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

MEETING MINUTES – Meeting 15

Date: 26 February 2015

Time: 10:00am – 1:00pm

File: EF13/5718 DOC15/115701-02

Meeting Location: Singleton Library Meeting Room

In attendance: John Tate (Chairperson), Cr Wayne Bedggood, Scott Brooks, Dr Catherine Chicken, Lyn MacBain, Geoffrey Sharrock, Andrew Speechly, Wendy Wales, John Watson, Kathryn Yates

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

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

Apologies: Dr Craig Dalton, Craig Flemming, Adam Gilligan, Cr Hollee Johnson, and John Krey

Agenda Item:

Acknowledgement of Country

1. Welcome and Introductions

Mr Tate welcomed attendees and introduced Ms Yates, representing the power generating industry; Ms Bell, EPA Director Stakeholder Engagement and Governance; and Mr Betts, Senior Team Leader, Quality Systems and Reporting, Climate and Atmospheric Science, OEH.

Mr Tate announced that, on 23 February 2015, the EPA appointed Mr Krey of Bulga, as the new community representative on the Committee to fill the vacancy that resulted from the resignation Ms Patrice Newell.

2. Apologies (see above)

3. Previous Meeting Minutes and Actions

The Committee members adopted the minutes from the meeting of 31 July 2014.

Responding to Recommendations and Actions of previous meetings:

- The Committee provided feedback to OEH by 30 November 2014, on the draft discussion paper on a proposed method to assess the need for new air quality monitors for the Network.
- The EPA emailed the Committee, on 19 February 2015, on behalf of Mr Brooks, notifying of the publication of the Department of Planning and Environment's Annual Report 2014.
- The EPA emailed the Committee, on 14 January 2015, on behalf of OEH, notifying of the publication of the UHAQMN Annual Report 2013.
- The EPA emailed the Committee, on 14 January 2015, providing an electronic copy of the report by Holmes Air Sciences, showing Upper Hunter air flow patterns.
- The OEH incorporated the Committee's feedback into the *Upper Hunter Air Quality Monitoring Network Seasonal Report: Spring 2014*, including: a title page and table of contents; information on drought factor shown as rainfall deficiencies (Figure 31 to

Figure 33); comparison of seasonal winds with previous years (Figure 10 to Figure 12); and reporting of annual rolling averages for particle concentrations (Table 3).

- The EPA recapped for the benefit of new Committee members (i) the justification for not locating an air quality monitoring station (AQMS) at Broke as part of the current Network, and (ii) the factors that would influence the case for an AQMS at Broke in future. Mr Bennett explained that the Network design required assessment of wind direction and strength, population, complaints, pollutant sources, dust levels at the nearest monitor, likely future developments and the strategic value that would be added to the data set. Mr Bennett presented the network design criteria assessments for Broke, Warkworth and Wybong showing that the case for a monitor at Broke was not as strong as the cases for monitors at Warkworth and Wybong. Mr Sharrock noted that the situation at Broke may change, depending on the movement of impacts from Mt Thorley and Warkworth mines.
- The EPA updated the Committee on the progress towards optimising mine-operated air quality monitoring (refer to Item 6 below).
- The EPA emailed to the Committee, on 14 January 2015, the draft Terms of Reference, to broaden the role of the Committee, (refer to Item 8).

4. Community Feedback

Update on the *Lower Hunter Air Quality Community Research Project*

Ms Bell advised that the EPA published the report and EPA's response on 20 February 2015. The Committee was informed by email.

Ms Bell reiterated that the EPA commissioned the social research study to investigate how to improve community access to and understanding of air quality information. The researchers from Macquarie University engaged with approximately 400 people, in face to face interviews and focus group meetings. The EPA is working closely with community stakeholders to implement new initiatives aligned with the recommendations of the report. For example:

- The EPA is making ongoing improvements to its website in response to community feedback.
- The EPA has involved community members in the design and management of two studies in the Lower Hunter to characterise particulate matter and black dust.
- The EPA has introduced programs to address community concerns about the health impacts of air pollution. These include strategies to reduce emissions from woodsmoke and diesel engines, from ships, and the auditing of coal handling facilities.

Ms MacBain concurred with the report's finding that most community members find out about air quality from local newspapers, radio and television. Mr Watson reminded the EPA that local newspapers welcome local content.

ACTION 1: EPA to resend to the Committee the web link to the Lower Hunter Air Quality Community Research Project and the EPA's response.

EPA circulated media articles published since the previous meeting that referred to the Network or the Committee.

