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8th December 2014

Dear Sir/Madam,

Submission Re Proposed Moorebank Intermodal Terminal

Reference: Application Number SSD-5066

Introduction

This is a personal submission, as invited by the NSW Government Department of Planning and Environment, in response to the exhibition document for the Moorebank Intermodal Terminal, exhibited 8th October 2014. This submission opposes the application.

Background

I am resident of Wattle Grove and have resided at this location since 1997. My family consists of my partner and myself and two boys (aged 11 and 14). My house is approximately 1,100m from the proposed site.

A large number of young families with children reside in the areas within proximity to the proposed Moorebank Intermodal Terminal, particularly within the suburbs of Wattle Grove, Holsworthy, Moorebank, Hammondville and Casula. To support this population, numerous child care centres, pre-schools, kindergartens, primary schools and high schools are located within the immediate area. There are numerous sporting fields in close proximity, catering for all sports and there is a high participation rate of local young persons in sport. Similarly, there is a very large aged care facility located at Hammondville. Many families have chosen to live and raise families in this area because the local environment is conducive to very healthy lifestyles, particularly for families, children and the elderly.

The proposed Moorebank Intermodal Terminal would have an enormously detrimental effect on the health and lifestyles of those living within proximity of the terminal, both short and long term health.

Review of Moorebank Intermodal Terminal Project Environmental Impact Statement

Although Volume 1A (page V) reports the consequences of not proceeding with the project;

1. The short and long term health consequences will much greater to the community of NSW than the benefits of the project and
2. There is an alternative to this site.

Included within Chapter 1, is a statement reporting;

“The key features/components of the Project are: an IMEX freight terminal designed to handle up to **1.05 million TEU a year (525,000 TEU inbound and 525,000 TEU outbound)** of IMEX containerised freight to service port shuttle train services between Port Botany and the Project

An interstate freight terminal – designed to handle up to **500,000 TEU a year (250,000 TEU inbound and 250,000 TEU outbound)** of interstate containerised freight to service freight trains travelling to and from regional and interstate destinations”

This information represents an extremely large number of heavy road transport movements, resulting in very large volume diesel emissions within a concentrated area and close proximity to residential areas. Similarly, a large number of diesel emissions would be created by high volume diesel locomotives.

Road access to the site is proposed to be via an already heavily congested M5 and Moorebank Avenue. Any congestion will undoubtedly result in large numbers of heavy vehicles “idling” or travelling very slowly, resulting in a magnification of diesel emissions (discussed further).

Concerning Chapter 3 and the “need for the project”, there is a clearly a strong for the project. Although there is undoubtedly a need for such a project in Sydney, Moorebank is not the right place for the terminal. There are numerous other more suitable locations across the Sydney basin. Many of the attractive aspects of the Moorebank site (including proximity to M5 and M7 roadways, rail freight corridor and warehousing and logistics locations) can be found in other locations, for example the area of large open expansive land to the south of Eastern Creek/Erskine Park. These locations are within proximity to M4/M7 roadways, 4 track main western railway line and the proposed second Sydney airport. In addition, the area is currently being utilised for large scale warehousing and is located remote from residential precincts. Such a location is in line with the various strategic plans as outlined within sections 3.5 “Existing projects/strategies that enhance the viability of the Project” and further 3.6 “Government planning and policy objectives”. I note this chapter does does not consider alternative sites.

Chapter 15 “Contamination and Soils”; The operation of such a large number of heavy transport vehicles (road/rail) associated with the normal day to day operation of a heavy freight terminal will most likely cause contaminated runoff and soil leaching (diesel fuel, oil, hydraulic fluids etc) into local water courses, resulting in contaminant spread, and impact to an area much greater than just the terminal site. I do not believe preventative measures to stop run off contamination are adequately addressed in this document and believe there is a genuine risk of contamination to a greater area external to the site. In addition to native wildlife etc, many sporting fields and residences are located in close proximity to water courses. Such contaminants are highly hazardous to life and the environment.

Chapter 17 “Local Air Quality”; It is important to note that local air quality will be impacted by the emissions of diesel powered heavy vehicles and locomotives, in quantities as described

above relative to the proposed/forecast number of container movements (ie 1.05 million TEU per year). This quantity of heavy transport movements represents the release of an enormous volume of toxic and carcinogenic emissions into the air.

As stated within the EIS, diesel emissions are known to contain Oxides of nitrogen (NO and NO₂), oxides of nitrogen (NO_x), nitric oxide (NO) and nitrogen dioxide (NO₂), Carbon monoxide(CO), Sulfur dioxide (SO₂), Volatile organic compounds (including benzene, toluene, ethylbenzene, xylene, butadiene, acetaldehyde and formaldehyde, Polycyclic aromatic hydrocarbons and lead. Emissions, can also result in the formation of harmful levels of ozone close to the earth's surface. Additionally, emissions contain arsenic, benzene, cyanide, chlorine, toluene, methanol and mercury. A further 18,000 toxic chemicals have been identified within diesel emissions.

