

**INSPECTORS REPORT ON A LICENCE APPLICATION**

<b>To:</b>	Directors	
<b>From:</b>	Aoife Loughnane	<b>- Licensing Unit</b>
<b>Date:</b>	14 <sup>th</sup> March 2007	
<b>RE:</b>	Application for a Waste Licence Review from Waterford County Council. Licence Reg. W0075-02, Tramore Waste Management Site.	

**Application Details**

Type of facility:	Integrated waste management facility incorporating closed landfill, civic waste facility & proposed green waste composting facility.
Classes of Activity Authorised: ( <b>P</b> = principal activity):	3 <sup>rd</sup> Schedule: Class 12, 13 4 <sup>th</sup> Schedule: Class 2 ( <b>P</b> ), 3, 4, 10, 11, 13
Classes of Activity Refused:	3 <sup>rd</sup> Schedule: Class 4 4 <sup>th</sup> Schedule: Class 9, 12 <i>Note: The review of W0075-01 results in Classes 1 &amp; 4 of the 3<sup>rd</sup> Schedule being removed and the addition of Class 10 to the 4<sup>th</sup> Schedule activities.</i>
Quantity of waste managed:	15,000 tpa* (to include 1,000 tpa green waste for composting) <i>*This quantity does not include material for landfill restoration</i>
Classes of Waste:	Inert waste for landfill restoration. Municipal waste, separated recyclables, household hazardous waste, C & D waste, WEEE and green waste to be accepted at the CWF.
Location of facility:	Tramore Intake & Burrows, Tramore, Co. Waterford
Licence application received:	8/12/04
Third Party submissions:	None
EIS Required:	No
<u>Notices issued:</u>	
Article 14(2)(b)(ii)	21/03/05, 13/06/06
Article 21(2)	24/02/06
Article 8	13/06/06
<u>Responses received:</u>	
Article 21(2)	02/03/06
Article 14 (2)(b)(ii)	24/03/06, 19/12/06
Article 8	24/01/07
Site Inspection:	13/02/07

**Summary**

This report outlines details of an application received from Waterford County Council for the review of Waste Licence Reg. No. W0075-01 (issued 25th September 2001) in order to facilitate the composting of up to 1,000 tonnes per annum of green waste at the Tramore Waste Management Site. Landfilling operations ceased at the facility on 31<sup>st</sup> December 2005.

Current waste activities on-site are focused on the landfill capping and restoration works and the operation of the civic waste facility (CWF). The review application received on 8<sup>th</sup> December 2004 applied for the composting facility only; it did not address the landfill (which was very close to capacity at the time), nor the restoration measures required under the existing licence, nor the CWF. As a result, the Agency sought additional information on 21<sup>st</sup> March 2005, and as no response was received, the Agency issued an application abandonment notice on 24<sup>th</sup> February 2006 under Article 21(2) of the Waste Management (Licensing) Regulations 2004. The licensee subsequently submitted the necessary information in March 2006, followed by additional information in December 2006 and January 2007.

As detailed discussions have taken place between the licensee and the Agency's Office of Environmental Enforcement (OEE) regarding landfill capping works and the installation of landfill gas & leachate management infrastructure at the facility, I have not re-considered these issues as part of this licence review, other than bind the operators into agreements reached with EPA OEE under the existing licence. The Recommended Decision (RD) re-states the conditions of the existing licence without significant change, while incorporating controls on the proposed composting activity and the amendments to the licensing provisions of the Waste Management Acts 1996 to 2005, as appropriate. The RD also reflects the licence format changes which have occurred since licence W0075-01 was issued.

## **1. Facility**

The facility currently comprises a closed landfill and a CWF, on a c.12 hectare site located approximately 1km east of Tramore town. The unlined landfill had been in operation since approximately 1939, and at the time of licensing in September 2001, it was estimated that there was approximately 2.5 to 3 years landfill capacity remaining. The disposal of waste to landfill ceased at the facility on 31<sup>st</sup> December 2005. The facility is bounded on the landward side by a caravan park and on the seaward side by the estuarine and coastal habitats associated with Tramore Dunes and Backstrand, which are a designated Special Area of Conservation (SAC) and Special Protection Area (SPA) for birds. A site layout plan is included in Appendix A to this report.

