

Waste Licensing

Waste Disposal Activities (Landfill Sites)

Application Form



This document does not purport to be and should not be considered a legal interpretation of the provisions and requirements of the Waste Management Act, 1996.

Environmental Protection Agency P.O.Box 5000, Johnstown Castle Estate, County Wexford Telephone: 053-60600 Fax: 053-60699



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Environmental Protection Agency

Application for a Waste Licence Review under the Waste Licensing (Amendment) Regulations 2004 (SI 395 of 2004)

WASTE MANAGEMENT ACT, 1996

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1 Article 12 (3) (a) Waste Management (Licensing) Regulations, 2004

- (i) An Application for the review of Waste Licence 20-1 is hereby being made to the Environmental Protection Agency on the following grounds:
 - The final contours of the landfill site need to be revised and levels adjusted due to ambiguity of levels in Condition 4 of the Waste License (20-1). The final contour plan does not take the Material Recovery Facility (MRF) into account and therefore requires revision. Also, the Waste License states 'the finished level of the facility shall not exceed 114m OD (Malin Head)'. This final level was determined based on the assumption that the landfill site was originally at 97.8m OD (Malin Head). The true original level of the site was 128.4m OD. It is therefore suggested that the finished level of the facility be adjusted accordingly and not exceed 144.2m OD (Malin Head).
 - It is also requested that the EPA consider amending Schedule A, which states that the quantity of wastes to be accepted for disposate at the landfill does not exceed 39,500 tonnes per annum. Monaghan County Council. request that this figure be increased to 59,250 tonnes to avail of the void space available at Scotch Corner and to cater for waste disposal practices while recycling/ recovery practices and infrastructure are developed and to cut.
 - It is also requested that the EPA consider amending Condition 3 of the Waste License to include for the provision of a Mechanical Biological Treatment Plant. It is proposed that this facility will cater for the removal of recyclables and fines from the residual bin. The compostable fines will undergo appropriate in-vessel composting at the Scotch corner landfill site.
 - The North East Waste Management Plan (2005-2010) recommends the introduction of 3-bin collection service by 2008. The proposed EU Biowaste Directive, a working document on Biological treatment of biodegradable waste also promotes this. To adequately facilitate treatment of organic waste and green waste, it is requested that the EPA consider amending Condition 5.8.2.2, which states that 'the quantity of biodegradable waste to be composted shall not exceed 2,000 tonnes per annum'. Based on the proposed quantity of waste to be landfilled at Scotch corner, it is requested that this figure be increased to 10,000 tonnes per annum.

(ii) The reference number given to Scotch Corner Landfill Waste Licence is 20-1.

2 Information specified in Article 12 (1) (a) of the Waste Management (Licensing) **Regulations**, 2004

2.1 Article 12 (1) (a)

Name*:	Monaghan County Council
Address:	County Offices
	The Glen
	Monaghan
	Ireland
Tel:	047-30500
Fax:	047-82739

* This is the name of the applicant which is current on the date this Waste Licence Review Application is lodged with the Agency. otheruse

2.2 Article 12 (1) (b)

required n purpo. Name and address for Correspondence (to which all correspondence and vitebt. o insp communication will be directed) $\hat{\mathbf{x}}$

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Name:	Mr. Gerry Kelly, Senior Engineer,
Address:	Environment Section
	Monaghan County Souncil,
	The Glen
	Monaghan
	Ireland
Tel:	047-30500
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Monaghan County Council is the landowner of the entire site shown on the attached site plan. A Site Boundary Map which shows the extent of the entire facility outlined in red is attached here as DG0200 (contained in Appendix E)

2.3 Article 12 (1) (c)

Name of the sanitary authority in which the sewer is vested or by which is controlled

Not applicable

2.4 Article 12 (1) (d)

Location, Postal address, townland, National Grid Reference of the facility

Name:	Scotch Corner Landfill
Address*:	Letterbane,
	Annyalla,
	Castleblaney,
	Co.Monaghan
Tel:	047 80930
Fax:	
e-mail:	landfill@monaghancoco.ie
* townload	

* townland

National Grid Reference	E: 275113
(8 digit 4E,4N)	N: 325652

2.5 Article 12 (e)

Describe the nature of the facility or premises concerned, including the proposed capacity of the facility or premises and, in the case of an application in respect of the landfill of waste, the requirements specified in Annex 1 of the Landfill Directive

The nature of the facility and the premises concerned will stand as is and as described in Waste Licence 20-1. It is requested that the capacity of the facility be revised to accept a maximum of 59,250 tonnes per annum of waste for disposal and 10,000 tonnes per annum of compostable material for composting.

It is proposed that the increased waste accepted for disposal will be deposited within phase 3 (currently under development) phase 4 and phase 5. The total remaining capacity of Scotch Corner landfill is approximately 600,000m³. Filling will commence in Phase 3 and once full capacity is approached (approximately 300,000m³), filling will continue in Phase 4 and 5 respectively. The expected lifespan of the facility is approximately 10 years. The planned phases are within the site boundary and will be designed and constructed in accordance with the EPA Manual on 'Landfill Site Design' (2000), the EU Landfill Directive and the Waste Licence for the site and will be approved by the Agency.

It is also requested that the waste licence be revised to allow for the possible provision of a Mechanical Biological Treatment (MBT) plant on-site. It is proposed to carry out the mechanical separation stage of MBT within the existing materials recovery facility (MRF) and the biological treatment stage will be carried out by means of composting. The provision of such activity would allow for the segregation of the residual bin contents in a 3-bin collection system for municipal waste. It is proposed that the resultant compostable fines, high calorific

waste, recyclables and residuals will be composted onsite, exported to a waste to energy facility, removed for recycling and landfilled respectively. It is proposed that all specified engineering works will be agreed with the agency prior to any development.

The waste categories accepted at the facility for disposal will remain unchanged and as described in waste licence 20-1, with the exception of sewage and industrial sludge. Sludge will no longer be accepted at the facility. It is also requested that the licence be reviewed to accept both source segregated and non-source segregated compostable material for composting. It is proposed that the source segregated material for composting will be obtained from the brown bin of the 3-bin collection system and the non-source segregated material for composting will be derived from the proposed mechanical biological treatment process.

Measures outlined in the existing waste licence 20-1, will be adhered to in order to appropriately control and monitor any emissions that may arise from the proposed activities.

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2.6 Article 12 (1) (f) & (g)

Specify the class or classes of activity concerned in accordance with the Third and Fourth Schedules of the Act and the class of and fill in accordance with Article 4 of the of copyright Forths Landfill Directive

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Class of Activity

This review would not alter any of the existing classes of activities granted to Monaghan county council . All existing classes of activities in accordance with the third and fourth schedules of the Waste Management Act (1996 to 2003), listed in the existing waste licence will remain in effect . In relation to the items under review, the principle classes of activities are:

Class 5 of the Third Schedule of the Waste Management Act (1996 to 2003) namely:

Specially engineered landfill, including placement into lined discrete cells which are capped and isolated from one another and the environment'.

Class 2 of the Fourth Schedule of the Waste Management Act, (1996 to 2003) namely:

Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological processes)'

Class 3 of the Fourth Schedule of the Waste Management Act (1996 to 2003) namely:

'Recycling or reclamation of metals and metal compounds'

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And Class 4 of the Fourth Shedule of the Waste Mangaement Act (1996 to 2003) namely:

'Recycling or reclamation of other inorganic materials'

The landfill will continue to solely accept non-hazardous waste in accordance with Article 4 of the Landfill Directive.

Quantity and nature of waste treated, recovered, disposed off

Waste for Disposal

At present the landfill licence restricts the quantity of wastes accepted for disposal at 39,500 tonnes per annum. It is proposed in this licence review application that this quantity be increased to 59,250 tonnes per annum.

Scotch Corner Landfill only accepts non-hazardous municipal, commercial and industrial waste and council street sweepings in accordance with its existing Waste Licence 20-1. A detailed inventory of the types and quantities of wastes currently accepted at the site and the proposed types and quantities of wastes to be accepted are listed below. It is proposed to omit the acceptance of both sewage and industrial sludge for disposal at Scotch Corner landfill.

