

## INSPECTOR'S REPORT

- **Waste Licence Register Number:** Reg. No. 182-1
- **Applicant:** Natures Way Composting Ltd
- **Facility:** A greenfield in-vessel anaerobic digestion and composting facility at Ready Penny, Corbollis, Dundalk, Co Louth.
- **Inspector Recommendation:** To grant a Waste Licence, subject to conditions.

### (1) Introduction:

Natures Way Composting Ltd have applied to operate a new in-vessel composting and anaerobic digestion (AD) facility. The proposed facility is to be located approx. 6km north-east of Ardee in Co. Louth adjacent to the N52. The nearest village to the facility is Tallanstown, Co Louth (~2.5km to the north-west). A location plan showing the facility to which the application relates is provided in Appendix 1 (Figure B1). The overall site has an area of approx. 65ha with the development itself taking approx. 0.8ha. The site is bounded by agricultural land (primarily tillage) on all sides. There are 19 residences within 1.5km of the site. The nearest residences are situated approx. 410m east of the site boundary.

The planning authority has refused permission for this facility and this has been appealed to An Bord Pleanála by the developer.

The following are the waste types to be accepted at the facility:

- Source segregated organic household waste
- Industrial and Sewage sludge
- Green waste
- Paunch, spent mushroom compost, chicken litter & animal slurries.

The applicant intends to process all material through a sterilisation/anaerobic digestion phase where solid materials will be separated from the liquor. The solids will be cured to produce solid compost, while the liquid fraction will be delivered to another anaerobic digestion system. The applicant has applied for Classes 11 & 13 of the 3<sup>rd</sup> Schedule (blending/mixing and storage of waste for disposal) and Classes 2 & 13 of the 4<sup>th</sup> Schedule (anaerobic digestion/composting and storage of waste for recovery).

The applicant intends to landspread digestate/compost produced at this facility on landbanks owned by him in the region surrounding the facility. The applicant also intends to develop new markets including agricultural, horticultural, building developments, domestic uses and road developments.

An EIS was received with this application and was deemed to be in compliance with the EIA Regulations.

### SITE VISITS:

DATE	PURPOSE	PERSONNEL	OBSERVATIONS
3/12/02	Site and Site Notice Inspection	Cormac Mac Gearailt.	Site located in lowland area with hinterland agricultural in nature. Site notice compliant.

## **(2) Facility development:**

The applicant proposes to develop the facility on a phased basis and in Phase I a single waste processing building consisting of the following infrastructure is proposed:

- Biowaste reception/mixing area
- Sterilisation area
- AD plant infrastructure
- CHP (combined heat & power) plant and back-up flare
- Maturation area for solids
- Storage tanks for liquid fertiliser
- Gas bags for storage of biogas
- Weighbridge and office

In Phase II the applicant will include an in-vessel composting system. This will serve to allow dedicated treatment of organic solid wastes such as green waste and other solid organic wastes.

### **Anaerobic digestion**

This will involve the acceptance of primarily liquid/semi-solid wastes, including animal slurries and liquid sludges. However, some of the readily biodegradable solid wastes such as food waste and chicken litter will also be delivered to this system. After acceptance biowaste must be sterilised to 133°C & 3 Bar pressure for 20 minutes. Waste will then be sent to an initial anaerobic digestion phase in the 'Portagesters' (55-75 °C). During this 3-day phase, heated water will be circulated through the waste to completely liquefy the material and drive the readily biodegradable components of the organic waste (e.g. fatty acids, sugars, carbohydrates *etc.*) into solution/suspension. After initial digestion, solids will be separated from the waste and removed for treatment (see **Composting** below). The remaining supernatant (75-95%) will be pumped to the main AD tanks (approx. 14 tanks, each 70m<sup>3</sup>). The retention time at this stage is approx. 20 days (mesophilic range *i.e.* ~35 °C). The products will be biogas and a liquid slurry fertiliser (digestate). Biogas will be burned in the CHP plant to produce electricity for the facility's use and heat for sterilisation of the incoming waste. A second CHP is planned, for when the primary CHP plant is not operating (*e.g.* maintenance or operational problems).

