Our reference: DOC14/230189-03

Mr Andrew Beattie
Infrastructure Projects
Department of Planning and Environment
GPO Box 39
Sydney NSW 2001

Dear Mr Beattie

RE: Request for EPA input to review of EIS for Moorebank Intermodal Terminal (SSD – 5056)

I refer to your invitation to provide comments on the Environmental Impact Statement (EIS) and Planning proposal for the Moorebank Intermodal Project Moorebank Intermodal facility (SSD – 5056). Your request has been referred to the Environment Protection Authority (EPA) for comment.
Please note that in accordance with the *Protection of the Environment Operations Act 1997*, Liverpool City Council is the Appropriate Regulatory Authority for the project, not the EPA. However, the EPA has agreed to assist Council by providing comments and recommendations in relation to the key environmental issues of noise and air quality.

The EPA has reviewed the Moorebank Intermodal Terminal Project Environmental Impact Statement - Volume 1a, Volume 1b and Appendices provided. The EPA's key recommendations are attached to this letter (**Attachment 1**).

The EPA's review of the EIS focused on aspects relating to noise and air quality including the Noise and Vibration Impact Assessment technical paper and the Local and Regional Air Quality Assessment technical papers. The EPA is also concerned about the proposed routing of the Central and Southern Rail Links through the Glenfield Landfill and has accordingly provided comment.

If you wish to discuss any of the issues raised in this letter, please contact George Orel on 9995 6849.

Yours sincerely

9/12/2014

GREG SHEEHY
A/Manager Infrastructure
Environment Protection Authority

Attachment 1 –The EPA's comments regarding review of the Moorebank Intermodal Terminal Facility (SSD – 5056) EIS

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Attachment 1 – The EPA's comments regarding Review of the Moorebank Intermodal Terminal EIS

General

Moorebank Intermodal Company (MIC), a Government Business Enterprise is seeking to develop the Moorebank Intermodal Terminal (MIT) (the Project) at Moorebank in south-west Sydney. The Project includes commercial infrastructure (warehousing), a rail link connecting the Project site to the Southern Sydney Freight Line (SSFL) and road entry and exit points along Moorebank Avenue.

This EIS is for Stage 1 SSD approval for the Project concept including a package of 'Early Works'. Subject to Stage 1 SSD approval being received, the Project will be subject to further development applications and environmental assessment under the EP&A Act.

The Project concept includes 3 options available for the project to connect the rail links to the SSFL:

1. Northern rail access option
2. Central rail access option
3. Southern rail access option

The EPA has concerns with the Southern rail access option, as it will have the most impact on the Glenfield Landfill. The EPA also has concerns with the Central rail access option for the same reason, however as the impact is planned to be only temporary in nature, it is preferable to the Southern rail access option. The EPA does not have any objections to the Northern rail access option, as long as any waste generated as part of the project (including contaminated soils or ASS) are managed in accordance with the POEO Act and Waste Regulation.

Proposed Rail Options

Central Rail Access Option

The "*Moorebank Intermodal Company Phase 1 Environmental Site Assessment, Moorebank Intermodal Terminal - Central Rail Access Option*", indicates there is limited potential for contamination to exist, at this location. However, the location of the landfill immediately to the south and the inferred north-easterly groundwater flow direction, there may be the potential for contamination from the landfill to have migrated beneath the proposed project area through groundwater, leachate and/or or landfill gases (methane, carbon dioxide and hydrogen sulfide).

Should landfill gases be present beneath the site, there is a potential risk of exposure to hazardous gases via inhalation and the potential for explosive atmospheres to be generated. The EIS recommends intrusive investigation within the construction footprint of the central rail access if a site walk over shows evidence of contamination.

Southern Rail Access Option

The "Moorebank Intermodal Company Phase 1 Environmental Site Assessment, Moorebank Intermodal Terminal - Southern Rail Access Option", indicates that there is high potential for contamination to exist at the site including contaminated fill, soils, groundwater, leachate and generation of landfill gases. The key exposure pathways would likely be via direct contact with soils, surface water, groundwater, leachate and landfill gases (via dermal contact, ingestion and inhalation) by construction/utility workers, site users and potentially future land users. The EIS recommends that a targeted intrusive investigation be undertaken within the construction footprint of the southern rail access.

