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Signed: Joe Sean Kearney ***Date: 29/09/2016***

OFFICE OF ENVIRONMENTAL SUSTAINABILITY

INSPECTOR'S REPORT ON A LICENCE APPLICATION

To:	Directors	
From:	Caroline Murphy	**- ENVIRONMENTAL LICENSING PROGRAMME**
Date:	29th September 2016	
RE:	Application for an Industrial Emissions Licence from **Timoleague Agri Gen Limited** for an installation at **Barryshall, Timoleague, Bandon, County Cork**, Licence Application Register **P0986-01**.	

Application Details	
Licence application received:	6th November 2013
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:	511659
EIS received:	Yes – see sections 3 and 14 of this report.
Submissions received:	4
Site notice inspected:	6th March 2014

1. Installation and applicant

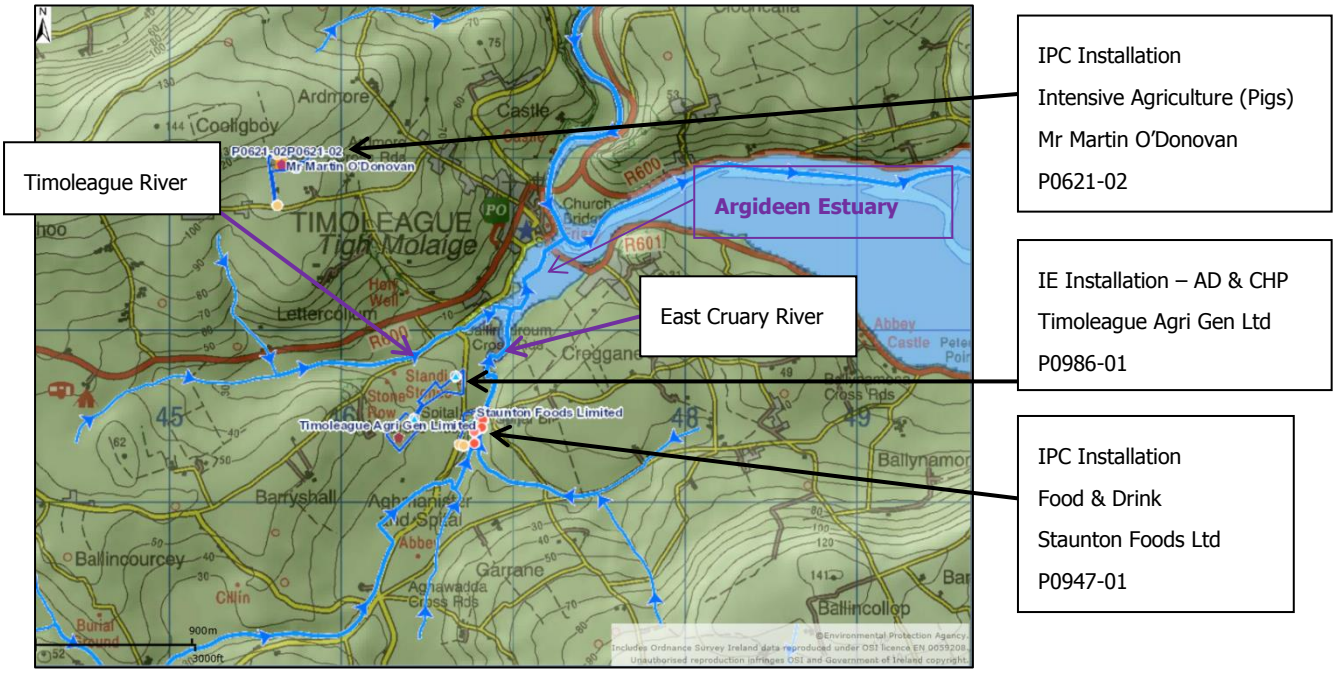
Timoleague Agri Gen Limited has been registered as a company since the 5th April 2012 (Company Registration Office Number 511659). The company proposes to construct a wet Anaerobic Digestion (AD) facility and a Combined Heat Power (CHP) plant on a 3.67Ha green field site. The site is in a relatively low lying rural location where agriculture is the dominant industry. Mr Colin Bateman (Company Director) owns the site of the proposed installation and the farm and dwelling house less than 150m west of the installation. The site is located 300m from the nearest local road and 1.5Km from Timoleague village. A pig

slaughtering installation (Staunton Foods Ltd, P0947-01) is located approximately 300m from the entrance of the proposed AD installation.

Mr Martin O'Donovan (Company Director) has over 30 years' experience in pig production. He owns a licensed pig rearing activity at an Integrated Pollution Control installation (P0621-02) approximately 1.5km north of the proposed installation. Pig slurry from this installation will be transported to the proposed AD installation for use as feedstock. Pig slurry will form just under half of the AD installation's annual waste intake.

The proposed activities have the potential to provide for 2 full time and 1 part time jobs at the installation.

Figure 1 Overview of the location of the installation



The installation is planned to comprise of a reception building with a reception tank, a homogenisation tank, two digesters, three liquid digestate storage basins, a solid fibre storage building, a gas purifier, a gas utilisation engine in a CHP plant, a flare, a hot water tank and a transformer. An integrated constructed wetland is proposed to treat stormwater from the surface area of the installation. This installation is proposed to be constructed in 2016.

