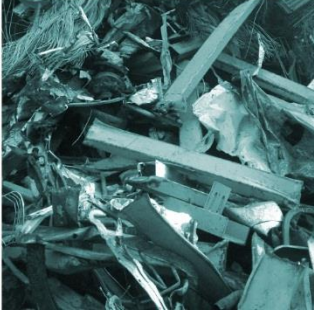
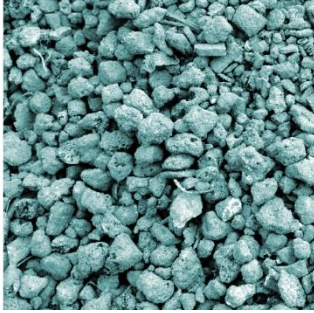
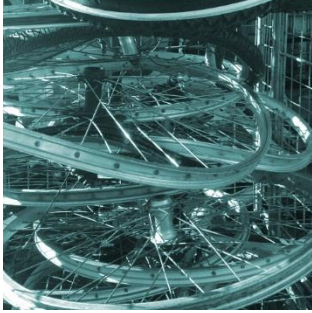
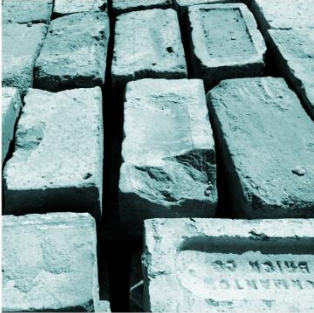
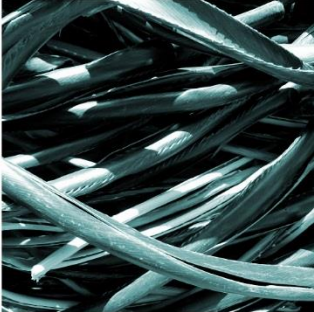
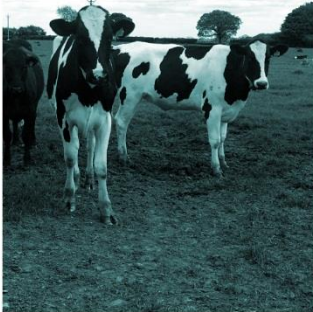
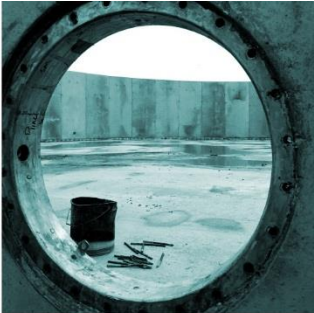


BIO DYNAMIC UK LIMITED PERMIT VARIATION APPLICATION

Noise Management Plan

April 2022



Client: Bio Dynamic UK Limited
Document Reference: HC1677-19

REPORT SCHEDULE

Operator: Bio Dynamic UK Limited

Client: Bio Dynamic UK Limited

Project Title: Bio Dynamic UK Limited Permit Variation Application

Document Title: Noise Management Plan

Document Reference: HC1677 -19

Report Status: Final 1.1

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Joanna Holland	13 th August 2022
APPROVED	
Joanna Holland	13 th August 2022

REVISION HISTORY	DATE	COMMENTS	APPROVED
Final Version 1.0	19 th August 2022	For Submission to EA	Maxwell Bagnall
Final Version 1.1	25 th April 2023	Update site configuration	Maxwell Bagnall

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APPENDICES

Appendix 1 Noise Complaint Form

1. INTRODUCTION

1.1 Introduction

1.1.1 The Noise Management Plan outlines the methods by which the operator will systematically assess and minimise the potential impacts of noise generated at the Bio Dynamic UK Limited AD Facility. The Noise Management Plan is a working document with the specific aim of ensuring that:

- 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 noise emissions from site operations.

1.1.2 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 elevated levels should they occur, and to review complaints should they arise. The complaints management procedure, including the management responsibilities are also addressed.