WASTE TYPE	EWC CODE FO	ANNUM (existing 2005*)	TONNES PER ANNUM (proposed as a maximum)
Household	EWC 20 03 01	20,111.51	39,600
Commercial	EWC 20 03 01	2,981.29	5,870
Industrial-non hazardous	EWC 20 03 01	8,085.37	12,339
Sewage Sludge	EWC 19 08 05	5,681.26	none
Industrial Sludge	EWC 02 05 02	1020.06	none
Construction & Demolition	EWC 17 09 04	214.28	327
Street Cleanings	EWC 20 03 03	729.77	1,114
TOTAL		38,823.54	59,250

Table 1: Quantity and nature of waste for Disposal

*Figures taken from the 2005 AER for Scotch Corner Landfill.

Treatment and Recovery

The facility is also restricted to composting 2,000 tonnes of source segregated organic waste, green waste and compost per annum. It is proposed to increase this quantity to 10,000 tonnes of source segregated and non-source segregated organic waste, green waste and

compost per annum. It is proposed that the source segregated material will be obtained via the 3-bin collection system and materials recovery facility, while the non-source segregated organic waste fraction (compostable fines) will be derived from the mechanical biological treatment process.

No biodegradable waste is currently accepted at the facility for the purpose of composting.

2.7 Article 12 (h) & (i)

Specify the raw materials, substances, preparations, fuel and energy which will be utilised in or produced by the activity. Describe the plant, methods, processes, abatement, recovery and treatment systems and operating procedures for the activity.

Mechanical biological treatment (MBT) involves two stages (1) the pre-treatment of waste in mechanical biological treatment facilities to recover materials for recycling and biological treatment and (2) the biological treatment stage. It is proposed to carry out the Mechanical Biological Treatment (MBT) process within the existing MRF and composting area of the facility. All specified engineering works for the plant and composting area will be agreed with the agency prior to any development.

During the mechanical waste treatment step (pre-treatment) the residual waste stream is shredded and separated into a number of fractions, which can be classified roughly into dry recyclables, organics and residues. After the initial screening and shredding, the waste will be sieved and separated to prepare the organic waste stream for biological treatment. In the case of Scotch Corner landfill composting would be the preferred biological treatment process.

Figure 1 below illustrates the process involved in the mechanical stage of MBT, the raw materials required and the products produced.

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Figure 1: Inputs and Outputs of the Mechanical Biological Treatment (MBT) Process

The undersize material will be biologically treated, wherease the oversize fraction containing potential recyclables and residues, will be recycled to be re

Figure 2: Simplified Process Diagram for MBT- In-Vessel Composting



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Mechanical preparation Plant

An overview of the various types of equipment for use in the mechanical preparation stage is provided below.

- Bag Splitters to open up refuse bag
- Conveyors to transfer material throughout the plant
- Shredding equipment for size reduction of larger waste parts
- Ferrous Metal extraction using magnets,
- Non-ferrous Metal extraction using eddy-current (electro-magnetic) separators
- Paper & light plastics separated by weight/gravity using trommel/ barrel screens,
- Air/wet classification separating materials by size & density
- Ballistic Separation for inert and organic material such as glass, stones etc.
- Electronic means to identify and separate plastics, such as near infra red spectroscopy, X Ray fluorescence or electrostatic separation
- Colour separation techniques for glass using light pulse and laser techniques

The number and type of technologies used are dependent on the type of materials required to be recycled from the process and will be agreed with the agency prior to installation.

Composting

The proposed MBT process will combine mechanical sorting and separation (described above) with in-vessel and maturation using windrows or aerated pile composting.

The in-vessel composting system provides a higher degree of process control and efficiency through aeration, temperature control and feedstock agitation to speed up the composting process. Open windrow/ aerated static pile maturation stabilises the organic material even further.

Operation Procedures

The following operational procedures shall be carried out in the event of developing an on-site Mechanical Biological Treatment (MBT) facility:

MBT facility waste acceptance and characterisation procedures

- The license shall maintain detailed written procedures for the acceptance and handling of wastes.
- Wastes arriving at the facility shall be inspected at the point of entry to the facility and subject to this inspection, weighed, documented and directed to the MRF/MBT plant.
 Each load of waste arriving at the facility shall be inspected upon tipping within the

building. Only after such inspection shall the waste be processed for disposal or recovery.

- Any waste deemed unsuitable for processing at the facility shall be separated and removed from the facility for disposal in the landfill at the earliest possible time. Temporary storage of such wastes shall be in a designated waste Quarantine Area. Wastes shall be disposed of at the landfill as soon as possible so as to avoid putrification, odour generation, the attraction of vermin and any other such nuisance or objectionable condition.
- A record of all inspections of incoming waste loads shall be maintained.

MBT Operational Controls

- The floor shall be washed down and cleared of all waste at the end of the working day. The floor of the storage bays for recovered wastes shall be washed down and any other use. cleaned on each occasion such as bays are emptied.
- Scavaging shall not be permitted at the facility
- Gates shall be locked shut when the facility is unsupervised io
- The license shall provide and use adequate lighting during the operation of the facility oq in hours of darkness
- Fuels shall be stored only at appropriately bunded locations on the facility
- All tanks and drums shall be labelled to clearly indicate their contents
- No smoking shall be allowed at the facility

Compost management and monitoring

- All composting shall be carried out in line with the treatment regimes outlined in section 2.10 and the new Schedule G: Process Management of this proposed review licence.
- Monitoring of the composting process will be carried out in compliance with section 2.10 and the revised Schedule D: Monitoring.

 Compost produced at this facility shall comply with the quality standards established in Schedule F: *Standards for Compost Quality* of this licence. Compost in compliance with the Schedule F, shall be used as on-site landfill cover. Compost not in compliance with Schedule F, shall be considered a waste and shall be disposed/ recovered at an authorised outlet as agreed by the Agency.

Waste -water management

• Waste- water generated in the composting process will be diverted to the leachate lagoon and tankered to a local waste- water treatment plant (Ballybay) or an alternative appropriate facility for further treatment, agreed by the Agency.

Off-site Disposal and Recovery

• Waste sent off-site for recovery or disposal shall be conveyed only by a waste contractor agreed by the Agency.

It is requested that Condition 5 of Waste Licence 20-the reviewed to include the above operational procedures for a Mechanical Biological Treatment facility.

In relation to composting procedures and operations Condition 5.8.2 of the current waste licence 20-1 will be adhered to. However it is requested that Condition 5.8.2.2 be revised to include for non-source segregated organic waste for composting and increase the allowable quantity of biodegradable waster to be composted from 2,000 tonnes to 10,000 tonnes per annum.

All operational procedures for the landfilling of waste and the recovery of waste will be carried out in accordance with the Condition 5 of the current waste licence 20-1.

Detailed measures of abatement are provided in section 2.9.

2.8 Article 12 (j)

Information for the purpose of enabling the agency to make a determination in relation to matters specified in paragraphs (a) to (g) of section 40 (4) of the Act.

(a) It is the full intention of Monaghan County Council that no emissions from Scotch Corner Landfill will result in a contravention of any limits set out in the conditions of the existing

Waste Licence 20-1 granted to Monaghan County Council in December 2001 by the Environmental Protection Agency or any of its amended conditions as a result of this review.

(b) It is the full intention of Monaghan County Council that no activity carried out at Scotch Corner Landfill will result in a contravention of the conditions of Waste Licence 20-1 granted to Monaghan County Council in December 2001 by the Environmental Protection Agency or any of its amended conditions as a result of this review.

(c) It is the full intention of Monaghan County Council that the best available technology is and will be used to prevent or eliminate or, where that is not practicable, to limit abate or reduce any emissions from Scotch Corner Landfill in accordance with Waste Licence 20-1 granted to Monaghan County Council in December 2001 by the Environmental Protection Agency or any of its amended conditions as a result of this review.

(d) The Applicant for this Waste Licence Review is a local authority, namely Monaghan County Council.

(e) Monaghan County Council does comply with all requirements under section 53 of the Waste Management Act, 1996 which sets out the offinancial provisions regarding waste disposal and recovery.

2.9 Article 12 (1) (k)& (l)

Give particulars of the source, focation, nature, composition, quantity, level and rate of emissions arising from the activity and where relevant the period or periods during which such emissions are made or are to be made.

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It is not anticipated that any new emissions will arise as a result of accepting an increased tonnage of material for disposal. Therefore, the infrastructure, mitigation measures and monitoring requirements detailed in the current waste licence will be adhered to in order to prevent, limit and abate such emissions.

