This Report has been cleared for submission to the Board by Senior Inspector, Brian Meaney.

Signed: Gráinne Oglesby *Date: 5th May 2016*

OFFICE OF ENVIRONMENTAL SUSTAINABILITY

INSPECTOR'S REPORT ON A LICENCE APPLICATION

To:	Directors	
From:	Ewa Babiarczyk	- **ENVIRONMENTAL LICENSING PROGRAMME**
Date:	5th May 2016	
RE:	Application for an Industrial Emissions Licence from Ormonde Organics Limited for an installation at Killowen, Portlaw, County Waterford, Licence Application Register W0287-01.	

Application Details	
Licence application received:	24th September 2012
Class of activity under First Schedule of EPA Act 1992 as amended:	Class 11.4 (b)(i)
Category of Activity under IE Directive (2010/75/EU):	Class 5.3 (b)(i)
Title of BREF document (main):	BREF Document for the Waste Treatment Industries (July 2006) – currently under review
CRO number:	403413
Notices under Articles 14 and 16 of the Waste Management (Licensing) Regulations or Regulation 10(2)(b)(ii) of the IE Licensing Regulations issued:	24th June 2013, 18th July 2013 31st October 2013, 3rd February 2015, 8th June 2015.
Information received:	24th October 2013, 26th September 2013, 8th November 2013,

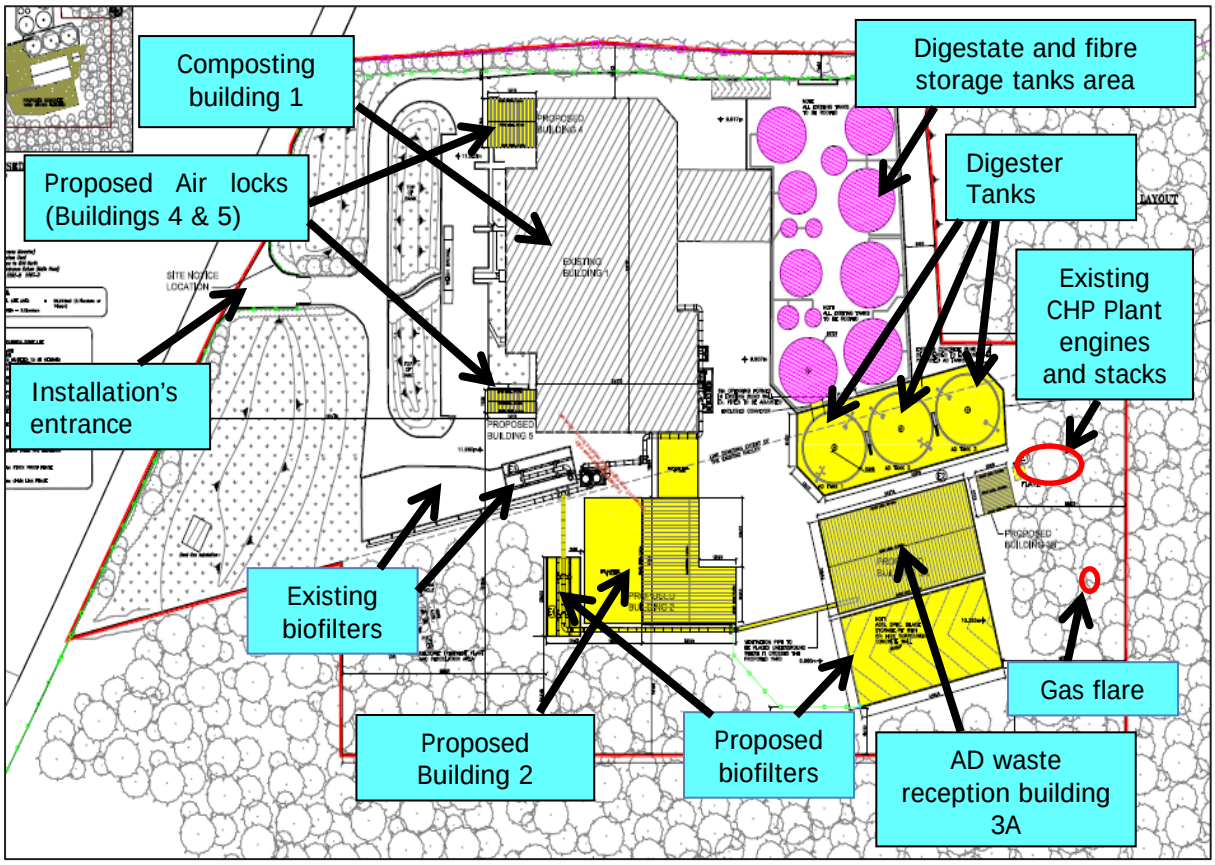
	13th April 2015, 24th September 2015, 11th February 2016
Notice under Section 76A(3) issued:	10th March 2014
Information under Section 76A(3) received:	1st December 2014
EIS received:	Yes
Supplementary material submitted by applicant:	22nd April 2016 - Clarification in relation to emission points
Submissions received:	Seven
Site notice inspected:	23rd November 2012
Site visits:	23rd November 2012, 11th November 2015

1. Installation and applicant

Ormonde Organics Limited (CRO Number 403413) has operated a biological treatment installation since 2007. At the time of the submission of the licence application the applicant was operating a composting facility for sewage sludges. The anaerobic digestion (AD) process commenced in 2015. The installation is located along the R680 road, 2.4 km north-east of Portlaw and occupies an area of 5.7 ha. The surrounding area is primarily agricultural lands with the immediate east and south of the site being vegetated with trees. The area of the site is leased by the applicant and lies in a location where a former tannery operated under IPPC licence Reg. No. P0238-01, which was surrendered in February 2015.

The installation comprises of a composting building, a building for reception and storage of waste destined for anaerobic digestion, three anaerobic digesters, storage tanks for incoming waste and digestate, two biofilters, two combined heat and power (CHP) engines and stacks, a flare stack, weighbridge and office. The applicant proposes to construct three new buildings (see Figure 1 below) and 2 biofilters and one more CHP engine and stack. Additionally the applicant proposes to upgrade the existing biofilters and replace the existing septic tank for sanitary effluent with a new treatment system at a different location. These works are proposed to be completed by 2018.

Figure 1: Site layout



Ormonde Organics Ltd. has operated this facility since 2007, under planning permissions (Planning Ref: PD04/1831, PD11/392 and 11/455) from Waterford City and County Council. The applicant currently operates under a waste facility permit (Register No. WFP-WD-10-0003-02). The Waste Facility Permit allows for acceptance of 8,000 tonnes of waste per year.

The applicant proposes to accept 40,000 tonnes of waste per annum. The proposed waste streams include:

- Household, Commercial & Industrial (C&D) source separated waste - 20,000 t per annum

- Non-hazardous sludges, including sludges from industrial, municipal water and wastewater treatment plants - 20,000 t per annum

The biological waste treatment processes operate continuously. The applicant proposes to accept waste from Monday to Saturday including bank holidays.

2. Process description

The processes include reception, screening, storage of waste, biological treatment of waste (composting and anaerobic digestion) and combustion of biogas in a combined heat and power plant and flare as outlined in table below.

Inputs	Process and its location	Outputs	Emissions
Non-hazardous sludges including sludges from industrial, municipal waste water treatment plant and non-hazardous organic household, commercial & industrial source separated waste	Composting - Building 1 (existing) Includes a reception area for waste destined for composting, 12 enclosed forced aeration bays and a screening area. - Building 2 (proposed) Further composting processes.	Compost	Emission of exhaust air from composting building treated through acid scrubbers and biofilters. Also emissions to air at the doors to the composting building
	Anaerobic digestion - Building 3A (existing) Reception building for waste destined for anaerobic digestion, including animal by-products.	Digestate (liquid and fibre) and biogas	Biogas combustion off-gases form combined heat and power plants and flare

Composting

Currently the waste is composted in Building 1. In future however, the applicant proposes to use also the proposed Building 2 for the composting purposes.

The waste composted at the site are sludges from industrial sites such as the food and drink industry and sewage sludge from urban wastewater treatment plants. The sludges are mixed with woodchip and loaded into compost bays in the compost building. The bays have pipes in the floor, through which air is pumped up into the mixture of sludge and woodchip in order to maintain a high oxygen level in the mixture so that aerobic bacteria can grow and feed on the organic matter. Only non-hazardous organic sludges, which will not contain animal by-products, are composted.

The air from the compositing process is treated in two biofilters. The applicant proposes that these biofilters will be upgraded to work as biotrickling filters and be provided with a separate controlled bioreactor for the recirculation of active bacteria. This is intended to enhance odour removal from the emissions.

Anaerobic Digestion (AD)

Building 3A is the reception building for the organic waste and biomass, including animal by-products, destined for anaerobic digestion. The system for the anaerobic digestion is fully enclosed and includes three digester tanks, four liquid storage tanks and the CHP plant where biogas generated from the process in converted to heat and electricity. The applicant proposes that the organic waste will, depending on the available processing capacity, either be fed directly into the AD process or temporarily stored in tanks. A concrete lined silage storage area will also be provided and will be used to store biomass before it is fed into the process.