Figure 2: Site layout - detail view

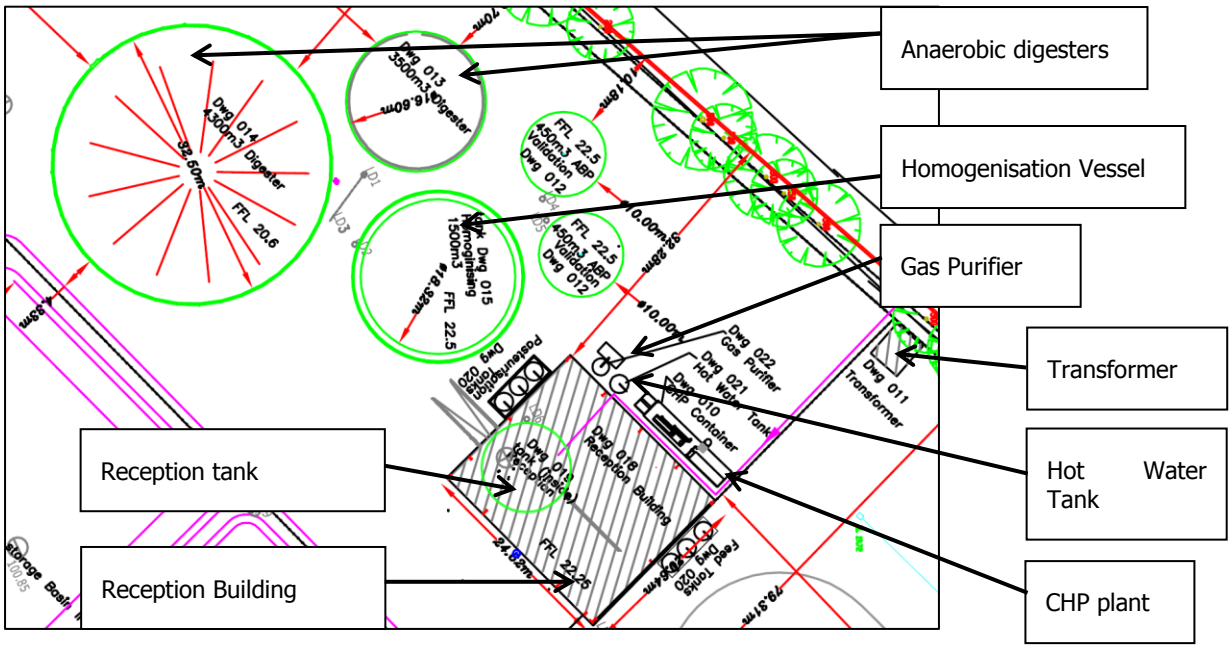
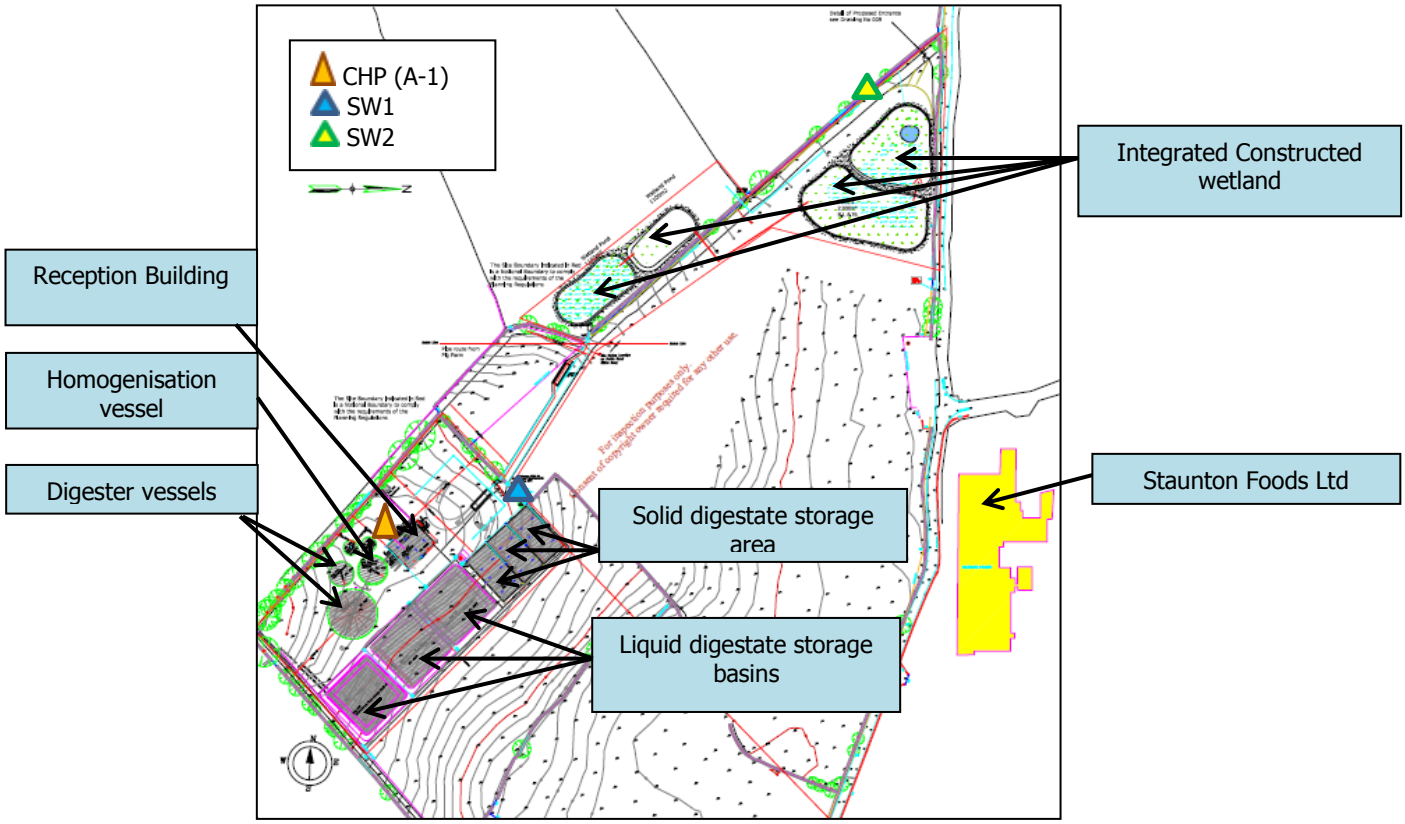


Figure 3: Site layout -overview



The applicant proposes to accept 48,500 tonnes of waste per annum. The proposed waste streams are outlined in Table 1 below.

Table 1: Waste acceptance

Non-hazardous biodegradable waste type	Proposed max. (tonnes/annum)
Agricultural (pig slurry)	23,000 t/a
Industrial & Commercial: Seaweed; dairy flotation sludge; feedmill, fruit and vegetable residuals; Slurry from fish manufacturing; pig and cattle paunch; fat trap waste; draff from beer production; and bread.	25,500 t/a
Total	48,500 t/a

2. Process description

Non-hazardous biodegradable waste from agricultural, commercial and industrial sectors will be accepted at the installation. Waste will either be piped into three outdoor storage tanks adjacent to the reception building or tipped directly into the underground reception tank inside the reception building. All waste is mixed in the reception tank until it's pumpable and then it is routed to the heated homogenisation tank. The reception tank is covered and fitted with tipping aprons.

The mixed waste is transferred on a batch basis to the pasteurisation tank via a heat exchanger. Once pasteurised the waste is routed back through the heat exchanger to ensure its temperature decreases prior to entering the primary digester. The primary digester will operate under thermophilic conditions and the secondary digester will operate under mesophilic conditions.

Digestate is then decanted in the fibre building and is separated into solid and liquid fractions. The liquid fraction will be piped and stored in three geomembrane lined basins and the solid fraction will be stored in the fibre building. Both fractions are planned to be used as an agricultural bio-fertiliser. ***Schedule E*** sets out the Agency's Standards for Digestate Quality. *Schedule E* requires the residual biogas potential of the digestate to be ≤ 0.45 l biogas/g volatile solids as a measure of stability. This stability test reflects the requirements of the Publicly Available Standard (PAS) 110:2014 *Specification for whole digestate, separated liquor and separated fibre derived from the anaerobic digestion of source-segregated biodegradable materials (British Standards Institution, 2014).*

Biogas production will take place in both anaerobic digesters. In the primary digester the gas produced occupies the void at the top of the digester tank which has a fixed steel rigid roof; the accumulated gas is piped to the CHP unit. The secondary digester is a steel tank with a double membrane cover.

Gas collected from the homogenisation tank, the primary digester and the secondary digester is routed to a gas purifier before being introduced to the gas engine in the Combined Heat and Power (CHP) plant. The gas purification system reduces the sulphur concentration in the gas to below 75ppm before entering the engine. The gas scrubber will be rinsed down periodically. The accumulated sulphur is diluted in the wash water (100 to 200 litres per flushing) and is pumped to the liquid digestate basins where sulphide becomes a trace element in the final digestate which is used as agricultural fertiliser.

Conversion of gas to electricity and heat is done in a CHP unit which consists of an internal combustion engine coupled with an alternator. The biogas is delivered to the engine using air pressure generated by the double membrane cover on the secondary digester. The gas utilisation engine (1.2MW) will produce approximately 1.1MW of electricity and 1.25MW of heat. The electricity will be exported off-site to a dedicated grid connection on a continuous basis. Electricity produced will also be used at the installation. Water used to cool the engine provides the heat for the digestion process and for space heating. A flare will operate as a stand-by for the CHP engine during maintenance.

The biological waste treatment processes operate continuously. The applicant proposes to accept waste from Monday to Saturday including bank holidays from 0700 to 1900. **Condition 1.5** provides for this.

The RD provides for the acceptance of animal by-products at the installation. **Condition 1.8** requires the licensee to maintain evidence of its approvals from the DAFM.

Digestate storage basins:

Planning permission Register No. 13/00083 granted for the installation includes the construction of three geomembrane lined storage tanks.

The applicant proposes to install the three liquid digestate storage basins in accordance with the requirements of the "*Minimum Specification for Geomembrane-lined Slurry/Effluent Stores, and Ancillary Works* (S126)" (Department of Agriculture, Food and the Marine (DAFM), November 2002). This specification includes the requirement for a 75mm layer of pea gravel on all basin floors, a geomembrane-liner and a leak detection layer which drains to an inspection chamber.

The BREF Document for Emissions from Storage (July 2006) requires these basins to be covered and to apply an impervious barrier of a flexible membrane or a sufficient clay layer (Section 5.1.3). Section 4.1.9.1 recommends a clay layer to contain at least 20 – 30% clay to be sufficiently impermeable and to ensure the clay is compacted to a minimum of one meter thickness and a maximum permeability of $1x10^{-9}$ m/s.

