

Licensing Unit,
Waste Management Licensing,
EPA,
Headquarters,
PO Box 3000,
Johnstown Castle,
County Wexford

3rd June 2005

Our Ref: 060504001LT0061GAL
File Ref: 350

Re: Ballaghveny Landfill Waste Licence Review Application - Waste Licence 78-2

Dear Sir/Madam,

We refer to the above application for a review of the Waste Licence for Ballaghveny Landfill and to EPA correspondence dated 6th May 2005 requesting additional information in accordance with Article 16(i) of the Waste Management (Licensing) Regulations.

We now enclose 1 no. original and 2 no. copies and 2 no. digital copies on CD of the Article 16 Compliance in this regard as requested by the Agency. Appendix B containing copies of additional monitoring results will be forwarded immediately when available.

We are providing this information on behalf of North Tipperary County Council.

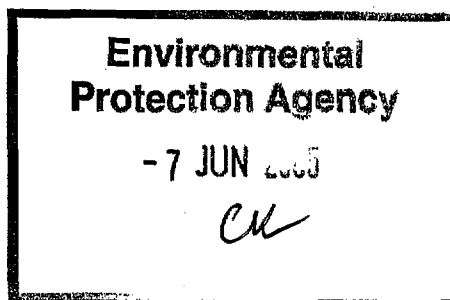
I trust this is satisfactory, but please do not hesitate to contact the undersigned if you have any queries.

Yours sincerely,

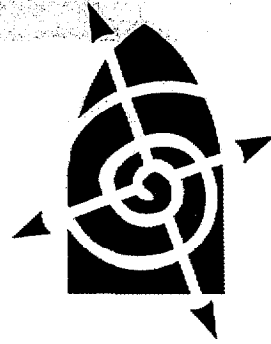
Siobhan Aherne
Senior Project Scientist
For RPS-MCOS Ltd.

sa/sa

Encl. 060504001RP0012F01



Comhairle Contae Thiobraid Árann Thuaidh
North Tipperary County Council



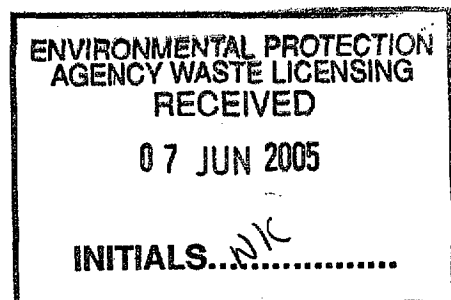
BALLAGHVENY LANDFILL

ARTICLE 16 REQUIREMENTS

WASTE LICENCE REVIEW APPLICATION

WASTE LICENCE 78-2

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June 2005



DOCUMENT CONTROL SHEET

Client	North Tipperary County Council					
Project Title	Ballaghveny Landfill Licence Compliance					
Document Title	Article 16 Further Information - Waste Licence Review Application					
Document No.	060504001RP0012F01					
This Document Comprises	DCS	TOC	Text	List of Tables	List of Figures	No. of Appendices
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Rev.	Status	Author(s)	Reviewed By	Approved By	Office of Origin	Issue Date
F01	Final	S. Aherne	L. Herity	A. Fahy	Galway	03/06/05

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REVISED NON TECHNICAL SUMMARY

1. INTRODUCTION

On 3rd October 2003 RPS-MCOS on behalf of North Tipperary County Council informed the EPA of their intention to review Waste Licence 78-1 for Ballaghveny Landfill for an increase in post-settlement (restored) height of cells 3-5 from the currently approved 114mOD to 120mOD. On 22nd December 2003 the EPA notified that a full waste licence review application was not required and that an application should be made under the revised review process (as allowed for under Article 12(3(d) of the Waste Management (Licensing) Regulations, 2000 as amended).

This Waste Licence Review Application is prepared in accordance with the Agency's requirements as set out in their correspondence dated 22nd December 2003.

This Waste Licence Review Application also includes for the following:

- Proposal to amend Condition 5.12.3 of the current Waste Licence regarding acceptance of treated sludges at the landfill (Section 7).
- Proposal to accept 10,000 tonnes of Construction and Demolition (C&D) waste for recovery as per Condition 5.17.2 of the current Waste Licence (Section 6).

