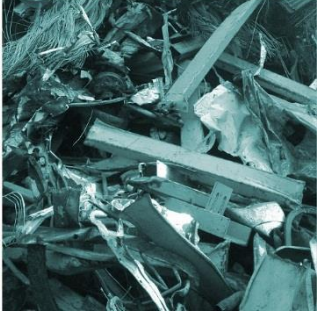
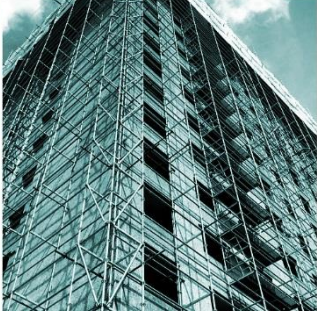
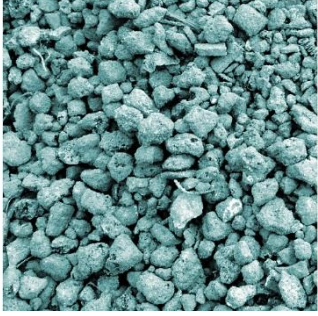
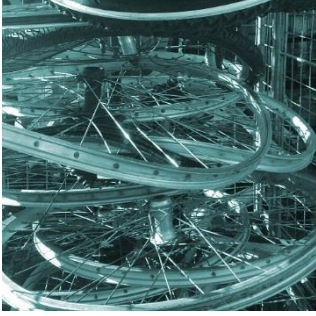
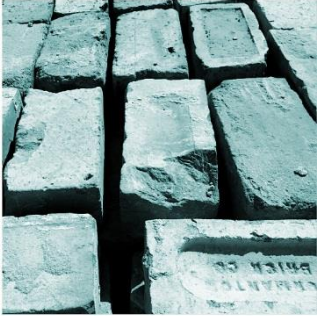
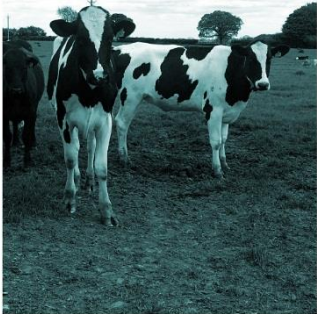
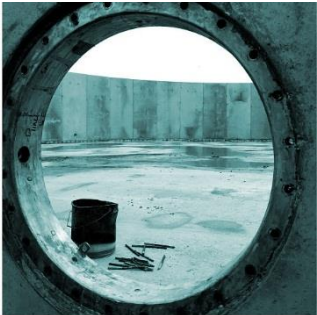
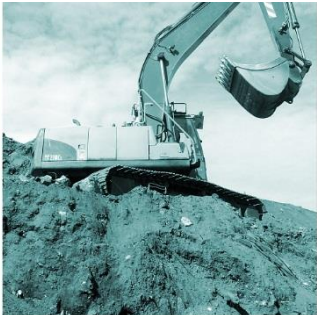


BIO DYNAMIC UK LIMITED PERMIT VARIATION APPLICATION

Fugitive Emissions Plan

July 2022



Client: Bio Dynamic UK Limited
Document Reference: HC1677-17

REPORT SCHEDULE

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| | | | |

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CONTENTS

| | |
|---|----|
| 1. INTRODUCTION | 1 |
| 2. FUGITIVE EMISSIONS MANAGEMENT PLAN | 12 |

1. INTRODUCTION

1.1. Introduction

- 1.1.1. The Bio Dynamic UK Limited AD Plant is a wet mesophilic Anaerobic Digestion facility that produces gas that will be upgraded to produce biomethane for injection into the national grid network or for operation of onsite CHP engines. The site is situated at 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.
- 1.1.2. The overall operation is designed to process up to 150,000 tonnes of waste per year received as either packaged or unpackaged solid wastes, or pumpable liquid wastes. The majority of these wastes are treated via anaerobic digestion in primary and secondary fermenters and biogas produced at the site is treated and stored pending use. The biogas is exported to the adjacent BD Gas Permits facility to be upgraded to produce biomethane to be injected into the nation grid network or used to power the onsite CHP engines to provide electricity and heat for use at the site or export to the grid.
- 1.1.3. A proportion of the waste is de-packaged and stored for short periods at the site and then exported for use as feedstock at third party sites.
- 1.1.4. The site incorporates two emergency back-up flares for burning of biogas or biomethane, pasteurisation tanks for treatment of wastes prior to digestion, and a waste reception shed for storage of feedstocks which will house de-packaging machinery. The building is fitted with an extraction system to achieve a negative pressure environment and air is released via an odour abatement system.
- 1.1.5. H&C Consultancy Ltd has prepared this formal Fugitive Emissions Management Plan and Risk Assessment to demonstrate that through the consideration of risks and implementation of mitigation measures there would be no unacceptable adverse environmental effects arising from fugitive emissions and no consequential detriment reaching any nearby sensitive receptors as a result of the proposed development.
- 1.1.6. This Fugitive Emissions Management Plan and Risk Assessment (the Plan) has been compiled with reference to formerly available guidelines in Environment Agency Guidance EPR - H1, Part 1 'Simple Assessment of Environmental Risk for Accidents, Odour, Noise, and Fugitive Emissions dated April 2008' and also considers the Environment Agency 'How to comply with your Environmental Permit. Additional Guidance for: Anaerobic Digestions' (LIT 8737, v1.0 Nov 2013). Current guidance available on the EA website 'Control and Monitor Emissions from your Environmental Permit', and 'Risk Assessments for your Environmental Permit' have also been referred to.

