

Determination of an Application for an Environmental Permit under the Environmental Permitting (England & Wales) Regulations 2010

Decision document recording our decision-making process

The Permit Number is: EPR/VP3338RD/A001
The Applicant / Operator is: Dong Energy REnescience
 Northwich O&M Limited
The Installation is located at: Lostock Works, Griffiths Road,
 Lostock Gralam, Cheshire
 CW9 7NU.

What this document is about

This is a decision document, which accompanies a permit.

It explains how we have considered the Applicant's Application, and why we have included the specific conditions in the permit we are issuing to the Applicant. It is our record of our decision-making process, to show how we have taken into account all relevant factors in reaching our position. Unless the document explains otherwise, we have accepted the Applicant's proposals.

We try to explain our decision as accurately, comprehensively and plainly as possible. Achieving all three objectives is not always easy. A lot of technical terms and acronyms are inevitable in a document of this nature: we provide a glossary of acronyms near the front of the document, for ease of reference.

Preliminary information and use of terms

We gave the application the reference number EPR/VP3338RD/A001. We refer to the application as "the **Application**" in this document in order to be consistent.

The number we have given to the permit is EPR/VP3338RD. We refer to the permit as "the **Permit**" in this document.

The Application was duly made on 17/02/16.

The Applicant is Dong Energy REnescience Northwich O&M Limited (DERN O&ML). We refer to Dong Energy REnescience Northwich O&M Limited (DERN O&ML) as “the **Applicant**” in this document. Where we are talking about what would happen after the Permit is granted, we call Dong Energy REnescience Northwich O&M Limited (DERN O&ML) “the **Operator**”.

DERN O&ML proposed facility is located at REnescience Northwich, Lostock Works, Griffiths Road, Lostock Gralam, Cheshire. We refer to this as “the **Installation**” in this document.

How this document is structured

- Glossary of acronyms
- Our proposed decision
- How we reached our decision
- The legal framework
- The Installation
 - Description of the Installation and general issues
 - The site and its protection
 - Operation of the Installation – general issues
- Minimising the installation's environmental impact
 - Assessment Methodology
 - Air Quality Assessment
 - Noise Assessments
 - Impact on Habitats sites, SSSIs, non-statutory conservation sites etc.
 - Other Emissions
- Application of Best Available Techniques
 - Scope of Consideration
 - Assessment of Best Available Techniques
 - Pre-acceptance and acceptance procedures
 - Waste storage
 - Waste treatment
 - Odour control system
 - Point source emissions to water
 - Fugitive emissions to air
 - Fugitive emissions to land and water
 - Pests, scavenging birds and animals
 - Litter
 - Odour
 - Noise and Vibration
 - Commissioning
 - Monitoring
 - Reporting
- Other legal requirements
 - The EPR 2010 (as amended) and related Directives
 - National primary legislation
 - National secondary legislation
 - Other relevant legal requirements
- Annexes
 - Application of the Industrial Emissions Directive
 - Pre-Operational Conditions
 - Improvement Conditions
 - Consultation Responses

Glossary of acronyms used in this document

(Please note that this glossary is standard for our decision documents and therefore not all these acronyms are necessarily used in this document.)

BAT	Best Available Technique(s)
BAT-AEL	BAT Associated Emission Level
BREF	BAT Reference Note
CHP	Combined heat and power
CROW	Countryside and rights of way Act 2000
DAA	Directly associated activity – Additional activities necessary to be carried out to allow the principal activity to be carried out
DD	Decision document
EAL	Environmental assessment level
ELV	Emission limit value
EMAS	EU Eco Management and Audit Scheme
EMS	Environmental Management System
EPR	Environmental Permitting (England and Wales) Regulations 2010 (SI 2010 No. 675) as amended
EQS	Environmental quality standard
EU-EQS	European Union Environmental Quality Standard
EWC	European waste catalogue
FSA	Food Standards Agency
GWP	Global Warming Potential
HPA	Health Protection Agency (now PHE – Public Health England)
HW	Hazardous waste
IED	Industrial Emissions Directive (2010/75/EU)
MBT	Mechanical biological treatment
MSW	Municipal Solid Waste
NO _x	Oxides of nitrogen (NO plus NO ₂ expressed as NO ₂)
OPRA	Operator Performance Risk Appraisal
PC	Process Contribution
PCB	Polychlorinated biphenyls
PEC	Predicted Environmental Concentration
PHE	Public Health England
PPS	Public participation statement
PR	Public register

RDF	Refuse derived fuel
RGS	Regulatory Guidance Series
SAC	Special Area of Conservation
SGN	Sector guidance note
SHPI(s)	Site(s) of High Public Interest
SPA(s)	Special Protection Area(s)
SSSI(s)	Site(s) of Special Scientific Interest
SWMA	Specified waste management activity
TGN	Technical guidance note
WFD	Waste Framework Directive (2008/98/EC)

1 Our decision

We have decided to grant the Permit to the Applicant. This will allow it to operate the Installation, subject to the conditions in the Permit.

We consider that, in reaching that decision, we have taken into account all relevant considerations and legal requirements and that the permit will ensure that a high level of protection is provided for the environment and human health.

This Application is to operate an installation which is subject principally to the Industrial Emissions Directive (IED).

The Permit contains many conditions taken from our standard Environmental Permit template including the relevant Annexes. We developed these conditions in consultation with industry, having regard to the legal requirements of the Environmental Permitting Regulations and other relevant legislation. This document does not therefore include an explanation for these standard conditions. Where they are included in the permit, we have considered the Application and accepted the details are sufficient and satisfactory to make the standard condition appropriate. This document does, however, provide an explanation of our use of “tailor-made” or installation-specific conditions, or where our Permit template provides two or more options.

2 How we reached our decision

2.1 Receipt of Application

The Application was duly made on 17/02/16. This means we considered it was in the correct form and contained sufficient information for us to begin our determination but not that it necessarily contained all the information we would need to complete that determination: see below.

The Applicant made no claim for commercial confidentiality. We have not received any information in relation to the Application that appears to be confidential in relation to any party.

2.2 Consultation on the Application

We carried out consultation on the Application in accordance with the EPR and our statutory PPS. We consider that this process satisfies, and frequently goes beyond the requirements of the Aarhus Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, which are directly incorporated into the IED, which applies to the Installation and the Application. We have also taken into account our obligations under the Local Democracy, Economic Development and Construction Act 2009 (particularly Section 23). This requires us, where

we consider it appropriate, to take such steps as we consider appropriate to secure the involvement of representatives of interested persons in the exercise of our functions, by providing them with information, consulting them or involving them in any other way. In this case, our consultation already satisfies the Act's requirements.

We advertised the Application by a notice placed on our website, which contained all the information required by the IED, including telling people where and when they could see a copy of the Application. We also placed an advertisement in the Northwich Guardian.

We made a copy of the Application and all other documents relevant to our determination (see below) available to view on our Public Register at Richard Fairclough House, Knutsford Road, Latchford, Warrington. Anyone wishing to see these documents could do so and arrange for copies to be made. The Application also was provided on CD, which was made accessible from the library in Northwich. The Application was also made available on the GOV.uk web site.

We sent copies of the Application to the following bodies, which includes those with whom we have "Working Together Agreements":

- Cheshire West and Chester Council – Regulatory Services
- Cheshire West and Chester Council – Planning Department
- Director of Public Health
- Public Health England
- Food Standards Agency
- Health and Safety Executive
- Animal Plant Health Agency Field Services

These are bodies whose expertise, democratic accountability and/or local knowledge make it appropriate for us to seek their views directly. Note under our Working Together Agreement with Natural England, we only inform Natural England of the results of our assessment of the impact of the installation on designated Habitats sites.

In addition to our advertising the Application:-

- we sent briefings to the local Members of Parliament to allow them to make their constituents aware of the application;
- we sent briefing to Cheshire West and Chester Democratic Services to allow them to brief the local councillors who have wards in the vicinity of the site.

As we have received no public responses we did not undertake any further extended public consultation.

Further details along with a summary of consultation comments and our response to the representations we received can be found in Annex 3. We

have taken all relevant representations into consideration in reaching our decision.

2.3 Requests for Further Information

Although we were able to consider the Application duly made, we did in fact need more information in order to determine it, and issued

- Request for further information on 19/02/16
- Request for further information on 07/03/16
- Request for further information on 15/04/16
- Request for further information on 20/05/16
- Request for further information on 14/06/16
- Schedule 5 information notices on 16/03/16, 15/04/16 and 19/08/16
- Request for further information 20/05/16 and 06/06/16 with regard to incomplete responses in the Schedule 5 responses dated 06/05/16, 01/07/16, 15/07/16 and 16/08/16.

A copy of each information request or notice was placed on our public register.

In addition to our information request/notices, we received additional information during the determination from:-

- the Applicant
 - detail of the Anaerobic Tank Liner Assessment on 10/03/16;
 - additional information on the Site Condition Plan on the 15/04/16; and;
 - details of the reconfiguration and redesign of the Installation on the 07/04/16.

We made a copy of this information available to the public in the same way as the responses to our information requests/notices.

3 The legal framework

The Permit will be granted, under Regulation 13 of the EPR. The Environmental Permitting regime is a legal vehicle which delivers most of the relevant legal requirements for activities falling within its scope. In particular, the regulated facility is:

- an *installation* as described by the IED;
- a *waste operation* covered by the WFD, and
- subject to aspects of other relevant legislation which also have to be addressed.

We address some of the major legal requirements directly where relevant in the body of this document. Other requirements are covered in a section towards the end of this document.

We consider that, in granting the Permit, it will ensure that the operation of the Installation complies with all relevant legal requirements and that a high level of protection will be delivered for the environment and human health.

We explain how we have addressed specific statutory requirements more fully in the rest of this document.

4 The Installation

4.1 Description of the installation and related issues

4.1.1 The permitted activities

The Installation is subject to the EPR because it carries out an activity listed in Part 1 of Schedule 1 to the EPR:

- Activity 1
Section 5.4 Part A(1)(b)(i) – Recovery or a mix of recovery and disposal of non-hazardous waste with a capacity exceeding 75 tonnes per day involving biological treatment

- Activity 2
Section 5.4 Part A(1)(a)(ii) – Recovery of non-hazardous waste with a capacity exceeding 50 tonnes per day involving physico-chemical treatment

These activities comprise one installation, because the treatment of the waste biologically, the anaerobic digestion plant, recovering of the wastewaters, recirculation of water back into the system and the combustion of the bio-gases in the combined heat and power (CHP) engines are successive steps in an integrated activity.

The generation of electricity is done, using four CHP engines.

An installation may also comprise “directly associated activities”, which at this Installation include:

Directly Associated Activities (DAAs)

Activity

3. Storage of wastes awaiting treatment (R13)
4. Physico-chemical and biological treatment of the waste – pre-treatment of waste to remove oversized and unsuitable materials to recover; pre-treatment of waste with enzymes – to breakdown and dissolve the organic matter in water(R3);sort, segregate and bale the residual solid waste from the “bio-liquid” to produce Refuse Derived Fuel (RDF), metals, plastic and aggregate (R3, R4, R5),
5. Supply of heat and electrical power (R1)
6. Emergency flare operation (D10)

7. Combustion of natural gas in a nominated CHP engine – to heat water to start the process
8. Gas cleaning and storage (R3/R13)
9. Storage of treated wastes (D15/R13)
10. Surface water management and discharge
11. Digestate storage
12. Storage and use of raw materials
13. Storage of wastes produced on site

Together, these listed and directly associated activities comprise the Installation.

The waste operations (Activity14) are subject to EPR because they carry out “relevant waste operations” as specified in Schedule 9 to the EPR and comprises of the bulking up wastes and storage of wastes prior to and after treatment (R13).

4.1.2 The Site

The Dong Energy REnescience site is located approximately 600 metres to the north-west of Northwich and Rudheath, approximately 1.2 km south-east of Lostock Gralam and 180 metres south of the A559 on part of the previous chemical works occupied by ICI, Bunner Mond and INEOS Chlor. This area is known as the ‘Lostock Works’. The grid reference for the site is SJ 67920 74201.

Access to the site is by a private road off the A530, which is approximately 0.5 km long.

The site is situated below existing railway lines and sidings, and the Manchester Road. To the west is the Trent and Mersey Canal that is used by pleasure crafts and its towpath is a public right of way.

The nearest residential area is on Manchester Road, which is separated from the site by the railway and sidings, and further residences are located along the A559 and A530 junction. There are also warehouses and commercial premises along Manchester Road and to the east of the site.

There are ecologically designated sites within 10 km of the site. These are:

- West Midland Mosses Special Area of Conservation – 9.2 km from site;
- Midland Meres and Mosses Phase and Phase 2 Ramsars – 9.2 km from site; and
- 16 SSSIs – the two closest being Witton Lime Beds (1.64 km from site) and Plumley Lime Beds (2.6 km from site).