The anaerobic digestion process begins in the new Waste Reception Building (Building 3A), where the organic waste and biomass will be off loaded and fed into a feeding system which will move it via an enclosed conveyor to the AD tanks. The contents of the tanks are continuously agitated and maintained at an optimum temperature for the process. The AD

process will take approximately 50 days. The outputs from the process will be biogas and digestate. The biogas will be scrubbed to reduce the levels of ammonia and hydrogen sulphide before it is used as a fuel in two gas engines in CHP plant. The heat and electricity generated in the CHP will be used on-site or exported to the national grid. A gas flare with a capacity of 600 m^3/h will be provided as a back-up for when the gas engines are shut down for servicing.

The digestate (liquid and fibre fractions) will, depending on the time of the year, either be immediately sent off site for application to agricultural lands, or stored in tanks. The digestate storage tanks will have a combined capacity of approximately 10,000 m^3.

The leachate produced in the composting process is re-circulated into the process. Any surplus leachate that may arise will be treated in the AD plant. Any liquid generated in the biomass and silage storage areas will be collected in a concrete underground storage tank and fed into the AD plant. The liquid digestate produced in the AD process will be stored in tanks which will provide a minimum of three months storage, and then sent from the site for application on agricultural lands.

3. Planning Permission, EIS and EIA Requirements

3.1 EIA Screening

In accordance with Section 83(2A) of the EPA Act 1992, as amended, the Agency must ensure that before a licence or revised licence is granted, that the application is made subject to an environmental impact assessment (EIA), where the activity meets the criteria outlined in Section 83(2A)(b) and 83(2A)(c). In accordance with the EIA Screening Determination, the Agency has determined that the activities are likely to have a significant effect on the environment, and accordingly is carrying out an assessment for the purposes of EIA.

3.2 Planning status

A number of planning applications have been made by the applicant for the area within the installation boundary since 2007. Details of these planning applications and permissions have been provided in the application form.

Waterford City and County Council required an Environmental Impact Statement (EIS) in support of 11/455 planning application. The applicant has submitted the most recent EIS required by Waterford County Council. This EIS relates to planning permission 11/455.

Having specific regard to EIA, this report is intended to identify, describe and assess for the Agency the direct and indirect effects of the proposed activity on the environment, as respects the matters that come within the functions of the Agency, including any interaction between those effects and the related development forming part of the wider project, and to propose conclusions to the Agency in relation to such effects.

The EIS submitted, the licence application, the submissions and observations received from third parties, the assessments carried out by the planning authority, consultations with the planning authority, the relevant planning decisions and any additional information submitted by the applicant have been examined and assessed and are considered below for that purpose.

3.3 Content of EIS and licence application

I have considered and examined the content of the licence application, the EIS and other relevant material submitted with it.

It was considered that the EIS and licence application did not adequately address the following areas and this information was requested under Article 14(2)(b)(ii) of the Waste

Management (Licensing) Regulations[1] and Regulation 10(2)(b)(ii) of the EPA (Industrial Emissions)(Licensing) Regulations 2013:

1. Emissions management, abatement and air dispersion modelling
2. Operational processes
3. Complaints record
4. Appropriate Assessment
5. ELRA and CRAMP
6. Interactions of effects
7. Storage capacity
8. Best Available Techniques (BAT) and Baseline Report
9. Newspaper and site notices.
10. Notice to planning authority under Section 87(1)(a) of the EPA Act 1992 as amended.
11. Clarification regarding site boundary
12. Planning permissions, associated planning reports and EIA carried out.
13. Details of Waste Facility Permit.

On receipt of further information, all of the documentation received was examined and I consider that the information as submitted contains a satisfactory description of the project, the alternatives studied by the applicant, the aspects of the environment likely to be significantly affected by the activity, the likely effects of the activity on the environment, the forecasting methods used, the prevention and mitigation measures envisaged, the lack of difficulties and deficiencies encountered and a non-technical summary.

I consider that the EIS, when considered in conjunction with the additional material submitted with the application, also complies with the requirements of the *EPA (Industrial Emissions)(Licensing) Regulations 2013*.

I have considered and examined the documents furnished by Waterford City and County Council in relation to the impacts assessed by it, in particular the planner's report and the decision dated 6th February 2013 (ref 11/455).

I consider the issues that interact with the matters that were considered by the above authorities and which relate to the activity in Section 16 of this report.

Having considered the application and EIS, the submissions by members of the public, the submissions of state and public authorities, and the matters resulting from the planning authority decisions, I consider that the likely significant effects of the activity on the environment are as set out in Section 16 below.

3.4 Consultation with Competent Authorities

Consultation was carried out between Waterford City and County Council and the Agency as follows:

[1] The licence application was originally an application for a waste licence. As a result of Industrial Emission Directive coming into force in Ireland, the licence application became an IE licence application.

Consultation	Date
Request for observations on EIS issued:	4th October 2013 to Planning Section of Waterford City and County Council
Response to the Request for observations on EIS received:	18th October 2013 from Planning Section of Waterford City and County Council

Waterford City and County Council raised the following issues in relation to the licence application and EIS:

- The Council submitted copies of planner's reports.
- The Council referred to the appeal lodged to An Bord Pleanála and stated that it was the First Party appeal that related solely to the financial contributions levied by the Council.
- The Council pointed out that the EIS was required with the planning application ref no. 11/455 for the following reasons:
  The proposed annual intake of waste is greater than 25,000 tonnes and the development involved an increase in the size of the facility by more than 25% which falls under Schedule 5, Part 2, Activity 13(ii)(a) of the Planning & Development Regulations 2001 as amended.

The information submitted by the Council was noted.

Additional correspondence from the Council was submitted on 27th November 2013. This correspondence included a copy of condition amended by An Bord Pleanála, a copy of the Environment Section Engineer's Report, recommendation on the planning application 11/455 and information from Environment and Water Services of the Council.

4. Submissions

Seven submissions were received by the Agency in relation to the licence application. The submissions are summarised below followed by the Inspector's response. However the original submissions should be referred to for full details.

These submissions were taken into consideration during the preparation of the RD.

Submission No. 1 – Inland Fisheries Ireland (IFI) (12th October 2012)

(i) Storage of digestate

The IFI expresses concern that a three month period for storage of digestate proposed by the applicant may be insufficient and that the European Union (Good Agricultural Practice for Protection of Waters) Regulations 2014 specify a 16-week storage period for livestock manure for holdings in County Waterford. The IFI further states that these minimum periods may be insufficient due to the poor climatic conditions and increased summer rainfall when landspreading cannot be carried out.

Response:

The compost will be stored at the installation until it is sent off site for horticultural/agricultural use and the digestate will be stored in the refurbished tanks located in a bund. There is no proposal in the RD to require a storage capacity in conformance with the European Union (Good Agricultural Practice for Protection of Waters) Regulations 2014

which are in fact enforced by the Department of Agriculture, Food and the Marine and the local authority in whose area the landspreading activity takes place.

(ii) Site drainage and discharge of polluting matter

The IFI expressed concern that discharge of silt-laden effluent can negatively impact the receiving environment and that it is important to incorporate best practices and strategies to minimise such discharges. The IFI further states that that fuel oils should be stored and that refuelling of vehicles should take place in a designated area away from aquatic zones.

Additionally, the IFI recommends that sustainable urban drainage systems (SUDS) be employed and provide treatment systems which ensure that the site run-off will not cause deterioration in quality of the receiving water.

Response:

Condition 3.20 of the RD requires installation of silt traps and oil separators for the surface water run-off discharging from the site. Condition 6.15.2 requires that trigger levels are agreed on the storm water discharge and will ensure that the storm water discharge from the installation will not have a negative effect on the receiving water and the associated habitats. Condition 5.4 prohibits discharge of any contaminated storm water run-off.

(iii) Fire-water management

The IFI recommends that the Agency should be satisfied with the access to and adequacy of water supply in the event of fire, and the adequacy for containment of effluent generated from fire-fighting activities.

Response:

Condition 3.21 includes requirements in relation to fire-water retention and containment.

Submissions No. 2 and No. 6 – Health Service Executive (HSE) (2nd November 2012 and 20th December 2013)

Two submissions were received from the HSE, which are addressed together below.

(i) Public Consultation:

The HSE stated that there is no evidence that the applicant has consulted with local community with regard to the proposed development.

Response:

The applicant published a notice in accordance with article 6 of the Waste Management (Licensing) Regulations 2004 as amended in The Irish Daily Star on 18 September 2012. A site notice in accordance with Article 7 of the above Regulations was erected by the applicant and inspected by the Agency on 23 November 2012. Condition 2.2.2 provides for a Public Awareness and Communications Programme.

(ii) Odour and air emissions

The HSE states that negative issues in relation to odour nuisances experienced by nearby residents were not outlined or quantified by the applicant. The HSE further states that no reasons for these odour nuisances nor any associated corrective actions were discussed in the EIS. The HSE expresses concern that the entry/exit doors to the composting building have not been considered in the air modelling submitted by the applicant and stresses that most odour complaints logged in respect of the installation related to these doors being left

open. The HSE stated, in its second submission, that no complaints have been received to date by the Waterford HSE Environmental Health Service during the operation of the existing installation. The HSE stated that during the visit to the site all odour complaints were logged with associated corrective actions recorded.

