Submission regarding EIS from MIL

All page numbers quoted in this missive refer to the PDF assigned page numbers as they were more readily evident. Wherever possible, section references are given.

Introduction

Firstly, it would be positive to see commitment to reducing the impact by utilising language such as “will” instead of “would be considered.” This would give confidence that actions are affirmative, not talked about. The words “would be considered” are used freely throughout the documents (one example of the multitude is Appendix I page 17 REMM 5L) and are not committing, and do not invoke action. Considering could mean raising the issue at a meeting. Not acceptable. Not active. Not committing.

Notes regarding: Appendix O Air Quality Impact Assessment

There is limited consideration for air quality indicators created by this development, given the microclimate, the hours of operation, the intended activities and the pollutants created.

1. **The proposal should not operate 24 hour days due to site climate and geography.**

   Dispersion modelling indicates limited boundary layer depth that diurnal mixing is quite variable. Evenings appear to have sustained low level mixing depths indicative of lower dilution potentials of pollutants. (Figure 4-3, 4-4 in Appendix O). Would it not be indicative to integrate into the air monitoring schedule, monitoring sites that inherently measure air quality indicators that protect a) facility night shift workers, and b) residents, by including several on-site and multiple boundary monitors?

<u>Take home message – low mixing of air at night between the hours of approximately 1800 and 0600.</u>

2. **Willing to operate 24 hours a day, yet not monitor and report on air quality indicators annually.**

   Appendix I REMM 17A states that “annualised average monitoring for air and noise would be regularly reviewed”. How does this assist with instantaneous emissions? Any consideration for time weighted averages? Ceiling limits? By the time an exceedance is identified by an annualised average, the event(s) that exceed exposure limits/standards (which need(s) to be reported and actioned) have already passed and excessive exposure gained!

   Let us not forget that these particles and chemicals that are being grossly emitted are, amongst other things, toxic and carcinogenic agents (one example is a by-product of incomplete diesel combustion, PAHs). The on-site and boundary

monitoring will detect emissions close to the source and emissions off site to neighbouring land which will take into account the dispersion effects. For example, the rail is estimated to release over 6 tonnes of VOCs annually, and the site total over 10.4 tonnes annually (at conservative estimates).

Section 6 page 45 indicates again that modelling predictions are conservative, and fluctuate throughout the year in relation to the activity undertaken. This reinforces the proponents' desire to report exclusively on annual air quality indices, and overlook the significance and impact of rolling averages.

Annualised reporting is endorsing activities that emit in exceedance of air quality indicators by deliberately not reporting rolling 24 hour averages. Perfect for high polluting activities that do not operate 24 hours a day all year around, as shorter more polluting events are not captured by annualised data. Monitoring and reporting on rolling eight hour averages will. Hypothetically, if monitoring was to start now, and construction starts in three months' time from now, that gives a "free pass" for the proponents to "make up" for three months of dust, aerosols, gases and particulates for the remainder of the year! These levels may exceed inconsequentially a many-fold short term exposure standard breach.

There is no reason that anyone should be unnecessarily and systematically exposed to pollutants in excess of guidelines that are designed to protect the health of the population using annualised data. Annualised reporting is inadequate. Why would you not wish to protect the very people who may make the operation of this venture a success, and the people who have the potential to be exposed to these pollutants 24 hours a day? Provision, monitoring, reporting and action resulting from rolling 24 hour monitoring for air quality indicators needs to be mandatory to reduce exposure.

<u>Take home message – annualised monitoring is inadequate to report on air quality key indicators.</u>

3. **Conservative estimations and ambiguities are ubiquitous in the EIS.**

   An example is the estimation of idle time used to calculate the Pre-tier 0 (US) emissions from locomotives is 2 hours (Section 5.3.1 Diesel Locomotion Emissions page 39), and contradicts the indication that train unloading on site would take 2.5 hours (reference MPW stage 2 Environmental Impact Statement Sections 1-7 page 146). Which is it – 2 hours or 2.5 hours? If 2.5 hours as indicated in the previous sentence, that would indicate extra on site emissions by 25% than what is stated. (I can not find the references Lilley W E (1996) to validate assumed diesel consumption. This may be an academic paper, but if it is not peer reviewed, it is an academic paper not worth the paper it is written on.)

<u>Take home message – Estimations for emissions are conservative</u>

4. **Low emission technologies, BATEA and best practice not embraced**

Sad to note that on page 100 for example that implementation of container handling equipment will neither be:

a. retrofitting of exhaust, nor
b. meeting best practice international emission standards.

Let us not forget factors which affect emission quantity and composition:

i. engine technology,
ii. utilised fuel,
iii. operating conditions, and
iv. exhaust after treatment

Euro IIIA? Forgive my ignorance, but have we not since 2009 had Euro VI capability? This is not leading best practice, this is towing the line of mandatory requirements. There is a mediocre attempt at benchmarking Euro standards.

