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NOISE MANAGEMENT PLAN
EXTENSION TO WAREHOUSE AND PALLETISER, HEINEKEN UK LIMITED, MANCHESTER

REC REFERENCE: AC106799-7R1

REPORT PREPARED FOR: HEINEKEN UK LIMITED

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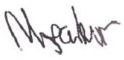
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Date	12/09/2019	27/01/2020		
Prepared by	Martyn Parker	Martyn Parker		
Signature				
Position	Senior Acoustic Consultant	Senior Acoustic Consultant		
Checked by	Michaela Moffatt	Michaela Moffatt		
Signature				
Position	Senior Acoustic Consultant	Senior Acoustic Consultant		
Verified by	Conal Kearney	Conal Kearney		
Signature				
Position	Head of Air Quality and Acoustics	Head of Air Quality and Acoustics		
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1. INTRODUCTION

1.1 Site Location and Proposed Development

Resource and Environmental Consultants (REC) Limited have been commissioned by Heineken UK Limited to complete a Noise Management Plan for a proposed extension to the northern warehouse and two additional internal palletisers, at the existing Heineken Brewery, Denmark Road, Manchester. It is understood that a Noise Management Plan is required in order to ensure acceptable noise levels on Site and incident at existing receptors.

The Noise Management Plan has a specific aim of ensuring that:

- Any noise impact is considered as part of routine inspections;
- Noise is Primarily Controlled at source by good operational practices, including physical and management control measures: and,
- All appropriate measures are taken to prevent or, where that is not reasonably practicable, to reduce the noise emissions from the warehouse at the nearby receptors.

This Noise Management Plan addresses the impact of noise and the control measures employed to mitigate the risk. These are supported through monitoring procedures to identify both elevated levels and review complaints should they arise. The complaints management procedure including the management responsibilities are also addressed.

This Noise Management Plan should be used in conjunction with the most up-to-date externally provided Noise Survey.

All acronyms used within this report are defined in the Glossary presented in Appendix II.

1.2 Limitations

The limitations of this report are presented in Appendix I. Where a noise survey is required to inform the assessment, REC will endeavour to ensure that all noise measurements taken are robust, representative and reliable in order to inform an accurate noise impact assessment.

Where mitigation measures are specified in our report, it should be noted that these measures are relative to a specific sound source, both in terms of the measured sound pressure level and the character of the source. Where either the sound pressure level or the character of the sound varies following completion of the sound survey, REC cannot be held responsible for any subsequent variations in the proposed mitigation performance.

1.3 Confidentiality

REC has prepared this report solely for the use of the Client and those parties with whom a warranty agreement has been executed, or with whom an assignment has been agreed. Should any third party wish to use or rely upon the contents of the report, written approval must be sought from REC; a charge may be levied against such approval.

2. NOISE CONTROL MEASURES

2.1 Site Management Responsibility

The Brewery Manager or Designated Responsible Person (DRP) will have responsibility for ensuring that nuisances and hazards arising from the warehouse due to noise are minimised. The DRP will have responsibility for keeping a record of any noise related complaints, informing the Local Planning Authority and implementing an appropriate course of action to remedy the noise sources which have generated the complaint.

2.2 Physical Control Measures

REC have produced a Noise Impact Assessment (Ref. 106799-4r0, dated 26th February 2019) which detailed the noise impacts of the proposed extension of operational hours upon the closest residential receptors.

In addition, the following physical control measures will be implemented:

- All buildings are cladded to prevent migration of noise beyond the site boundary;
- All machinery is purchased with due consideration to noise levels. Machinery will be assessed and will be as quiet as is reasonably practicable;
- As of January 2019, the FLT fleet on site has moved to be an Electric fleet rather than powered by LPG, thus further reducing the noise emitted across site;
- The Impact form external loading activities and HGV movements are effectively screened by 3m barrier along the northern boundary which removes the line of sight from the activities to the nearest receptors.

