Submission: Proposed T4 Coal Terminal

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The T4 environmental Assessment Report concludes that, "It is not anticipated that the T4 project will significantly affect the surrounding air quality environment." This is inaccurate and misleading. Further studies are necessary to properly assess the project.

1. Air quality is already causing health problems and T4 will double residents' exposure to dangerous particle pollution.

Ambient levels of PM_{10} and $PM_{2.5}$ already exceed the level of concern in this area. The T4 proponents allege (without proof) that these exceedances are associated with events 'such as' dust storms and fires. The environmental assessment suggests that T4's contribution will be small compared to these events. This is misleading and irrelevant. The purpose of the assessment is to predict whether an additional source of particle pollution will raise the levels above health standards. **T4 will elevate existing pollution levels and push them over the national health guideline**.

There will be twice as many coal wagons and double the volume of coal being handled on conveyor belts and loaders, causing at least double the particle pollution. Residents of Mayfield, Carrington, Tighes Hill and other Newcastle suburbs already experience elevated levels of particle pollution. Other approved projects are expected to result in elevated particle pollution levels. **The city of Newcastle should be urgently considering how to reduce particle pollution.**

2, Levels of particle pollution (PM10) are expected to exceed the applicable air quality criteria and standards (Vol.1, p. E.16). Based on modeling, the T4 proponents expect PM_{10} levels to exceed the Office of Environment and Heritage health guideline on at least two days each year. Modeling is rarely reliable and often under-estimates the actual air quality impacts. More to the point, project proponents seldom monitor and report on the actual air quality impacts to compare these to what was predicted.

Table 12.4 (p.236) demonstrates that average PM_{10} levels at all ten monitoring locations are already exceeding 50 ugm^{-3} (the national level of concern): "for the worst-case day of the year, the baseline 24 hour average concentration exceeds the relevant criterion at all assessment locations." PM_{10}. T4 is expected to add up to 11.4 ugm^{-3} during construction and 6ugm^{-3} during Stage 3 operation, pushing the level well above the level of concern. All ten sites are predicted to have a cumulative PM_{10} level above 50ugm^{-3}. These levels are averaged over 24 hours, and tell us nothing about the short-term peaks that can also be expected to result in health impacts.

It is important to note that focusing on the 'worst case day' obscures the elevated pollution levels that Newcastle residents can expect on a daily basis. While these levels may be within guidelines set by Australian governments, they will contribute to significant adverse health impacts.

3. The environmental assessment presents misleading information about adverse health impacts. There is no level of fine particle pollution below which health is not affected. Any increase in fine particle pollution directly increases health impacts such as respiratory problems. It is misleading to state that, "The OEH criteria for particulate matter are designed to protect health and wellbeing." The criteria represent a trade-off between community members

and polluting industries. Pollution levels just below the level of concern result in extensive health impacts throughout Australian communities, including a range of respiratory symptoms and the premature death of thousands of Australians. It is more misleading to suggest an increase in particle pollution levels of 3-13 ugm-3 as a result of the increased coal wagon movements is 'negligible' (Vol.1, p. E.17). A 13% increase in the incidence of asthma and other short and long-term respiratory symptoms is not 'negligible'.

4. The environmental assessment provides inadequate detail about fine particle pollution levels. It has ignored the particles that cause the worst health impacts – particles of less than one micron in diameter (PM_1) that are inhaled deep into the lungs. The assessment focuses instead on PM_{10} and Total Suspended Particulates (TSP). Twenty years ago, these air quality indicators were often the focus of air quality studies. Developments in our understanding of health and the technology available for air quality monitoring have led scientists and public health authorities to focus on the smallest particles. Instead of measuring the total mass of large particles in the atmosphere, air quality studies now count very fine particles and identify their composition. This is a more reliable indicator of health impacts than a mass indicator.

Fine particle pollution can extend a long way from point sources. By focusing on the largest particles, the Environmental Assessment concludes that pollution levels are much lower just 20 metres from the rail corridor or coal piles. This is not the case for smaller particles, though, and elevated levels of PM_1 can be expected several hundred metres from these locations. This is especially problematic as the prevailing winds blow toward residential areas.

5. The actual air quality impacts may be much worse than predicted. The T4 assessment report states that pollution will be minimised through a range of dust controls, real-time PM_{10} monitoring and a predictive air quality control system. This assurance is meaningless. Once approval is given, any level of air pollution will be acceptable to authorities; no action will be taken when actual pollution levels exceed these predictions.

The project's proponents must provide answers to these questions:
- Will coal wagon movements be stopped when fine particle pollution levels rise above the 'level of concern'?
- When this happens, will community members be advised?
- What are the consequences if T4's operation regularly results in higher than predicted levels of particle pollution?
- How will air quality monitoring results be communicated to community members? Currently, access to the data collected by Newcastle's network of air quality monitoring stations is patchy at best.

6. Further examination of air quality impacts is necessary before this project can be approved. To consider this project, it is necessary to complete a comprehensive study of existing particle pollution levels within a 2 km radius of the proposed terminal site and its rail corridor. It is not possible to consider the merits of the development without an adequate picture of the existing particle pollution.

Recommendations
This study should:
- Examine current PM_1 levels.
- Identify existing health impacts. There are well-established methodologies to identify the health impacts of particle pollution, based both on modeling and epidemiological data.
- Predict the health impacts of increased PM_1 concentrations.
- Consider the benefits of covering all coal wagons to minimise particle pollution. This has been standard practice in Europe for many years.