From:	Claire Vahtra
To:	"Nathan Cairney"; Westley Owers
Cc:	Andrew Wiltshire; RJohnson; Steve Ryan
Subject:	RE: EPA comments on MPE 2
Date:	4 October 2017 12:22:00 PM
Attachments:	image003.png image007.png

Hi Nathan,

Please see a below to the items raised by the EPA, which were noted in your meeting with DPE – the information relating to air quality emissions in response to the gas boilers query has been prepared with input from Ronan.

Please let me know if you would like any additional information

Thanks

Claire

- Recommends additional info to demonstrate the maximum daily operation intensity of construction have been considered against 24 hour impact assessment criteria

  This information was included in Table B-2 of Attachment B of the Response to submissions and outstanding information – Moorebank Precinct East Concept Plan MOD 2 (MP 10_0193 MOD 2) / Moorebank Precinct East Stage 2 (SSD 7628) letter, sent to the Department on 11 September 2017. The response provided is as follows:

  It is acknowledged that this issues was raised in response to the MPE Concept Plan Modification 2 Application. Section 4.1 of the MPE Concept Plan Mod RtS provided a response to this issue, as provided below:

  The EPA are correct to assume that the modelling results presented in the Air Quality Impact Assessment for the MPE Concept Plan modification are based on annual average activity rates (1,320,000 tonnes averaged evenly across each day of the year).

  *To address EPA's concern that the modelling did not consider a peak daily scenario, revised analysis is presented based on a peak daily importation rate of 22,000 tonnes**[1]**, for all material handling activities. This importation rate corresponds to the maximum daily fill importation rate for the whole precinct (i.e. across both MPW and MPE proposals) and conservatively assumes that on any given day there is a possibility, although unlikely, that 22,000 tonnes could be directed to MPE only.*

  Other construction phase emission sources, such as dozers, have also been adjusted for the peak daily scenario, for example by removing the 70% utilisation assumption and assuming continuous operation for all construction hours. The revised analysis shows:

  - *The maximum incremental 24-hour PM10 increases from 4.2 µg/m³ for the average daily activity rate to 8.0 µg/m³ for the peak daily activity rate.*
  - *The maximum incremental 24-hour PM2.5 increases from 1.3 µg/m³ for the average daily activity rate to 1.9 µg/m³ for the peak daily activity rate.*
  - *The maximum cumulative 24-hour PM10 increases from 48.9 µg/m³ for the average daily activity rate to 50.9 µg/m³ for the peak daily activity rate. As a result, there is one additional exceedance of the impact assessment criteria at 5 locations, but this occurs on a day when the background is already elevated (48 µg/m³). It should be noted that the approach to the assessment assumes that the worst case daily activity scenario occurs every day of the year and it is unlikely that this scenario would correspond with*

an elevated background day and give rise to an additional exceedance. In fact, the proposed real-time boundary monitoring for each phase of construction is designed to eliminate the risk of this occurring.

- *The maximum cumulative 24-hour PM2.5 increases from 23.6 µg/m³ for the average daily activity rate to 24.0 µg/m³ for the peak daily activity rate (i.e. no additional exceedances of the impact assessment criteria).*

The revised assessment demonstrates that with consideration of the peak daily scenario, modelled impacts would not result in additional exceedances of the 24 hour impact assessment criteria with the exception of maximum cumulative 24-hour PM10. However, it is unlikely that this scenario would occur and the proposed real-time boundary monitoring for each phase of construction has been designed to eliminate the risk of this occurring.

This information is consistent with that provided in the MPE CP Mod 2 RtS, where this exact issue was raised by the EPA in response to the CP Mod only. The response we have provided previously is considered to be address the concerns raised by the EPA sufficiently.

- Size of gas boilers proposed – The MPW Stage 2 EIS and MPE Stage 2 EIS indicated that the warehouse offices would be heated via the use of boilers. This was based on a standard assumption in the Air Quality Impact Assessment (AQIA) (Ramboll Environ, 2016, provided at Appendix M of the MPE Stage 2 EIS), which was used as the mechanism for heating and cooling is not yet known as this will be determined during detailed design development. However, it was noted in Section 5.4 of the Utilities strategy report (provided at Appendix F of the MPE stage 2 EIS) that 'Gas service will not be required due to no gas demand anticipated for the development at this stage', and as such, it would not be possible to heat the warehouse offices with boilers, and instead, air conditioning would likely to be used. As a result no gas boilers would be utilised for heating or cooling as part of the MPE Stage 2 or MPW Stage 2 Proposals.

