MEETING No. 43
Newcastle Community Consultative Committee on the Environment (NCCCE)

Meeting Minutes

Date:	**20 July 2016**	**Time:**	**5.30 pm**
File:	**EF13/8273**		
Location:	**EPA Conference Room, 117 Bull Street, Newcastle**		
In attendance:	Members: John Tate (Chair), Andrew Baxter (City of Newcastle), Rick Banyard (Community), A/Prof Howard Bridgman (Minister's Community Nominee), Keith Craig (Community), Dr Craig Dalton (NSW Health), Michael Dowzer (Industry), Peter Kibble (Industry), Sherree Woodroffe (Industry) Adam Gilligan (EPA Manager Hunter), Leanne Graham (EPA Project Officer) Presenters/Visitors: Scott Thompson (Senior Air Quality Monitoring Officer, Office of Environment and Heritage (OEH))		
Apologies:	John Mackenzie (Environment), Matt Riley (OEH)		

Meeting Record

Agenda Item	Meeting Details
Item 1	**Welcome** The Chair welcomed attendees and introduced Mr Thompson, who supervises the operation of the air quality monitoring networks in the Hunter Region. The Chair congratulated Mr Gilligan on his appointment as EPA Director North. Mr Gilligan confirmed that the appointment was effective from Monday 25 July 2016.
Item 2	**Apologies** As above.
Item 3	**Minutes from Previous Meeting (20 April 2016)** The minutes of the previous meeting were adopted as a true and accurate record.
Item 4	**Actions Arising from Previous Meetings summary** The EPA advised that actions from the previous meeting were completed. In response to Action 2, Mr Banyard advised that the Correct Planning and Consultation for Mayfield Group intended to circulate to the EPA and the Committee, a response to the NSW Minerals Council's report, Coal Train Dust Management, Hunter Valley Coal Industry (March 2016).

Item 5	**Community Feedback** The Chair invited Committee members to report on feedback received from their contact networks since the previous meeting. Mr Craig reiterated that the Stockton community would appreciate easier access to information about the industries on Kooragang Island, including the premises' emissions to air and water, environmental management issues and Environment Protection Licence (EPL) conditions. Mr Gilligan advised that the EPA was exploring the development of a smart phone or tablet applications (App), similar to the NSW Rural Fire Service's App, Fires Near Me. For example, an EPA App called "Industries Near Me" could show the location of nearby premises, details of EPL conditions and recent environmental performance. Mr Gilligan agreed to keep the Committee informed on the App's development. He also advised that information on industrial developments was available on the NSW Department of Planning and Environment's major projects web page. **Action 1. The EPA to provide regular updates to the Committee on the development of a smart phone or tablet application to show the location and environmental performance of local industries.** **Action 2. The EPA to provide to the Committee with a link to the NSW Department of Planning and Environment's major projects web page.** Mr Craig advised that the Stockton community sought an update on Orica's work to reduce $PM_{2.5}$ emissions. The EPA confirmed that Ms Woodroffe would provide an update later in the meeting. Mr Banyard advised that community members were concerned about the management of potentially contaminated soil, being removed in large quantities from the former Newcastle heavy rail corridor. Mr Gilligan advised that the operator removing material from the site was responsible for appropriate assessment, handling and disposal of the waste material. A direct trigger for the EPA to become involved would be evidence of a complaint lodged about inappropriate practices by the operator. The EPA had no evidence that material was being handled improperly. A land use re-zoning process would trigger detailed assessment of residual contamination in the corridor. Mr Gilligan advised Mr Banyard to raise any concerns about onsite operations with the site's owner, the Hunter Development Corporation. The Chair advised that he attended a meeting of the Orica Board held in Newcastle, as NCCCE Chair. Community participants in Orica's community investment and sponsorship activities also attended the meeting. Mr Tate addressed the Board and commended Orica's achievements in improving its environmental performance in recent years. He advised that the NCCCE would acknowledge Orica's progress and pursue improved performance if breaches in environmental management occurred. Mr Gilligan provided feedback on the Stockton community meeting, hosted by the EPA and the NCCCE on 25 May 2016. The EPA delivered meeting invitations to 1,600 residences in Stockton. Twenty-two people attended the meeting, including 13 residents, three industry representatives from Orica and Newcastle Coal Infrastructure

