

10 September, 2014

Director - Infrastructure Projects
Department of Planning and Environment
Number: SSI 13_6136
Major Projects Assessment
GPO Box 39
SYDNEY NSW 2001

To Whom It May Concern:

Re: NorthConnex Application Number: SSI 13 6136

Please find below my response to the exhibition of the EIS for NorthConnex.

Firstly I would like to state my strong **objection** to the project as described in the EIS.

I have a high level of concern regarding the following issues and request that these be considered by NorthConnex and the Department of Planning. In regards to the NorthConnex tunnel, I am concerned about:

1. Placement of the northern ventilation stack in the centre of a densely populated residential area in Wahroonga, where 9,300 school children from 17 local schools, as well as 5 aged care facilities and 2 hospitals, all within one kilometre radius of the stack, will be exposed to the toxic discharge of the fume from the stack.
2. The large number of growing children whose will be adversely affected as they spend a large proportion of days outdoors. In addition, they will be prone to lung cancer and other forms of related cancers after exposure to cancer-causing agents from the portal emissions that are not filtered nor will be properly dispersed into the atmosphere.
3. The placement of the northern ventilation stack in a valley in Wahroonga where there are often low wind speeds, which will result in poor dispersion and exposure to community to high levels of tunnel emission.

While the EIS contains a modelling of the air dispersion of various fine particulate particles (in particular, Particulate 10 and Particulate 2.5), the wind and other weather data used in such exercise is taken from the localities of Terrey Hills and Sydney Airport, both of which are at least some 20 km away from the Wahroonga local area. Anecdotal evidence shows that, on a typical day at Wahroonga, the wind speed will normally reach a maximum of approximately 5 km/h, well short of those wind speeds contained in the data of Terrey Hills and Sydney Airport used in EIS. Hence, any conclusion reached by the EIS based on

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these wind and weather data are dubious to say the least, and should be considered entirely invalid and preposterous.

4. I am highly concerned about the multiple large scale research studies that suggest the impacts of air pollutants on health are serious. These include increased death from heart disease, increased risks of lung cancer, stroke, and poor lung growth in children, increased asthma, and recent research suggesting low birth weight for pregnant women, increased autism, and congenital heart defects. These studies confirm air pollutants have prothrombotic and inflammatory effects on humans which cause the above health problems.

Specifically, I would like to draw your attention to the following two research papers demonstrating the harmful impact of those living in the vicinity of a pollution stack:

- * “Respiratory Health Before and After the Opening of a Road Traffic Tunnel” by Cowie, Rose, Ezz, etc. published in November 2012. The source of the paper can be found at:

<http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0048921>

This particular study shows that, during the two years (2007-2008) after the opening of the Lane Cove Tunnel in 2006, the residents living near the ventilation stack of the tunnel experienced decreases in lung capacity and function.

- “The Effect of Air Pollution on Lung Development on 10-18 Years of Age” – The New England Journal of Medicine published on September 2004. The source of the paper can be found at:

<http://mail.ictf-jpa.org/publiccomment/Documents/Gauderman%202004.pdf>

This study shows that children are specifically susceptible to the damages caused by the pollution from the stack. Specifically, it demonstrates that exposures of children to the pollution will cause permanent and irreversible damage to growing lungs.

5. I am concerned about the project including future provisions for portal emissions in densely populated areas, which will result in emissions remaining at ground level, and hence exposing the local population to pollutants. I am also concerned that NorthConnex's claim that there will no portal emissions from current proposal cannot be verified.
6. I am concerned about the large amount of diesel emissions which will be emitted from the NorthConnex tunnel, as it is being designed for heavy freight to bypass Pennant Hills Rd. Diesel emissions have been classified as carcinogenic by the World Health Organization, and also contain a larger number of fine particles which penetrate deep into lung tissue and remain there causing inflammation.

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7. I am concerned about the air quality within the tunnel which is shown in the EIS to have exceeded above standards for pollutants such as NO₂, and haze from particulate matter at the ends of the tunnel.
8. I am concerned about the multiple flaws in the air quality modelling of the northern stack in the EIS. These include:
 - a) Extrapolation of meteorological data from other weather stations which do not reflect the local meteorology, local topography, and the valley location.
 - b) The use of a coarse topographical model
 - c) The failure to consider polluted intake air from the Pennant Hills/M2 interchange as part of the project contribution to air quality at Wahroonga
 - d) the background air quality being based on air quality at Lindfield and Prospect and the lack of any actual data on PM_{2.5}
9. I am concerned that a full and transparent options assessment process was not undertaken to assess alternative designs for the project. Unlike other tunnel projects in Sydney there are alternatives for locating the stack and portals in non-residential areas.
10. I am concerned about lack of consideration to any toxic fumes that will be emitted in case of major accidents or major fire incidences. They will be emitted unfiltered straight into residential zones.

In the year of 1999, in the Mont Blanc tunnel crossing from Italy into France, there was a major fire involving a truck carrying flour and margarine, which caused black fire and toxic smoke burning for over 3 days. Emergency personnel were unable to access the area due to 1000 deg Celsius heat and toxic fumes. There were 38 deaths in this incident.

They later installed an inspection bay to check all freight trucks before entry. Will there be any inspection points before this tunnel to check for hazardous vehicle contents?

What are the existing plans and tunnel designs that the operators of NorthConnex have to avoiding a similar accident that will cause deaths and impact on the health of nearby residents?

11. I am concerned that the justification for not providing filtration for the stacks is cursory and unconvincing.

To address my concerns I request that the following actions are undertaken:

1. The air quality and human health impact assessment need to be revised to address the issues raised above.
2. An independent options assessment process should be undertaken to assess alternative locations for the ventilation stack and portals. In particular, I noted that the official submission of the Ku-Ring Gai Council for the EIS has

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strongly recommended the stack be moved northward to an industrial and bush area and I strongly endorse this view.

The Ku-Ring Gai Council's submission can be found here:

http://datracking.kmc.nsw.gov.au/infocouncil.web/Open/2014/09/OMC_09092014_AGN_AT_WEB.HTM

3. To undertake a Life Cycle Analysis and assessment for the provision of filtration. Adequate filtration must be provided and operated to prevent the escape of toxic fumes. The additional costs should be borne by vehicles travelling through the tunnel.
4. A long term health study on children and residents in areas impacted by stack discharges be included as part of the conditions of approval.
5. A comprehensive air quality monitoring program is developed and implemented.
6. An independent review of the ventilation system is undertaken to ensure that NorthConnex's claim of no portal emissions is justified.
7. Portal emissions from NorthConnex in the future are banned.
8. The Submissions Report/Preferred Project be exhibited to allow the community to respond to the revised information contained in the report.
9. The Department does not approve the project in its current form as it clearly does not meet the principles of Ecologically Sustainable Development as required by the Environmental Planning and Assessment Act.
10. Vehicle inspection bays be installed and operated before tunnel entry points to direct vehicles carrying banned goods that will cause major fire incidents from entering the tunnel.

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