

18 December 2023

Ref: 23102.231220.L3

Sue Wheatcroft
Architectural Technologist
Norder

Dear Sue,

23102: HEINEKEN MANCHESTER – AMMONIA EXTRACT FANS

Introduction

KP Acoustics has been commissioned to assess and advise on the potential breakout of noise, relating to the installation of new plant at Heineken, Denmark Road, Manchester, M15 6LD, in relation to the Ammonia Extract Fans proposed for the CO2 Building.

Previous Noise Study

A full study of the noise environment was carried out and detailed in KP Acoustics report with reference 23102.PCR.01, dated 23/12/2021. This study included a noise survey with noise measurements of the surrounding area, taken between 18:46 on 27/09/2021 and 14:41 on 28/09/2021. Detailed measurements of many noise sources at the Heineken site were also taken during this time, and a computer model of the noise contribution of the site to the wider environment was created as part of the study.

In the above study the noise impact of the site was found to be acceptable, with mitigation measures recommended to bring down the noise levels of some elements which had been complained about or were otherwise found to need noise mitigation.

Description of Proposed Plant

New Ammonia Extract Fans plant has been proposed for the CO2 Building. To ensure that the noise contribution to the environment does not increase beyond established targets, the proposal is assessed below. The locations of proposed units are shown in Figure 1.1 and 1.2. The louvres are understood to be existing, and the extract vents are new, with new fans terminating at these points.

A letter related to planning application 138497/FO/2023 was issued by Manchester City Council on 12 December 2023 setting out the condition related to acoustics for new plant at this site. It is quoted below:

“Externally mounted ancillary plant, equipment and servicing shall be selected and/or acoustically treated in accordance with a scheme designed so as to achieve a rating level of 5dB (LAeq) below the typical background (LA90) level at the nearest noise sensitive location. Prior to commencement of the use hereby approved the scheme shall be submitted to and approved in writing by the City Council as local planning authority in order to secure a reduction in the level of noise emanating from the site. The scheme shall be implemented in full before the use commences or as otherwise agreed in writing by the City Council as local planning authority”

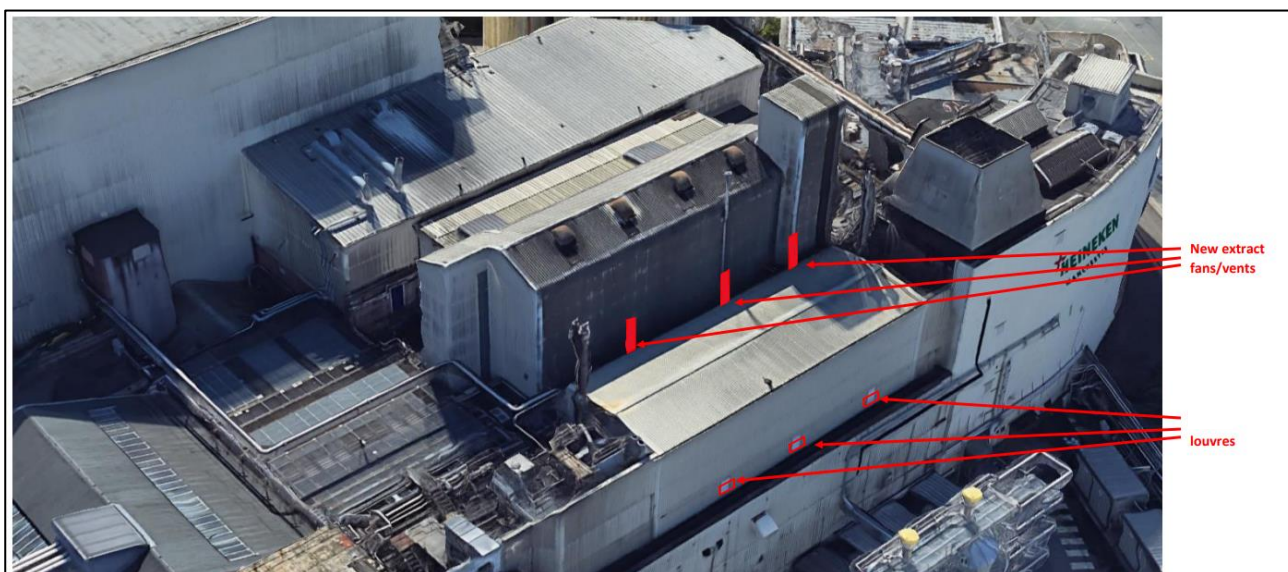


Figure 1.1 Proposed Plant Locations (Source: Norder/Google Maps)