Diesel emissions are considered so harmful, they are now considered a *Group 1 Carcinogen* by World Health Organisation. In 2012, the International Agency for Research on Cancer and the World Health Organisation reclassified diesel emissions from *probable* carcinogen to *Group 1 Carcinogen*. At the same time, World Health Organisation stated exposure to diesel emissions represented the same risks as exposure to other carcinogens such as asbestos, mustard gas and arsenic. The International Agency for Research on Cancer states the chemical methyl ethyl ketone (contained within diesel emissions) is known to cause birth defects. The chemical nitro benzan throne (also (contained within diesel emissions) is one of the most carcinogenic substances on earth. Diesel emissions are known to cause every type of cancer. This is in addition to the numerous other types of illnesses known to be caused by emissions, including many major chronic and/or terminal ailments such as emphysema, auto-immune disorders, asthma, stroke, heart and lung conditions of all types, and the underdevelopment of children's lungs.

Studies undertaken in the United States where intermodal container terminals have been built near residential areas show an alarming trend of chronic illness and disease.

Diesel emissions produce ultra-fine particles, capable of reaching into the deepest parts of the lungs. This is harmful in all persons, however it is particularly harmful to babies, infants, children, the frail and the elderly. Such a scenario is particularly harmful the large numbers of persons in this category who live in the surrounding areas.

Reference is made to the following report from Spokane Regional Clean Air Agency, released on 6 September 2011, concerning the health impacts to residents of diesel emissions produced from intermodal facilities;

“Diesel exhaust has been strongly linked to many major chronic and/or terminal ailments. These include cancer, emphysema, auto-immune disorders, asthma, stroke, heart and lung conditions of all types, and the underdevelopment of children's lungs.

Fine particles in diesel exhaust penetrate our lungs and remain there indefinitely to create and/or worsen both lung and heart conditions.

“Studies show an association between exposure to diesel exhaust and lung cancer, as well as cancers of the bladder and soft tissues (Guo et al., 2004). The immune suppressing

effects of diesel exhaust can also increase the susceptibility to cancer among those exposed. Several extensive and detailed reviews have been conducted on the body of literature relating long-term exposure to diesel exhaust particles and lung cancer (California EPA, 1998; USEPA, 2002; Cohen and Nikula, 1999). In addition, over 40 studies conducted among those populations exposed to diesel exhaust have found increased rates of lung cancer associated with diesel exhaust particles exposure (Cohen and Nikula, 1999)..."

"Exposure to diesel PM is a health hazard, particularly to children whose lungs are still developing and the elderly who may have other serious health problems. In addition, the diesel PM particles are very small. By mass, approximately 94 percent of these particles are less than 2.5 microns in diameter (PM 2.5). Because of their tiny size, diesel PM is readily respirable and can penetrate deep into the lung and enter the bloodstream, carrying with them an array of toxins. Population-based studies in hundreds of cities in the U.S. and around the world demonstrate a strong link between elevated PM levels and premature deaths (Pope et al., 1995, 2002 and 2004; Krewski et al., 2000), increased hospitalizations for respiratory and cardiovascular causes, asthma and other lower respiratory symptoms, acute bronchitis, work loss days, and minor restricted activity days (ARB, 2006e). Diesel PM emissions are the dominant toxic air contaminant (TAC) in and around a railyard facility..."

"Composition of diesel exhaust The characteristics of exhaust emitted from the combustion of diesel fuel vary according to the combustion conditions. Diesel exhaust is a complex mixture composed of particulate and gaseous components. Important gaseous components include carbon dioxide (because of its 'greenhouse' effect), carbon monoxide, sulfur oxides, nitrogen oxides, and 18,000 identified volatile and semivolatile hydrocarbon compounds. Carbon particles adsorb the majority of these compounds, which may enhance their ability to become lodged in lung tissues. Over 98% of the particles are less than 2.5 microns in diameter, and approximately 94% of those particles are less than 1 micron in diameter (California Air Resources Board, 1998). The hydrocarbon compounds adhere to these minute carbon particles during the combustion process.

The diesel exhaust particles component consists mainly of elemental carbon particles with large surface area, which adsorb numerous hydrocarbons. These hydrocarbons include carcinogenic polycyclic aromatic hydrocarbons, aldehydes, and other chemical agents. Diesel exhaust particles can also undergo atmospheric transformation after they have been emitted. For example, polycyclic aromatic hydrocarbons adhered to carbon particles may react with hydroxyl radicals in the air, and create highly mutagenic and carcinogenic nitro-polycyclic aromatic hydrocarbons (Cohen and Nikula, 1999)..."