2. WASTE ACCEPTANCE

Ballaghveny Landfill is classed as a non-hazardous waste landfill. The Classes of Waste Disposal and Recovery Activities in accordance with the Third and Fourth Schedules of the Waste Management Act, 1996 as amended in S.I. 166, 1998 are outlined in Section 2.1 of the Waste Licence Review Application. The following waste types and quantities in Table E.1.1 are proposed to be accepted for disposal and recovery at Ballaghveny Landfill.

Table E.1.1 Waste Types and Quantities

WASTE TYPE	TONNES PER ANNUM	TOTAL (over life of site) tonnes
Household	22,000	
Commercial	10,000	
Sludge	3,500	
Construction and Demolition for disposal	1,500	
Construction and Demolition for recovery	10,000	
Industrial Non-Hazardous Liquids	-	
Industrial Non-Hazardous Sludges	-	
Industrial Non-Hazardous Solids	-	
Hazardous	-	
Green waste for composting	2,000	
Total	49,000	

As part of this Waste Licence Review Application, it is proposed to accept 10,000 tonnes per annum of Construction and Demolition waste for recovery as per Condition 5.17.2 of the current Waste Licence.

It is proposed to accept 2,000 tonnes per annum of municipal green waste for composting.

A Waste Acceptance Procedure is in place at Ballaghveny Landfill which ensures that prohibited wastes will not be accepted in accordance with Articles 52 and 54 of Waste Management (Licensing) (Amendment) Regulations, 2002.

3. MANAGEMENT OF THE FACILITY

The site will be operated in accordance with best international practice for similar facilities. All the appropriate pollution prevention and control techniques are in place at the facility. An Environmental Management System (EMS) ensures that an effective system of management and a process of continuous improvement can be implemented.

4. VISUAL IMPACT ASSESSMENT

A visual impact assessment of the proposed increase in final restored height of the landfill has been prepared by Mitchell and Associates, Landscape Architects. Mitchell & Associates concluded that the overall visual impact will not be significant and neutral in that the restored landfill will be rehabilitated as a grassland and will be visually integrated with the surrounding landscape. They also concluded that the 6 metre increase in height will not be discernible from the three viewpoints outlined and therefore the impact of the proposed increase in height of the landfill will be slight and neutral. A slight impact is defined as "an impact which causes changes in the character of the environment which are not significant or profound." A neutral impact is defined as "a change that does not affect the quality of the environment."

The proposed increase in the final restored height of cells 1-5 will have no effect on the volume of surface water runoff generated. Environmental control systems are in place which will ensure that the impact on the environment will be not significant.

5. FINANCIAL PROVISION

North Tipperary County Council through the gate fee revenue can meet the costs associated with the operation and management of the landfill and confirm that there are sufficient funds available for future restoration and aftercare works at the facility.

6. RECOVERY OF CONSTRUCTION & DEMOLITION WASTE

North Tipperary County Council propose to accept 10,000 tonnes per annum of Construction and Demolition (C&D) waste for recovery as per Condition 5.17.2 of the current Waste Licence 78-1. Tables E.1.3 Non-Hazardous Waste Types and E.1.4 Other Wastes and the list of EWC Codes are outlined in Section 6 which is contained in the Article 12 compliance response to the EPA. The proposed layout will comprise three main areas: incoming waste stockpiling area, waste processing area with stockpiles of processed waste and residual waste storage area where skips for residual waste such as timber, plastic and metal will be located. The activity will involve the use of a mobile crusher, screens and the stockpiling of segregated materials.

Provision of this C&D waste recovery operation by North Tipperary County Council is in accordance with the recommendations of the Midlands Waste Management Plan. The Plan recommends that six locations in the Region be established for the recovery of C&D waste at existing or closed landfills with Nenagh recommended as one such location. Initially the local authority may use the crushed aggregate as raw material on development and infrastructural works and the surplus soil will be used for daily cover material, landfill remediation and restoration projects.

Ballaghveny Landfill is considered to be a suitable location for this C&D waste recovery operation for the following reasons:

- Current Waste Licence allows for the recovery of C&D waste as per Condition 5.17.2,
- Proximity to Nenagh Town,
- Site infrastructure is already provided at the landfill,

- The site is well screened from view and therefore will not cause a negative visual impact,
- Management and monitoring systems are in place at the landfill,
- The provision of this C&D waste recovery operation at Ballaghveny Landfill meets the requirements of the Midlands Waste Management Plan.

