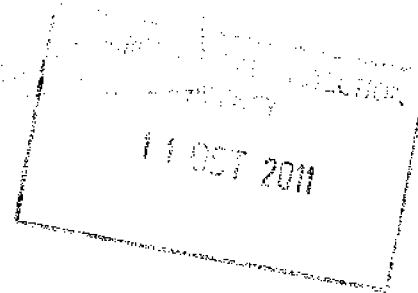




Administration,  
Environmental Licensing Programme,  
Office of Climate, Licensing & Resource Use,  
Environmental Protection Agency,  
Headquarters,  
PO Box 3000,  
Johnstown Castle Estate,  
County Wexford

13 OCT 2011



10<sup>th</sup> October 2011

Our Ref: MGE0109L10063  
File Ref: MGE0109 - 330

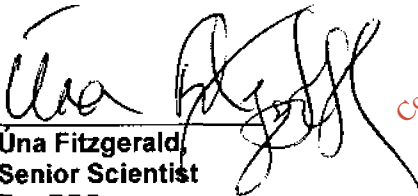
**Re: Waste Licence W0217-02, Killarney Waste Disposal Limited  
Additional Information with respect to notice in accordance with Article 14(2)(b)(ii) of  
the Waste Management (Licensing) Regulations 2004, as amended.**

Dear Sir/Madam,

I refer to your letter dated 29<sup>th</sup> August 2011 with respect to the above. On behalf of Killarney Waste Disposal Limited, please find enclosed the information requested.

If you have any queries on this matter, please don't hesitate to contact me.

Yours faithfully

  
**Una Fitzgerald,  
Senior Scientist  
For RPS**

ÚF/úf

**Encl: Additional Information re W0217-02**

**cc Brian Bruton, Killarney Waste Disposal Limited, Aughacurreen, Killarney, Co. Kerry**

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**TABLE B.7.1 THIRD AND FOURTH SCHEDULES OF THE WASTE MANAGEMENT ACTS 1996 TO 2010**

<b>Waste Management Acts 1996 to 2010</b>					
<b>Third Schedule Waste Disposal Operations</b>		<b>Y/N</b>	<b>Fourth Schedule Waste Recovery Operations</b>		<b>Y/N</b>
D 1	Deposit into or on to land (e.g. including landfill, etc.).	N	R 1	<p>Use principally as a fuel or other means to generate energy: This includes incineration facilities dedicated to the processing of municipal solid waste only where their energy efficiency is equal to or above:</p> <ul style="list-style-type: none"> <li>- 0.60 for installations in operation and permitted in accordance with applicable Community acts before 1 January 2009,</li> <li>- 0.65 for installations permitted after 31 December 2008,</li> </ul> <p>using the following formula, applied in accordance with the reference document on Best Available Techniques for Waste Incineration:                      Energy efficiency = <math>(E_p - (E_f + E_i)) / (0.97 \times (E_w + E_f))</math>                      where—</p> <p>‘E<sub>p</sub>’ means annual energy produced as heat or electricity and is calculated with energy in the form of electricity being multiplied by 2.6 and heat produced for commercial use multiplied by 1.1(GJ/year),</p> <p>‘E<sub>f</sub>’ means annual energy input to the system from fuels contributing to the production of steam (GJ/year),</p> <p>‘E<sub>w</sub>’ means annual energy contained in the treated waste calculated using the net calorific value of the waste (GJ/year),</p> <p>‘E<sub>i</sub>’ means annual energy imported excluding E<sub>w</sub> and B<sub>f</sub>(GJ/year),</p> <p>‘0.97’ is a factor accounting for energy losses due to bottom ash and radiation.</p>	N
D 2	Land treatment (e.g. biodegradation of liquid or sludgy discards in soils, etc.).	N	R 2	Solvent reclamation/regeneration.	N
D 3	Deep injection (e.g. injection of pumpable discards into wells, salt domes or naturally occurring repositories, etc.).	N	R 3	Recycling /reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes), which includes gasification and pyrolysis using the components as chemicals.	Y
D 4	Surface impoundment (e.g. placement of liquid or sludgy discards into pits, ponds or lagoons, etc.).	N	R 4	Recycling/reclamation of metals and metal compounds.	Y
D 5	Specially engineered landfill (e.g. placement into lined discrete cells which are capped and isolated from one another and the environment, etc.).	N	R 5	Recycling/reclamation of other inorganic materials, which includes soil cleaning resulting in recovery of the soil and recycling of inorganic construction materials.	Y
D 6	Release into a water body except seas/oceans.	N	R 6	Regeneration of acids or bases.	N
D 7	Release to seas/oceans including sea-bed insertion.	N	R 7	Recovery of components used for pollution abatement.	N
D 8	Biological treatment not specified elsewhere	N	R 8	Recovery of components from catalysts.	N