1.2 Site Details

1.2.1 The Bio Dynamic UK Limited AD Facility is an anaerobic digestion facility located at Colwick, Nottingham. The facility processes food waste feedstocks into biogas which is then upgraded to biomethane to be injected into the national grid system or burnt in the onsite CHP engines to produce electricity. The resultant digestate is spread to land for agricultural benefit. The facility is designed to accept up to 150,000 tonnes of food waste per annum which will be delivered to the site by HGVs, trailers and tankers. A proportion of this waste will be exported offsite for processing in other AD plant sites.

1.2.2 The site is located at the eastern end of the north side of Private Road No. 4, Colwick Industrial Estate, NG4 2JT, NGR SK 63425 39835, and extends to approximately 1.4 ha in area

1.2.3 The anaerobic digestion process is automated and continuous over a 24-hour period; however, the facility will accept waste deliveries during the following hours (this may be subject to change and any change will only be made in line with a review of potential impacts identified in the NMP or planning requirements):

Monday – Friday: 06:00 – 20:00

Saturday – 06:00 – 12:00

1.2.4 Digestate will leave the site on an ongoing basis to be stored in satellite stores at the site of spreading during the following hours (this may be subject to change and any change will only be made in line with a review of potential impacts identified in the NMP or planning requirements):

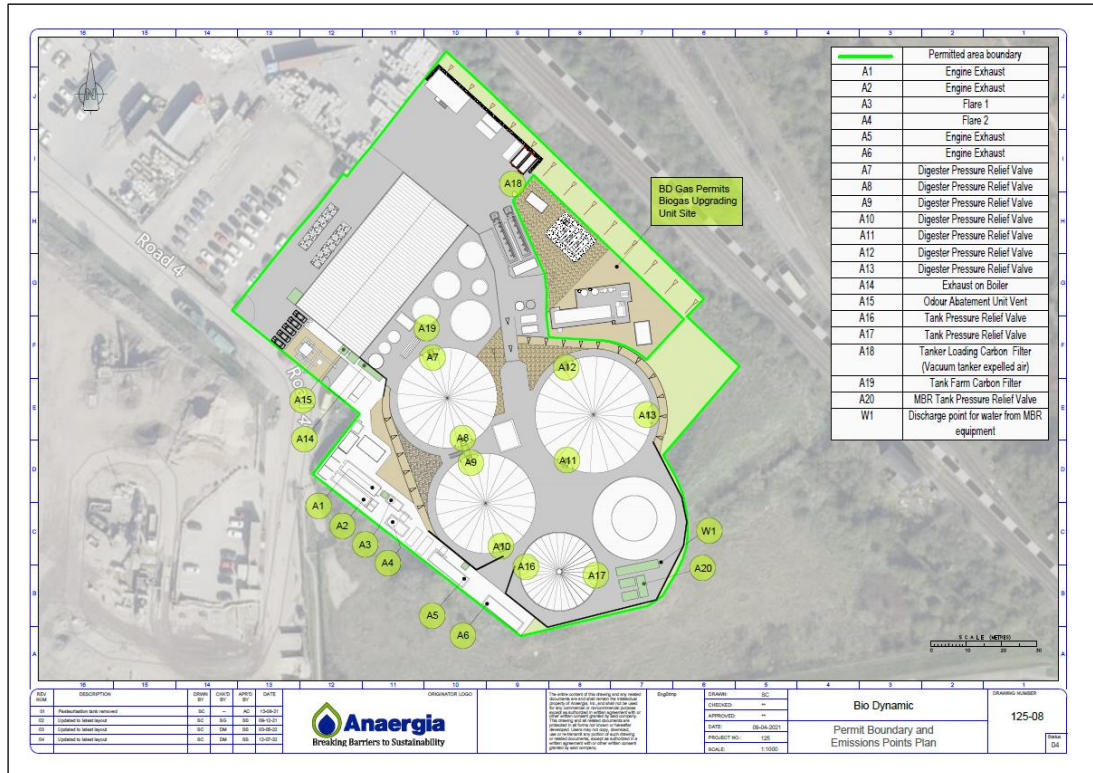
Monday – Friday: 06:00 – 22:00

Saturday – 06:00 – 13:00

1.3 Site Plan

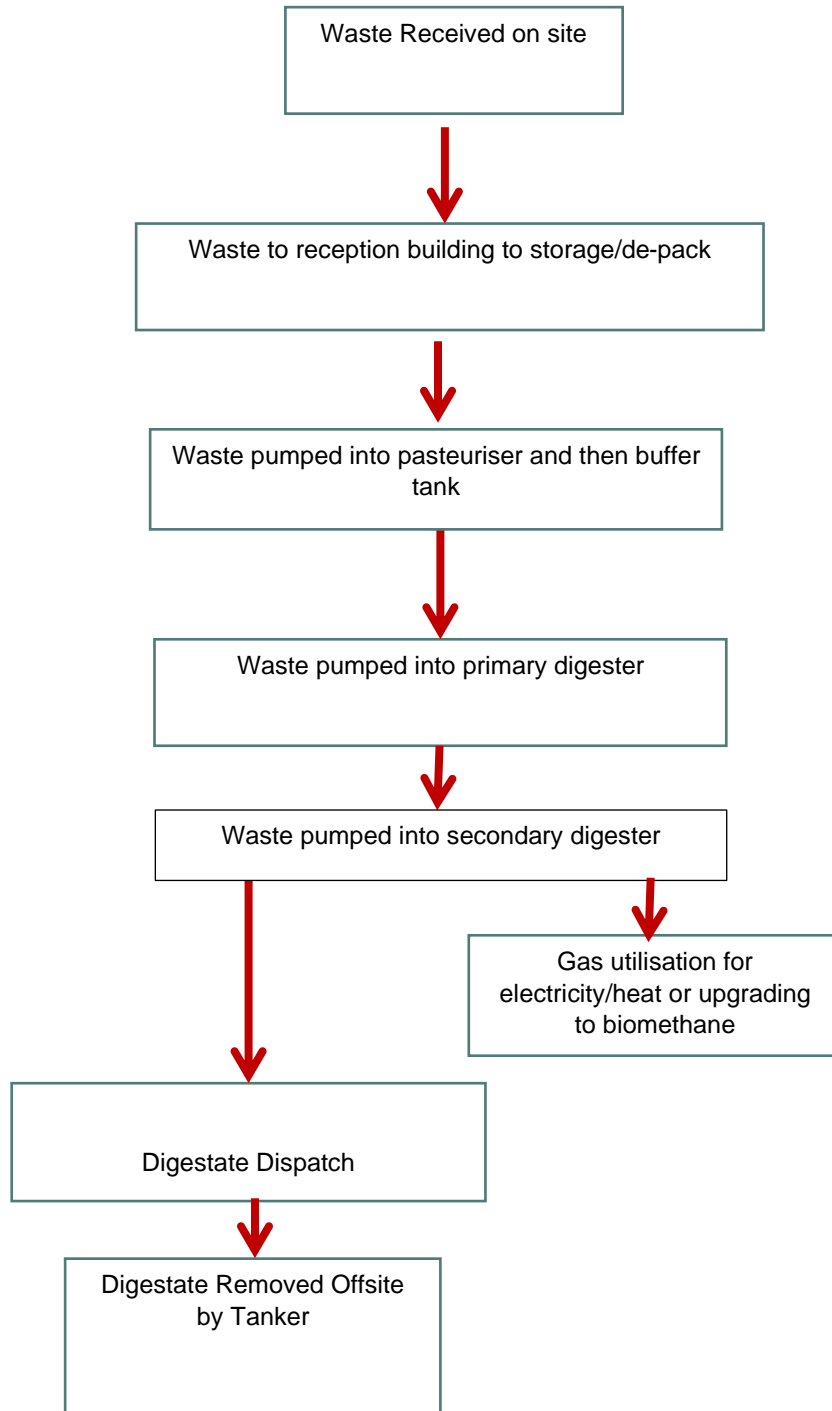
1.3.1 The green line indicates the permit boundary. The Site Plan is available in full at document reference HC1677-06a Site boundary, layout and emissions points plan.

