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COMMUNICATE INNOVATE COLLABORATE FACILITATE NEGOTIATE MEDIATE EDUCATE

M4 East Air Quality Community Consultative Committee– Meeting 4

Meeting:	M4 East Air Quality Community Consultative Committee	
Date:	Tuesday, 5 June 2018	
Time:	Arrive at 5:45pm for 6.00pm	
Location:	Massey Park Golf Club Ian Parade, Concord NSW 2137	
Attendees:	Independent Chair	Stephen Lancken
	Notetaker	Zeynep Selcuk
	Sydney Motorway Corporation Representatives (SMC)	
	RMS Representatives	
	ECJ Representatives	
	Ecotech Representatives	
	A.N.E. Representative	
	Inner West Council Representative	
	Strathfield Council Representatives	
	Roads & Maritime Representative	
	Community Members	
Apologies	Community Member Canada Bay Council Representative	

Meeting Notes

Key Matters Discussed and Presented

WELCOME AND INTRODUCTIONS

1. Welcome and introduction by Independent Chair (IC).
2. Apologies noted

AIR QUALITY MONITORING DISCUSSION

1. Discussion on Air Quality Monitoring – what is monitored and why by Ecotech & A.N.E. Representatives
2. Overview of Air Quality Monitoring Process:
    i. The establishment and operation of air monitoring stations is undertaken in accordance with Australian Standards and undertaken by an organisation that is accredited by the National Association of Testing Authorities (NATA) in accordance with the Conditions of Approval (E8). NATA is the national accreditation body for Australia. NATA's role is to serve the national and public interest, by ensuring that organisations comply with relevant international and Australian standards. NATA is independent of government
    ii. Through a tender and with approval of the Sectary of Planning in consultation with AQCCC, Ecotech established and operates the air quality monitoring stations.
    iii. Ecotech monitors (by sampling and obtaining results by analysis) through a NATA accredited process
    iv. Six monitoring stations collect ambient air quality data on air pollutants including NO, NO_2, NOx, PM_{10} $PM_{2.5}$ and CO as set out in the Conditions of Approval (E8). More information on ambient air quality monitoring methodology and criteria is available at: https://www.westconnex.com.au/sites/default/files/air_quality_monitoring_methodology_criteria.pdf
    v. The frequency of ambient monitoring for each individual air pollutant is prescribed in the Conditions of Approval and in accordance with Australian Standards. Ambient air quality goals are set by the National Environment Protection Council (NEPC).
    vi. The results of hourly updated real-time ambient data monitoring are fed directly to the WestConnex website: http://airodis.ecotech.com.au/westconnex/index.html?site=0&station=0
    vii. The data is verified through a verification process that includes:
        - Removal of clearly incorrect data
        - Corrections for instrument "drift"
        - Corrections for offsets
        - Removal of data acquired during calibration period and

- removal of data during service and maintenance periods.

viii. The reports are validated monthly and can be downloaded at: https://www.westconnex.com.au/air-quality

i. As stipulated in E24 of the Conditions of Approval, SMC must appoint an external auditor. The choice of Auditor must be approved by the Secretary of Planning (DPE) in consultation with the Environment Protection Authority (EPA) and the AQCCC.

ix. That external auditor is Air Noise Environment (A.N.E).

x. An air quality auditor must ensure that operating procedures, and monitoring processes comply with NATA and that the data is accurately recorded.

2. Questions and Comments:

ii. A comment was made that it would be helpful for the AQCCC to understand why the Conditions of Approval stipulate monitoring of specific air pollutants and how that decision is made.

- Noted

iii. Is it possible to have DPE & EPA representatives attend and AQCCC meeting?

- Yes. Agencies will be invited when appropriate to the discussion of the meeting.

iv. Who decides what air pollutants are monitored, monitoring intervals and monitoring goals?

- DPE, EPA and NEPC

v. How does DPE & EPA decide which air pollutants are monitored?

- Those air pollutants that are linked to motor vehicles.

vi. What does data validation mean?

- Data checks to ensure maximum data integrity is maintained. Any equipment failures are communicated to the responsible field engineers for urgent rectification.

vii. How is the air quality data validated?