### Waste Management Acts 1996 to 2010

Third Schedule Waste Disposal Operations		Y/N	Fourth Schedule Waste Recovery Operations		Y/N
	in this Schedule which results in final compounds or mixtures which are discarded by means of any of the operations numbered D 1 to D 12.				
D 9	Physico-chemical treatment not specified elsewhere in this Schedule which results in final compounds or mixtures which are discarded by means of any of the operations numbered D 1 to D 12 (e.g. evaporation, drying, calcinations, etc.).	N	R 9	Oil re-refining or other reuses of oil.	N
D 10	Incineration on land.	N	R 10	Land treatment resulting in benefit to agriculture or ecological improvement.	N
D 11	Incineration at sea (this operation is prohibited by EU legislation and international conventions).	N	R 11	Use of waste obtained from any of the operations numbered R 1 to R 10.	Y
D 12	Permanent storage (e.g. emplacement of containers in a mine, etc).	N	R 12	Exchange of waste for submission to any of the operations numbered R 1 to R 11 (if there is no other R code appropriate, this can include preliminary operations prior to recovery including pre-processing such as, amongst others, dismantling, sorting, crushing, compacting, pelletising, drying, shredding, conditioning, repackaging, separating, blending or mixing prior to submission to any of the operations numbered R1 to R11).	Y
D 13	Blending or mixing prior to submission to any of the operations numbered D 1 to D 12 (if there is no other D code appropriate, this can include preliminary operations prior to disposal including pre-processing such as, amongst others, sorting, crushing, compacting, pelletising, drying, shredding, conditioning or separating prior to submission to any of the operations numbered D1 to D12).	Y	R 13	Storage of waste pending any of the operations numbered R 1 to R 12 (excluding temporary storage (being preliminary storage according to the definition of 'collection' in section 5(1)), pending collection, on the site where the waste is produced).	Y
D 14	Repackaging prior to submission to any of the operations numbered D 1 to D 13.	Y			
D 15	Storage pending any of the operations numbered D 1 to D 14 (excluding temporary storage (being preliminary storage according to the definition of 'collection' in section 5(1)), pending collection, on the site where the waste is produced).	Y			

**TABLE H.1(A). QUANTITIES OF WASTE IN RELATION TO EACH CLASS OF ACTIVITY APPLIED FOR**

Waste Management Acts 1996 to 2010 3rd Schedule (Disposal) Operations			Waste Management Acts 1996 to 2010 4th Schedule (Recovery) Operations		
Class of Activity Applied For		Quantity (tpa)	Class of Activity Applied For		Quantity (tpa)
Class D 1			Class R 1		
Class D 2			Class R 2		
Class D 3			Class R 3	✓	30,200
Class D 4			Class R 4	✓	1,495
Class D 5			Class R 5	✓	13,940
Class D 6			Class R 6		
Class D 7			Class R 7		
Class D 8			Class R 8		
Class D 9			Class R 9		
Class D 10			Class R 10		
Class D 11			Class R 11	✓	45,835
Class D 12			Class R 12	✓	45,835
Class D 13	✓	13,165	Class R 13	✓	45,835
Class D 14	✓	13,165			
Class D 15	✓	13,165			

**Class R3 of 4<sup>th</sup> Schedule: 30,200 tonnes of organic waste** = 27,000 tonnes of paper and cardboard, 2,000 tonnes of segregated organic waste (brown bin) and 1,200 tonnes of RDF sent for recovery.

**Class R4 of 4<sup>th</sup> Schedule: 1,495 tonnes of metal waste** = 1,045 tonnes of metals, 200 tonnes of WEEE and 250 tonnes of ELV's sent for recovery.

**Class R5 of 4<sup>th</sup> Schedule: 13,940 tonnes of inorganic waste** = 2,400 tonnes of dry recyclables from mixed municipal process, 2,290 tonnes of C&D waste (3,535 tonnes total - 1,045 tonnes metals), 250 tonnes of waste tyres, and 9,000 tonnes segregated dry recyclables (36,000 tonnes total - 27,000 tonnes paper and cardboard) sent for recovery.

