *Upper Hunter Air Particles Action Plan*, released by the EPA in April 2013 (<http://www.environment.nsw.gov.au/resources/aqms/130158uphunta.pdf>). The plan includes 18 actions to improve air quality and to better inform the public. The EPA also referred to the Air emissions inventory that provides information on emission sources and estimates emissions for the Upper Hunter.
- A community representative enquired about the terminology used to describe air quality. For example, people may experience cardio and respiratory symptoms when the network results are reporting that air quality is 'good' or 'fair'. OEH acknowledged that susceptible individuals may experience health symptoms at particle concentration levels below the national standards. Consequently, the terms used on the network website change from 'good' to 'fair' as the air quality concentration level rises above 50 µg/m³ for the PM₁₀ 24-hour average concentration.

The website provides a pop-up message that 'fair' means that unusually sensitive people should consider reducing prolonged or heavy outdoor exertion. The terms were selected in consultation with NSW Health and reflect (?) international best practice. Terminologies used internationally for air quality indices may be viewed online.

- The Committee discussed the apparent anomaly of reduced visibility not triggering a network alert message. OEH explained that light scattering through air particles can reduce visibility when particles are at relatively low concentrations. The Committee agreed that information about reduced visibility would be a helpful addition to the website. The EPA noted that the website is being reviewed.

ACTION 1: OEH to add to the Network website an explanation about reduced visibility.

ACTION 2: OEH to provide web links to compare international practice on terminology used for air quality indices.

5. The *Protection of the Environment Operations (General) Amendment (Upper Hunter Air Quality Monitoring Network) Regulation*

The *Protection of the Environment Operations (General) Amendment (Upper Hunter Air Quality Monitoring Network) Regulation 2012* (the *Regulation*) commenced on 15 February 2013. (<http://www.legislation.nsw.gov.au/sessionalview/sessional/sr/2013-51.pdf>). The *Regulation* formalised the operating and funding arrangements for the network and replaced the *Deeds of Agreement* that established the network and the funding arrangements.

The EPA outlined the *Regulation*, Clause 79, parts A to L. In summary, the *Regulation*:

- Requires a levy toward the cost of the Network to be paid by Upper Hunter industries that hold environment protection licences for coal mining and electricity generation. Annual levies will cover the costs of operating the Network and a construction levy, to be paid by a new licence holder, will contribute to the cost of a new air quality monitoring station and associated infrastructure, if the EPA considers that the activity of the new licensee triggers the need for an additional monitoring station.
- Sets out the methods for calculating the annual and construction levies based on emissions of particulate matter, oxides of nitrogen and sulphur dioxide from individual mines and power stations during the previous levy period. Levies for individual coal mines are based on the amount of material moved by the individual mine as an indicator of their emissions.
- Requires the mines and power stations to provide the EPA with information on emissions and material moved during the levy period.
- Requires the EPA to calculate an estimate of the costs of the Network for the levy period and the actual costs at the end of the levy period.
- Requires the EPA to prepare and publish on its website:
 - monitoring results from the Network;
 - an annual report, including an analysis of the results from the Network for the previous calendar year; and
 - a report on an independent audit that reviews the efficiency and cost effectiveness of the Network every five years.

The EPA emailed the Committee the web link to the Regulation on 18 February 2013.

6. Upper Hunter Air Quality Monitoring Network – Response to new or expanded industry

The EPA outlined the mechanisms it proposed to use to ensure that the Network responds to a new or expanded coal mine and the potential need for a new monitoring station is assessed.

In summary, a proponent for a new or expanded coal mine will be required, as part of the environmental assessment for the project, to collect the necessary information to enable the EPA to make an assessment of the need for a new monitoring station. The proponent bears the cost of gathering the necessary data.

The final decision on the need for a new station is the responsibility of the EPA, in consultation with the committee and OEH.

The EPA confirmed that under the new Regulation, a proponent could be required to fund a new monitoring station if necessary. This is independent of the planning approval process.

The EPA agreed that the need for an additional monitoring station as a result of the proposed expansion of the Drayton South coal mine should be discussed at the next committee meeting.

ACTION 2: EPA to seek advice from the Advisory Committee, at its next meeting, about the need for an additional station due to the proposed expansion of the Drayton South coal mine.

7. Ongoing Role of the Advisory Committee

The EPA referred to the Committee's Terms of Reference and noted that the period of tenure for the Committee expires in September 2013. The EPA invited the Committee to make recommendations regarding the constitution and the ongoing role of the Committee.

