

Noise Management Plan

Site details

Site name: LHR-11/12
Site address: Chandos Road, Park Royal, London
Operator name: VDC LHR11 Limited
Permit number: EPR/NP3949QS/A001

Who this plan is for

- Who should be made aware of this plan? *Site staff, Visitors, Contractors, Environment Agency officers*
- How will they be made aware? *This NMP will be available on site and will be part of the Environmental Management System (EMS) at the site.*

Document owner

Document author: VDC LHR11 Limited
Version number: 01

List of revisions

Revision number	Revision authorised by	Date submitted to Environment Agency	Revision owner

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1. Introduction

1.1 Site description

- brief description of type of site, e.g. waste transfer station, (full details of operations to be described in Section 3)

The wider LHR11/12 site area comprises the LHR11 and LHR12 data centre buildings with associated chiller equipment, standby generators and substation transformers. The Environmental Permit only covers the operation of the emergency standby generators (the installation) as a regulated activity under the Environmental Permitting (England and Wales) Regulations 2016 (as amended); this NMP therefore only pertains to the operation of the emergency generators.

Other noise generating plant such as the chillers and associated ancillary plant, which will operate continuously during daytime and night-time periods, including during emergencies, has been considered within the background noise levels in the vicinity of the installation. The generators would only be required to be operational during power failures and individually for testing and maintenance, and will operate for <50 hours per year individually.

- describe the site location, e.g. industrial area, countryside etc.

The site is located along the east side of Chandos Road, 40m north of A4000 Victoria Road and Bashley Road along the northern boundary. A freight rail line runs along the east side of the site.

The general context of the area surrounding the site is industrial and commercial and there are other data centres nearby, including one closer to the Bashley Road receptors than the installation site, built since the noise surveys were undertaken.

- state the days and hours of operation – if there are different pieces of equipment operated during different times, state the hours of operation (e.g HGV movements are proposed between 07:00 – 18:00 Mon - Fri, the main building will operate 24 hours, 7 days a week)

The regular operation of the generators will be limited to monthly testing. Testing of emergency generators will be restricted to daytime working hours only (08:00 – 18:00) when general noise levels in the area are higher. Generators will not be tested at night.

- any other information you feel is relevant

An assessment of the expected noise emissions from the installation has been undertaken to support the application for the environmental permit and concluded that the impact on the noise sensitive receptors in the vicinity of the installation is not considered to be significant.

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1.2 Maintenance and review of the NMP

- who (job Title) is responsible for the NMP and ensuring people are trained?
Site Manager
- where is the plan stored?
Control room
- state when the plan is reviewed
As part of the periodic EMS review and/ or change in operations
- what training have the staff on site received in order to implement the NMP?
Training related to Environmental permit conditions and management controls implemented at the installation.
- how often are they trained and who delivers the training?
Induction training and periodic refreshers.
- any other information you feel is relevant
The operation of the installation will be infrequent and limited to emergency and testing operations only. Noise emissions from the installation are therefore considered to be limited.
- who will maintain records of complaints and associated investigations due to noise on site?
Site Manager
- who is responsible for carrying out ongoing noise monitoring and acting on the results of this monitoring?
N/A

1.3 Relevant sector guidance on which this NMP is based

- *Noise emissions from emergency operation of the facility have been calculated using proprietary modelling software. The impact of noise during emergency conditions has been assessed in accordance with BS4142:2014+ A1:2019 Methods for rating and assessing industrial and commercial sound.*
- *Significance of effects criteria in Planning Practice Guidance (PPG) have been referred to.*
- *The assessment estimated the significance of the noise impact on the noise sensitive receptors in the vicinity of the installation, including local residents, and demonstrates that the noise levels at the receptor locations are below the relevant noise standards and therefore will not have a significant impact on the receptors.*

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- *The application of BAT for the operation of the emergency generators primarily comprises the mitigation of noise emissions from the generators and application of operational controls. The generators are all contained in acoustic enclosures to limit the noise emissions as well as having implementation of attenuators on the generator air inlets and exhausts of the generators (where required). Additionally, the operation of the generators is expected to be very infrequent (<50 hours per year of individual operation) and will primarily comprise of periodic testing. The operator will schedule the testing of the generators during the normal working hours only.*

