

MEETING No. 25

**Newcastle Community Consultative Committee on the Environment
(NCCCE)**

**MEETING
MINUTES**

Date: 12 March 2014 **Time:** 5:30 pm

File: DOC14/33674-01; EF13/8723

Location: Skylights Room, Panthers Club, King Street, Newcastle West.

In attendance: John Tate (Chair), Keith Craig (Community), Adam Gilligan (Newcastle City Council), Nick Godfrey-Smith (Industry), Paul McBain (Minister’s Nominee), Paul Thomas (Industry), Zoe Rogers (Environment),
Mitchell Bennett (EPA Acting Manager Hunter Region), Leanne Graham (EPA Project Officer)

Guests: University of Technology Sydney (UTS): Professor Louise Ryan, Distinguished Professor of Statistics; Alan Malecki
EPA: Barry Buffier (CEO and Chair), Giselle Howard (Director Metropolitan)
Community Representatives: Rick Banyard, George Barnes, Susan Bradley, Claire Charles, Dr Craig Dalton, Jan Davis, Dr Ben Ewald, John Hayes, A/Prof Nick Higginbotham, Lyn Kilby, Dr John MacKenzie, Charlotte McCabe, Terry McCauley, Fee Mozeley, John Nella, John Sutton
Industry Representatives: Matt Brown, Leanne Cross, Brad Deane, David Frith, Stephen Gowan, Michelle Manditch, Peter Scott

Meeting Record

| Agenda Item | Meeting Details |
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| | Acknowledgement of Country |
| Item 1 | Welcome and Introductions The Chair welcomed Professor Louise Ryan, invited guests and committee members. |
| Item 2 | Opening Remarks - Barry Buffier Mr Buffier welcomed Professor Ryan, Distinguished Professor of Statistics, at the University of Technology Sydney, an internationally recognised expert on issues of environmental contaminants and human health. It was noted that NSW Chief Scientist and Engineer Professor Mary O’Kane had recommended Prof Ryan to undertake the investigation/review of the ARTC dust study results. |

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| | <p>Mr Buffier outlined the key issues preceding Prof Ryan’s investigation.</p> <ul style="list-style-type: none"> • In response to increasing community concern regarding particulate emissions from coal trains operating on the NSW network, a Pollution Reduction Program (PRP) was placed on the Australian Rail Track Corporation’s (ARTC) Environment Protection Licence. • The PRP required ARTC to undertake a pilot program to monitor dust generated by train movements along the Hunter Valley rail network. • The EPA required ARTC to undertake a second study to verify the results of the pilot program, due to above average rainfall during the monitoring period of the first study. • Dr Luke Knibbs, Research Fellow, School of Population Health, University of Queensland, conducted an independent peer review of the second study and raised concerns regarding the statistical analysis. • The EPA engaged Prof Ryan to review the second report and re-analyse the data. <p>Mr Buffier then invited Prof Ryan to present the findings of her investigation.</p> |
| <p>Item 3</p> | <p>Presentation - Professor Louise Ryan, University of Technology Sydney</p> <p>Prof Ryan noted that particulate matter concentrations were recorded every six seconds over two months and measured as total suspended particulates (TSP) and PM₁₀, PM_{2.5} and PM₁.</p> <p>The analysis compared variations in particle concentrations with the passage of loaded and unloaded coal trains, freight trains and passenger trains.</p> <p>Prof Ryan presented her findings, making the following key points:</p> <ul style="list-style-type: none"> • The data set from the single monitoring site was adequate to answer the questions of interest with regard to that location. Multiple monitoring sites would have helped to draw conclusions with regard to impacts along the rail corridor in general. • The data were reanalysed using regression analysis which allowed consideration of the effects on particle levels from variables including train type, train speed, time of day, day of week, and wind speed and direction. • The raw data set showed highly variable particle levels, including extreme peaks. The raw data values were converted to logarithmic values for the analysis. This approach is commonly used when analysing environmental exposure data which is often highly skewed by extreme values. • Several sensitivity analyses showed that train type, train speed, time of day, wind speed and wind direction all affected the levels of particle concentration. However, the influence of these variables did not change the overall results. • In conclusion, results showed: <ul style="list-style-type: none"> ○ Levels of all particle types increased significantly when all train types passed by the monitoring station. The statistically significant increase supported the conclusion that the passage of the trains produced the increase in particle levels. |