Taking the above requirements into consideration the RD imposes the following requirements:

- ***Schedule D*** *includes the construction of the storage basins as Specified Engineering Works* and **Condition 3.3** requires these works to be supervised by a competent person and to be validated.
- **Condition 3.14.7** requires that all basins comprise a fully enclosed impervious synthetic membrane liner, underlain with a leak detection system and clay layer that meets the BAT specification listed above. This condition also requires the basins to meet the requirements of DAFM Specification No. S126.
- **Condition 6.10** requires the basins to be integrity tested. A failure will be regarded as an incident.
- ***Schedule C.2.2*** requires a visual inspection of the leak detection system inspection chamber daily for liquid accumulation. Any indication of leakage shall be regarded as an incident.
- **Condition 3.14.9** requires all connections and pipework into and out of the lined basins to be above ground and accessible at all times.

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. An EIS was submitted by the applicant in support of this IE licence application on the 6th November 2013.

3.2 Planning status

One valid planning application (Register no. 13/00083) was made by the applicant for the area within the installation boundary. Details of this planning application and permission have been provided in the application form. Cork County Council required an Environmental Impact Statement (EIS) in support of planning application register no. 13/00083 and this EIS was submitted with this licence application. In its assessment Cork County Council concluded that "*the nature of the impacts arising are amenable to mitigation and that the residual impacts arising can be assessed as not significant.*" Planning permission was granted in September 2013 and this planning permission relates to the activity the subject of this licence application.

Mr Colin Bateman was granted planning permission on the 10th July 2013 (Register No. 1390) for the development of a glasshouse facility on the farm adjacent to the installation. The applicant had originally planned to pipe carbon dioxide and heat to the glasshouse facility from the installation; however, the applicant has since confirmed that this is not a viable option at this time and it has not been proposed to proceed with this activity. As a result of this decision the glasshouse facility has not been further considered in the EIA.

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 Regulations 7, 10(2)(b)(ii) and 11(2)(b) of the EPA (Industrial Emissions)(Licensing) Regulations 2013:

1. Newspaper, site and planning notices;
2. Clarification regarding site boundary;
3. Drawings relating to monitoring and emissions point;
4. Emissions management, abatement and air dispersion modelling;
5. Groundwater quality;
6. Operational processes;
7. Appropriate assessment;
8. Relevant hazardous substances;
9. ELRA, DMP and financial provision;
10. Best Available Techniques (BAT);
11. Planning permissions;
12. Application fee.

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 Cork County Council in relation to the impacts assessed by it, in particular the planner's report and the decision dated 3rd September 2013 (Register No. 13/00083).

I consider the issues that interact with the matters that were considered by the above authorities and which relate to the activity in Section 14 of this report.

Having considered the application and EIS, the submission 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 14 below.

3.4 Consultation with Competent Authorities

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

Consultation	**Date**
Request for observations on EIS issued:	18th November 2013, 4th June 2014* and 27th July 2015* to the Planning Section of Cork County Council. *relating to further information.
Response to the request for observations on EIS received:	19th December 2013, 12th August 2014 and 17th August 2015 from the Planning Section of Cork County Council.

Cork County Council had no observations to make in relation to the licence application and the Environmental Impact Statement. The Council submitted a copy of the planner's report and the final grant of planning permission. The information submitted by the Council was noted.

4. Submissions

Four 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.

4.1 <u>Submission from Peter Sweetman & Associates (received 17 December 2013):</u>

Mr Sweetman stated that "*it appears that this development does not have planning permission oe* [or] *EIA from An Bord Pleanála or the Planning Authority. The criteria in the NIS is wrong see attached*." Mr. Sweetman attached the Opinion of Advocate

General Sharpston delivered on 22 November 2012 (1) Case C 258/11 and the corresponding Judgement of the Court (Third Chamber) 11 April 2013.

Comment:

- Cork County Council granted planning permission for the AD facility on the 3rd September 2013 (Register No. 13/00083).
- Cork County Council carried out an Environmental Impact Assessment and this is documented as part of the Planner's Report dated the 25th July 2013. In this report Cork County Council confirmed that it considered the EIS, submitted on the 24th May 2013, to comply with Article 94 of the Planning and Development Regulations, 2001, as amended.
- Appropriate assessment is dealt with in section 11.7 below.

4.2 <u>Two submissions were received from the Department of Agriculture, Food and the Marine (received 18 December 2013 & 28 May 2014):</u>

The Department highlighted that in addition to the licence issued by the Agency, that the proposed operations at the installation will be regulated, as appropriate, by the:

- Animal By-Products Regulations (Regulation (EC) No. 1069/2009);
- Commission Regulation (EU) No. 142/2011[1];
- EC (Transmissible Spongiform Encephalopathies and Animal By-products) Regulations 2008 (S.I. No. 252 of 2008 (as amended));
- DAFM Farm Building and Structures Specifications;
- The Regulations and guidelines pursuant to the Nitrates Directive 91/676/EEC, the Water Framework Directive 2000/60/EC and the Groundwater Directive 2006/118/EC; as implemented by the DAFM;
- European Union (Good Agricultural Practice for Protection of Waters) Regulations 2014 (S.I. No. 31 of 2014).

Comment:

The above Regulations/specifications are the remit of the DAFM. Compliance with the Water Framework Directive and the Groundwater Directive are also dealt with in section 11 of this report.

4.3 <u>Submission from the Health Service Executive (HSE) (received 24 January 2014):</u>

The issues raised by the HSE are commented on under the headings below.

(i) Human Health:

- Consultation or information provided to the public should be described in the EIS.
- The HSE have highlighted that a noise impact assessment may need to be completed when the installation is operational, which takes into consideration nearby residential dwellings.

[1] Commission Regulation (EU) No. 142/2011 of 25 February 2011 implementing Regulation (EC) No. 1069/2009 of the European Parliament and of the Council laying down health rules as regards animal by-products and derived products not intended for human consumption and implementing Council directive 97/78/EC as regards certain samples and items exempt from veterinary checks at the border under that Directive.

- The HSE have highlighted their concerns regarding the proximity of the installation to wells being used as sources of drinking water, the potential risk of accidental spillages at the installation which may impact groundwater quality and the method of monitoring of water from wells.

  Comment:

  - The applicant complied with the requirements with respect to the publishing of a newspaper notice and the erection of a site notice. Both notices indicated that an EIS would form part of the licence application and specified that the application for a licence may be inspected on the Agency's website.
  - Noise emissions from the installation are dealt with in section 6.7 below. Periodic noise monitoring is proposed in the RD (**condition 6.16**).
  - ***Schedule C.6.2*** of the RD recommends groundwater monitoring at the private well on the farm adjacent to the installation. The requirement to treat significant spillages as an emergency is specified in **Condition 9.4.2** of the RD. **Condition 3.21** of the RD requires high liquid level alarms to be fitted in any chambers from which a spillage of a quantity of environmentally significant materials is likely to breach local or remote containment. The scope of this condition includes the digestate storage basins. **Condition 9** of the RD requires the licensee to maintain an accident prevention procedure and an emergency response procedure. **Condition 6.3** of the RD requires sampling to be carried out in accordance with CEN-standards or if not available, ISO, national or international standards.

(ii) Hydrogeology:

- The HSE have stated that *"Any areas of the site susceptible to flooding may need to be determined" and "Potential drainage issues affecting the site may need to be described".*
- The HSE feel that "*during the construction phase, any sanitary accommodation provided for staff must be handled in such a way as to protect ground water"*.

Comment:

- These are matters for the planning authority.
- There are no proposed emissions to ground from this installation.

(iii) Pest Control:

- The HSE stated that a pest control program should be in place on the premises during construction of the plant and the operation of the plant and a bait map retained.

Comment:

- **Condition 5.7** of the RD states that the licensee shall ensure that vermin 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.

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 document (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; and (iii) the inclusion of **Condition 3.14.7** to address the requirements of BAT Conclusion number 5.1.3 in the BREF Document for Emissions from Storage (July 2006) regarding the use of basins. **Condition 3.14.7** requires all basins used for the storage of liquid digestate to be impervious to the material being stored, be fully enclosed and to be underlain by an impervious barrier.

