18th June 2024

Our ref: T445796-02let

Camden Council

Sent by email to: Rebecca.Whitehouse@camden.gov.uk

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Re: Response to RSK's Review of Arup Laboratory Feasibility Emissions Study report 297393-ARP-REP-AQA-0.3

Dear Rebecca,

Thank you for forwarding the applicant's consultant's response to our review of the Laboratory Feasibility Emissions Study report 297393-ARP-REP-AQA-0.3, which was submitted in support of the planning application 2024/0409/P for the change of use of 1 Triton Square from B1 Office to life science and innovation uses including a life sciences laboratory.

The applicant's consultant's response to our comments is appended, and the table, including our responses, is reproduced below.

Table 1: Comments and responses

RSK Comment	Applicant Response	RSK Comment on Response
The overall approach (baseline review of the existing formaldehyde and benzene concentrations, an assessment of the potential changes in air quality arising from the operation of the laboratory extract discharges and determination of the emission rates which will keep process contribution at less than 10% of the relevant air quality standard, long-term and short-term EALs) is accepted, though the derivation and justification for the criteria is not clear, for example in comparison with the Environment Agency's Process Contribution screening criterion in relation to risk assessment for Environmental Permits of 10% of short-term or 1% of long-term environmental standards.	The 10% limit has been selected to provide a robust limit which avoids risks of exceeding relevant EALs. The aim will be for all stacks to have total emissions of less than 10% of the EAL. This provides a significant headroom to allow for uncertainty in the assessment.	Noted & agreed.

The air quality policies, guidance, legislation, and standards referred to are considered appropriate, though some of those described may not be necessarily specifically relevant to laboratory emissions.	Noted.	Resolved.
The assessment of baseline conditions is considered appropriate, although the information used is not listed in the Methodology Section 4.1. The 'pilot study' which is the source of the formaldehyde baseline estimate appears to be rather old and is not referenced and no baseline concentrations are presented for benzene.	The formaldehyde pilot study is from 2000; however this is the only study available and has been included to give understanding of ambient formaldehyde concentrations, which should now be significantly lower. No baseline information for benzene is available as benzene is not currently measured by any of the UK's air quality networks, as stated in the report (section 5.1).	The Non-Automatic Hydrocarbon Network may include benzene measurements in Camden which could be used to help inform the assessment. Assumption of baseline concentrations of zero may lead to under-predicting the impacts from the laboratory extract discharges, though in reality the 'headspace' afforded by the process contribution being <10% of the relevant air quality standard should mean the underprediction is unlikely to be significant.
At the time of preparing the assessment, the substances used in the laboratory and therefore pollutants likely to be emitted from the laboratory extract discharges are unknown, therefore, the assessment has considered two solvents: benzene and formaldehyde. No discussion of likely emissions or justification for the selection of these pollutants is presented, and is a key limitation of this assessment.	The assessment has considered commonly used solvents in laboratories, benzene and formaldehyde. These solvents can become airborne and directly lead to, or contribute to, adverse impacts on heath and the environment, by reacting with other air pollutants outdoors in the presence of sunlight to produce tropospheric ozone. The assessment has considered both solvents when determining the maximum allowable emission of substances to the air from the strobic fans in connection with the proposed laboratory use. Appendix B provides the maximum allowable emission rates for addtional pollutants defined by the Enivonrment Agency. This comprehensive list provides the controlled emission rates for all pollutants with a relevant EAL.	Some discussion of the likely uses of and therefore potential emissions from laboratory would provide reassurance that emissions will be controlled. Benzene and formaldehyde are carcinogens and no threshold for 'safe' exposure has been determined, therefore their use in laboratories is decreasing as they are substituted be less harmful substances, wherever practicable. Relatively stringent air quality criteria are assigned for these substances, therefore their use as conservative 'proxy' emissions for laboratory chemicals is considered reasonable. However potential emissions from 'life science and innovation uses' are not