Control parameters to be monitored in the anaerobic digestion plant will include daily monitoring of volatile fatty acids, pH, temperature, biogas composition/production and continuous temperature *vs.* time monitoring in the digestion tank.

### **Composting**

There will be two composting activities carried out at the facility. The first will involve the curing of solid material separated from the anaerobic digestion process for approx. 2-3 weeks. An in-vessel system will not be used for the composting of this material, it will be composted/cured in an enclosed building. This material will differ from normal material for composting in that most of the readily biodegradable material (*e.g.* fatty acids, sugars, carbohydrates *etc.*) will have been removed in the pre-digestion step (see 'Portagester' above). In effect, the solids arising have significantly less potential for generation of significant odour emissions.

The second (and principal) composting method proposed is an in-vessel container system. The applicant does not expect to carry out this activity in the first 2-4 years of the operation

of the facility. Biowaste will be accepted and unloaded within the building. It will be shredded and mixed to obtain optimum texture for composting. The recommended Proposed Decision requires that the compost must be initially maintained at or above a temperature of 60°C for a period of at least one week to ensure sufficient pathogen reduction. Air is extracted from the composting containers and exhausted through a biofilter. These containers are similar in size to railway/shipping containers, however they have specific modifications for composting purposes. The composting system is modular and allows easy addition of further containers.

Subsequent to this initial step the compost will be cured (matured) indoors for a period of 4-5 weeks. After this process the compost is considered mature and may be stored prior to removal off-site.

An indicator organism (*Salmonella sp.*) will also be introduced into the system in order to allow for process validation in the composting process. Elimination of this organism will confirm the effectiveness of the composting process.

### **Digestate/Compost standards**

The final product shall be tested to determine the quality of compost produced by comparing to metal/chemical standards and by microbiological monitoring for pathogenic indicators (*Schedule G*). Subject to achievement of certain compost quality or class as specified in *Schedule G* the applicant shall be permitted to use compost/digestate without restriction (Class 1), subject to best agronomic practice. Class 2 material may be used subject to a maximum of 30 Tonnes dry matter per hectare. Records of use of Class 2 compost will be required to confirm its appropriate use. Material not reaching Class 1 or 2 standards will be classed as a waste and will require appropriate handling and record keeping (*as per* Conditions 5 & 10).

Where compost produced contains Sewage Sludge the requirements of the Sewage Sludge Regulations apply. As specified in the Regulations, the applicant will be required to liaise with the local authority, which is the relevant competent authority with regard to soil/sludge analysis and the maintenance of the 'sludge register'. The applicant will be required to maintain appropriate records in this regard at the facility, under Condition 10.

### **Recent animal by-products regulations**

A recent EU Regulation (*'European Parliament and Council Regulation No 1774/2002 laying down health rules concerning animal by-products not intended for human consumption'*) applies to the control of animal by-products proposed for treatment at this facility (e.g. slurries, paunch, foodstuff waste). These regulations specify treatment requirements for these wastes prior to composting/AD, additional treatment during composting/AD and additional parameters for monitoring (e.g. pathogens) subsequent to treatment. They also provide for significant restrictions on uses of certain composts/digestates containing animal wastes.

A number of controls are detailed within the licence including;

- Provision of leak-proof waste containers.
- Disinfection of containers and vehicles used for transporting untreated animal by-product waste
- Handling of digestion and composting residues in a such a way as to prevent recontamination from untreated products.

- Labelling of Digestion and composting containers so as to ensure that animal by-product waste is treated in the same vessels
- Detailing of certain processing regimes for certain waste types e.g. at least 133°C and 3Bar pressure for 20 minutes for Category 2 waste (e.g. paunch or animal slurries)

These procedures shall be updated prior to the acceptance of new waste types (when necessary), as required to reflect changes in National or EU Legislation or as agreed with the Agency.