The HSE states also that there was no evidence of a written Odour Management Plan or that odour monitoring was carried out on a daily basis as required in the Waste Facility Permit Register No. WFP-WD-10-0003-02 and expresses concern about the applicant's "future ability" to control odour nuisances.

The HSE also expresses concern about the lack of information on the height of the gas flare stack and the dispersion of any emissions.

Response:

Condition 6.14 provides for odour control measures, including an odour impact assessment to be carried out every three years. Condition 6.14.4 provides for negative pressure to be maintained on all buildings in which putrescible waste is stored and processed.

Schedule C.1.2 requires odour monitoring of biofilter emissions on a quarterly basis and the licensee shall keep the records of all monitoring undertaken in accordance with Condition 11.6 and complaints must be recorded in accordance with Condition 11.4.

Air dispersion modelling was carried out in accordance with the methodology outlined in the Agency Guidance Note (AG4) and according to the modelling results there will be no significant impact on air quality due to emissions to air from the installation.

(iii) Discharged effluent and contamination of the receiving water and land

The submission states that the EIS fails to make an informative assessment or risk assessment of what will be the character of the final effluent discharged with reference to the levels of pathogens and toxic chemicals. The submission further states that land application of sludge can lead to the transport of pathogens including microbes, parasites and environmentally persistent chemicals through bioaerosols, through contamination of groundwater, drinking water wells, surface waters, or through food contamination from eating food grown in sludge spread lands. The HSE continues that the EIS did not address, with the proposed intake of animal by-products, the concerns with regard to infectious prions from animal and human sources.

Response:

Only clean storm water will be discharged from the installation. Condition 3.20 requires silt traps and oil separators for the storm water discharge.

The RD does not regulate the landspreading or use of compost and digestate produced at the installation. The RD requires that the compost and digestate produced at the installation must comply with the standards for compost and digestate quality specified in Schedule E and records kept regarding the quantity and destination of compost and digestate dispatched from the installation (Condition 11.10).

(iv) Risk assessment of the installation's workers:

The HSE states that the EIS did not assess risk from bioaerosols for the installation's workers including transport workers and workers spreading the final effluent on land from bioaerosols. The HSE continues also that there is no information on how many construction workers will be working on the site at peak times, the sanitary facilities to be provided and waste/pest management control measures to be implemented on the construction site.

Response

Condition 2.1.2 requires that the personnel performing specifically assigned tasks shall be qualified on the basis of appropriate education, training and experience. Condition 9.1 requires that the licensee shall ensure that a documented Accident Prevention Procedure is in place that addresses the hazards on-site.

Condition 3.28 requires the licensee to maintain a wastewater treatment plant at the installation for the treatment of sanitary effluent arising on-site.

Condition 5.7 requires that any pests associated with the activity do not result in an impairment of, or an interference with, amenities or the environment at the installation or beyond the installation boundary or any other legitimate uses of the environment beyond the installation boundary.

The RD includes also number of measures to ensure that there will be no nuisance caused by waste accepted. These include conducting all waste storing and processing waste in buildings, covering of all waste delivery vehicles and cleaning the installation's yard.

(v) Noise

The HSE expresses concern about the potential impact of traffic noise during construction and operation.

Response:

Section 11 of the EIS assessed the impact of noise. Noise levels were measured at 4 onsite monitoring locations and one noise sensitive location during daytime and night time hours. It was concluded that noise levels resulting from the development will not exceed 55 dB(LAEQ) at the current noise monitoring locations and that the slight increase in traffic will not have any impact on the noise levels. Condition 6.16 of the RD provides for the carrying out of noise surveys, while Schedule B.4 presents noise limit values.

(vi) Water

The HSE states that the volume of abstraction of water for drinking and for the operation of the facility was not given in relation to the proposed new well. The HSE continues that potential impact on ground or surface water including any nearby wells or group water schemes has not been identified.

Response:

The amount of groundwater water used by the applicant is small. The composting process does not typically require water and the only water usage is in the canteen and toilets.

Condition 7.3 provides for the licensee to identify opportunities for reduction in the quantity of water used on site. The RD contains numerous conditions that aim to protect water quality, including stormwater and groundwater monitoring.

Submission No. 3 – Cllr. Pat Dunphy, Kilkenny County Council (9th March 2013)

The submission listed 39 questions for which answers were sought from the Agency. For the most part the questions seek information that is already presented in the licence application (e.g. proposed type and quantity of waste, hours of operation, number of employees, stack heights, etc.) and so have not been addressed here. Other matters raised in the submission are presented in summary and addressed below.

(i) Landspreading and compost/digestate quality

The submission outlines a number of questions relating to landspreading, locations of landspreading and the requirement to have a nutrient management plan.

Response:

The RD does not regulate the landspreading of digestate and compost. However, it requires that the compost and digestate produced at the installation must comply with the standards for compost and digestate quality specified in Schedule E and that records are kept on the destination of compost and digestate. The European Union (Good Agricultural Practice for Protection of Waters) Regulations 2014 are enforced by the Department of Agriculture, Food and the Marine and the local authority in whose area the landspreading activity takes place. The RD includes conditions for the management of digestate that fails to meet the prescribed quality standard (Condition 8.8.3 and 8.8.6).

(ii) Location of activity

The submission sets out a number of questions relating to the location of the installation, in terms of distance to sensitive receptors and protected sites.

Response:

The impact assessment of emissions (noise, air, odour, water) is presented in this report and takes into account the sensitive receptors. An appropriate assessment has been carried out to address any potential impacts on European sites. *Schedule B: Emissions Limits* of the RD presented emission limits that take into account the assessments and the relevant legislation.

(iii) Odour emissions

Cllr Dunphy expresses concern regarding odour emissions and associated impacts.

Response:

The RD includes numerous conditions for the management of odour emissions, including an requirement to carry out periodic odour impact assessments (Condition 6.14.6) and a requirement to maintain buildings for storage or treatment of putrescible waste to be maintained at negative air pressure (Condition 6.14.4).

(iv) Risk of fire and accident

The submission seeks information on risk of fire and how emergencies will be dealt with.

Response:

Condition 9 of the RD provides for accident prevention and emergency response procedures. In accordance with Condition 9.4.2, all significant spillages are to be treated as an emergency.

(v) Monitoring results and public information

Cllr Dunphy outlines a number of questions relating to monitoring of emissions and availability of information to the public.

Response:

A schedule of monitoring requirements is set out in *Schedule C: Control & Monitoring* of the RD. A public communications programme is provided for in Condition 2.2.2.13 of the RD. In addition, results of emission monitoring will be publicly available, either at the installation, on the EPA website (Annual Environmental Reports) or on EPA enforcement files available for public viewing.

Submissions No. 4 and No. 5 – Department of Agriculture, Food and the Marine (20th November 2013 and 23rd December 2013)

The submissions state that the operations proposed at the installation and the receipt and "discharge" of waste materials shall be regulated by the following:

- Animal By-products Regulation (EC) No. 1069/2009 and Commission Regulation (EC) No. 142/2011;
- Animal By-products Regulations S.I. No. 252 of 2008, as amended;
- Regulations and guidelines pursuant to the Nitrates Directive 91/676/EEC;
- Water Framework Directive 2000/60/EC;
- Groundwater Directive 2006/118/EC; and
- Department of Agriculture, Food and the Marine Farm Building and Structures Specifications.

Response:

The submissions are noted. The relevant provisions of the above-mentioned legislation have been taken into consideration in the preparation of the RD.

Submission No. 7 – Office of Environmental Enforcement (OEE) (12th April 2016)

The submission refers to a complaint from a member of the public in relation to Ormonde Organics which was received by the Office of Environmental Enforcement (OEE). The complaint highlighted concerns over waste acceptance at the installation and the risk of unsuitable material entering the plant, and the need to ensure that material produced at the facility is suitable for landspreading in line with national regulations.

Response:

Condition 8.3 provides for detailed waste acceptance and characterisation procedures to ensure that no unsuitable material will be accepted at the installation. In particular, Condition 8.3.6 provides for all waste arriving at the installation to be inspected prior to acceptance for treatment. Hazardous waste may not be accepted at the installation (Condition 8.3.4). Condition 8.3.8 requires that any unsuitable waste be immediately separated and stored under appropriate conditions in the quarantine area.

The RD does not regulate the landspreading of compost and digestate, however, it requires that the compost and digestate produced at the installation must comply with the standards for compost and digestate quality specified in Schedule E. The Food Safety Authority of Ireland (FSAI) *"Food Safety Implications of Land-spreading Agricultural, Municipal and Industrial Organic Materials on Agricultural Land used for Food Production in Ireland"* (2008) report specifies the best practices, including restriction, for landspreading of organic municipal and industrial materials on agricultural land to be used for ready-to-eat food crops in Ireland. The European Union (Good Agricultural Practice for Protection of Waters) Regulations 2014 are enforced by the Department of Agriculture, Food and the Marine and the local authority in whose area the landspreading activity takes place.