The following table 2 provides details of expected emissions to arise as a result of MBT and composting operations.

Emissions Dust			Odour		Bio-Aerosols	
Source	Source Processing area		Compostable material		Composting	
			operations			
Location	n MBT working area and		Composting area/		Composting area/	
	composting areas	vessels/ windrow	ws	vessels/ windrows		
Nature/	Dust particles		Ammonia,		Aspergillus	
composition			Hydrosulphide,		Fumigatus	
			Mercaptans		Total mesophilic	
Quantity/ rate	Quantity/ rate 350mg/m3/day		Ammonia 50ppm v/v		Process dependant	
			Hydrosulphide 5ppm v/v			
			Mercaptans 5 ppm v/v			
Level	Site le	evel	at the weighbridg	je (128.4m	O.D)	
Period	During operational	D	uring	During or	perational hours see	
	hours see Condition	op	perational hours	condition	n 1.7	
	1.7 see Condition			E US		
			uposes only any			

Table 2	2: Em	issions	from	MBT	and	Com	posting	Opera	ations
I dole I						Com	posting	oper	

Emission details, assessment of effects on the environment, environmental medium other than that into which the emissions are to be made, proposed measures to prevent or eliminate or, where that is not practicable, to limit or abate such emissions

The risks identified from the release of bio aerosols are associated with human health. They have the potential to cause respiratory problems, such as asthma and bronchitis if inhaled.

Human Health and the surrounding environment may also be affected by dust particles. It has the potential to cause allergies and inflammations in humans and may impact the surrounding environment as a result of deposition on vegetation.

In order to deal with any emissions which may arise as a result of the proposed Mechanical Biological Treatment facility and the composting facility, it is requested that the licence be reviewed to include the following:

Dust/Odour Control

The licensee shall provide and maintain adequate measures for the control of odours and dust emissions, including fugitive dust emissions, from the facility. In addition to the measures outlined in the current waste licence (WL20-1), the following measures shall also be included:-

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- Install bio-filters and air scrubbers to clean air coming from the composting vessels.
- All outdoor stockpiles of waste at the MBT plant shall be maintained so as to minimize dust generation.
- The waste reception area will be enclosed to eliminate dust nuisance off site from waste acceptance.
- Loading and unloading of in-vessel composting systems- will not be carried out during excessively windy conditions. If material is found to be dusty it will be dampened down prior to movement to eliminate dust nuisance.
- Compost material will be dampened down during maturation turning operations.
- Compost material will not be screened during excessive wind conditions. Measures such as spraying or screen covers may be employed during screening to eliminate dust generation.
- All entry/exit points and doors in the mechanical biological treatment building shall be kept closed where possible.
- An odour management system shall be installed.
- Negative pressure shall be installed and maintained throughout the building to ensure no significant escape of odours or dust.
- Provision of 100% duty capacity and 50% stand by capacity, back ups and spares must be provided for the air handling, ventilation and abatement plant.

6.7.3 Bio Aerosols

- Employ in-vessel composting
- Increase the frequency of windrow turning and/or forced aeration; thus employing greater temperatures to destroy any pathogens

2.10 Article 12 (1) (m)

Monitoring points, sampling points and proposed arrangements for the monitoring of emissions and the environmental consequences of any such emissions

The monitoring and sampling point location map is attached as Appendix E. There are currently 17 no. of groundwater monitoring locations, 5 no. of surface water monitoring locations, 5 no. of leachate monitoring boreholes, 15 no. of gas monitoring boreholes, 4 no. noise monitoring locations and 4 no. dust monitoring locations. Proposed arrangements for the monitoring of emissions will be carried out in accordance with Condition 8 and at locations and frequencies specified under Schedule D of the Waste Licence. Table D.1.1 and Table D.5.1 have been reviewed to reflect the current monitoring locations and monitoring frequencies as agreed by the Agency on the 21/03/2007.

In relation to the monitoring of compost emissions, it is requested that Schedule C be reviewed to include Table C.6 below and Schedule D be amended to include for Table D.8, D.9, D.10 below. It is also requested that Table D.1.1 be reviewed to include for Bioaerosol and PM10 monitoring locations and Schedule F.3 be reviewed to allow for class 1 and class 2 compost quality standards.

As currently stated in Schedule F of waste licence 20-1, compost production shall be monitored at least monthly and the licence shall submit to the agency for its agreement, prior to commencement of compost operations, details of methods of analyses and sample numbers.

In the event of an incident occurring measures outlines in Condition 9 of Waste Licence 20-1, which includes identifying the environmental consequences of any such emissions will be carried out.

Table C.6 Emission Limit values for outlet of Biofilters

ParameterEmission Limit ValueAmmonia50 ppm v/vHydrogen Sulphide5 ppm v/vMercaptans5 ppm v/v

Emission point reference to be agreed by the Agency prior to commencement of composting

Landfill Gas	Dust	Noise	Surface	Ground water	Leachate	Bioaerosols
			water			&PM10
Stations	Stations	Stations	Stations	Stations	Stations	Stations
L7, L8, L9	4 boundary	Residence	S5, S6, S7,	Groundwater	L5, L6, L7, L8,	To be agreed
	locations	H3 & H6	S8, S9	overburden	L9	prior to
	(D1, D4, H4,			boreholes		commencement
	H6)			(B1a, B2a, B3a,		of composting
				B4a, B5a, B6a &		
				S3)		
All		Dust		Groundwater		
groundwater		monitoring		Bedrock boreholes		
overburden		locations		(B1, B2, B3, B4,		
monitoring		(D1 & D4)		B5, B6)		
locations						
Landfill office,				Groundwater		
MRF office,				discharge points		
MRF canteen				(G1 olds G1 new		
				and G2)		
Flare Inlet &			MIN	Private well W7		
Flare outlet			uposes dio	Y		

D.1.1 Monitoring Locations (reviewed)

D.5 Surface Water, Ground Water and Leachate (review)