Figure 1 – Site Plan



1.4 Process Flow Summary

1.4.1 The flow chart below represents the process flow data for the facility.



2. NOISE SOURCES, RELEASES AND IMPACTS

2.1 Sources

- 2.1.1 The main noise contributions at the site will result from external items of operational equipment and vehicle movements to and from the site. All vehicle deliveries and processing of wastes will take place inside a waste reception building. Other equipment which creates noise (CHP operation, operation of pumps/mixers and gas membrane fan) is also housed in containerised units or in a technical building.
- 2.1.2 Occurrences of noise are typical for an anaerobic digestion facility and have been the subject of a noise screening assessment to determine any potential noise impacts. The facility is within critical distances of sensitive receptors (workplaces) and in addition there are residential receptors within several hundred meters of the site.

2.2 Receptors

- 2.2.1 Below in Table 1 is a list of potential noise receptors, and diagram showing locations of receptors as outlined in Table 1 of the Noise Impact Modelling Assessment carried out in January 2022 by dBx Acoustics Limited.

Table 1 Potential Noise Receptors

Reference	Receptor	Location	Approximate Distance to the Site Boundary
R1	Residential dwelling overlooking Lane Holme	South-west of the Site boundary	730m to the South-west
R2	Horse-riding school (Oakfield Livery) overlooking Island Lane	South-east of the Site boundary	670m to the South-east
R3	Residential dwelling overlooking Oak Avenue	South-east of the Site boundary	860m to the South-east

2.2.2 Receptor Locations are shown in Figure 2 below.

Figure 2 – Receptor Locations (excerpt from Noise Modelling Risk Assessment, dBx Acoustics Limited, January 2022)



2.3 Personnel and Visitors

2.3.1 Personnel/operatives working on site are the closest receptors to any noise and vibration produced on site, however due to consistent working conditions it may be unlikely that operatives would be particularly sensitive to noise and vibration. All operatives should be made aware of the issue of noise and vibration on site and should be fully conversant with the contents of the Site Management System and the Noise Management Plan.

2.3.2 Personal Protective Equipment (PPE) shall be made available where appropriate.

2.3.3 It is unlikely that noise and vibration from the facility will cause nuisance or distress to visitors to the site. However, all visitors shall be made aware that the site is an anaerobic digestion facility. PPE shall be made available where appropriate or requested in line with the site induction programme.

2.4 Neighbours

2.4.1 Neighbouring residential sites and businesses are likely to be the most sensitive receptors to noise and vibration nuisances especially those not operating industrial facilities where noisy plant/equipment is used. The immediate neighbouring businesses are industrial in nature and have the potential to generate noise from their own activities. Good relationships with neighbouring landowners and businesses are essential to anticipate potential problems and avoid them, where possible, to avoid any cause for complaint. The Operator shall ensure:

- that all the neighbours know how to contact the site if they consider noise and/or vibration to be a problem (contact details will be clearly visible on the site notice board along with Environment Agency details); and
- that any complaints are recorded and that problems, where possible, are dealt with promptly.

- 2.4.2 It is considered unlikely that noise and vibration from the site will cause nuisance or distress to neighbouring industrial sites, or to nearest residential premises to the site. The receptors listed above will be considered within the noise management plan for the facility.

2.5 Site Management Responsibility

- 2.5.1 The Site Manager will have responsibility for ensuring that nuisances and hazards arising from the operations due to noise are minimised, and that the measures outlined in this management plan are implemented.

3. NOISE MITIGATION

3.1 Noise Mitigation

3.1.1 As part of the facility design the following general noise control measures have been identified to mitigate the site causing nuisance and to manage the potential for noise impact in a proactive manner.