5. Consideration of Best Available Techniques (BAT) and BAT conclusions

Section 86A(3) of the EPA Act 1992 as amended requires that the Agency shall apply BAT conclusions as a reference for attaching one or more conditions to a licence or revised licence (Article 14(3) of the IED). Therefore, BAT for the installation was assessed against the BAT Conclusions contained in the following documents:

- BREF Document for the Waste Treatment Industries (July 2006) – currently under review
- BREF Document on Energy Efficiency (February 2009)
- BREF Document for Emissions from Storage (July 2006)

The applicant submitted an assessment of the installation's activity against the relevant BAT conclusion requirements contained in the above BREF Documents. The applicant has demonstrated that the installation will generally comply with the BAT conclusion requirements specified in the main applicable BREF activity (Waste Treatments) and will comply with all of the applicable BAT conclusion requirements contained in the additional BREF documents.

I consider that the applicable BAT Conclusion requirements are addressed through: (i) the technologies and techniques as described in the application; (ii) the standard conditions specified in the RD.

I have examined and assessed the application documentation and I am satisfied that the site, technologies and techniques specified in the application and as confirmed, modified or specified in the Recommended Determination comply with the requirements and principles of BAT. In addition, the proposed activities, as described in the application, this report, and in the RD, are effective in achieving a high general level of protection of the environment having regard - as may be relevant - to the way the installation is located, designed, built, managed, maintained, operated and decommissioned.

6. Emissions

6.1 Emissions to Air

Unless adequately controlled, activities at the installation have the potential to impact on air quality due to fugitive emissions and point source emissions from the bio-filter units and from the CHP and flare stacks. To counter the potential for fugitive emissions of dust and odour, all waste storage and processing will take place indoors. Negative building pressure, extraction of building air and treatment of the extracted air are conditioned in the RD. There will be no untreated extraction air vented to atmosphere. Also, Condition 6.14.8 requires airlocks to be installed, as proposed by the applicant, on the two entry points at the composting building.

Condition 6.14 of the RD sets requirements in relation to dust and odour abatement. The RD includes also a limit for dust deposition and requires dust deposition monitoring to be carried out on a bi-annual basis.

A summary of the point emissions to air is set out in the table below:

Summary of Air Emission Points

Emission Point reference numbers	Control	Parameters to be regulated in the licence
Existing Bio-filters: AEP-5, AEP-6	Acid scrubbers and bio-filters	Odour in bio-filter off-gases

Proposed Bio-filters: AEP-7, AEP-8		
CHP gas engines: AEP-1, AEP-2, AEP-3	Dispersion at height through stacks	Combustion off-gases: Nitrogen oxides, sulphur dioxide, carbon monoxide, volatile organic compounds
Proposed gas flare: AEP-4	Dispersion through flare stack	None

The applicant has not carried out any emissions monitoring on the CHP engines.

In order to assess the potential for impact on air quality due to these point sources, air and odour dispersion modelling of the emissions from the bio-filters, CHP stacks and flare stack was carried out by the applicant. Modelling was conducted in accordance with the methodology outlined in the Agency Guidance Note (AG4). The modelling utilised a five-year period of meteorological data from a meteorological station in Rosslare.

The emission concentrations used as dispersion model input values for the existing and proposed biofilters are in the range 700-1,000 Ou_E/m^3. These emission concentrations are within the range <500 – 6,000 Ou_E/m^3 which is specified in Section 5.2 of the BREF Note *Waste Treatment Industries* (2006) for treated exhaust gas. The applicant confirmed that each biofilter is capable of achieving less than 1,000 Ou_E/m^3 in the exhaust gas and this is reflected in the emission limit values recommended in Schedule B.1.

The Agency's *Air Dispersion Modelling from Industrial Installations Guidance Note (AG4)* sets 1.5 Ou_E/m^3 (98^{th} percentile) as an indicative criterion for odour offensiveness from high risk activities such as activities involving putrescible waste. The applicant's contour plot for predicted odour dispersion shows a plume with ground level concentration of 3 Ou_E/m^3 or less extending 200-250m to the south and east of the installation. There are no residences or sensitive receptors in this zone. The modelling showed that all sensitive receptors and residences in the vicinity of the installation operations will perceive an odour concentration less than 1.50 Ou_E/m^3 at the 98^{th} percentile of hourly averages. The highest modelled value for odour at a sensitive receptor is 1.15 Ou_E/m^3.

Modelling results for combustion gases are provided in summary form in the table below. According to the modelling results there will be no significant impact on air quality due to emissions to air from the installation.

Table 2: Results of the dispersion modelling assessment for combustion gases and comparison with the air quality standards.

Parameter	**Averaging period**	**Baseline ($\mu g/m^3$)**	**Process contribution**	**Baseline + Maximum predicted GLC** [Note 1] **($\mu g/m^3$)**	**Standard ($\mu g/m^3$)**	**% of the standard**
Carbon monoxide	8-hour max	1,040	281	1,321	10,000	13.21
Oxides of nitrogen	1-hour max 99.79^{th} %ile	33.80	61	94.8	200	47.40

	Max annual average	16.90	5	21.9	40	54.75
Sulphur dioxide	1-hour max 99.73th %ile	8	140	148	350	42.29
	24-hour max 99.18th %ile	8	58	66	125	52.80
	Max annual average	4	6.3	10.3	20	51.50
Total particulates	24-hour max 90.40th %ile	23	6.1	29.1	50	58.20
Total particulates as PM10	Max annual average	23	1.7	24.7	40	61.75
Total particulates as PM2.5	Max annual average	10.0	1.7	11.7	25	46.80
TNMVOC[2] as benzene		1.4	0.59	1.99	5	39.80
HCl	1-hour max	-	9.81	9.81	750	1.31
	1-hour 98th %ile	-	5.68	5.68	100	5.68
	Max annual average	-	0.37	0.37	80	0.46
HF	1-hour max	-	1.65	1.65	160	1.03
	1-hour 98th %ile	-	0.95	0.95	3	31.67
	24-hour max	-	0.86	0.86	5	17.20
	Max annual average	-	0.063	0.06	0.3	21.00
H_2S	1-hour max	-	109	109	140	77.86
	Max annual average	-	5.10	5.10	70	7.29

For the control of SO_2 emissions from the CHP engines, the applicant scrubs H_2S out of the biogas before combustion.

[2] Total non-methane volatile organic compounds

Schedule B.1 sets emission limit values (ELVs) for the emission points to air at the three gas engines (two installed, one proposed) and the biofilters which are based on the above modelling. The schedule also specifies an ambient dust deposition limit of 350 mg/m^2 per day. Schedule C.1.1 requires the outlet temperature of the flare flue-gas to be at least 900°C with a residence time 0.3 seconds. Schedule C.1.2 stipulates the monitoring parameters and frequency at emission points. Schedule C.6.1 requires monitoring of dust deposition on a quarterly basis. Condition 6.14 requires the licensee to install and provide adequate measures for the control of odours and dust emissions from the facility and requires periodic odour impact assessment.

6.2 Emissions to Sewer

There will be no emissions to sewer.

6.3 Emissions to Water

6.3.1Process Effluent

There are no process emissions to surface water from this facility.

6.3.2 Storm Water

Stormwater from roofs and paved areas is collected in the facility's surface drainage system and discharged via an oil interceptor to a pipe that outfalls to the River Suir approximately 240m from the site.

The stormwater from the installation discharges to the Middle Suir Estuary (Ms Code: SE_100_0550) which is a transitional waterbody. The water quality at the location of this discharge is eutrophic. The Water Framework Directive Status (2010-2012) shows that water quality in the Middle Suir Estuary is moderate adjacent to and downstream of the installation.

Condition 3.20 requires storm water, other than that from roofs, to pass through a silt trap and oil separator prior to discharge. Condition 6.15.2 requires trigger levels for the storm water discharge to be agreed with the Agency. The RD requires monitoring of the storm water discharge.

6.4 Emissions to ground or groundwater

There are no process emissions to groundwater from this installation.

A septic tank and percolation area are installed for the treatment of sanitary effluent. Condition 3.28 requires the waste water treatment and percolation area to satisfy the criteria set out in the *Code of Practice Wastewater Treatment and Disposal Systems Serving Single Houses (p.e. < 10)*, EPA, 2010.

The monitoring results from the on-site groundwater monitoring well show a relatively good water quality having regard to the Threshold Values (TVs) specified in the Groundwater Regulations 2010 (S.I. 9 of 2010). The only parameter that might have exceeded the TV of 0.065 – 0.175 mg/l was ammoniacal nitrogen which was recorded as <0.2.

The monitoring results in off-site monitoring wells down gradient of the installation (BH1 to BH4) and GW2 in 2012, 2013 and 2014 showed localised impacts from buried animal hides with exceedances of sodium, chloride, ammonium and nitrate. However, the monitoring results showed a decreasing trend in concentrations of these parameters over time. Total

petroleum hydrocarbons (TPH) and volatile organic compounds (VOC's) were not detected in any of the samples and the metal levels are not of concerns.

The Agency agreed to the surrender of the IPPC licence in February 2015. The surrender application included a detailed assessment of the environmental risk presented by the former and current use of the site which was described in the Independent Closure Audit dated 6th November 2014, a copy of which was submitted by the applicant as a part of the Baseline Report.