Additionally, located within 2 km from the site are the following non-statutory local wildlife and conservation sites:

- Ashton's and Neumann's Flashes at 1 km to the North West

- Ashton's and Neumann's Flashes 2 at 1.35 km to the North West
- Marston Flashes at 1.5 km
- Wincham Brook Valley at 1.33 km to the North East
- Long Wood at 2 km
- Winnington Wood at 2.2 km

The Applicant submitted a plan which we consider is satisfactory, showing the site of the Installation and its extent. A plan is included in Schedule 7 to the Permit, and the Operator is required to carry on the permitted activities within the site boundary.

Further information on the site can be found in Section 1.of the Main Application Document and Section 2 of the Addendum to the Application.

4.1.3 What the Installation does

The Applicant has described the facility as Mechanical Biological Treatment facility producing sorted recyclables, wastes for the making of RDF, biogas and digestate.

- The biogas is burned in four combined heat and power units that produce electricity, which is exported to the national grid.
- The digestate is applied to land for restoration or reclamation.
- The wastes from the sorting process and transfer station is exported to other facilities for further treatment and recovery.

The process begins by accepting wastes in to the reception building and here the waste is off loaded into a bunker. An overhead crane is used to move the waste into a hopper and bag splitter. The debugged waste is then fed into hot water bath where the organic waste begins to dissolve and separate from the other insoluble waste. This is then fed into the “Bioreactor” and combined with enzymes to break down the carbohydrates and proteins. The mixed waste is slowly turned in the bio-reactors for 12 to 18 hours to enhance the process.

After treatment in the bioreactor the waste is passed through a number of separators and screeners to produce a solid residual waste and organic liquid waste (known as “bio-liquid”) stream. The solid waste is further separated into metals, plastics, aggregates and wastes that are suitable to produce RDF.

The bio-liquid is pumped into the one of four digesters for approximately 21 days where it is “digested” by bacteria in anaerobic conditions. The biogas produced is stored in the roof of the digester, cleaned to remove hydrogen sulphide (H₂S) and other impurities. It is then dried, prior to being used as fuel in the CHP engines, producing electricity that is used onsite, exported to the grid or potentially used locally.

The digestate waste is dewatered using polymers and the recycled water is fed back into the system after being cleaned in the evaporator.

Section 3 of the Main Supporting Document and Section 2 of the Addendum Report to the Application provides a detailed description of the process summarised above.

The wastes brought into the transfer station will simply be bulked up, stored and sent off-site to a suitable recycling facility.

The key features of the Installation can be summarised in the table below.

Waste throughput	144,000 tonnes /annum	8,000 hours per annum
Waste processed	Municipal Solid Waste, Commercial Waste, MBT residues.	
Combustion technology	4 x GE Jenbacher 420 engines	
Auxiliary Fuel	Compressed Natural Gas	
Stack	Grid Reference:367984.2, 374122.8	
	Height, 33 m	Diameter, 1.00 m
Flue gas	Flow, 4.7 Nm ³ /s	Velocity, 18.6 m/s
	Temperature 304 °C	
Electricity generated	6.3 MWe (14MW _{th})	
Electricity exported	5 MWe	

4.1.4 Key Issues in the Determination

The key issues arising during this determination are listed below and we therefore describe how we determined these issues in most detail in this document.

- Emissions to air and their impact
- Odour
- Noise

4.2 The site and its protection

4.2.1 Site setting, layout and history

Geology

British Geological Survey mapping indicates that the site is underlain by bedrock of the Northwich Halite Member, which is generally described as interbedded halite and mudstone. The Northwich Halite Member is indicated to be dipping east and is up to 286 metres thick in the vicinity of the site. The Northwich Halite Member is underlain at depth by the Bollin Mudstone Member. Mapping does indicate that extensive Made Ground is likely to be present at the site associated with historical land use and the presence of a filled ground in the form of a tip.

Hydrogeology

The Glacial Till – Diamicton is classified as Unproductive Strata and the Alluvium Deposits are classified as a Secondary A Aquifer. The underlying

Northwich Halite Member is classified as Unproductive Strata and the Sidmouth Mudstone is classified as a Secondary B Aquifer. Unproductive Strata is described as formations that have a low permeability and have negligible significance for water supply or base flow. Secondary B Aquifers are formations that are generally formed of lower permeability layers that may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering.

There are no records of licensed groundwater abstractions within 1km of the site. The sensitivity of the hydrogeological setting is reduced by the absence of any statutory designations (e.g. Source Protection Zones, SPZs) within 2km of the application site.

Hydrology

There are no on-site watercourses. The Wade Brook is located approximately 15 metres to the south, which approaches the site from the east and flows to the west of the site. The Wincham Brook is located approximately 334 metres north of the site and flows in an east/west orientation in an easterly direction. The Wincham Brook flows into the Wade Brook approximately 730 metres to the northwest of the site; the Wade Brook then discharges to the River Weaver approximately 2.1 km to the northwest of the site. No other main rivers are located within 1km of the site. However, a small pond is located 131 metres to the north of the site.

There are records of three surface water abstractions within 1km of the site, neither are situated directly downstream of the site. The third is associated with the Trent & Mersey Canal.

Site History and Possible Contamination

The site is located in an area that has been used for industry and chemical manufacture for nearly 200 years. The Trent and Mersey Canal was constructed in 1777, maps of the area from the early 19th century indicate likely marl or salt pits among rural land-uses, and the Manchester to Northwich railway was completed in 1863. Soda ash and bleaching powder production commenced in the Lostock Works area in the late 18th century and much of the surrounding land. Particularly the area to the south west and east has been used for lime waste disposal associated with soda ash manufacture. During the First World War it is understood that ammonium nitrate production for use in explosives was undertaken at the soda works. Later, during the Second World War, a range of products were made on the Lostock Works site at the request of the Ministry of Supply, including chlorine, mono chloro-benzene and carbon tetrachloride.

The map dated 1976 shows that the site was developed and labelled 'Works'. This is the chlorine plant with associated asbestos handling area that was commissioned in 1977. The site has not been in use since 2001 and all buildings were demolished to slab level in 2013.

Made Ground is likely to be present across the site as a result of historical land uses and associated earthworks including the former tip. A site investigation was undertaken (Appendix 9.B of Appendix F in the application) encountered Made Ground to a maximum depth of 5 meters below ground level (bgl) in the west of the site in the area indicated to have been a former tip.

The site investigation, referenced above, identified elevated concentrations of metals in soils across the site. It also identified localised soil contamination in the form of PAHs and volatile organic compounds (VOCs). Groundwater samples contained elevated concentrations of a range of metals and localised elevated concentrations of hydrocarbons, PAHs and VOCs.

Surface water samples collected from the Wade Brook were found to contain elevated concentrations of metals and VOCs.

Ground gas monitoring undertaken during 2009 identified methane and carbon dioxide in several boreholes across the site, which is likely to be associated with the former tip.

Subsidence

As the site has been developed previously without any obvious effects of mining or brine works related subsidence, therefore, it is considered that the risk is reduced.

4.2.2 Proposed site design: potentially polluting substances and prevention measures

Under Article 22(2) of the IED the Applicant is required to provide a baseline report containing at least the information set out in paragraphs (a) and (b) of the Article before starting operation.

The Applicant has not submitted a baseline report. We have therefore set four improvement conditions (IC 6-9) requiring the Operator to provide this information.

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

4.2.3 Closure and decommissioning

Having considered the information submitted in the Application, we are satisfied that the appropriate measures will be in place for the closure and decommissioning of the Installation, as referred to in 2.2 in the main application document of the Application. Pre-operational condition POM 2 requires the Operator to have an Environmental Management System in place before the Installation is operational, and this will include a site closure plan.

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 will apply to us for surrender of the permit, which we will not grant unless and until we are satisfied that these requirements have been met.

4.3 Operation of the Installation – general issues

4.3.1 Administrative issues

The Applicant is the sole Operator of the Installation.

We are satisfied that the Applicant is the person who will have control over the operation of the Installation after the granting of the Permit; and that the Applicant will be able to operate the Installation so as to comply with the conditions included in the Permit.

We are satisfied that the OPRA profile and Waste OPRA submitted by Applicant is accurate.

The OPRA score will be used as the basis for subsistence and other charging, in accordance with our Charging Scheme. OPRA is the Environment Agency's method of ensuring application and subsistence fees are appropriate and proportionate for the level of regulation required.

4.3.2 Management

The Applicant has stated in the Application that they will implement an Environmental Management System (EMS) that will be certified under ISO14001. A pre-operational condition (POM 2) is included requiring the Operator to provide a summary of the EMS prior to commissioning of the plant and to make available for inspection all EMS documentation. The Environment Agency recognises that certification of the EMS cannot take place until the Installation is operational.

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.

Technical competency is required for activities permitted. The Operator is a member of an agreed scheme. The activities undertaken at the site are specified waste management activities (SWMAs). Therefore the Applicant is required to be suitably qualified and a member of an agreed scheme or be signed up to complete the required units, having completed the environmental permitting operators certificate (EPOC) allowing a "grace period" of one year to gain the correct level of technical competence.

We have placed a pre-operational and improvement condition (POM 4 and IC 7) in the permit to require the Applicant inform us of the qualifications and

competence of the managers on the site. Also, to confirm that a training plan has been developed and incorporated into the EMS.

4.3.3 Site security

Having considered the information submitted in the Application, we are satisfied that appropriate infrastructure and procedures will be in place to ensure that the site remains secure.

4.3.4 Accident management

The Applicant has not submitted an Accident Management Plan. However, having considered the other information submitted in the Application, we are satisfied that appropriate measures will be in place to ensure that accidents that may cause pollution are prevented but 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 commissioning as required by a pre-operational condition (POM 2 and 6).

The Applicant has also stated that they will undertake a Hazard and Operability Study (HAZOP) for the Installation and must be undertaken prior to commissioning as required by a pre-operational condition (POM 7).

The Applicant submitted a Fire Prevention Plan (FPP). We are satisfied that the Fire Prevention Plan is adequate.

4.3.5 Off-site conditions

We do not consider that any off-site conditions are necessary.

4.3.6 Operating techniques

We have specified that the Operator must operate the Installation in accordance with the following documents contained in the Application:

Description	Parts Included	Justification
The Application	Sections 1 - 6 of the application document in response to section 3 – technical standards, Part B of the application form	Details of plant design, construction of the site as well as operational details.
Additional information received 09/03/16	Additional information concerning anaerobic digestion tank bund design	Design details regarding the secondary containment bund.

Description	Parts Included	Justification
Additional information received 07/04/16	Addendum to the Application	New design for the site and working procedures.
Response to Schedule 5 Notice dated 15/03/16	Response to question 1	Incorporating the Fire Prevention Plan.
Response to Schedule 5 Notice dated 15/04/16	Response to question 1-3 and 7-48.	Techniques detailing noise control, emissions and monitoring, process and output monitoring, site design and site operation and process. Odour abatement and management.
Additional Information	All	Information relating to odour management, waste bunker design and management.
Additional Information	All	Additional information relating to Waste bunker construction and management.
Response to Schedule 5 Notice dated 19/08/16	Response to questions 1 -30	Additional detail to the process and odour management plan.
	Odour management plan reference Attachment 1 in response to Schedule 5 dated 19/08/16	Incorporating the Odour Management Plan.

The details set out above describe the techniques that will be used for the operation of the Installation that have been assessed by the Environment Agency as BAT; they form part of the Permit through Permit condition 2.3.1 and Table S1.2 in the Permit Schedules.

We have also specified the following limits and controls on the use of raw materials and fuels:

Raw Material or Fuel	Specifications	Justification
Diesel	< 0.1% sulphur content	As required by Sulphur Content of Liquid Fuels Regulations.
Activated carbon	Copper oxide impregnated carbon >90% w/w activated carbon	As specified in the design of the odour abatement system

Raw Material or Fuel	Specifications	Justification
	>5% w/w copper oxide Acid impregnated carbon >90% w/w activated carbon >5% w/w citric acid	

Article 45(1) of the IED requires that the Permit must include a list of all types of waste which may be treated using at least the types of waste set out in the European Waste List established by Decision 2005/532/EC, EC, if possible, and containing information on the quantity of each type of waste, where appropriate. The Application contains a list of those wastes, coded by the European Waste Catalogue (EWC) number, which the Operator will accept in the waste streams entering the plant and which the plant is capable of burning in an environmentally acceptable way. We have specified the permitted waste types, descriptions and where appropriate quantities, which can be accepted at the installation in Table S2.2 and S2.3.

The Applicant requested on the 20/05/16 to remove the following waste codes from the application.

