

Environment Agency permitting decisions

Bespoke permit

We have decided to grant the permit for Hoddesdon Anaerobic Digestion Facility operated by Tamar Renewable Power (Hoddesdon) Limited.

The permit number is EPR/KP3138EV.

We consider in reaching that decision we have taken into account all relevant considerations and legal requirements and that the permit will ensure that the appropriate level of environmental protection is provided.

Purpose of this document

This decision document:

- explains how the application has been determined
- provides a record of the decision-making process
- shows how all relevant factors have been taken into account
- justifies the specific conditions in the permit other than those in our generic permit template.

Unless the decision document specifies otherwise we have accepted the applicant's proposals.

Structure of this document

- Key issues
- Annex 1 – the decision checklist
- Annex 2 – the consultation and web publicising responses

Key issues of the decision

1. Commissioning

At the commissioning stage, Operators are required to demonstrate that a plant is under control and that appropriate measures are in place to protect the environment and human health. The proposed installation will undergo a period of commissioning before becoming fully operational. The IED and the conditions set out in the permit cover activities at the installation once operational – accepting waste, burning biogas and providing electricity to the grid. Prior to commissioning, the Applicant (now the Operator) shall submit a commissioning plan (required under pre-operational condition POC 1) to the Environment Agency for approval, outlining the expected emissions during different stages of commissioning, the expected duration and timeline for completion of activities and any necessary action to protect the environment in the event that actual emissions exceed expected emissions in accordance with the approved commissioning plan.

It is recognised that certain information provided in the application are based upon design data or data from similarly designed operational plant. The commissioning stage provides an early opportunity to verify much of the information submitted in the application. Improvement condition 1 (IC 1) has been set in the permit requiring the submission of a report which includes an assessment of the performance of the installation following the completion of commissioning and any deviation from the commissioning plan and the application supporting documents. This will ensure that any impacts on human and ecological receptors can be identified and rectified at the earliest opportunity.

2. Emissions of noise and vibration

Based upon the information provided in the application, we are satisfied that the appropriate measures will be in place to prevent or where that is not practicable to minimise noise and vibration and to prevent pollution from noise and vibration outside the site.

The application contained a noise impact assessment which identified local noise-sensitive receptors, potential sources of noise at the proposed plant and noise attenuation measures. Measurements were taken of the prevailing ambient noise levels to produce a baseline noise survey. An assessment was carried out in accordance with BS 4142:1997 to compare the predicted plant rating noise levels with the established background levels. Noise predictions were made using the noise software modelling program CadnaA.

The assessment concluded that during daytime and night time periods, the operation of the plant at the predicted noise levels would be unlikely to cause complaints at any of the assessment locations. The change in noise impact at the sensitive receptors was assessed as being below marginal significance in

line with BS 4142:1997. The assessment carried out by the Applicant was based on equipment that has not yet been installed in buildings that have not yet been built. Our assessment shows that the impact of noise from the proposals is less than marginal significance at all receptor locations. Although we do not agree with the Applicant's numerical predictions, we agree with the conclusion that the installation would not result in significant noise pollution at off-site receptors.

3. Site condition report

A site condition report (SCR) is required for any facility regulated under the Environmental Permitting Regulations (EPR), where there may be a significant risk to land or groundwater. Article 22(2) of the Industrial Emissions Directive (IED) requires the Applicant to provide a baseline report containing at least the information set out in paragraphs (a) and (b) of the Article before starting operation. The baseline report is an important reference document in the assessment of contamination that might arise during the operational lifetime of the installation and at cessation of activities at the installation.

At the definitive cessation of activities, the Operator has to satisfy us that the necessary measures have been taken so that the site ceases to pose a risk to soil or groundwater, taking into account both the baseline conditions and the site's current or approved future use. To do this, the Operator has to apply to us for surrender, which we will not grant unless and until we are satisfied that these requirements have been met.

The Applicant submitted a site condition report which included baseline conditions reference data as required by Article 22. We have reviewed the report and consider that it adequately describes the condition of the soil and groundwater prior to the start of operations. The Applicant has concluded that the ground condition is not contaminated. We consider that due to the nature of wastes, leachate and liquors produced by anaerobic digestion facilities, baseline ammonia and ammonium concentrations are required. We have therefore set a pre-operational condition (POC 2) requiring the Operator to provide this information prior to the commencement of site commissioning. This is in accordance with the Environment Agency Guidance H5 – Site Condition Report.

4. Management System

We are satisfied that appropriate management systems and management structures will be in place for this Installation, and that sufficient resources are available to the Operator to ensure compliance with all the permit conditions. The Applicant has stated in the application that they intend to obtain a certified Environmental Management System (EMS) within three years of plant commissioning. A pre-operational condition (POC 3) has been set in the permit, requiring the submission of the site EMS and to make available for inspection all EMS documentation to the Environment Agency prior to commissioning of the facility.