This facility, along with Kilbarry Landfill (Licence Reg. W0018-01), is the subject of an EU complaint (P98/5008), which was one of twelve waste complaints featured in the judgement of the European Court of Justice against Ireland for the failure to comply with its obligations under the Waste Framework Directive (Case C-494/01 Commission of the European Communities v Ireland, 26<sup>th</sup> April 2005). In September 2006, European Commission representatives visited several of these waste sites, including Tramore Landfill. Arising from this visit, the Commission noted the following:

- Tramore Landfill is currently undergoing rehabilitation.
- Erosion of the face of the landfill by tidal action appears to be an issue - possible need for gabions or some other physical barrier to counteract this.
- A short feasibility study on the creation of new wetland habitat was under preparation. The focus of attention was on land reclaimed from the sea during the 19<sup>th</sup> Century by means of dykes. By breaching the dykes, it would be possible to convert farmland back to salt marshes and other habitats. The preferred site at Clohernagh was visited.

Following this site visit, the Irish Authorities were requested to:-

- (i) Provide details of the proposed rehabilitation of Tramore Landfill, including a timetable and confirmation of budgetary commitment;
- (ii) Specifically address the issue of tidal erosion and measures to counteract this;
- (iii) Provide details of the proposed compensatory/offset measures for the environmental harm occasioned by the Tramore Landfill, including timetable and confirmation of budgetary commitment;

- (iv) Provide details of any waste in-fill in the Back Strand adjacent to the Landfill and the measures intended to address this.

The points raised by the Commission have been taken into account in the preparation of the RD. Item (i) above is addressed in Condition 10.1, while item (ii) has been incorporated into Conditions 6.20 (stability assessment) and 10.8 (CRAMP requirements). The preferred site for the creation of new wetland habitat and Tramore Back Strand are located outside the licensed site boundary, therefore items (iii) and (iv) are outside the scope of this licence review.

Overall the facility has a poor compliance history (see Section 12 of this report). In 2003 the licensee constructed and commenced operating a small green waste composting facility on-site without Agency approval. Following repeated non-compliances from OEE, Waterford Co. Co. applied for a licence review in December 2004 to facilitate the composting of up to 1,000 tonnes<sup>1</sup> of green waste per annum, and ceased composting on-site in March 2005.

## 2. Classes of Activity

Licence Reg. No. W0075-01 authorises Classes 1, 4, 12 and 13 waste disposal activities and Classes 2, 3, 4, 11 and 13 waste recovery activities in accordance with the Third and Fourth Schedules of the Waste Management Act 1996. In the licence review documentation, the licensee has requested changes to the licensed classes of activity as follows:

- Removal of Class 1 of the Third Schedule as waste is no longer disposed of by landfilling at the facility,
- Addition of Classes 9, 10 and 12 of the Fourth Schedule to authorise: (i) the future use of landfill gas as an energy source, (ii) the use of finished compost product as a soil improver for restoration of landfill and use on grass verges, playing pitches etc., and, (iii) the exchange of wastes for reuse/recycling/recovery at the CWF.

The RD authorises the carrying out of Classes 12 & 13 waste disposal activities and Classes 2, 3, 4, 10, 11, & 13 waste recovery activities at the facility, subject to the specified conditions. The RD recommends the refusal of the following Classes, for the reasons stated:

- **Third Schedule, Class 4: Surface impoundment, including placement of liquid or sludge discards into pits, ponds or lagoons.**

Reason: This class of activity is not required for the collection and temporary on-site storage of leachate generated at the facility. Leachate is an emission from the site and not a waste imported for disposal.