Table D.5.1 Water and Leachate-Parameters/ Frequency

Parameter	Groundwater: Well Water (W7) Monitoring Frequency	Groundwater: Bedrock Boreholes (B1, B2, B3, B4, B5, B6) Monitoring Frequency	Groundwater: Overburden boreholes (B1a, B2a, B3a, B4a, B5a, B6a & S3) Monitoring	Groundwater: Discharging to surface water (G1 & G2) Monitoring Freque ncy	Surface Water (S7, S8 & S9) Monitoring Frequency	Surface Water (S5, S6, EPA155 & EPA180) Monitoring Frequency	Leachate (L5, L7, L8 & L9) Monitoring Frequency	Leachate (L6) Monitoring Frequency
Lovol	N/A	Quarterly	Frequency	N/A	N/A	N/A	Quarterly	N/A
Ammoniacal	10/1	Quarterry	Quarterry	10/1	10/1	10/1	Quarterry	10/21
Nitrogen	Quarterly	Annually	Quarterly	Monthly	Monthly	Quarterly	Annually	Quarterly
BOD COD	N/A N/A	N/A N/A	N/A N/A	Monthly	Monthly	Quarterly	Annually	Quarterly
Chloride	Quarterly	Annually	Quarterly	Monthly	Monthly	Quarterly	Annually	Quarterly
Dissolved Oxygen	Quarterij	1	Quarterry	intenting	intointing	Quarterry	1 minuting	Quarterry
Electrical	Quarterly	Annually	Quarterly	Monthly	Monthly	Quarterly	N/A	N/A
Conductivity	Quarterly	Annually	Quarterly	Monthly	Monthly	Quarterly	Annually	Quarterly
рН	Quarterly	Annually	Quarterly	Monthly	Monthly	Quarterly	Annually	Quarterly
Total Suspended Solids	N/A	N/A	N/A	Monthly	Monthly	Quarterly	N/A	Quarterly
Temperature	Quarterly	Annually	Quarterly	Monthly	Monthly	Quarterly	Annually	Quarterly
Boron	Annually	Annually	Annually	Annually	N/A	N/A	Annually	Annually
Cadmium	Annually	Annually	Annually	Annually	Annually	Annually	Annually	Annually
Chromium	Annually	Annually	Annually	Annually	Annually	Annually	Annually	Annually
(total) Copper	Annually	Annually	Annually	Annually	Annually	Annually	Annually	Annually
Copper Cvanide (total)	Annually	Annually	Annually	Annually	Annually	Annually	Annually	Annually
Fluoride	Annually	Annually	Annually	Annually offer	S7 & S8 only	N/A	Annually	Annually
Iron	Annually	Annually	Annually	Annually	Annually	Annually	Annually	Annually
Lead	Annually	Annually	Annually	Annually	Annually	Annually	Annually	Annually
List I/II Organic Substances	Annually	Annually	Annually	Annually	S7 & S8 only Annually	N/A	N/A	Annually
Mineral Oils	N/A	N/A	N/ASPectionne	N/A	S9 only monthly	N/A	N/A	N/A
Magnesium	Annually	Annually	Annually	Annually	Annually	Annually	Annually	Annually
Manganese	Annually	Annually	Annually	Annually	Annually	Annually	Annually	Annually
Mercury	Annually	Annually	Annually	Annually	Annually	Annually	Annually	Annually
Potassium Sulphoto	Annually	Annually	Annually Appuelly	Annually	Annually	Annually	Annually	Annually
Sulphate	Annually	Annually		Annually	Annually	Annually	Annually	Annually
Total Alkalinity	Annually	Annually	Annually	Annually	Annually	Annually	Annually	Annually
Orthophosphate	Annually	Annually	Annually	Annually	Annually	Annually	Annually	Annually
Total Oxidised Nitrogen	Quarterly	Annually	Quarterly	Quarterly	Annually	Annually	Annually	Annually
Total Organic Carbon	Quarterly	Annually	Quarterly	Quarterly	N/A	N/A	N/A	N/A
Residue on Evaporation	Annually	Annually	Annually	Annually	N/A	N/A	N/A	N/A
Zinc	Annually	Annually	Annually	Annually	Annually	Annually	Annually	Annually
Phenols	Annually	Annually	Annually	Annually	N/A	N/A	N/A	N/A
Total & Faecal Coliforms	Quarterly	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Biological Assessment	N/A	N/A	N/A	N/A	S7 only Annually	EPA155 & EPA180 only	N/A	N/A
Atrazine	N/A	N/A	N/A	N/A	S7 & S8 only Annually	N/A	N/A	Annually
Simazine	N/A	N/A	N/A	N/A	S7 & S8 only Annually	N/A	N/A	Annually
Arsenic	N/A	N/A	N/A	N/A	S7 & S8 only Annually	N/A	N/A	Annually
Hardness	N/A	N/A	N/A	N/A	S7 & S8 only Annually	N/A	N/A	Annually
Nickel	N/A	N/A	N/A	N/A	S7 & S8 only Annually	N/A	N/A	Annually
<u>N</u>	MDR0368RP01	02		16	*		A01	

D.8 Monitoring of Composting Processes

Table D.8.1 Monitoring –Parameters/ Frequency

Parameter	Monitoring Frequency	Monitoring Equipment/ method
Enclosed		
Composting/vessels		
Temperature vs Time	Continuous	Temperature probe/ recorder
Maturation (curing)		
Temperature	Weekly	Temperature probe
Moisture	Weekly	Subjectivity by operator

D.9 Dust, PM10 and Bioaerosol

Table D.9.1 Dust and Bioaerosol Monitoring frequency and Technique

Parameter	Monitoring Frequency	Analysis Method/ Technique
PM10 (ug/m3)	Annually	See Note 1
Aspergillus fumigatus	Annually	Grab Sample Note 2
Mesophilic bacteria	Annually	Grab Sample Note 2
Dust deposition	Three times a year	Standard method Note 4
(mg/m2/day)	on Pur require	

Note 1: As described in prEN12341 "Air Quality - trid test procedure to demonstrate reference equivalence of sampling methods for PM10 fraction of particulate matter" or an alternative agreed in writing with the Agency. Note 2: Enumeration of colonies to be carried out as described in 'Standardised Protocol for the Sampling and Enumeration of Airborne Micro-organisms at composting Facilities' the UK Composting Association 1999. Note 3: Twice during the period May to September, or as otherwise specified in writing by the Agency. Note 4: Standard method VDI2119 (Measurement of Dustfall, Determination of Dustfall using Bergerhoff Instrument (Standard Method) German Engineering Institute). A modification (not included in the standard) which 2 methoxy ethanol may be employed to eliminate interference due to algae growth in the gauge.

D.10 Biofilter Monitoring

Table D.10.1 Biofilter Monitoring Frequency and Techniques

Parameter	Monitoring Frequency	Analysis Method/ Technique
Bed Media		
Odour assessment Note 2	Daily	Subjective Inspection
Condition and depth of biofilter	Daily	Visual Inspection
Moisture content	Bi-annually	Standard laboratory method
рН	Bi-annually	pH probe
Ammonia	Bi-annually	Standard laboratory method
Total viable counts	Bi-annually	Standard laboratory method
Outlet Gas		

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Ammonia	Bi-annually	Colourimetric Indicator Tubes
Hydrogen sulphide	Bi-annually	Colourimetric Indicator Tubes
Mercaptans	Bi-annually	Colourimetric Indicator Tubes

Note 1: All analyses shall be carried out by a competent laboratory using standard and internationally acceptable testing laboratory and the testing technique shall be agreed by the Agency in advance.

Note 2: This subjective assessment should be carried out by a staff member immediately upon arriving on-site. **Note 3:** The biofilter shall be examined to ensure that no channelling is evident, and that moisture content is adequate. Watering, turning, restructuring and the addition of supplementary bed materials, or total bed replacement shall be carried out, as required, subject to bed performance.

D.11 Process Management

Table D.11.1 Composting. During the composting process the entire quantity of biowaste being composted shall be exposed to the following temperature:

Temperature	Treatment Time
At least 60°C	1 Week

 Table D.11.2 Process validation.
 The composting process shall be tested using the following indicator organism

 Note 1.
 Note 1.

Indicator Organism	Frequency
Salmonella spp.	Annually Note 2
Note 1. Unless otherwise agreed by the Agency	DO STO

Note 2: This test shall be repeated if major changes to either the composition of the incoming biowaste or the treatment process are made.

Schedule F.3 Trace elements (compost)^{Note 1} (reviewed)

Maximum Trace Element Concentration Limits Note 2

Trace element (mg/kg, dry mass)	Compost Quality	Stabilised Biowaste	
	Class 1	Class 2	
Cadmium (Cd)	0.7	1.5	5
Chromium (Cr)	100	150	600
Copper (Cu)	100	150	600
Mercury (Hg)	0.4	1	5
Nickel (Ni)	50	75	150
Lead (Pb)	100	150	500
Zinc (Zn)	200	400	1500
Polychlorinated Biphenyls (PCB's)	-	-	0.4
Polycyclic Aromatic Hydrocarbons (PAHs)	-	-	3
Impurities >2mm Note 3	<0.5%	<0.5%	<3%
Gravel and Stones >5mm	<5%	<5%	-
Arsenic Note 5	-	-	15
Molybdenum Note 5	-	-	5
Selenium Note 5	-	-	2

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Note 1: These limits apply to the compost just after the composting phase and prior to mixing with any other materials.

Note 2: The above alone should not be taken as an indication of suitability for addition to soil as the cumulative metal additions to soil should be first calculated.

Note 3: Normalised to 30% organic matter content.

Note 4: Compost must not contain any sharp foreign matter measuring over a 2 mm dimension that may cause damage or injury to humans, animals and plants during or resulting from its intended use. **Note 5:** Monitoring of these parameters required if waste from an industrial source.

2.11 Article 12 (1) (n)

Proposed arrangements for the prevention, minimisation and recovery of waste arising from the activity concerned

The proposed mechanical biological treatment process described in section 2.7 will increase the quantity of recyclables recovered (dry recyclables, compostable fines and high calorific waste) and minimise the quantity of waste destined to landfill (residue). The estimated quantities of each particular constituent produced and the final destination of each are outlined in the table 3 below.

Constituent	EWC Code	Estimated %	Proposed	Destination
		Note 1	Quantity Note 2	
Paper/	20 01 01	19-20%	8639 - 9094	EPA approved
cardboard		inspectowit		facility
Glass	20 01 02 🔇	3.4%	1,364 - 1,819	EPA approved facility
Metal	20 01 40	3-4%	1,364 – 1,819	EPA approved facility
Plastics	20 01 39	12-14%	5,456 - 6,366	EPA approved facility
Organics	20 02 01	22-36%	10,003 – 16,369	Composted at
				Scotch corner
Residuals	20 03 01	23-39%	10,458 – 17,733	Scotch Corner
				Landfill
Total			45,470	

Table 3: Quantity and destination of recovered constituents from MBT Process

Note1: Range of quantities are approximations and are based on the mixed residual waste bin composition survey

and 3-bin residual waste bin composition surveys. ' programme for municipal waste characterisation surveys, EPA 2005'.