5. Emissions of odour

The Applicant proposes to install a biofilter (comprising two media beds) to abate odour emissions from the reception building. In addition, a carbon filter will be installed to abate odour emissions from two liquid digestate storage tanks. Odour emissions from the biofilter and carbon filter were modelled using the air quality modelling software, ADMS (version 5.0). The odour source is air collected from the treatment areas in the reception building and digestate storage tanks.

Maximum modelled odour concentrations ranged from $0.32 \text{ ou}_{\text{EM}^{-3}}$ to $2.52 \text{ ou}_{\text{EM}^{-3}}$ and are below the Environment Agency indicative criterion for moderately offensive odours ($3.0 \text{ ou}_{\text{EM}^{-3}}$). In order to demonstrate the predicted spatial dispersion of odours from the biofilter and carbon filter, a contour plot of odour concentrations from the worst year (2011) was examined. This showed that the 98th percentile of 1-hour odour concentrations above the indicative criterion for most offensive odours ($1.5 \text{ ou}_{\text{EM}^{-3}}$) was only in a small area of the River Lee Navigation. The Applicant does not consider this area to be highly sensitive to odour emissions and unlikely to give any reasonable cause for annoyance due to odour.

The Environment Agency audited the odour modelling and our results are in agreement with those of the Applicant. We agree that odour emissions are not likely to contribute to odour annoyance of either the $3 \text{ ou}_{\text{EM}^{-3}}$ or $1.5 \text{ ou}_{\text{EM}^{-3}}$ benchmarks at sensitive receptors. However this is dependent on the plant operating at the parameters quoted in the modelling report.

The Applicant submitted an odour management plan (OMP) which the Environment Agency has reviewed. We consider that the OMP requires revision to include a detailed inventory of feedstock for treatment and other documentation in accordance with our guidance H4 – Odour Management. We have included a Pre-operational Condition (POC 4) in the permit which requires the Operator to submit a revised OMP prior to the commencement of plant commissioning.

To further reduce odour emissions from operations at the facility, the Applicant proposes the following measures:

- Good housekeeping and management of the operation of the high speed doors at the reception building. The doors will only be opened to allow vehicles to enter the reception building once the vehicle is aligned to reverse. This will be achieved via radio communication between the Site Supervisor and site staff inside the reception building. Once a vehicle has safely entered the reception building, the door will close immediately behind it. All doors will be capable of being managed either manually via push buttons or via remote control by staff within the reception building. The opening of doors to permit vehicles to leave the site will only take place once the vehicle driver has signalled confirmation that he is ready to exit the building and doors will be closed immediately upon exit from the

building. Only one door will be opened for access and egress at any one time;

- Feedstock will be fully enclosed for the duration of the process. All treatment/processing plant and equipment will be enclosed and designed to prevent the ingress of air;
- The biogas produced during anaerobic digestion will be extracted and fed directly into the CHP engines for combustion before discharge via a stack;
- Solid digestate will be stored in a building on site for no more than 5 days; the liquid fractions will be separated via a screw press and stored in two sealed liquid storage tanks prior to re-use in the digestion operations or removal from site. The storage tanks will be connected to a carbon filter to abate odour emissions.

The Environment Agency considers that the Applicant has proposed appropriate odour management measures to minimise any impact on nearby sensitive receptors. In the event that odour emissions are causing pollution, the permit conditions require the Operator to comply with the measures proposed in the OMP (when approved). The odour conditions in the permit are sufficient to ensure that odour emissions from the facility do not cause annoyance. Process monitoring conditions including daily olfactory tests at the site boundary will also ensure that emissions of odour are not causing annoyance.

6. Fugitive emissions to air, land and water

Based upon the information provided in the application, we are satisfied that appropriate measures are in place to prevent fugitive emissions to air, land and water.

Activities on site will be managed in accordance with the site's management systems. This will include regular inspections and maintenance of equipment including odour abatement and air extraction systems to ensure they continue to operate at optimum conditions.

Good housekeeping practices will be applied, such as minimising any dust generating activities on very dry or windy days; regular inspection and cleaning/sweeping of all paved areas on site; and sheeting of lorries or use of sealed containers for transportation of feedstock to the site and/or export of solid digestate from the site.

Roller shutter doors of the reception building will remain closed when waste is being deposited. This will assist in the prevention of odours escaping the reception building.

The waste treatment operations will benefit from a number of process control features and prevent the development of abnormal operating conditions. Operations will be controlled and monitored using the Supervisory Control and Data Acquisition (SCADA) system which creates documentation that can be accessed in remote locations. The system will provide a range of control and monitoring functions that automate and monitor actions throughout the plant.

These procedures are designed to ensure the integrity of the plant throughout the life of the facility.