- **Fourth Schedule, Class 9: Use of any waste principally as a fuel or other means to generate energy.**

Reason: This class of activity is not required for the flaring or utilisation as an energy source of landfill gas generated at the facility. Landfill gas is an emission from the site and not a waste imported for recovery/disposal.

- **Fourth Schedule, Class 12: Exchange of waste for submission to any activity referred to in a preceding paragraph of this Schedule.**

Reason: This class of activity is not considered necessary having regard to the nature of the current and proposed waste activities at the facility. Civic waste facility operations are adequately authorised under the classes listed in *Part I Schedule of Activities Licensed*.

The principal waste activity is now identified as Class 2 of the Fourth Schedule – *Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological processes)*.

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<sup>1</sup> The proposed composting operation is below the limit set in the Waste Management (Permit) Regulations, 1998 (S.I. No. 165 of 1998) and would be subject to a Certificate of Registration authorisation if located at another suitable location.

### **3. Operational Description**

#### **(i) Civic Waste Facility**

The licensee will continue to operate the CWF at the facility where the following wastes are accepted for recycling/recovery: green waste, household municipal waste, separated recyclables, C&D waste and household hazardous waste (including WEEE). Schedule A of the RD retains the current 15,000 tpa waste acceptance limit, which should facilitate recovery activities. The RD specifies standard conditions governing the operation of the CWF and recommends that waste may be accepted at the CWF between the hours of 09.00 and 18.00, Monday to Saturday inclusive, and 10.00 to 18.00 on Sundays, unless otherwise agreed by the Agency.

#### **(ii) Composting Facility**

The licensee proposes to compost up to 1,000 tonnes of green waste per annum at the facility. The green waste will consist of grass, branches, prunings, hedge trimmings, leaves etc., and will be delivered to the site via the CWF. The waste will be stored in a covered concrete waste reception area adjacent to the CWF. Green waste will be pre-treated by shredding and blending using a mobile wood chipper and auger mixer. The composting technology is an engineered system which utilises aerated static piles to accelerate the composting process. The infrastructure consists of a perforated concrete slab onto which the pre-treated green waste is placed, extraction pipes to draw air downwards through the pile, and a biofilter through which the exhaust gases are passed in order to remove any residual odours. The material is typically placed in one of three composting zones, with material moving through the subsequent two zones from right to left. Temperature will be monitored in each pile on a continuous basis using radio transmitter probes. The airflow to each pile is subsequently regulated by valves on the manifold pipe in response to temperature changes.

After approximately 6-8 weeks within the composting process, the material is passed through a trommel screen that separates the material into fine compost (<15mm) and oversized material. The fine compost will be stored in the mature compost storage area, where it will be held until test results show that it conforms to required standards, as per the second draft of the Biowaste Directive. The oversized material will be returned to the start of the composting process to serve as a bulking material. The finished compost will be used as a soil conditioner locally by Waterford County Council e.g. use on grass verges, playing pitches, etc.

While the standard method for green waste composting is conventional windrow composting, the proposed forced aeration method accelerates the process, treats all exhaust emissions and collects and recirculates any leachate generated. This technology allows a greater degree of control, as the level of oxygen supplied to the piles is kept at an optimum level, which ensures aerobic conditions are maintained. The number of pile turnings is minimised, which in turn reduces dust and bioaerosol emissions from the activity. The use of water resources is minimal since any leachate generated will be collected and recirculated over the piles to maintain optimum moisture levels. This will also help to abate against dust and bioaerosol emissions. In the event that leachate is required to be removed from the leachate holding tank, the licensee will tanker it off-site for treatment at Dungarvan wastewater treatment plant (WWTP) or subject to agreement, discharge directly to Tramore WWTP, which is due to become operational by the end of 2007. Uncontaminated rainwater from roofs will flow into a soak pit from where it will naturally infiltrate through the ground.