Schedule C.6.2 requires groundwater monitoring at the on-site drinking water well and two off site wells.

6.5 Baseline report

The licensee submitted a baseline report. The purpose of a baseline report is to identify the state of the soil and groundwater contamination by relevant hazardous substances at the installation. This is to allow for the making of a quantified comparison with the state of the soil and groundwater upon definitive cessation of activities.

The Baseline Report submitted as part of the application took into consideration an Independent Closure Audit of the IPPC Licensed area.

The hazardous substances identified by the applicant include diesel, engine, hydraulic and lubricating oils, and sulphuric acid. The laboratory analysis of the groundwater samples discussed in the Baseline Report included Total Petroleum Hydrocarbons (TPH), Volatile Organic Compounds and Mineral Oil. The groundwater monitoring conducted at the site and in the down gradient wells has never detected the presence of either Mineral Oil or TPH. The groundwater monitoring carried out at the site to date includes pH, which ranges from 6.48 to 7.8 and is within the normal range for Irish groundwater, and sulphate which is well below the Threshold Value set in the Groundwater Regulations (2010).

Condition 10.2.3 requires the licensee to have regard to the Baseline Report when updating and reviewing plans for the decommissioning or closure of the site or any part.

6.6 Waste generation at the installation

The facility will generate small volumes of office type waste. The applicant operates a source segregation policy to maximise the recovery of potential recyclable materials from these waste streams. All recovered materials will be transferred off-site to recovery or recycling facilities.

6.7 Noise

Noise monitoring in 2010 at four on-site monitoring locations (N1 to N4) and one off-site location showed that the LAeq levels at the on-site locations N1 and N2 exceeded the daytime limit of 55 db(A) set in the Waste Permit. However, these exceedances were attributed to noise from traffic on the R680 and not the facility operations. The monitoring showed that in the daytime the dominant source of noise at the off-site noise sensitive location was traffic on the R680. The night time noise levels at the NSL were less than the night time limit of 45db(A). There was no tonal or impulsive component recorded.

The applicant proposes measures such as maintenance of internal roads to reduce vehicular noise, a speed limit of 30 km/h for vehicles within the site, keeping doors on entrances to operational areas closed with the exception for allowing vehicle movement.

Schedule B.4 *Noise Emissions* sets limit values for day, evening and night time noise levels at the installation. Schedule C.5 *Noise Monitoring* of the RD stipulates the monitoring requirements.

7. Use of Resources

The installation is a significant consumer of materials and energy in the form of electricity and hydraulic and engine oil used in on-site equipment and coolants, as listed below. The composting process does not typically require water and the only water usage is in the canteen and toilets. Water for this purpose is obtained from an on-site well.

- Diesel (approx. 120 m^3 per annum);
- Electricity – approx. 840,000 kWh per annum;
- Water (obtained from on-site well);
- Sulphuric acid used in the odour abatement system – approximately 390m^3 per annum;
- Woodchip, which is used as a bulking agent in the compost and as a biofilter medium – approx. 6,000 tonnes per annum; and
- Hydraulic and engine oil (410 litres of which is kept on site an any one time)

The applicant estimated that, due to the AD process being active, there could be a 50% decrease in the amount of woodchip required due to the reduction in the amount of waste being composted. The applicant also stated the AD process would not result in any significant change to diesel consumption but it will result in an increase in electricity consumption due to the electrical motors installed in the AD plant and additional yard lighting. However this will be off set by the electricity generated in the on-site CHP plant. Also, the applicant estimated that the new odour abatement system will result in a 30% increase in acid consumption. Condition 7.1 of the RD requires an audit of the energy efficiency of the site.

8. Waste Management Plans

In *A Resource Opportunity – Waste Management Policy in Ireland (DOECLG 2012)* it is recognised that as the separate collection of organic waste increases nationally, there will be a need for adequate national infrastructure and capacity to recycle biodegradable waste.

The *Southern Region Waste Management Plan 2015 – 2021* supports the development of biological treatment capacity in the region, in particular composting and anaerobic digestion, by supporting the development of new facilities.

9. Greenhouse gas emissions and Climate Change impact

With regard to reducing the climate impact of the installation under IED, the RD requires energy efficiency management to be addressed as part of the Environmental Management System and an energy efficiency audit and an assessment of resource use efficiency to be carried out. The Environmental Management Programme objectives and targets include use of cleaner production.

10. Measures to prevent accidents and limit their consequences

The RD requires a range of measures to prevent accidents and limit their consequences. These include:

- Requirement for bunding of tank, container and drum storage areas (Condition 3);
- Class 1 petrol interceptors for storm water arising from within the installation;

- Requirement for all drainage from bunded areas to be diverted for collection and safe disposal, unless it can be deemed uncontaminated;
- Leak detection and alarm systems on gas and designated liquid transfer lines;
- Accident prevention and emergency response requirements (Condition 9).
- Training of staff (Condition 2).

11. Compliance with E.U. Directives

The Recommended Decision takes account of the requirements of the following directives and regulations:

11.2 Industrial Emissions Directive (IED) (75/10/EU)

The IED requires that the competent authority take account of the general principles set out in Article 11 when determining the conditions of the licence. The installation falls within the scope of Annex 1 of Council Directive 2010/75/EU concerning industrial emissions. The RD as drafted takes account of all of the relevant requirements of Article 11.

11.3 Waste Framework Directive [2008/98/EC]

The RD will be in accordance with the Directive for the following reasons:

- It will allow for more waste to move up the waste hierarchy as it increases the recovery of separately collected waste that might otherwise have been disposed of by landfill.
- The State is obliged to take appropriate measures to establish an integrated network of installations for the recovery of waste collected from private households and from other waste producers. The development of this facility will contribute to this overall national objective.
- It will contribute towards compliance with Article 22 of the Directive, whereby Member States must take measures to ensure the environmentally safe composting and digestion of bio-waste.
- It will contribute towards the general development of a sustainable and self-sufficient approach to the management of waste in accordance with the proximity principle.
- The requirements of articles 13 and 23 have been addressed in the drafting of the RD.

11.4 Water Framework Directive [2000/60/EC]

European Communities Environmental Objectives (Surface Water) Regulations, S.I. No. 272 of 2009

European Communities Environmental Objectives (Ground Water) Regulations, S.I. No. 9 of 2010

A number of measures have been included in the RD to prevent any significant impact on water quality, as described above in Sections 6.3 and 6.4.

11.5 EU Animal By-Products Regulation

The applicant will be obliged to comply with this Regulation and obtain the appropriate permits on an on-going basis from the Department of Agriculture, Food and the Marine to accept and treat animal by-products.

11.6 Environmental Liabilities Directive (2004/35/EC)

Condition 10 of the RD requires the applicant to prepare a Decommissioning Management Plan (DMP) and Condition 12 requires the completion of an Environmental Liabilities Risk Assessment (ELRA) and making of financial provision.

11.7 European Communities (Greenhouse Gas Emissions Trading) Regulations 2012

The combustion of fuels in installations with a total rated thermal input exceeding 20MW is an activity listed in Schedule 1 of the above Regulations. Both CHP engines when operational are estimated to have a 924kW loading. The applicant has estimated that the facility will generate approximately 1.0MW of energy (electricity and heat).

11.8 Habitats Directive (92/43/EC) & Birds Directive (79/409/EEC)

Appropriate Assessment

Storm water from the installation discharges to the Lower River Suir SAC (site code: 002137).

The Lower River Suir SAC consists of the freshwater stretches of the River Suir immediately south of Thurles, and tidal stretches as far as the confluence with the Barrow/Nore immediately east of Cheekpoint in Co. Waterford, and many tributaries.

Appendix 1 lists this European site's qualifying interests and conservation objectives along with the assessment of the effects of the activities on this European Site.

A screening for Appropriate Assessment was undertaken to assess, in view of best scientific knowledge and the conservation objectives of the site, if the activities, individually or in combination with other plans or projects are likely to have a significant effect on any European Site. In this context, particular attention was paid to the European Site at Lower River Suir SAC (site code: 002137).

The activities are not directly connected with or necessary to the management of any European Site and the Agency considered, for the reasons set out below, that it cannot be excluded, on the basis of objective information, that the activities, individually or in combination with other plans or projects, will have a significant effect on any European Site and accordingly determined that an Appropriate Assessment of the activities was required, and for this reason determined to require the applicant to submit a Natura Impact Statement.

This determination is based on the following reasons:

> Surface water runoff from the site discharges into the Lower River Suir SAC, which is located approximately 370m from the site. There is a risk that the surface water run off may be polluted by waste with a high biological oxygen demand (BOD), which may have a significant effect on the conservation objectives of this European Site.