8. System Performance

OEH reported on the network's performance for the period 1 September 2012 to 31 March 2013.

Twelve of the 14 network sites achieved the 95% online operational target for PM₁₀ data for the seven month period. Camberwell and Muswellbrook achieved 95% online operational target for PM₁₀ data for six of the seven months. Instrument failure reduced online performance to 92% at Camberwell, in September 2012 and 86% at Muswellbrook in December 2012.

In the larger population centres, daily average PM₁₀ levels during the period (212 days) were above 50 µg/m³ on nine days at Singleton and one day at Muswellbrook. At Aberdeen, daily average PM₁₀ levels were below 50 µg/m³ throughout the period.

At Jerrys Plains and Warkworth, daily average PM₁₀ levels were below 50 µg/m³ throughout the period. Wybong experienced one day above this level. Daily average PM₁₀ levels were above this level on four days at Bulga, 21 days at Maison Dieu and 22 days at Camberwell.

At the Network's diagnostic sites, operating close to mines, daily average PM₁₀ levels were above 50 µg/m³ on one day at Muswellbrook NW, 20 days at Mount Thorley and 22 days at Singleton NW. Mount Thorley recorded the highest daily average PM₁₀ level of 89 µg/m³ for the period.

At the PM₁₀ background sites, located at the northern and southern extents of the Upper Hunter coal fields, Merriwa in the north experienced daily average PM₁₀ levels less than 50 µg/m³ throughout the period and Singleton South experienced two days above this level.

For PM_{2.5}, Muswellbrook achieved over 95% online performance throughout the period. Singleton achieved over 95% online performance for six of the seven months. In December 2012, instrument problems reduced online performance at Singleton to 93%. Camberwell achieved over 95% online performance for three of the seven months. Power failure and instrument problems reduced online performance to 89% in November 2012, 86% in January, 91% in February and 93% in March 2013. Daily average PM_{2.5} levels were better than the 25 µg/m³ reporting benchmark throughout the reporting period, with the exception of one day at Muswellbrook, which recorded its highest daily average of 26 µg/m³ in October 2012.

Sulfur dioxide (SO₂) monitoring at Singleton and Muswellbrook achieved above 95% online performance for six of the seven months. Instrument problems reduced online performance to 89% at Singleton in September 2012 and to 93% at Muswellbrook in November 2012. Hourly average SO₂ levels were better than the benchmark (20 pphm) throughout the period.

Nitrogen dioxide (NO₂) monitoring at Muswellbrook achieved above 95% online performance throughout the period. Singleton achieved above 95% online performance for five of the seven months. Instrument problems at Singleton reduced online performance to 94% in November 2012 and 91% in February 2013. Hourly nitrogen dioxide (NO₂) levels at Singleton and Muswellbrook were better than the benchmark (12 pphm) throughout the period.

There were 5,511 unique page-views for the Network's information webpage and 13,793 unique page-views for the Air Quality Index general map webpage. Subscriptions to Network air pollution alerts increased, with email subscribers increasing to 1,070 and SMS subscribers increasing to 501.

In response to Committee Members' questions, OEH confirmed that the forthcoming Annual Report on the Network for 2012 would provide a discussion and analysis of trends in the results.

The EPA outlined three new pollution reduction programs introduced to reduce particle emissions from all open cut coal mines in NSW. The programs require:

1. Haul roads to be maintained to achieve 80% dust control by keeping haul roads well-watered and applying dust-suppressant chemicals. By May 2013, mines are required to provide monitoring programs to the EPA, demonstrating how the mine will measure the level of dust control.
2. Modified operating practices during adverse weather conditions. This requires mines to monitor weather conditions and to develop appropriate procedures to reduce dust.
3. Investigation of measures to reduce dust during the digging and dumping of overburden.

A Committee Member noted that such information is very relevant for the Committee and noted further that members of the wider community may be outraged by the use of water to reduce dust.

The Chair emphasised that the mines are encouraged to find alternative ways of reducing dust.

A Committee Member enquired how dust can be physically measured to indicate 80% control. The EPA noted that although no standard methods exist to identify specific levels of control, a recent ACARP (Australian Coal Association Research Program) project tested methods of measuring dust from unsealed roads, to develop an industry methodology for assessing the effectiveness of dust suppressants.

A Committee Member noted that while wetting the road may reduce wheel-generated dust, it also may increase diesel emissions from vehicles.

Another Committee Member noted that decision-making about specific dust control measures requires weighing up the efficiencies of various controlled and uncontrolled emissions.