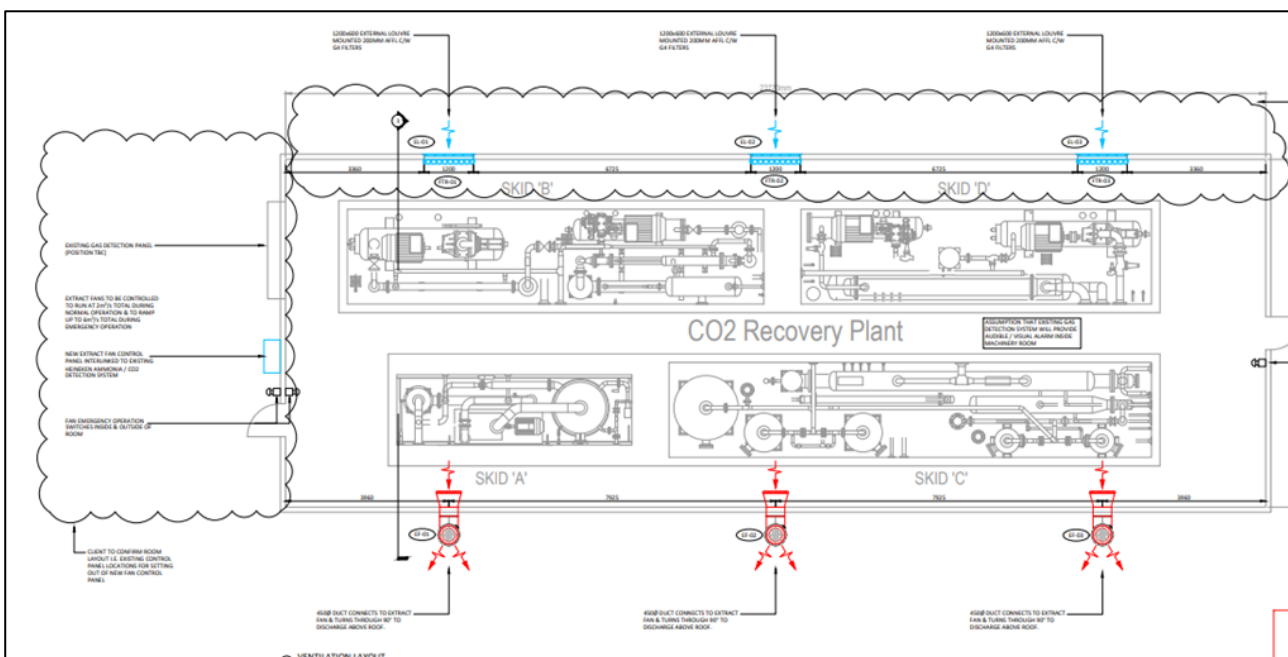


Figure 1.2 Proposed Plant Locations (Source: Norder)

The noise emission levels as provided by the suppliers for the fans are shown in Table 1.2. Frequency spectrum noise levels are assumed from similar units, as only single figure noise levels were available. No in-duct noise levels, only casing breakout noise levels for the fans were available, so specification of mitigation is approximate for these units and based on a worst-case assumption.

Unit	Descriptor	Octave Frequency Band (Hz)								Overall (dBA)
		63	125	250	500	1k	2k	4k	8k	
Elta Fans, Fan Code 2DENP+BIFCN050L2-A6/14+2DENP (Outlet)	SWL	62	60	52	50	41	45	44	41	32

Table 1.2 Plant Units Noise Emission Levels as provided by the manufacturer

Assessment of Proposed Plant

Following further acoustic computer modelling in SoundPlan software, as described above the noise level contribution expected at the closest receivers to the proposed plant (described in more detail in KP Acoustics report with reference 23102.PCR.01, dated 23/12/2021) would be as shown in Table 1.3. The noise levels shown are before any mitigation.

Receiver	Criterion	Noise Level at 1m From the Receiver (Predictions Before Ammonia Extract Fans), dB(A)	Noise Level at 1m From the Receiver (Predictions After Ammonia Extract Fans), dB(A)
1	50	43	43
2	50	45	45
3	41	41	41
4	44	41	41
5	46	42	42

Table 1.3 Predicted noise level and criterion at nearest receivers

As shown in Table 1.3, transmission of noise to the nearest sensitive windows due to the effects of the proposed plant units is not predicted to exceed established noise targets. The lack of any increase means that the predicted noise level at the nearest sensitive receivers caused by the new proposed plant is at least 5dB below the typical background noise level.

Conclusion

Noise modelling shows that, following the installation of the proposed new plant, noise emissions would meet the requirements of the Local Authority. No increases in noise levels at the nearest sensitive receivers are expected as a result.

We trust that the above information is sufficient with regards to answering the key issues raised.

Yours sincerely,

John Cane MSc MIOA

KP Acoustics Ltd