I fail to see the suggestion or utilisation of low sulfur diesel, or biodiesel, or following guidelines such as the European EN590 which characterises the properties that used diesel shall have for on-site container handling equipment.

Driver training is indicated which is great, but no after treatment is indicated which is not great. No fuel benchmarks are indicated which is not great. This is a FAIL for air quality. There is insignificant, or reluctant commitment for pollutant reduction in three out of four of these categories.

Technology such as a post exhaust carbon/particulate filter, or particle coagulation, or evaporation and/or condensation of volatile compounds would positively impact significantly on air quality given that it is estimated that the container handling equipment contributes over 46% of the particulate fractions (i.e. so called “key pollutants”) of total traffic on and to site (refer pie charts page 44), and over 25% of NOx species and over 55% CO. I simply do not understand why retrofitting is not considered in an attempt to curb emissions.

<u>Take home message – lethargic attempt to stem emissions from the source</u>

5. Pollution of precinct touted as “insignificant”

a) Offset potential - it is already identified that vehicular emissions are at their peaks in direct correlation to traffic volumes. (Figure 4.5 page 34) True, particulate emissions from wood burning activities is a large contributor to PM_{10} – both in time of day and day of week. Unfortunately, this proposal offsets gains by mediocre technological advance and wood fire pollution by increasing both vehicular volume and time at Moorebank, thereby increasing ambient particulate matter indices.

b) In the conclusion of Appendix O, it is quoted that PM_{10}, $PM_{2.5}$ and dust deposition are considered minor when compared against existing background conditions. This is opinion. True, ***when compared to***, they may be considered minor, but

they are significant. It should read ***when compounded with***. The intention is not to compare the precinct to what already exists environmentally, but to collectively view what will be present, correct?

c) From the available five years of referenced data, 2012, 2013, 2014, 2015 (Table 4.1 page 33) exposure to $PM_{2.5}$ exceeded annual NEPM standards. This is without warehousing and without the IMT. So although the proponents purport an increase in $PM_{2.5}$ of <0.4ug/m3 (6.2 Operational Phase page 48) as being insignificant, it is not in the region's interest to facilitate the proposal.

Take home message – pollution creating activities indicated for the construction and operation of the precinct are dulled to banality.

6. Noise stemming from generation, transmission, and receiver

And what of the population affected negatively by noise? The contour diagram overlay of aerial maps would indicate that there is significant population that will be negatively affected by noise. No details of the western wall are evident, but substantial investment in noise mitigation will be required, as noise can reflect and refract dependent upon the environment through which it travels, and climatic conditions at Moorebank frequently are ideal for this refraction of energy. A nominal wall may indeed not function effectively for which the design is intended, and one western wall only may not be adequate.

For the boundaries not indicated for noise buffering, what is to be expected when climatic conditions are favourable for transmission to those areas? Is there adequate provision to minimise the reception at the receiver in accordance with Section 8.2.1 of the NSW Industrial Noise Policy? No offer to assist private and commercial structures with noise management technology is indicated *at the receiver*. At the very least, more modelling under "adverse" conditions and further investment in complete perimeter sound barriers would be indicated to stem transmission of noise in a more complete form than what is offered.

Take home message: Insufficient investment has been proposed to stem noise emissions to account for operation under frequent "adverse conditions." No support of commercial and private establishments are considered in stemming noise emissions, period.

Conclusion:

The least harmful scenario is not to let this go ahead. The second least harmful if this project does go ahead is not to emit pollutants at night, that is, not have the precinct operate between 1800 and 0600 when atmospheric mixing is at its lowest, hence more focal uptake by residents, workers and those proximal alike.

A great deal more investment and commitment is needed (both “Best Practice” and “BATEA”) if this is to be a state of-the-art facility, minimising the harmful and negative effects of environmental impact this will have. The development needs a conscience.

Questions and uncertainties

A question has been posed regarding the on-site fumigation process and the fume capture of rogue chemicals related to the task.

The calculations for truck emission factors are based on many things including age. There is a nice Table 5.6 (page 41) indicating emissions using the Air Quality Appraisal Tool but does not indicate what the assumptive age of the vehicles is. Are they representative of realistic vehicle samples?

END OF SECTION

Notes regarding: Appendix I Preliminary Construction Environmental Management Plan, October 2016

Firstly, note that the report quotes “cannot accept any responsibility for any use of or reliance on the contents of this report by any third party.” Interesting!