Part 17.2 of Chapter 17 makes reference to terrain. The site and surrounding areas are partially located in "bowl/basin" causing air to accumulate in this area, thus resisting dispersal of the emissions gases, causing increased concentrations of the built up emissions to impact nearby residential areas. A historical event that occurred at the Holsworthy Army base involved the release of a gas that became entrapped in the Holsworthy area due to the local topography, resulting in numerous fatalities occurring.

The modelling within Chapter 7 does not state what the "safe" levels of emissions are.

Chapter 7 makes reference to mitigation measures concerning diesel emissions; There are no assurances that these mitigations will be effective.

The WHO reclassification of diesel emissions is quite recent (2012). The harmful effects of diesel emissions are only now just starting to be identified. I believe that it is reckless to proceed with this project, given that status of the research into diesel emissions, in particular as the world's best research cannot say what level of emissions are harmful or what levels are safe. According to WHO, there are no safe levels of diesel emissions. The further scientific research progresses, the more harmful these emissions are found to be. As stated above, in the light of the most recent research, to progress with this project would be reckless, given the potential harm likely to the health of surrounding residents.

Chapter 17 does not address the issue of emissions produced from idling heavy vehicle/locomotive engines; The United States Environmental Protection Agency considers these emissions to be the most harmful of all diesel emissions. These emissions will not only exist within the site, but will extend to the access roads to and from the site, extending the emissions footprint to a much larger area than currently forecast.

17.4.2 makes reference to an Air Quality Management Plant (yet to be developed). No assurances are made to ensure emissions are within "safe" levels for residents. Further, 17.4.2 does not state what the levels of emissions will be reduced to. Even if the stated practices contained within 17.4.2 were implemented, large quantities of diesel would still be burnt resulting in emissions to the atmosphere. "Clean fuel technology" is described within 17.4.2; Currently there are no railway operators with plans to acquire the types of locomotives as described in this section. 17.4.2 "Strategic planning and management" section proposals are for "consideration" only. The impacts of these proposals to mitigate emissions would be minimal, even if they were implemented.

Although remote sensors may be installed to monitor emissions, this does nothing to control the actual emissions nor to reduce their harmful effects on the surrounding community. Leading world agencies question the accuracy and reliability of current air sensing instrumentation, in particular the ability to capture the level of sub-microns within diesel emissions. The proposed instrumentation is only able to measure a small number of the harmful chemicals within diesel emissions.

17.5 "Summary", includes the following;

*"However, the peak ambient concentrations were already above the goals due to the influence of this bushfire activity. Importantly, the assessment predicted that no additional exceedance events would occur as a result of construction or **operational emissions** at the Project site. Overall, there is **a low likelihood of adverse local air quality impacts in the surrounding environment** arising from the construction and operation of the Project."*

Given the projected volume of useage by heavy vehicles, the above statement is neither accurate nor believable.

Similarly, within 17.5, *“Key measures proposed to manage and/or mitigate local air quality impacts include: during operation — maintenance and inspection program for all equipment, adoption of cleaner fuel technology when feasible, and ongoing monitoring of air quality.”* This statement does not go far enough and provide a complete assurance concerning the health and safety for the residents living nearby concerning emissions.

Chapter 18, “Regional Air Quality”; The statement modelling does not consider the effects of congestion likely to be caused due to the overloading of local roads around the site in conjunction with the increased volumes of heavy traffic using the site, and the effects this will have on diesel emissions. As stated above, emissions caused by heavy vehicle idling is particularly harmful.

Chapter 18 states; *“The Project is predicted to **slightly increase** some concentrations of air pollutants in the region, along roads near Moorebank and the western part of the rail corridor from Port Botany to Moorebank, as these are the primary routes for IMT transport.”*

Due to the projected increase in large volumes of heavy vehicles, it is difficult to accept how this statement can be accurate.

Chapter 25 states; *“Human Health Risks and Impacts” During both construction and operation, levels of oxides of nitrogen, sulfur dioxide, carbon monoxide, VOCs and PAHs were all estimated to be low and acceptable”.*

Due to the projected increase in large volumes of heavy vehicles, it is difficult to accept how this statement can be accurate.