- 02 03 02 wastes from preserving agents
- 02 03 03 wastes from solvent extraction
- 02 06 02 wastes from preserving agents
- 20 01 28 paint, ink, adhesives and resins other than those mentioned in 20 01 27
- 20 01 30 detergents other than those mentioned in 20 01 29
- 20 01 32 medicines other than those mentioned in 20 01 31
- 20 01 41 wastes from chimney sweeping
- 20 03 07 bulky waste

We are satisfied that the Operator can accept the wastes contained in Table S2.2 and S2.3 of the Permit because:-

- these wastes are categorised as municipal waste in the European Waste Catalogue or are non-hazardous wastes similar in character to municipal waste;
- the wastes are all categorised as non-hazardous in the European Waste Catalogue and are capable of being treated in the facility using the techniques detailed in the application;
- these wastes are unlikely to contain harmful components that cannot be safely processed at the Installation.

The facility will take municipal waste, which has not been source-segregated or separately collected or otherwise recovered, recycled or composted, and as a result, the digestate produced will not conform to WRAP protocol PAS 110 and will remain designated as a waste.

Waste codes for separately collected fractions of waste are included in the list of permitted wastes; however, these will be bulked up in the transfer station operation.

We have limited the total capacity of the Installation to 144,000 tonnes per annum. Up to 30,000 tonnes per year can be accepted into the waste transfer station, however, this is included in the overall capacity. This is based on the installation operating 8,000 hours per year at a nominal capacity of 18 tonnes per hour.

The Installation will be designed, constructed and operated using BAT for the MBT plants. We are satisfied that the operating and abatement techniques are BAT for processing these types of waste. Our assessment of BAT is set out later in this document.

4.3.7 Energy efficiency

(i) Consideration of energy efficiency

We have considered the issue of energy efficiency. We have looked at energy within, and generated by, the Installation which are normal aspects of all EPR permit determinations. This issue is dealt with in this section.

(ii) Use of energy within the Installation

Having considered the information submitted in the Application, we are satisfied that appropriate measures are in place to ensure that energy is used efficiently within the Installation.

The application details a number of measures that will be implemented at the Installation in order to increase its energy efficiency. The Applicant has stated in the application that measures will be specifically aimed at maintaining the efficiency of the plant during its operational life. In particular, procedures will cover the following items:

- operation of motors and drives - routine checks on operations and conditions;
- compressed air systems - routine checks for leaks, procedures for use of pneumatic tools;
- hot water systems - routine checks for leaks. Heated systems are lagged and routine insulation inspections carried out; and
- lubrication systems - schedule for routine lubrication.

Additionally, the Applicant utilised an evaporator to clean the process waters. The evaporator is heated by heat from the CHPs and condensing the water to approximately 70°C.

The Application states that the specific energy consumption, a measure of total energy consumed per unit of waste processed, will be 62 kWh/tonne. The installation capacity is 144,000 t/a.

Data from the Environment Agency guidance¹ Treatments listed in the table below shows that the range of specific energy consumptions is as in the table below.

MBT Configuration	Electrical demand (kWh/t waste input)	Heat Demand (kW/t)
MBT (Aerobic Composting)	40 – 70	N/A
MBT (Anaerobic Treatment)	50 – 80	10 – 30
Aerobic Treatment	30 – 60	N/A
Anaerobic Treatment	30 – 70	20 – 60

The specific energy consumption in the Application is in line with that set out above.

(iii) Energy Efficiency Measures

The Applicant has stated that they are employing the following energy efficiency measures:-

- using the heat from the engines to clean and heat process waters;
- preserving the heat in the recirculating process water system using insulated pipework;
- preserving as much heat in the liquid from the digestate decanting and separation, undertaking the pasteurisation last provides the right temperature to incorporate the polymer, so that it dissolves, therefore minimising the need to heat water and dissolve it in water; and
- the combining hot water at 70°C with waste at 25°C to achieve the desired temperature of circa 50°C, therefore minimising the need to expend additional energy heating or cooling the water.

(iv) Permit conditions concerning energy efficiency

An improvement condition IC 2 requires the Operator to carry out an energy efficiency plan to clarify the energy used and if there are additional options to recover energy or heat, in order to ensure that as much as possible is recovered.

Conditions 1.1.2 have also been included in the Permit, which require the Operator to review the opportunities to improve energy efficiency every four years.

The Operator is required to report energy usage and energy generated under condition 4.2 and Schedule 4. The following parameters are required to be reported: total electrical energy generated; electrical energy exported and total energy usage. Together with the total MSW burned per year, this will enable

¹ How to comply with your environmental permit. Additional technical guidance for: Mechanical Biological Treatment Sector (August 2013)

the Environment Agency to monitor energy recovery efficiency at the Installation and take action if at any stage the energy recovery efficiency is less than proposed.

There are no site-specific considerations that require the imposition of standards beyond indicative BAT, and so the Environment Agency accepts that the Applicant's proposals represent BAT for this Installation.

4.3.8 Efficient use of raw materials

Having considered the information submitted in the Application, we are satisfied that the appropriate measures will be in place to ensure the efficient use of raw materials and water.

The Operator is required to report with respect to raw material usage under condition 4.2 and Schedule 4. This will enable the Environment Agency to assess whether there have been any changes in the efficiency of the process. Table S2.1 of the permit lists the most significant raw materials that are used at the Installation, other than the waste feed itself. The efficiency of the use of auxiliary fuel will be tracked separately as part of the energy reporting requirement under condition 4.2. Optimising reagent dosage for air abatement systems and minimising the use of auxiliary fuels is further considered in the section on BAT.

The process used at the Installation uses a large amount of water. To ensure that it is utilised to its full potential the process water is "cleaned" in the evaporator allowing the water to be recycled back into the system.

4.3.9 Avoidance, recovery or disposal with minimal environmental impact of wastes produced by the activities

This requirement addresses wastes produced at the Installation and does not apply to the waste being treated there.

The principal waste stream the Installation will produce that will be sent for disposal is brine waste from the evaporator (residues from cleaning process water) and oversized waste.

The principal waste streams the Installation will produce that will be sent for recovery are refuse derived fuel (RDF), plastics, metals (ferrous and non-ferrous), digestate/compost like output (CLO) and aggregate wastes (such as sand, soil and gravel). Also, the Applicant states in the application that the brine waste from the evaporator may be combined with the CLO as a fertiliser.

The first objective is to avoid producing waste at all. Waste production will be avoided by

- the process producing a clean stable digestate with minimal amount of contamination (ensuring batteries, metals, packaging/plastics are effectively removed); and

- ensuring via pre-acceptance and acceptance that no oversized materials are brought on site.

The digestate/CLO is not derived from source segregated materials and will remain designated as a non-hazardous waste material. The Environment Agency has issued a policy statement indicating that CLO will never be able to be applied to land used for agricultural or horticultural benefit. Therefore, the digestate/CLO will have to go to a permitted site to be used for land reclamation.

The Applicant has stated that if land reclamation was not a viable option, the digestate/CLO would, at least in the short term, be disposed of to landfill.

The RDF produced from the process will go to an incinerator to be burnt as fuel to produce electricity.

The Application states that plastic and metal fractions are sent for recycling. The Application also proposes that the aggregate fraction will be transported to a suitable recycling facility, from where it could be re-used in the construction industry as an aggregate.

Having considered the information submitted in the Application, we are satisfied that the waste hierarchy referred to in Article 4 of the WFD will be applied to the generation of waste and that any waste generated will be treated in accordance with this Article.

We are satisfied that waste from the Installation that cannot be recovered will be disposed of using a method that minimises any impact on the environment. Standard condition 1.4.1 will ensure that this position is maintained.

5. Minimising the Installation’s environmental impact

Regulated activities can present different types of risk to the environment, these include odour, noise and vibration; accidents, fugitive emissions to air and water; as well as point source releases to air, discharges to ground or groundwater, global warming potential and generation of waste and other environmental impacts. Consideration may also have to be given to the effect of emissions being subsequently deposited onto land (where there are ecological receptors). All these factors are discussed in this and other sections of this document.

For an installation of this kind, the principal emissions are those to air, although we also consider those to land and water.

The next sections of this document explain how we have approached the critical issue of assessing the likely impact of the emissions to air from the

Installation on human health and the environment and what measures we are requiring to ensure a high level of protection.

5.1 Assessment Methodology

5.1.1 Application of Environment Agency H1 Guidance

A methodology for risk assessment of point source emissions to air, which we use to assess the risk of applications we receive for permits, is set out in our Horizontal Guidance Note H1 and has the following steps:

- Describe emissions and receptors
- Calculate process contributions
- Screen out insignificant emissions that do not warrant further investigation
- Decide if detailed air modelling is needed
- Assess emissions against relevant standards
- Summarise the effects of emissions

The H1 methodology uses a concept of “process contribution (PC)”, which is the estimated concentration of emitted substances after dispersion into the receiving environmental media at the point where the magnitude of the concentration is greatest. The guidance provides a simple method of calculating PC primarily for screening purposes and for estimating process contributions where environmental consequences are relatively low. It is based on using dispersion factors. These factors assume worst case dispersion conditions with no allowance made for thermal or momentum plume rise and so the process contributions calculated are likely to be an overestimate of the actual maximum concentrations. More accurate calculation of process contributions can be achieved by mathematical dispersion models, which take into account relevant parameters of the release and surrounding conditions, including local meteorology. These techniques are expensive but normally lead to a lower prediction of PC.

5.1.2 Use of Air Dispersion Modelling

For applications that utilise biogas in CHP engines, we normally require the Applicant to submit a full air dispersion model as part of their application. Air dispersion modelling enables the process contribution to be predicted at any environmental receptor that might be impacted by the plant.

Once short-term and long-term PCs have been calculated in this way, they are compared with Environmental Quality Standards (EQS) referred to as “benchmarks” in the H1 Guidance.

Where an EU EQS exists, the relevant standard is the EU EQS. Where an EU EQS does not exist, our guidance sets out a National EQS (also referred to as Environmental Assessment Level - EAL) which has been derived to provide a similar level of protection to Human Health and the Environment as the EU EQS levels. In a very small number of cases, e.g. for emissions of Lead, the

National EQS is more stringent than the EU EQS. In such cases, we use the National EQS standard for our assessment.

National EQSs do not have the same legal status as EU EQSs, and there is no explicit requirement to impose stricter conditions than BAT in order to comply with a national EQS. However, national EQSs are a standard for harm and any significant contribution to a breach is likely to be unacceptable.

PCs are considered **insignificant** if:

- the **long-term** process contribution is less than **1%** of the relevant EQS; and
- the **short-term** process contribution is less than **10%** of the relevant EQS.

The **long term** 1% process contribution insignificance threshold is based on the judgements that:

- It is unlikely that an emission at this level will make a significant contribution to air quality;
- The threshold provides a substantial safety margin to protect health and the environment.

The **short term** 10% process contribution insignificance threshold is based on the judgements that:

- spatial and temporal conditions mean that short term process contributions are transient and limited in comparison with long term process contributions;
- the threshold provides a substantial safety margin to protect health and the environment.

Where an emission is screened out in this way, we would normally consider that the Applicant's proposals for the prevention and control of the emission to be BAT. That is because if the impact of the emission is already insignificant, it follows that any further reduction in this emission will also be insignificant.

However, where an emission cannot be screened out as insignificant, it does not mean it will necessarily be significant.

For those pollutants which do not screen out as insignificant, we determine whether exceedances of the relevant EQS are likely. This is done through detailed audit and review of the Applicant's air dispersion modelling taking background concentrations and modelling uncertainties into account. Where an exceedance of an EU EQS is identified, we may require the Applicant to go beyond what would normally be considered BAT for the Installation or we may refuse the application if the Applicant is unable to provide suitable proposals. Whether or not exceedances are considered likely, the application is subject to the requirement to operate in accordance with BAT.

This is not the end of the risk assessment, because we also take into account local factors (for example, particularly sensitive receptors nearby such as a

SSSIs, SACs or SPAs). These additional factors may also lead us to include more stringent conditions than BAT.

If, as a result of reviewing of the risk assessment and taking account of any additional techniques that could be applied to limit emissions, we consider that emissions **would cause significant pollution**, we would refuse the Application.

5.2 Assessment of Impact on Air Quality

The Applicant's assessment of the impact of air quality is set out in Appendix D of the Application; in response to Schedule 5 (dated 15/04/16); and request for further information (received 20/06/16). The assessment comprises:

- An H1 screening assessment of emissions to air from the operation of the CHP engines.
- Dispersion modelling of emissions to air from the operation of the CHP engines.
- A study of the impact of emissions on nearby sensitive conservation sites.
- A qualitative assessment of amenity impacts during construction.

Of these, the amenity impacts during construction and air quality impacts arising from additional road traffic have not been considered as these are essentially matters for the local planning authority when considering the application for planning permission, and outside the scope of our determination under the Environmental Permitting Regulations.