2. Receptors

2.1. Receptor List

Table 2.1. Receptor list

Receptor reference (A, B, C etc. Use to label Fig 2.1)	Land use e.g. house, school, hospital, commercial	Direction from site (north, south, east, west)	Approximate distance to site boundary (m)
<i>R1</i>	<i>residential (caravan site)</i>	<i>North</i>	<i>19</i>
<i>R2</i>	<i>residential (houses)</i>	<i>South-east</i>	<i>75</i>
<i>R3</i>	<i>residential (apartments)</i>	<i>South-east</i>	<i>95</i>
<i>R4</i>	<i>residential (apartments)</i>	<i>East</i>	<i>105</i>

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Figure 2.1 Map of site location and receptors



3. Noise sources and processes

The installation will comprise of generator units only, which will operate for <50 hours per year and on an infrequent basis. The wider site consists of chiller equipment and substation transformers, which will operate continuously but are outside the scope of the environmental permit; these plants have been included in setting the background noise levels at the installation site. The generators would only be required to be operational during power failures and for testing and maintenance.

Noise mitigation measures are implemented on the generators, including application of acoustic enclosures and attenuators.

The installation will include delivery to and on-site storage of fuel for running the generators. The installation will store sufficient fuel to operate the generators for 24 hours continuously. Considering the infrequent operation of the generators, fuel deliveries to the installation are expected to be limited. The operator will schedule fuel deliveries during normal working hours (0800 – 1800 hours) to limit the noise emissions from the delivery operations.

3.1 Noise impact assessment (NIA) conclusion

- *Calculations of plant noise during emergency conditions indicate that plant noise limits, which have been set based on the typical background noise levels at the nearest sensitive receptors, can be met with the proposed plant selections and scheme of attenuation proposed.*
- *Noise from all generators of both data centres running together is predicted to be no more than 5dB above the typical night time background noise level at the entrance of the traveller's site (R1) and at Midland Terrace/Shafsbury Gardens (R2-R4). This meets the Local Authority criteria. This is based on the worst case of all generators from both buildings in operation (as well as both data centres and associated chillers, AHUs and smoke extract fans).*
- *With one generator running for testing the noise level at the nearest properties is predicted to be lower than the daytime background level and is likely to be acceptable for short term running or testing.*
- *During an emergency situation or when testing emergency equipment, a low effect is expected (LOAEL) with a Moderate Magnitude of impact, particularly given the context of the area which is largely industrial.*
- *The context of this impact occurring is an unlikely temporary emergency situation with limited duration.*

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- describe any important contextual points

N/A

- state which sound sources on site are dominant at nearby receptors

The installation only covers the operation of the generators. These have been assessed via a noise impact assessment (in support of the permit application)

3.2 Noise sources

Table 3.2 Description of noise emitting processes

Noise source	Sound power level (dBA)	Sound pressure level (dBA)	Measurement distance (m)	Operational conditions	Additional comments
Generators group 1 (LHR 11)	-	65dB(A)@1m (from each exhaust/intake air louvre)	1	Emergency operation	Noise from the generators has been calculated within the generator building and the air intake and exhaust louvres specified to achieve 65dB(A)@1m based on this internal reverberant level.
Generators group 2 (LHR 12)	-	65dB(A)@1m	1	Emergency operation	These generators are in proprietary enclosures rated to achieve 65dB(A)@1m in all directions and from the exhaust flue.A

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Noise sources associated with the scheme during emergency conditions include numerous items of fixed plant with associated attenuation including permanent generators in acoustic packages or in a building with acoustic attenuation. These have been designed to achieve the noise limits set for planning and the associated impacts.

Details of the plant included in assessments is given in the Noise Impact Assessment report produced for the permitting application.

It is noted that fuel deliveries by lorry to serve the emergency generators would be very occasional and not likely to result in any significant difference to current noise and activity in the area.