The RD specifies emission limit values, controls and monitoring requirements for the composting activity. Having regard to the nature and scale of the activity, Schedule C.6 specifies ambient air monitoring for dust, odour and bioaerosols, to be carried out as required by the Agency. Schedule F specifies standards for compost quality. An Agency funded research project on compost quality standards is currently underway and due to be completed by mid-summer 2007. Pending the outcome of this study, Condition 8 of the RD provides for the amendment of *Schedule F: Standards for Compost Quality*, subject to the agreement of the Agency, having regard to updated compost quality standards or guidance.

Condition 6 limits the quantity of green waste to be accepted for composting to 1,000 tonnes per annum, unless otherwise agreed with the Agency and restricts the use of the green waste shredder to between the hours of 09.00 and 18.00 for noise mitigation purposes.

**(iii) Closed Landfill**

No further waste shall be disposed of by landfilling at the facility, with the exception of cover material, as specified in Condition 6.14 of the RD. No details regarding the volume of material for landfill restoration works were presented in the licence review documentation. The RD requires that inert waste accepted at the facility for landfill restoration works shall comply with the standards established in the EU Decision (2003/33/EC).

**Final Capping Works**

The lengthy delay in installing the final landfill cap at this facility is a cause of major concern. During an OEE site inspection on 21<sup>st</sup> September 2006, it was noted that a final cap on cells closed more than 18 months previously (covering approximately 75% of the landfill) had not been installed, despite the fact that the licensee was successfully prosecuted on this basis on 1<sup>st</sup> June 2006. Construction works on the installation of the final cap at the eastern end of the facility commenced on 6<sup>th</sup> November 2006. At a meeting between OEE and Waterford County Council held at Agency Headquarters on 16<sup>th</sup> November 2006, the licensee provided a progress report on capping works and submitted a Gantt chart for the full capping programme. The licensee advised that the landfill capping works should be complete by September/October 2007. The RD reverts to the same capping requirements as specified in the current licence, while including a provision for Agency agreement of any alternatives. Condition 10 requires that the restoration of the landfill shall be completed within two years of the final cessation of waste being deposited at the landfill (i.e. by 31<sup>st</sup> December 2007). The RD requires that unless otherwise agreed in writing by the Agency, the licensee shall restore/rehabilitate the landfill in accordance with the 'Restoration and Aftercare Plan 2005' submitted to the Agency on 5/10/2005 and subsequent modifications, as agreed by the Agency.

**Landfill Gas Management**

Tramore Landfill is ranked 14<sup>th</sup> in the EPER<sup>2</sup> list of Irish Landfills which emit methane without recovery, having registered emissions of 1,070 tonnes in 2004. The current licence required the installation of an active gas collection and flaring system by 25<sup>th</sup> September 2002. The licensee failed to comply with this requirement and was consequently prosecuted on 1<sup>st</sup> June 2006 at Waterford Circuit Court (see Section 12 of this report).

The installation of gas/leachate extraction wells at the facility commenced on 4<sup>th</sup> December 2006 and was completed by January 2007. Wells will initially be connected up to a temporary flaring system to allow for pumping trials to be undertaken, which will confirm the final flare capacity and the design of the gas collection pipework. The RD reverts to the same requirements as those specified in the current licence concerning the installation of landfill gas infrastructure. Condition 3.19 takes immediate effect.

**Leachate Management**

The current licence required the installation of leachate management infrastructure at the facility by 25<sup>th</sup> September 2002. The licensee failed to comply with this requirement. A report on the investigation into saline intrusion at the facility was prepared by the licensee and submitted to EPA OEE in March 2006. The report recommended that the landfill gas extraction system should facilitate the installation of a leachate pumping system, particularly in those wells located away from the edge of the landfill. The installation of gas/leachate extraction wells was completed by January 2007. Further investigation of leachate behaviour will be undertaken during pumping trials to determine which wells to use for leachate extraction. The RD restates the requirements of the current licence concerning leachate management. Condition 3.18 takes immediate effect. Leachate shall be removed from the

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<sup>2</sup> European Pollutant Emission Register, which was established by a Commission Decision of 17<sup>th</sup> July 2000. The EPER Decision is based on Article 15(3) of Council Directive 96/61/EC concerning integrated pollution prevention and control.

site for treatment at an appropriate WWTP, subject to agreement under Condition 5.8 of the RD.