Recommendations

It is recommended that targeted intrusive investigations take place to determine contamination pathways and to develop mitigation/management/remediation options based on those investigations for both the

central and southern rail access options. For the Central rail access option - given the potential for migration of contaminated groundwater or gas from the adjacent landfill, and that such contamination would unlikely be evident from a site walkover – the EPA recommend that an intrusive investigation be undertaken for this option regardless of the outcome of the site walkover. The EPA will need to view any plans for intrusive investigations if it will interfere with the Glenfield Landfill licensed premises in order to ensure that landfilling, monitoring requirements and human health and the environment are not compromised. The EPA will also need to review any construction design plans, and management/mitigation/remediation options to ensure they are appropriate and best practice.

Overall, the EPA does not support approval of the rail link being routed through the Glenfield Landfill licensed premises until such time as the proponent is able to clearly demonstrate to the EPA that the construction and operation of the rail link will not compromise the effectiveness of the landfill pollution control (leachate, landfill gas and surface drainage) and monitoring systems, including future post-closure care measures.

The proponent should provide the following additional information if progressing with the Central or Southern rail access option:

- Details of the quantity of landfilled waste to be removed, the location from where it will be removed, the methodology to be utilised and the estimated timeframe for the removal and reburial.
- Proposed measures to mitigate odour impacts on sensitive receivers, including an undertaking to apply daily cover to any exposed waste in accordance with benchmark technique 33 of the EPA's *Environmental Guidelines: Solid Waste Landfills, 1996.*
- Any proposed impacts on pollution control and monitoring systems including existing groundwater and landfill gas bores and their subsequent repair/replacement.
- The proposed methodology to ensure that the landfill barrier system disturbed in the removal process is replaced/repaired to ensure its ongoing performance. The proponent should detail matters such as sub grade preparation/specifications, liner installation/reinstallation procedures and construction quality assurance (CQA) procedures. The proponent should also provide an undertaking to provide the EPA with a CQA report within 60 days of the completion of project.
- An overview of any access and/or materials/equipment storage arrangements with Glenfield Landfill in relation to the construction of the project.
- Details of any other expected or potential impacts to the licensed area and options for management/mitigation of those impacts (i.e. leachate management and surface water runoff, potential impacts on the Georges River during works, dust etc).
- Details and proposed mitigation measures for the long term, if the Southern rail access option is chosen. A permanent rail link across the landfill is likely to have long term impacts that need to be considered and mitigated (subsidence/gas issues).

Air Quality

The EPA has reviewed the Local Air Quality Impact Assessment (LAQIA) (Environ, 2014)[1] and the Regional Air Quality Impact Assessment (RAQIA) (TAS, 2014)[2]. The LAQIA has been conducted in general accordance with the *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW.* The RAQIA has been conducted via consideration of a change in pollutant loads associated with the project in conjunction with dispersion modelling on a wider regional scale.

The EPA has identified several issues requiring clarification and or additional information as detailed below.

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[1] Environ, 2014 – *Proposed Moorebank Intermodal Terminal – Local Air Quality Impact Assessment,* prepared for Parsons Brinckerhoff by Environ Australia Pty Ltd, dated 29 September 2014 (project number AS121562)

[2] TAS, 2014 – *Regional Air Quality Assessment Intermodal Terminal, Moorebank* prepared by Todoroski Air Sciences Pty Ltd, dated 18 August 2014 (Job Number 12030074)

1 - Emission estimates in the regional and local AQIA's contain notable differences that require clarification

The EPA notes that the two AQIAs show differences in the estimated emission loads. **Table 1** below references annual emission loads represented within the two assessments. The EPA acknowledges that the two assessments consider different boundaries in which emissions to air occur (i.e. the local AQIA only considers sources contained within the site boundaries) and may use varying methodologies in estimating emissions. However, as outlined in **Table 1** below the regional AQIA shows larger emission estimates for some pollutants, whilst a lower estimate of other pollutants (i.e. VOC's and PAH's). In some instances there is an order of magnitude difference. Clarification on the emission sources and contributions between the assessments should be provided.