Note 2: Range of quantities are approximations and are based on the proposed quantity of municipal waste destined for landfill.

2.12 Article 12 (1) (0)

Proposed arrangement for the off-site treatment or disposal of solid or liquid wastes

Waste- water generated in the composting process will either be re-circulated within the process or will be diverted to the leachate lagoon and tankered to a local waste- water treatment plant (Ballybay) or an alternative appropriate facility for further treatment.

All dry recyclable material recovered from the MBT process will be stored securely and removed to a licensed recovery facility. All high calorific waste recovered will be stored securely and transported off site to a waste to energy facility for further reuse. All organic fines will be removed to a licenced facility approved by the agency. All residual waste will be landfilled on-site.

All final destination treatment facilities for solid or liquid wastes will be agreed with the Agency prior to removal off-site.

2.13 Article 12 (1) (p)

Existing and proposed measures, including emergency procedures, to prevent unauthorised or unexpected emissions and minimise the impact on the environment

Existing and proposed environmental monitoring is and will be carried out in accordance with Condition 8 of the Waste Licence, and at frequencies specified under Schedule D of the Licence. Under Condition 9 of the Waste Licence, the Agency shall be informed of any incident having taken place, any significant adverse environmental effects and corrective measures to be taken. Corrective action/emergency response procedures are detailed in the current Environmental Management Plan. All monitoring results are reported as per Schedule E of the Waste Licence. Monaghan County Council and the EPA carry out all monitoring at the site. The monitoring has shown that the landfill is operated without causing any significant impact on the surrounding environment.

2.14 Article 12 (1) (q)

Proposed measures for the closure, restoration, remediation or aftercare of the facility concerned, after the cessation of the activity

Restoration and Aftercare of the facility will be undertaken in accordance with Condition 4 of the current waste licence 20-1. However, it is requested that Condition 4.1 and 4.2, the finished level of the facility be revised.

The final level was determined based on the assumption that the landfill site was originally at 97.8m OD (Malin Head). However the datum used was local datum only and not to Malin head. The true original level of the site relative to Malin head is 128.4m OD. It is therefore suggested that the finished level of the facility currently 114m OD be adjusted accordingly to 144.2m OD as shown in drawing DG0202 'Final Contour Plan' attached as Appendix E.

2.15 Article 12 (1) (r)

Financial provisions in relation to landfilling of waste

The gate fee at present at Scotch Corner Landfill is \in 100 per tonne landfilled including the \in 15 landfill levy. There is approximately 450,000 tonnes capacity remaining at Scotch Corner which will generate a revenue of \in 38,000,000 over 7.5 years.

The following figures show the percentage breakdown of the landfill charge per tonne of waste accepted at Scotch Corner Landfill.

	1005 Hel	
Operations	33 % on Puredu	€ 32.75
Development	25 86 0 MILE	€ 24.69
Closure & Aftercare	F.3.5%	€ 3.51
Recycling Initiatives	ر 15%	€ 15
Waste Planning	Theorem 5%	€5
Enforcement	18.5 %	€ 18.5

2.16 Article 12 (1) (s)

The European Communities Regulations 2000 (S.I. No. 476 of 2000) does not apply.

2.17 Article 12 (1) (t)

Proposed arrangements necessary to give effect to Articles 3, 4, 5, 6, 7, 8 and 10 of Council Directive 80/68/EEC

There will be no direct emissions to groundwater. None of the proposed activities will give rise to an emission (containing List 1 or list 11 substances) into the aquifer. The waste management methods, groundwater management methods and monitoring methods outlined

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in conditions 5, 6 and 8 of the current waste licence (20-1) will remain in effect to ensure adequate protection of groundwater at the Scotch Corner facility.

2.18 Article 12 (1) (u)

Non-technical summary of information provided in accordance with Article 12 (1) (a) to(t) $\left(t \right) = \left(t \right) \left(t \right)$

This application has been prepared in accordance with the Waste Management (Licensing) (Amendment) Regulations, 2004 (S.I. No. 395 of 2004).

Specific names, addresses and contact details have been supplied in accordance with Article 12 (1) (a) (b) (d). A site map which shows the extent of the entire site is attached in the appendices. A detailed inventory of the types and quantities of wastes currently accepted at the site and the proposed types and quantities of wastes to be accepted are listed in accordance with Article 12 (e) (f) and (g). Detailed information in relation to the provision of a mechanical biological treatment (MBT) plant is provided in accordance with Article 12 (1) (h) and (i). Particulars of emissions and propsed measures to the tribulate such emissions are described under Article 12 (k) and (l). A monitoring location map is included as Appendix E and monitoring will be carried out as per Condition 8 of the current waste licence 20-1. Proposed restoration and aftercare measures are outlined in Article 12 (q). The financial provisions for the next 12 years have been described in accordance with Article 12 (1) (r). Scotch Corner landfill will only accept non-hazardous municipal, commercial and industrial waste, and street sweepings in accordance with Waste licence 20-1. The continued operation of Scotch Corner landfilles a key element of the North East Waste Plan.

It is the full intention of Monaghan County Council that they will comply with Section 40 (4) of the Waste Management Act, 1996 with regard to conditions of Waste Licence 20 - 1 or any of its amended conditions as a result of this review. The grounds for this review of waste licence 20-1 are set out in accordance with Article 12 (3) (a) in section 1 of this report. The requirements of Article 12 (4) with which this application complies are listed in section 3 of this review. The proposed amendments to the existing waste licence conditions are listed in section 4 of this report.

The appropriate fee for this review is attached with the covering letter.

3 Article 12 (4) of the Waste Management (Licensing) Regulations 2004

- (a) Copy of newspaper page in which the notice in accordance with article 6 is attached here as Appendix A.
- (b) Copy of the notice in accordance with Article 7, which is erected on site as located on the site map is attached as Appendix A.
- (c) The site layout map (DG0200), identifying the location of the site notice and the monitoring location map (DG0203) identifying the locations of all monitoring and sampling points are attached in Appendix C.
- (d) The appropriate fee having regards to the provisions of article 40 and 41 is attached with the covering letter for this application (MCC)

A site notice is fixed at the entrance gate to the landfill since 01/08/2007. A notice was published in 'The Northern Standard' newspaper on the 23/08/2007. A copy of the fixed notice and the page from the paper where the notice appeared are attached here as Appendix A.

4 Impacts on the existing waste licence conditions and requested amendments

Condition 1- Scope of the Licence

 Condition 1.1 - It is proposed that those activities described in Part 1: 'Activities Licensed and authorised by the Licence' be amended. The classes of waste activities are to remain the same yet the descriptions of the following classes should be amended accordingly.

> Third Schedule – class 11 and class 12 Fourth Schedule – class 2, class 3 and class 4

- Condition 1.4 It is proposed that the waste categories are to remain the same yet the quantity of these waste types are to be reviewed.
- Schedule B It is proposed that the development of a Mechanical Biological Treatment plant be included in the Specified Engineering Works of the licence.
- Condition 1.7.2 It is proposed to amend this condition to read' MRF/ MBT facility'

Condition 3 – Facility Infrastructure

- It is proposed to include Condition 3.23 Notwithstanding the requirements of Condition 3.20 and prior to commencement of composting, the licensee shall submit to the agency details of the composting system proposed. This shall include details of the following:
 - Proposed location and number if in- vessel composters,
 - Proposed size and location of the aerated curing pads
 - Proposed biofilters on the in-vessel composters and aerated curing pads to control and mitigate odours
 - Location of the drainage collection sumps and connection to the waste water drainage system
 - Proposed location for feedstock preparation, trommelling and storage of composted waste

Condition 3.24- It is proposed to allow for the provision of a mechanical biological treatment facility.

3.24.1 - The licensee shall submit proposals for the specified engineering works, as defined in Schedule B, to the Agency for its agreement at least two months prior to the intended date of commencement of any such works. No works shall be carried out without prior agreement from the Agency.