1. **Construction period outside administration of the CEMP**

   The early construction works have been noted to be outside the management of the Construction Environmental Management Plan (CEMP). Section 1.3 page 2 states that the primary purpose of the system of documentation is to;
   – ensure compliance with all applicable environmental laws, specifications, obligations and approvals.
   – Minimise environmental impacts

   Page 7 then states that “works period A would occur prior to the construction phase of the proposal, therefore prior to the development of the CEMP”. What of the compliance and regulation of activities undertaken during this period? What environmental plan is being utilised on site during this time? It is also noted that this period may potentially shift slightly (vague – months or even years). Does this mean that works period A has the ability to be exempt from the CEMP and have the ability to shift throughout the lengthy construction period? Bulk transport still indicated.

2. **Insect, introduced species, fumigation and vermin control**

I fail to see any insect control methods for the detention basins. If chemical, what is the fate and environmental toxicity of the control chemical? Could it be biological, for example with the use of amphibians or fish?

Rogue fumes from fumigation of containers has been covered previously.

3. **Asbestos**

   Page 75 indicates “special consideration including boundary monitoring” for asbestos. Does this pertain to boundary of the development or the works zone? Should not atmospheric asbestos monitoring be conducted proximal to the site of demolition as well for the safety of workers and the realistic? Is there any indication of post works asbestos testing?

   From Appendix I REMM8R page 25, should not the survey of asbestos be clarified and widened to include “samples of all asbestos identified areas” and “selected soil samples?”

4. **Adhesion to antiquated standards**

REMM10Q cites adhesion to the National Environmental Protection Measure (NEPM) (Diesel Vehicle Emissions) (NEPC 2001), but does not incorporate the variation to the National Environmental Protection Council Act 1994 in May 2009 which, amongst other minor changes, captures the incorporation of newer technology including the incorporation of "the use of diesel particulate filters and partial filter traps." (Source: https://www.legislation.gov.au/Details/F2009L02125/Explanatory%20Statement/Text)

It is furthermore mentions in REMM10S that "All on-site trucks are to comply with Euro V emission standards or suitably relevant standards" whereas construction vehicles "would be tuned to avoid excessive smoke" (REMM 10R), and "would be well maintained and regularly serviced so that vehicular emissions remain within relevant air quality guidelines and standards" (REMM 10O). Tier 3 US standards (REMM10T) are referenced, and these are sixteen years old and were superseded by tier 4 standards in 2004! (source: https://www.dieselnet.com/standards/us/nonroad.php). Then the container stackers are indicated to achieve ES EPA Tier 3/Euro Stage IIIA standards? We are currently able to achieve Euro VI standards which are 2009 standards!

5. Appropriate reporting for noise activities

Page 47, Mitigation Measures 2B indicates that annual reporting of noise results will occur during construction, and as with Appendix O above, I am doubtful that annual reporting is sufficient to capture repeated or sustained breaches of noise limits. Data gathered on a more frequent basis and of all noise characteristics would be more meaningful for nuisance noises and capture exceedance events more comprehensively and extensively than annual reporting.

6. **PFOS and PFAS**

Preliminary surveys have been conducted at Moorebank by the Department of Defence in lieu of more extensive testing for the firefighting chemicals used ubiquitously on defence sites for PFAS and PFOS. Given results of the more extensive testing are not available, is site handover conditional of these findings? If not, what testing regime is intended to be conducted to assess groundwater ingress of these pollutants? Measures to deal with the contaminated soil are mentioned and the measures that will be taken to mitigate further contamination before and during construction of the site – but no testing regime to identify them! Given the nature of the chemicals and their ubiquitous usage, an independent survey should be conducted for these compounds to confirm presence and distribution, and permit the enacting of effective pollutant removal from the site.

Page 73 and 74 section 8d iii does not indicate any testing for the compounds, only if they are inadvertently discovered or already identified, but if they are not tested for, they are not going to be found. There appears to be no testing regime noted.

7. Construction permitted 24 hours a day?

REMM 5D (page 15) does not exclude construction activities 24 hours with the only condition being noise not to exceed 5dB(A) above background, and (TABLE 3) or an authority e.g. police. Construction works clean fill importation is permissible 0600 to 2200 Monday to Friday and 0700 to 1800 Saturdays.
It is intended to place approximately 400000 cubic metres of fill, so noise monitoring, dust suppression and/or monitoring would be required on site and at boundary locations at the very least, particularly at locations typically downwind of activity. Judging by the air quality indicators, the Powerhouse Museum would be a dandy position for a receptor all year round, with other sites monitored with typical seasonal wind direction data.

Questions

What are the “sustainability initiatives” indicated Table 3.1 page 13 REMM 3B?

Are there indicative detention basin levels that would actively need management to mitigate overflow events?

What vermin and pest species (indigenous and imported) control is proposed?

END OF SECTION