

## 1 Connection of twin tunnels to a ventilation system at the Southern Interchange.

There is not one single scrap of tangible evidence in the EIS of any intention to connect either of the twin tunnels to the ventilation stack at the Southern Interchange. When this lack of evidence was raised with NorthConnex we were advised that this was merely an oversight. They subsequently drew an arbitrary line on their display photographs to show a connection. This is not satisfactory.

*EIS Page vii Certification*

*Declaration:*

*I certify that I have prepared this environmental impact statement in accordance with the Director-General's Requirements dated 11 April 2014. The environmental impact statement contains all available information that is relevant to the environmental assessment of the infrastructure to which the statement related. To the best of my knowledge, the information contained in the environmental impact statement is neither false nor misleading.*

**Name:** Scott Jeffries Todd Brookes

**Date:** 02 July 2014

In order to satisfy this declaration the missing information, including diagrams and descriptions, needs to be provided to the community with additional time to allow for public scrutiny.

The NorthConnex website now has a new section purportedly "Addressing misconceptions about the project" and yet this issue is not addressed. **Is that because it is not a misconception and there is no intention to connect either tunnel to the ventilation system and that NorthConnex has no intention of putting anything in writing?**

### Requirement 1

**The twin tunnels MUST be connected to a filtered ventilation stack at the Southern Interchange. Documented evidence must be provided with details describing and demonstrating how the connection will work. Time for public scrutiny must be provided.**

## 2 Filtration of air pollutants from within the tunnels and at the exit portals

NorthConnex repeatedly write and state, both in the EIS and in public forums, that the tunnels and ventilation systems have been designed according to "world best practice" and "international standards". This is not true. First World countries such as Norway, Spain and Japan design tunnels according to "world best practice". In fact they are the leaders of "world best practice". Their tunnels are designed and constructed with air filtration systems currently removing 80-95% of air pollutants **and they are researching ways of improving on this.** Japan has over 50 tunnels, all with "world best practice" air filtration systems.

Why has Australia not sort advice and expertise from countries who are clearly world leaders with regard to air filtration systems? New Zealand is not one of these countries.

The bald assertion "*There is no tunnel ventilation outlet in Australia that has filtration*" is a disgraceful indictment on Australia governments and Australian standards. Why do Australian tunnels not conform to "world best practice"? Why has Third World infrastructure been visited on the Australian people? It is time that this disgraceful practice stopped.

### Requirement 2

**That NorthConnex be required to investigate "world best practice" in air filtration systems and that the best possible air filtration systems be installed in all Australian Tunnels starting with the proposed NorthConnex twin tunnels.**

### 3 Targeting of emission sources will provide ongoing improvement in air quality

The statement that “the NSW Government is continuing to target emissions at the source, the vehicles themselves, through a range of measures .... including better fuels, improved technology and stringent emission standards” is pure nonsense. The very reason that we now have such tiny particulate matter is because the fuels have been so refined and vehicles have become so fuel efficient. The better our technology, the tinier and more harmful the emissions will become. The ONLY solution for this problem is to install well-designed air filtration systems in the tunnels. It is my opinion that the construction of tunnels without air filtration is tantamount to criminal neglect on the part of our Federal and State governments. Where is their duty of care?

#### Requirement 3

**The governments of Australia, both Federal and State, must comply with their duty of care and install air filtration systems in the NorthConnex twin tunnels and retrospectively fit air filtration systems into all existing tunnels.**

### 4 Health impact for those living close to tunnel exit portals

“The human health risk assessment found the health risk due to emissions from motorway outlets would be very low.” On what research of “world best practice” or “international standard” was this NorthConnex statement based? On the internet, visit any international environment protection authority or government health research site to find ample evidence that this statement is clearly nonsense. Health systems around the world are clearly extremely concerned about the health impacts of traffic emissions.