	Group and three NCCCE members. Mr Gilligan presented the findings of the Lower Hunter Particle Characterisation Study (LHPCS) and the Lower Hunter Dust Deposition Study. Mr Gilligan and Mr Roger Bluett, EPA Acting Manager Air Policy, responded to questions from the attendees. The EPA provided the Committee with a summary of the questions and responses, including information provided at the meeting as well as updated information. The EPA encouraged the Committee community members to use their networks to distribute this information. **Action 3. The EPA to circulate to the Committee an electronic copy of the EPA's feedback on the Stockton community meeting, hosted by the EPA and the NCCCE on 25 May 2016.** Mr Banyard observed that the community seemed surprised, mystified and unconvinced by the scientific finding that coal contributed less to particle matter and dust than salt and soil. He noted that the results of the LHDDS boosted the credibility of Port Waratah Coal Services' dust characterisation results, reported to the Orica community reference group. The results indicated that coal was a minor contributor to dust levels. The Chair noted that it was reasonable for community members to be over-awed by the science in the Lower Hunter air quality studies, especially on first hearing the complex information provided in the results. He commended the studies for providing high quality scientific evidence, previously unavailable, to assist air quality management. A/Prof Bridgman confirmed the benefit of the studies' results in assisting the understanding and management of air quality. He reminded the Committee that the LHPCS measured carbon, rather than coal, noting that coal is difficult to identify with certainty in very fine particulate matter. He noted that the University of Newcastle had developed a helium-based scanning electron microscope that could characterise particle matter without destroying the sample. The researchers were seeking particle samples to assist in testing and developing the technology. A/Prof Bridgman suggested the Committee consider facilitating the acquisition of particle samples for the analysis. **Action 4. A/Prof Bridgman to provide information to the Committee, explaining the potential of the University of Newcastle's helium-based scanning electron microscope to identify the composition of particulate matter in Newcastle.**
Item 6	**Air Quality in Newcastle: Autumn 2016** Mr Thompson noted the key points in the Newcastle air quality newsletter for autumn: • Air quality was generally good from 1 March to 31 May 2016. • Levels of fine particulate matter $PM_{2.5}$ (particles less than or equal to 2.5 micrometres (µm) in diameter), nitrogen dioxide, sulfur dioxide and ammonia were all below benchmark concentrations. • Stockton recorded 21 days with PM_{10} levels (particles less than or equal to 10 µm in diameter) above the 50 µg/m^3 benchmark. Maximum daily levels ranged from 50.1 to 79.7 µg/m^3 and averaged 58.6 µg/m^3. More days over the PM_{10} benchmark were recorded in autumn 2016 than in previous autumn periods. • Stockton recorded elevated hourly PM_{10} levels (>75 µg/m^3) 8.2 % of the time during autumn, predominantly under onshore north-east winds.

	• Elevated hourly PM_{10} and $PM_{2.5}$ levels from the northwest, northeast and southeast may have been influenced by hazard reduction burns in the region as well as sea salt and emissions from nearby industrial sources. • The region experienced the warmest autumn on record, with rainfall very much below average and lower than the previous three autumn periods. Committee members praised the OEH for the newsletter's good balance of information presented. Some Committee members noted that, as in summer, the PM_{10} levels at Stockton were higher than the other five sites, where levels were generally similar. The OEH reiterated that the proximity of the Stockton site to the ocean resulted in a greater impact of salt particles on PM_{10} levels during onshore winds. Mr Craig reiterated that the impact of industrial emissions remained a concern among Stockton residents. Some Committee members agreed that there was repetition in the report and that the wind rose and pollution rose diagrams were difficult to interpret. **Recommendation 1. The OEH to provide guidance on how to read wind rose and pollution rose diagrams, in future air quality newsletters.** A/Prof Bridgman noted that the pattern of wind directions at Wallsend contrasted with the general pattern at the other five sites. The EPA suggested that local topography may influence air flows at Wallsend. **Recommendation 2: The OEH to comment on the wind pattern at Wallsend compared with other sites, in future air quality newsletters**. The Chair thanked the Mr Thompson and commended the report.

Item 7	**Air Quality and Health**
	Dr Dalton presented an overview of the impacts of airborne particulate matter on human health, drawing on the best available international and Australian research.
	Dr Dalton explained the relationship between the physical health risk, physical and psychological suffering and the way we talk about the health risk. He noted that public conversations which minimised the physical health risk, when the risk was actually high, could result in excess physical suffering. Similarly, conversations which exaggerated the physical health risk, when the actual risk was low, could result in excess psychological suffering.
	Key points included:
	• Numerous scientific studies have linked particle pollution exposure to a variety of health problems, including:
	  • increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing
	  • decreased lung function
	  • aggravated asthma
	  • development of chronic bronchitis
	  • irregular heartbeat
	  • lung cancer
	  • ischemic heart disease and stroke, and
	  • premature deaths, especially in people with heart or lung disease.