2.3 Management Control Measures

A range of management control measures will be implemented at the Site including:

- All HGV engines be switched off when not in operation;
- Signage should be installed along the perimeter of the yard reminding mobile plant drivers and yard operatives to keep noise level to a minimum particularly during the night-time period;
- Staff and operatives who work in the yard area should be informed, as part of on-going inductions and on-going training to keep noise levels to a minimum;
- All doors and windows will be kept closed at all times, except when access is required to attenuate any sound generated within the buildings;
- All plant and equipment will be regularly maintained in accordance with the manufactures specification to minimise any unnecessarily high noise level emissions;
- The Site's staff induction programme will notify staff, external contractors and visitors that they are working within the vicinity of residential dwellings and all unnecessary noise shall not be permitted. To enhance this policy, all staff will be trained to operate all equipment and buses correctly without producing excessive noise: and
- If at any time it is necessary to undertake extraordinary temporary work then the DRP will contact the Local Planning Authority and any other appropriate parties prior to commencement of the work to inform them that any elevated noise levels will only be temporary.

If at any time it is necessary to undertake temporary actions that are likely to cause elevated levels of

noise, the Brewery Manager (or designated responsible person) will contact the Environment Agency and any other interested parties before such actions are taken to inform them of the operations being undertaken and that the elevated levels of noise will be of a temporary nature. Where practicable, such actions will only proceed when the prevailing wind direction is away from sensitive receptors.

All Major Capital Expenditure projects will give due consideration to the generation of noise and, where the projects are significant, the brewery will commission a further independent external noise assessment to assess the impact of the project and, if necessary, carry out any remedial actions to address increased noise levels.

3. NOISE MONITORING

All operational staff will be responsible for reporting any noise problems immediately to the DRP.

No quantitative routine noise monitoring is required as the extended hours should not give rise to noise-nuisance at nearby receptors, as long as best practice is followed as per Section 2.3. Nevertheless, it is recommended that occasional qualitive monitoring of noise levels will be included as a factor by the DRP during typical night-time periods, between 23:00 and 07:00 and a record of the findings be kept. The frequency of these measurements should be dependent on whether complaints have been received or new/amended operations are taking place.

Routine maintenance of all plant and equipment, including vehicles, will also identify equipment operating at elevated noise levels and work will be completed to repair any defect in a timely manner.

4. NOISE CONTINGENCY MEASURES

4.1 Introduction

Elevated levels of noise may be identified either by receipt of a noise complaint from a third- party suggesting that there is excessive noise from the facility or by detection of noise as a result of routine monitoring by personnel.

This section details the contingency measures in place to identify the source of elevated noise levels,

4.2 Noise Complaint Investigation

All complaints from third parties including external customers, potential customers, statutory authorities, statutory consultees, members of the general public and internal clients will be forwarded to the Brewery Manager (or designated responsible person) to action as below and recorded onto the Incident Log within 72 hours as per procedure M-SITE-ENV-0602.

A Site diary which shall include a log of any noise complaints received by the Site shall be kept by the DRP.

The DRP will ensure that:

- The complaint is investigated to identify the cause and if necessary, this may involve direct communication with the complainant;
- In the event of noise being detected, the presence of abnormal on-Site activity is assessed and if necessary, preventative action taken that will prevent a reoccurrence of the same problem. These actions must be documented; and
- The complainant will be contacted and provided with information on the investigations conducted and any remedial actions implemented.

4.3 Elevated Noise Levels

Any elevated levels of noise identified by the monitoring detailed in Section 3 and the complaints procedure identified in Section 4.2 will be mitigated as follows;

- The DRP will investigate the source of the noise and carry out a range of checks at the identified source of the elevated levels if it is found to be originating from within the Site. As part of these checks the DRP will consider the need for quantitative noise monitoring;
- All noise monitoring shall be completed with due regard paid towards the methodology prescribed in British Standards 4142 (BS4142): '*Method for rating industrial noise affecting mixed residential areas'*. Noise monitoring locations shall be agreed with the Local Planning Authority;
- The results of any monitoring will determine whether the warehouse is causing an unacceptable noise impact at the receptor location; and,
- The DRP will then ensure that the Facility is being operated in accordance with the manufacture's specifications, to the requirements set out in Section 2.2 and 2.3 of this Noise Management Plan to ensure that any improvements required to minimise the noise levels are made.

