12 September 2014

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

NorthConnex Application Number: SSI 13_6136

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

Firstly I would like to state that I **object** to the project as described in the EIS.

As a professional in the field of engineering - related to tunnel ventilation and control of emissions, I am specifically concerned that not enough technical information has been provided to satisfy the potential long term adverse impacts.

It appears that the approach as was taken for M5 seems to be the solution proposed. This is unacceptable.

There are 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, 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.

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.

I am concerned that the justification for not providing **filtration** for the stacks is cursory and unconvincing. There is expertise available and respective consultants should be engaged.

I have additional concerns, as outlined below, regarding specifically in relation to the NorthConnex tunnel:

1. Placement of the northern ventilation stack in the centre of a densely populated residential area in Wahroonga, where 9,300 school children will be exposed, as well as multiple aged care facilities, hospitals, businesses and homes.

2. 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.
3. 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 Organisation, and also contain a larger number of fine particles which penetrate deep into lung tissue and remain there causing inflammation.

4. I am concerned about the air quality within the tunnel which is shown in the EIS to exceed standards for pollutants such as NO2, and haze from particulate matter at the ends of the tunnel.

5. 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 the location proposed.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.

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

1. Additional studies be carried out on all aspects of ventilation and stacks.
2. The air quality and human health impact assessment need to be revised to address the issues raised above.
3. An independent options assessment process should be undertaken to assess alternative locations for the ventilation stack and portals.
4. To undertake a Life Cycle Analysis and assessment for the provision of filtration
5. A long term health study on children and residents in areas impacted by stack discharges be included as part of the conditions of approval.
6. A comprehensive air quality monitoring program is developed and implemented.
7. An independent review of the ventilation system is undertaken to ensure that NorthConnex's claim of no portal emissions is justified.
8. Portal emissions from NorthConnex in the future are banned.
9. The Submissions Report/Preferred Project be exhibited to allow the community to respond to the revised information contained in the report.
10. 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.