Chapter 25 further states; *“Incremental impacts associated with PM 2.5 and PM 10 were evaluated through the HHRA. The evaluation calculated increased lifetime risks and the increase in the number of cases for a range of key health effects. The health effects included premature mortality (from all causes and from specific causes such as cardiovascular, respiratory disease or lung cancer and increased risks of cancer) as well as increased hospitalisations for pre - existing illnesses such as cardiovascular disease and respiratory disease. These calculations have been undertaken on the basis of established exposure effects relationships for exposure to PM 2.5 , PM 10 and diesel particulate matter (DPM, where 100% of the PM 2.5 from the site is assumed to be DPM) that are relevant to all members of the population including sensitive groups such as the elderly, young children and individuals with pre-existing illness.”*

“The Project’s additional emissions would not result in measurable changes in existing local PM 2.5 levels, with cumulative (background plus terminal) impacts subsequently not considered to be of concern.”

While acknowledging the harmful effects of emissions, Chapter 25 believes the additional emissions created by the project are *“not considered to be of concern”*. There is no evidence to support this assertion.

Similarly, Chapter 25 states; *“Overall, on the basis of the assessment conducted, cumulative and incremental impacts of the Project on the health of the adjacent community (including sensitive groups), across all years associated with construction/development and operation, are considered to be low and acceptable (essentially negligible).”*

Given the harmful effects that are known of diesel emissions and the large number of heavy vehicles that will be using the site, in close proximity to local residents, the above statement is very difficult to accept and I find this position completely unacceptable. The above statement is in complete contrast to the scientific findings of the World Health Organisations.

Interestingly, 25.5.3 states *“The assessment identified that the relocation of activities associated with the Project from Port Botany to the Project site (notably road freight) would also subsequently translocate associated impacts (e.g. the above mentioned traffic, noise and air quality impacts). This translocation of impacts would benefit the residents of Port Botany but would have a detrimental effect on those near the Project site.”*

Through its own admissions, this statement reflects the project will have adverse impacts on the residents of the Moorebank area.

25.6 “Management and Mitigation” provides little assurance concerning harmful emission impacts to the community, particularly as described by World Health Organisation. This section has failed to consider the serious impacts of health emissions. I am not satisfied there is sufficient evidence or assurance diesel emission impacts to the community will not be harmful. Figure 25.2 considers the only harmful effect of emissions to be childhood asthma and fails to consider all of the other known effects and consequences.

The 25.7 summary while mentioning some adverse health effects, fails to mention illnesses of mortality such as cancer or chemicals within emissions known to cause birth defects. Therefore, through the fail to address these serious issues, chapter 25 cannot be taken seriously.

It is well established that when diesel is burnt, the emissions go into the atmosphere. What is not established is where these emissions go. The proposal calls for 1.05 million TEU movements per year into and out of the site. This level of truck movements will cause a large concentration of diesel emissions to form in the local atmosphere, forming its own microclimate. These emissions must go somewhere, carried by air currents and thermal layers of air; it is highly probable these emissions will most likely settle over the surrounding residential areas.

A short note concerning the biodiversity aspect of the EIS; A number of sensitive native animals are located within the immediate proximity of the proposed terminal including wedge tail eagles and owls. There are also a number of endangered species within the proposed terminal site and surrounding area.

Additional concerns I have regarding this project include;

Noise, in particular squealing of wheel flanges from rail wagons, noise from containers being loaded and unloaded from trucks and rail wagons, shunting/switching of railway wagons, particularly as this is an operation that functions 24 hours a day, 7 days a week.

The presence of large overhead cranes.

Light spill.

Significant congestion, particularly due to the large number of heavy vehicles. Increased risk of road collisions.

Possibility of a spill involving a container carrying hazardous materials (a common occurrence at Port Botany and other container terminals), potentially impacting nearby residential areas.

Destruction heritage value locations.

Destruction of aboriginal significant areas.

Summary and Conclusion

As a resident of nearby Wattle Grove, the proposed project is completely unacceptable. I believe the very high volume of locomotive and heavy vehicle movements to the site will result in the release of large quantities of diesel emissions, containing numerous chemicals that are well established causers of cancer and other serious illnesses. There is no reliable way to predict what the safe levels of emissions are. There is no accurate means of predicting what the levels of emissions will be. The mitigation measures stated are little more than window dressing and do not go towards establishing assurances concerning the serious health issues associated with this project. Although there will no doubt be significant economic benefits of this project, the cost to the community through chronic health disease will be much greater than any economic benefit the project brings. The site is being built too close to too many vulnerable persons who will be exposed to risk and harm. At this time, it is known that the emissions are harmful; to proceed and build with this knowledge would be reckless. I do not believe the proposal has established the case that the terminal can operate within such close proximity to large residential areas containing many vulnerable persons within the community, involving the scenario of 1.05 million movements of containers per year and resulting toxic and carcinogenic emissions and that the community can be kept completely safe and free of harm from impact to health.

I urge the Department of Planning and Environment to reject this proposal.

Yours sincerely,