- Ecotech performs daily data checks to ensure maximum data capture rates are maintained. Any equipment failures are communicated to the responsible field engineers for urgent rectification. Ecotech maintains two distinct databases containing non-validated (raw data) and validated data.
- The validated database is created by duplicating the non-validated database and then flagging data affected by instrument faults, calibrations and other maintenance activities. The data validation software requires the analyst to supply a valid reason (e.g. backed by maintenance notes, calibration sheets etc.) in the database for flagging any data as invalid.
- Details of all invalid or missing data are recorded. Validation is performed by the analyst, and the validation is reviewed. Graphs and tables are generated based on the validated five minutes and one-hour data as appropriate
- In short, validation includes:
    - Removal of clearly incorrect data

- Corrections for instrument drift
- Corrections for offsets
- Removal of data acquired during calibration period and
- removal of data during services and maintenance periods.

iii. It was noted that air quality data for May had not yet been validated.

iv. How is a negative reading recorded?

- Measurement uncertainty – the data is accurate within a range.
- PM10 is measured on a filter over a period of time. The instrument is heated and volatiles evaporate from the filter and therefore the mass during the measurement period is recorded as a negative if the total amount of volatiles by mass (which evaporates) exceeds the PM10 on the filter.
- The negative readings must be included in the averaging to ensure an accurate estimation of PM10.

v. What is meant by volatile?

- A substances volatility in terms of substance i.e. its vaporescence.
- In the context of air pollutants, it is **not** used to describe its impacts i.e. dangerous, threatening etc.
- The most common volatile encountered at the monitoring stations is water.

vi. What causes the spikes in air monitoring data?

- Air quality is affected by a range of pollutants. Sometimes activity directly in the area can affect readings. For example, pollen from plants, or a whipper snipper is being used close to the monitoring station. Bush fires and backburning can have a significant effect on air quality. Sometimes the effect can be delayed and is dependent on wind speed and direction. For example, the bushfires and backburning by the NSW Rural Fire Service.

vii. What does the auditing process involve?

- The auditor is responsible for checking that, in collecting and reporting air quality data, the procedures were followed and are appropriate to the standards so that the data can be relied upon. The auditor will consider the validity of the data in light of many things including:
  - Relationships between pollutants.
  - The impact of air pollution episodes.
  - The context of the results in the overall pollution climate of the general area
  - National and regional pollutant patterns. Long-term trends.

viii. A community member commented that the purpose of monitoring air quality data one year out from tunnel operation was to create a baseline to measure against post operation air quality.

ix. A community member commented that there is community concern that children at Haberfield are exposed to construction dust during afternoon transit times.

- WestConnex construction sites are required to implement strategies to minimize dust. These include enclosed acoustic sheds for tunnel spoil removal and dust control measures on surface sites including covering or stabilising stockpiles and watering open excavations to minimise dust.
- The next stage of construction near Haberfield Public School involves constructing a spoil removal site which will be enclosed in an acoustic shed.

x. What happens if an exceedance of air pollutants is identified by the monitoring?

- The provisions of E10, E11 and E12 of the Conditions of Approval apply from date of operation. There are range of measures which require notification and reporting if limits are exceeded. As well as reporting, the proponent must detail the likely cause of the exceedance, whether the tunnel was a major contributor to the exceedance and the steps to be taken to prevent recurrence.

xi. Have any exceedances been reported?

- Yes. PM_{10} and $PM_{2.5}$ exceedances have been recorded in February and March with each exceedance believed to be a result of bushfires.
- Generally, if PM_{10} goes up in one area it goes up at many sites. This is the case for bushfires which are regional events in terms of air quality impacts.
- 6 monitoring sites monitored against regional sites (within approximately 20kms). Data shows same pattern and same spikes across the different stations.
- Four monthly reports are currently available on the website: https://www.westconnex.com.au/air-quality
- The first 4 months of monitoring are showing a trend of $PM_{2.5}$ potentially exceeding the annual average of 8 $\mu g/m^3$.
- The independent auditor noted that similar readings were being recorded across different cities across Australia and that a broader government strategy will be required to lower $PM_{2.5}$ levels to 8 $\mu g/m^3$ which is considered to be a highly aspirational target.

xii. A community member expressed concern that use of explosives during tunneling could result $PM_{2.5}$ to travel on dust particles.