This section of the decision document deals primarily with the dispersion modelling of emissions to air from the CHP stack and its impact on local air quality. The impact on conservation sites is considered in section 5.4.

The Applicant has assessed the Installation's potential emissions to air against the relevant air quality standards, and the potential impact upon local conservation sites and human health. These assessments predict the potential effects on local air quality from the Installation's stack emissions using the ADMS 5 dispersion model, which is a commonly used computer model for regulatory dispersion modelling. The model used 5 years of meteorological data collected from the weather station at Manchester International Airport between 2010 and 2014 (inclusive). The meteorological data used is from the closest meteorological station to the facility. The impact of the terrain surrounding the site upon plume dispersion was considered in the dispersion modelling.

The air impact assessments, and the dispersion modelling upon which they were based, employed the following assumptions.

- First, they assumed that the ELVs in the Permit would be those stated in LFTGN08² and LFTGN05³. These substances are:
 - Oxides of nitrogen (NO_x), expressed as NO₂
 - Carbon monoxide (CO)
 - Sulphur dioxide (SO₂)
 - Gaseous and vaporous organic substances (VOC, not including methane)
- Second, they assumed that the Installation operates continuously (approximately 8,000 hours but model 8,760 hours per year to accommodate the start-up of the system) at the relevant long-term or short-term emission limit values, i.e. the maximum permitted emission rate.

We are in agreement with this approach. The assumptions underpinning the model have been checked and are reasonably precautionary.

The Applicant has carried out background air quality monitoring to augment the data available from local authority monitoring. This data is summarised in the Application and has been used by the Applicant to establish the background (or existing) air quality against which to measure the potential impact of the CHP engine.

The Applicant has used background concentrations from Defra maps. We have reviewed, checked these values and compared them with Defra Pollution Climate Mapping (PCM) background maps. We found slightly higher background concentrations for NO₂ and Benzene in 2014 (only by 5.5%).

However, the Local Authority has a NO₂ diffusion tube placed on Manchester Road at only 150 metres distance from a residential receptor. This has been identified as a location of relevant exposure. This diffusion tube has shown variable annual NO₂ concentrations; in recent years as high as 36.5 µg/m³ in 2010⁴; 33.4 µg/m³ in 2013⁵. Hence, we would not consider the Defra maps as representative of peak background concentrations associated with Manchester Road and therefore these should not be used for to undertake the assessment.

The Applicant submitted further modelling using the Local Authority's worst-case scenario.

The Applicant has modelled the concentration of key pollutants at a number of specified locations within the surrounding area.

The way in which the Applicant used dispersion models, its selection of input data, use of background data and the assumptions it made have been reviewed by the Environment Agency's modelling specialists to establish the

² Guidance for Monitoring Landfill Gas Engine Emissions: LFTGN 08 v2 2010, Environment Agency, 2010

³ Guidance for Monitoring Enclosed Landfill Gas Flares: LFTGN 05 v2 2010, Environment Agency, 2010

⁴ <http://www.cheshirewestandchester.gov.uk/residents/pests-pollution-food-safety/pollution-and-air-quality/air-quality-monitoring/diffusion-tube-map.aspx>

⁵ Air Quality Progress Report, Cheshire West and Chester Council, September 2014

robustness of the Applicant's air impact assessment. The output from the model has then been used to inform further assessment of impacts on sensitive receptors and impact on habitats and conservation sites.

Our review of the Applicant's assessment leads us to agree with the Applicant's conclusions. We have also audited the air quality assessment and similarly agree that the conclusions drawn in the reports were acceptable.

The Applicant's modelling predictions are summarised in the following sections.

5.2.1 Assessment of Air Dispersion Modelling Outputs

The Applicant's modelling predictions are summarised in the tables below.

The Applicant's modelling predicted pollutant concentrations at discrete receptors. The tables below show the ground level concentrations at the most impacted receptor.

Whilst we have used the Applicant's modelling predictions in the table below, we have made our own simple verification calculation of the percentage process contribution and predicted environmental concentration. These are the numbers shown in the table below and so may be very slightly different to those shown in the Application. Any such minor discrepancies do not materially impact on our conclusions.

Table 5.2 - Assessment of Emissions to Air

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	40	1	36.5	0.9	2.25	37.4	93.5
	200	2	29.4	5.5	2.8	34.9	17.5
SO ₂	50	1			0.00	0.00	0.0
	266	3	15.9	0.2	0.1	16.1	6.1
	350	4	15.9	0.2	0.06	16.1	4.6
	125	5	8	0.1	0.1	8.1	6.5
CO	10000	6	642	2.9	0.03	645	6.4
VOC	5	1	0.5	0.2	4.00	0.700	14.00

Notes to Table 5.2

TOC/VOC as Benzene

- 1 Annual Mean
- 2 99.79th %ile of 1-hour means
- 3 99.9th ile of 15-min means
- 4 99.73rd %ile of 1-hour means
- 5 99.18th %ile of 24-hour means
- 6 Maximum daily running 8-hour mean

(i) Screening out emissions which are insignificant

From the table above the following emissions can be screened out as insignificant in that the process contribution is < 1% of the long term EQS/EAL and <10% of the short term EAQ/EAL. These are:

- Short term Oxides of Nitrogen (expressed as NO₂)
- Sulphur Dioxide (SO₂)
- Carbon Monoxide (CO).

The Applicant has derived SO₂ emission rate based on a H₂S biogas content of 28.24 mg/Nm³. Although this figure is not referenced in the submission, our data sources indicate that it is likely to be a reasonable value. Furthermore, we are able to verify the SO₂ emission rate based on this value.

Therefore, we consider the Applicant's proposals for preventing and minimising the emissions of these substances to be BAT for the Installation subject to the detailed audit referred to below.

(ii) Emissions unlikely to give rise to significant pollution

Also from the table above the following emissions (which were not screened out as insignificant) have been assessed as being 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

- Long term Oxides of Nitrogen (expressed as NO₂)
- Volatile Organic Compounds (VOC's) (Benzene)

For these emissions, we have carefully scrutinised the Applicant's proposals to ensure that they are applying the Best Available Techniques to prevent and minimise emissions of these substances.

(iii) Emissions requiring further assessment

All emissions either screen out as insignificant or where they do not screen out as insignificant are considered unlikely to give rise to significant pollution. Therefore, further assessment is not necessary.

5.2.2 Consideration of key pollutants

(i) Nitrogen dioxide (NO₂)

The impact on air quality from NO₂ emissions has been assessed against the EU EQS of 40 µg/m³ as a long term annual average and a short term hourly average of 200 µg/m³.

The above table shows that the peak short term PC is less than 10% of the EU EQS and so can be screened out as insignificant. Therefore we consider the Applicant's proposals for preventing and minimising the emissions of these substances to be BAT for the Installation.

The above table shows that the peak long term PC is greater than 1% of the EU EQS and therefore cannot be screened out as insignificant. Even so, from the table above, the emission is not expected to result in the EU EQS being exceeded.

(ii) Sulphur Dioxide SO₂

There is no long term EAL for SO₂ for the protection of human health. Protection of ecological receptors from SO₂ for which there is a long term EAL is considered in section 5.5.

Emissions of SO₂ can also be screened out as insignificant in that the short-term process contribution is <10% of each of the three short-term EU EQS values. Therefore we consider the Applicant's proposals for preventing and minimising the emissions of these substances to be BAT for the Installation.

(iii) Emissions to Air of CO and VOCs

The above table shows that for CO the peak short term PC is less than 10% of the EAL/EQS and so can be screened out as insignificant. Therefore we consider the Applicant's proposals for preventing and minimising the emissions of this substance to be BAT for the Installation.

The above table shows that for VOC emissions, the peak long term PC is greater than 1% of the EAL/EQS and therefore cannot be screened out as insignificant. Even so, from the table above, the emission is not expected to result in the EQS being exceeded.

The Applicant has used the EQS for Benzene for their assessment of the impact of VOC. This is based on Benzene having the lowest EQS of organic species likely to be present in VOC at a facility where biogas is being used as a fuel.

Whilst not all emissions can be screened out as insignificant, the Applicant's modelling shows that the installation is unlikely to result in a breach of the EAL. The Applicant is required to prevent, minimise and control VOC emissions using BAT, this is considered further in Section 6. We are satisfied that VOC emissions will not result in significant pollution.

(iv) Summary

For the above emissions to air, for those emissions that do not screen out, we have carefully scrutinised the Applicant's proposals to ensure that they are applying the BAT to prevent and minimise emissions of these substances. This is reported in section 6 of this document. Therefore we consider the Applicant's proposals for preventing and minimising emissions to be BAT for the Installation.

5.2.3 Consideration of Local Factors

(i) Impact on Air Quality Management Areas (AQMAs)

No Air Quality Management Areas (AQMAs) have been declared within an area likely to be affected by emissions from the CHP engines.

5.3 Human health risk assessment

5.3.1 Our role in preventing harm to human health

The Environment Agency has a statutory role to protect the environment and human health from all processes and activities it regulates. We assessed the effects on human health for this application in the following ways:

i) Applying Statutory Controls

The plant will be regulated under EPR. These regulations include the requirements of relevant EU Directives, notably, the industrial emissions directive (IED), and the waste framework directive (WFD).

The main conditions in a permit are based on the requirements of the IED. The aim of the IED is to prevent or, where that is not practicable, to reduce emissions to air, water and land and prevent the generation of waste, in order to achieve a high level of protection of the environment taken as a whole. IED achieves this aim by setting operational conditions, technical requirements and emission limit values to meet the requirements set out in Articles 11 and 18 of the IED. These requirements include the application of BAT. The assessment of BAT for this installation is detailed in section 6 of this document.

ii) Environmental Impact Assessment

Industrial activities can give rise to odour, noise and vibration, accidents, fugitive emissions to air and water, releases to air (including the impact on Photochemical Ozone Creation Potential (POCP)), discharges to ground or groundwater, global warming potential and generation of waste. For an installation of this kind, the principal environmental effects are through emissions to air, although we also consider all of the other impacts listed. Section 5.1 and 5.2 above explain how we have approached the critical issue of assessing the likely impact of the emissions to air from the Installation on

human health and the environment and any measures we are requiring to ensure a high level of protection.

v) Consultations

As part of our normal procedures for the determination of a permit application, we consult with Local Authorities, Local Authority Directors of Public Health, FSA and PHE. All issues raised by these consultations are considered in determining the application as described in Annex 4 of this document.

5.4 Noise assessment

We have made our own verification of the model and the calculation of the predicted noise emission from the site activities. The verification did show some slight differences to those shown in the Application and the Schedule 5 response. Any such minor discrepancies do not materially impact on our conclusions.

We are satisfied that the Installation will not cause significant noise emissions at the receptors.

5.5 Impact on Habitats sites, SSSIs, non-statutory conservation sites etc.

5.5.1 Sites Considered

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

- Midland Meres and Mosses Phase 1 Ramsar
- West Midlands Mosses SAC
- Midland Meres and Mosses Phase 2 Ramsar

The following Sites of Special Scientific Interest are located within 2 km of the Installation:

- Witton Lime Beds

The following non-statutory local wildlife and conservation sites are located within 2 km of the Installation:

- Ashton's and Neumann's Flashes at 1 km to the North West
- Ashton's and Neumann's Flashes 2 at 1.35 km to the North West
- Marston Flashes at 1.5 km
- Wincham Brook Valley at 1.33 km to the North East
- Long Wood at 2 km
- Winnington Wood at 2.2 km

5.5.2 Habitats Assessment

The Applicant did not undertake a full assessment as the site's thermal input is approximately 14MW_{th} and not within 500 metres of an ecological receptor.

Therefore, we undertook a qualitative assessment with regard to any potential likely significant effect. We concluded that there would be no likely significant effect from the Installation.

Additionally, the Applicant stated in the application that during the planning application for this facility, Natural England (NE) advised that since all European sites and Sites of Special Scientific Interest lie beyond 500 metres of the proposed development, no impacts are expected at the sites.

For the above reasons, we sent our assessment to Natural England for information only.

5.5.3 SSSI Assessment

Under the guidance AQTAG14, a site producing a thermal input of less than 20 MW_{th} and that is not within 500 metres of an ecological receptor, a full assessment is not necessary.

The Applicant's assessment of SSSIs were reviewed by the Environment Agency's technical specialists for modelling, air quality technical services (AQMAU), who agreed with the assessment's conclusions, that the proposal does not damage the special features of the SSSIs.

5.5.4 Assessment of other conservation sites

The Applicant has assessed NO_x critical level using the annual NO₂ PC and PEC based on the background concentration from a grid search on APIS website⁶. The Applicant predicts a maximum annual-mean of 16.22 µg/m³ at Ashton's and Neumann's Flashes' Local Wildlife Site and concludes that is well below the relevant Critical Level.