1.2. Site Setting, Surrounding Land Uses and Location of Receptors

- 1.2.1. The site is located at 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.

- 1.2.2. The site is in a predominantly industrial area on land which was formerly in use as railway sidings, approximately 150m north of the river Trent. There are several permitted waste operations in the general surrounding locations of the Colwick industrial estate, and the site is immediately adjacent to the B D Gas Permits Limited biogas upgrading facility which is a directly associated activity to the Bio Dynamic UK Limited AD facility.
- 1.2.3. The site is in an area designated as a Secondary A aquifer at the superficial geological level and a secondary B aquifer at the bedrock level. There are several groundwater and surface water abstractors in the area, and the site is located in a groundwater source protection zone 3.
- 1.2.4. There are no designated habitats sites within 2km of the site. There are several locally designated nature reserves and priority habitat areas within 100m and 200m of the site. The area is predominantly industrial in character, the nearest local residential properties located approx. 730m to the southwest and 860m to the southeast.
- 1.2.5. Further details of receptors can be found in the environmental risk assessment associated with the Bio Dynamic UK Limited permit variation application at document HC1677-08.
- 1.2.6. The control measures and operating techniques employed at the Facility detailed below are designed to prevent any harm to sensitive receptors and the risk assessment provides information on the likelihood of that harm happening.

1.3. Fugitive Emissions Risk Assessment

- 1.3.1. In accordance with Environment Agency Guidance, this report assesses the risks posed by fugitive emissions to air, land, water, and members of the public. This Plan demonstrates that the risk of fugitive emissions arising from the site has been fully considered and that appropriate controls will be established during the operation, maintenance and monitoring of the plant to manage these within acceptable limits. This plan will be used in conjunction with the Odour Management Plan and Noise Management Plan for the site, which provide a detailed account of how these specific areas of risk will be managed. It also refers to the site wide environmental risk assessment and associated impact modelling reports submitted in support of the permit application for the site.
- 1.3.2. A risk assessment considering all aspects of environmental risk for the whole site is submitted with the permit application, document reference HC1677-08. This assessment has included consideration of the potential impact of fugitive emissions from the site. Sections from this document relevant to assessment of risk from fugitive emissions have been re-produced in this document for ease of consideration. The risk rating matrix associated with the original assessment and submitted under document reference HC1677-08 is included in this document for ease of reference.

Figure 1 – Risk Rating Matrix Applied

| | | | | | | |
|-------------------|---------------------|----------|----------|----------|----------|----------|
| Severity ↑ | 5 | 5 | 10 | 15 | 20 | 25 |
| | 4 | 4 | 8 | 12 | 16 | 20 |
| | 3 | 3 | 6 | 9 | 12 | 15 |
| | 2 | 2 | 4 | 6 | 8 | 10 |
| | 1 | 1 | 2 | 3 | 4 | 5 |
| | | 1 | 2 | 3 | 4 | 5 |
| | Likelihood → | | | | | |

| Severity | Likelihood |
|---|--|
| 1 – No environmental harm arising 2 – Fleeting localised impacts 3 – Localised impacts medium term 4 – Wider scale impacts of a fleeting nature, or localised impacts of a more persistent nature 5 – Widespread/persistent impacts on high amenity/sensitive sites | 1 – Very unlikely to happen 2 – Low probability – occasional 3 – Likely to occur 4 – Highly likely to occur 5 - Inevitable |