The Applicant reports that operational areas of the site will benefit from an impermeable surface which will prevent the release of potentially polluting liquids to surface water and groundwater. Secondary containment will be provided for all tanks containing liquids whose spillage could be harmful to the environment. The proposed site secondary containment is designed to hold a minimum of 110% of the capacity of the largest tank or 25% of total tank volume, whichever is the greater. We have included a Pre-operational condition (POC 5) which requires the submission of a report confirming that the construction and integrity of the proposed site secondary containment are fit for purpose and in accordance with industry standards prior to plant commissioning. This will ensure that the proposed secondary containment is properly designed to reduce the risks of accidents and their consequences.

The Environment Agency considers that the Applicant has proposed appropriate measures to minimise any impact of fugitive emissions on nearby sensitive receptors. The proposed procedures satisfy the requirements of the Environment Agency's Technical Guidance IPPC S5.06 - *Guidance for the Recovery and Disposal of Hazardous and Non-hazardous Waste* and are considered BAT for this Installation. The permit conditions (3.2.1 to 3.2.3) are sufficient to ensure that emissions of substances not controlled by emission limits do not cause pollution. The Applicant is required to implement mitigation measures in line with their emissions management plan in the event activities on site are causing pollution.

7. Accident management

The Applicant submitted an environmental risk assessment with the application which outlined possible risks from the operation of the facility and control measures. The Environment Agency considers that a stand-alone Accident Management Plan for the site should be developed which details appropriate measures to be taken to ensure that accidents that may cause pollution are prevented and that, if they should occur, their consequences are minimised. An Accident Management Plan will form part of the Environmental Management System and must be in place prior to plant commissioning as required by Pre-operational Condition 6 (POC 6).

8. Assessment of impact on air quality

The Applicant's assessment of the impact of air quality is set out in the application. The assessment comprises:

- An H1 screening assessment of emissions to air from the operation of the installation.
- Dispersion modelling of emissions to air from the operation of two CHP engines.
- A study of the impact of emissions on nearby sensitive habitat/conservation sites.

The assessment considered the emissions arising from one operating scenario at the installation as follows:

- Scenario 1: Proposed situation to reflect emissions from two CHP engines operating at full load continuously throughout the year and sharing a common stack (the height of the stack is 23 metres)

This section of the decision document deals primarily with the dispersion modelling of emissions to air from the stack and its impact on local air quality and conservation sites. These assessments predict the potential effects on local air quality from the installation's stack emissions using the ADMS (version 5) dispersion model, which is a commonly used computer model for regulatory dispersion modelling.

Meteorological data for the assessment comprises five years continuous monitoring from Stanstead Airport Weather station (2009-2013) located 20 km northeast of the proposed site. The Applicant considered this station as the most suitable source of meteorological data due to its proximity to the facility. The impact of the terrain surrounding the site and buildings upon plume dispersion was considered in the dispersion modelling. As well as calculating the peak ground level concentration, the Applicant has modelled the concentration of key pollutants at a number of specified locations within the surrounding area.

The pollutants considered in the assessment are those associated with the combustion of biogas, namely nitrogen dioxide, sulphur dioxide, carbon monoxide and total volatile organic compounds (VOCs). We are satisfied that there is no need to consider any other pollutants, as the fuel is biogas derived from source-segregated biodegradable waste.

Impact on human receptors

The Applicant's modelling predictions are presented in Table 1 below. The figures shown indicate the predicted peak ground level exposure to pollutants in ambient air. We have made our own simple verification of the percentage process contribution/deposition and predicted environmental concentration submitted by the Applicant. These may be very slightly different to those shown in the Application. Any such minor discrepancies do not materially impact on our conclusions. The following table shows the maximum modelled concentration of pollutants at the most sensitive human receptor (Receptor R1).

Table 1 Maximum modelled concentration of pollutants at the most sensitive human receptor R1

Pollutant	EQS / EAL	Back-ground	Process Contribution (PC)		Predicted Environmental Concentration (PEC)	
	$\mu\text{g}/\text{m}^3$		$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	% of EAL	$\mu\text{g}/\text{m}^3$
NO ₂ (annual)	40	16.9	1.20	3.0	18.1	45.3
NO ₂ (1-hour)	200	[1]	5.55	2.78	[1]	[1]
SO ₂ (15-min)	266	[1]	2.44	0.92	[1]	[1]
SO ₂ (1-hour)	350	[1]	1.56	0.44	[1]	[1]
SO ₂ (24-hour)	125	[1]	0.77	0.62	[1]	[1]
PM ₁₀ (annual)	40	[1]	0.07	0.18	[1]	[1]
PM ₁₀ (24-hour)	50	[1]	0.41	0.82	[1]	[1]
CO (8-hour)	10,000	[1]	31.82	0.32	[1]	[1]
VOCs (annual)	5	0.44	3.41	68.2	3.85	77.0

Note [1]: Where the PC is less than 1% of the benchmark for a long term measurement or less than 10% for a short term measurement, the impact is considered to be insignificant. In these cases, examination of the background and PEC is not required.