Table 1 – Summary of Emission Estimates from Local and Regional AQIAs

	Predicted Emission Load (tonnes/annum)				
Assessment	**$PM_{2.5}$**	**PM_{10}**	**NO_X**	**Total VOC's**	**PAH's**
Local AQIA[1]	7.6	14.6	262	133	19
Regional AQIA[2]	42.7	44	2,911.5	37.6	2.9

[1] Maximum annual emission rate reported in Table 24 of Environ, 2014
[2] Column title '*With Project (HDD + Loco)*' in Table 7-2 of TAS, 2014

2 - A detailed ozone assessment hasn't been included

The EPA notes that the RAQIA has omitted a detailed ozone assessment based on the net change in NOx and VOC (precursors to ozone) emission loads, as a function of total NOx and VOC emissions within the Sydney Region (a very large scale comparison). The EPA considers that given the large nature of the proposal, and notable quantities of ozone precursors estimated for the project emission sources that a more robust and detailed assessment of ozone is warranted. Additionally the differences in total VOC emission loads presented within the two air quality assessments provide a degree of uncertainty to warrant a detailed ozone assessment.

3 - The assessment of 'early work' lacks detail

The proposed 'early works' includes a remediation component. Remediation activities can result in releases to atmosphere and may require a detailed assessment depending on the nature of the contamination, the extent of the contamination and the proposed remediation technology or process. The LAQIA states that potential air emissions would be negligible based on the quantity of material to be excavated, being approximately 1 % of Phase A of the project. This statement may be applicable to particulate matter releases from earth moving works; however it provides no indication on the potential for emissions of other compounds associated with the contamination. No appreciable information on the extent or nature of the contamination, and the proposed remediation methods is included. Additionally it is unclear if an EPL would be required for the remediation works.

4 - It is unclear if a 'worst case' scenario has been considered when considering cumulative impacts with the SIMTA project

The LAQIA includes an assessment of three scenarios considering both the Moorebank IMT Project and the adjacent SIMTA site. The LAQIA outlines that site constraints are likely to restrict the potential for both sites to be fully developed, and hence present a cumulative assessment based on the anticipated site constraints. The EPA understands that the SIMTA project proposes a capacity of 1 million TEU and MIT site proposes a capacity of 1.2 million TEU. It doesn't appear that a scenario considering both sites at potential maximum capacity (of which concept approval is being sort) has been included, as the maximum capacity in the three scenarios considered is 1.5 million TEU.

5 - Clarification on the exceedance of PM_{10} (24 hour average) for the Cumulative Scenarios (including SIMTA) should be addressed.

The EPA notes that Section 12.2 of the LAQIA outlines one additional exceedance of the cumulative 24-hour average PM_{10} assessment criterion at R33 for cumulative scenarios 1 and 2; however Table E1 (of Appendix E) indicates that the additional exceedance for these scenarios is associated with R37. The EPA note that Figure 7 indicates receptor R37 (Wattle Grove Long Day Care Centre) is located at a greater distance from the site than other receptors (i.e. R14, R35), where no additional exceedances are reported. The inconsistency between the text and the tabulated results must be clarified.

6 - The LAQIA contains air quality criteria that differ from the Approved Methods

The EPA note that Table 5 of the LAQIA contains the adopted air quality criteria referenced from the *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW* (the Approved Methods), however slight differences are apparent. For example the tabulated criterion for benzene is 31 $\mu g/m^3$, whereas the Approved Methods states 29 $\mu g/m^3$. It is noted that Table 5 expresses concentrations at 0 degrees Celsius and 1 atmosphere; however the Approved Methods expresses concentrations at 25 degrees Celsius and 1 atmosphere. The EPA considers that the criteria should reflect that in the Approved Methods. It is noted that the predicted impacts of benzene are below the criteria contained in the Approved Methods.

7 - A refined statement of commitments should be developed.

The EPA note the assessment outlines a number of recommended mitigation measures to be further investigated. Acknowledging that the approval is 'concept' a refined statement of commitments should be conducted for the initial 'concept' stage and every stage (should the project be approved). The EPA note that assessment of the future scenarios considered in the LAQIA include assumptions relating to the outcomes of investigation into further commitments (i.e. the adoption of engine standards) or the increased prevalence of specific engine standards across a broader network.