Final calculated risk level rating bands are as follows:

| | | | |
|---------------|---------|------|---------|
| Insignificant | 1 – 5 | Low | 6 – 10 |
| Medium | 11 – 15 | High | 16 – 20 |
| Very High | 20 - 25 | | |

1.3.3. Table 1 Fugitive Emissions Risk Assessment is provided below.

Table 1 Fugitive Emissions Risk Assessment

| What do you do that can harm and what could be harmed? | | | Managing the Risk | Assessing the Risk | | |
|--|--|--|---|---|--|---|
| Hazard | Receptor | Pathway | Risk Management | Probability of Exposure (likelihood) | Consequence (severity) | What is the overall risk? |
| What has the potential to cause harm? | What is at risk, what do I want to protect? | How can the hazard get to the receptor | What measures will you take to reduce the risk – Who is responsible for what? | How likely is this contact? (1-5) | What is the harm that can be caused? (1-5) | What is the risk that still remains? The balance of probability and consequence (Likelihood x Severity) (1-25) |
| | | | <p>The Site Manager is responsible for implementing all risk management measures described below at the Facility.</p> <p>The Site Manager is also responsible for ensuring that if the appropriate mitigation measures cannot be employed due to adverse weather or unexpected conditions site operations will be ceased until they can be carried out with all necessary mitigation measures in place.</p> | | | |
| Dust from vehicle movements to and from the Facility | Local residents, users of nearby highway, local workplaces and local habitats. | Air - Wind-blown dispersion in atmosphere. | <p>Site Manager is responsible for checking wind strength and direction and taking corrective action if necessary.</p> <p>Road surfaces are concrete, so low likelihood of generation of materials. Wheel washing facilities are available on site.</p> <p>If the road surface becomes dry and more dust is being created therefore, the road surface will be dampened down to minimise dust. Surface will be kept swept clean.</p> | 1- Dust could reach the adjacent highway or if a strong wind blew on a dry summer day. However this would be unlikely as low risk of dust generation and minimised by management actions, if necessary. Local | 2 – Nuisance, dust on cars, clothing, and inhalation of dusts. | 2 – Insignificant. The nature of wastes received and stored on site, and nature of storage facilities mean that there is a low risk of these releases from being generated from the site. |

| What do you do that can harm and what could be harmed? | | | Managing the Risk | Assessing the Risk | | |
|--|--|---|---|---|--|---|
| Hazard | Receptor | Pathway | Risk Management | Probability of Exposure (likelihood) | Consequence (severity) | What is the overall risk? |
| What has the potential to cause harm? | What is at risk, what do I want to protect? | How can the hazard get to the receptor | What measures will you take to reduce the risk – Who is responsible for what? | How likely is this contact? (1-5) | What is the harm that can be caused? (1-5) | What is the risk that still remains? The balance of probability and consequence (Likelihood x Severity) (1-25) |
| | | | | residential properties too far away to be impacted. | | |
| Dust from burning of biogas. | Local residents, users of nearby highway, local workplaces and local habitats. | Emission to air from engine stack, boiler stack and flares. | Release of dusts is not a significant risk factor associated with burning of biogas fuels in this type of plant. Annual emissions monitoring to be carried out in accordance with permit requirements. Ongoing maintenance schedule for engine, boiler and flares. | 1 - Unlikely not an associated risk with this type of fuel or plant. | 1 - Nuisance, impact on amenity, and impact on local habitats. | 1 – Insignificant. |
| Release of particulate matter and microorganisms from wastes delivered to, stored, treated at the site and dispatched from the site. | Local residents, users of nearby highway, local workplaces and local habitats. | Air. Windblown dispersion in atmosphere. | Wastes delivered to site via closed vehicles or tankers. Final digestate is stored in a gas tight secondary tank prior to removal by tanker. Air from the waste reception building is extracted and passed through an odour abatement system prior to release. Displaced air from liquid storage tanks and vacuum tankers on filling is also passed through filters prior to release. Bioaerosols risk assessment has been undertaken to evaluate potential impacts from this hazard. Risk found to be very low. As such, potential impacts as a result of bioaerosol emissions from the facility are not considered to be significant. | 1 – unlikely due to the nature of wastes and storage handling and treatment facilities applied at the site. | 2 – nuisance to local farms and potential health impacts. | 2 – Insignificant. The nature of wastes received and stored on site, and nature of treatment and storage facilities mean that there is a low risk of these releases from being generated from the site. |