An Inspector's Appropriate Assessment has been completed and has determined, based on best scientific knowledge in the field and in accordance with the European Communities (Birds and Natural Habitats) Regulations 2011 as amended, pursuant to Article 6(3) of the Habitats Directive, that the activities, individually or in combination with other plans or projects, will not adversely affect the integrity of any European Site, in particular Lower River Suir SAC (site code: 002137), having regard to its conservation objectives and will not affect the preservation of the site at favourable conservation status if carried out in accordance with this recommended determination and the conditions attached hereto for the following reasons:

- The activity will not result in damage to, or loss of, habitat in a European Site;

- There will be no process discharge from this installation to the European Site;
- All contaminated runoff arising onsite will be contained and recirculated into the processes or sent for treatment off-site.
- Condition 3.26.2 requires that the installation yard is concreted.
- Condition 8.4.1 requires that waste storage and processing takes place inside buildings or enclosed vessels.
- Condition 3.20 requires that the storm water passes a silt trap and interceptor prior to discharge.
- Condition 6.15.2 requires trigger levels for the storm water discharge.
- An emergency response procedure is required under Condition 9.2, while Condition 9.4.2 provides for all significant spillages to be treated as an emergency.
- Air dispersion modelling has confirmed that emissions to air from the installation will not lead to a breach of an air quality standard.
- The RD proposes emission limit values on the discharges to air and includes a range of conditions that will limit any impact on air quality.
- Condition 8.3 requires the establishment of waste characterisation and acceptance procedures which will ensure that all wastes arriving at the facility are handled in such a manner so as to prevent any impact on the European Sites.
- Condition 2.2.2.10 requires the licensee to implement procedures to ensure corrective and preventative action is taken should the specified requirements of the licence not be fulfilled to prevent a recurrence of the breach.

In light of the foregoing reasons no reasonable scientific doubt remains as to the absence of adverse effects on the integrity of the European Site at Lower River Suir SAC (site code: 002137).

12. Cross Office Liaison

In preparing this report and Recommended Decision, I consulted with Ms. Deirdre French, technical adviser for matters relating to Appropriate Assessment.

13. Site Visit

A site visit was undertaken on 23rd November 2012 and 11th November 2015. During the site visit on 11th November 2015 I was accompanied by a Senior Licensing Inspector from the Agency. The following aspects were noted during site visits: existing buildings and biofilters, sludge composting processes, anaerobic digestion tanks, digestate tanks, AD operation controls, yard, weighbridge, electric generators. Strong odour was detected at the biofilters and at the entrances to the process buildings, particularly the sludge composting building. No odour was detected outside the site.

14. Fit & Proper Person Assessment

The Fit & Proper Person test requires three elements of examination:

Technical Ability

The applicant has provided details of the qualifications and experience of key personnel. The biological treatment activity has been carried on since 2007. It is considered that the applicant has demonstrated the technical knowledge required.

Legal Standing

Ormonde Organics Limited has never been convicted of any relevant offence.

Financial Standing

The applicant provided an Environmental Liabilities Risk Assessment (ELRA) and Closure, Restoration and Aftercare Management Plan (CRAMP). The ELRA has been carried out in accordance with Agency's draft guidance (July 2013). In the ELRA, the costing of the 'Worst Case' Scenario was estimated to be €37,490. The estimated cost of the implementation of the CRAMP was €33,568. Conditions 10 and 12 require the applicant to review these plans having regard to up to date Agency guidance.

The RD, in Condition 12.2.3, requires the applicant to make financial provision to cover any liabilities associated with the operation, within nine months of the date of grant of this licence.

It is my view, that the applicant can be deemed a Fit & Proper Person for the purpose of this application.

15. Complaints

The applicant received odour complaints from people living in the vicinity of the site. These complaints were logged and addressed by the applicant. In addition, the Agency's Office of Environmental Enforcement received a complaint which is outlined in Section 4 Submissions above. Further the HSE stated, in its second submission, that no complaints have been received to date by the Waterford HSE Environmental Health Service during the operation of the existing installation. Odour has been addressed in Section 6.1 Emissions to Air of this report.

16. Environmental Impact Assessment (EIA) Directive (85/337/EEC, as amended)

The following section identifies, describes and assesses the likely significant direct and indirect effects of the proposed activities on the environment, as respects the matters that come within the functions of the Agency, for each of the following factors: human beings, flora, fauna, soil, water, air, climate, the landscape, material assets and cultural heritage.

The main mitigation measures proposed to address the range of predicted significant impacts arising from the activity have also been outlined. The cumulative impacts with other developments in the vicinity of the activity have also been considered, as regards the impacts of emissions from the activities. This section must be read in conjunction with the analysis carried out in all sections of this report.

16(a) Human Beings

Likely significant effect	Description of effect	Assessment addressed in section:
Socio-Economic	No significant negative impact predicted.	16(a)(i)
Traffic	Traffic and its associated emissions, risks and disamenity effects.	16(a)(ii)

Impact on air quality	Emissions of dust, odour, bio-filter and combustion engine off-gases, and bio-aerosols.	16(e)(i)
Noise	Disamenity from noise emissions due to licensed activities.	16(a)(iii)
Accidents	Emissions to the local atmosphere, ground and water bodies. Noise, odour and litter nuisance.	16(a)(iv)

Assessment of Effects on Human Beings

16(a)(i) Socio-Economic

The installation will not adversely affect the existing economic activities in the surrounding area, nor will it reduce the potential for the future expansion of the economic activities.

Local people might not be fully aware of operations at the facility.

Mitigation Measures

The following mitigation measures will further reduce the likelihood of a negative impact on human beings:

- public awareness and communications programme;

Conclusion

Based on the above assessment, the site design and the mitigation measures in place, I am satisfied that the likelihood of a negative impact on human beings from the installation is negligible.

Accordingly, if the activities are carried out in accordance with the RD and the conditions attached, the operation of the activities will not cause environmental pollution. The conditions of the RD and the mitigation measures proposed will significantly reduce the likelihood of accidental emissions occurring and limit the environmental consequences of an accidental emission should one occur.

16(a)(ii) Traffic

The Waste Facility Permit currently allows a waste intake of 8,000 tonnes per annum, while planning permission is in place for 40,000 tonnes per annum. The EIS presents an assessment based on 40,000 tonnes per annum and concludes that there will be no appreciable impact as a result of licensable activities taking place.

There is a risk of dirty vehicles tracking dirt from the facility onto the public road.

Mitigation Measures

The RD requires use of a wheel wash and sets hours of operation and waste acceptance.

Conclusion

Based on the above assessment, the site design and the mitigation measures in place, I am satisfied that the likelihood of a negative impact on human beings from the traffic associated with the installation is negligible.

Accordingly, if the activities are carried out in accordance with the RD and the conditions attached, the operation of the activities will not cause environmental pollution. The conditions of the RD and the mitigation measures proposed will significantly reduce the likelihood of accidental emissions occurring and limit the environmental consequences of an accidental emission should one occur.

16(a)(iii) *Noise*

There will be vehicles, machines, gas engines, flare and other equipment in operation at the installation, all with the potential for noise emissions. The noise impact assessment completed by the applicant predicted that noise levels from the activity will not exceed 55dB(LAeq).

Mitigation Measures

The RD requires the licensee to carry out a noise survey if so directed by the Agency. Schedule B.4 *Noise Emissions* of the RD includes limit values for emissions during day, evening and night time hours. The noise emission limit value during daytime hours is 55dB $L_{Ar,T,\ 30\ min}$.

Conclusion

Based on the assessment carried out and the mitigation measures in place, I am satisfied that the likelihood of a negative impact as a result of noise emissions connected with the installation is not significant.

Accordingly, if the activities are carried out in accordance with the RD and the conditions attached, the operation of the activities will not cause environmental pollution. The conditions of the RD and the mitigation measures proposed will significantly reduce the likelihood of accidental emissions occurring and limit the environmental consequences of an accidental emission should one occur.

16(a)(iv) *Accidents*

There is a risk of an accident at the facility. A fire or biogas explosion could cause short term environmental pollution of the local atmosphere, ground and water bodies. It could also result in noise, odour and litter nuisance.

Mitigation measures

The RD requires the licensee to:

- employ a suitably qualified and experienced facility manager (Condition 2.1.1);
- complete a construction quality assurance validation for all specified engineering works which includes the construction of the facility (Condition 3.3 and Schedule D);
- put in place a documented Accident Prevention Procedure which addresses all hazards on-site (Condition 9.1);
- put in place an Emergency Response Procedure which will ensure any effects of an emergency on-site are minimised (Condition 9.2);
- implement a preventative maintenance programme (Condition 2.2.2.14); and
- implement procedures to ensure corrective and preventative action is taken should the specified requirements of the licence not be fulfilled (Condition 2.2.2.10).

Schedule C of the RD requires:

- the gas pressure in the AD system to be monitored continuously and to be fitted with an alarm;

- the continuous burn of the biogas engines to be monitored continuously and to be fitted with an alarm;
- automatic ignition of the flare; and
- the continuous monitoring of the status of pressure relief valves on the AD system.

Conclusion

Based on the mitigation measures in place, I am satisfied that the likelihood of an accident connected with the installation is low.

Accordingly, if the activities are carried out in accordance with the RD and the conditions attached, the operation of the activities will not cause environmental pollution. The conditions of the RD and the mitigation measures proposed will significantly reduce the likelihood of accidental emissions occurring and limit the environmental consequences of an accidental emission should one occur.