However, because AQTAG14 guidance is currently under review, the Environment Agency assessed all sensitive sites at a distance of 2 km from boundary of the site on a risk basis.

There are a number of Local Wildlife Sites (LWS) and an Ancient Woodland (AW) site present within 2 km. We have assessed the risk at the following ecological receptors located at these distances from the main source:

Sites within 2 km (approx.)

- Witton Lime Beds (SSSI) at 1.64 km to the North West
- Ashton's and Neumann's Flashes (LWS) at 1 km to the North West

⁶ <http://www.apis.ac.uk/>

- Ashton's and Neumann's Flashes 2 (LWS) at 1.35 km to the North West
- Marston Flashes (LWS) at 1.5 km
- Wincham Brook Valley (LWS) at 1.33 km to the North East
- Long Wood (LWS) at 2 km
- Winnington Wood (AW) at 2.2 km

The above assessment showed that the PCs are below the critical levels or loads. We are satisfied that the Installation will not cause significant pollution at the sites.

5.6 Other Emissions

5.6.1 Odour

(i) Odour abatement

The Applicant has proposed an odour abatement system to control and negate the odour that will occur within the reception, bunker, bioreactor treatment area and the digestate treatment building. This is achieved using a filtered impregnated carbon system (impregnated with copper oxide and acid) to control the odours. Additionally, the brine tank will have its own activated carbon odour control system.

The Applicant is required to prevent, minimise and control odour emissions using BAT, this is considered further in Section 6.

We agree with the scope and suitability of key measures but this should not be taken as confirmation that the details of equipment specification design, operation and maintenance are suitable and sufficient. That remains the responsibility of the operator.

We have assessed the applicants Odour Management Plan and we approve the OMP in as far as it goes but set out below the ways in which we consider it to be deficient and, require the following in an improvement condition (IC 8).

1. Clarification of the control of odour for digestate storage and that there is sufficient control of fugitive odours after commissioning
2. A review of odour control in the sorting hall and reactor hall after commissioning

6. Application of Best Available Techniques

6.0 Scope of Consideration

In this section, we explain how we have determined whether the Applicant's proposals are the Best Available Techniques for this Installation.

A list of the key stages of the MBT process that needs to be considered is included below:

6.1 Assessment of Best Available Techniques

In the application, the Applicant confirmed that they would follow the Environment Agency’s guidance “How to comply with your Environmental Permit”, “Sector Guidance Note on Integrated Pollution and Prevention Control S5.06” and the H4 Odour management guidance. The Environment Agency has translated the guidance note “How to comply with your environmental permit” to a series of web pages⁷.

The Applicant will follow the additional draft guidance “How to comply with your environmental permit. Additional technical guidance for: Mechanical Biological Treatment Sector”.

In schedule 1 Table S1.2 of the Permit, we have incorporated the approved operating techniques, which will be followed by the Applicant and are in line with the stated guidance. We consider that complying with the above guidance is (Best Available Techniques) BAT for an installation and ‘necessary measures’ for a waste operation.

We have reviewed the operating techniques proposed by the applicant and compared these with the relevant guidance as set out in all the guidance mentioned above.

We have assessed the Applicant’s proposals as set out in their Application and compared them against the relevant BAT standards. Where necessary we have requested further information from the Applicant.

The installation is designed, constructed and operated using BAT for the treatment of the permitted wastes. We are satisfied that the operating and abatement techniques are BAT for these types of waste unless otherwise stated below.

6.2 Pre-acceptance and acceptance procedures

The Applicant will have appropriate pre-acceptance and acceptance procedures in place. These are described in Sections 3.1 of the Main Application Document.

At the pre-acceptance stage, the Applicant will obtain written information and samples of waste from prospective waste suppliers to determine the suitability of the waste for the processing via the mechanical or biological treatment.

⁷ <https://www.gov.uk/guidance/a1-installations-environmental-permits>

Following characterisation of the waste, a technical assessment will be made of its suitability for treatment by technically competent staff. A risk assessment will be undertaken at the contract stage and reviewed at pre-acceptance where the Applicant has identified the waste will have a high odour potential.

The Applicant will have a waste tracking system that starts at the pre-acceptance stage. Records are kept for 3 years and will include the relevant details required by SGN S5.06 and the Environment Agency's Draft guidance "How to comply with your environmental permit. Additional technical guidance for: Mechanical Biological Treatment Sector".

On arrival at site, all waste are weighed and associated documentation checked. Waste will not be accepted into site unless there is sufficient storage capacity and the site is adequately manned to receive waste.

Wastes are inspected immediately upon offloading. The Applicant will have criteria in place for the rejection of wastes.

Rejected wastes are stored in a quarantine area for no longer than 24 hours.

A list of the key stages of the pre-acceptance and acceptance processes that the application considers is included below:

- the Applicant has stated that they will engage with suppliers of their waste feedstock to determine several factors such as :-
 - how waste is stored prior to arrival on site and the conditions under which it is stored.
 - the nature of the process producing the waste, including the variability of this process.
 - the composition of the waste and ensure that;
 - a representative sample of the waste is taken from the production process and analysed or assessed
 - for each new waste enquiry, a comprehensive characterisation of the waste, pre-storage and age of the waste.

This information is recorded and referenced to the waste stream so that tractability is clear. The system will identify the Applicant's staff that have taken any decisions on acceptance or rejection of waste streams. The records relating to pre-acceptance will be maintained and kept readily available at the treatment facility for cross-reference and verification at the waste acceptance stage.

The Applicant has stated that the unloading area is enclosed with appropriately designed air extraction systems.

The inspection, unloading and sampling areas are within a building with odour control, an impermeable surface and sealed drainage system. Waste are off loaded in to a waste bunker once inspected and verified.

- On arrival loads are
 - weighed on the weighbridge and accompanied by a transfer notes;
 - checked against the associated documents;
 - quarantined should it prove necessary following the quarantine procedures and being placed in the designated area;
 - not be accepted into site unless sufficient storage capacity exists and site is adequately manned to receive waste (please see Section 6.11 on odour also).

- On arrival the waste shall be
 - visually inspected;
 - unloaded into a dedicated sampling/reception area;
 - inspected immediately upon offloading.

- On-site verification and compliance testing is undertaken to confirm suitability for the site's treatment process in the on-site laboratory.

- Wastes will not be deposited within a reception bunker without adequate space and treatment capacity. (please see Section 6.11.2)

- All wastes for on-site treatment are sampled in accordance with the sampling plan and undergo verification and compliance testing.

- If the inspection or analysis indicate that the wastes fail to meet the acceptance criteria such loads are stored in the quarantine area, (bagged if odorous) and dealt with by returning it to the producer within 5 working days, recording the event and informing the Environment Agency

- Tankered wastes are accepted directly into the liquid balancing tank (LBT) once sampled.

- Wastes will not be accepted at the site without sufficient capacity being available. These checks will be performed before the waste acceptance stage is reached. (Please see the Section 6.11.2 for information on the capacity to treat highly odorous waste)

- The Applicant will ensure that the site personnel who may be involved in the sampling, checking and analysis procedures are suitably qualified to industry standards and adequately trained, and that the training is updated on a regular basis. A pre-operational condition and improvement condition (POM 4 and IC 7) has been included in the permit to obtain this information prior to the Installation accepting waste.

- The reception area and bunker for the feedstock/waste have been
 - sized to accommodate the 3 days waste to accommodate for bank holidays

- designed and constructed primarily for non-hazardous waste, however further protection is provided by using a concrete mix which is designed to be resistant to attack from aggressive components in the waste including a sacrificial layer of concrete to provide a further layer of protection in the event of damage from the crane grab. This also prevents both ingress and egress of water. (A detailed description of the bunker design and construction can be found in the Additional Information submitted on 15/07/16).
- placed within an enclosed building and will include a building ventilation system and an odour abatement system that maintains the building under negative air pressure in order to minimise fugitive odour, bioaerosol, and dust release from the building.
- fitted with an air extraction system that will be run to ensure at least 3 air changes per hour or equivalent. There is also capacity to allow higher extraction rates. The extracted air is vented to an appropriately sized impregnated activated carbon abatement system.
- fitted with automatic fast acting roller shutter doors to control fugitive odour and noise emissions.

The reception area has a sealed impermeable surface to allow for cleaning and drainage to collect wash waters, which may be used in the process if appropriate. If not, it will be collected and sent off site for appropriate treatment.

6.3 Waste storage

All waste received at the facility is stored in the fully enclosed reception hall on impermeable surfacing with a sealed drainage system and within a waste bunker. The waste is unloaded into the bunker and has sufficient space to allow three HGVs to unload at one time.

The waste storage area and bunker is regularly checked and maintained. Waste is stored for a maximum of 3 days, prior to being processed. The Applicant has stated that they aim to process all waste the day it is delivered to try to ensure that they get the maximum yield of biogas possible. We are satisfied that this will ensure that the waste storage time within the reception hall is minimised.

Waste accepted for the waste transfer station (WTS) will be stored within a dedicated part of the reception hall, bulked up and then moved off site to suitable treatment or recovery.

The main storage for the waste will be within the waste bunker, but also in the LBT, the Brine tank and the tanks for digestate treatment. All are provided with:-

- impermeable surfaces and sealed drainage systems to capture any spillages
- appropriate bunds (at least 110% of the largest vessel or 25% of the total tankage volume, whichever is the greater) or are double skinned tanks with a pressure monitoring system for the above ground tanks used for the storage of waste, digestate or fuel. These will be regularly inspected to ensure that rainwater is regularly emptied and all connections and fill points are within the bunded area. Additionally, the Brine and fuel tanks have collision protection.
- odour control via the activated carbon system or the tanks own odour control
- enclosed/covered gas tight and with any venting via an appropriate odour abatement system. Where there is ventilation local to the storage equipment this will be managed as part of the site fugitive emissions abatement system.

The Applicant is utilising a below ground bunker and digestate pit. Neither of these have secondary containment and therefore deviate from BAT.

However, the Applicant has stated that the bunker will be constructed to prevent the ingress or egress of liquids and is protected by a sacrificial layer, self-healing properties and from attack by hazardous materials (a detailed description of the bunker design and construction can be found in the Additional Information submitted on 15/07/16). The digestate pit is also constructed to prevent ingress or egress of liquids.

The Applicant has proposed a maintenance schedule as recommended by installers and a leachate management plan to remove any liquid that accumulates in the base of the bunker. Both the bunker and the digestate pit will be inspected weekly and a detailed survey will be undertaken annually.

We are satisfied that the above justifies the deviation from BAT to a point, however we have also requested the monitoring of the groundwater upstream and downstream of the below ground structures. Improvement conditions (IC 3-6) have been placed in the permit to require the Applicant to agree the monitoring plan with the Environment Agency and Table S3.3 will require the monitoring to be undertaken once the monitoring plan is approved.

6.4 Waste treatment

The details of treatment can be found in Section 3 of the Main Supporting Document and illustrated in Appendix B of the application.

6.4.1 Pre-treatment

Waste pre-treatment is undertaken in the reception hall within 24 hours of waste receipt. It will include:

Dong Energy REnescience Northwich O&M Limited	Page 38 of 60	EPR/VP3338RD/A001
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- Drum separator to screen for and remove large contaminants
- Bag splitter to open the bags

Feedstock will be transferred to one of the enclosed conveyors to the hydrothermal treatment discussed below.

The reception hall will be under negative pressure. Air from the reception hall, will be extracted to the air treatment system discussed in Section 6.11 below.

6.4.2 Hydrothermal and REnescience process

The hydrothermal process takes place within two enclosed tanks, where the waste is mixed with water and heated to 70 °C.

Once the system is up and running the water used in this process is recycled from the dewatering of the digestate that having been cleaned in the evaporator. By doing this the water will retain a temperature of approximately 70 °C or will be heated back up to 70 °C using heat the harvested from the bio-gas engines.

The waste (with the approximate temperature 25°C) is mixed into the hot water, which allows the organic material to dissolve. The approximate temperature in the bath after mixing will be 50 °C.

Following hydrothermal treatment, the waste will be fed into two bioreactors for the enzyme treatment. The bioreactors comprise of two horizontal insulated cylindrical tanks each approx. 52 meters long and 5.2 meters diameter with a capacity of ~1000 m³. These are rotated very slowly to mix the waste and allow the enzymes to breakdown the organic material. The waste will remain in the bioreactor for between 12 and 18 hours.

At the end of the treatment the organic material will have dissolved into the water producing a “bio-liquid” and solids.

Bio-liquid is initially drained from the solid material in a screw conveyor to the mechanical sorting process. The bio-liquid is passed through a separation system consisting of multiple stages combining screening, floatation and further separate small particulate materials (e.g. sand, gravel) that were entrained or suspended in it.