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

Point-source emissions to atmosphere will arise at the installation. There are three emission points proposed, as follows:

- A-1: CHP gas engine;
- A-2: CHP biogas flare (standby);
- A-3: Biofilter.

Condition 3.9 requires the installation of odour management infrastructure. **Condition 6.14** requires the applicant to maintain and implement a programme to demonstrate negative pressure and building envelope integrity.

Odour dispersion model

The impact of emissions from the odour control unit (A-3) was modelled for odour impact at the eleven receptors numbered R1 – R11 shown in the figure 4 below. The odour control unit consists of a biofilter and this biofilter will treat extracted air from the reception building and the fibre stores. The AERMOD prime model was used and the applicant followed the methodology outlined in the Agency Guidance Note AG4[2].

[2] Air Dispersion Modelling from Industrial Installations Guidance Note (AG4), EPA 2010.

A summary of the odour modelling results is set out in Table 2 below and this predicts that there will be no impact due to odour emissions from the installation.

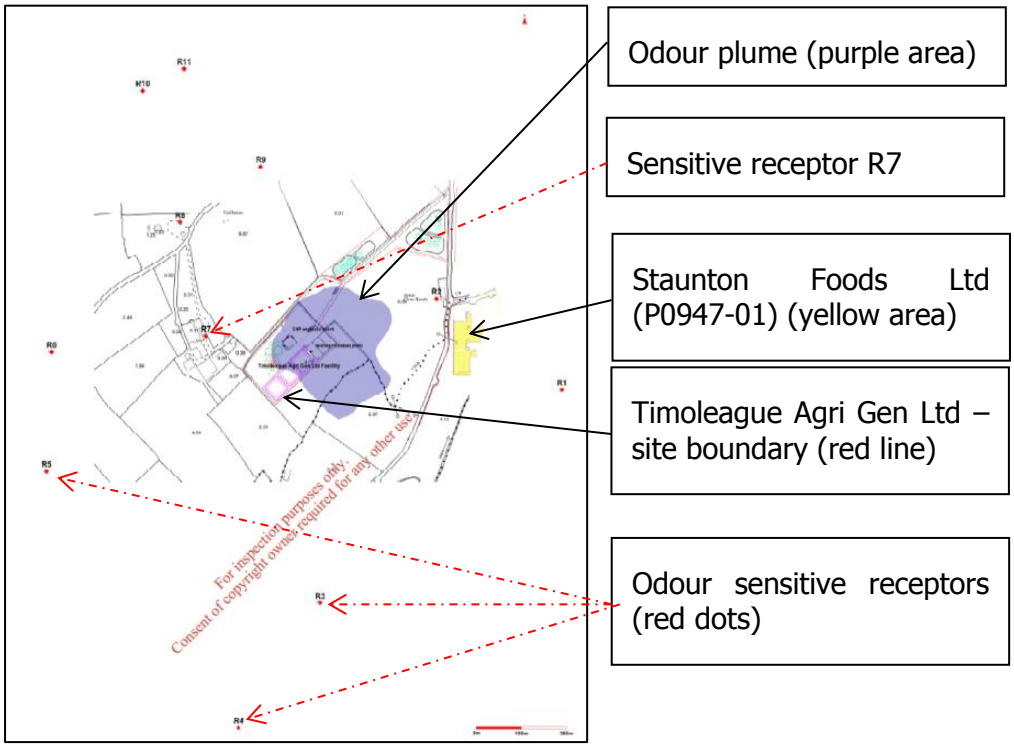
Table 2 Summary of Odour Dispersion Modelling Results

Emission Point	Odour Emission Concentration Note 1 (OU_E/m^3)	Maximum Predicted Concentration at Receptor Locations 98th Percentile of 1-hour averages (OU_E/m^3)										Ambient Criterion (OU_E/m^3)
		R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	
A-3	1,000	0.37	0.87	0.10	0.02	0.02	0.04	0.38	0.12	0.31	0.04	0.12	1.5 Note 2

Note 1: Dispersion model input value.
Note 2: Ambient standard from EPA guidance (AG4).

The emission concentration modelled was 1000 Ou_E/m^3 and this is 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 input factors used in the dispersion model resulted in predicted odour concentrations at the 11 surrounding sensitive receptors below 1.5 Ou_E/m^3. Taking this into consideration the emission limit value recommended in ***Schedule B.1*** is as set out in Table 2.

Figure 4 Location of Potential Odour Receptors (red dots) and the odour plume (purple area).



The Agency's *Air Dispersion Modelling from Industrial Installations Guidance Note (AG4)* sets 1.5 Ou_E/m^3 (98th 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 1.5 Ou_E/m^3 or less extending 150-200m to the north, 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 98th percentile of hourly averages. The highest modelled value for odour at a sensitive receptor is 0.87 Ou_E/m^3.

Air dispersion model

Modelling results for combustion gases from the gas engine (A-1) 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 3 Air dispersion modelling

Parameter	Averaging period	Process contribution (µg/m³)	Baseline Conc. Value (µg/m³)	Baseline + process contribution (µg/m³)	Limit as per S.I. 180 of 2011 Note 1 (µg/m³)	% of the ambient standard
Nitrogen oxides (as NO_2)	1 hour max. 99.79th %tile	34	22	56	200	28
	Max. annual average	3.4	11	14.4	40	36
Carbon monoxide	8-hour max.	213	300	513	10,000	5.13
Sulphur dioxide	1 hour max. 99.73th %tile	92	6	98	350	28
	24 hour max. 99.18th %tile	40	3	43	125	34.4
	Max. annual average	5	3	8	20	40
Total particulates	As PM_{10} 24 hour max. 90.40th %tile	1.9	15	16.9	50	33.8
	As PM_{10} Max. annual average	0.5	15	15.5	40	38.75

	As $PM_{2.5}$ Max. annual average	0.5	15	15.5	25	62
Total Non - Methane Volatile Organic Compounds	As Benzene Max. annual average	0.7	0.5	1.2	5	24
Hydrogen sulphide	1 hour max. 100th %tile	1.3	-	1.3	7	18.6

Note 1: The WHO Air Quality Guidelines for Europe recommend a guideline limit for Hydrogen Sulphide of 7µg/m^3 (with a 30 minute averaging period) to avoid substantial complaints regarding odour annoyance.

The air dispersion model provided by the applicant didn't take into consideration the air quality standard for the protection of ecosystems from oxides of nitrogen specified in Schedule 13 of the Air Quality Standards Regulations 2011. The quality standard sets a limit of 30µg/m^3 as an annual average for oxides of nitrogen as a critical level for the protection of ecosystems. It is clear from the table above that an annual average of 30µg/m^3 is not exceeded (14.4µg/m^3).

For the control of SO_2 emissions from the CHP engine, the applicant intends scrubbing H_2S out of the biogas before combustion.

Sensitive receptor number R7 is near the plume in the contour plots for CO, NO_2 and SO_2. Receptor number R7 is within the plume in the contour plot for H_2S. Receptor number R7 represents the dwelling house and farm to the west of the installation owned by a Director of Timoleague Agri Gen Ltd. The predicted level of exposure within each of the plumes for CO, NO_2 and SO_2 are below the ambient standard as demonstrated in Table 3 above. The predicted level of exposure to H_2S within the plume over this receptor is not predicted to cause an exceedance of the odour annoyance threshold of 7µg/m^3. In addition, as described above, none of the receptors are predicted to experience more than 1.0 Ou_E/m^3.

To limit the air emissions from these point sources ***Schedule B.1*** *Emissions to Air* of the RD includes limit values for emissions from all scheduled emission points. The emission limit values are based on what was modelled by the applicant. ***Schedule C.1.2*** *Monitoring of Emissions to Air* of the RD stipulates the monitoring requirements for these emission points.