**Class R11, R12 & R13 of 4<sup>th</sup> Schedule: Total tonnage sent for recovery** = 45,835 tonnes

**Class D13, D14 & D15 of 3<sup>rd</sup> Schedule: Total tonnage sent for disposal** = 13,165 tonnes

<b>Incoming</b>	<b>Outgoing</b>
12,000 tonnes mixed municipal waste	<ul style="list-style-type: none"> <li>• 1,200 tonnes RDF sent for energy recovery.</li> <li>• 2,400 dry recyclables sent for recovery.</li> <li>• 8,400 tonnes (residual and organic fines (stabilised)) sent for disposal.</li> </ul>
40,000 tonnes segregated dry recyclables	<ul style="list-style-type: none"> <li>• 36,000 tonnes sent for recovery (27,000 of this is paper and cardboard).</li> <li>• 4,000 tonnes sent for disposal.</li> </ul>
4,300 tonnes C&D waste (metals 2000 tonnes, timber 1800 tonnes, other C&D waste 500 tonnes)	<ul style="list-style-type: none"> <li>• 3,535 tonnes sent for recovery (1,045 tonnes of this is metals)</li> <li>• 765 tonnes sent for disposal.</li> </ul>
2,000 tonnes segregated organic waste (brown bin)	<ul style="list-style-type: none"> <li>• 2,000 tonnes sent for recovery.</li> </ul>
250 tonnes of ELVs	<ul style="list-style-type: none"> <li>• 250 tonnes metal sent for recovery</li> </ul>
250 tonnes of Waste Tyres	<ul style="list-style-type: none"> <li>• 250 tonnes sent for recovery</li> </ul>
200 tonnes of WEEE	<ul style="list-style-type: none"> <li>• 200 tonnes sent for recovery</li> </ul>

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**Information to address the requirements of article 12(1)(v) of the Waste Management (Licensing) Regulations, 2004, as amended.**  
**Application of the Waste Hierarchy**

The regional waste management plan for Limerick/Clare/Kerry is rooted in the concept of an integrated waste management policy with priority assigned in accordance with the EU Waste Management Hierarchy. Killarney Waste Disposal is one of three private Material Recovery Facilities in the region. Their role therefore is to provide recycling and recovery capacity to support the provision of an integrated waste management system in the region, which in turn supports the application of the waste hierarchy with respect to 'other recovery'.

KWD are currently licenced to accept a maximum of 40,000 tonnes of waste per annum. A review of their licence to increase this to 59,000 tonnes is currently under consideration by the EPA. A breakdown of the proposed 59,000 tonnes is provided in the table below. This breakdown provides a mass balance with respect to the incoming waste types and the various fractions these would be separated into at the facility. It illustrates where the facility fits in to the waste hierarchy i.e principally recovery with a small percentage of currently unavoidable disposal. Residual wastes arising from the recovery process i.e waste which currently cannot be recovered, are sent for disposal.

Incoming	Outgoing
12,000 tonnes mixed municipal waste	<ul style="list-style-type: none"> <li>• 1,200 tonnes RDF sent for energy recovery.</li> <li>• 2,400 dry recyclables sent for recovery.</li> <li>• 8,400 tonnes (residual and organic fines (stabilised)) sent for disposal.</li> </ul>
40,000 tonnes segregated dry recyclables	<ul style="list-style-type: none"> <li>• 36,000 tonnes sent for recovery (27,000 of this is paper and cardboard).</li> <li>• 4,000 tonnes sent for disposal.</li> </ul>
4,300 tonnes C&D waste (metals 2000 tonnes, timber 1800 tonnes, other C&D waste 500 tonnes)	<ul style="list-style-type: none"> <li>• 3,535 tonnes sent for recovery (1,045 tonnes of this is metals)</li> <li>• 765 tonnes sent for disposal.</li> </ul>
2,000 tonnes segregated organic waste (brown bin)	<ul style="list-style-type: none"> <li>• 2,000 tonnes sent for recovery.</li> </ul>
250 tonnes of ELVs	<ul style="list-style-type: none"> <li>• 250 tonnes metal sent for recovery</li> </ul>
250 tonnes of Waste Tyres	<ul style="list-style-type: none"> <li>• 250 tonnes sent for recovery</li> </ul>
200 tonnes of WEEE	<ul style="list-style-type: none"> <li>• 200 tonnes sent for recovery</li> </ul>

## **Revised Attachment A1 (Non-technical Summary) of Waste Application Form for W0217-01/02**

### **A.1.1 Nature & Location of the Facility**

Killarney Waste Disposal (KWD) operate a Materials Recovery Facility at Aughnacureen 4.5km northwest of Killarney Town under EPA Waste Licence No. W0217-01, which allows an annual waste intake of 40,000 tonnes for recovery. The site is 3.7 hectares in size and is located within a rural context. There are approximately 20 no. residences within 500m from the boundary of the facility. Most of residences are located on a ribbon development on the nearby road from Knockasarnet to Aghalee. The primary landuse in the vicinity of the facility is agriculture.