Organic matter is initially separated out (i.e. clumps or food waste (e.g. root vegetables) that were not broken up in the bioreactor), then crushed and then combined back into the bio-liquid. The bio-liquid will then be pumped into storage tanks prior to being pumped into the Anaerobic Digestion tanks.

Separated aggregate material is washed and moved by conveyor to a storage bunker pending transport for re-use as aggregates. Recovered aggregate material will then be collected for transport off-site.

The solid material is separated into 'two dimensional' (2D, <40 mm sized flat materials such as textiles, plastic film, undigested cardboard) and 'three dimensional' (3D, >40 mm sized metals and solid plastic) fractions in a ballistic separator.

The 2D fraction is pressed to de-water it. The bio-liquid pressed out is circulated back through sieves and into the bio-liquid storage tanks, as described above. The remaining 2D material then passes through three washing and sieving steps using cleaned water and is separated into two outputs:

- aggregate material; and
- mixed 3D and 2D material including plastic and textiles that will make up the RDF.

The RDF undergoes a final de-watering stage in the press and then is transported by conveyor to storage containers located in the sorting hall, pending onward transport for use as fuel.

At this point, the Applicant has stated that they are only dewatering the 2D and 3D waste fractions to remove the water added to aid the separation process and then recover the water back into the process, and not to any specified level.

The 3D fraction is washed using clean water after which it will be air dried for one day in a bunker located in the sorting area of the main building. The 3D fraction is moved by conveyors through three mechanical sorting stages to sort out the metals (ferrous and non-ferrous) and plastics, with any batteries being segregated and sent to an appropriate facility. Please see Section 3.2 of the Main Supporting Document for the detailed description of the mechanical treatment.

The Installation can also accept liquid waste, which is pumped into the liquid balancing tank (LBT), prior to being fed into the process.

This allows the process to continue if there is an issue with the solid waste intake or the infrastructure upstream in the process.

The LBT is constructed with a door to allow access for cleaning and de-gritting.

6.4.3 Anaerobic Digestion

The bio-liquid will undergo anaerobic digestion in four concrete tanks (each holding 5,000 m³ of liquid waste) situated within a secondary containment bund.

The bio-liquid is digested by bacteria under controlled anaerobic conditions converting the organic material to methane, carbon dioxide and other trace gases such as hydrogen sulphide (H₂S). The Applicant states that this is a

continuous process, with the waste being in this phase for a minimum of 20 days.

The digesters are fitted with mechanical agitation to stir the waste and evenly distribute waste and bacteria. A number of parameters is monitored within the digesters, but in particular, pressure and temperature to control foaming and prevent pressure build up. Pressure relief vents are built in to the digesters.

The biogas is stored in the upper part of the digester under a flexible sealed dome.

6.4.4 Post Treatment of Biogas and Digestate

Prior to the biogas being utilised in the CHP it is cleaned to remove the hydrogen sulphide, siloxane and moisture (condensate). Please see Section 3.2 of the Main Supporting Document for the full detailed description of the biogas treatment.

The digestate is pasteurised at 70 °C for at least one hour. The Applicant states that this is done at this stage to minimise the energy required to heat it as the digestate still has the residual heat from the digestion process (i.e. the digestate is approximately 40 °C) and the heat for the pasteurisation is supplied from the CHP engines. Additionally, the digestate is also stabilised by removing the bacteria. This minimises the risk of additional biogas being emitted from the digestate should it need to be stored onsite and thus giving rise to fugitive emissions.

After pasteurisation, the digestate is dewatered in a decanting unit and by the addition of polymers. The water removed from the digestate is cleaned in the evaporator and recirculated back to the start of the process.

The pasteurisation is undertaken to comply with the Animal By-products Regulations enforced by the Animal and Plant Health Agency. We consult with the Animal and Plant Health Agency on all relevant applications and regulator initiated variations, which may have a significant negative effect on the environment, animal health or the general public and include activities which involve animal by-products. In any permit, we do not duplicate ABPR controls but we liaise with the Animal and Plant Health Agency to ensure that permit conditions do not conflict with the ABPR approval. As we regulate discarded animal by-products as controlled waste, there are circumstances where animal by-products controls and waste controls co-exist. This means that some of the activities we regulate under the EPR will also have ABPR authorisations. There is a Memorandum of Understanding between the Animal and Plant Health Agency and the Environment Agency to help us deal with this overlap. We consulted the Animal and Plant Health Agency during the determination of this application. We received no comments from them.

6.4.5 Post Treatment Storage

The treated digestate is transferred to the storage area or covered digestate pit only when necessary, as the Applicant intends to continuously dispatch the digestate directly from the digestate storage building (DTB). We are satisfied that this will minimise the generation of odour emissions relating to storage of digestate.

All separated material will be stored within the sorting hall pending removal off-site.

6.5 Odour control system

Emissions to air are expected to occur at the Installation from waste acceptance, storage and pre-treatment activities in the reception hall, and to some extent in the bioreactor and sorting areas. Air is extracted from the reception hall over the bunker and the DTB and routed through the activated carbon treatment system. The system is designed to extract 3 air changes per hour in the bunker hall and 1 air exchange in the bioreactor and sorting areas.

The activated carbon treatment system is designed to treat ammonia, VOCs and odours from the air extracted. It is discussed in greater detail in Section 6.11 of this document but will consist of:

- a ventilation and extraction system to keep the process building under negative pressure;
- filters to remove particulates on the bunker/reception hall;
- copper oxide impregnation to remove moisture;
- acid impregnation to remove ammonia from the air stream; and
- activated carbon to remove the VOC's prior to discharge to atmosphere.

An activated carbon system is being added to the Brine tank, as it is also a source of odour.

We are satisfied that the treatment system will offer good removal of key pollutants and is BAT for this facility.

6.6 Point source emission to water

There is one discharge point to surface water from the Installation. This consists of uncontaminated roof and site surface water.

Water is collected and stored in a penstock situated within the secondary containment area (shown on Site Layout Plan in Schedule 7 of the permit). The water is tested prior to being discharged.

Water will also be collected from vehicular movement areas, which is passed through a Class 1 interceptor, prior to discharging to the Wade Brook.

Only uncontaminated surface water can be discharged into the Wade Brook.

6.7 Fugitive emissions to air

All waste received at the Installation is stored within the building. Based upon the information provided in the application, we are satisfied that appropriate measures are in place to prevent fugitive emissions to air. The building is enclosed and kept under negative pressure. Extracted air is dealt with in the activated carbon treatment system described above. Further information on fugitive emissions to air is detailed in Section 4.4 of the Main Supporting Document and the Odour section below.

The activities that will have the greatest potential to generate airborne dust are the vehicle transfer of material into the building. However, as the activities are all conducted inside the building with negative pressure and air extraction the risk of air born dust is minimised.

The Applicant has however committed to employing measures to minimise the generation of airborne dust. Material is expected to be moist at all stages of the process except when the waste is initially delivered. The site is kept clean thus reducing the impact from vehicle movements.

If digestate needs to be stored on site then all storage containers or the digestate storage pit will be covered at all times.

6.8 Fugitive emissions to land and water

All operational areas within the facility are constructed with concrete that has been designed to collect liquids. We are satisfied that the Applicant will have a regular inspection and maintenance regime for the drainage system.

Fuel is held on site in a single fuel tank. The tank is surrounded by a bund which is capable of containing a minimum of 110% of the volume of fuel stored in the tank in line with the requirements of Environment Agency guidance⁸. All pipework and associated infrastructure is enclosed within the bund. The tank will be isolated by way of a perimeter drainage channel which will discharge via a separate class 1 forecourt oil interceptor. It is also fitted with integral high level alarm.

All oils and lubricants are stored on site in barrels and containers and are clearly labelled and kept in purpose-made bunded steel containers at all times when not in use.

⁸ How to comply with your Environmental Permit” and “Sector Guidance Note on Integrated Pollution and Prevention Control S5.06”

We are satisfied with the proposed arrangements to prevent fugitive emissions described in the Management System (received 01/05/15) and Fugitive Emissions Management Plan (received 25/03/15).

We have also included pre-operational conditions (POM 1 and POM(B) 1) requesting a report containing the results and recommendations of a review of secondary containment. These are standard pre—operational conditions in our permits for MBT installations.

6.9 Pests, scavenging birds and animals

Pests, scavenging birds and animals are minimised by undertaking the receipt, storage and pre-treatment within the enclosed, negatively pressured building.

We are satisfied that the Applicant will have in place appropriate measures to control the presence of pests, scavenging birds and animals on site. These measures are detailed in the Main Supporting Document in Section 4.4. On detection or notification of any pests, scavenging birds or animals the Applicant will immediately secure the attendance of a professional contractor to remove or deter them from site.

We have included condition 3.5.2 in the permit. In the unlikely event that pests become an issue at the site, this condition requires the Applicant to, if notified by us, submit to us for approval within the period specified, a management plan specifically for pests, which identifies and minimises risks of pollution from pests.

6.10 Litter

We are satisfied that the Applicant will have in place measures to prevent litter on site. As all waste is accepted and processed within the enclosed building, any contraries within the waste is removed and collected in a container within the building.

The Applicant is required to submit a housekeeping plan under improvement condition IC1 to clarify how litter, should it arise as an issue, is dealt with.

6.11 Odour

The Applicant submitted an Odour Management Plan (OMP) on 07/09/16, which we have approved, subject to a review of controls in the bioreactor and sorting hall areas of the treatment building, as per improvement condition IC 8.

During the determination, we requested more information on the OMP from the Applicant. The OMP has been revised a number of times in order to

ensure it contains the technical information and operating techniques necessary to prevent odour pollution. The version we have partially approved was submitted by the Applicant on 07/09/16.

Based upon the information in the OMP we are satisfied that the appropriate measures will be in place to prevent or where that is not practicable to minimise odour and to prevent pollution from odour. The Applicant is required to operate in accordance with the OMP.

6.11.1 Inventory of odorous materials

We are satisfied that the Applicant has provided an inventory of odorous materials. Table 2.1 ('REnescience Facility Odour Source Emissions Inventory') in the OMP provides an assessment of the odour potential of waste, that will be accepted, according to its source. This assessment considers both typical and abnormal compositions of the wastes and provides an odour potential based on the likelihood of abnormal compositions as this would be the worst case.

It also addresses the impact of seasonal variation in the waste (by assuming the worst-case scenario) and describes the management controls that will be put in place to mitigate odour.

Table 2.1 states the expected age of all wastes on receipt. Therefore, we are satisfied that all waste identified as highly odorous wastes will be processed within 48 hours following receipt on site, but aim to be processed within 24 hours. The Applicant will have contractual arrangements in place with all waste suppliers that sets out the expected quality of waste delivered to site as the Applicant wishes to maximise the biogas yield from the waste. This is constantly reviewed and feedback will be provided to suppliers to ensure the odour potential of waste is minimised at the acceptance stage.

We consider robust pre-acceptance procedures to be key to ensuring complete understanding of the odour potential of wastes accepted on site. The Applicant has provided pre-acceptance procedures in Application and Schedule 5 responses (dated 06/05/16 and 07/09/16) that are in accordance with Environment Agency guidance⁹. The Applicant will obtain written information from prospective waste suppliers to determine the odour potential of the waste.

The Applicant will have a waste tracking system that starts at the pre-acceptance stage. Records are kept for 3 years and will include the relevant details required by Environment Agency guidance⁹ including: producer details; date and arrival time on site; pre acceptance and acceptance analysis results. We consider this information to be of particular value in the event of any odour pollution event with a view to preventing its re-occurrence.

⁹ How to comply with your Environmental Permit” and “Sector Guidance Note on Integrated Pollution and Prevention Control S5.06”

We are satisfied that the Applicant will have criteria in place for the rejection of highly odorous wastes if they cannot be treated within 2 hours of receipt. The rejected waste will be stored in a quarantine area for a maximum of 24 hours.

6.11.2 Appropriate methods for the management of odorous materials held on site

In Section 5 of the OMP, the Applicant has set out the monitoring parameters, critical limits and process controls that are in place to ensure that the odour abatement is functioning properly. Also, OMP details monitoring of other areas of the Installation that may give rise to odours. We are satisfied that these are appropriate to manage odorous material on site.

We are also satisfied that the Applicant has committed to processing all waste as soon as possible, thus reducing the risk of odour and maximising the amount of biogas produced.

Applicant states within the OMP that they will limit the amount of high odorous waste coming into the site at any one time to 15% of the bunker capacity and that action will be taken should the maximum quantities of waste specified in the OMP be reached. We are satisfied that in the event that the site reaches its maximum capacity, the operational manager will stop any further incoming waste until he has processed the highly odorous waste and brought it down to less than the 15% level.

The Applicant has confirmed that the pasteurisation of digestate will prevent the generation of odour from the digestate as the bacteria are killed in the process.

We are satisfied with the limits proposed by the Applicant and the process controls that are employed to maintain optimum conditions.