Medium Combustion Plant Directive

The biogas engine (1.2MW) is classified as medium combustion plant in accordance with Directive 2015/2193 on the limitation of emissions of certain pollutants into the air from medium combustion plants. The Directive is required to be transposed into national law by December 2017. The Directive sets emission limit values for nitrogen oxides and sulphur dioxide and the dates by which they will become applicable. ***Schedule B.1*** of the RD reflects the requirements of the Directive and provides different implementation dates depending on whether the combustion plant, when installed, is defined as 'existing combustion plant' or 'new combustion plant'. These terms are defined in the Directive. It is noted that the applicant modelled a lower emission value than the Directive would allow for oxides of nitrogen; however, a higher value for sulphur dioxide, as follows:

Parameter	Modelled emission value	Directive's limit value
NOx as NO_2	500 mg/m^3	650 mg/m^3
Sulphur dioxide	500 mg/m^3	200 mg/m^3

The modelled emission values are retained in Column A of *Schedule B.1.1* the RD. The emission limit values listed in Columns B and C are applicable to existing combustion plant as of the 01/01/2025 and to any new combustion plant as of the 20/12/2018 respectively.

6.2 Emissions to Sewer

There will be no emissions to sewer from this installation.

6.3 Emissions to Water

6.3.1 Process Effluent

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

6.3.2 Storm Water

Storm water from building roofs and yard areas will be collected and discharged to land drain at locations SW1 and SW2 respectively.

The discharge at SW1 will comprise of rain water run-off from the roofs of the buildings and structures on-site. The discharge at SW2 will comprise run-off from the paved yard areas around the installation.

It has been proposed that storm water run-off from yard areas at the installation will be directed to an Integrated Constructed Wetland (ICW) for treatment. The ICW design provides for four wetland ponds each of which will have a soil liner comprising 1.0m of cohesive subsoil material with the upper 0.5m having a permeability of less than $1X10^{-8}$m/s. **Condition 6.1.1** of the RD requires any ICW to be operated in accordance with a test programme which covers three growing seasons. The criteria determined by the test programme are required to be incorporated into the standard operating procedures. **Condition 3.28** requires a programme for inspection and maintenance of the constructed wetland. **Condition 3.19** requires all storm water run-off from yard areas to pass through a silt trap and oil separator prior to discharge. After treatment storm water from yard areas will discharge to land drain at location SW2. **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.

The storm water discharges to land drain at locations SW1 and SW2 and subsequently discharge to the East Cruary River. This river flows into the Argideen Estuary which is included in Courtmacsherry Estuary SAC and Courtmacsherry Bay SPA. These designated areas are discussed further in section 11.7.

6.4 Emissions to ground or groundwater

There are no direct or indirect process emissions to ground or groundwater from this installation.

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 applicant did not carry out soil and groundwater monitoring as the site is a greenfield site that to-date has been used for agricultural purposes. Geological and hydrological qualitative baseline conditions were confirmed in the report. Fuel has been identified as a relevant hazardous substance and the installation site will be required to be free from traces of fuels and its constituents on closure.

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 installation will accept and process biodegradable waste to maximise energy recovery through the production of renewable energy and fertiliser.

Where the digestate is produced in accordance with, and meets the requirements of, an agreed quality standard, it will be used as a fertiliser. **Condition 8.8** states what actions must be taken with digestate that does not meet the agreed quality standard.

Overall any waste generated from the treatment of waste will be managed in accordance with the conditions of the RD.

6.7 Noise

A noise monitoring report was completed and demonstrated that noise levels measured at two off-site noise sensitive locations were predominantly from Staunton Foods (IPC Licence Register No. P0947-01), a pig processing facility east of the installation, and a local road (L-4021-0) southwest of the installation. The major sources of noise are predicted to be from lorry movements, the unloading of feedstock and the removal of digestate. The mechanical noise from the installation will normally be limited to that of electric motors driving pumps and ventilation systems. The applicant has proposed noise mitigation measures which include:

- All treatment will take place in closed buildings and vessels. Buildings will be designed to reduce noise transmissions and tanks will be fully covered;
- The site will be designed with acoustic barriers;
- External motors will be housed in sound proofed covers and the CHP Unit will be acoustically insulated; and
- All vehicles servicing the site will be properly maintained.

The report predicted that noise would not be a source of nuisance from the installation due to the nature of the activities proposed and its distance from local sensitive receptors.

Schedule B.4 Noise Emissions of the RD specifies daytime, evening time and night-time noise emission limit values and ***Schedule C.5 Noise Monitoring*** requires noise levels from the installation to be monitored at noise sensitive locations.

6.8 Nuisance:

Given the nature of the activities at the installation, there is potential for nuisance. The RD includes controls in relation to prevention and monitoring of nuisance.

7. Use of Resources

The principal forms of imported energy other than biogas to be used at the installation are electricity and diesel.

It is estimated that 27m^3 of water will be required weekly. A well on the adjacent farm, owned by Mr Colin Bateman, will provide for the installation's water needs.

Condition 7 of the RD sets out the requirements with regard to resource use and energy efficiency.

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

The European Communities (Greenhouse Gas Emissions Trading) Regulations 2012 give further effect to the Emissions Trading Directive in Ireland. 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. The applicant has outlined that the installation will generate 1.1MW of electricity, some of which will be consumed on site and the remainder exported to the national grid. Taking this into consideration it does not appear that the proposed installation will require a Greenhouse Gas Emissions Permit.

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. In addition, the generation of electricity for consumption onsite and for input to the grid through the combustion of biogas will have a lower impact on climate than the use of fossil fuels.

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 3.14**);
- Requirement for basins to be covered and underlain by an impervious barrier (**Condition 3.14.7**)
- Class 1 petrol interceptors for storm water arising from within the installation (**Condition 3.19**);
- Requirement for all drainage from bunded areas to be diverted for collection and safe disposal, unless it can be deemed uncontaminated (**Condition 3.14**);
- Leak detection and alarm systems on gas and designated liquid transfer lines (**conditions 3.14.7, 3.21 and *Schedule C.1.1***);
- Accident prevention and emergency response requirements (**Condition 9**).
- Training of staff (**Condition 2.1.2**).

11. Compliance with E.U. Directives

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

11.1 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.

11.2 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 installation 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.

11.3 Water Framework Directive [2000/60/EC]

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

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.

11.4 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.

11.5 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.

11.6 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. The biogas engine (1.2MW) is

classified as medium combustion plant. The gas utilisation engine will produce approximately 1.1MW of electricity and 1.25MW of heat.

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

Appropriate Assessment

As shown in Table 4 below, there are five Natura 2000 sites within 9km of the installation:

Table 4: designated sites in the proximity of the installation

Natura 2000 Site	Site Code	Direction from Installation	Approximate Distance from the Installation (Km)
Courtmacsherry Estuary SAC Note 1 Courtmacsherry Bay SPA	SAC 001230 SPA 004219	Northeast	450m
Seven Heads SPA	004191	South	5
Clonakilty Bay SAC	000091	Southwest	5.6
Galley Head to Duneen Point SPA	004190	Southwest	9

Note 1: Special Area of Conservation (SAC) and Special Protection Areas (SPA).

Of the five designated sites listed above, Courtmacsherry Estuary SAC and Courtmacsherry Bay SPA are the only sites that are downstream and downwind[3] of the installation.

Courtmacsherry Estuary SAC contains coastal habitats including ten habitats listed on Annex I of the EU Habitats Directive. The occurrence of the EU priority habitat fixed dune, Red Data Book plant species and the area's population of birds is also of significance.

Courtmacsherry Bay SPA is an important site for wintering birds. It holds internationally important numbers of Black-tailed Godwit and nationally important numbers of a further eleven species, including three that are listed on Annex I of the EU Birds Directive, i.e. Great Northern Diver, Golden Plover and Bar-tailed Godwit.

Appendix 1 lists the European Sites assessed, their associated qualifying interests and conservation objectives along with the assessment of the effects of the activity on the European Sites.

A screening for Appropriate Assessment was undertaken to assess, in view of best scientific knowledge and the conservation objectives of the site, if the proposed activity, individually or in combination with other plans or projects is likely to have a significant effect on any European Site. In this context, particular attention was paid to the European Sites at Courtmacsherry Estuary SAC (site code 001230) and Courtmacsherry Bay SPA (site code 004219).

The proposed activity is 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 proposed activity, 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 proposed activity was

[3] Prevailing wind form the south-west.

required, and for this reason determined to require the applicant to submit a Natura Impact Statement.