Killarney Waste Disposal propose to increase the waste intake at the facility to 59,000 tonnes per annum.

The General Soils Map of Ireland indicates that the soil type in the area is podzolic. These are poor, acidic soils, typical of cool, damp climates. GSI Quaternary maps record Devonian Sandstone dominated Till (boulder clay) at the site location. The thickness of the subsoil deposits in the area can reach up to 30m in places while elsewhere the subsoil is absent (at outcrop) or less than a metre. The GSI has classified the shale and sandstone bedrock underlying the site as a locally important aquifer which is moderately productive only in local zones.

The Killarney Waste Disposal facility is located in the catchment of the Glanooragh River which flows to the Gweestin River c.10km downstream of the facility. The Gweestin flows for a further c. 10km before joining the River Laune.

### **A.1.2 Classes of Activities as specified in the Third and Fourth Schedules of the Act**

The waste disposal activities carried out under the Third Schedule are the Classes D13, D14 and D15. The waste recovery activities carried out under the Fourth Schedule are the Classes R3, R4, R5, R11, R12 and R13. The proposed principal activity is Class R3 under the Fourth Schedule.

### **A.1.3 Quantity and Nature of the Waste**

A total of 40,000 tonnes per annum of non-hazardous waste is currently accepted by KWD. It is proposed to increase the annual waste intake to 59,000 tonnes, the breakdown of which is shown below in Table 1.1. The proposed increase in the annual waste intake includes for an increase in the quantity of dry recyclables, End-Of-Life Vehicles (ELV's), WEEE and waste tyres.



**Table 1.1 Waste Types and Quantities Proposed**

<b>Waste Type</b>	<b>Maximum Tonnes per Annum</b>
Household	35,100
Commercial	18,900
Construction & Demolition Waste	4,300
WEEE	200
Waste Tyres	250
End-Of-Life Vehicles	250
<b>Total Waste</b>	<b>59,000</b>

#### **A.1.4 Application of the EU Waste Hierarchy**

The regional waste management plan for Limerick/Clare/Kerry is rooted in the concept of an integrated waste management policy with priority assigned in accordance with the EU Waste Management Hierarchy. Killarney Waste Disposal is one of three private Material Recovery Facilities in the region. Their role therefore is to provide recycling and recovery capacity to support the provision of an integrated waste management system in the region, which in turn supports the application of the waste hierarchy with respect to 'other recovery'.

#### **A.1.5 Operations**

Drawing No. DG0035-01 provides details on the Detailed Site Layout Plan.

The proposed operating hours and waste acceptance hours are as follows:  
Material processing within the confines of the MRF Building, 24 hours a day  
Monday to Saturday inclusive (activities outdoors only between the hours of 07:00 to 20:00), and 07:30 to 19:30 Monday to Saturday inclusive respectively.

The following waste types are accepted for recovery and disposal:

- i) Mixed municipal waste;
- ii) Source segregated waste, which includes organic waste and dry recyclables (plastic (bottles and film), paper, cardboard and packaging waste);
- iii) Construction & Demolition waste;
- iv) Glass;
- v) WEEE; and
- vi) End-Of-Life Vehicles (ELVs), and waste tyres.

Incoming waste is weighed at the weighbridge near the site entrance and the following information is recorded for the site records:

- Description of the waste including waste types, composition, form and relevant EWC Code
- The origin of the waste including customer details
- The weight of the waste load.

The waste is tipped into the Material Recovery Facility (MRF) and inspected prior to processing. Any suspect load is removed to the quarantine area for further inspection and, if non-compliant, is returned to the customer. Details on the processing of the different waste streams are shown in Section D.2.

#### **A.1.6 Emissions and Treatment**

A septic tank is in use at the facility with a puraflo unit and associated percolation area. The system has been designed to cater for 12 people at 180L per person per day, which equates to a discharge quantity of 2.16 cubic metres per day to be treated by the system.

Roof water drainage from the MRF building is directed away from the concreted yard and stormwater collection/treatment system.