| What do you do that can harm and what could be harmed? | | | Managing the Risk | Assessing the Risk | | |
|--|--|---|---|--|--|---|
| Hazard | Receptor | Pathway | Risk Management | Probability of Exposure (likelihood) | Consequence (severity) | What is the overall risk? |
| What has the potential to cause harm? | What is at risk, what do I want to protect? | How can the hazard get to the receptor | What measures will you take to reduce the risk – Who is responsible for what? | How likely is this contact? (1-5) | What is the harm that can be caused? (1-5) | What is the risk that still remains? The balance of probability and consequence (Likelihood x Severity) (1-25) |
| Litter. | Local residents, users of nearby highway, local workplaces and local habitats. | Air, windblown, dispersion in atmosphere. | Wastes are received on site as pumpable slurries and unpackaged and packages solid wastes. All deliveries and storage of solid wastes made into a sealed building. All packaged wastes will be passed through a de-packaging unit before being passed into the process. Final packaging will be stored in the reception building in a sealed plastic waste skip before being removed from site for disposal. | 2 – Removed packaging will be washed and stored inside building in a dedicated skip. Loss of containment is unlikely but may occur occasionally. | 3 – Nuisance, loss of amenity, harm to animal health and potential impact on adjacent farmland/habitats and amenity sites. | 6 – Low due to containment infrastructure in place. |
| Mud on roads from movement of vehicles to and from the facility. | Local residents, users of nearby highway, local workplaces and local habitats. | Deposited on the ground by vehicles accessing and leaving the site. | Road surfaces on site are concrete, so low risk of mud being generated from roads within the site. Wheel washing facilities are available in the waste reception shed. Roads and concrete reception/yard areas will be swept and kept clean on a regular basis. An inspection will be made of all vehicles entering the site at the weigh bridge, and any concerns over mud on the wheels of incoming vehicles can be recorded and addressed with the supplier/hauler in question. All vehicles entering and leaving the reception shed will be | 2 – Mud is unlikely to get onto the local roads as a result of generation on the site, due to nature of road surfacing, road maintenance activities, wheel wash facilities on site. Potentially contaminated vehicles entering the site will be checked, and | 2 – Road safety and amenity for local residents and road uses on roads external to the site. | 4 – Insignificant due to control measures available on site, and low risk of mud generation from the site itself. |

| What do you do that can harm and what could be harmed? | | | Managing the Risk | Assessing the Risk | | |
|--|--|---|--|---|--|--|
| Hazard | Receptor | Pathway | Risk Management | Probability of Exposure (likelihood) | Consequence (severity) | What is the overall risk? |
| What has the potential to cause harm? | What is at risk, what do I want to protect? | How can the hazard get to the receptor | What measures will you take to reduce the risk – Who is responsible for what? | How likely is this contact? (1-5) | What is the harm that can be caused? (1-5) | What is the risk that still remains? The balance of probability and consequence (Likelihood x Severity) (1-25) |
| | | | managed in line with ABPR requirements. | wheel wash facilities made available if needed. | | |
| Odour from a range of activities on site. | Local residents, users of nearby highway, local workplaces and local habitats. | Release to air via venting, and subsequent wind-blown dispersion. | The operator has undertaken a full odour impact modelling exercise and produced a comprehensive odour management plan based on the outcome of these modelling exercises. | Probability of exposure variable depending on the source item on site in question. Overall rating of this area is 2. Reference should be made to the odour modelling assessment and management plan for a full account of the potentially odour generating activities on site and their various predicted levels of impact. | Overall rating in this area is 3. Reference should be made to the odour modelling assessment and management plan for a full account of the potentially odour generating activities on site and their various predicted levels of impact. | Overall rating is 6 – Low risk. Reference should be made to the odour model and management plan for a full account of the potentially odour generating activities on site and an account of how these will be managed to maintain low risk status for impacts from the site. |