Table 2 Noise Mitigation Measures

Equipment / Process	Mitigation
Process equipment	<ul style="list-style-type: none"> • All plant and equipment will be regularly maintained to ensure that no item will produce excessive noise. • No routine maintenance work outside of working hours is anticipated to be undertaken. • Pumps/fans/compressors contained within buildings or provided with containment wherever possible/beneficial. • Flare is not in constant use. Run hours will be recorded • CHPs and boiler to be located within insulated container. • Buildings and container doors to be kept closed. • Reception hall and technical building fitted with insulated cladding.
Manual Handling / Tools	<ul style="list-style-type: none"> • Place tools and equipment on the ground – do not drop • Cover surfaces where tools/equipment is placed with resilient material
Cars, Vans and Tankers	<ul style="list-style-type: none"> • Site opening hours Monday – Friday: 06:00 – 22:00 • Saturday – 06:00 – 13:00. Waste deliveries accepted during hours Monday – Friday: 06:00 – 20:00 • Saturday – 06:00 – 12:00 • Avoid slamming doors • Minimise speed and engine revs • Stereos / radios off • Minimise use of horns • Switch off engines when stationary • Keep site roads well maintained
Reversing Alarms	<ul style="list-style-type: none"> • Alarm level to be variable relative to the background noise level • Consider non-audible warning systems such as white noise, flashing lights, or use of banksman • Operative in attendance during reversing onsite

4. NOISE MONITORING

4.1 Noise Monitoring

- 4.1.1 The noise impact modelling assessment (January 2022) has considered the effect of noise on residential amenity both within properties at night, and externally during the daytime period. A BS4142 assessment has then been presented which indicates that the rating level $L_{Ar,Tr}$ is below the existing background sound level during the most sensitive night-time period at all receptors. This indicates a low likelihood of adverse impact.
- 4.1.2 As a result of the findings of the noise screening assessment presented in the Noise Impact Assessment Statement, no routine noise monitoring is planned for the site. However, should complaints be received alleging nuisance from noise arising from the site, then instigation of a monitoring programme to further assess the cause of impacts will be considered.
- 4.1.3 The operator will undertake routine weather monitoring on an ongoing basis via an onsite weather station which will provide baseline data to assist assessment of any noise complaints should they be received.

5. RECEIPT OF COMPLAINTS

5.1 Response to Identification of Elevated Noise Levels

- 5.1.1 Elevated levels of noise may be identified either by operational staff or by receipt of a noise complaint from a third party suggesting that there may be an excessive noise from the Bio Dynamic UK Limited AD Facility.
- 5.1.2 This section details the contingency measures in place to identify the source of elevated noise levels, bring noise levels back under control and minimise their impact.

5.2 Receipt of Complaints

- 5.2.1 Members of the public can contact the site manager with any noise or vibration complaints about the Bio Dynamic UK Limited Site by the following means:
- By telephone 0115 8501425 the contact number will normally be manned from Monday to Saturday during normal working hours.
 - By email to enquiries@biodynamicuk.com
- 5.2.2 These methods of contacting the site manager will be displayed at the site, shown on the company website and communicated through meetings, press releases, bulletins and other forms of advertisement in connection with operation of the facility.
- 5.2.3 Members of the public are also able to contact the Environment Agency or the Local Authority with any noise or vibration complaints about the Bio Dynamic UK Limited Site; the contact details for these will be displayed on the site notice board and are readily available elsewhere.
- 5.2.4 Once a complaint has been received and the details collected, the complaint will be processed in the manner outlined in the section below.

6. MANAGEMENT OF COMPLAINTS

6.1 Complaint Registration

6.1.1 The operator will maintain a record of all complaints received. If the operator receives a complaint alleging potential noise nuisance from operations at the site:

- The complaint will be fed into the registration system; and
- The complaint data will be recorded in a systematic way, enabling comparison with standard noise descriptors, with wind direction and site work activities on a dedicated form included here as Appendix 1.

6.1.2 Complaints will be recorded on the given form and any preventative or corrective actions identified as a result of the incident will be managed in line with the EMS Corrective and Preventative Action procedure.

6.2 Roles and responsibilities for complaints management

6.2.1 It is the duty of all members of staff to receive and record complaints, which will be processed by the site manager. Complaints will be investigated according to the procedure outlined.

