

SIMTA Intermodal Terminal Facility- Stage 1

Response to Submissions - Human Health Addendum



SIMTA

SYDNEY INTERMODAL TERMINAL ALLIANCE

Part 4, Division 4.1, State Significant
Development

7 September 2015

Westley Owers
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Dear Westley,

Re: SIMTA Stage 1 - Review of Health Impacts for Amended Rail link Alignment

Report purpose

This addendum report has been prepared to provide further information on, and environmental assessment of, a proposed amendment to the Rail link as part of the SIMTA Stage 1 Proposal (the Proposal). This report has been prepared to support a Response to Submissions to be prepared as part of the approval process of the Proposal for State Significant Development (SSD) under Part 4, Division 4.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

This report provides an addendum to the Screening Health Impact Assessment (HIA) for SIMTA Stage 1 Proposal prepared by Pacific Environment – Toxikos May 2015 included within the Environmental Impact Statement (dated May 2015) prepared for the Proposal.

Proposal amendment overview

The Rail link is to be realigned within Commonwealth Land (including MIC Site, Moorebank Avenue and the Southern Boot Land) to respond to submissions (received during the exhibition of the EIS (28 May 2015 and 26 June 2015)) and also to reduce the overall environmental impacts of the Proposal (refer to Figure 1).

This realignment would alter the Rail link alignment to the south of the Anzac Creek Crossing, at the intersection with Moorebank Avenue and also on the MIC site (to the immediate west of Moorebank Avenue). The rail alignment would retain the 20 metre width of the Rail Link Corridor within environmentally sensitive areas, as per the Concept Plan Approval (MP 10_0193) and the EIS.

There would be no alteration to the Rail link to north of this realignment including at the crossing of Anzac Creek, connection to, or within the Stage 1 site. There would also be no alteration to the Rail link to the west along the MIC site, the Georges River bridge crossing, within the Glenfield Waste Facility or at the southern and northern connections to the SSFL.

This alteration in the rail alignment would result in Moorebank Avenue being intersected by Rail link further north of that previously identified within the EIS. An alteration would be undertaken to the existing Moorebank Avenue road embankment to create an overbridge to accommodate the realigned Rail link.

The Rail link realignment would not generally alter the construction methodology (with the exception of the Moorebank Avenue overbridge) or the operation of the IMT as previously provided, with no change to the rail traffic, road access, operational hours, workforce or overall operational procedures.

Health Risk Assessment- Air Quality

The addendum for the Air Quality Assessment (Environ, August 2015) calculated that based on km travelled and associated fuel usage per annum that there would be a small reduction in emissions of NO_x and PM₁₀ from the amended Rail link. It concluded that the nominal change in emissions and source locations as a result of the amended Rail link would not result in any significant change to the air quality predictions presented in the AQIA (Ramboll-Environ, 2015).

The health risk assessment (HRA) conducted as part of the HIA (Pacific Environment – Toxikos, May 2015) found that the highest risk was predicted to arise from exposure to NO₂ and diesel particles. The results of the HRA show that the risk from exposure to NO₂ from the Stage 1 Proposal operations is higher than that predicted for PM₁₀ and PM_{2.5}. Based on the modelling data provided for the HRA, the highest risk is for long-term mortality in people over 30 years of age with approximately 7 additional hospital admissions per 10 years predicted. A similar risk is predicted for hospital admissions for respiratory and cardiovascular disease in the 65+ year age group. This correlates with an increase in risk of between 1 in 1 million and 8 in 100,000 respectively. These calculations are based on a number of conservative assumptions that are likely to overestimate the risk attributed from the Proposal. Firstly, the worst case concentrations for each suburb would apply to the whole population of that suburb and secondly that all NO_x is NO₂. Using the ratio of NO₂ to NO_x obtained from monitoring data from the Liverpool Air Monitoring Station reduces the risk by 30 %. The results of the HRA found that the increase risk due to air pollution from the operations of the Proposal are low, and in most cases negligible. The cancer risk from air toxics are well below the acceptable risk level set by international agencies.