Condition 4 - Restoration and Aftercare

• Condition 4.1 and 4.2 - It is proposed to amend the final finished level of the facility shall not exceed 144m OD (Malin Head) and the final profile of the facility shall be as shown on Drawing No. DG0202.

Condition 5 – Facility Operation and Waste Management

- Condition 5.6 It is proposed to carry out the landscaping levels and contours of the facility as per drawing DG0202.
- Condition 5.8.2.2 It is proposed to revise Condition 5.8.2.2 to include for non-source separated organic waste for composting and increase the allowable quantity of biodegradable waste to be composted from 2,000 tonnes to 10,000 tonnes per annum.
- Condition 5.10.1 It is proposed that Condition 5.10.1 be revised to read' Prior to the development of a Mechanical Biological Treatment plant (MBT), the Materials Recovery Facility (MRF) shall only be used for the collection.......'

- It is also proposed to include the following Condition 5.10.1.1 Once the Specified Engineering Works for the MBT plant are approved by the Agency, the MRF/MBT shall accept both source segregated and non-source segregated municipal waste for recovery.
- Condition 5.11.1, 5.11.2 and 5.11.3 It is proposed to allow for the provision of a Mechanical Biological Treatment (MBT) plant in association with the Material Recovery Plant. Therefore it is proposed to change the wording of condition 5.11 from MRF to facility.
- It is proposed to include Condition 5.14 MBT Operational Procedures
 - 5.14.1 MBT facility waste acceptance and characterisation procedures

5.14.1.1- The license shall maintain detailed written procedures for the acceptance and handling of wastes.

5.14.2 - Wastes arriving at the facility shall be inspected at the point of entry to the facility and subject to this inspection, weighed, documented and directed to the MRF/MBT plant. Each load of waste arriving at the facility shall be inspected upon tipping within the building. Only after such inspection shall the waste be processed for disposal or recovery.

5.14.3 - Any waste deemed unsuitable for processing at the facility shall be separated and removed from the facility for disposal in the landfill at the earliest possible time. Temporary storage of such wastes shall be in a designated waste Quarantine Area. Wastes shall be disposed of at the landfill as soon as possible so as to avoid putrification, odour generation, the attraction of vermin and any other such nuisance or objectionable condition.

5.14.4 – A record of all 9nspections of incoming waste loads shall be maintained.

- It is proposed to include Condition 5.15 MBT Operational Controls
 - 5.15.1 The floor shall be washed down and cleared of all waste at the end of the working day. The floor of the storage bays for recovered wastes shall be washed down and cleaned on each occasion such as bays are emptied.
 - 5.15.2 Scavaging shall not be permitted at the facility
 - 5.15.3 Gates shall be locked shut when the facility is unsupervised
 - 5.15.4 The license shall provide and use adequate lighting during the operation of the facility in hours of darkness
 - 5.15.5 Fuels shall be stored only at appropriately bunded locations on the facility
 - 5.15.6 All tanks and drums shall be labelled to clearly indicate their contents
 - 5.15.7 No smoking shall be allowed at the facility
 - It is also proposed to include Condition 5.16 Compost

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- 5.16.1 All composting shall be carried out in line with the treatment regimes outlined in Schedule G: Process Management of this licence
- Monitoring of the composting process will be carried out in compliance 5.16.2 with Schedule D: Monitoring.
- 5.16.3 Compost produced at this facility shall comply with the quality standards established in Schedule F: Standards for Compost Quality of this licence. Analysis of the compost shall be in accordance with the requirements of that Schedule. Compost not complying with these quality standards shall be considered a waste and shall be disposed/ recovered to an authorised outlet as agreed by the Agency.
- 5.16.4 Waste- water generated in the composting process will be diverted to the leachate lagoon and tankered to a local waste- water treatment plant (Ballybay) or an alternative appropriate facility for further treatment, agreed by the Agency.
- It is proposed to include Condition 5.17 Off-site Disposal and Recovery
 - 5.17.1 Waste sent off-site for recovery or disposal shall be conveyed only by a waste contractor agreed by the Agency.
 - 5.17.2 All waste transferred from the facility shall only be transferred to an appropriate facility agreed by the Agensy 2114

Condition 6- Emissions

505 It is proposed to include Condition 6.7 TRANK Emissions

> The trigger level for RM10 from the facility measured at any location 671 on the boundary of the facility is : PM10 greater than 50ug/m3 for a daily opyrie For sample.

It is proposed to include Condition 6.8- Noise Emissions

There Shall be no clearly audible tonal component or impulsive 6.8.1 in the noise emissions from the activity at the noise sensitive component locations.

Condition 7 - Nuisance Control

It is also proposed to include Condition 7.7 - MBT Dust /Odour Control .

The licensee shall provide and maintain adequate measures for the control of 7.7.1 odours and dust emissions, including fugitive dust emissions, from the facility.

Such measures shall at a minimum include the following:-

- 7.7.1.1 All entry/exit points and doors in the mechanical biological treatment building shall be kept closed where possible.
- Installation and maintenance of integrity and negative pressure 7.7.1.2 throughout the building to ensure no significant escape of odours or dust.

- 7.7.1.3 Installation of an odour management system.
- 7.7.1.4 Provision of 100% duty capacity and 50% stand by capacity, back ups and spares must be provided for the air handling, ventilation and abatement plant.
- 7.7.1.5 Install bio-filters and air scrubbers to clean air coming from the composting vessels.
- 7.7.1.6 All outdoor stockpiles of waste at the MBT plant shall be maintained so as to minimize dust generation.
- 7.7.1.7 The waste reception area will be enclosed to eliminate dust nuisance off site from waste acceptance.
- 7.7.1.8 Loading and unloading of in-vessel composting systems- will not be carried out during excessively windy conditions. If material is found to be dusty it will be dampened down prior to movement to eliminate dust nuisance.
- 7.7.1.9 Compost material will be dampened down during maturation turning operations.
- 7.7.1.10 Compost material will not be screened during excessive wind conditions. Measures such as spraying or screen covers may be employed aduring screening to eliminate dust generation.

Condition 10-Records

• It is proposed to amend Condition 10.6 - to include for a MBT plant.

Schedule A: Waste Acceptance

Table A.1 Waste Categories and Quantities

Waste type	Maximum tonnes per annum
Household ^{note 1}	40,713
Commercial	5,870
Construction and demolition	327
Industrial non-hazardous	12,339
Total	59,250

Note 1: Includes street cleanings

Schedule C- Emission Limits

It is proposed to include table C.6 into Schedule C.:

Table C.6 Emission Limit values for outlet of Biofilters

Emission point reference to be agreed by the Agency prior to commencement of composting

Parameter	Emission Limit Value
Ammonia	50 ppm v/v
Hydrogen Sulphide	5 ppm v/v
Mercaptans	5 ppm v/v

Schedule D- Monitoring

It is proposed to include the following tables in Schedule D:

D.1.1 Monitoring Locations (reviewed)

F	- -	-		°		
Landfill Gas	Dust	Noise	Surface	Ground water	Leachate	Bioaerosols
			water	anyour		&PM10
Stations	Stations	Stations	Stations	Stations	Stations	Stations
L7, L8, L9	4 boundary	Residence	S5, S61 S7,	Groundwater	L5, L6, L7, L8,	To be agreed
	locations	H3 & H6	S81S80	overburden	L9	prior to
	(D1, D2, D3,	28	ASPC, OX	boreholes		commencement
	D4)	FOI	VILE	(B1a, B2a, B3a,		of composting
		tof co		B4a, B5a, B6a &		
		ONSETT		S3)		
All		Dust		Groundwater		
groundwater		monitoring		Bedrock boreholes		
overburden		locations		(B1, B2, B3, B4,		
monitoring		(D1 & D4)		B5, B6)		
locations						
Landfill office,				Groundwater		
MRF office,				discharge points		
MRF canteen				(G1 old, G1 new		
				and G2)		
Flare Inlet &				Private well W7		
Flare outlet						

D.5 Surface Water, Ground Water and Leachate (review)