16(b) Flora and Fauna

Likely significant effect	Description of effect	Assessment addressed in section:
Impact on any flora and fauna in the area.	Development of the AD facility. Discharge of rain water run-off to Middle Suir Estuary.	16(b)(i)
Accidents	Emissions to the local atmosphere, ground and water bodies. Noise, odour and litter nuisance.	16(a)(iv)

Assessment of Effects on Flora and Fauna

16(b)(i) *Flora and fauna.*

There are no habitats of significant ecological importance within the site. The extension to the site to accommodate the anaerobic digestion plant resulted in a loss of a part of the broadleaf woodland to the east of the site. The only discharge from the installation will be rain water run-off discharge.

The presence of food waste at the installation could attract pests and vermin.

Mitigation Measures

The RD requires that all waste is stored inside enclosed storage and holding areas or vessels protected against spillage and odour emissions.

The RD requires waste held in the quarantine area to be stored under appropriate conditions to avoid the attraction of vermin. The RD also requires that vermin do not cause impairment of the environment at the facility. A daily inspection of the facility is also required for the detection of nuisances caused by vermin.

The RD requires the treatment of yard run-off prior to discharge.

Conclusion

Based on the ecological assessment carried out and the mitigation measures in place, I am satisfied that the likelihood of a negative impact on flora and fauna is not significant.

Accordingly, if the activities are carried out in accordance with the RD and the conditions attached, the operation of the activities will not cause environmental pollution. The conditions of the RD and the mitigation measures proposed will significantly reduce the likelihood of accidental emissions occurring and limit the environmental consequences of an accidental emission should one occur.

16(c) Soil

Likely significant effect	Description of effect	Assessment addressed in section:
Impact on soil.	Accidental spillage or discharge to ground.	16(c)(i)
Accidents.	Emissions to the local atmosphere, ground and water bodies.	16(a)(iv)

Assessment of Effects on Soil

16(c)(i) *Soil*

Operations at the installation could have an impact on soil due to the potential for spillage of waste or other substances.

Mitigation Measures

The RD includes requirements for safe storage and handling of wastes, fuels and materials.

The RD requires an accident prevention policy and emergency response procedure.

Conclusion

Based on the assessment carried out and the mitigation measures in place, I am satisfied that the likelihood of a negative impact on soil is not significant.

Accordingly, if the activities are carried out in accordance with the RD and the conditions attached, the operation of the activities will not cause environmental pollution. The conditions of the RD and the mitigation measures proposed will significantly reduce the likelihood of accidental emissions occurring and limit the environmental consequences of an accidental emission should one occur.

16(d) Water

Likely significant effect	Description of effect	Assessment addressed in section:
Impact on surface water.	Discharge of rain water run-off to the Middle Suir Estuary.	16(d)(i)
Impact on groundwater.	Contamination of groundwater due to accidental spillage or discharge to ground.	16(d)(i)
Accidents	Emissions to the local atmosphere, ground and water bodies.	16(a)(iv)

Assessment of Effects on Water

16(d)(i) *Surface water and groundwater*

There are no process emissions to surface water or groundwater.

Contaminated rainwater run-off, caused for example by poor operational practices that allow waste or other materials to be deposited on the concrete hardstanding surfaces at the installation, could flow as an emission from the facility. Spillages or deposited material on unsealed ground could result in contaminated water percolating to ground causing groundwater pollution.

Mitigation Measures

Rain water run-off will be passed through silt trap and oil interceptor prior to discharge to the surface water system.

The RD requires control and monitoring of yard run-off.

The RD requires impermeable concrete surfaces to be maintained in all waste and digestate movement, holding, storage or processing areas. The RD requires the capture of all run-off from hardstanding areas.

All waste storage and treatment will be indoors, minimising the risk of material being spilled in the yard.

The RD requires all tanks to be rendered impervious to their contents and to be bunded.

The RD prohibits any direct emission to ground or groundwater.

Conclusion

Based on the nature of the discharge and the mitigation measures in place, I am satisfied that the likelihood of a negative impact on surface water and groundwater is not significant.

Accordingly, if the activities are carried out in accordance with the RD and the conditions attached, the operation of the activities will not cause environmental pollution. The conditions of the RD and the mitigation measures proposed will significantly reduce the likelihood of accidental emissions occurring and limit the environmental consequences of an accidental emission should one occur.

16(e) Air

Likely significant effect	Description of effect	Assessment addressed in section:
Impact on air.	Emissions of dust, odour, bio-filter and combustion engine off-gases, and bio-aerosols.	16(e)(i)
Accidents	Emissions to the local atmosphere, ground and water bodies. Noise, odour and litter nuisance.	16(a)(iv)

16(e)(i) *Impact on Air Quality*

As explained in Section 6.1 above, the air dispersion and odour modelling demonstrated that there would be no significant environmental impact as a result of emissions to air at the installation.

Mitigation Measures

The RD requires:

- incoming waste and feedstock to be stored in a manner that prevents odour nuisance;
- all waste storage and treatment to be carried out inside buildings or vessels;
- airlocks on the entrance to and exit from the composting building.
- the carrying out of periodic odour impact assessments; and
- Schedule B.1 *Emissions to Air* of the RD includes limit values for emissions from scheduled emission points.

Conclusion

Based on the modelling carried out and the mitigation measures in place, I am satisfied that the likelihood of a negative impact as a result of emissions to air connected with the installation is not significant.

Accordingly, if the activities are carried out in accordance with the RD and the conditions attached, the operation of the activities will not cause environmental pollution. The conditions of the RD and the mitigation measures proposed will significantly reduce the likelihood of accidental emissions occurring and limit the environmental consequences of an accidental emission should one occur.

16(f) Climate

Likely significant effect	Description of effect	Assessment addressed in section:
Release of climate altering substances.	Emission of greenhouse gases.	16(f)(i)

Assessment of Effects on Climate

16(f)(i) *Release of climate altering substances*

The primary purpose of the methane produced in the AD process is for the production of electricity and heat.

Generation of biogas from biodegradable waste and its combustion to generate energy will reduce the greenhouse gas release potential of the treated biodegradable waste.

The installation will be a net exporter of electricity to the national grid and have an overall positive effect on the climate.

Mitigation Measures

Schedule B.1 has recommended emission limit values for oxides of nitrogen and total volatile organic compounds (including CH_4) emissions from the CHP engines.

Condition 7.1 of the RD requires an audit of the energy efficiency of the site.

Conclusion

Based on the nature of the activity and the mitigation measures in place, I am satisfied that the likelihood of a negative impact on climate as a result of emissions from the installation is not significant.

Accordingly, if the activities are carried out in accordance with the RD and the conditions attached, the operation of the activities will not cause environmental

pollution. The conditions of the RD and the mitigation measures proposed will significantly reduce the likelihood of accidental emissions occurring and limit the environmental consequences of an accidental emission should one occur.

16(g) Landscape, Material Assests and Cultural Heritage

Likely significant effect	Description of effect	Assessment addressed in section:
Visual impact on nature of landscape.	The facility is located in a rural area.	16(g)(i)
Impact on material assets and cultural heritage.	Potential for impact on archaeological artefacts during further development of the site. Potential for nuisance impact.	16(g)(ii)

Assessment of Effects on Landscape, Material Assests and Cultural Heritage.

16(g)(i) *Visual impact on nature of landscape.*

The development is surrounded by woodland to the northeast, east, southeast and south of the site.

A landscape and visual impact assessment was carried out and it was concluded that the impact of the installation on the landscape character and visual amenity will be not be significant.

Mitigation Measures

The applicant will maintain the screening hedgerows and the landscaping at the site entrance. Also, additional lighting required in the operational areas will be directed towards the operational areas and not the site boundary.

Conclusion

Based on the proposed mitigation measures, I am satisfied that the likelihood of a negative visual impact as a result of the installation's presence is not significant.

Accordingly, if the activities are carried out in accordance with the RD and the conditions attached, the operation of the activities will not cause environmental pollution. The conditions of the RD and the mitigation measures proposed will significantly reduce the likelihood of accidental emissions occurring and limit the environmental consequences of an accidental emission should one occur.

16(g)(ii) *Material assets and cultural heritage.*

An assessment of material assets concluded that the development will have a beneficial impact on resource consumption by reducing reliance on fossil fuels and will not result in any significant environmental impacts.

An archaeological survey was completed in 1991. The survey included an inspection of the existing site and lands in the immediate vicinity. The inspection and search of the Sites and Monuments Records did not identify any record of any archaeological feature within the site, including the proposed extension area. The EIS stated that in an event that archaeological finds are discovered, the construction works programme will be amended to allow a thorough examination by an experienced competent archaeologist.

Mitigation Measures

No mitigation measures required.

Conclusion

I am satisfied that the activities at the installation will not impact on material assets and cultural heritage.

Accordingly, if the activities are carried out in accordance with the RD and the conditions attached, the operation of the activities will not cause environmental pollution. The conditions of the RD and the mitigation measures proposed will significantly reduce the likelihood of accidental emissions occurring and limit the environmental consequences of an accidental emission should one occur.

16(h) Interaction of effects

I have considered the interaction between the factors referred to in Tables 16(a) to (g) above and the interaction of the likely effects identified.