Based on the information and conclusions in the addendum for the Air Quality Assessment, the proposed rail realignment would not change these findings. As discussed in the HIA, the implementation of best practice measures as set out in the 'SIMTA Intermodal Terminal Facility- Stage 1- Best Practice Review- Air' (Environ,2015) including the use of electric gantry cranes to replace the diesel powered equipment for container handling and avoiding the unnecessary idling of locomotives and trucks on site would reduce this risk. These findings still apply (i.e. there would be no change) to the amended Rail link.

Health Risk Assessment -Noise

The addendum to the Noise and Vibration Impact Assessment (Wilkinson-Murray, August 2015), has assessed the changes in rail noise associated with the amended Rail link. The report concluded that the amendment regarding L_{Aeq} levels would result in no significant increases in rail noise levels at any receivers, reduction in noise levels at receivers in Wattle Grove, and decreased likelihood of noise impacts due to rail squeal in Wattle Grove. The amendment to the noise assessment report provides amended noise predictions for each of residential receptors used in the Noise HRA.

The Noise HRA used the WHO criteria and a hazard quotient approach to assess the potential risk from noise from the SIMTA Stage 1 Proposal. The HRA concluded that there is potentially a small increase in risk of sleep disturbance associated with the rail noise. The hazard quotients for the rail noise were marginally greater than 1. The results for rail noise indicated that management actions should be considered to minimise the impact on the local community. The implementation of measures included in the 'SIMTA Intermodal Terminal Facility- Stage 1- Best Practice Review- Noise' (Wilkinson Murray, 2015) will result in a reduction in noise levels, mitigating the potential risk to the health of the community, in particular sleep disturbance.

The outcomes of the addendum to the noise report have been used to calculate the hazard quotients from the amended Rail link. These values are shown in Table 1:

Table 1: Hazard Quotients for Rail Noise from the amended Rail link.

Rail Noise North	Hazard Index without curve				Hazard Index with curve			
	Annoyance	Sleep Disturbance		Cognitive Function	Annoyance	Sleep Disturbance		Cognitive Function
Sensitive Receptor	L_{Aeq}	L_{Aeq}	L_{Amax}	L_{Aeq}	L_{Aeq}	L_{Aeq}	L_{Amax}	L_{Aeq}
NCA1 Wattle Grove	0.7	0.8	1.0	0.8	0.8	0.9	1.1	0.9
NCA2 Moorebank	0.6	0.6	0.8	0.5	0.6	0.7	0.9	0.6
NCA3 Casula	0.9	1.0	1.1	1.0	0.9	1.0	1.2	1.0
NCA4 Glenfield	0.8	0.9	1.0	0.8	0.9	1.0	1.1	1.0

As with the original Noise HRA, the results shown in Table 1 show that there are some hazard quotients that are greater than 1 for sleep disturbance, especially with L_{Aeqmax} , and cognitive function. These values only marginally exceed 1 which indicates that the rail noise associated with the operations from the Stage 1 Proposal may result in a small increase in the risk of the health outcomes in the local community. These results do not differ from the HRA findings.

Conclusion

Based on information contained in the Addendum to the Air Quality Assessment (Rambol, 2015) the small changes predicted in air quality emissions due to the amended Rail link would not result in any significant change in air quality in the area around the Proposal site. On this basis there would be no change to the predicted health outcomes contained in the original HIA and the findings and recommendations of that report remain unchanged.



With respect to noise, the Addendum to the Noise assessment (Wilkinson Murray, 2015) shows that the amended Rail link would not result in any significant increases in rail noise with a reduction at some receivers in Wattle Grove. Using the amended noise predictions contained in that report, the slight changes in rail noise result in minor changes in the potential risk from rail noise and the findings and recommendations of the HIA remain unchanged.

Yours sincerely

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Principal Consultant