From the table above, nitrogen dioxide and VOCs cannot be screened out as insignificant in that the process contribution is >1% of the long term EQS/EAL. Although nitrogen dioxide and VOCs did not screen out as insignificant, we consider that they are unlikely to give rise to significant pollution in that the predicted environmental concentration (PEC) is less than 100% (taking expected modelling uncertainties into account) of both the long term and short term EQS/EAL.

We have carefully scrutinised the Applicant's proposals to ensure that they are applying the Best Available Techniques (BAT) to prevent and minimise emissions of these substances. Further assessment was carried out using the Environment Agency's modelling screening tool. The results showed medium risk for nitrogen dioxide and VOCs emissions based on a 23-metre stack height. The conclusion is that it is unlikely that there will be a significant impact to human health caused by the operation of the AD facility.

Impact on Habitats sites, SSSIs, non-statutory conservation sites

The following Habitats sites (i.e. Special Areas of Conservation and Special Protection Areas) are located within 10 km of the installation:

- Wormley-Hoddesdon Park Woods (SAC)
- Epping Forest (SAC)
- Lee Valley (SPA)

The following Site of Special Scientific Interest is located within 2 km of the installation:

- Rye Meads (SSSI)

The following non-statutory sites (local wildlife sites) are located within 2 km of the installation:

- Rye House Power Station
- Lea Valley North
- Lee Valley Central
- Carthegena Estate Lakes, Broxbourne Gravel Pits
- Knowle Thicket by Cock Lane Ford
- Rye Meads Gravel Pit
- Stansted Abbots Gravel Pit
- Hallmores Area
- Lea Valley North
- Senior's Lake
- Paddley
- Admirals Walk Lane

i. Toxic contamination (NO₂ and SO₂)

The critical level at the Habitat sites were obtained from the UK Air Pollution Information System (APIS) website. The modelling results are presented in Table 2.

Table 2 – Maximum modelled concentrations of NO₂ and SO₂ at the European habitat sites within 10 km of the installation

Habitat Site	Parameter	Background concentration (µg/m ³)	PC (µg/m ³)	PC as % of CLe	PEC (µg/m ³)	PEC as % of CLe
Lee Valley SPA/Ramsar	NO ₂ (long term)	25.4	0.32	1.1	25.7	85.7
	NO ₂ (short term)	[note 1]	2.99	3.98	[note 1]	--
	SO ₂	[note 1]	0.03	0.15	[note 1]	--
Wormley-Hoddesdon Park Woods SAC	NO ₂ (long term)	[note 1]	0.03	0.1	[note 1]	--
	NO ₂ (short term)	[note 1]	0.52	0.69	[note 1]	--
	SO ₂	[note 1]	0.01	0.05	[note 1]	--
Epping Forest SAC	NO ₂ (long term)	[note 1]	0.02	0.06	[note 1]	--
	NO ₂ (short term)	[note 1]	0.27	0.36	[note 1]	--

	SO₂	[note 1]	0.01	0.05	[note 1]	--
Note 1: Where the process contribution (PC) is less than 1% of the long term critical level or less than 10% for a short term critical level, the impact is considered to be insignificant. In these cases, examination of the predicted environmental concentration (PEC) is not required.						

From the table above, nitrogen dioxide cannot be screened out as insignificant in that the process contribution is >1% of the long term EQS/EAL. Although nitrogen dioxide did not screen out as insignificant, we consider that emissions are unlikely to give rise to significant pollution in that the predicted environmental concentration (PEC) is less than 100% (taking expected modelling uncertainties into account) of both the long term and short term EQS/EAL. The modelling data was audited by the Environment Agency using its Modelling Screening Tool. The results showed “low to medium risk” for nitrogen dioxide and sulphur dioxide emissions. It is concluded that the impact of emissions from the facility will not damage the interest features of the European habitat sites considered in the assessment.

ii. Nutrient nitrogen deposition

The nitrogen deposition rates at the European habitat sites were obtained from the APIS website. The results are presented in Table 3.