3.3 Overview of noise processes and emissions

Provide a description (whether text / diagrams or tables) of the site layout and the processes carried out including the information in the bullet points below as a minimum. Use Figure 3.3 as a guide to show the site infrastructure relevant to any noise emitting processes carried out and the sound emission locations on your site e.g.

- name and type of buildings,
- loading and unloading areas,
- routes which mobile plant take on site,
- locations of static equipment,
- storage areas,
- processing areas,
- which activities create the most noise,
- fixed plant and layout of equipment, e.g. trommel, conveyor etc,
- locations of mobile plant,
- noise emission points,
- any other information you feel is relevant

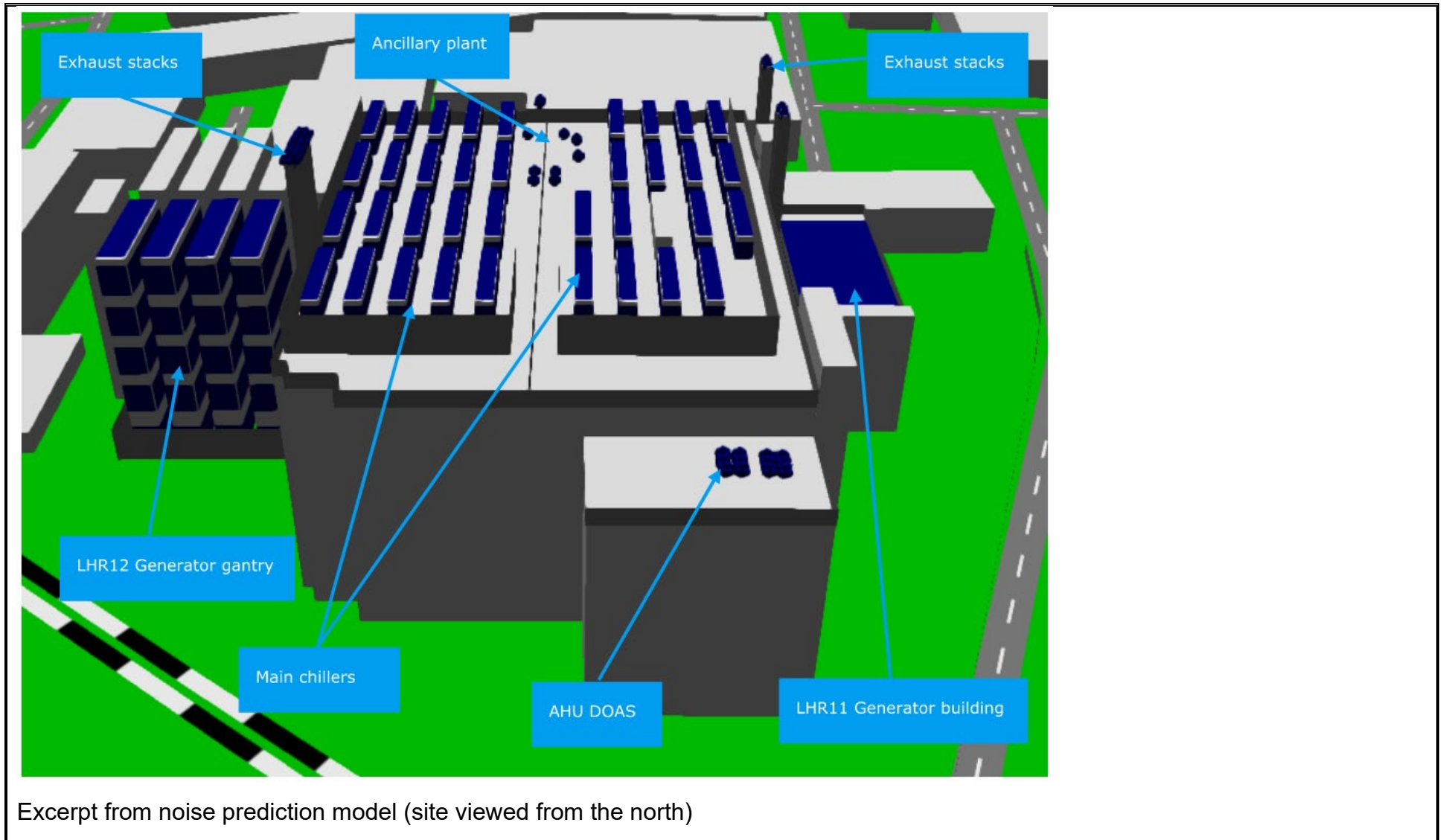
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Figure 3.3 – Site plan showing locations of noise emitting processes, with routes shown of mobile noise emitting sources