Recommendations

The proponent should provide the following information in regard to air quality:

The EPA recommends that the proponent be requested to provide:

- Additional information to clarify the differences in emission estimates between the two assessments, as per item 1, and revise the assessments where necessary
- A more robust and detailed ozone assessment, as per item 2
- Additional information to clarify potential impacts from remediation works, as per item 3
- Additional information and/or additional assessment of cumulative impacts with the SIMTA project, as per item 4
- Additional information be provided to clarify the exceedances of PM10 for the cumulative scenarios as per item 5
- Revise the LAQIA to include the appropriate criteria, as per item 6
- Provide a clear statement of commitments as per item 7.

Noise and vibration

The EPA has reviewed the Noise and Vibration Impact Assessment technical paper (NVIA) (SLR Global, 2014)[3] for adequacy.

The EPA notes that stated key aims of the Project are "to increase Sydney's rail freight mode share including: promoting the movement of container freight by rail between Port Botany and western and south-western Sydney; and reducing road freight on Sydney's congested road network." The EPA supports a modal shift from road to rail, provided that any impacts on the environment and surrounding community are managed appropriately.

The EPA considers that the NVIA technical paper, and therefore the EIS, is inadequate. The reasons for this assessment are set out below and recommendations included.

Weather Scenarios

The frequency occurrence of light winds has been assessed for each season (summer, autumn, winter, spring) but not for each assessment period (day, evening, night-time) in each season, as required by the *Industrial Noise Policy* (INP). This issue has previously been raised by the EPA in its input to the review of the draft EIS for the Moorebank Intermodal Terminal (SSD – 5066) in relation to the Secretary's Environmental Assessment Requirements (SEARs). It is still not clear whether this has been addressed in the exhibited EIS.

The worst case weather scenario may need to be reviewed if the frequency of occurrence of light winds has not been assessed for each assessment period. The worst case weather scenario in the NVIA combines F stability category and a 2m/s gradient wind. This combination may be appropriate for a 2m/s drainage wind; otherwise it probably should be F stability category without the 2m/s wind.

Mitigation measures

The EIS includes a hypothetical noise mitigation scenario but does not commit to implementation of noise mitigation measures. Predicted noise levels for the hypothetical noise mitigation scenario do not exceed relevant criteria at the majority of assessed residences. For the predicted levels that are above the relevant criteria we recommend that the proponent be requested to justify the potential adverse noise impacts according to Chapter 8.2.1 of the INP, and the consent authority, who is best positioned to do so, weigh the benefits of the proposal against the potential adverse noise impacts and determine if the predicted levels are justified.

It is not clear whether the hypothetical noise mitigation can actually be implemented. For example Figure 11 indicates noise barriers that appear to be in the SSFL rail corridor, which appears to be outside the project area, and therefore the proponent would need to arrange for installation of the hypothetical barriers with the rail corridor operator. The height of the hypothetical barriers does not appear to be stated, so it is not clear if the barriers are practicable to implement. We recommend that any approval of the concept proposal require the proponent to enter into a contractual arrangement with the rail corridor operator for installation of the barriers in the rail corridor as proposed in the hypothetical noise mitigation scenario.

Plant and equipment movement alarms

The EPA recommend that the project include commitments, and/or the proponent is required by approval conditions, to implement a safe system of work, which is WorkCover's requirement, that utilises alternatives to tonal movement alarms or "reversing beepers" for plant and equipment dedicated to the site. In our experience tonal beepers generate significant off-site impact, which can be mitigated through design for, and implementation of, alternatives that can be used alone or in combination such as broadband alarms,

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[3] SLR Global, 2014 –*Moorebank Intermodal Terminal EIS - Noise and Vibration Impact Assessment,* prepared for Parsons Brinckerhoff by SLR Global Pty Ltd, dated 1 October 2014 (Report Number 620.10816)

reversing cameras, in-cab proximity alarms. We are aware of a number of sites where such measures have been implemented thereby eliminating the off-site impact of tonal alarms. It is much easier to incorporate these measures at the design and procurement stage than to retrofit them. Further information is available on the EPA's website at http://www.epa.nsw.gov.au/noise/constructnoise.htm.