Table 3 – Modelled nutrient nitrogen deposition at respective European habitat sites within 10 km of the installation

Habitat Site	Critical Load (CLo) kgN/ha/yr	Background N deposition kgN/ha/yr	PC N deposition kgN/ha/yr	PC as % of minimum threshold level	PEC deposition kgN/ha/yr	PEC as % of threshold level
Lee Valley SPA/Ramsar	No critical load (Standing open water and canals)	17.64	0.032	No critical load	No critical load	No critical load
	15-30 kgN/ha/yr (Fens, marsh and swamp)	[note 1]	0.032	0.21	[note 1]	[note 1]
Wormley-Hoddesdon Park Woods SAC	15-20 kgN/ha/yr (Meso-and-eutrophic Quercus woodland)	[note 1]	0.006	0.04	[note 1]	[note 1]
Epping Forest SAC	10-20 kgN/ha/yr (Fagus woodland; Broadleaved, mixed and	[note 1]	0.004	0.04	[note 1]	[note 1]

	yew woodland)					
	10-20 kgN/ha/yr (Northern wet heath)	[note 1]	0.004	0.04	[note 1]	[note 1]
	10-20 kgN/ha/yr (European dry heath)	[note 1]	0.004	0.04	[note 1]	[note 1]
Note 1: Where the process contribution (PC) is less than 1% of the long term critical load or less than 10% for a short term critical load, the impact is considered to be insignificant. In these cases, examination of the predicted environmental concentration (PEC) is not required.						

The modelling data provided by the Applicant shows that nutrient nitrogen deposition did not exceed 1% of the relevant long-term critical load for the respective habitat sites. The modelling data was checked by the Environment Agency and our results are consistent with the Applicant's assessment.

iii. Acid deposition

The deposition rates at the European habitat sites were obtained from APIS website. The results are presented in Table 4.

Table 4 – Modelled acid deposition rates at respective European habitat sites within 10 km of the installation

Habitat Site	Critical Load (CLo) keq/ha/yr	Background deposition keq/ha/yr	PC deposition keq/ha/yr	PC as % of threshold level	PEC deposition keq/ha/yr	PEC as % of threshold level
Lee Valley SPA/Ramsar	No Critical Load (Standing open water and canals)	N: 3.35 S: 0.26 T: 3.61	0.004	No critical load	No critical load	No critical load
	No Critical Load (Fens, marsh and swamp)	N: 1.77 S: 0.22 T: 1.99	0.004	No critical load	No critical load	No critical load
Wormley-Hoddesdon Park Woods SAC	1.745 (Meso-and-eutrophic Quercus woodland)	[note 1]	0.001	0.06	[note 1]	[note 1]
Epping Forest SAC	1.73 (Fagus woodland;	[note 1]	0.001	0.06	[note 1]	[note 1]

	Broadleaved, mixed and yew woodland)					
	1.594 (Northern wet heath; European dry heath)	[note 1]	0.001	0.06	[note 1]	[note 1]
Note 1: Where the process contribution (PC) is less than 1% of the long term critical load or less than 10% for a short term critical load, the impact is considered to be insignificant. In these cases, examination of the predicted environmental concentration (PEC) is not required.						

The modelling data provided by the Applicant shows that acid deposition did not exceed 1% of the relevant long-term critical load for the respective habitat sites. The modelling data was checked by the Environment Agency and our results are consistent with the Applicant's assessment.

Assessment of Site of Special Scientific Interest (Rye Mead)

The modelling data was checked by the Environment Agency and our results are consistent with the Applicant's assessment. Our calculations show that the process contribution is less than 1% of the minimum critical level and critical load and therefore can be considered insignificant. Taking a risk-based approach, we consider that the impact of operations at the AD facility will not have a significant effect on interest features of the SSSI.

Assessment of non-statutory sites

The Applicant's assessment of non-statutory sites was reviewed by the Environment Agency and we agree with the conclusions, that the proposal will not damage the special features of the non-statutory sites. As there are no specific regulations for the protection of these sites (*beyond our requirements to enhance biodiversity under the Natural Environment and Rural Communities Act 2006 and our wider conservation duties under the Environment Act*), we are required to ensure that the permitting of the installation will not result in significant pollution.

In accordance with Environment Agency guidance, we consider that given the size of the process contribution which is a small fraction of the critical level/load, the impact on the sites is not likely to cause significant pollution. As modelling and assessment has demonstrated that the predicted ground level environmental concentrations of pollutants in the area even at a maximum will not compromise any Air Quality Objectives, then we are satisfied that the operation of the AD facility will not compromise the integrity of the above sites.

9. Monitoring and compliance

We have specified that monitoring should be carried out for the parameters listed in Schedule 3 table S3.1, S3.2 and S3.3 in the permit using the methods and to the frequencies in those tables. These monitoring requirements have been imposed in order to demonstrate compliance with emission limit values.

Air

Annual monitoring of emissions (Table S3.1 in the permit) from the CHP engines and emergency flare will be undertaken by MCERTS accredited personnel using MCERTS approved methods. The Environment Agency has specified that monitoring of the CHP engines should be carried out in accordance with emission standards in LFTGN 08 - *Guidance for monitoring landfill gas engine emissions* (see Table 5 below) and the monitoring requirements of M2 - *Technical Guidance Note, Monitoring of stack emissions to air*.