The Agency determined that a Natura Impact Statement is required because rain water run-off is proposed to be discharged to a land drain which connects to a river which forms part of Courtmacsherry Estuary SAC (site code 001230) and Courtmacsherry Bay SPA (site code 004219).

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 proposed activity, individually or in combination with other plans or projects, will not adversely affect the integrity of any European Site, in particular the Courtmacsherry Estuary SAC (site code 001230) and Courtmacsherry Bay SPA (site code 004219), having regard to their conservation objectives and will not affect the preservation of these sites at favourable conservation status if carried out in accordance with this recommended determination and the conditions attached hereto for the following reasons:

- The installation is not located within a European Site.
- Noise and dust controls:
    - **Condition 8.4.1** requires all waste processing to take place inside buildings.
    - **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 installation or beyond the installation boundary.
    - ***Schedules B.1.3 and B.4*** of the RD sets dust deposition limits and daytime, evening time and night time noise emission limits for activities at the installation.
    - ***Schedules C.5*** **and** ***C.6*** of the RD requires noise and dust levels to be monitored respectively.
    - **Condition 1.9** requires the licensee to maintain evidence for inspection by the Agency that the land drain has been reinstated in accordance with the Natura Impact Statement between the months of May and August inclusive prior to commencing waste activities.
- Discharges to surface water:
    - The stormwater from both run-off collection routes, SW1 and SW2, are treated prior to discharge to land drain and these discharges will be required to comply with trigger levels (**Condition 6.15.2**).
    - ***Schedule C.3.3*** only permits stormwater to be discharged at SW1 and SW2 once the land drain has been reinstated in accordance with the measures required by the Natura Impact Statement (August 2006) and requires the subsequent monitoring of the oil interceptors and silt traps associated with discharges SW1 and SW2. *Schedule C.3.4* requires the monitoring of storm water emissions from SW1 and SW2.
    - **Condition 1.9** requires the licensee to maintain evidence for inspection by the Agency that the land drain has been reinstated in accordance with the Natura Impact Statement between the months of May and August inclusive prior to commencing waste activities.
- Discharges to atmosphere:
    - **Condition 3.9.3** requires the odour control system to maintain a 100% duty and 50% standby capacity.
    - ***Schedule C.1.1*** requires the gas engine to maintain a continuous burn of biogas and for the flare to automatically ignite when required. This schedule also requires air to be continually extracted from the indoors areas and for the bed media of the biofilter to be monitored for odour on a daily basis.
- Accidents:
    - **Condition 3.25.2** requires that the installation's yard is concreted and

Condition 8.4.1 requires that waste treatment and storage takes place inside buildings or enclosed vessels.

- **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.
- All tanks, containers and drum storage areas are required to be bunded (**Condition 3.14**). This reduces the risk of spillage of digestate or fuel into the ground around the installation.
- **Condition 3.14.7** requires below ground basins used for the storage of digestate to be covered, be underlain by an impervious barrier and to have a leak detection system installed over this barrier.
- **Condition 6.10** sets out the requirements for integrity testing of storage tanks and basins.
- 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.

In light of the foregoing reasons no reasonable scientific doubt remains as to the absence of adverse effects on the integrity of those European Sites Courtmacsherry Estuary SAC (site code 001230) and Courtmacsherry Bay SPA (site code 004219).

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. Fit & Proper Person Assessment

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

Technical Ability

The detail of the experience of the directors Mr Colin Bateman and Mr Martin O'Donovan has been provided. The directors intend to employ an installation manager with experience in managing this activity type. **Condition 2.1.1** requires that the installation manager is suitably qualified and experienced.

Legal Standing

Timoleague Agri Gen 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). In the ELRA, the costing of the 'Worst Case' Scenario was estimated to be €69,084. The estimated cost of the implementation of the CRAMP was €188,544. Conditions 10 and 12 require the applicant to review these plans having regard to up to date Agency guidance prior to the commencement of the acceptance of waste at the installation.

The RD, in **Condition 12.2.3**, requires the applicant to make financial provision to cover any liabilities associated with the operation prior to the commencement of the acceptance of waste at the installation.

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

14. 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.

14(a) Human Beings

Likely significant effect	Description of effect	Assessment addressed in section:
Socio-Economic	No significant negative impact predicted.	14(a)(i)
Traffic	Traffic and its associated emissions, risks and disamenity effects.	14(a)(ii)
Impact on air quality	Emissions of dust, odour, bio-filter and combustion engine off-gases, and bio-aerosols.	14(e)(i)
Noise	Disamenity from noise emissions due to licensed activities.	14(a)(iii)
Accidents	Emissions to the local atmosphere, ground and water bodies. Noise, odour and litter nuisance.	14(a)(iv)

Assessment of Effects on Human Beings

14(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 installation.

Mitigation Measures

The public awareness and communications programme required by Condition 2.2.2.13 will further reduce the likelihood of a negative impact on human beings.

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.

14(a)(ii) Traffic

The main source of noise at an installation of this type is from lorry movements both entering and leaving the site and unloading feedstock and removal of digestate.

There is a risk of dirty vehicles tracking dirt from the installation 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.

14(a)(iii) *Noise*

There will be vehicles, machines, a gas engine, 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).

The EIS highlights that the mechanical noise from the biological treatment process will be limited to that of electric motors and ventilation systems. If properly maintained it is predicted that this will not be a significant source of noise.

The Natura Impact Statement indicated that over-wintering birds may potentially be disturbed by noise emissions associated with the installation.

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 $L_{Ar,T,\ 30\ min}$. *Schedule C.5* of the RD requires noise levels to be monitored.

The applicant has proposed to reinstate the land drain, which is outside the site boundary, over 3 days during the construction phase of the installation which will result in a short term noise disturbance. The reinstatement of the land drain is planned to take place outside the overwintering period of wigeon, dunlin, lapwing, black-tailed godwit, black-headed gull and the common gull. As a consequence the land drain shall be reinstated between the months of May and August. Condition 1.9 requires the licensee, prior to the commencement of waste activities, to maintain evidence for inspection by the Agency that the land drain has been reinstated in accordance with the Natura Impact Statement between the months of May and August inclusive

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.

14(a)(iv) *Accidents*

There is a risk of an accident at the installation. 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.

A major accident such as spillage of liquid feedstock or digestate at the installation could have an adverse effect on water quality due to the high BOD of the waste. There is a risk of ground contamination if the geomembrane underground basins leak digestate. As discussed in section 10 there are a range of measures planned that will help to prevent accidents at the installation and limit their environmental consequences.

Mitigation measures

The RD requires the licensee to:

- employ a suitably qualified and experienced installation manager (Condition 2.1.1);
- complete a construction quality assurance validation for all specified engineering works which includes the construction of the installation and the storage basins (Condition 3.3 and Schedule D);
- ensure all tanks and containers are impervious to the materials stored therein and to be suitably bunded (Condition 3.14);
- ensure the provision of a leak detection system (Condition 3.22);
- 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 utilisation of a SCADA system to monitor operations, including automated alarms;
- the gas pressure in the AD system to be monitored continuously and to be fitted with an alarm;
- the continuous burn of the biogas engine to be monitored continuously and to be fitted with an alarm;
- automatic ignition of the flare;

- the continuous monitoring of the status of pressure relief valves on the AD system; and
- the monitoring of the geomembrane-lined basins.

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.

14(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 and associated noise emissions and visual disturbance. Discharge of rain water run-off to land drains which link to Argideen Estuary.	14(a)(iii) 14(b)(i) 14(d)(i) 14(g)(i)
Accidents	Emissions to the local atmosphere, ground and water bodies. Noise, odour and litter nuisance.	14(a)(iv)

Assessment of Effects on Flora and Fauna

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

The EIS confirmed that there are no habitats, flora or fauna on the installation site that requires specific protection. The only emission points from the installation will be rain water run-off and two emissions to air.

The Natura Impact Statement provided with the application identified emissions to water, noise emissions and visual disturbance as the most significant potential impacts on the SAC and SPA.

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

Mitigation Measures

The RD requires that all waste is stored in 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 installation. A daily inspection of the installation is also required for the detection of nuisances caused by vermin.