The EPA also circulated the paper, 'Investigating the health impacts of particulates associated with coal mining in the Hunter Valley', published in the journal *Air Quality and Climate Change*, Volume 48, No.4, November 2014. Dr Dalton, the Committee's representative for the NSW Ministry for Health, co-authored the paper and provided it to the Committee members.

Mr Sharrock noted the importance of the paper and asked the Chair to defer discussion until the next Committee meeting, when Dr Dalton could be present.

ACTION 2. Committee to discuss, at the next meeting, the paper 'Investigating the health impacts of particulates associated with coal mining in the Hunter Valley', *Air Quality and Climate Change*, Volume 48, No.4, November 2014, co-authored by Dr Dalton, the Committee's representative for the NSW Ministry for Health.

Mr Bennett referred to an enquiry from Ms Wales, during the Committee meeting of 31 July 2014, regarding a blast fume incident that was reported by the media, in February 2014. He advised that the EPA commenced proceedings in the NSW Land and Environment Court on 10 April 2015 against the company allegedly responsible for the offensive blast fume event.

ACTION 3. EPA to keep the Committee informed about proceedings in NSW Land and Environment Court against a company allegedly responsible for an offensive blast fume event in 2014.

RECOMMENDATION 1. The Committee recommended that the EPA provides more regular information to the public on regulatory investigations in the Upper Hunter

Mr Sharrock referred to an editorial article from the *Newcastle Herald*, published on 14 February 2014, on the topic of coal dust impacts from the rail corridor and the covering of coal wagons. He noted that the report of the NSW Government Upper House Parliamentary Inquiry into the *Performance of the NSW Environment Protection Authority* seeks a recommendation from the Chief Scientist about the covering of coal trains.

Ms Bell acknowledged the recommendation in the Inquiry's report. Ms Bell advised that the NSW Government, rather than the EPA, was required to respond to the Inquiry's report within six months.

Ms Bell noted that the EPA had undertaken a program of work in 2014 to investigate best practice in coal handling and to audit coal handling facilities. In response to a request from the Committee, the EPA agreed to provide an update to the Committee on the EPA's program to investigate best practice in coal handling and to audit coal handling facilities.

ACTION 4. EPA to provide an update to the Committee on the EPA's program to investigate best practice in coal handling and to audit coal handling facilities.

Mr Speechly confirmed that the NSW Minerals Council is undertaking research into the veneering of coal loads to reduce dust emissions and assessment of coal handling practices throughout the coal supply chain.

Ms MacBain reported community concerns about mining impacts during the night at Ravensworth. Mr Bennett reminded the Committee to advise community members to report their concerns to the EPA by calling 131555. He noted that the EPA encouraged direct and timely communication.

The Chair thanked the Committee for their contribution to the discussion.

5. Network Performance Report and Seasonal Analysis Spring 2014

Mr Betts presented the *Upper Hunter Air Quality Monitoring Network Season Report: Spring 2014*. He reported on the Network's performance for the period from 1 September to 30 November 2014, providing details of the Network's operation, data capture and monitoring results.

All PM_{2.5} and PM₁₀ monitors achieved the benchmark of 95% data capture, or better, except for the Singleton PM₁₀ monitor, which achieved 93% following adjustments to the monitor to rectify dust impacts from local construction works.

Daily average PM₁₀ levels were lower than the benchmark of 50 µg/m³ on most days during the three month monitoring period. PM₁₀ levels were above 50 µg/m³ on 14 days. Camberwell recorded the highest daily average PM₁₀ level of 79.7 µg/m³ for the period, on 14 November 2014.

In the larger population centres of Singleton, Muswellbrook and Aberdeen, daily average PM₁₀ levels were below 50 µg/m³, except on one day during the period. On 15 November 2014, Muswellbrook recorded 53.1 µg/m³ and Aberdeen 50.1 µg/m³.

At the smaller population centres, daily average PM₁₀ levels above 50 µg/m³ occurred on 10 days at Camberwell, four days at Maison Dieu, three days at Jerrys Plains, two days at Bulga and one day at Warkworth and Wybong.

At the Network's diagnostic sites, operating close to mines, daily average PM₁₀ levels were above 50 µg/m³ on three days at Singleton NW, two days at Mount Thorley and one day at Muswellbrook NW.

At the background sites, Merriwa recorded one day with the average PM₁₀ level above 50 µg/m³, with 55.0 µg/m³ on 15 November 2014. PM₁₀ levels were lower than 50 µg/m³ at Singleton South throughout the period.

Daily average PM_{2.5} levels were lower than the benchmark of 25 µg/m³ during the three month monitoring period, except for one day. On 4 November 2015, Camberwell recorded 31.6 µg/m³, Singleton 28.5 µg/m³ and Muswellbrook 27.4 µg/m³.