  The estimated emissions from gas boilers in the MPW Stage 2 EIS AQIA and MPE Stage 2 EIS AQIA represented approximately 30% of the total emissions for particulate matter (PM) and approximately 20% for NOx. Therefore, replacing the use of gas boilers with air conditioning run from the grid would reduce local emissions to the airshed by 30% for PM and 18% for NOx. This in turn would result in a proportionate reduction in the predicted ground level concentrations in the air quality assessment, which would in turn result in a proportionate reduction in the estimated health risk for surrounding suburbs. For other pollutants, the reductions would be less significant, because the gas boilers are a relatively less significant source, however in each case there would be some reduction.

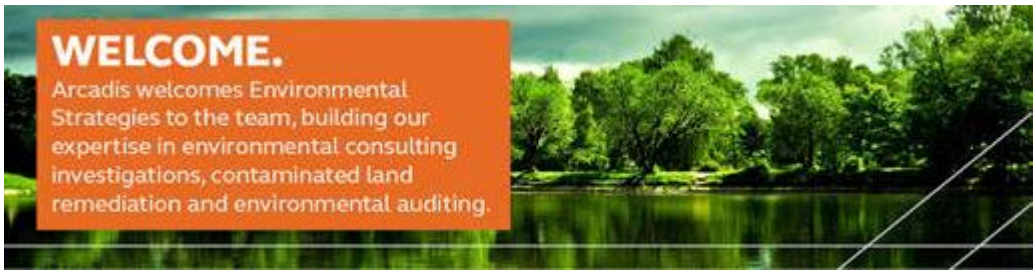
  It is noted that the reduction in emissions cannot be used to directly infer reductions in ground level concentrations because the relative influence of specific sources will be different across different locations. In other words, a 30% reduction in emissions does not necessarily mean a 30% reduction in ground level concentrations. At some locations, where the relative influence from the gas boilers is higher, there may be a higher reduction in ground level concentrations whereas at other locations the reduction might be less than 30%. Notwithstanding this, the overall use of air conditioning rather than gas boilers would result in either a positive or neutral level (subject to the location) of environmental impact (having regard to air emissions) to that identified in the MPW Stage 2 EIS/RtS or MPE Stage 2 EIS/RtS.

- Benchmark emission performance of any boilers against best practice. – Clarification (refer

to above) –boilers would not be used on the site for heating and cooling, as there would be no gas supply to the Proposal site. Therefore, the need for benchmarking emissions of boilers against best practice is no longer required or relevant to the Proposal.

- Confirm the emission estimate for the ops assessment noting diffs in reported units of measurement for emission rates in tables 5-6, 5-3 and 5-5 - This information was included in Table B-2 of Attachment B of the Response to submissions and outstanding information – Moorebank Precinct East Concept Plan MOD 2 (MP 10_0193 MOD 2) / Moorebank Precinct East Stage 2 (SSD 7628) letter, sent to the Department on 11 September 2017. In Table B-2 it was noted that the emissions summary presented in Table 5-6 is incorrectly captioned as "tonnes/annum" and it was confirmed that the emission values are reported in kg/annum and no update or change to the modelling assessment is required.

Claire Vahtra | Environmental Consultant | BSc (Hons) | claire.vahtra@arcadis.com
Arcadis | Level 5/141 Walker Street, North Sydney | NSW 2060 | Australia
T. + 61 2 8907 9018 M. + 61 404 825 620
www.arcadis.com



ARCADIS Design & Consultancy for natural and built assets

From: Nathan Cairney [mailto:ncairney@tacticalgroup.com.au]
Sent: 25 September 2017 6:13 PM
To: Westley Owers <Westley.Owers@arcadis.com>; Claire Vahtra <Claire.Vahtra@arcadis.com>
Cc: Andrew Wiltshire <awiltshire@tacticalgroup.com.au>; RJohnson <richard@aspectenvironmental.com.au>; Steve Ryan <sryan@tacticalgroup.com.au>
Subject: EPA comments on MPE 2

Wes/Claire,

This afternoon DPE raised the below (partial) comments from EPA in their original submission that they feel have not been adequately addressed in our response. Can you please review these responses and provide futher insight into what they may have issue with. I'd like to do it myself, but the below is actually all that I was given, so I have no further insight into what they would like to see.

- Recommends additional info to demonstrate the maximum daily operation intensity of

construction have been considered against 24 hour impact assessment criteria

- Size of gas boilers proposed
- Benchmark emission performance of any boilers against best practice.
- Confirm the emission estimate for the ops assessment noting diffs in reported units of measurement for emission rates in tables 5-6, 5-3 and 5-5

Regards,

NATHAN CAIRNEY
SENIOR PROJECT MANAGER
TACTICAL GROUP

LEVEL 15 | 124 WALKER STREET | NORTH SYDNEY | NSW | 2060
M +61 499 555 817
E ncairney@tacticalgroup.com.au
W www.tacticalgroup.com.au

---

[1] A mitigation measure (No. 1G, in Section 8 of the RtS) has been included to restrict the importation of fill to 22,000 m^3/per day for both the MPE Stage 2 Proposal and the MPW Stage 2 Proposal.