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

The mitigation measures discussed in Section 11.7 will ensure the designated sites identified in Appendix 1 will be protected from the risk of adverse impact due to storm water emissions to land drain, noise emissions and visual disturbance.

Conclusion

I am satisfied based on the above assessment; the mitigation measures proposed will prevent an occurrence of a significant adverse effect on flora and fauna.

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.

14(c) Soil

Likely significant effect	Description of effect	Assessment addressed in section:
Impact on soil.	Accidental spillage or discharge to ground.	14(c)(i)
Accidents.	Emissions to the local atmosphere, ground and water bodies.	14(a)(iv)

Assessment of Effects on Soil

14(c)(i) *Soil*

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

Underground geomembrane basins have the potential to leak and cause ground contamination.

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.

Condition 3.14.7 requires the geomembrane-lined basins to comprise of:

- a synthetic membrane liner which is impervious to the material being stored and is fully enclosed apart from controlled inlets and outlets;
- a 20 – 30% clay layer below the liner which is compacted to a minimum of 1m thickness with a maximum permeability of $1X10^{-9}$ m/s; and
- a leak detection system underneath the liner.

In addition to the above requirements the licensee shall install all basins in accordance with the requirements of the "Minimum Specification for Geomembrane-lined Slurry/Effluent Stores, and Ancillary Works (S126)" (Department of Agriculture, Food and the Marine (DAFM), November 2002).

Installation of a leak detection system and completion of basin integrity testing is required as discussed in Section 2 above.

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.

14(d) Water

Likely significant effect	Description of effect	Assessment addressed in section:
Impact on surface water.	Discharge of rain water run-off to land drain and Argideen Estuary.	14(d)(i)
Impact on groundwater.	Contamination of groundwater due to accidental spillage or discharge to ground.	14(d)(i)
Accidents	Emissions to the local atmosphere, ground and water bodies.	14(a)(iv)

Assessment of Effects on Water

14(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 installation. Spillages or deposited material on unsealed ground could result in contaminated water percolating to ground causing groundwater pollution.

Underground geomembrane basins have the potential to leak and cause ground contamination.

The Natura Impact Statement indicated that without mitigation measures being put in place at the installation that run-off could have high concentrations of nutrients such as nitrates and phosphates which could affect the *Tubificoides benedii* and *Hediste diversicolor* community complex in the mudflats and separately the vegetation communities supported by Atlantic salt marsh habitats. Also inputs of freshwater could affect the salinity of the estuary and have an adverse effect on the status of the mudflats and their interfaunal community and the vegetation associated with the salt marsh.

Mitigation Measures

Rain water run-off from roofs of buildings and structures will be passed through silt trap and oil interceptor prior to discharge to the surface water system and rain from yard areas will be treated via a constructed wetland prior to discharge.

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.

The RD requires all tanks to be rendered impervious to their contents and to be bunded. The installation and control of the basins is discussed in detail in section 2.

The RD prohibits any direct emission to ground or groundwater.

The NIS proposes that discharge of freshwater from the ICW to the land drain will be restricted to greenfield runoff rates which will ensure no localised increases of freshwater input in the river estuary.

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 3.19). It is also proposed to treat stormwater utilising an integrated constructed wetland. 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.

Schedule C.3.3 states that treated storm water shall only be discharged at the locations specified once the land drain has been reinstated in accordance with the measures required in the Natura Impact Statement.

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.

14(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.	14(e)(i)
Accidents	Emissions to the local atmosphere, ground and water bodies. Noise, odour and litter nuisance.	14(a)(iv)

14(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;
- 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.

14(f) Climate

Likely significant effect	Description of effect	Assessment addressed in section:
Release of climate altering substances.	Emission of greenhouse gases.	14(f)(i)

Assessment of Effects on Climate

14(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.

Mitigation Measures

Schedule C.1.1 requires the continuous operation of the gas utilisation engine and the continuous burn of the biogas produced in the waste treatment system. If either of these control parameters are not met the stand-by flare will automatically ignite. This ensures methane produced in the treatment system is utilised and not emitted to atmosphere.

Schedule B.1 has recommended emission limit values for oxides of nitrogen and total non-methane volatile organic compounds emissions from the CHP engine.

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.

14(g) Landscape, Material Assets and Cultural Heritage

Likely significant effect	Description of effect	Assessment addressed in section:
Visual impact on nature of landscape.	The installation is located in a rural area.	14(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.	14(g)(ii)

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

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

The development is adjacent to a farm and in an agricultural setting.

A visual impact assessment was carried out by the applicant and it was concluded that the visual vulnerability rating for this development is regarded as not vulnerable, the site has no visual impact on road users on the L-4021-0 local road and that overall the visual impacts are slight given that the proposed development is on an existing farm.

The Natura Impact Statement indicated that over-wintering birds may potentially be disturbed by visual disturbances associated with the installation.

There is planning permission in place for the construction of the installation.

Mitigation Measures

Visual impact is planned to be mitigated by:

- ensuring the colour of the external walls of the buildings blends with the surrounding landscape;
- designing the buildings to keep ridge heights low;
- ensuring the colour of the roof and side cladding of the roofs and feed silos is dark grey and green; and
- Conditions 2 and 3 of planning permission Reg. No. 13/00083 have regard to visual amenity of the installation.
- The applicant has proposed to reinstate the land drain, which is outside the site boundary, over 3 days during the construction phase of the installation which should ensure a short term visual disturbance. The reinstatement of the land drain is planned to take place outside the overwintering period of wigeon, dunlin, lapwing, black-tailed godwit, black-headed gull and the common gull. As a consequence the land drain shall be reinstated between the months of May and August. Condition 1.9 requires that the licensee, prior to the commencement of waste activities, maintains evidence for inspection by the Agency that the land drain has been reinstated in accordance with the Natura Impact Statement between the months of May and August inclusive.

The nearest residential dwelling, Barryshall House, is located approximately 150m southeast of the installation and has over 50 mature trees planted around the house. The ground level of the installation will be 3m lower than that of the house. Timoleague Agri Gen Ltd does not intend to remove any vegetation which would result in a visual impact to the house.

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.

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

There are no recorded monuments within the site boundary.

An assessment of impact on cultural heritage concluded that there is no predicted impact on any known archaeology or architectural heritage.

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.

14(h) Interaction of effects

I have considered the interaction between the factors referred to in Tables 14(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 and cultural heritage
Human beings		√	√	√	√	√	√
Flora and fauna	√		√	√	√		√
Soil	√						√
Water	√						√
Air	√	√					
Climate	√						
Material assets, landscape and cultural heritage	√	√					

The most significant interactions, as addressed in the earlier parts of this report, are as follows:

Human beings and odour:

Odour may arise at the installation and has a potential to impact on human beings beyond the installation boundary. As demonstrated in section 14(e) above, such impacts are considered not likely to be significant. If the activity is carried out in accordance with the RD and the conditions attached it will significantly reduce the likelihood of accidental emissions occurring and limit the environmental consequences of an accidental emission should one occur.

Surface water and ecology:

Surface water run-off from the existing site will discharge to land drain. The drain is linked via river to the Argideen Estuary, which is a designated SAC and SPA. There is potential for contaminants in the run-off to impact on the eco-system of the designated sites.

As demonstrated in section 14(a), (b), (d) and (g) above, such impacts are considered not likely to be significant. If the activity is carried out in accordance with the RD and the conditions attached it will significantly reduce the likelihood of accidental emissions occurring and limit the environmental consequences of an accidental emission should one occur.

Based on the assessment in parts 14(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.

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.

15. 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.

16. Charges

The annual enforcement change recommended in the RD is €10,229, which reflects the anticipated enforcement effort required and the cost of monitoring.

17. Recommendation

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

Signed

Caroline Murphy

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

European Sites (site codes):	**Courtmacsherry Estuary SAC** (Site code: 001230) **Courtmacsherry Bay SPA** (Site code 004219).
Distance/ Direction from discharges:	The RD provides for the discharge of surface water and two point source emissions to air from the installation. The installation is located approximately 240m from the above SAC and SPA.
Conservation objectives:	SAC: NPWS (2014) Conservation Objectives: Courtmacsherry Estuary SAC 001230. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht (dated the 9th July 2014). SPA: NPWS (2014) Conservation Objectives: Courtmacsherry Bay SPA 004219. Version 1.0. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht (dated the 3rd October 2014).