To quote from just one internet site:

<http://informahealthcare.com/ih> ISSN:0895-8373 (print), 1091-7691 (electronic)

#### **“Particulate matter beyond mass: recent health evidence on the role of fractions, chemical constituents and sources of emission.”**

Authors Flemming R.Cassee	Dept of Environment al Health, National Institute for Public Health and the Environment, Bilthoven, The Netherlands Institute for Risk Assessment Studies, Utrecht University, Utrecht, The Netherlands
Marie-Eve Héroux	WHO European Centre for Environment and Health, Bonn, Germany
Miriam Gerlofs-Nijland	Dept of Environment al Health, National Institute for Public Health and the Environment, Bilthoven, The Netherlands
Frank J. Kelly	MRC-PHE Centre for Environment and Health, King's College, London, UK

“Particulate matter (PM) is regulated in various parts of the world based on specific size cut offs, often expressed as 10 or 2.5µm mass median aerodynamic diameter. This pollutant is deemed one of the most dangerous to health and moreover, problems persist with high ambient concentrations. Continuing pressure to re-evaluate ambient air quality standards stem from research that not only has identified effects at low levels of PM but which also has revealed that reductions in certain components, sources and size fractions may best protect public health. Considerable amounts of published information have emerged from toxicology research in recent years. Accumulating evidence has identified additional air quality metrics (eg black carbon, secondary organic and inorganic aerosols) that may be valuable in evaluating the health risks of, for example, primary combustion particles from traffic emissions, which are not fully taken into account with PM2.5 mass. Most of the evidence accumulated so far is for an adverse effect on health of carbonaceous material from traffic. Traffic-generated dust, including brake and tyre wear, also contribute to the adverse effects on health. Exposure durations from a few minutes up to a year have been linked with adverse effects. New evidence collected supports the scientific conclusions of the World Health Organisation Air Quality Guidelines, and also provides scientific argument for taking decisive actions to improve air quality and reduce the global burden of disease associated with air pollution.”

This is just one research paper from world-renowned research institutions based in The Netherlands, Germany and the United Kingdom. The paper clearly states the growing volume of evidence to show that the assurances in the EIS of “world best practice” are complete nonsense. Allowing the air pollutants from twin tunnels each nine kilometres in length to spew out over Sydney suburbs at just two unfiltered ventilation stacks IS NOT WORLD BEST PRACTICE.

#### **Requirement 4**

**That the governments of Australia, both Federal and State, comply with their duty of care and properly investigate the adverse health effects of tunnel emissions.**

#### **Requirement 5**

**That the governments of Australia, both Federal and State, comply with their duty of care and ensure that all infrastructure planned for Australia is actually “world best practice” and in the best interest of Australians.**

#### **Requirement 6**

**That the governments of Australia, both Federal and State, comply with their duty of care and use taxpayer funds to protect the health and environment of Australians before allowing for the profit considerations of business.**

### **5 Cost analysis of tunnel filtration systems.**

The M5 East air filtration system was not considered “value for money”.

The filtration system was operating for only six hours each day in the ‘Trial’, yet over that short time it was removing a FULL TWO THIRDS of the pollutants from the filtered air!! Given the volume of evidence on the adverse health effects of traffic emissions on human health, the public must be informed on the criteria used to assess the value for money.

What criteria were used to decide what is “value for money”?

Were the health and well-being of Australian citizens included in the cost analysis?

Were hospital and medical costs included in the cost analysis?

Did the Government consider its duty of care when making the decision to construct other unfiltered tunnels?

Have these same cost analysis criteria been used in the decision not to filter the NorthConnex twin tunnels?

**Any cost benefit analysis must include social impact costs.**

#### **Requirement 7**

**That an independent authority undertakes a full cost analysis of the adverse health effects of polluted air from traffic emissions on human health.**

#### **Requirement 8**

**To comply with governmental duty of care, the filtration system in the M5 East tunnel must remain turned on to allow a FULL TWO THIRDS of the harmful air pollutants to be removed from the filtered air spewing into Sydney suburbs. Consideration must be given to increasing the volume of air filtered and extending the daily length of time that the filtration system runs.**

#### **Requirement 9**

**All Australian road tunnels must be retrospectively fitted with air filtration systems.**