Table 5 – Summary of emissions testing requirements for the CHP engines

Parameter	Emission standard (mg/m ³)
Nitrogen oxides	500
Carbon monoxide	1400
Total volatile organic compounds	1000
Sulphur dioxide	350

We have also specified in the permit that emissions testing on the emergency flare should be undertaken 12 months following commissioning and then in the event the flare has been operational for over 10% of the year (876 hours). Guidance for monitoring enclosed landfill gas flares (LFTGN 05) sets out the emission standards for enclosed gas flares (see Table 6 below).

Table 6 – Summary of emissions testing requirements for the emergency gas flare

Parameter	Emission standard (mg/m ³)
Oxides of nitrogen as NO ₂	150
Carbon monoxide	50
Total volatile organic compounds	10

The Applicant reports that a boiler will be used at the plant during the commissioning period only. We have not included the boiler as part of operations at the AD plant. Consequently we have not set any monitoring requirements on the boiler.

Water

Weekly visual monitoring has been specified in the permit to ensure early detection of contaminated water entering the River Lee Navigation via the attenuation pond (see Table S3.2 in the permit).

Process monitoring

We have specified monitoring of the AD process as a whole (see Table S3.3 in the permit). Monitoring parameters include digestion process checks, biogas flow, biogas and hydrogen sulphide monitoring, daily olfactory checks, biofilter maintenance and structural integrity checks of the digesters and storage tanks. These monitoring checks are imposed as a measure of the stability of the digestion process and to ensure that any malfunction of plant/equipment on site is detected early to prevent significant pollution.

Annex 1 – decision checklist

This document should be read in conjunction with the Duly Making checklist, the application and supporting information and permit/notice.

Aspect considered	Justification / Detail	Criteria met
		Yes
Consultation		
Scope of consultation	The consultation requirements were identified and implemented. The decision was taken in accordance with RGN 6 High Profile Sites, our Public Participation Statement and our Working Together Agreements.	✓
Responses to consultation and web publicising	The web publicising and consultation responses (Annex 2) were taken into account in the decision. The decision was taken in accordance with our guidance.	✓
Operator		
Control of the facility	We are satisfied that the operator is the person who will have control over the operation of the facility after the grant of the permit. The decision was taken in accordance with EPR RGN 1 – Understanding the meaning of operator.	✓
The facility		
The regulated facility	<p>The extent/nature of the facilities taking place at the site required clarification. The decision on the facility was taken in accordance with RGN 2 – Understanding the meaning of regulated facility.</p> <p>The regulated facility is an installation which comprises the following activities listed in Part 2 of Schedule 1 to the Environmental Permitting Regulations:</p> <p><u>Scheduled activity</u> The installation is a regulated facility subject to the Environmental Permitting Regulations (EPR) because it carries out activities listed in Part 1 of Schedule 1 to the EPR:</p> <ul style="list-style-type: none"> • S5.4 A(1)(b)(i) – Recovery or a mix of recovery and disposal of non-hazardous waste with a capacity exceeding 100 tonnes per day by biological treatment – Anaerobic digestion of waste in closed vessels <p>An installation may also comprise “directly associated activities”, which at this installation include:</p>	✓

Aspect considered	Justification / Detail	Criteria met
		Yes
	<ul style="list-style-type: none"> • Storage of wastes pending recovery • Physical treatment for the purposes of recycling • Steam and electrical power supply • Emergency flare operation • Raw material storage • Gas storage • Digestate storage <p>Together, these listed and directly associated activities comprise the installation – a regulated facility.</p>	
European Directives		
Applicable directives	All applicable European directives have been considered in the determination of the application.	✓
The site		
Extent of the site of the facility	The operator has provided a plan which we consider is satisfactory, showing the extent of the site of the facility. A plan is included in the permit and the operator is required to carry on the permitted activities within the site boundary.	✓
Site condition report	The operator has provided a description of the condition of the site. We consider this description is satisfactory. The decision was taken in accordance with our guidance on site condition reports – guidance and templates (H5). See Key Issues.	✓
Biodiversity, Heritage, Landscape and Nature Conservation	<p>The application is within the relevant distance criteria of a site of heritage, landscape or nature conservation, and/or protected species or habitat. The sites are:</p> <ul style="list-style-type: none"> • Wormley-Hoddesdon Park Woods (SAC) • Epping Forest (SAC) • Lee Valley (SPA) <p>A full assessment of the application and its potential to affect the sites has been carried out as part of the permitting process. We consider that the application will not affect the features of the sites (see <i>Key Issues</i>). The decision was taken in accordance with our guidance, AQTAG014 – <i>Guidance on identifying ‘relevance’ for assessment under the Habitats Regulations for the installations with combustion processes.</i></p>	✓