Container handling impact noise

In the EPA's experience, impact noise associated with container handling is the next most significant generator of off-site noise impacts following noise from reversing beepers. Plant and equipment for the facility should be procured that minimises, as much as practicable, container handling impact noise.

The EPA recommend that a commitment be made, or any approval include a condition that requires best practice, latest technology plant and equipment for the facility to be procured that minimises, as much as practicable, container handling impact noise. The EPA is aware of new, automated and computer controlled container handling equipment that is reported to significantly reduce the level and frequency of impact noise ("bangs") associated with container handling.

Vehicle horns

Vehicle horns are commonly sounded at intermodals to signal between truck drivers and drivers of container handlers when loading and unloading. We recommend that the project include commitments, or any approval is conditioned to require an alternative to signalling by vehicle horns to be implemented, such as radio contact between operators or a system of stop / go lights, and the use of vehicle horns for such signalling be prohibited.

Site layout

Site layout should maximise, to the extent practicable, forward movements of trucks to minimise beeper noise associated with reversing.

Construction noise

Construction Noise Management Levels (NMLs) have been calculated for Day, Evening and Night periods, whereas the ICNG identifies Standard Construction Hours and Outside Standard Construction Hours. However, this is considered not to be a significant issue.

Construction should be restricted to the standard hours in the ICNG. Construction outside standard hours should only be allowed for activities such as works needing to be completed during a rail or road possession, or works resulting in noise levels not more than 5dB above Rating Background Levels at noise sensitive receiver locations. Bored or vibratory piling should be used instead of impact piling where practicable.

Rail connection curve radius

Curve radius for the rail connection appears to have been maximised to minimise the potential for curve squeal. The latest findings in relation to minimising curve or other squeal associated with rail movements appear to have been incorporated in the design. We recommend these features be included as conditions of any consent and that any approval include a condition requiring the installation of track lubrication devices if curve squeal becomes an issue.

Future rail freight operation

Any locomotives dedicated to working at the Terminal should not be locomotives with "existing use rights" to operate on the NSW network, but should be locomotives that have obtained an approval to operate through assessment against the noise criteria on EPA Railway Systems Activities Licences. The EIS states that this will be the case but it is not clear to us the extent to which the Terminal operator would have

control, if any, over rail rolling stock accessing the terminal and this should be clarified. Preferably any dedicated site locomotives should incorporate the latest genset technology and automatic idling shutdown.

Freight train movements associated with the proposal have been assumed to be spread evenly throughout each 24 hr period; however this may not happen in practice.

Contaminated land

The EPA has not completed a detailed review of the adequacy of contaminated land investigation technical report or section of the EIS, however notes that the site is immediately adjacent to the ABB Australia facility, located at 1 Bapaume Road, Moorebank. This site is the subject of an EPA Ongoing Maintenance Order under section 28 of the Contaminated Land Management Act 1997 due to the presence of polychlorinated biphenyls (PCBs) in soils on site, associated with the use of PCB containing materials during the production of electrical condensers and transformers at the site in the past. It is also noted that PCBs are the subject of a chemical control order.

The EPA considers that it is possible that PCB contamination may have migrated to the subject site through either wind-blown soil or groundwater. Chapter 15 of the EIS indicates that assessment was undertaken for PCBs in groundwater; however no assessment of PCBs is included for soils.

Recommendations

The EPA considers that the contamination investigation has not adequately addressed the issue of PCBs in soils and this should be investigated prior to any development works taking place. It is noted that limited assessment (5 samples) has been included in previous assessment works.

The EPA recommends that a site auditor accredited under the Contaminated Land Management Act be engaged to issue a Section A Site Audit Statement in relation to the proposal. The subject area has had a range of land uses over the years which have resulted in groundwater contamination including the presence of PFOS, TCE and petroleum hydrocarbons. The presence of these contaminants allows for potential off-site migration of contaminated groundwater and vapour intrusion risks for the development.