Mr Betts noted the addition of the fire maps to the report (refer to Figure 15 to Figure 27). Analysis of the maps and wind directions suggested that bushfire activity may have elevated particle levels in the Upper Hunter region. The maps showed fires in the Wollemi National Park from late October to early November and at Wybong in mid-November 2014. The fire information was recorded by the NSW Rural Fire Services and the US National Aeronautics and Space Administration (NASA) Moderate Resolution Imaging Spectroradiometer (MODIS) Fire Information for Resource Management System (FIRES).

At the request of the Committee, the report included PM₁₀ and PM_{2.5} rolling annual averages, for the period 1 December 2013 to November 2014. Camberwell recorded the highest rolling annual average for PM₁₀, with 25.1 µg/m³. Muswellbrook recorded the highest rolling annual average for PM_{2.5}, with 9.8 µg/m³. The report noted that there are no NEPM standards for annual rolling averages for particles.

The NO₂ and SO₂ monitors at Singleton and Muswellbrook achieved 93% and 94% data capture, respectively. The Warkworth monitor achieved 93% data capture for wind data, due to a faulty wind sensor. The NO₂ and SO₂ levels were below the benchmark across the Network during the monitoring period.

The report included a seasonal analysis which compared PM₁₀ and PM_{2.5} levels for three spring seasons, 2012, 2013 and 2014. Key points included:

- PM₁₀ levels were lower in spring 2014 than 2013 and 2012. PM₁₀ levels were above 50 µg/m³ on 14 days in spring in 2014, 29 days in spring 2013 and 28 days in spring 2012.
- In spring 2013, PM₁₀ levels above 50 µg/m³ mostly occurred during the NSW bushfire emergency in October and November 2013.
- PM_{2.5} levels were above the advisory benchmark of 25 µg/m³ on one day in spring 2014, two days in spring 2013 and one day in spring 2012.

At the request of the Committee, the report included information on rainfall deficiency as an indicator of drought. The Upper Hunter experienced very warm and dry conditions during spring in 2014, resulting in a serious rainfall deficiency. Spring rainfall was below average with up to 200 mm less rain than 2013. In spring 2013, early very warm and dry conditions changed to extremely wet conditions and well above average rainfall.

At the request of the Committee, the report included comparison of seasonal winds with previous years (refer to Figure 10 to Figure 12). Wind rose maps for spring 2014, 2013 and 2012 showed typical along-valley flows and the seasonal transition as winds change from north-westerly during winter to south-easterly in summer. Stronger north-westerlies occurred at many sites in 2013 compared to 2014.

During discussion, a Community Representative advised that parts of the report might be difficult for community members to interpret. The Committee supported the following recommendation.

RECOMMENDATION 2. The Committee recommended that OEH expands the explanatory notes in the seasonal report, about (i) the fire maps and the influence of weather and climate and (ii) the meaning of rainfall deficiencies.

Mr Sharrock asked that OEH congratulate and thank the authors for an excellent report, incorporating the amendments requested by the Committee at the previous meeting.

ACTION 5. OEH, on behalf the Committee, to congratulate and thank the authors of the *Upper Hunter Air Quality Monitoring Network Season Report: Spring 2014* for providing an excellent report, incorporating amendments requested at the previous meeting.

The Chair noted the report and thanked Mr Betts.

6. Industry Air Quality Monitoring Optimisation – project update

Mr Bennett explained, for the benefit of new Committee members, the reasons for the EPA's collaborative review of air quality monitoring sites operated by mines.

Before the establishment of the 14-station air quality monitoring network in 2012, mines in the Upper Hunter measured atmospheric particulate matter at 417 air quality monitoring sites. Monitoring methods included 275 dust gauges, 74 high volume samplers that sampled for 24 hours once in every six days, and 47 Tapered Element Oscillating Microbalance (TEOM) monitors that sampled continuously. Analysis and interpretation of monitoring results presented a complex task.

The establishment of the Network provided on-line continuous monitoring of air quality, using TEOMs strategically located in larger and smaller population centres, as well as at diagnostic locations closer to mining activity and background locations north and south of the main mining area.

The EPA is proposing that mines replace their older technology dust gauges and high volume samplers with on-line continuous monitors, such as TEOMs, located upwind and downwind of the main dust generating activities, and in alignment with the general northwest-southeast wind flows along the valley.

Over the last six months, the EPA has progressed discussions with individual mines to find an optimum monitoring program for each mine. While some mines currently operate TEOMs or can adapt easily, other mine sites present challenges for accessibility and power supply.