| What do you do that can harm and what could be harmed? | | | Managing the Risk | Assessing the Risk | | |
|---|---|---|---|---|---|---|
| Hazard | Receptor | Pathway | Risk Management | Probability of Exposure (likelihood) | Consequence (severity) | What is the overall risk? |
| What has the potential to cause harm? | What is at risk, what do I want to protect? | How can the hazard get to the receptor | What measures will you take to reduce the risk – Who is responsible for what? | How likely is this contact? (1-5) | What is the harm that can be caused? (1-5) | What is the risk that still remains? The balance of probability and consequence (Likelihood x Severity) (1-25) |
| Pests (rodents, birds, flies, scavenging animals) | Impact on amenity and risk of health impacts/infection of local human population and animal health. | Infestation in waste prior to receipt on site, or secondary infestation on site. Scavenging animals may run between the site and neighbouring properties and carry material off site. | Site operates a robust pre-acceptance procedure, and acceptance procedure that incorporates assessments of the potential for contamination of wastes prior to receipt on site, and once on site. The site will use an outside contractor to manage bait stations on site and will monitor for signs of infestation on an ongoing basis. | 2 – Occasional due to control of wastes received, and nature of storage and containment facilities. | 3 – nuisance and harm to human health from wastes carried off site. | 6 – Low |
| Noise from a range of activities on site | Local residents, users of nearby highway, local workplaces and local habitats. | Sounds may be detected by nearby receptors. | The operator has undertaken a noise impact modelling assessment exercise encompassing all of the potential sources of noise arising from the site. The operator has produced a comprehensive noise management plan based on the outcome of this assessment. | 2 - Reference should be made to the specific noise assessment for a detailed breakdown of the probability of exposure from different aspects of the site. | 3 - Reference should be made to the specific noise assessment for a detailed breakdown of the potential impacts from different aspects of the site. | 6 – Overall low risk from this area resulting from management measures outlined in the specific noise management plan and plant design factors. |
| Spillages of wastes, foot dips, or oil from vehicles during access to the site, and | Surface water, ground water and soils. | Seepage of spillages to ground, to sewer, or to aquifer. | All deliveries to be supervised and to take place in accordance with the waste acceptance procedures for the site. | 1 – Low as deliveries are supervised by an operative and take place on an | 3 –Site located in groundwater source protection zone 3. | 3 – insignificant risk due to sealed drainage system, and maintenance |

| What do you do that can harm and what could be harmed? | | | Managing the Risk | Assessing the Risk | | |
|---|---|---|--|--|--|--|
| Hazard | Receptor | Pathway | Risk Management | Probability of Exposure (likelihood) | Consequence (severity) | What is the overall risk? |
| What has the potential to cause harm? | What is at risk, what do I want to protect? | How can the hazard get to the receptor | What measures will you take to reduce the risk – Who is responsible for what? | How likely is this contact? (1-5) | What is the harm that can be caused? (1-5) | What is the risk that still remains? The balance of probability and consequence (Likelihood x Severity) (1-25) |
| offloading and loading of wastes. Containment of wheel wash waters in delivery area. | | | Deliveries of solid feedstocks take place in a building with a sealed drainage system. This will contain any spillages that occur, or any lightly contaminated water generated from washing activities in this area. Washing will take place in this area to manage spills, to clean vehicle wheels or to clean plant and building floors and surfaces. Tanker delivery areas for liquid wastes and for digestate removal have impermeable concrete surfaces and sealed catchment arrangements to retain spillages and was waters. A daily check is made of the state of repair of the concrete in the yard, bund and reception shed areas. Spill kits are available to facilitate spill management. | impermeable surface that drains to a sealed pit. Ongoing maintenance and monitoring procedures are in place to maintain this infrastructure. | | of containment measures. |
| Small spillages/leaks of process liquids due to breach of pipework or tanks in the waste treatment areas of the site. | Surface water, ground water and soils. | Seepage to ground, sewer, or aquifer following small releases from breaches in tanks or pipework. | All process material is moved between tanks via a closed pipework system. All tanks and pipework are contained within an impermeable bund that will contain both small and large spillages from tanks and pipework. Process and storage tanks are checked on a daily basis for evidence of small leaks arising from the tanks. | 1 – low likelihood due to construction of tanks and pipework, bunding, and proactive maintenance programme that will be implemented. | 1 – No environmental harm arising. | 1 – Insignificant |