4. Control measures and process monitoring

4.1 Appropriate measures / Best available techniques (BAT)

Table 4.1 Actions and procedures which will be in place to achieve appropriate measures / best available techniques (BAT)

Activity which produces noise	Operational Hours / days	Control measures (Appropriate Measure / BAT)	Contribution to overall impact	Action taken if outside optimum process parameters
<i>Emergency operation of generators</i>	<i>As required – this is not a pre-determined activity and will require the generators to operate as required, with the permitted operation in this scenario for up to 500 hours per year.</i>	<i>Generators located inside acoustic structures, with attenuators implemented as required. Plant selected to ensure the required noise emission limits are achieved by the generators. Regular maintenance of the generators to ensure optimum operation of the units.</i>	<i>High</i>	<i>Review operations and investigate reasons for elevated sound levels following completion of emergency operations.</i>
<i>Testing of generators</i>	<i>0.5 hour/ month, 0800-1800 hours</i>	<i>Application of operational controls such as scheduling generator testing during normal working hours only and not during night-time.</i>	<i>Low</i>	<i>Cease operation and investigate reasons for elevated sound levels.</i>
<i>Fuel delivery</i>	<i>Expected to be a few times per year.</i>	<i>Fuel delivery to be during normal operating hours only.</i>	<i>Low</i>	<i>This is only likely if fuel deliveries are more frequent, in which case the operational requirements and on-site storage capacity will be reviewed.</i>

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4.2 Onsite monitoring procedures

Table 4.2 Description of onsite processes which will ensure impacts do not increase on site.

Description of procedure	Procedure	When will this be carried out?	Corrective action
<i>Replacing old / faulty equipment</i>	<i>Procurement of new equipment</i>	<i>When equipment requires replacing</i>	<i>Replace with equipment that have sound levels which are equivalent or lower sound levels compared to existing equipment</i>
<i>Checking noise barriers</i>	<i>Visual inspection of barriers to ensure no gaps or holes</i>	<i>Monthly</i>	<i>Repair the barriers if holes or gaps are found.</i>

4.3 Monitoring off site sound levels

As the installation will not operate continuously, regular noise monitoring is not undertaken on site.

Table 4.3 Description of the sound monitoring procedures

Measurement Location	Frequency of measurement	Minimum measurement duration	Measurement period	Operating conditions on site	Expected specific sound level
<i>N/A</i>					

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Provide a description (whether text / diagrams or tables) of the procedure which will be implemented if sound levels are measured which are in excess of the expected results in Table 4.1 above.

- who will be responsible for carrying out the investigation? This should be a competently qualified person.
- what immediate steps will be taken in the short term to reduce sound levels?
- what steps will be taken in the long term to reduce sound levels?
- when will equipment be replaced?

N/A

5. Complaints reporting

Describe how the public can contact the site with a noise complaint (e.g., dedicated phone number/email address on company website?)

Contact details for contacting the installation to be developed as the installation progresses towards operation.

Detail the protocol for each stage of your complaints response:

- recording,
- investigation,
- notification of EA,
- remedial action (describe general criteria for considering that a complaint is resolved),
- feedback to complainants and EA,
- attain feedback from complainant.

Ensure that your procedures are in line with your permit and include a review and improvement cycle following complaints.

A comprehensive protocol for the complaints response providing details of each stage will be developed prior to commencement of operations.