### ***Hours of Operation and Waste Acceptance***

The hours of operation and waste acceptance at the facility remain as specified in the current licence, with the exception of waste acceptance hours at the CWF.

## **4. Use of Resources**

Given the small scale of operations at this facility, resource use will be modest.

## **5. Emissions**

### **5.1 Air**

Emissions to air from the facility will primarily consist of landfill gas, landfill gas combustion products, dust, odours, etc.. Landfill gas management has been discussed under Section 3 of this report. Odour is no longer expected to create a nuisance, as landfilling of waste has ceased. Schedule B of the RD imposes acceptable limits on air emissions, including new limits on the biofilter at the composting facility. Schedule C requires monitoring of landfill gas, dust, odour, noise and emissions from the composting process.

### **5.2 Emissions to Sewer**

There are currently no emissions to sewer from the facility. Condition 5.8 of the RD requires the licensee to submit evidence within 3 months to demonstrate that an agreement is in place regarding leachate removal from the site and treatment at an appropriate WWTP. In the event of a proposal to install a sewer connection at the facility for the direct discharge of leachate to a local sewerage network, the licensee is required to notify and obtain Agency agreement in advance of the connection being established. Any such agreement shall be without prejudice to the Agency's powers to review a waste licence under Section 46 of the Waste Management Acts 1996 to 2005. The written notification from the licensee must be accompanied by a detailed evaluation of the acceptability of the leachate and capacity for treatment at the recipient WWTP.

### **5.3 Emissions to Surface Waters & Groundwater**

Landfill leachate management has been discussed under Section 3 of this report. A surface water drainage network will be constructed as part of the landfill capping works. Condition 6 requires the licensee to submit an updated map of the surface water monitoring and discharge points within a 6 month timeframe. There will be no emissions to surface water or groundwater from the composting activity, as any leachate will be collected and recirculated over the piles to maintain moisture levels, or tankered off-site for treatment.

At the November 2006 meeting with OEE, the licensee accepted that the existing groundwater monitoring infrastructure is not ideal and advised that it will install one up-gradient and two down-gradient wells outside the waste body at the facility. This requirement has been incorporated into Condition 3.21 of the RD. The licensee is also required to review the designation of existing boreholes on-site in order to clarify which wells represent leachate or groundwater monitoring (Condition 6.22). Schedule C of the RD restates the same monitoring requirements for surface and groundwaters as the current licence.

## **6. Restoration**

The Restoration & Aftercare Plan for the facility has been agreed by the OEE under the current licence. The overall principles involve the installation of long term self sustaining vegetation cover; the avoidance of disturbance to roosting and feeding birds in the adjacent SPA, and the minimisation of potential emissions to the adjacent SAC. The RD requires the licensee to restore/rehabilitate the landfill in accordance with the plan and subsequent modifications submitted and agreed by OEE. The issue of tidal erosion of the landfill perimeter was raised during the European Commission's visit to the facility in September 2006. The RD maintains the existing requirement to conduct annual stability assessments,

including the potential for damage due to tidal inundation and the potential for erosion of the perimeter embankment and recommendations for any remedial measures deemed necessary. The standard requirements for a Closure, Restoration and Aftercare Management Plan (CRAMP) have been specified in Condition 10. The CRAMP requires the inclusion of details of long-term supervision, monitoring, control (including slope stability and erosion control), maintenance and reporting requirements for the restored facility.