| What do you do that can harm and what could be harmed? | | | Managing the Risk | Assessing the Risk | | |
|--|---|---|--|---|--|---|
| Hazard | Receptor | Pathway | Risk Management | Probability of Exposure (likelihood) | Consequence (severity) | What is the overall risk? |
| What has the potential to cause harm? | What is at risk, what do I want to protect? | How can the hazard get to the receptor | What measures will you take to reduce the risk – Who is responsible for what? | How likely is this contact? (1-5) | What is the harm that can be caused? (1-5) | What is the risk that still remains? The balance of probability and consequence (Likelihood x Severity) (1-25) |
| | | | All tanks and pipework are subject to a structured maintenance programme, that includes proactive periodic checks of the integrity of tanks, valves, seals, and pipework. All tanks and pipework are located above ground. | | | |
| Catastrophic failure of tanks and pipework in the main treatment area of site. | Surface water, ground water and soils. | Release to ground, sewer, or aquifer following significant loss of containment of a large section of pipework, or vessel. | All tanks and pipework are contained within an impermeable bund that will contain both small and large spillages from tanks and pipework. The management of larger catastrophic events of this nature have been considered in more detail within the site's accident management plan. | 2 – low likelihood due to construction of tanks, and proactive maintenance programme that will be implemented. | 1 – No environmental harm arising. | 1 – Insignificant |
| Venting of gas to air via uncontrolled or unplanned releases | Air – impact on air quality. | Small losses from gas containing infrastructure, or pressure relief valves venting to air. | Gas containing infrastructure to be subject to regular ongoing proactive maintenance programme and checks for small leaks via leak detection and repair plan (LDAR). Larger releases can be detected on external visual inspection. Additional leak detection survey will be considered if the plant feed to gas conversion figures are lower than anticipated, if an unaccounted-for smell of biogas can be detected around the site or following any significant | 2 – Risk of small losses will be managed by routine site maintenance and checks. However, small losses in more inaccessible parts of the site can be difficult to detect. | 2 – Small losses may impact on air quality and have health and safety impact via toxicity of gases, and risk of explosion and or fire. | 4 – Insignificant risk due to proactive maintenance and monitoring programme in place, and contingency measures for wider leak detection exercise if necessary. |

| What do you do that can harm and what could be harmed? | | | Managing the Risk | Assessing the Risk | | |
|--|---|--|---|--------------------------------------|--|--|
| Hazard | Receptor | Pathway | Risk Management | Probability of Exposure (likelihood) | Consequence (severity) | What is the overall risk? |
| What has the potential to cause harm? | What is at risk, what do I want to protect? | How can the hazard get to the receptor | What measures will you take to reduce the risk – Who is responsible for what? | How likely is this contact? (1-5) | What is the harm that can be caused? (1-5) | What is the risk that still remains? The balance of probability and consequence (Likelihood x Severity) (1-25) |
| | | | <p>maintenance work that may affect gas containing structures on the site.</p> <p>Operation of pressure relief valves to be monitored and documented and investigated as an environmental incident should this occur.</p> <p>Plant has emergency backup flares that can be used to burn biogas in a controlled manner when it is not possible for the gas to be used in the CHP's or adjacent upgrading facility.</p> <p>Facilities installed to allow for management of foaming incidents at the site and thus reduce potential for uncontrolled releases due to such incidents.</p> <p>In situ fixed gas monitors installed in CHP containers at the site to facilitate ongoing monitoring for leaks.</p> | | | |

2. FUGITIVE EMISSIONS MANAGEMENT PLAN

2.1. Introduction

- 2.1.1. H&C Consultancy Ltd has prepared the Fugitive Emissions Management Plan for the proposed facility. The Plan describes the control measures outlined in the risk assessment tables above that will be implemented to manage risks arising from the Bio Dynamic UK Limited site within acceptable limits. This plan does not detail the measures in place to manage odours, noise, or impacts arising from accidents that may occur on site. These measures are outlined further in detail in the Odour Management Plan, Noise Management Plan, and Accident Management Plan in place within the site's Environmental Management System. Further reference should be made to these documents.
- 2.1.2. It should also be noted that the effectiveness of many of the control measures for managing fugitive emissions on site rely on the design, construction, and control measures that have been installed during the construction of the facility. Information regarding these aspects is detailed in the BAT Assessment document (HC1677-11), and on accompanying appendices and site plans.
- 2.1.3. Table 2 Fugitive Emissions Management Plan is provided below:

Table 2 Fugitive Emissions Management Plan

| Potential Source | Infrastructure Control | Maintenance Control | Monitoring and Reporting Control |
|--|---|--|--|
| Releases of dusts and litter from the site including entry/exit roads. | <p>Road surfaces are concrete and so the potential for generation of mud and dusts on the site is low.</p> <p>Tankers moving digestate to agricultural land may generate some minimal levels of mud and dusts from offsite locations. Where this is the case, wheel washing facilities are available for cleaning of wheels.</p> | <p>Daily maintenance checks to be carried out on concrete surfaces.</p> <p>Roads to be kept clean and free of debris.</p> <p>Litter picking to be instigated should litter be present on site.</p> | <p>Daily checks of the site for mud/dusts/litter about the site. In the event that dusts are generated from roads, surfaces will be damped down prevent release.</p> <p>Weighbridge operator to monitor vehicles entering the site to report to site manager in circumstances where vehicles have accessed the site with excessive amounts of mud on wheels.</p> <p>All vehicle wheels to be checked for cleanliness by supervision staff prior to leaving the site.</p> |
| Small spillages from pipes, vehicles, and foot dips in the reception shed, liquid waste reception area and digestate tanker offtake area. Containment of wash waters from reception building and outdoor concrete areas. | <p>All waste reception activities take place on a sealed concrete area that drains to sealed sumps which return drainage into the process.</p> <p>All surface water run-off from concrete areas and roofs is collected and used in the process.</p> <p>Drain down pits are provided for containment of small spills during liquid waste deliveries. Spills are returned to the process.</p> <p>Washing facilities are available in the reception shed area if needed to clean small spillages.</p> <p>Spill kits are available in this area if required. All incoming waste sampling activities to take place in the reception shed area and/or on sealed drainage.</p> | <p>Daily maintenance checks to be carried out on concrete surfaces in this area – surfaces to be kept clean and free of debris, and drainage channels to be maintained to be free flowing.</p> <p>Regular weekly visual inspection of the internal surfaces of sumps and drain down pits.</p> <p>Regular drainage cleansing operation to be carried out.</p> <p>Site operative supervises all deliveries and will monitor and implement cleaning if needed.</p> <p>Site operatives supervising incoming waste activities to ensure that sampling takes place in suitable area.</p> | <p>If the contents of spill kits are used, site operatives will report this to the plant manager, and contents will be replaced from items in store.</p> <p>Spill kits will be checked on a weekly basis to ensure that they have the necessary contents in place, and that this is in a suitable state of repair to be used.</p> <p>Spent samples to be disposed of in an appropriate manner.</p> |

| Potential Source | Infrastructure Control | Maintenance Control | Monitoring and Reporting Control |
|---|---|---|---|
| Spillages from delivery and storage of raw materials at the site. | <p>Ferric hydroxide to be used which is in solid/powdered form and stored in main reception shed. Anti foaming system to have dedicated tank for containment of vegetable oil which is situated in a building in the main bunded area.</p> <p>Diesel stored in integrally bunded store.</p> <p>Engine oil stored in CHP container in purpose-built tank.</p> <p>Other material used in smaller volumes to be stored indoors or in technical building in main bunded area.</p> <p>Tailored spill kits provided in storage areas.</p> | <p>Spill kits kept topped up with materials ready for use.</p> <p>Proactive maintenance of storage facilities and delivery equipment.</p> | <p>Procedures in place regarding safe bulk delivery methods.</p> <p>Reporting and response procedure for all accidental spills.</p> |
| Pests and Scavenging animals | <p>Wastes are delivered to the site in the form of liquids and packaged and unpackaged solids. Liquid wastes to be stored in sealed pre-storage tanks, and solid packaged and de-packaged wastes to be stored inside the reception building on a sealed concrete surface with a sealed drainage system.</p> | <p>All tanks, pipework and storage areas are maintained according to the proactive maintenance plan for the site.</p> <p>Shed is subject to cleaning schedule as agreed with the APHA to prevent build-up of material.</p> <p>Site is kept clear of stored materials to reduce potential for harbourage.</p> <p>Waste feedstocks used within 48 hours of receipt at site.</p> | <p>External company to lay and maintain bait traps for management of pests on site.</p> <p>External company to carry out regular site checks and to produce inspection reports.</p> <p>Monitoring and maintenance activities will be and documented by the external contractor following site visits, and a record of this activity will be kept at the plant for inspection if required.</p> <p>Operator to carry out daily checks for signs of pests.</p> <p>Incoming wastes will be rejected if there are signs of infestation on receipt of material at the site.</p> |
| Small spillages from tanks and pipework in the processing area. | <p>Tanks and pipework are contained within an impermeable bund that is designed to contain large spillages, and to prevent any</p> | <p>Programme of regular proactive maintenance to be implemented, including checks</p> | <p>Tank/pipework inspection. Regular checks to be carried out for tank and bund integrity.</p> <p>Surface water accumulating in the bund area collects in a pump chamber and is pumped into the</p> |