**(3) Waste Types and Quantities**

**Projections of quantities & types of wastes to be accepted at the facility:**

WASTE TYPE	MAXIMUM WASTE QUANTITY TO BE ACCEPTED DURING RELEVANT PHASES	
	Phase I	Phase II
<i>Household Organic Waste</i>	<b>30,000</b>	<b>60,500</b>
<i>Green Waste</i>	<b>10,000</b>	<b>20,000</b>
<i>Industrial and Sewage Sludges</i>	<b>5,000</b>	<b>10,000</b>
<i>Agricultural and Food processing waste</i>	<b>5,000</b>	<b>10,000</b>
<b>TOTAL</b>	<b>50,000</b>	<b>100,500</b>

This Proposed Decision allows the applicant to accept 100,500tpa (as applied for). This is stated as being the maximum intake, and is expected to occur over a 5 year ramp up period. The applicant will be required to provide 50% standby capacity on critical items of plant in order to ameliorate the effects of any unusually large waste loads arriving at the facility (Condition 3 – Waste handling ventilation and processing plant). There will also be a requirement for back up and spares to be provided for these critical items. Items critical to the efficient and adequate processing of waste on site include loading vehicles, CHP plant, odour abatement equipment *etc.* This condition also states that the applicant shall not accept waste quantities in excess of the working capacity of the waste handling and processing equipment on site. The construction of works such as additional composting infrastructure and the AD plant will require approval as Specified Engineering Works.

**(4) Emissions to Air**

**Odour**

Odour emissions from the activity will be controlled by the enclosed nature of the process and the provision of biofilters where odorous emissions are expected. The primary emissions of odours are expected from the waste mixing/reception hall and the initial composting period in the composting containers. All process air from these areas will be extracted and biofiltered. The composting/curing phase will be carried out inside the building. The applicant will be required to carry out an odour survey and air dispersion modelling within 12 months of commencement of waste activities in order to assess the impact of air emissions from the facility, including those from the composting/curing phase.

Air dispersion modelling carried out by the applicant indicates that no significant environmental pollution, with regard to odour nuisance at the nearest sensitive locations, will be caused by waste activities carried out at the facility. Biofilters and the Combined Heat & Power Plant will be monitored as outlined in *Schedule D*. Emissions from these sources are limited in *Schedule C*. The applicant will be precluded from storing waste prior to composting/digestion on site for longer than 48 hours (other than dry bulking agents). Material being stored shall only be held in the mixing area for the purposes of odour control.

The impact of bioaerosol emissions are not expected to be significant given the enclosed nature of the facility. Recent studies carried out by the Environment Agency on open windrow composting systems have indicated that micro-organism concentrations in air reduce by 80-90% at a distance of 20-40m from the operations occurring. The EA also cites research which has shown that:

*“250m is probably sufficient to deal with other releases from a properly operated composting facility such as noise, dust and odour.”*

However, monitoring will be required annually on 3 locations upwind and downwind of the facility for *Aspergillus* and Bacteria.

#### **Noise**

The applicant will be required to operate the shredding and screening machinery inside the waste processing building. Noise monitoring will be carried out at the site boundary and the nearest noise sensitive location (residence). Noise emission limits are specified in *Schedule C*. Condition 6 will ensure that there shall be no clearly audible tonal component or impulsive component in the noise emissions from the activity at the noise sensitive locations.

#### **Dust**

All waste screening, mixing and grinding activities will be carried out inside the facility building and as such this will result in a reduction in dust levels arising at the facility. In dry weather the applicant will be required (where necessary) to spray site roads and any other areas with water to minimise airborne dust nuisance, as per Condition 7. The applicant will also be required to maintain a wheelwash at the facility. Significant emissions of dust from the reception hall and the waste activities are not expected due to the use of air extraction and biofiltration.

Monitoring requirements and an emission limit for dust deposition (350mg/m<sup>2</sup>/d) are set in the recommended Proposed Decision in order to control any fugitive dust emissions from activities on site.

#### **(5) Emissions to Groundwater**

There are no emissions to groundwater. All of the site will be concrete hardstand and any fuel tanks must be bunded. The applicant has installed three boreholes and these will be monitored on an annual basis.