		discussed and the potential for emissions of, for example microbiological or pharmaceutically active substances is not addressed. It is not clear how the Council can be assured that such emissions would be controlled if consent is granted. A condition requiring details of emissions control and mitigation before first use may provide a mechanism for this.
The model selected (ADMS 6) is considered appropriate.	Noted.	Agreed.
No justification of the significance criteria used in the assessment is presented. Environment Agency EAL are used, but it is not clear that the laboratory will be regulated by the Environment Agency therefore these may not be directly relevant and the report does not appear to consider other sources of criteria, for example The Air Quality Standards Regulations 2010 limit value for benzene is not referenced (though it is equivalent to the EAL).	The Environment Agency EALs are the most stringent and extensive and have therefore been used in the assessment. The EA list sets out a greater range of pollutants than the Air Quality Standards Regulation, therefore the EA EALs have been used in the assessment.	The National Air Quality Objective (for England and Wales) is equivalent to the EAL for benzene cited, and the Scottish Objective is more stringent. It is agreed that the EA EALs include a greater range of pollutants, and this is helpful in the absence of any information about likely emissions, however in the absence of any discussion of potential emissions, their relevance is not clear.
The modelled domain and selection of receptors are considered appropriate. The sensitive human receptors closest to the Proposed Development have been considered in the assessment. It is noted that as the flues are at height, a variety of heights were modelled on the façade of each receptor building to ensure the highest impact was captured. The assessor is asked to clarify how different height for different receptors was selected in Table 4 of the assessment.	It is assumed that a storey is 3m. Heights have been selected as ground floor, middle floor and top floor.	Agreed

The London city meteorological data has been used in the assessment which is considered appropriate.	Noted.	Agreed
The buildings relevant to the assessment and can have a significant effect on the dispersion of pollutants have been included in the assessment and therefore considered appropriate.	Noted.	Agreed
The Applicant is asked to clarify whether any potential sources of odour will be introduced at Site and whether mitigation is proposed to address this.	No significant sources of odour are proposed to be introduced on site and have therefore not been included in the assessment.	The process and the pollutants to be emitted from the laboratory are not clear in the assessment, therefore it is not clear how this assertion is justified.
The 'background' pollutant concentrations used are not included in the modelling parameters table, so it is not clear what was assumed for benzene.	No backgrounds have been used in the assessment, as discussed in the report. The results show process contribution.	**Acceptable**: The model may therefore underpredict environmental concentrations, however in reality, the 'headspace' afforded by the process contribution being <10% of the relevant air quality standard should mean the underprediction is unlikely to be significant.
The dispersion model was run with emissions of 1g/s per strobic fan to determine the annual mean, and maximum daily and 30-minute mean process contributions across the study area. The maximum predicted process contributions of pollutants for the relevant averaging periods have been used to calculate the emission rates required to achieve 10% of relevant EALs. For each scenario, the short-term (Daily and 30 minute-mean) and long-term (annual mean) impacts were compared to the EALs. The emission factor from the averaging period with the highest process contribution, and therefore worst air quality impacts was used to calculate the results. This methodology is considered acceptable.	Noted	Agreed.
The stated exit velocity of 32m/s seems quite high. We would ask the assessor to confirm that this is correct.	An exit velocity of 32m/s was provided in the information pack by the project team. It is confirmed that the exit velocity of the fume extract fan is 32m/s. The design has adopted Strobic Fans with	Noted & accepted**.**

	high discharge velocity to bring the stack height down	
The assessor is asked to clarify whether any nearby committed or consented schemes include sources of similar or other chemical emissions which could cumulatively affect air quality have been considered within the dispersion modelling assessment.	Cumulative effects have not been considered within the dispersion modelling assessment. The application of the 10% control limit provides a suitably robust reduction to account for any uncertainty or potential cumulative effects.	Agreed.
The assessor is asked to clarify if any mitigation measures are proposed within the proposed development.	No addtional mitigation for laboratory emissions has been identified as being required.	On this basis, it is not clear how the Council can be assured that emissions would be controlled if consent is granted. A condition requiring details of emissions, controls and mitigation before first use may provide a mechanism for this.

Overall, the comments are helpful in provide clarification of the majority of questions, however potential uses and consequent emissions from 'life science and innovation uses' are not discussed and the potential for emissions of, for example microbiological or pharmaceutically active substances is not addressed.

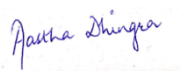
It is therefore not clear how the Council can be assured that such emissions would be controlled if consent is granted. A condition requiring details of likely emissions, control and mitigation, before first use may provide one mechanism for this.

We hope you will find our review and observations helpful. However, should you have any queries or wish to discuss any matters, please do not hesitate to contact us.

Yours sincerely,

For RSK Environment Limited

Prepared by:



Dr Aastha Dhingra
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Reviewed by:

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