| Potential Source | Infrastructure Control | Maintenance Control | Monitoring and Reporting Control |
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| | <p>small spills or leaks from tanks/pipework from being released.</p> <p>Majority of process tanks and pipework are above ground and therefore can be subject to regular visual inspection. Section of two primary digesters is below ground. Tanks are fitted with leak detection chambers.</p> <p>Digestate is sampled directly from take-off points from the tanks. The activity is supervised, so spillages if they did occur, would only be small, and detected and addressed immediately. All digestate sampling points are contained within the bunded area.</p> | <p>on the integrity of pipework, tanks, and joints.</p> <p>Daily visual integrity checks of bund surfacing, and joints and tank integrity included within this proactive maintenance schedule.</p> <p>Processing tanks and above ground pipework system checked for integrity via visual inspection on a daily basis.</p> | <p>process. No surface water is released from the site via point source emissions.</p> <p>Daily checks on leak detection chambers associated with two primary digesters.</p> |
| Releases to air from waste when delivered to store, and when in store. | All solid wastes delivered inside a building with an air extraction and abatement system in place. Air to be passed through an odour abatement system prior to release to air. Displaced air from filling of external waste reception tanks and pasteurisers also to be passed through abatement system prior to release. | Programme of regular proactive maintenance to be implemented, including checks on the integrity of pipework, extraction system, fast acting roller shutter doors, tanks, and joints, and seals. | Any uncontrolled releases of waste during delivery to be cleaned up immediately to minimise impacts. Any such spillages to be recorded and monitored via the site diary and incident reporting and tracking measures provided within the site management system. |
| Releases of gas to air from digestate process tanks | <p>Processing of waste takes place in the closed sealed waste reception shed area, or in closed/sealed tanks or. Under/over pressure relief valves are installed on digesters, but these are for emergency use only.</p> <p>The site has two emergency flares that will operate during times when all the gas produced on site cannot be used within the CHP or boiler or injected to grid via the adjacent biogas upgrading facility.</p> | <p>Programme of regular proactive maintenance to be implemented, including checks on the integrity of pipework, tanks, and joints and under/over pressure relief valves, and maintenance of emergency flare.</p> <p>Leak detection and repair programme (LDAR) established and implemented at the site.</p> | <p>Regular maintenance programme includes regular checks of pressure relief valves, and integrity of pipework, tanks, and covers for evidence of leaks.</p> <p>CHP container, boiler container, and technical building to have permanently sited fixed multi gas detectors in situ.</p> <p>Any use of the emergency flares will be recorded and monitored on the SCADA system. Any use of pressure relief valves will be recorded and investigated as an environmental incident.</p> <p>Regular routine leak detection and repair programme (LDAR) established and implemented</p> |

| Potential Source | Infrastructure Control | Maintenance Control | Monitoring and Reporting Control |
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| | | | <p>at the site. Additional leak detection campaigns to be instigated if wider site monitoring activities suggest this is required. Such circumstances may include the unaccounted-for smell of biogas on the site, indications of the presence of gas from gas monitors worn by staff on a routine basis, or from handheld gas sniffers used to check specific parts of infrastructure any large-scale infrastructure changes onsite that have the potential to impact on gas containing structures, and the plant feed to gas conversion figures are lower than anticipated.</p> |
| <p>Releases to air from tankers during digestate removal.</p> | <p>All displaced air from vacuum tankers removing digestate is extracted from the building and passed through an odour abatement system before being released to air.</p> | <p>Unit to be maintained in accordance with manufacturers recommendations.</p> | <p>The impact of this activity relating to odour impacts has been assessed via an impact modelling assessment.</p> <p>Ongoing monitoring and implementation of any corrective actions necessary with regard to this activity will be outlined in the odour management plan for the site, which takes into account the outcome of this modelling exercise.</p> <p>A full account of the management of odours arising from the site is documented in the site's odour management plan.</p> |

2.2. Staff Training

- 2.2.1. The Site Manager will be responsible for ensuring staff receive proper and adequate training in respect of fugitive emissions management.
- 2.2.2. Site staff will undergo a training programme to ensure that they understand how their actions and the site operations can affect fugitive emissions. The staff will be trained so that they understand where spillages occurring in various parts of the site will run to. The staff will be trained in how to carry out the necessary maintenance and monitoring activities required. The staff will be trained to ensure that they are competent to supervise all waste deliveries to the site in accordance with the feedstock acceptance procedure. The staff will be trained to visually inspect for small gas leaks, and leaks on tanks and pipework. Staff will be instructed to report fugitive emissions to the Site Manager with immediate effect.
- 2.2.3. Staff training records will be updated and stored within the site office.

2.3. Contact with the Environment Agency and Complainants

- 2.3.1. The operator will encourage any complainant wishing to complain about the impact of fugitive emissions to liaise directly with them but acknowledges that the complainant may wish to pursue a complaint through the Environment Agency or the Local Authority.
- 2.3.2. In the event that a complaint is received, the operator will record the time, date, weather conditions, and severity and duration of the emission. This will enable site operations to be thoroughly investigated. The operator will monitor all fugitive emissions and complaints.



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