Drawing DG0150-02 shows the location of residences within 500m from the proposed C&D recovery area. The potential impacts of dust, noise and surface water runoff were assessed and it was concluded with the adequate control measures in place these potential impacts on the environment will not be significant.

7. TREATED SLUDGE FOR DISPOSAL

North Tipperary County Council propose to amend Condition 5.12.3 of the current Waste Licence which states that "from 1 January, 2004, only treated sludges shall be accepted at the facility". North Tipperary County Council request that this date be extended to 1 January 2005 to allow for the proposed improvement works at Thurles Sewerage Scheme.

8. COMPOSTING AT THE FACILITY

North Tipperary County Council propose to accept municipal green waste at Ballaghveny Landfill for composting. It is proposed to accept 2,000 tonnes per annum of green waste. This green waste will be accepted at the Recycling Centre at the Landfill from householders, commercial premises, landscapers and the local authority for processing. It is proposed to process the green waste in an open windrow system. The waste will be shredded before placement in the windrow. It is proposed that surface water run-off/wastewater will be collected in a storage tank and most of it will be re-circulated back into the windrow system to keep the compost moist. Any additional leachate not required in the process will be tankered for treatment to Nenagh WWTP. The exact location and details of the proposed composting facility have not been finalised at this time but it is proposed that the composting site will be located at least 200 metres away from local residences to ensure that there will be no risk from bio-aerosols. However, following completion of the design for the facility, written proposals will be sent to the EPA for approval as Specified Engineering Works. Potential emissions of dust, bio-aerosols, noise, odour and surface water runoff/wastewater have been examined and mitigation and control measures are outlined to ensure that the impact of composting operations at the facility will not be significant.

PROPOSALS FOR COMPOSTING AT BALLAGHVENY LANDFILL FACILITY

a) Provide details of the types and quantity of waste to be accepted for composting at the facility. If applicable update Table E.1.1 Waste Types and Quantities submitted as part of Article 14 reply dated 06/08/04.

North Tipperary County Council propose to accept municipal green waste at Ballaghveny Landfill. EWC Code 20 02 01 biodegradable waste (garden and park waste). It is proposed to accept a maximum of 2,000 tonnes per annum of green waste for composting. Appendix A provides details on the calculation of green waste available for composting.

This green waste will be accepted at the Recycling Centre at the Landfill by householders, commercial premises, landscapers and the local authority for processing.

Table E.1.1 Waste Types and Quantities submitted as part of Article 14 reply dated 06/08/04 has been amended as follows:

Table E.1.1 Waste Types and Quantities

WASTE TYPE	TONNES PER ANNUM	TOTAL (over life of site) tonnes
Household	22,000	
Commercial	10,000	
Sludge	3,500	
Construction and Demolition for disposal	1,500	
Construction and Demolition for recovery	10,000	
Industrial Non-Hazardous Liquids	-	
Industrial Non-Hazardous Sludges	-	
Industrial Non-Hazardous Solids	-	
Hazardous	-	
Green waste for composting	2,000	
Total	49,000	

b) Specify the location for the proposed composting facility.

It is proposed to process the green waste in an open windrow system. The waste will be shredded before placement in the windrow. Surface water run-off/ compost leachate will be collected in a storage tank and then re-circulated back into the windrow system to maintain optimum moisture conditions in the windrows. Any additional leachate not required in the process will be tankered for treatment to Nenagh WWTP

The exact location and details of the proposed composting facility have not been finalised at this time. However written proposals will be sent to the EPA for approval as Specified Engineering Works under Condition 4.13 of Waste Licence 78-1.

c) Provide details of the nature, composition, quantity, level and rate of emissions (e.g. bio-aerosols, odour, dust, noise, surface water run-off and wastewater) arising from the operation of the proposed composting activity. Provide an assessment of the proposed emissions and proposed measures to prevent/eliminate or where not practicable limit/abate such emissions and proposed arrangements for monitoring them. Include in your reply an assessment on adjacent sensitive receptors.