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| | <ul style="list-style-type: none"> ○ There was no evidence that loaded coal trains produced higher particle levels than unloaded coal trains or freight trains. ○ Wind direction has a significant influence on background particulate levels but did not change the overall results. <p>Prof Ryan also observed that:</p> <ul style="list-style-type: none"> ● Particle levels associated with unloaded coal trains often were higher than particle levels associated with loaded coal trains, although the differences were not statistically significant. ● Significantly higher particle levels occurred before all known train types arrived at the monitor and remained high for a period after the trains passed. ● The strong increase in levels of smaller particles, PM_{2.5} and PM₁, suggested that particles from diesel combustion may account for some peaks in particulate concentrations as trains pass the monitors. <p>Prof Ryan noted potential factors for consideration in any further investigation:</p> <ul style="list-style-type: none"> ● Multiple locations, including rail corridors with no coal trains. ● The number of locomotives on each train. ● The exposure profile, that is, the change in particle levels as various train types, as well as individual trains, pass the monitor. ● The movements of maintenance vehicles that pass the monitor. <p>In discussion, the participants offered relevant local knowledge and insights:</p> <ul style="list-style-type: none"> ● Variations exist within train types. For example, eight types of coal train may be identified. ● Information on locomotive numbers, types and age may be identified. ● Site specific factors, such as culverts and cuttings, may affect wind speed and direction along the rail corridor. ● Varying distances between the monitor and trains on each track may affect the results ● Trackwork schedules may indicate potential monitoring periods for recording background levels of particles. ● Regional air quality monitoring stations operated by the Office of Environment and Heritage may provide time series data for background profiles. <p>The Chair thanked Prof Ryan for her presentation and thanked participants for their contribution.</p> |
| <p>Item 4</p> | <p>Where to Next? – EPA Chair and CEO</p> <p>Mr Buffier thanked Prof Ryan and attendees for their enthusiasm, acknowledging the complexity of the work and the value of community input to inform the analysis.</p> <p>Mr Buffier confirmed that the EPA would engage with Prof Ryan and the community to further investigate the key issues around coal trains and particulate matter. Issues to understand included sources of particles on the rail track and the role of diesel emissions.</p> |

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| | <p>Mr Buffier also acknowledged the role of NCCCE in ensuring community input into current EPA air quality studies in Newcastle and in ensuring agreement around the questions to be asked of the research.</p> <p>In outlining the future, Mr Buffier confirmed that air quality is a priority issue for the EPA, as reflected in its \$10 million investment in air quality projects including:</p> <ul style="list-style-type: none"> i. Leading the National Plan for Clean Air, a forum which advises the Commonwealth Government on National Environmental Protection Measures and on actions to reduce particle emissions. For example, the forum recommended that the PM_{2.5} ambient air quality guideline is adopted as a national standard. ii. Implementing the Upper Hunter Air Quality Action Plan, with an air quality target to achieve annual average PM_{2.5} levels of 8 micrograms per cubic metre. iii. Expanding the air quality monitoring network in Newcastle. iv. Implementing the Newcastle particle characterisation and dust deposition studies. <p>In conclusion, Mr Buffier confirmed the EPA's commitment to achieving air quality levels in Newcastle as good as or better than the national standards.</p> |
| Item 5 | <p>Wrap Up and Meeting Close - NCCCE Chair</p> <p>The Chair thanked Mr Buffier, Prof Ryan, EPA, NCCCE members and guests for their participation.</p> <p>The Chair commended the EPA's investment in air quality projects in Newcastle and acknowledged the contributions of the NCCCE members and the community.</p> |
| | <p>Next Meeting</p> <p>Date: Wednesday 9 April 2014.</p> <p>Location: EPA Conference Room, Ground Floor, 117 Bull Street, Newcastle West</p> <p>Time: 5:30 pm to 7:30 pm</p> |
| <p>Meeting ended at 7:35 pm</p> | |