6.11.3 Appropriate methods for the containment and abatement of any evaporated odorous chemicals

We accept that even though appropriate management of the Installation will minimise the potential for odour, containment and abatement of odour is still required. The Applicant proposes to use activated carbon system using negative pressure. We are satisfied with the proposals for containment and abatement that the Applicant has made in the OMP.

The waste bunker/reception hall and the DBT will be continually vented through activated carbon system. We are satisfied with the Applicant's proposals to ventilate the reception hall by 3 air exchanges per hour under normal operating conditions.

Activated carbon is used in an adsorption process for odour removal from the extracted air gas, and is effective in humid gas streams providing the substrate is carefully monitored. As activated carbon can be prone to plugging from dust and fine particulates, the Applicant will use filter in the

bunker/reception hall. Filters have not been installed in the DTB as the waste is moist there. Activated carbon on its own is not as effective at ammonia removal as with other pollutants and therefore the Applicant is employing copper oxide and acid impregnated carbon to remove ammonia. This is to account for high nitrogen feedstocks that are potentially processed at the facility.

We are satisfied that the airflow balance through the air extraction system is maintained to ensure the proposed negative pressure is maintained.

We are satisfied that all ducting for the abatement system is made from attack resistant material that does not corrode and is not sensitive to condensation of moisture and organic acids. We will confirm when we inspect the facility, that the ducting is checked on a regular basis to remove dirt and any condensation. These actions will form part of the Applicant's preventative maintenance procedures.

Under normal operating conditions, the air velocity in the scrubber will be 10.98m/s and the residence time will be 3.3 seconds. We are satisfied with this residence time.

We are satisfied with the Applicant's proposal for the monitoring of airflow, and temperature to ensure the activated carbon system operate effectively.

6.11.4 How odorous emissions might be affected by emergencies or incidents

We are satisfied that, in Section 6 of the OMP, the Applicant has adequately considered the impact of emergencies, incidents and abnormal conditions on odour emissions.

We are satisfied that the OMP sets out the contingency actions that will be taken should there be any machinery breakdown. We are satisfied with the timescales that the Applicant has proposed for plant or parts repair or replacement and the Applicant's commitment to cease waste acceptance should any machinery breakdown prevent processing of wastes within the timescales set out in the OMP.

We are satisfied with the Applicant's assessment of key emergencies: staff absence; flooding; fire; and the site at full capacity.

6.12 Noise and vibration

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

The application contained a noise impact assessment, which is discussed in section 5.4 above.

The application did not contain a noise management plan. We have therefore included condition 3.4.2 which requires the Applicant to, if notified by us that the activities are giving rise to pollution outside the site due to noise and vibration, submit to us for approval within the period specified, a noise and vibration management plan which identifies and minimises the risks of pollution from noise and vibration.

6.13 Commissioning

As the Installation is yet to be built, we have included a pre-operational measure (POM 3) which require the Applicant to submit a written commissioning plan for the new Installation (including timescales for completion) to us for approval. Commissioning trials are required for the Applicant to demonstrate that the process (including the proposed odour abatement system – air extraction and activated carbon system) is working effectively and that appropriate measures are in place to protect the environment and human health during this period prior to the commencement of operations.

The commissioning plan should include the expected emissions to the environment during the different stages of commissioning, the expected durations of commissioning activities and the measures to be taken to protect the environment and report to us in the event that actual emissions exceed expected emissions.

As odour is the key issue at this facility, we expect the Applicant to pay particular attention to it in the commissioning plan.

6.14 Monitoring

We have set process monitoring requirements as detailed in Schedule 3 of the permit. These requirements are consistent with the requirements at other installations undertaking the same activities.

6.15 Reporting

We have specified the reporting requirements in Schedule 4 of the Permit either to meet the reporting requirements set out in the IED, or to ensure data is reported. This is for us to enable timely review to ensure compliance with permit conditions and to monitor the efficiency of material use and energy recovery at the installation.

7 Other legal requirements

In this section we explain how we have addressed other relevant legal requirements, to the extent that we have not addressed them elsewhere in this document.

7.1 The EPR 2010 and related Directives

The EPR delivers the requirements of a number of European and national laws. All applicable European directives have been considered in the determination of the application.

7.2 National primary legislation

7.2.1 Environment Act 1995

(i) Section 4 (Pursuit of Sustainable Development)

We are required to contribute towards achieving sustainable development, as considered appropriate by Ministers and set out in guidance issued to us. The Secretary of State for Environment, Food and Rural Affairs has issued *The Environment Agency's Objectives and Contribution to Sustainable Development: Statutory Guidance (December 2002)*. This document:

“provides guidance to the Agency on such matters as the formulation of approaches that the Agency should take to its work, decisions about priorities for the Agency and the allocation of resources. It is not directly applicable to individual regulatory decisions of the Agency”.

In respect of regulation of industrial pollution through the EPR, the Guidance refers in particular to the objective of setting permit conditions “*in a consistent and proportionate fashion based on Best Available Techniques and taking into account all relevant matters...*”. The Environment Agency considers that it has pursued the objectives set out in the Government's guidance, where relevant, and that there are no additional conditions that should be included in this Permit to take account of the Section 4 duty.

(ii) Section 7 (Pursuit of Conservation Objectives)

We considered whether we should impose any additional or different requirements in terms of our duty to have regard to the various conservation objectives set out in Section 7, but concluded that we should not.

We have considered the impact of the installation on local wildlife sites within 2 km, which are not designated as either European Sites or SSSIs. We are satisfied that no additional conditions are required.

(iii) Section 81 (National Air Quality Strategy)

We have had regard to the National Air Quality Strategy and consider that our decision complies with the Strategy, and that no additional or different conditions are appropriate for this Permit.

7.2.2 Human Rights Act 1998

We have considered potential interference with rights addressed by the European Convention on Human Rights in reaching our decision and consider that our decision is compatible with our duties under the Human Rights Act 1998. In particular, we have considered the right to life (Article 2), the right to a fair trial (Article 6), the right to respect for private and family life (Article 8) and the right to protection of property (Article 1, First Protocol). We do not believe that Convention rights are engaged in relation to this determination.

7.2.3 Countryside and Rights of Way Act 2000 (CROW 2000)

Section 85 of this Act imposes a duty on Environment Agency to have regard to the purpose of conserving and enhancing the natural beauty of the area of outstanding natural beauty (AONB). There is no AONB which could be affected by the Installation.

7.2.4 Wildlife and Countryside Act 1981

Under section 28G of the Wildlife and Countryside Act 1981 the Environment Agency has a duty to take reasonable steps to further the conservation and enhancement of the flora, fauna or geological or physiographical features by reason of which a site is of special scientific interest. Under section 28I the Environment Agency has a duty to consult Natural England / Countryside Council for Wales in relation to any permit that is likely to damage SSSIs.

We assessed the Application and concluded that the Installation will not damage the special features of any SSSI. This was recorded on a CROW Appendix 4 form.

The CROW assessment is summarised in greater detail in section 5.4 of this document. A copy of the full Appendix 4 Assessment can be found on the public register.

7.2.5 Natural Environment and Rural Communities Act 2006

Section 40 of this Act requires us to have regard, so far as is consistent with the proper exercise of our functions, to the purpose of conserving biodiversity. We have done so and consider that no different or additional conditions in the Permit are required.

7.3 National secondary legislation

7.3.1 The Conservation of Natural Habitats and Species Regulations 2010

We have assessed the Application in accordance with guidance agreed jointly with Natural England and concluded that there will be no likely significant effect on any European Site.

We sent Natural England an Appendix 11 assessment for information, stating that the operation of the Installation would not have a likely significant effect on the interest features of protected sites.

The habitat assessment is summarised in greater detail in section 5.5 of this document. A copy of the full Appendix 11 Assessment can be found on the public register.

7.3.2 Water Framework Directive Regulations 2003

Consideration has been given to whether any additional requirements should be imposed in terms of the Environment Agency's duty under regulation 3 to secure the requirements of the Water Framework Directive through (inter alia) EP permits, but it is felt that existing conditions are sufficient in this regard and no other appropriate requirements have been identified.

7.4 Other relevant legal requirements

7.4.1 Duty to Involve

S23 of the Local Democracy, Economic Development and Construction Act 2009 require us where we consider it appropriate to take such steps as we consider appropriate to secure the involvement of interested persons in the exercise of our functions by providing them with information, consulting them or involving them in any other way. S24 requires us to have regard to any Secretary of State guidance as to how we should do that.

The way in which the Environment Agency has consulted with the public and other interested parties is set out in section 4 of this document. We received no comments from the public or other interested parties.

Our public consultation duties are also set out in the EP Regulations, and our statutory Public Participation Statement, which implement the requirements of the Public Participation Directive. In addition to meeting our consultation responsibilities, we have also taken account of our guidance in Environment Agency Guidance Note RGS6 and the Environment Agency's Building Trust with Communities toolkit.

ANNEX 1: Pre-Operational Conditions

Based on the information on the Application, we consider that we do need to impose pre-operational conditions. These conditions are set out below and referred to, where applicable, in the text of the decision document. We are using these conditions to require the Operator to confirm that the details and measures proposed in the Application have been adopted or implemented prior to the operation of the Installation.

Reference	Pre-operational measures	
POM 1	<p>At least 8 weeks (or any other date as agreed with the Environment Agency) prior to the commencement of commissioning of the installation, the operator shall ensure that a review of the design, method of construction and integrity of the proposed site secondary containment surrounding the anaerobic digestion tanks is carried out by a qualified civil or structural engineer. The review shall compare the constructed secondary containment against the standards set out in section 7.5 of the Environment Agency Draft Technical Guidance, How to comply with your environmental permit: Additional guidance for Mechanical Biological Treatment Sector (August 2013) and CIRIA C736 - Containment Systems for the Prevention of Pollution – secondary, tertiary and other measures for industrial and commercial premises or other relevant industry standard or such other subsequent guidance as may be agreed in writing with the Environment Agency.</p> <p>The review shall include:</p> <ul style="list-style-type: none"> - the physical condition of the secondary containment; - the suitability for providing containment when subjected to the dynamic and static loads caused by catastrophic tank failure; - any work required to ensure compliance with the standards set out in CIRIA C736 or other relevant industry standard - timescales for any improvement necessary; and - a preventative maintenance and inspection regime. <p>A written report of the review shall be submitted to the Environment Agency detailing the review’s findings and recommendations. Remedial action shall be taken to ensure that the secondary containment meets the standards set out in the above technical guidance documents and implement the maintenance and inspection regime.</p> <p>No site operations shall commence or waste accepted at the facility unless the Environment Agency has given prior written permission under this condition.</p>	
POM 2	<p>At least 2 weeks (or any other date as agreed with the Environment Agency) prior to commissioning of the installation, the operator shall submit a written copy of the site Environmental Management System (EMS) and make available for inspection all documents and procedures which form part of the site EMS.</p> <p>The EMS shall cover all activities at the installation and shall be in accordance with the Environment Agency Guidance – Develop a management system: environmental permits and section 8.1 of the Environment Agency Draft Technical Guidance, How to comply with your environmental permit: Additional guidance for Mechanical Biological Treatment Sector (August 2013) or such other subsequent guidance as may be agreed in writing with the Environment Agency. The EMS shall include the techniques the operator relies upon to manage the operation, accidents (including flooding), issues identified in the Hazard and</p>	
Dong Energy REnescience Northwich O&M Limited	Page 52 of 60	EPR/VP3338RD/A001

Reference	Pre-operational measures
	<p>Operability Study (HAZOP) (including timescale for resolution), closure and decommissioning of the site. The documents and procedures set out in the EMS shall form the written management system referenced in condition 1.1.1 (a) of the permit.</p> <p>No site operations shall commence or waste accepted at the installation unless the Environment Agency has given prior written permission under this condition.</p>
POM 3	<p>At least 8 weeks (or any other date as agreed with the Environment Agency) prior to the commencement of commissioning of the installation, the operator shall provide a written commissioning plan (including timescales for completion) for approval by the Environment Agency. The commissioning plan shall include the expected emissions to the environment during the different stages of commissioning, the expected durations of commissioning activities and the measures to be taken to protect the environment and report to the Environment Agency in the event that actual emissions exceed expected emissions. Commissioning shall be carried out in accordance with the commissioning plan as approved by the Environment Agency.</p> <p>No site operations shall commence or waste accepted at the installation unless the Environment Agency has given prior written permission under this condition.</p>
POM 4	<p>At least 4 weeks (or any other date as agreed with the Environment Agency) prior to the commencement of commissioning of the installation, the operator shall provide written evidence to the Environment Agency of the Technically Competent Manager (TCM) at the proposed installation. The report shall confirm that the person(s):</p> <ul style="list-style-type: none"> • hold the relevant qualifications under the CIWM/WAMITAB scheme or other equivalent for the operation of the installation; and • confirm that a training plan is in place, and provide a copy to the Environment Agency. <p>No site operations shall commence or waste accepted at the installation unless the Environment Agency has given prior written permission under this condition.</p>
POM 5	<p>At least 8 weeks (or any other date as agreed with the Environment Agency) prior to the commencement of commissioning of the waste bunker, the operator shall ensure that a review of the design, method of construction and integrity of the proposed site waste bunker is carried out by a qualified civil and structural engineer. The review shall compare the constructed bunker against the standards set out in relevant industry standard.</p> <p>The review shall include:</p> <ul style="list-style-type: none"> - the physical condition of the bunker; - any work required to ensure compliance the relevant industry standard - timescales for any improvement necessary; and - a preventative maintenance and inspection regime. <p>A written report of the review shall be submitted to the Environment Agency detailing the review's findings and recommendations. Remedial action shall be taken to ensure that the standards set out in the industry standard and implement the maintenance and inspection regime.</p> <p>No site operations shall commence or waste accepted at the facility unless the Environment Agency has given prior written permission under this condition.</p>