- Explosives have not and will not be used on the project.

xiii. As was discussed in the last AQCCC meeting, there is community concern about construction activity contributing to inaccurate readings that could contribute to inaccurate baseline data. As was clarified at the previous meeting:

- There is some impact of construction activities with some increase in local traffic from trucks etc.

- The monitoring sites are not located directly adjacent to the main construction sites.
- Dust from construction is made up of particles predominantly larger than PM_{10} which is the largest size of particles that is measured by the monitoring conducted for the project.

xiv. A community member commented that for the purposes of the AQCCC, it does not matter whether the air quality is good or not now. The purpose is to compare it to post operation data to see if the ventilation stacks impact air quality.

xv. If there is an exceedance what can the operators do post construction?

- If there is an exceedance, the proponent may have to implement changes to the tunnel operation and the ventilation systems. The report identifying potential changes that could be made is currently being prepared in accordance with Condition of Approval B5
- SMC are preparing the Ambient Air Quality Goal Protocols as stipulated by E10 of Conditions of Approval.

xvi. Why were air filtration systems not included in the design of the tunnels?

- The tunnels are engineered so that filtration systems are not required. Very few tunnels in the world are fitted with filtration systems. There are around 60 installations worldwide of particulate filtration systems which is less than 1 tenth of 1% of all tunnels. Only a portion of these are actually operated. For example, Norway has approximately 1000 road tunnels with 8 of these having particulate filtration installations. These were provided because of the use of studded tyres (for cold climates) and the reduced visibility in the tunnels created by the tyre degradation. Therefore these installation are only operated at certain times of the year and for short periods only.

- Refer to the Chief Scientist and Engineer website report on filtration http://www.chiefscientist.nsw.gov.au/__data/assets/pdf_file/0008/54791/Road-Tunnels_TP08_Options_for_treating_road_tunnel_emissions.pdf

xvii. Council expressed concern that there are plans to build high rise apartments on Parramatta Road and Pomeroy Street in close vicinity to ventilation stacks. If such buildings are approved, will the height of ventilation stacks need to increase?

- Under Condition of Approval E18, SMC must assist councils in developing an air quality assessment process for inclusion in a Development Control Plan for new developments which are close to the project ventilation outlets.

xviii. Can councils approve a development application without knowledge of these restrictions?

- Refer to previous answer

xix. What happens to air pollutants once they are emitted from the ventilation stack?

- Pollutants disperse into the surrounding air.

xx. Is there a 3-D dispersion model would help illustrate what happens to the pollutants once they are emitted from the ventilation stacks?

- The modelling does not provide a 3-D representation of pollution dispersion. The model is designed to predict the changes in pollution at ground level (where the people are) and even though the model is in effect 3-D, the results are presented as ground level concentrations. These modelling outputs are presented in the EIS.

MEETING DATES FOR 2018

- **NEXT MEETING** Tuesday 28 August
- Tuesday 20 November

MEETING CLOSED AT 8 PM

ACTIONS ARISING

	Actions Arising	Timeframe
1.	IC to contact the Department of Planning or other authorities be advised of public concerns about general pollution from the project	Addressed
2.	SMC to email Ambient Air Quality Goal Protocol to IC for distribution	In the lead up to next meeting
3.	AQCCC members invited to share website design ideas with SMC via email through the IC	On going
4.	SMC to provide Project info line and email to Council representatives so they can pass on to residents if contacted	Next meeting
5.	AQCCC members invited to email suggestions for future agenda items	Before next meeting and on-going
6.	SMC to consider clear warnings of anomaly or exceedance where the data is shown, when web site redesigned.	Ongoing
7.	SMC to consider whether simple explanation of sources of pollution can be included on web site and whether there can be an education program.	Ongoing
8.	SMC to consider and advise if more information can be provided to AQCCC and public in a simple and easily accessible format.	Ongoing

These minutes have been accepted on 30 August 2018 by:

Steve Lancken

Stephen Lancken

Independent Chair