6.3 Collecting Complaint Details

6.3.1 Wherever possible, the following minimum information will be collected for each complaint:

- The time and date when the offensive noise was observed;
- The location where the offensive noise was observed, (e.g. postal address, grid reference);
- The complainant's description of noise. This should include a subjective description of all the factors necessary to assess the impact of the noise, including intensity, character, relative unpleasantness (pleasant, unpleasant or neutral), frequency and duration;
- The identity of the complainant, if possible, to assess the repeated nature of complaints;
- The residential address of the complainant; and
- Any other information the complainant can offer on activities at the alleged noise source.

6.3.2 It is also necessary to collect (by observation, routine monitoring or further investigation) the following additional information to allow subsequent analysis and collation of complaints:

- Wind direction and speed, and atmospheric stability class at the time of complaint;
- Any process incidents at the time of complaint; and
- Other off-site activities ongoing at the time, such as activities at the adjacent industrial estate

6.4 Investigating of Noise Complaints

6.4.1 This response procedure sets out what investigative actions will be taken in response to a complaint. The aim of the investigative actions will be to establish:

- The source of the noise complaint; and
- The impact of the noise.

6.4.2 A series of investigative tools, of increasing sophistication, will be used until these two questions can be satisfactorily answered. This then enables the appropriate noise controls to be applied if the impact is significant and the source is confirmed as operations at the Bio Dynamic UK Limited Biogas Site.

6.5 Complaint Screening

- 6.5.1 The investigation will start with an initial screening of the complaint. If the screening process fails to confirm the noise incident, then the investigation will stop at that point. If the screening process confirms the noise incident, then a more detailed investigation is carried out.
- 6.5.2 The object of the initial screening is to quickly screen out those noise complaints that are unlikely to be due to the Bio Dynamic UK Limited site, perhaps because they result from some other activities in the area.
- 6.5.3 The initial screening exercise will consider the following:
- knowledge of potential sources at the Bio Dynamic UK Limited Site (including work activities in progress, any technical problems, etc);
 - knowledge of potential sources in the locality other than the Bio Dynamic UK Limited Site;
 - wind direction at the time of the alleged noise episode; and
 - distance of the complainant from site.
- 6.5.4 The operator will liaise with local stakeholders (including the complainant) and inform them of the outcome of the assessment of the complaint and whether any action is to be taken.

6.6 Further Investigation of the Complaint

- 6.6.1 If the initial screening concludes that the Bio Dynamic UK Limited Site could be the source of the noise complaint, then further investigation will be carried out, which will either 'confirm' and 'further characterise' the noise incident as due to site operations, or it will 'fail to confirm' the incident.
- 6.6.2 Further investigation will be by means of a graded response, designed to answer the questions:
- can the source of the episode be linked to the operations at the site; and
 - what is the scale of the impact?
- 6.6.3 The operator may undertake noise monitoring to provide supporting data to answer these questions or provide additional confirmation. The monitoring effort is increased in a graduated way until the data generated is enough to answer the relevant questions being asked. If the level of monitoring being carried out at a stage in the graded response cannot answer the question (either at all, or with enough confidence to satisfy stakeholders) then monitoring should move to the next level.
- 6.6.4 As well as carrying out monitoring, the operator may be able to obtain more detailed information from operator records about process conditions, observations or inspections at the time of complaint – this would allow noise trends to be identified and possibly reconciled with process operations or maintenance.

6.7 Communication with Complainant

- 6.7.1 In the case of answer phone messages and complaints submitted by email or by letter, an acknowledgement and initial response will be given by telephone or by email within two working days, if telephone or email contact details have been given by the complainant. Where complaints cannot be resolved on initial contact and further investigations are required, a written response will be made within 10 working days of submission of the complaint, if contact details are provided.
- 6.7.2 The primary reasons for further investigation of complaints are to assess potential nuisance and identify the likely cause and source of the noise so that nuisance can be reduced or stopped. In the case of further investigations, the operator will communicate to the complainant the course of

actions likely to be taken to ensure that there is transparency and to establish clear targets and goals for determining the success of any control measures at the outset.