Reference	Pre-operational measures
POM 6	<p>At least 4 weeks (or any other date as agreed with the Environment Agency) prior to waste being accepted to the site, the operator shall submit a revised Accident Management Plan, (including the findings and results from the Hazard and Operability Study (HAZOP) conducted for the site) to the Environment Agency for written approval. The plan shall take into account the appropriate measures for management of accidents specified in section 8.7 of the Environment Agency Draft Technical Guidance, How to comply with your environmental permit: Additional guidance for Mechanical Biological Treatment Sector (August 2013) or such other subsequent guidance as may be agreed in writing with the Environment Agency.</p> <p>No waste shall be accepted at the installation unless the Environment Agency has given prior written permission under this condition.</p>
POM 7	<p>At least 4 weeks (or any other date as agreed with the Environment Agency) prior to waste being accepted to the site, the operator shall submit a report with the findings and results from the Hazard and Operability Study (HAZOP) conducted for the site, to the Environment Agency. The reports shall take into account the appropriate measures for management of accidents specified in section 8.7 of the Environment Agency Draft Technical Guidance, How to comply with your environmental permit: Additional guidance for Mechanical Biological Treatment Sector (August 2013) or such other subsequent guidance as may be agreed in writing with the Environment Agency.</p> <p>No waste shall be accepted at the installation unless the Environment Agency has given prior written permission under this condition.</p>

Reference	Operation	Pre-operational measures
POM(B) 1	Any tank being commissioned or prior to acceptance of waste to the installation whichever is the soonest.	<p>At least 8 weeks (or any other date as agreed with the Environment Agency) prior to any tank being commissioned or acceptance of waste to the installation whichever is the soonest, the operator shall ensure that a review of the design, method of construction and integrity of the proposed site secondary containment is carried out by a qualified civil or structural engineer. The review shall compare the constructed secondary containment against the standards set out in section 7.5 of the Environment Agency Draft Technical Guidance, How to comply with your environmental permit: Additional guidance for Mechanical Biological Treatment Sector (August 2013) and CIRIA C736 - Containment Systems for the Prevention of Pollution - secondary, tertiary and other measures for industrial and commercial premises or other relevant industry standard or such other subsequent guidance as may be agreed in writing with the Environment Agency.</p> <p>The review shall include:</p> <ul style="list-style-type: none"> - the physical condition of the secondary containment; - the suitability for providing containment when subjected to the dynamic and static loads caused by catastrophic tank failure; - any work required to ensure compliance with the standards set out in CIRIA C736 or other relevant industry standard - timescales for any improvement necessary; and - a preventative maintenance and inspection regime.

Reference	Operation	Pre-operational measures
		<p>A written report of the review shall be submitted to the Environment Agency detailing the review's findings and recommendations. Remedial action shall be taken to ensure that the secondary containment meets the standards set out in the above technical guidance documents and implement the maintenance and inspection regime.</p> <p>No individual tank shall be used or waste shall be accepted at the facility unless the Environment Agency has given prior written permission under this condition.</p>

ANNEX 2: Improvement Conditions

Based in the information in the Application we consider that we need to set improvement conditions. These conditions are set out below - justifications for these is provided at the relevant section of the decision document. We are using these conditions to require the Operator to provide the Environment Agency with details that need to be established or confirmed during and/or after commissioning.

Reference	Improvement measure	Completion date
IC 1	<p>The operator shall submit a revised Site Housekeeping Plan to the Environment Agency for written approval. The plan shall take into account the appropriate measures for management of the facility specified in the Environment Agency Draft Technical Guidance, How to comply with your environmental permit: Additional guidance for Mechanical Biological Treatment Sector (August 2013) or such other subsequent guidance as may be agreed in writing with the Environment Agency.</p> <p>Once approved, the plan shall be implemented from the date stipulated by the Environment Agency and incorporated into the EMS. The documents and procedures set out in the EMS shall form the written management system referenced in condition 1.1.1 (a) of the permit.</p>	01/12/16
IC 2	<p>The operator shall submit a revised Site Energy Efficiency Plan to the Environment Agency for written approval. The plan shall take into account the appropriate measures for management of energy specified in section 5.5 of the Environment Agency Draft Technical Guidance, How to comply with your environmental permit: Additional guidance for Mechanical Biological Treatment Sector (August 2013).</p> <p>Once approved, the plan shall be implemented from the date stipulated by the Environment Agency and incorporated into the EMS. The documents and procedures set out in the EMS shall form the written management system referenced in condition 1.1.1 (a) of the permit.</p>	01/03/17
IC 3	<p>The Operator shall prepare and submit to the Environment Agency for approval, a relevant, appropriate report, in line with Stages 1–3 set out within the European Commission Guidance concerning baseline reports dated May 2014 (Ref: 2014/C 136/03) and the Environment Agency H5 guidance or such other subsequent guidance as may be agreed in writing with the Environment Agency, and shall include but not be limited to the following:</p> <ul style="list-style-type: none"> • An assessment to determine whether there is a possibility of soil and / or groundwater contamination from relevant hazardous substances (RHS) used, stored or released from site; • A review of existing soil and groundwater measurements to determine whether an appropriate baseline can be established for RHS in the locations that they will be used, stored or released, having 	01/12/16

Reference	Improvement measure	Completion date
	<p>regard to the possibility of soil and/or groundwater contamination;</p> <ul style="list-style-type: none"> • Proposals to undertake additional site investigation works should soil and groundwater measurements be required to enable a baseline to be established for RHS in the locations that they will be used, stored or released, having regard to the possibility of soil and/or groundwater contamination. <p>The operator shall undertake the work detailed in the proposal as approved, and from the date stipulated by the Environment Agency.</p>	
IC 4	<p>The Operator shall prepare and submit to the Environment Agency for approval, a relevant, appropriate report, in line with Stages 4–6 set out within the European Commission Guidance concerning baseline reports dated May 2014 (Ref: 2014/C 136/03) and the Environment Agency H5 guidance or such other subsequent guidance as may be agreed in writing with the Environment Agency.</p>	01/02/17
IC 5	<p>The Operator shall prepare and submit to the Environment Agency for approval, a relevant, appropriate report, in line with Stage 7 and 8 as set out within the European Commission Guidance concerning baseline reports dated May 2014 (Ref: 2014/C 136/03) and the Environment Agency H5 guidance or such other subsequent guidance as may be agreed in writing with the Environment Agency. and shall include but not be limited to the following:</p> <ul style="list-style-type: none"> • Undertake any relevant intrusive/sampling works identified/highlighted within IC3 and 4 to enable an adequate baseline to be established for RHS in the locations that they will be used, stored or released, having regard to the possibility of soil and/or groundwater contamination in line with the requirements set out within Stage 7 of European Commission Guidance concerning baseline conditions or such other subsequent guidance as may be agreed in writing with the Environment Agency. • Prepare and submit a baseline report to the Environment Agency in line with the requirements set out within Stage 8 of the European Commission Guidance concerning baseline reports dated May 2014 (Ref: 2014/C 136/03) and the Environment Agency H5 guidance or such other subsequent guidance as may be agreed in writing with the Environment Agency. This report shall include but not limited to the condition of the leachate or liquid formation within the waste reception pit/bunker in order to identify RHS which may be associated with the incoming waste stream at the process reception pit/bunker. 	01/10/17
IC 6	<p>The Operator shall submit a revised site condition report to the Environment Agency for approval and include but not be limited to the following:</p> <ul style="list-style-type: none"> • Baseline report required by IC 5 above; • Baseline reference data for any ‘other polluting substances’; and 	01/10/17

Reference	Improvement measure	Completion date
	<p>Soil and groundwater monitoring plan to identify the relevant sampling frequencies for soils and groundwater based on the site activities and demonstrate proposed compliance with permit condition 3.1.3 in respect of periodic monitoring of RHS in soil and groundwater and proposed monitoring for 'any other polluting substances'.</p> <p>Further information in respect to setting baseline reference data for any other polluting substances is detailed within the Environment Agency H5 guidance.</p> <p>The operator shall undertake the work detailed in the report as approved, and from the date stipulated by the Environment Agency.</p>	
IC 7	<p>The operator shall submit a Training Plan to the Environment Agency for written approval. The plan shall take into account the appropriate measures in the relevant sections of the Environment Agency Draft Technical Guidance, How to comply with your environmental permit: Additional guidance for Mechanical Biological Treatment Sector (August 2013) or such other subsequent guidance as may be agreed in writing with the Environment Agency.</p> <p>Once approved, the plan shall be implemented from the date stipulated by the Environment Agency and incorporated into the EMS. The documents and procedures set out in the EMS shall form the written management system referenced in condition 1.1.1 (a) of the permit.</p>	05/01/17
IC 8	<p>After completion of the commissioning, the operator shall ensure that a review of the odour control for digestate storage, sorting hall and reactor hall is carried out.</p> <p>The review shall take into account the appropriate measures for odour control specified in section 7.3.7 of the Environment Agency Draft Technical Guidance, How to comply with your environmental permit: Additional guidance for Mechanical Biological Treatment Sector (August 2013) or such other subsequent guidance as may be agreed in writing with the Environment Agency. The review shall also consider all the required information as specified in the Environment Agency Horizontal Guidance H4 - Odour Management or such other subsequent guidance as may be agreed in writing with the Environment Agency.</p> <p>A written report of the review shall be submitted to the Environment Agency for approval detailing the review's findings and recommendations, and timescales for improvements. Any necessary measures or improvements including but not limited to a submission of revised Odour Management Plan shall be undertaken by the times stipulated by the Environment Agency.</p>	01/03/17 or sooner. By the date stipulated by the Environment Agency if pollution of odour is perceived by an authorised officer of the Environment Agency outside the site

ANNEX 3: Consultation Responses

A) Advertising and Consultation on the Application

The Application has been advertised and consulted upon in accordance with the Environment Agency's Public Participation Statement. The way in which this has been carried out along with the results of our consultation and how we have taken consultation responses into account in reaching our decision is summarised in this Annex. Copies of all consultation responses have been placed on the Environment Agency public register.

The Application was advertised on the Environment Agency website from 02/03/16 to 31/03/16 and in the Northwich Guardian on 02/03/16. The Application was made available to view at the Environment Agency Public Register at Richard Fairclough House, Knutsford Road, Latchford, Warrington, WA4 1HT. Additionally copies of the Application were placed at Northwich Library.

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

- Cheshire West and Chester Council – Regulatory Services
- Cheshire West and Chester Council – Planning Department
- Director of Public Health
- Public Health England
- Food Standards Agency
- Health and Safety Executive
- Animal Plant Health Agency Field Services

1) Consultation Responses from Statutory and Non-Statutory Bodies

Response Received from Cheshire West and Chester	
Brief summary of issues raised:	Summary of action taken / how this has been covered
(Response 1- Application) The consultee express concerns regarding noise and odour.	We engaged with the Applicant and they reviewed and revised the noise model. We are now satisfied that model is accurate and conditions to control noise are included in the permit. We engaged with the Applicant regarding odours. The odour abatement system complies with BAT.
(Response 2- Additional information) No further comments to make.	No action required.

Response Received from Public Health England	
Brief summary of issues raised:	Summary of action taken / how this has been covered
(Response 1 – Application) The consultee commented that :- <ul style="list-style-type: none"> • An accident management plan should be required • Odour from CLO storage • Site condition report – lack of data • Point source emission to air – monitoring of emissions 	We have required an accident management plan to be produced prior to operations commencing on the site. The Applicant has produced an odour management plan, which address the storage of CLO. The monitoring of the NO _x emissions will be periodic, but we are satisfied that BAT is employed.
(Response 2 and 3 – Additional information) No additional comments to make.	No action required.

No response was received from the other consultees.