Qualifying interests: (* denotes a priority habitat and an underline denotes habitats and features of interest which occur within the sphere of influence of the project)	**Assessment of the habitats and features of interest which occur within the sphere of influence of the project:**
Habitats (water dependent [Note 1]**):** Estuaries [1130] Tidal Mudflats and Sandflats [1140] Annual Vegetation of drift Lines [1210] Perennial Vegetation of Stony Banks [1220] *Salicornia* Mud [1310] Atlantic salt meadows [1330] Mediterranean salt meadows [1410] Embryonic Shifting Dunes [2110] Marram Dunes (Whites Dunes) [2120] Fixed Dunes (Grey Dunes) [2130]*	The Natura Impact Statement (NIS) provided with the application identified emissions to water, noise emissions and visual disturbance as the most significant potential impacts on the SAC and SPA. **Emission to Water** Storm water from building roofs and yard areas will be collected and discharged to land drain at locations SW1 and SW2 respectively. It will subsequently discharge to the East Cruary River. This river flows into the Argideen Estuary which is included in Courtmacsherry Estuary SAC and Courtmacsherry Bay SPA. The Natura Impact Statement (NIS) indicated that without mitigation measures being put in place at the installation that run-off could have high concentrations of nutrients such as nitrates and phosphates which could affect the *Tubificoides benedii* and *Hediste diversicolor* community complex in the mudflats and separately the vegetation communities supported by Atlantic salt marsh habitats. Also inputs of freshwater could affect the salinity of the estuary and have an adverse effect on the status of the mudflats and their interfaunal community and the vegetation associated with the salt marsh.

Features of interest: Great Northern Diver (*Gavia immer*) [A003] Shelduck (*Tadorna tadorna*) [A048] Wigeon (*Anas penelope*) [A050] Red-breasted Merganser (*Mergus serrator*) [A069] Golden Plover (*Pluvialis apricaria*) [A140] Lapwing (*Vanellus vanellus*) [A142] Dunlin (*Calidris alpina*) [A149] Black-tailed Godwit (*Limosa limosa*) [A156] Bar-tailed Godwit (*Limosa lapponica*) [A157] Curlew (*Numenius arquata*) [A160] Black-headed Gull (*Chroicocephalus ridibundus*) [A179] Common Gull (*Larus canus*) [A182] Wetland and Waterbirds [A999]	**Conclusion:** The NIS proposes that discharge of freshwater from the ICW to the land drain will be restricted to greenfield runoff rates which will ensure no localised increases of freshwater input in the river estuary. The construction phase will adhere to a site specific Pollution Prevention Plan which will comply with best practice as advocated in the guidance document *Control of Water pollution from Construction Sites. Guidance for consultants and contractors (C532).* (CIRIA[4], 2001) and the *Requirements for the Protection of Fisheries Habitat during Construction and Development Works and Development Sites* (The Eastern Regional Fisheries Board, 2003) The only emissions to water authorised from the installation is of storm water which will be treated via a silt trap and oil separator (Condition 3.19). It is also proposed to treat stormwater utilising an integrated constructed wetland. 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. *Schedule C.3.3* states that treated storm water shall only be discharged at the locations specified once the land drain has been reinstated in accordance with the measures required in the NIS. Condition 1.9 requires the licensee to maintain evidence for inspection by the Agency that the land drain has been reinstated in accordance with the Natura Impact Statement between the months of May and August inclusive. Condition 3.25.2 requires that the installation's yard is concreted and Condition 8.4.1 requires that waste treatment and storage takes place inside buildings or enclosed vessels. Condition 3.14 outlines the bunding requirements for the site and the specification for the basins. Condition 6.10 sets out the requirements for integrity testing of storage tanks and basins. 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 a breach. An emergency response procedure is required under Condition 9.2, while Condition 9.4.2

[4] Construction Industry Research and information Association.

	provides for all significant spillages to be treated as an emergency. **<u>Noise emissions and visual disturbance:</u>** The NIS indicated that over-wintering birds may potentially be disturbed by noise and visual disturbances associated with the installation. The NIS stated that birds are most affected by high incidental noise resulting in a startle and flight response. It was confirmed that construction and operation activity in the installation would have a low generic waterbird disturbance response. However a high response could be expected off-site during the reinstatement of the land drain. It was determined that the construction phase would generate the highest noise levels and it was predicted that the reinstatement of the land drain (outside the site boundary) was the area of concern with a predicted noise level at the receptor of 51 - 90dB. However, it was predicted that a worst case scenario of 110dB at the installation during construction will result in a likely receptor dose of <56 dB at the nearest roosting/foraging locations within the SPA (Sub-site OL-445). With regard to visual disturbance, works within the installation will be >300m from the SPA and will be screened by existing hedgerows and tree lines. As a consequence works at the installation are not predicted to result in a visual disturbance. The works associated with the reinstatement of the land drain will be located adjacent to the SPA and have a potential to cause a visual disturbance. If the land drain is reinstated during the over-wintering period the combined impact could have a significant but short term impact on the birds that roost/forage in the SPA. **Conclusion:** The applicant has proposed to reinstate the land drain over 3 days which should ensure a short term noise and visual disturbances. The reinstatement of the land drain will only take place outside the overwintering period of wigeon, dunlin, lapwing, black-tailed godwit, black-headed gull and the common gull. This will require the reinstatement of the land drain to be restricted to the months of May to August inclusive. Condition 1.9 requires the licensee to maintain evidence for inspection by the Agency that the land drain has been reinstated in accordance with the Natura Impact Statement between the months of May and August inclusive. Condition 8.4.1 requires all waste processing to take place inside buildings. *Schedule C.5* of the RD requires noise levels to be monitored. *Schedule B.*4 of the RD 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 SAC from noise emissions associated with the activity; therefore, protecting the qualifying interests of the European site. The applicant will also be required by the local authority to adhere to the conditions of their planning permission (Reg. No. 13/00083) for the installation. Conditions 2 and 3 of this permission have regard to visual amenity at the installation. The NIS concluded that the measures required by the NIS shall ensure the project does not interfere with the conservation objectives of the SAC and SPA. In addition to the NIS emissions to air and the potential for accidents to arise were considered as part of this Report. These are considered below: **Emission to Air** There are two point source emissions to air from the facility from the Gas utilisation engine and the biofilter. These emissions have been modelled and the RD specifies the limit values on these emissions and a range of conditions that will limit any impact on air quality. There is potential for dust emissions from the traffic associated with the activity. **Conclusion:** 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 installation or beyond the installation boundary. *Schedule C.6* of the RD requires dust deposition to be monitored quarterly. *Schedule B.1.3* sets a dust deposition limit which the results of this monitoring should be under. Preventative and corrective measures are required to be put in place for an exceedance of dust deposition levels at these locations. Condition 6.17.2 requires all waste vehicles to be covered. 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. *Schedule C.1.1* requires the gas engine to maintain a continuous burn of biogas and for the flare to automatically ignite when required. This schedule also requires air to be continually extracted from the indoors areas and for the bed media of the biofilter to be monitored for odour on a daily basis.

	Condition 3.9.3 requires the odour control system to maintain a 100% duty and 50% standby capacity. The above measures will protect the qualifying interests of the SAC from dust deposition associated with the activity. **Potential for Accidents to Arise** The risk of accidents from this facility is very low but if they were to occur they would potentially involve the release of untreated extracted building air, biogas, untreated stormwater, oil, fuel or digestate to the local environment. This could result in an adverse effect on the air and water quality of the European sites and impact on the qualifying interests. **Conclusion:** In addition to the conclusions listed above: If a digestate or fuel leak did occur, condition 3.14 requires all tanks, containers and drum storage areas to be bunded. Condition 3.14.7 requires basins used for the storage of digestate to be covered, be underlain by an impervious barrier and to have a leak detection system installed. Condition 3.25.2 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 the 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.