Table D.5.1 Water and Leachate-Parameters/ Frequency

Parameter	Groundwater: Well Water (W7) Monitoring Frequency	Groundwater: Bedrock Boreholes (B1, B2, B3, B4, B5, B6) Monitoring Frequency	Groundwater: Overburden boreholes (B1a, B2a, B3a, B4a, B5a, B6a & S3) Monitoring Evacuancy	Groundwater: Discharging to surface water (G1 & G2) Monitoring Freque ncy	Surface Water (S7, S8 & S9) Monitoring Frequency	Surface Water (S5, S6, EPA155 & EPA180) Monitoring Frequency	Leachate (L5, L7, L8 & L9) Monitoring Frequency	Leachate (L6) Monitoring Frequency
Level	N/A	Ouarterly	Ouarterly	N/A	N/A	N/A	Ouarterly	N/A
Ammoniacal		Quanterity	Quarteriy			0	Quarterij	0
Nitrogen	Quarterly	Annually	Quarterly	Monthly	Monthly	Quarterly	Annually	Quarterly
COD	N/A N/A	N/A N/A	N/A N/A	Monthly	Monthly	Quarterly	Annually	Quarterly
Chloride	Quarterly	Annually	Quarterly	Monthly	Monthly	Quarterly	Annually	Quarterly
Dissolved Oxygen	Quantanly	Annually	Quartarily	Monthly	Monthly	Ossantanlas	N/ A	
Electrical	Quarterly	Annually	Quarterly	wonthly	Monthly	Quarterly	N/A	N/A
Conductivity	Quarterly	Annually	Quarterly	Monthly	Monthly	Quarterly	Annually	Quarterly
pH Tetal Summer de d	Quarterly	Annually	Quarterly	Monthly	Monthly	Quarterly	Annually	Quarterly
Solids	N/A	N/A	N/A	Monthly	Monthly	Quarterly	N/A	Quarterly
Temperature	Quarterly	Annually	Quarterly	Monthly	Monthly	Quarterly	Annually	Quarterly
Boron	Annually	Annually	Annually	Annually	N/A	N/A	Annually	Annually
Cadmium	Annually	Annually	Annually	Annually	Annually	Annually	Annually	Annually
Calcium	Annually	Annually	Annuarry	Annually	Annually	Annually	Annually	Annuany
(total)	Annually	Annually	Annually	Annually	Annually	Annually	Annually	Annually
Copper	Annually	Annually	Annually	Annually	Annually	Annually	Annually	Annually
Cyanide (total)	Annually	Annually	Annually	Annually	Annually	Annually	Annually	Annually
Fluoride	Annually	Annually	Annually	Annually	S7 & S8 only Annually	N/A	Annually	Annually
Iron	Annually	Annually	Annually	Annuallý	Annually	Annually	Annually	Annually
	Annually	Annually	Annually	C Annually	Annually	Annually	Annually	Annually
Substances	Annually	Annually	Annually	red Annually	S7 & S8 only Annually	N/A	N/A	Annually
Mineral Oils	N/A	N/A	N/A pectowne	N/A	S9 only monthly	N/A	N/A	N/A
Magnesium	Annually	Annually	Annualle	Annually	Annually	Annually	Annually	Annually
Manganese	Annually	Annually	Annually	Annually	Annually	Annually	Annually	Annually
Detessium	Annually	Annually	Annually	Annually	Annually	Annually	Annually	Annually
Sulphate	Annually	Annually	Annually	Annually	Annually	Annually	Annually	Annually
Sodium	Annually	Annually	Annually	Annually	Annually	Annually	Annually	Annually
Total Alkalinity	Annually	Annually	Annually	Annually	Annually	Annually	Annually	Annually
Orthophosphate	Annually	Annually	Annually	Annually	Annually	Annually	Annually	Annually
Total Oxidised Nitrogen	Quarterly	Annually	Quarterly	Quarterly	Annually	Annually	Annually	Annually
Total Organic Carbon	Quarterly	Annually	Quarterly	Quarterly	N/A	N/A	N/A	N/A
Residue on Evaporation	Annually	Annually	Annually	Annually	N/A	N/A	N/A	N/A
Zinc	Annually	Annually	Annually	Annually	Annually	Annually	Annually	Annually
Phenols	Annually	Annually	Annually	Annually	N/A	N/A	N/A	N/A
Total & Faecal Coliforms	Quarterly	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Biological Assessment	N/A	N/A	N/A	N/A	S7 only Annually	EPA155 & EPA180 only	N/A	N/A
Atrazine	N/A	N/A	N/A	N/A	S7 & S8 only Annually	N/A	N/A	Annually
Simazine	N/A	N/A	N/A	N/A	S7 & S8 only Annually	N/A	N/A	Annually
Arsenic	N/A	N/A	N/A	N/A	S7 & S8 only Annually	N/A	N/A	Annually
Hardness	N/A	N/A	N/A	N/A	S7 & S8 only Annually	N/A	N/A	Annually
Nickel	N/A	N/A	N/A	N/A	S7 & S8 only Annually	N/A	N/A	Annually

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D.8 Monitoring of Composting Processes

Table D.8.1 Monitoring –Parameters/ Frequency

Parameter	Monitoring Frequency	Monitoring Equipment/ method
Enclosed		
Composting/vessels		
Temperature vs Time	Continuous	Temperature probe/ recorder
Maturation (curing)		
Temperature	Weekly	Temperature probe
Moisture	Weekly	Subjectivity by operator

D.9 Dust, PM10 and Bioaerosol

Table D.9.1 Dust and Bioaerosol Monitoring frequency and Technique

Parameter	Monitoring Frequency	Analysis Method/ Technique
PM10 (ug/m3)	Annually	See Note 1
Aspergillus fumigatus	Annually	Grab Sample Note 2
Mesophilic bacteria	Annually	Grab Sample Note 2
Dust deposition	Three times a year	Standard method Note 4
(mg/m2/day)	on Pur require	

Note 1: As described in prEN12341 "Air Quality - trid test procedure to demonstrate reference equivalence of sampling methods for PM10 fraction of particulate matter" or an alternative agreed in writing with the Agency. Note 2: Enumeration of colonies to be carried out as described in 'Standardised Protocol for the Sampling and Enumeration of Airborne Micro-organisms at composting Facilities' the UK Composting Association 1999. Note 3: Twice during the period May to September, or as otherwise specified in writing by the Agency. Note 4: Standard method VDI2119 (Measurement of Dustfall, Determination of Dustfall using Bergerhoff Instrument (Standard Method) German Engineering Institute). A modification (not included in the standard) which 2 methoxy ethanol may be employed to eliminate interference due to algae growth in the gauge.

D.10 Biofilter Monitoring

Table D.10.1 Biofilter Monitoring Frequency and Techniques

Parameter	Monitoring Frequency	Analysis Method/ Technique
Bed Media		
Odour assessment Note 2	Daily	Subjective Inspection
Condition and depth of biofilter	Daily	Visual Inspection
Moisture content	Bi-annually	Standard laboratory method
рН	Bi-annually	pH probe
Ammonia	Bi-annually	Standard laboratory method
Total viable counts	Bi-annually	Standard laboratory method
Outlet Gas		

MDR0368RP0102

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Ammonia	Bi-annually	Colourimetric Indicator Tubes
Hydrogen sulphide	Bi-annually	Colourimetric Indicator Tubes
Mercaptans	Bi-annually	Colourimetric Indicator Tubes

Note 1: All analyses shall be carried out by a competent laboratory using standard and internationally acceptable testing laboratory and the testing technique shall be agreed by the Agency in advance.

Note 2: This subjective assessment should be carried out by a staff member immediately upon arriving on-site. **Note 3:** The biofilter shall be examined to ensure that no channelling is evident, and that moisture content is adequate. Watering, turning, restructuring and the addition of supplementary bed materials, or total bed replacement shall be carried out, as required, subject to bed performance.

Schedule F :Standards for Compost Quality

It is proposed to review Table F.3 to allow for class 1 and class 2 quality standards.

Schedule F.3 Trace elements (compost)^{Note 1} (reviewed)

Trace element (mg/kg, dry mass)	Compost Quality	Stabilised Biowaste	
	Class 1	Class 2	
Cadmium (Cd)	0.7	1.5 v.	5
Chromium (Cr)	100	1,50	600
Copper (Cu)	100	M12, 201150	600
Mercury (Hg)	0.4	50° 310° 1	5
Nickel (Ni)	50	117 Jun 75	150
Lead (Pb)	100 tion	5 ¹⁰ 150	500
Zinc (Zn)	200, 200, 00	400	1500
Polychlorinated Biphenyls (PCB's)	FORMES	-	0.4
Polycyclic Aromatic Hydrocarbons (PAHs)	0.sent of	-	3
Impurities >2mm Note 3	<0.5% <0.5%	<0.5%	<3%
Gravel and Stones >5mm	<5%	<5%	-
Arsenic Note 5	-	-	15
Molybdenum Note 5	-	-	5
Selenium Note 5	-	-	2

Maximum Trace Element Concentration Limits Note 2

Note 1: These limits apply to the compost just after the composting phase and prior to mixing with any other materials.