#### **(6) Emissions to Surface Waters**

The only watercourse adjacent to the facility is the Glyde River (500m south). Both the Eastern Regional Fisheries Board and the Local Authority have expressed concerns that excessive abstractions of water from the Glyde River may impact on

potential water abstractions downstream and in the hydrological regime generally in the river. The applicant estimates that a total of 50,000m<sup>3</sup> of water will be required annually upon full scale operation of the facility. The dry weather flow in the River Glyde is 160L/s. The maximum abstraction proposed by the applicant is approx. 1.6L/s. This consists approx. 1% of the dry weather flow. Prior to commencement of waste activities the applicant will be required to provide a proposal to the Agency on the source of water to be used for the waste activities to be carried out at the facility. The applicant shall consult with the Fisheries Board and the Local Authority in the preparation of this proposal (Condition 11). Additionally, the applicant will be required to provide a proposal for the provision of an adequately sized on-site 'uncontaminated surface water storage tank', which shall be sized so as to maximise re-use of uncontaminated surface water, and minimise routine discharge of uncontaminated surface water from the facility. (Condition 11).

There will be limited emissions to surface water from the site as the applicant is required to maximise re-use of water on site. Monitoring will be carried out on the Glyde River upstream and downstream of the facility on a quarterly basis. The majority of this surface water will be re-used in the composting and anaerobic digestion processes. The applicant will be required to monitor the quality of this water on a quarterly basis.

Contaminated wash water and emissions from domestic sources in the building will be directed to a 'contaminated water tank'. This water will also be re-used within the process. High-level monitoring (with alarm) will be required in this tank to ensure that an overflow does not occur. This will be connected to the telemetry system. Where an excess of contaminated storm water occurs (not routinely expected) it will be discharged by tanker to an agreed wastewater treatment plant.

During construction of the facility the applicant will be required to implement surface water control measures to ensure that there is adequate control of suspended solids arising from construction of the facility (Condition 3).

#### **(7) Other Significant Environmental Impacts of the Development**

The applicant will be required to implement a vermin control plan across the facility. The applicant will also be required to install a berm and plant it with trees and hedging for the purposes of screening, noise reduction *etc.* as proposed in the application. The applicant will also be required to manage the landscaping vegetation on a regular basis to ensure these measures remain adequate for the purposes of screening.

#### **(8) Waste Management, Air Quality and Water Quality Management Plans**

Consideration was given to the North-East Regional Waste Management Plan. This plan covers County Louth and refers to the need for one centralised biological treatment facility in the North Meath/South Monaghan area. This facility is approximately 15km from the Meath/Monaghan border. The Waste Management Plan envisages that this plant will carry out anaerobic digestion and composting of kitchen, sludge and agricultural wastes. This proposed facility has applied to deal with these waste types.

There are no relevant Air or Water Quality Management Plans for the area.

#### **(9) Submissions**

7 valid submissions were received in relation to the facility. A list of the submissions received are given on the attached report from the Waste Licence Application

Administration system. I have had regard to the submissions in making my recommendation to the Board.

**1. & 2. Mrs Majella Sands (and AnnMarie Sands, Joseph Sands, Garret Sands, Francis Sands - 5 signatories).**

*These submissions refers to concerns regarding the following:*

- (i) *Lack of consultation in relation to the facility*
- (ii) *Location of the facility and why its not in an industrial estate and the impact of the facility on local residents.*
- (iii) *Issues regarding local Traffic, Road alignment and granting of Planning Permission in the area*
- (iv) *Where would unsuitable waste be sent to? Will it be stored at the site?*
- (v) *Whether the Control of Major Accident Hazards involving Dangerous Substances Regulations (SI 476 of 2000) apply in this case given the quantities of biogas to be held on site*
- (vi) *Animal and crop health implications of the proposed facility*

**RESPONSE**

**(i) Lack of consultation**

The site notice and newspaper advertisement were compliant with the Regulations and copies of the Waste Licence application and EIS were made available for public scrutiny by the Agency.