	• Researchers have concluded that there is no threshold of safe exposure to particulate air pollution. This means that there is no evidence for a level of ambient particulate air pollution below which there is no health impact. • Old models of air pollution impact focused on respiratory diseases and assumed that the lungs were an impenetrable barrier to particles. New models assumed that the smaller the particle, the deeper into the lungs and bloodstream the particle could travel. Particles smaller than $PM_{2.5}$ are believed to cause a body-wide inflammation of tissue and constriction of blood vessels. Particles of 0.65 µm to 1.1 µm diameter can rupture cell membranes. • Airborne particles from crustal sources, such as mining, are larger than one µm in diameter (PM_1), generally. Particles from combustion in diesel engines generally are smaller than PM_1. • Diesel exhaust contains numerous dangerous compounds, ranging from respiratory irritants to carcinogens, including air toxics, carbon monoxide and nitrogen oxides. • Research on the health impacts of particles in NSW found that particles from combustion of fossil fuels generally were considered more harmful than particles from crustal sources. [Reference: '*Review of health impacts of emission sources, types and levels of particulate matter in ambient air in NSW*', published by the Woolcock Institute of Medical Research, Centre of Air Quality and Health Research and Evaluation, December 2015]. **Action 5. The EPA to circulate to Committee members an extract from a report on the health impacts of emission sources and levels of particulate matter in NSW, published by the Centre for Air Quality and Health Research and Evaluation, in December 2015, and a link to the report.** • Woodsmoke can have concentrated local impacts on health. Actions to reduce woodsmoke in Launceston, Tasmania, led to a 40% reduction in hospital admissions. **Action 6. The EPA to provide to the Committee the findings of EPA's research into the community attitudes to wood smoke in the Upper Hunter.** • There are numerous types of health studies. The best studies of health and air pollution focus on very large populations. • Epidemiological studies which examine the relationships between local pollution levels and local health effects can provide locally relevant data. However, epidemiological studies can miss small health impacts when the study size is small. • Health Risk Assessments use concentration response functions (CRFs) from overseas studies to estimate health impacts of air pollution in Australia. The studies assume that the overseas conditions of pollution and populations are transferrable directly to Australian conditions. CRFs are useful for assessing incremental impacts of increases or decreases in pollution levels. • Research by Pope (*et al.* 2002), on a large population in the United States, found that for every 10 $\mu g/m^3$ increase in $PM_{2\cdot5}$ there was a 6% increase in the long term death rate (age 30+ years from all non-violent causes). [Reference: 'Lung cancer, cardiopulmonary mortality, and long-term exposure to fine particulate air pollution', by Cope, C.A., RT Burnett, R.T., Calle, E. E., Krewski, D. and Thurston, G.D., *The Journal of the American Medical Association*, Volume 287 (9), pp 1132-1141].

	• The Hunter New England Area Health Service Study, in May 2010, studied diseases and causes of death potentially associated with air pollution. The study compared emergency department visits, hospital admissions, mortality and cancer in Hunter New England residents within area clusters and other parts of NSW:
	  ○ The rates of presentation for all respiratory illnesses in Muswellbrook and Singleton postcodes ranked below those of Tamworth, Gunnedah and Cessnock in all age groups.
	  ○ Muswellbrook area had high rates for emergency department presentation for asthma but rates in Tamworth and Gunnedah were higher.
	  ○ Singleton ranked highly for rates of emergency department presentations for asthma in people aged 15-64 years.
	  ○ Muswellbrook and Singleton were equally highly ranked for rates of emergency department presentations for conditions unrelated to air pollution.
	• Asthma is one of the most difficult health conditions to study. A study of 2,000 asthmatic children across Europe during winter 1993-1994 found that annual average PM_{10} levels ranged from 11 µg/m^3 in Oslo to 99 µg/m^3 in Athens, but no clear impacts of PM_{10}, black smoke, SO_2 or NO_2 were detected. [Reference: '*Daily variations in air pollution and respiratory health in a multicentre study: the PEACE project*', European Respiratory Journal, 1998: Vol 12: pp 1354-1361].
	• Research is focusing on microenvironment and local impacts such as indoor air pollution from unflued gas heaters, wood heaters and near-road impacts of vehicle emissions.
	• Australian cities are among the least polluted, compared with cities in the world's biggest economies such as India, China, USA, Russia, Germany and Britain.
	The Chair asked whether inhaled $PM_{2.5}$ particles stayed in the human body forever or would they dissolve. Dr Dalton explained that some residual components of the particle may enter the blood stream and cause inflammation.
	Mr Kibble asked how good we could expect air quality to be in an industrial city and whether the results of the recent air quality studies might serve to raise anxiety about pollution levels that were good by world standards.
	Mr Gilligan acknowledged the inherent health risk of particles in local air quality, including the impacts of recent hazard reduction burns in the Sydney area. The EPA intends to continue actions to reduce particle emissions where possible.
	The Chair acknowledged the role of education in increasing community awareness of how to reduce exposure to particle emissions.
	A/Prof Bridgman offered to give a presentation on indoor air quality at the next Committee meeting.
	Action 7. A/Prof Bridgman to give a presentation on indoor air quality at the next Committee meeting.
	The Chair thanked Dr Dalton for the presentation.