The monitoring optimisation program aims to combine the monitoring for the mine's air quality management plan, required by the Department of Planning and Environment as part of the conditions of consent, with the monitoring required by the EPA's dust stop program.

In response to questions, Mr Bennett noted the following key points:

- Monitoring results from mine operated sites are reported on the mines' websites,
- Currently, elevated particle levels at mine-operated monitors on private property cannot be attributed to emissions from any particular mine. Moving monitors onto land within the mining lease and closer to mining activity aims to ensure that mines are more accountable for their particle emissions.
- The EPA will regularly update the Committee on the progress of the optimisation program.

ACTION 6. The EPA to update the Committee on progress toward optimising mine operated air quality monitoring for better management of coal mine dust emissions.

7. A proposed method to assess the need for new air quality monitors for the Network – discussion paper update

Mr Bennett advised that while the discussion paper provided by OEH set out the method for assessing the need for a new air quality monitoring station (AQMS), the trigger for assessing the need for an AQMS is the EPA's five yearly report on the Network.

Clause 79L (2) of the *Protection of the Environment Operations (General) Regulation 2009* requires the EPA to undertake a comprehensive review of the effectiveness of the Upper Monitoring program and to recommend any improvements. The first review by the EPA, due by 1 February 2017, will consider the potential locations for coal mining, based on all relevant information on pollutant sources, the location and size of nearby populations, and meteorology.

In response to questions, Mr Bennett noted the following key points:

- The five year period provides sufficient data to indicate long term trends in air quality and variations in climatic conditions across the region. It also provides adequate time for proposed mining proposals and expansions to be incorporated into the review.
- A new monitoring station can be established in approximately three months, depending on the time required for site assessment and development approval from Council. Providing power supply to new sites can delay construction, as occurred at Merriwa.

The Chair thanked Mr Bennett and the Committee for the discussion.

8. Expanding the Committee's Terms of Reference

Mr Bennett noted that the Committee's Terms of Reference originally focussed on setting up the Network. With the Network operational since February 2012, the Committee's focus had evolved towards greater consideration of how to interpret and respond to the monitoring results. Recent discussions included issues of air quality management and actions to improve the regulation of blast fumes and the reduction of dust, diesel emissions and woodsmoke emissions.

The Committee adopted the draft amendments to the Terms of Reference, which broadened the role of the Committee to include advising the EPA on issues of regional air quality management.

A majority of Committee members voted to change the Committee's name to the Upper Hunter Air Quality Advisory Committee.

Ms MacBain emphasised the importance to local communities of the Committee's role in advising on matters specific to the monitoring network.

RECOMMENDATION 3: The Committee recommended that the EPA (i) broadens the Committee's Terms of Reference to include advising the EPA on issues of regional air quality management, and (ii) changes the Committee's name to the Upper Hunter Air Quality Advisory Committee.

9. General Business

The Chair conveyed a message, on behalf of Mr Flemming, expressing disappointment that the EPA had ceased funding the Woodsmoke Reduction Program. Mr Flemming noted that Muswellbrook Council lacked the resources to continue the media campaigns, which Council considered were effective in reducing woodsmoke. Mr Flemming believed that the program was under resourced, compared to other EPA initiatives.

Mr Bennett advised that the EPA's two-year program had funded \$1.3 million in grants to local councils for woodsmoke reduction campaigns.

Dr Chicken suggested that although the Upper Hunter Particle Characterisation Study found woodsmoke to be a major contributor to air quality impacts, the Upper Hunter communities' concerns remained focussed on the air quality impacts of open cut mining, rather than woodsmoke.

Ms Wales suggested that another particle characterisation study may be one way to test for changes in the impacts of woodsmoke.

The Committee agreed to invite the representatives of Muswellbrook and Singleton Councils to provide a briefing to the Committee about their Councils' involvement in the EPA's Woodsmoke Reduction Campaign and its effectiveness.

ACTION 7: The EPA to invite representatives of Muswellbrook and Singleton Councils to the next Committee meeting to provide a briefing about their Councils' actions to reduce woodsmoke emissions and the effectiveness of actions.

Mr Sharrock advised that he had accepted an invitation to join the Mining and Petroleum Gateway Panel. The Panel is an independent body under the *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007*. Its role is to assess the agricultural and water impacts of mining or coal seam gas proposals located on strategic agricultural land.

The Chair noted Mr Sharrock's declaration.

The EPA advised that the next meeting date set by the Committee was 30 April 2015. The meeting would be held in the Singleton Library Meeting Room.

Ms MacBain gave an apology for her inability to attend the next meeting.

Meeting closed at 1:00 pm.

Next meeting dates: 30 April, 30 July and 29 October 2015.

Minutes reviewed by: John Tate (Chair).