## **7. Cultural Heritage, Habitats & Protected Species**

The facility adjoins estuarine and coastal habitats associated with Tramore Dunes and Back Strand, which are designated as an SAC and SPA. This SAC is of major ecological importance for the range of good quality coastal habitats which occur, including fixed dunes, which are listed as a priority habitat on Annex I of the European Habitats Directive. The area has a rich flora featuring a number of rare and protected species, and the intertidal area is important for wintering waterfowl. Possible seepage from the landfill site has been identified as a potential threat to the intertidal and saltmarsh habitats<sup>3</sup>. The licensee is required to carry out regular environmental monitoring to ensure that waste activities do not cause environmental pollution. The RD requires an annual ecological and biological survey to be conducted, as per the current licence.

## **8. Waste Management Plan**

Waterford Co. Co. are required under the Joint Waste Management Plan for the South-East Region (2006) to commission green waste recovery facilities at suitable locations and thus are seeking to incorporate green waste composting at this facility.

## **9. Environmental Impact Statement**

An EIS was not required for the purposes of this licence review.

## **10. Best Available Techniques (BAT)**

A Landfill Conditioning Plan, as required under Article 14(1) of the Landfill Directive (1999/31/EC), was prepared and submitted to the Agency by the date specified in the Directive (16<sup>th</sup> July 2002). Having regard to the CWF and proposed green waste composting facility, I consider the technologies and techniques as described in the application, in this report, and in the RD, to be the most effective in achieving a high general level of protection of the environment having regard to the way the facility is located, designed, built, managed, maintained, operated and decommissioned.

## **11. Compliance with Directives/Regulations**

The RD takes account of the requirements of the Landfill Directive and the Groundwater Directive. This landfill does not fall under Class 5.4 of the IPPC Directive '*Landfills receiving more than 10 tonnes per day or with a total capacity exceeding 25,000 tonnes, excluding landfill of inert waste*' (as it is closed). The EU Animal By-Products Regulations do not apply as the proposed composting activity is limited to green waste only.

## **12. Compliance Record**

The facility has a considerable non-compliance history regarding:

- (i) Non installation of landfill gas management infrastructure within specified timeframe;
- (ii) Non installation of final cap within specified timeframe;
- (iii) Non installation of leachate management infrastructure within specified timeframe;
- (iv) Unauthorised construction and operation of a green waste composting facility on-site.

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<sup>3</sup> National Parks & Wildlife Service, Special Areas of Conservation, Site Synopsis – Tramore Dunes & Backstrand, Site Code: 000671.

Waterford Co. Co. were prosecuted on 1<sup>st</sup> June 2006 at Waterford Circuit Court for breaches of its waste licence by the failure to install the necessary infrastructure, as outlined in (i) and (ii) above. Construction works for the installation of the final cap commenced in November 2006. At the November 2006 meeting with OEE, the licensee was advised that further enforcement action would be taken by the Agency if progress was not made in installing the outstanding infrastructure.

### **13. Fit & Proper Person Assessment**

As specified under Section 40(4)(d) of the Waste Management Acts 1996 to 2005, the 'Fit and Proper Person' criteria does not apply in the case of an application for a waste licence from a Local Authority.

### **14. Submissions**

No submissions were received in relation to this licence review application.

### **15. Charges**

The invoiced Agency charge for 2006 was €20,137. The proposed charge in the RD is €19,450. Notwithstanding the change in nature of the principal waste activity at the facility, this charge is considered necessary having regard to the enforcement effort required to oversee the landfill capping and restoration works.

### **16. Recommendation**

Having considered all the documentation submitted in relation to this application, I recommend that a revised licence be granted for Classes 12 & 13 of the Third Schedule and Classes 2, 3, 4, 10, 11 & 13 of the Fourth Schedule, subject to the conditions set out in the attached RD and for the reasons as drafted.

Signed

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Aoife Loughnane  
Inspector, Office of Licensing & Guidance

### **Procedural Note**

In the event that no objections are received to the Proposed Decision on the application, a licence will be granted in accordance with Section 43(1) of the Waste Management Acts 1996-2005.



**Appendix A**