Aspect considered	Justification / Detail	Criteria met
		Yes
Environmental Risk Assessment and operating techniques		
Environmental risk	We have reviewed the operator's assessment of the environmental risk from the facility. The operator's risk assessment is satisfactory. The assessment shows that, applying the conservative criteria in our guidance on Environmental Risk Assessment, all emissions may be categorised as environmentally insignificant.	✓
Operating techniques	<p>We have reviewed the techniques used by the operator and compared these with the relevant guidance notes - [IPPC Sector Guidance Note <i>EPR 1.01 – Combustion Activities</i>; IPPC Sector Guidance Note <i>IPPC S5.06 – Guidance for the Recovery and Disposal of Hazardous and Non-Hazardous Waste</i>; <i>How to Comply with Your Environmental Permit and H4 – Odour Management</i>].</p> <p>The proposed techniques/emission levels for priorities for control are in line with the benchmark levels contained in the above technical guidance notes and we consider them to represent appropriate techniques for the facility. Key measures proposed by the operator include:</p> <ul style="list-style-type: none"> • pre-acceptance of waste procedures • acceptance of waste procedures • storage of waste • treatment of waste • point source emissions to air and water • fugitive emissions to air, surface and ground water • odour • accidents 	✓
The permit conditions		
Waste types	<p>We have specified the permitted waste types, descriptions and quantities, which can be accepted at the regulated facility. We are satisfied that the operator can accept permitted wastes because they have the necessary infrastructure, operating systems and technical capability to manage these wastes using appropriate measures.</p> <p>We have excluded waste code 19 05 99 'Wastes not otherwise specified (liquor/leachate from a composting process that accepts only the waste input types allowed by the Compost Quality Protocol)'. This is because we</p>	✓

Aspect considered	Justification / Detail	Criteria met
		Yes
	<p>consider waste code 16 10 02 to be more appropriate for this waste type.</p> <p>We made these decisions with respect to waste types in accordance with our Technical Guidance Note – <i>Framework for assessing suitability of wastes going to anaerobic digestion, composting and biological treatment.</i></p>	
Improvement conditions	Based on the information in the application, we consider that we need to impose an Improvement condition (See <i>Key Issues</i>).	
Pre-operational conditions	Based on the information in the application, we consider that we need to impose pre-operational conditions (See <i>Key Issues</i>).	✓
Incorporating the application	We have specified that the operator must operate the permit in accordance with descriptions in the application, including all additional information received as part of the determination process. These descriptions are specified in the Operating Techniques table in the permit.	✓
Emission limits	<p>We have decided that emission limits should be set for the parameters listed in the permit.</p> <p>The following substances (nitrogen oxides, sulphur dioxide, carbon monoxide, VOCs) have been identified as being emitted in significant quantities and ELVs based on BAT have been set for those substances (see Table S3.1 in the permit). Emission limit values have been set for those substances with respect to air.</p> <p>It is considered that the ELVs specified in the permit will ensure that significant pollution of the environment is prevented and a high level of protection for the environment secured.</p> <p>The substances above have been set at the benchmark levels specified in <i>LFTGN 08: Guidance for monitoring landfill gas engine emissions</i> and <i>Guidance for monitoring enclosed landfill gas flares</i> (LFTGN 05). We have not set any limits on the boiler due to its proposed use (during commissioning only). We consider that emissions will be insignificant.</p>	✓

Aspect considered	Justification / Detail	Criteria met
		Yes
Monitoring	<p>We have decided that monitoring should be carried out for the parameters listed in the permit (Table S3.1), using the methods detailed and to the frequencies specified.</p> <p>These monitoring requirements have been imposed in order to demonstrate compliance with the conditions of the permit for operations requiring the management of air emissions. We made these decisions in accordance with <i>LFTGN 08: Guidance for monitoring landfill gas engine emissions</i> and <i>Guidance for monitoring enclosed landfill gas flares</i> (LFTGN 05) which are considered the most appropriate TGN for this activity.</p> <p>The monitoring conditions for point source emissions to surface water has been applied to prevent the entry of contaminated site surface water from reaching the River Lee Navigation via the off-site attenuation pond.</p> <p>Based on the information in the application we are satisfied that the operator's techniques, personnel and equipment have either MCERTS certification or MCERTS accreditation as appropriate.</p>	✓
Reporting	<p>We have specified reporting in the permit. As the monitoring of point source emissions to air is only required annually, reporting is also required annually. Reporting forms have been prepared to facilitate reporting of data in a consistent format. These reporting requirements are deemed sufficient and proportional for the installation. We made these decisions in accordance with our guidance <i>How to Comply with your Environmental Permit</i>.</p>	✓
Operator Competence		
Environment management system	<p>There is no known reason to consider that the operator will not have the management systems to enable it to comply with the permit conditions. The decision was taken in accordance with RGN 5 on Operator Competence.</p>	✓
Technical competence	<p>Technical competency is required for activities permitted. The operator is a member of an agreed scheme.</p>	✓
Relevant convictions	<p>The National Enforcement Database has been checked to ensure that all relevant convictions have been</p>	✓