7. FACILITY MANAGEMENT

7.1 General

- 7.1.1 Bio Dynamic UK Limited is committed to managing the impacts of noise from the site effectively. This commitment extends from policies produced at Director level, to the resources available to the competent personnel, to the abilities of the personnel managing noise-critical work tasks. This section describes the responsibility for the management and operation of the site.
- 7.1.2 Bio Dynamic UK Limited conducts operations according to an Environmental Management System that is designed to ensure that all staff are competent to carry out the tasks that have been designated their responsibility.
- 7.1.3 Work instructions, job descriptions and procedures will be established for critical areas of the Company's activity, and these will be issued to or made available to personnel responsible for undertaking these tasks.
- 7.1.4 Further information on roles and responsibilities is given below:
- The facility has a dedicated Site Manager reporting to an Operations Manager and Company Directors;
 - During night hours and weekend staff are available on-call and have remote access to the computerised process control system. There will be a member of staff on site 24 hours a day 7 days a week. This will be either operational staff or security staff;
 - Process operational staff on the site are also responsible for making observations on the ground of general process performance during their daily attendance. During carrying out their daily routine duties on the site, staff are instructed to note and observe any unusual noise occurrences and to report these to the Site Manager;
 - Maintenance/inspection is carried out by site operational staff according to the maintenance plan and procedures. Staff also have access to the principal operations contractor (Anaergia) department which provides on call back up support for equipment servicing, breakdown and repair; and
 - Further maintenance is provided by specialist contractors who carry out routine preventative maintenance and reactive breakdown maintenance. These contractors have clear terms and conditions, which include response times and requirements for routine inspection and servicing.

8. TRAINING AND COMPETENCE

8.1. General Procedures for Training and Competency of Staff

- 8.1.1 Training and competency of staff is controlled by the facility Environmental Management System. The Environmental Management System covers training, awareness and competence. The company identifies training requirements of its employees and provides suitable resources to ensure they have the required knowledge, skills and expertise to carry out their duties. This includes their roles and responsibilities in complying with the policy statements, the Environmental Management System and all relevant legislation. This is achieved through induction training for new employees, awareness training for all and specific training as required. Contractors and all persons performing tasks on behalf of the Company will be made aware of the policy and relevant Environmental Management System requirements and will be competent in the roles undertaken.
- 8.1.2 All staff at the facility are made fully aware of the need to be constantly vigilant about site noise control and management procedures. To minimise risk of emissions, emphasis will be given to:
- awareness of their responsibilities for avoiding noise nuisance; and
 - actions to minimise noise emissions during abnormal conditions.

9. DOCUMENT UPDATES AND REVIEWS

9.1 Document Update and Review

- 9.1.1 The operator is committed to an internal auditing process and to developing documented auditing procedures to record the process. The updating and review of controlled documents is controlled by the Bio Dynamic UK Limited Environmental Management System.
- 9.1.2 The Environment Agency will be provided reasonable access to audit the implementation of the NMP, complaints records and records of the operator's compliance with the NMP.
- 9.1.3 It is the operator's intent that the change mechanism should provide for improvements in management practice and organisation, to allow the NMP to be a living document, whereby changes to plant, equipment and practices that improve the operation of the facility and do not detract from overall environmental performance, are not unduly delayed or hindered. It is envisaged that the NMP will be reviewed and updated at on a regular basis, and as a minimum every four years.

Appendix 1 – Noise Complaint Form

AD PLANT NOISE COMPLAINT REPORT FORM					
	Date Reported:		Report No:		
Name and Address of caller					
Tel. No.					
Location to Facility					
Time and Date of complaint					
Date/Time/Duration of offending noise					
Description of noise, e.g. hiss, hum, rumble, intermittent					
Other comments on noise					
Weather conditions					
Wind strength/ Direction					
Any prior complaints relating to this noise					
Other relevant information					
Potential sources of noise					
Operation at time of noise, e.g. deliveries, feeding etc.					
Follow Up:					
Date/Time caller contacted					
Action Taken					
Any amendments required to Noise Management Plan					
Completed By		Signed:		Date:	



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