Emissions, Potential Impacts and Control/Mitigations Measures**Bio-aerosols and Dust**

The potential impacts from bio-aerosols on human health has been the subject of increased concern over the past five-ten years, as the practice of composting becomes more widespread. Reviews of existing research (Health Effects of Composting, A study of three compost sites and review of past data, UK Environment Agency, 2001; and Bio-aerosols and Composting, A Literature Evaluation, Draft Report by Cré, Composting Association of Ireland) has found that:

“Bio-aerosols are endemic in the environment and are created by decaying wood, leaves, in fields; the general public is generally not at risk since man’s natural immune system provides adequate defence”.

Members of the public with particular susceptibility (those with weaker immune systems) are more at risk and can be more sensitive to bio-aerosols.

Bio-aerosols are generated by many activities including agricultural harvesting and storage, timber processing, and animal rearing (e.g. poultry houses). Monitoring at these plants has recorded bio-aerosol levels as high or higher than at waste composting activities.

Workers at composting plants will be more exposed to bio-aerosols than the surrounding population. Measures to reduce exposure to workers will be undertaken at the site as a precaution, although there appears to be no significant difference in the health of compost site workers in general.

Generally, concentrations of bio-aerosols fall off with distance from the composting facility. Cré, Composting Association of Ireland recommend that a set back of 200 metres between facilities and the nearest sensitive receptor be put in place.

The proposed composting site will be located a minimum of 200 metres from local residences to ensure that there will be no risk from bio-aerosols. Bio-aerosols will be monitored for on an annual basis if required. The shredding of green waste will cause dust emissions. The shredding process will be operated intermittently so the levels of dust generated will be minimal.

Specific dust control methods are as follows:

- Regular sweeping will control the amount of dust generated.
- A mobile water sprayer will be employed during dry weather conditions to reduce dust emissions from traffic areas and dry piles.
- All trucks departing from the site will pass through the wheel-wash, which shall be maintained with the silt removed on a regular basis.
- Regular air monitoring will indicate if the levels are exceeding the standard limits.

With the implementation of the dust measures outlined above, emissions of dust will be adequately controlled. Overall, dust emissions are predicted to be slight.

Dust monitoring near the composting site will be carried out three times annually.

Odour

Only green waste will be accepted for composting at the site. Green waste is a clean material and is not very odorous or problematic to handle and treat, which is why green waste is commonly treated in outdoor composting windrows.

During the composting process the windrows will be turned regularly which will maintain aeration within the windrows. Regular windrow turning will ensure aerobic conditions in the windrows which minimises the possibility of malodours forming. Good housekeeping and appropriate management practices will be adhered to at all times which will ensure that the process proceeds adequately.

Subjective odour monitoring will be carried out by site personnel on a daily basis.

Noise

Noise monitoring results submitted as part of the Article 14 reply dated 06/08/04 and subsequent results shown in Appendix B of this reply show that noise at the existing landfill is not causing a significant impact as all noise levels are within the standard emission levels except for one noise monitoring location which exceeded the limit due to cell construction works being carried out at the time of monitoring. The noise monitoring programme at the facility will be extended to include proposed composting activities. It is proposed to shred the waste following delivery to the site and the operation of the shredder will increase the noise levels at the facility. However the quantities of waste to be accepted are small and therefore the shredder will be used on an intermittent basis and the proposed composting area will be screened so as not to cause a nuisance. Composting operations will not operate outside the normal working hours of the landfill.

Surface water run-off/wastewater

All composting activities will be carried out on an impermeable surface. All surface water runoff/wastewater emissions will be collected and re-circulated back into the windrows to maintain adequate moisture conditions. If there is a surplus of leachate it will be tankered off-site and treated at Nenagh WWTP. Therefore there will be no risk to surface water or groundwater in the area and no monitoring will be required.

Monitoring

The existing monitoring programme (noise and air) at the landfill will be extended to include the composting activities. Bio-aerosols will be monitored for on an annual basis if required. Subjective odour monitoring will be carried out on a daily basis. The composting process and the quality of compost will be monitored in accordance with EPA requirements.

Provide a description of any works carried out at the facility where the details of these works have not previously been submitted in the application of further information to the Agency.

No Specified Engineering Works have been carried out at the facility since the submission of the further information.

Provide any additional environmental monitoring information which has been obtained but not previously forwarded to the Agency as part of the application.

Appendix B contains additional environmental information in relation to the facility.

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