Aspect considered	Justification / Detail	Criteria met
		Yes
	declared. No relevant convictions were found. The operator satisfies the criteria in RGN 5 on Operator Competence.	
Financial provision	There is no known reason to consider that the operator will not be financially able to comply with the permit conditions. The decision was taken in accordance with RGN 5 on Operator Competence.	✓

Annex 2 – Consultation and web publicising

This annex provides a summary of responses to consultation and/or web publication and the way in which we have taken these into account in the determination process. Newspaper advertising is only carried out for certain application types, in line with our guidance. Copies of all consultation responses have been placed on the Environment Agency Public Register.

Advertising and Consultation on the Application

The application was advertised on the Environment Agency website from 20 October 2014 to 17 November 2014. A copy of the application was placed in the Environment Public Register at Apollo Court, 2 Bishop Square Business Park, St Albans Road West, Hatfield, AL10 9EX.

The following statutory and non-statutory bodies were consulted: -

- Public Health England
- Director of Public Health, Hertfordshire County Council
- Hertfordshire County Council (Planning Department)
- Broxbourne Borough Council (Planning Department)
- Broxbourne Borough Council (Environmental Protection)
- Hertfordshire Fire & Rescue Service
- Affinity Water
- Thames Water
- Animal Health
- Health & Safety Executive
- National Grid

Consultation Responses from Statutory and Non-Statutory Bodies

Response received from Broxbourne Borough Council (Environmental Protection) dated 10/11/14 and 11/11/14.	
Brief summary of issues raised:	Summary of action taken / how this has been covered
General query regarding the consultation procedure during the determination of an Environmental Permit.	No further action.

Response received from Public Health England dated 13/11/14	
Brief summary of issues raised:	Summary of action taken / how this has been covered
1. PHE recommend that any environmental permit issued should contain conditions to ensure that the following potential emissions do not impact upon public health: - emissions to air from combustion engines	1. Appropriate conditions have been included in the environmental permit to address issues raised by PHE: <ul style="list-style-type: none"> • Emissions to air from the facility and their potential impacts are discussed in section 8 of this decision document. We assessed the Applicant's air quality modelling and

<p>- Dust and odour emissions arising from the delivery and handling of organic feedstock waste and digestate cake.</p> <p>2. PHE recommend that the Environment Agency consult the Local Authority for matters relating to impact on public health of contaminated land, noise, odour, dust and other nuisance emissions; the Food Standards Agency where there is the potential for deposition on land used for the growing of food crops or animal rearing; and the Director of Public Health for matters relating to the wider public health impacts.</p> <p>3. PHE concludes that they have no significant concerns regarding risk to health of the local population from the proposed activity, provided that the Applicant takes all appropriate measures to prevent and control pollution, in accordance with the relevant sector technical guidance or industry best practice.</p>	<p>agree that the conclusions drawn in the report are acceptable, that there would be no significant impact to the environment or human health. We have set conditions in the permit in relation to emissions to air (3.1.1, 3.1.2, 3.5.1 (a);</p> <ul style="list-style-type: none"> • Permit conditions 3.2.1, 3.2.2 and 3.2.3 address fugitive emissions (including dust); • Permit conditions 3.3.1 and 3.3.2 address odour emissions. <p>2. The following organisations were consulted during the determination:</p> <ul style="list-style-type: none"> • Hertfordshire County Council (Planning) and Broxbourne Borough Council (Planning and Environmental Health). Responses are shown in Annex 2 of this decision document. No further action. • We consulted the Director of Public Health, Hertfordshire County Council. We did not receive any response or concerns. No further action. • We did not consult the Food Standards Agency (FSA) as the application was screened out in accordance with our “<i>Working Together Agreement</i>” with FSA. No further action. <p>3. No further action.</p>
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Response Received from Natural England dated 04/12/14

Brief summary of issues raised:	Summary of action taken / how this has been covered
No issues raised. In respect of the Appendix 11 (Habitats) submission, Natural England agreed with the Environment Agency conclusions that there was little likelihood of environmental damage of the designated habitat sites.	No further action
In respect of the Appendix 4 (CROW Act form) submission, Natural England agreed with the Environment Agency conclusions that there was no likely impact on the SSSI.	No further action

No responses received from the following organisations

- Director of Public Health, Hertfordshire County Council
- Hertfordshire County Council (Planning Department)
- Broxbourne Borough Council (Planning Department)
- Hertfordshire Fire & Rescue Service
- Affinity Water
- Thames Water
- Animal Health
- Health & Safety Executive
- National Grid
- Members of the Public