9. Proposed Changes to Network Alerts

The Chair introduced Mr Matthew Riley, Director - Climate and Atmospheric Science, OEH. Mr Riley proposed to replace references to “health standards” in current SMS alerts with references to “air quality standards”

In consultation with NSW Health, OEH proposed the change to provide a clearer message that exceeding an air quality value represents a deterioration in air quality, rather than a significant change in health risk to the community. An air pollution alert, rather than a health alert, reduces the risk of unnecessary alarm in the community.

A Committee Member commented that the current messaging allows people to be prepared, while the proposed messaging may not prepare people adequately.

Another Committee Member acknowledged that the proposed messaging was less emotive.

OEH reassured the Committee that the proposed change retains the message referring people to the web site, which in turn, retains the colour coding of the Air Quality Index and the corresponding health messages on appropriate action for people, including sensitive groups, in response to deteriorating air quality.

OEH and NSW Health are working together to ensure that health messages are consistent and keep pace with new technologies such as smart phones and social media.

Action 3: EPA to provide to the Committee the table of terms and colour coded health messages that correspond to values of the air quality index.

10. Network Performance Reporting

Mr Riley explained that OEH is preparing an annual report on all air quality results for the Network for the calendar year 2012. In January 2013, EPA published a brief report, *Hunter Valley Annual Air Quality 2012, Fine Particles* (the Report) which summarised the monitoring results for particulate matter in the lower and upper Hunter and compared results with some NSW sites. This was in response to community concern about high particle levels in the upper Hunter from September to December 2012

(<http://www.environment.nsw.gov.au/resources/aqms/20130037HunterAir2012.pdf>).

OEH explained that the Air NEPM (National Environment Protection Measure for Ambient Air Quality) sets prerequisites for air quality monitoring stations which measure compliance against the

national standards. In the upper Hunter, the only Network sites designed for direct comparison with the national standards (e.g. 50 $\mu\text{g}/\text{m}^3$ for the PM_{10} 24-hour average concentration) are those in the large population centres, namely Singleton, Muswellbrook and Aberdeen.

The Report indicated that particle levels in the upper Hunter were higher than those in the lower Hunter during 2012. Levels in the lower Hunter were comparable with levels in Sydney and Wollongong.

An overview of the data findings from 2012 showed that:

- Singleton recorded the highest daily average level of PM_{10} , 63.6 $\mu\text{g}/\text{m}^3$, on 6 September 2012.
- The daily average for PM_{10} levels exceeded 50 $\mu\text{g}/\text{m}^3$ on seven days in total at various sites in the upper Hunter, but only on one day in the lower Hunter.
- Singleton was the only station that did not meet the annual goal of the Air NEPM for PM_{10} , of no more than five days above 50 $\mu\text{g}/\text{m}^3$, as it recorded exceedences of this criterion on six days.
- Muswellbrook was the only station to record $\text{PM}_{2.5}$ levels above the national advisory reporting levels. The daily level was exceeded on two occasions during the year.

For Network sites in the small communities and the diagnostic sites, although direct comparison against the national standard is not recommended, the Report compared PM_{10} results against 50 $\mu\text{g}/\text{m}^3$ (24-hour average concentration), to indicate performance for the interest of the community.

A Committee Member enquired about the review of the $\text{PM}_{2.5}$ advisory reporting standard. OEH confirmed that the National Plan for Clean Air supported the adoption of a national standard for $\text{PM}_{2.5}$, based on $\text{PM}_{2.5}$ monitoring data collected nationally.

11. General Business

Dr Craig Dalton referred to correspondence from NSW Health to the EPA stating NSW Health's opinion that the EPA should assess the requirement for new monitors independently with guidance from NSW Health and consultation with the UHAQMN Advisory Committee.

The EPA clarified that its intention was not to delegate the decision to industry, but rather to use the planning system to require industry to cover the cost of gathering the data necessary to assess whether further monitoring stations were required. The final decision on the need for a new monitor remains the responsibility of the EPA in consultation with OEH, NSW Health and the Committee.

OEH reported on the Upper Hunter Fine Particle Characterisation Study. OEH is reviewing the Third Progress Report, for publication on the website. OEH expects the final report to be released at a public information session, following an independent peer review in July 2013.

Discussion continues between the EPA and the DP&I regarding the rationalisation of the industry-operated air quality monitors. Industries are keen for a resolution.

The Chair closed the meeting at 1:30 pm.

Next meeting date: Thursday, 24 October 2013.

Minutes Reviewed by: Cathy Cole (Chair)