**(ii) Location of the facility and the impact on local residents.**

Having considered the location of the facility and the site-specific aspects of emissions from the facility, the waste activities as controlled under the Conditions of the recommended Proposed Decision will not result in significant environmental pollution

**(iii) Local Road, Traffic and Planning Permission issues**

These are matters for the Planning Authority

**(iv) Unsuitable waste to alternative facilities**

Condition 5 of the recommended Proposed Decision requires that any wastes deemed to be in contravention of this licence and/or unsuitable for acceptance at this facility must be removed for disposal/recovery at an appropriate alternative facility. Any wastes to be held on site must be held in the Waste reception/mixing area for the purposes of odour control.

**(v) Applicability of the Control of Major Accident Hazards involving Dangerous Substances Regulations**

The applicant has included correspondence from the HSA that indicates that these regulations do not apply to the facility as described in the EIS.

**(vi) Animal and crop health implications**

The waste activities as controlled under the Conditions of the recommended Proposed Decision will not result in significant environmental pollution. Notwithstanding the above, the applicant is required to determine the quality of digestate/compost produced from the facility by comparing to standards outlined in Schedule G. There are also controls in place within this recommended Proposed Decision with regard to sanitation of materials processed and end use of materials produced with a view to environmental and animal health protection.

**3. Louth County Council (c/o Joan Martin, Director of Environmental Services)**

*This submission refers to concerns regarding the following:*

- (i) *Concern in relation to any contaminated run-off from the facility reaching the River Glyde (a new local authority abstraction from the River Glyde is proposed 7km downstream of the facility)*
- (ii) *The Sanitary Authority is anxious that there is no abstraction from the River Dee.*
- (iii) *Concern in relation to the quantities of water to be used in the process and whether the rainwater storage tanks on site will be sufficient, and how the deficit will be made up if this occurs.*
- (iv) *The Council query where drinking water for the site will be obtained.*

## **RESPONSE**

### **(i) Concern in relation to any contaminated run-off from the facility reaching the Glyde River.**

The applicant will be required to size their 'uncontaminated surface water tank' in order to minimise emissions and maximise re-use of rain water on site. Monitoring will be carried out on the Glyde River upstream and downstream of the facility on a quarterly basis for chemical parameters and annually for biological parameters. Monitoring of the surface water emission will also be carried out on a quarterly basis. The applicant will also be required to install a silt trap and oil/water separator on emissions from the wheel wash.

Contaminated wash water and emissions from domestic sources in the building will be directed to the 'contaminated water tank'. This water will be re-used within the process. High-level monitoring (with alarm) will be required in this tank to ensure that an overflow does not occur. This will be connected to the telemetry system. There will be no emissions of contaminated water to local water courses.

During construction of the facility the applicant will be required to implement surface water control measures to ensure that there is adequate control of suspended solids (Condition 3).

### **(ii) The Sanitary Authority are anxious that there is no abstraction from the River Dee.**

The River Glyde runs within approx. 500m of the facility, whereas the River Dee is approx. 4km from the facility. There is no proposed abstraction from the River Dee. Neither the River Dee or Glyde are contained within the boundary of this facility. Condition 11 of this recommended Proposed Decision requires that prior to commencement of waste activities the applicant must provide a proposal to the Agency on the source of water to be used in the composting/anaerobic digestion process. The applicant must consult with the Fisheries Board and the Local Authority in the preparation of this proposal.

Additionally, the applicant will be required to provide a proposal for the provision of an adequately sized on-site 'uncontaminated surface water tank', which shall be sized so as to maximise re-use of uncontaminated surface water, and minimise discharge of uncontaminated surface water from the facility. (Condition 11).