To Further mitigate the elevated noise levels, the following actions shall also be considered:

- The modification of equipment identified as generating excess noise, or at last resort replacement; and
- Once the improvements identified by the DRP have been completed, manager will commission a further set of monitoring to ensure that the improvements have met the required standard. If the noise rating levels are still not being met then the manager will repeat the request for improvements and subsequent monitoring until the noise limits are achieved.

If Operational fallings are identified, the re-training of employees will take place to ensure that all employees operate to the required standards.

The DRP will ensure a close liaison with the Local Panning Authority throughout all stages of the process following an identified elevated noise level.

4.4 Reporting Measures

In the event of elevated levels of noise being identified, the event will be reported into the Incident log by a member of operational staff. Upon notification of an Environmental Incident, the Brewery Manager (or designated responsible person) will complete an incident reporting form M-SITE-ENV-0602a. The completed form is then distributed throughout the company for review at operational, management and health and safety meetings.

The Incident log will record any actions taken to rectify the issue, ensure that any necessary actions or review are recorded onto the Incident log system and ensure that the person reporting the incident is notified if required and/or possible.

The Brewery Manager (or designated responsible person) will investigate the performance failure event as soon as reasonably practicable and, if necessary, will report the event to the Environment Agency. Once the issue has been resolved, the corrective action taken will be entered onto the system and the issue will be closed.

5. INCIDENT PLANS

5.1 General

This section considers the potential for incidents which would result in the loss of control of noise emission and could have an unacceptable short-term impact on the local community.

The measures in place to mitigate any incident will generally be the same as those identified on Section 4.3.

If a situation is considered to be an incident by the DPR then the mitigation measures will be immediately implemented by the Site manager.

5.2 Breakdown of Equipment & Plant

Elevated noise levels may be emitted from the warehouse due to the breakdown of certain plant items. Machinery not operating to the manufacture's specification may create unacceptable levels of noise.

In the event of equipment or abatement breakdown, the mitigated measures to be undertaken are the same as the contingency mitigation measured detailed in Section 4.2.

6. MANAGEMENT RESPONSIBILITIES & REVIEW

It is anticipated that the Site Manager and the DRP will share joint responsibility for the implementation of this Noise Management Plan.

The DRP will be supported by the Site Manager. The Site Manager is responsible for monitoring, auditing and evaluation of Site performance.

6.1 Review of Noise Control Measures

Noise control measures will be reviewed through internal audits as part of the monitoring and auditing process. Internal audits will include, but not necessarily be limited to the following:

- Spot Checks on the higher risk sources of noise to check monitoring and maintenance procedures are being carriers out in accordance with the Noise Management Plan.

6.2 Review of Noise Management Plan

This Noise Management Plan shall be reviewed on at least an annual basis or more frequently if deemed necessary by the applicant or the LPA.

APPENDIX I LIMITATIONS

1. This report and its findings should be considered in relation to the terms of reference and objectives agreed between REC Limited and the Client as indicated in Section 1.2.

2. The executive summary, conclusions and recommendations sections of the report provide an overview and guidance only and should not be specifically relied upon without considering the context of the report in full.

3. REC cannot be held responsible for any use of the report or its contents for any purpose other than that for which it was prepared. The copyright in this report and other plans and documents prepared by REC is owned by them and no such plans or documents may be reproduced, published or adapted without written consent. Complete copies of this may, however, be made and distributed by the client as is expected in dealing with matters related to its commission. Should the client pass copies of the report to other parties for information, the whole report should be copied, but no professional liability or warranties shall be extended to other parties by REC in this connection without their explicit written agreement there to by REC.