Note 2: The above alone should not be taken as an indication of suitability for addition to soil as the cumulative metal additions to soil should be first calculated.

Note 3: Normalised to 30% organic matter content.

Note 4: Compost must not contain any sharp foreign matter measuring over a 2 mm dimension that may cause damage or injury to humans, animals and plants during or resulting from its intended use.

Note 5: Monitoring of these parameters required if waste from an industrial source.

Schedule G: Process Management

It is proposed to include Schedule G into the revised waste licence.

Table G.1 Composting: During the composting process the entire quantity of biowaste

 being composted shall be exposed to the following temperature:

Temperature	Treatment Time
At least 60°C	1 Week

Table G.2 Process validation. The composting process shall be tested using the following indicator organism $^{\rm Note\ 1.}$

Indicator Organism	Frequency
Salmonella spp.	Annually Note 2

Note 1: Unless otherwise agreed by the Agency.

Note 2: This test shall be repeated if major changes to either the composition of the incoming biowaste or the treatment process are made.

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Appendix A - Public Notices

Monaghan County Council

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MONAGHAN COUNTY COUNCIL

🐐 Comhairle Chontae Mhuineacháin

APPLICATION TO THE ENVIRONMENTAL PROTECTION AGENCY FOR THE REVIEW OF A WASTE LICENCE

NOTICE IS HEREBY GIVEN in accordance with Articles 5 and 6 of the Waste Management (Licensing) Regulations, 2004(S.I. No.395 of 2004) that Monaghan County Council with headquarters at County Offices, The Glen, Monaghan, will apply for a Review of a Waste Licence to the Environmental Protection Agency within two weeks of this date, in respect of the landfill facility at Scotch Corner Landfill, Letterbane, Annyalla, Castleblaney, Co. Monaghan in accordance with the Waste Managment (Licencing) Regulations, 2004 (S.I. No.395 of 2004) - National Grid Reference as follows:

275113E 325652N

The nature of the development is to 1) increase the quantity of waste for disposal to 59,250 tonnes per annum 2) increase the quantity of organic waste and green waste allowable for composting to 10,000 tonnes per annum 3) allow for the provision of a mechanical biological treatment plant 4) allow site levels to be referenced to Malin head datum.

The classes of activity in accordance with the Third Schedule of the Waste Management Act 2003 are:-Class 1: Deposit on, in or under land (including land Land treatment, including biodegradation of liquid or sludge discards in soils. Class 2: sludge discards in soils. Surface impoundment, including placement of liquid or sludge discards into pits, poinds or lagoons. Specially engineered landfills including placement into Class 4: Class 5: lined discrete cells which are capped and isolated from one another and the environment. Class 11: Blending or mixing prior to submission to any activity Class 12: Repackaging providing paragraph of this Schedule.
 Class 12: Repackaging prior to submission to any activity referred to up preceding paragraph of this schedule.
 Class 13: Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than the preceding paragraph of this Schedule, other than the preceding paragraph of this Schedule. tendorary storage, pending collection, on the premises where the waste concerned is produced. The Principal Activity is Class 5 of the Third Schedule as given above The classes of activity in accordance with the Fourth Schedule of the Waste Management Act 1996 are:-Class 1 Solvent reclamation or regeneration. Class 2: Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological processes) Class 3: Recycling or reclamation of metals and metal compounds. Class 4: Recycling or reclamation of other inorganic materials. Class 8: Oil re-refining or other reuses of oil. Class 11: Use of waste obtained from any activity referred to in a preceding paragraph of this Schedule. Class 13: Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced. The principal activities are class 2 and class 4 of the fourth schedule A copy of the Application for the Review of the Waste Licence and any such further information relating to the Application as may be furnished to the Agency in the course of the Agency's consideration of the Application will, as soon as is practicable after

consideration of the Application will, as soon as is practicable after receipt by the Agency, be available for inspection or purchase at the headquarters of the Agency at Johnstown Castle, Wexford, and the offices of Monaghan County Council at County Offices, The Glen, Monaghan. Consent of copyright owner convict of any other use.

Appendix B - Correspondence between MCC and EPA regarding this Review

Monaghan County Council

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Comhairle Chontae Mhuineacháin NFIGÍ CONTAE, NN GLEANN, MUINEACHÁN. Iwthan : 647 - 30500



Monaghan County Council COUNTY OFFICES THE GLEN, MONAGHAN.

Telephone: 047 - 30500 Fax: 047 - 82739 e-mail: secretar@monaghancoco.ie All correspondence should be addressed to the Secretary.

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> Scotch Comer Landfill, Annyalia, Castleblaney, Co. Monaghan.

> > 1st November 2004

Mr. Alan Stephens, Environmental Protection Agency, McCumiskey House, Richview, Dublin 14

Ref. Licence Review of Waste Licence 20-1

required for

Dear Mr. Stephens,

I refer to Condition 4.1 of Waste Licence.

With regard to the above condition, Monaghan County Council wishes to review Waste Licence 20-1.

Please forward to Monaghan County Council, a list of the documentation required for this licence review.

If you require clarification on the above information, please contact me at 047-80930.

Yours sincerely,

Trem Williamon

Irene Williamson Landfill Manager

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	ENFORCEMENT RICHVIZIY
08	FICE OF ENVIRONMENTAL ENFORCEMENT RICHVIEW

LANDFILL

Ms. Irene Williamson Landfill Manager Monaghan County Council County Offices The Glen Monaghan Environmental Protection Agency

Headquarters, PO Box 3000 Johnstown Castle Estate County Wexford, Ireland

Ceanncheathrú, Bosca Poist 3000 Eastát Chaisleán Bhaile Sheáin Contae Loch Garman, Éirc

T: +353 53 60600 F +353 53 60699 E: info@epaire W: www.epaire

LoCall 1890 33 55 99

14 July 2005

Re: Waste Licence 20-1 - Scotch Corner Landfill

Dear Ms. Willamson,

I am to refer to your letter dated 1 November 2004 in relation to the above licence and to advise that in the absence of more detailed information than that provided in your letter it is not possible to list the documentation that would be required for the licence review. In this context and with a view to assisting you make the necessary application for a review, at the earliest possible date, it would be important that the matter be first discussed with officials of the Licensing Unit of the Agency. With this in mind and in order to identify the areas and type of information required for the review you are requested to contact Dr. Junathan Derham, Senior Inspector of the Licensing Unit.

MONAGHAN CO. COUNCIL 15 JUL 2005 CORPORATE AFFAIRS

I regret the delay in replying to your letter which was due to an oversight on our part.

Yours sincerely,

P. Nolan Programme Manager

Encl.

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Appendix C - DRAWINGS

- Site location Map
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- Site location Map Site Layout Map Proposed Mechanicat Biological Treatment Area •
- Drawing DG00202 replaces 'Drawing No. 152-505-03 • Final Contour Plan' of the original waste licence 20-1.
- **Monitoring Location Map** •

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Extent of Site







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LEGEND	
	Extent of Site



LEGEND		
STREAMS AND DRAINS		
SITE BOUNDARY	-	
LAND OWNED BY MONAGHAN COUNTY COUNCIL		
TELECOM OVERHEAD LINES		
HOUSES WITHIN 250M.		н
WELLS WITHIN 250M.		W
SURFACE WATER MONITORING POINTS.		S
GROUND WATER MONITORING POINTS.		G+B
LEACHATE MONITORING POINTS.		L
DUST MONITORING POINTS.	H	D
GAS MONITORING POINTS	L	B
NOISE MONITORING POINTS.	H	D



Client:

MONAGHAN COUNTY COUNCIL Comhairle Chontae na Mhuineacháin County Offices, The Glen, Monaghan Phone: 047 82211 Fax: 047 82739



RPS Consulting Engineers, Carnegie House, Library Road, Dun Laoghaire, Co. Dublin, Ireland. T: +353 1 202 0870 - F: +353 1 202 0707 E: ireland@rpsgroup.com W: www.rpsgroup.com/ireland

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