### **(iii) Concern in relation to the quantities of water to be used in the process and whether the rainwater storage tanks on site will be sufficient, and how the deficit will be made up if this occurs.**

See (ii) above

### **(iv) The Council query where drinking water for the site will be obtained.**

See (ii) above



#### **4. Eastern Regional Fisheries Board**

*This submission refers to concerns regarding the following:*

- (i) Concern that there would not be excessive water abstraction from the River Glyde for the operation of the facility*
- (ii) The Board state that water quality and ecological monitoring of the Glyde River should be carried out at least biannually*
- (iii) The Board state that local surface water and any emissions from the facility to local water courses should be monitored to ensure there are no contaminated discharges form the site.*

#### **RESPONSE**

- (i) See response to submission 2(ii) above
- (ii) See response to submission 2(i) above. Annual biological monitoring of local watercourses is considered adequate.
- (iii) See response to submission 2(i) above.

#### **5. Fintan and Pauline Kerr, Dowdstown House**

This submission refers to concerns regarding the following:

- Decision of Louth Co. Co. to refuse planning permission. A copy of the submission to Louth Co. Co. on the planning application is enclosed and among the issues highlighted in it relate to (i) Traffic hazards (ii) unsuitability of the proposed site (iii) ecology and associated impacts (iv) tourism (v) health implications including those referred to in the EIS- odours, air emissions, dust/pollution, markets, consultation and material assets.
- Poor quality of the EIS which contains inaccuracies and contradictions
- Unsuitability of site and large parts of the site form the flood plain of River Glyde and will be subject to frequent flooding. This will have serious implications for the water supply in the area.
- The area is of considerable beauty and up to 200 dwellings have been constructed within a 2 mile radius
- EIS states there are no monuments or places of historical interest but this is not the case (e.g. presence of motte and bailey and cemetery adjacent to site, Dowdstown house is listed building).
- In view of considerable concerns in relation to traffic, smell, pollution, health, environmental and impact on asset values, this application should be refused.

#### **RESPONSE**

Issues related to planning are a matter for the Planning Authority. The environmental impact assessment carried out by Natures Way Composting Ltd. was adequate for an assessment of any likely significant effects on the environment and, in this regard, the EIS complies with the EIA Regulations. It is considered that sufficient information was provided in the waste licence application, EIS and subsequent responses to allow an assessment of the impacts on the environment. Compliance with the conditions of the recommended PD will ensure that the requirements of Section 40(4) of the WMA 1996 are not contravened. The recommended PD requires the applicant to implement a surface water management plan for the facility including the need to provide flood control measures where necessary.

#### **6. Mr. Richard Brennan**

This submission (including a number of attachments) refers to concerns regarding the following:

- Flooding, impact on River Glyde and the presence of a proposed regional water supply downstream of the facility. The proposed discharge routes for clean water pass through grounds that flood regularly.
- Concern in relation to errors/inaccuracies in the EIS and the '*haphazard way the entire EIS was thrown together*'.
- Other issues highlighted relate to Alternatives/Site Location, use of biofilters for odour abatement, the effects of hauling materials over long distances from Cavan, Meath and Monaghan, harvesting of heat energy produced by CHP units, the problems associated with disposing of sludges, where/how the by-products are to be stored and the need for buffer on-site storage for the different waste streams. The submission also refers to the recent landspreading of waste potatoes adjacent to the proposed facility.

## **RESPONSE**

The issues referred to here have been addressed/dealt with in response to earlier submissions above.

### **7. Fehily Timoney & Co. on behalf of the Glyde Environmental & Health Group**

This submission relates primarily to the EIS prepared for the proposed facility and to the Article 16 response submitted by Natures Way Composting Ltd. In summary, it is considered that the EIS is inadequate in that the

- site, its design and size is not properly described
- measures to avoid, reduce and remedy significant adverse effects are not adequately described
- data to enable an assessment of the main effects is not fully contained in the EIS
- main alternatives studied by the developer and the reasons for picking this site, taking into account the effects on the environment, are not outlined
- provision of adequate infrastructure to treat and recycle biodegradable waste is laudable and a development of this scale is inappropriate for this site
- information submitted in the Article 14/16 responses adds little to the understanding of or confidence in the project.

## **RESPONSE**

See response to submission 5 above.

**Signed** \_\_\_\_\_

**Dated:**

## **APPENDIX 1**

### **LOCATION PLAN**

1. Figures 1 & 2 of the EIS.