APPENDIX II GLOSSARY OF ACOUSTIC TERMINOLOGY

Noise

Noise is defined as unwanted sound. Human ears are able to respond to sound in the frequency range 20 Hz (deep bass) to 20,000 Hz (high treble) and over the audible range of 0 dB (the threshold of perception) to 140 dB (the threshold of pain). The ear does not respond equally to different frequencies of the same magnitude, but is more responsive to mid-frequencies than to lower or higher frequencies. To quantify noise in a manner that approximates the response of the human ear, a weighting mechanism is used. This reduces the importance of lower and higher frequencies, in a similar manner to the human ear.

Furthermore, the perception of noise may be determined by a number of other factors, which may not necessarily be acoustic. In general, the impact of noise depends upon its level, the margin by which it exceeds the background level, its character and its variation over a given period of time. In some cases, the time of day and other acoustic features such as tonality or impulsiveness may be important, as may the disposition of the affected individual. Any assessment of noise should give due consideration to all of these factors when assessing the significance of a noise source.

The most widely used weighting mechanism that best corresponds to the response of the human ear is the 'A'-weighting scale. This is widely used for environmental noise measurement, and the levels are denoted as dB(A) or L_{Aeq}, L_{A90} etc., according to the parameter being measured.

The decibel scale is logarithmic rather than linear, and hence a 3 dB increase in sound level represents a doubling of the sound energy present. Judgement of sound is subjective, but as a general guide a 10 dB(A) increase can be taken to represent a doubling of loudness, whilst an increase in the order of 3 dB(A) is generally regarded as the minimum difference needed to perceive a change under normal listening conditions.

An indication of the range of sound levels commonly found in the environment is given in the following table.

Table A1 Typical Sound Pressure Levels

Sound Pressure Level	Location/Example
0	Threshold of hearing
20 - 30	Quiet bedroom at night
30 - 40	Living room during the day
40 - 50	Typical office
50 - 60	Inside a car
60 - 70	Typical high street
70 - 90	Inside factory
100 - 110	Burglar alarm at 1m away
110 - 130	Jet aircraft on take off
140	Threshold of pain

Acoustic Terminology

Table A2 Terminology

Descriptor	Explanation
dB (decibel)	The scale on which sound pressure level is expressed. It is defined as 20 times the logarithm of the ratio between the root-mean-square pressure of the sound field and a reference pressure (2x10-5Pa).
dB(A)	A-weighted decibel. This is a measure of the overall level of sound across the audible spectrum with a frequency weighting (i.e. 'A' weighting) to compensate for the varying sensitivity of the human ear to sound at different frequencies.
$L_{Aeq, T}$	L_{Aeq} is defined as the notional steady sound level which, over a stated period of time (T), would contain the same amount of acoustical energy as the A - weighted fluctuating sound measured over that period.
L_{Amax}	L_{Amax} is the maximum A - weighted sound pressure level recorded over the period stated. L_{Amax} is sometimes used in assessing environmental noise where occasional loud noises occur, which may have little effect on the overall Leq noise level but will still affect the noise environment. Unless described otherwise, it is measured using the 'fast' sound level meter response.
L_{10} & L_{90}	If a non-steady noise is to be described it is necessary to know both its level and the degree of fluctuation. The Ln indices are used for this purpose, and the term refers to the level exceeded for n% of the time. Hence L_{10} is the level exceeded for 10% of the time and as such can be regarded as the 'average maximum level'. Similarly, L_{90} is the 'average minimum level' and is often used to describe the background noise. It is common practice to use the L_{10} index to describe traffic noise.
Free-field Level	A sound field determined at a point away from reflective surfaces other than the ground with no significant contributions due to sound from other reflective surfaces. Generally as measured outside and away from buildings.
Fast	A time weighting used in the root mean square section of a sound level meter with a 125millisecond time constant.
Slow	A time weighting used in the root mean square section of a sound level meter with a 1000millisecond time constant.