Item 8	**Update on Evaluation of the Committee** Mr Gilligan reminded the Committee that the first stage of the EPA's procedure for evaluating its community consultative committee commenced in October 2015. The NCCCE members completed a survey to evaluate of the committee's performance. A summary of survey responses was presented to the Committee at its February meeting.

	The NCCCE also contributed to the planning of the EPA's evaluation procedure in October 2015. The second stage of the procedure intended to engage external stakeholders in an evaluation of the NCCCE. Mr Gilligan advised that the EPA intended to build its Stakeholder Engagement procedures in general, before continuing with the evaluation of its community consultative committees. Mr Gilligan advised that the EPA would keep the Committee informed as information became available. **Action 8: The EPA to keep the Committee informed on the EPA's development of a process to evaluate its community consultative committees.**
Item 9	**Update on Local Environment Issues** • **Williamtown groundwater contamination** Mr Gilligan advised that the EPA was reviewing an environmental site investigation report and a draft human health risk assessment, prepared by consultants for the Department of Defence. The findings of the reports would inform the EPA's decisions about the extent of the investigation area. Further discussion of other local environmental issues was deferred to the next meeting.
Item 10	**General Business** Ms Woodroffe provided an update on environmental management priorities at Orica Kooragang Island, specifically the remediation of arsenic contamination of soil and groundwater and actions to reduce $PM_{2.5}$ emissions. Key points included the following: • Orica submitted a Remedial Action Plan to the Department of Planning and Environment, to construct a containment system to enclose arsenic-contaminated soil, in an area of approximately 70 by 50 metres, in the north-west section of Orica's Kooragang Island site. The plan presents the engineering design for works to be completed by December 2017. The works involve constructing walls in trenches, to about 12 metres depth, stabilised and capped with low permeability clay, to maximise runoff and minimise groundwater flow. The surface will be 99% impenetrable by water and suited to light-load uses, such as equipment storage. Following construction, an environmental management plan will guide monitoring and assessment of the effectiveness of the containment system. • The LHPCS quantified the contribution of primary ammonium nitrate from Orica to $PM_{2.5}$ levels at the Stockton air quality monitoring station, during winter 2014.Orica has now funded the characterisation of $PM_{2.5}$ samples from Stockton, collected during April to September in 2015 and 2016. The results will allow Orica to assess the effectiveness of works undertaken to reduce $PM_{2.5}$ emissions since completion of the LHPCS. • Orica continues to assess different technologies for reducing $PM_{2.5}$ emissions. The Chair thanked Ms Woodroffe for the information. A/Prof Bridgman informed the Committee that the results of the Lower Hunter air quality studies would be presented at the next workshop of the Aerosol Association of Australian to be held in Brisbane. A summary also would be published in November

	2016, in *Clean Air and Climate Change*, the journal of the Clean Air Association of Australia and New Zealand. The Chair thanked the presenters and Committee members for their contributions.
Item 11	**Next Meeting** 19 October 2016
Meeting ended at 8.00 pm	

ACTION ITEM LOG **NCCCE MEETING NO. 43, 20 July 2016**	**DUE**	**RESP**
Action 1. The EPA to provide regular updates to the Committee on the development of a smart phone or tablet application to show the location and environmental performance of local industries.	As available	EPA
Action 2. The EPA to provide to the Committee a link to the NSW Department of Planning and Environment's Major Projects web page.	ASAP	EPA
Action 3. The EPA to circulate to the Committee an electronic copy of the EPA's feedback on the Stockton community meeting, hosted by the EPA and the NCCCE on 25 May 2016.	ASAP	EPA
Action 4. A/Prof Bridgman (HB) to provide information to the Committee, explaining the potential of the University of Newcastle's helium-based scanning electron microscope to identify the composition of particulate matter in Newcastle**.**	19/10/16	HB
Action 5. The EPA to circulate to Committee members an extract from a report on the health impacts of emission sources and levels of particulate matter in NSW, published by the Centre for Air Quality and Health Research and Evaluation, in December 2015, and a link to the report.	ASAP	EPA
Action 6. The EPA to provide to the Committee the findings of EPA's research into the community attitudes to wood smoke in the Upper Hunter.	ASAP	EPA
Action 7. A/Prof Bridgman (HB) to give a presentation on indoor air quality at the next Committee meeting.	19/10/16	HB
Action 8: The EPA to keep the Committee informed on the EPA's development of a process to evaluate its community consultative committees.	ASAP	EPA
Recommendation 1. The OEH to provide guidance on how to read wind rose and pollution rose diagrams, in future air quality newsletters.	Update 19/10/16	OEH
Recommendation 2: The OEH to comment on the wind pattern at Wallsend compared with other sites, in future air quality newsletters.	Update 19/10/16	OEH