The interaction between factors as a result of the operation of the installation are summarised below:

	Human Beings	**Flora and Fauna**	**Soil**	**Water**	**Air**	**Climate**	**Material assets, landscape, cultural heritage**
Human Beings		Interaction	Interaction	Interaction	Interaction	Interaction	Interaction
Flora and Fauna	Interaction		Interaction	Interaction	Interaction	Interaction	Interaction
Soil	Interaction	Interaction		Interaction			Interaction
Water	Interaction	Interaction	Interaction			Interaction	Interaction
Air	Interaction	Interaction				Interaction	Interaction
Climate	Interaction	Interaction		Interaction	Interaction		Interaction
Material assets, landscape, cultural heritage	Interaction	Interaction	Interaction	Interaction	Interaction	Interaction	

Based on the assessment in parts 16(a) to (g) above, and the mitigation measures proposed (including the relevant conditions in the licence), I do not consider that the interactions identified are likely to cause or exacerbate any potentially significant environmental effects of the activity.

16.4 Reasoned Conclusion on Environmental Impact Assessment

Having regard to the impacts (and interactions) identified, described and assessed above, I consider that the mitigation measures proposed will enable the activity to operate without causing environmental pollution. I also consider that the potential impacts on the environment identified above, even if they occur, are unlikely to damage the environment, and the risk of them occurring is not unacceptable.

17. Recommended Determination (RD)

The RD specifies the necessary measures to provide that the installation is operated in accordance with the requirements of Section 83(5) of the EPA Act 1992 as amended, and has regard to the appropriate assessment and environmental impact assessment documented in this report. The RD gives effect to the requirements of the Environmental Protection Agency Act 1992 as amended and has regard to submissions made.

18. Charges

The annual enforcement change recommended in the RD is €10,772, which reflects the anticipated enforcement effort required and the cost of monitoring.

19. Recommendation

I recommend that a Proposed Determination be issued subject to the conditions and for the reasons as drafted in the RD.

Signed

Ewa Babiarczyk

Procedural Note

In the event that no objections are received to the Proposed Determination of the application, a licence will be granted in accordance with Section 87(4) of the Environmental Protection Agency Acts 1992 as amended as soon as may be after the expiration of the appropriate period.

Appendix 1

Table 1: Assessment of the effects of the activities on Lower River Suir SAC and proposed mitigation measures

European Site (site code)	Lower River Suir SAC (Site code: 002137)
Conservation objectives	As per NPWS (2015) Conservation objectives for Lower River Suir SAC [002137]. Generic Version 4.0. Department of Arts, Heritage and the Gaeltacht (dated 13/02/2015).
Distance and Direction from facility	240 m East and North East of the installation
Qualifying interests (* denotes a priority habitat under the Habitats Directive)	**Assessment**
Habitats (water dependent [Note 1]): • Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330] • Mediterranean salt meadows (*Juncetalia maritimi*) [1410] • Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation [3260] • Hydrophilous tall herb fringe communities of plains and of the	**Emission to Water** The Water Framework Directive Status (2010-2012) shows that water quality in the Middle Suir Estuary is moderate adjacent to and downstream of the installation. Any change in water quality has the potential to impact on water dependant habitats and species. **Conclusion:** The only emission to water authorised from the installation is of storm water which will be treated via a silt trap and oil separator (Condition 3.20). All contaminated runoff arising onsite will be contained and recirculated into the processes or sent for treatment off-site. The discharge of storm water to surface water will be required to comply with trigger levels required to be set in accordance with Condition 6.15.2.

montane to alpine levels [6430] • Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*)* [91E0] **Habitats** (not categorised as water dependant [Note 1]**):** • Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles [91A0] • *Taxus baccata* woods of the British Isles* [91J0] **Species** (water dependent [Note 1]**):** • Freshwater Pearl Mussel *(Margaritifera margaritifera)* [1029] • White-clawed Crayfish *(Austropotamobius pallipes)* [1092] • Sea Lamprey *(Petromyzon marinus)* [1095] • Brook Lamprey *(Lampetra planeri)* [1096] • River Lamprey *(Lampetra fluviatilis)* [1099] • Twaite Shad *(Alosa fallax fallax*	The licensee is required to have regard to the Environmental Protection Agency "*Guidance on the setting of trigger values for storm water discharges to off-site surface waters at EPA IPPC and Waste licensed facilities*" when establishing trigger levels. This guidance requests the licensee to have regard to the status of and the possible impacts on the receiving water when setting trigger levels. Condition 3.15.3 requires any storm water that exceeds these trigger levels to be diverted for retention prior to disposal off site. Condition 2.2.2.10 requires the licensee to implement procedures to ensure corrective and preventative action is taken should the specified requirements of the licence not be fulfilled to prevent a recurrence of the breach. Condition 8.3 requires the establishment of waste characterisation and acceptance procedures which will ensure that all wastes arriving at the facility are handled in such a manner so as to prevent any impact on the European Sites. Condition 3.26.2 requires that the installation's yard is concreted and Condition 8.4.1 requires that waste storage and processing takes place inside buildings. An emergency response procedure is required under Condition 9.2, while Condition 9.4.2 provides for all significant spillages to be treated as an emergency. The setting of trigger levels for any potential storm water discharge in accordance with the above guidance document will ensure that the status and impact of the receiving water is taken into consideration. This shall ensure any discharge will comply with the requirements of the *European Communities Environmental Objectives (Surface Water) Regulations, 2009, as amended*, and as a consequence contribute towards the receiving waters achieving 'good' status as required under the Water Framework Directive; therefore, protecting the qualifying interests of this European site. **Emission to Air** There will be eight point emissions to air from the installation. As described in Section XX of this report, these emissions have been modelled and the RD specifies the limit values on these emissions.

) [1103] • Salmon *(Salmo salar)* [1106] • Otter *(Lutra lutra)* [1355]	Air dispersion modelling has confirmed that emissions to air from the installation will not lead to a breach of an air quality standard. The RD proposes emission limit values on the discharges to air and includes a range of conditions that will limit any impact on air quality. Traffic will be associated with the delivery of feedstock and the removal of digestate and compost. This is likely to create dust nuisance and potentially escape of waste material onto roadways. **Conclusion:** Dust deposition will be monitored at locations just inside the facility boundary and this monitoring is required to demonstrate that dust deposition levels specified in the licence are not exceeded. Preventative and corrective measures are required to be put in place for an exceedance of dust deposition levels at these locations. Accordingly, there will be no risk of dust having an adverse effect on the integrity of the European Site. Condition 6.17.2 requires all waste vehicles to be covered. Condition 5.7 requires the licensee to ensure dust associated with the activity does not result in an impairment of, or interference with, amenities or the environment at the facility or beyond the facility boundary. Schedule C.6.1 requires dust deposition to be monitored a quarterly basis. Schedule B.1.3 sets a dust deposition limit which the results of this monitoring should be under. Condition 2.2.2.10 requires the licensee to implement procedures to ensure corrective and preventative action is taken should the specified requirements of the licence not be fulfilled to prevent a recurrence of the breach. The above measures will protect the qualifying interests of the SAC from dust deposition associated with the activity. **<u>Noise Emissions</u>** Noise will be associated with the movement of waste vehicles and operation of machinery. **Conclusion:**

	Condition 8.4.1 requires all waste processing to take place inside buildings. Condition 4.6 requires noise from the facility not to give rise to sound pressure levels measured at the noise sensitive locations which exceed limit values. Schedule C.5 specifies monitoring requirements for noise. Schedule B.4 sets daytime, evening time and night time noise emission limits which the results of this monitoring should be under. Condition 2.2.2.10 requires the licensee to implement procedures to ensure corrective and preventative action is taken should the specified requirements of the licence not be fulfilled to prevent a recurrence of the breach. The above measures will protect the qualifying interests of the SAC from noise emissions associated with the activities; therefore, protecting the qualifying interests of this European site. **Potential for Accidents to Arise** There is the potential for accidents and emergency situations arising at a composting and anaerobic digestion installation resulting in contamination of groundwater and surface water, and pollution of air. **Conclusion:** Condition 6.11 requires silt traps and oil separators to be inspected weekly and desludged as necessary. A storm water retention facility is also required by the licence for storm water that exceeds trigger limits. An accidental discharge of untreated storm water is unlikely as Condition 2.2.2.14 requires a maintenance programme which includes preventative maintenance. Taking the above into consideration the discharge of untreated storm water into the Middle Suir Estuary is unlikely and the overall risk is low. Condition 3.15.3 requires storm water that exceeds trigger levels to be retained for suitable disposal. Condition 3.26.2 requires the installation's yard be concreted. Condition 2.2.2.10 requires the licensee to implement procedures to ensure corrective and preventative action is taken should the specified requirements of the licence not be fulfilled to prevent a recurrence of the breach. An emergency response procedure is required under Condition 9.2, while Condition 9.4.2

	provides for all significant spillages to be treated as an emergency. The above measures will protect the SAC from accidents associated with the activity; therefore, protecting the qualifying interests of this European site.

Note 1: Environmental RTDI Programme 2000 - 2006. Water Framework Directive – Water Status: Identification and Ranking of Nature Conservation Designated Areas (2002-W-DS-10) Final Report.