Runoff from the yard drains to 2 no. holding tanks from where it is pumped to the oil/water separator and then on to the aeration pond, settling pond, constructed wetland and percolation ditch. The total surface water runoff for the site is 12.8m<sup>3</sup>/day.

The processing of mixed municipal waste produces a liquid effluent. The MRF building has an effluent holding tank in the centre of the building. This precast concrete holding tank is 6,920 litres (1,500 gallons) in capacity and is lined with a 2.5mm thick HDPE liner. A bunding tank which surrounds the holding tank has a capacity of 3,500 gallons. Approximately 34,600 litres (7,500 gallons) of effluent is transported by tanker to Tralee WWTW (5 no. loads of 6,920 litres) for treatment per annum.

#### **A.1.7 Environmental Impacts**

##### **Dust Emissions**

From the facility emissions of dust will be generated from the processing and storage of C&D waste and timber and from traffic travelling to and from the facility. Dust emissions associated with timber shredding is minimised as the timber shredder is housed on three sides. It is unlikely that the emission limit of 350 mg/m<sup>2</sup>/day for total dust deposition will be exceeded and the regular monitoring required under the waste licence will confirm this.

In order to limit dust emissions at the facility, a number of measures will be implemented including regular sweeping of the facility with the automatic sweeper, the use of surrounding trees to attenuate the dust generated, a mobile water sprayer during dry weather conditions to limit dust emissions, and regular servicing of plant equipment to prevent excessive exhaust emissions of particulates and other pollutants.

Dust monitoring carried out by OES Consulting in 2009 found that the facility is not having a negative impact on the surrounding air quality.

## **Odour Emissions**

The processing of mixed municipal waste and the acceptance of segregated organic waste has the potential to emit odour. Odour emissions are minimised by measures such as indoor processing of organic and municipal waste, regular cleaning of surfaces to limit growth of anaerobic bacteria, covering of potential odour sources, limiting residence time for waste, and in the event that an odour nuisance occurs the use of a masking agent to cover the odour or counteractant to react with the nuisance odour to reduce the odour intensity.

## **Surface Water**

### **Process Effluent**

Process effluent from municipal waste processing in the MRF building drains to an effluent holding tank in the centre of the building and hence does not impact on surface water within the facility. The precast concrete holding tank is 6,920 litres in capacity and is lined with a 2.5mm thick HDPE liner. The liquid effluent from the holding tank is tankered to Tralee WWTP. A bunding tank which surrounds the holding tank has a capacity of 13,250 litres. The effluent holding tank inside the MRF Building is analysed on an annual basis.

### **Stormwater/Surface Water Drainage**

#### **(i) Roof**

Roof water drainage from the MRF building is directed away from the concreted yard and stormwater collection/treatment system. Sampling of the roof runoff quality is carried out at monitoring points R1 and R2.

#### **(ii) Concreted Yard Area**

Runoff from the yard area drains to 2 no. holding tanks from where it is pumped to the oil/water separator and then on to the aeration pond, settling pond, constructed wetland and percolation ditch. The discharge point SW1 is monitored to ensure that the stormwater is uncontaminated. The final discharge is to surface water.

Mitigation measures recommended to reduce the level of ammonia in the stormwater runoff which have been implemented on site include the installation of gates on the C&D waste processing area to prevent the migration of waste out onto the yard area, inspection of incoming timber waste to ensure no contamination with organic waste, inspection and maintenance of all storage bins and skips on site for leakages, cleaning of the yard with the automatic sweeper on a daily basis, regular cleaning of holding tanks and oil/water separator every 2 months or as required, and regular cleaning of the settling pond every 6 months or as required. In 2009, SW1 was sampled and analysed on a weekly basis and an average of 0.21mg/l was measured for ammonia which was well below the levels being reported in 2008. In addition water quality sampling results taken upstream and downstream of the stream (sampling locations Sites B & D) indicate that all parameters are within the standard emission limit values. Therefore the stormwater discharge from the site is not impacting negatively on the surface water quality.

### **Depollution of End-Of-Life Vehicles (ELV's)**

It is proposed to process ELV's in the MRF building on an impermeable surface in a separately bunded area with drain and sump to ensure that any potential spillages are controlled, collected and sent to a licensed facility for treatment. In addition, during the depollution process following drainage of fluids, plastic plugs will be inserted in all drain holes to prevent dripping occurring. A spill procedure and spill kits are in place on site to deal with potential spillages. All components and fluids will be suitably contained within the bunded area and sent to licensed facilities for recovery/disposal.

### **Sewage Discharge**

A septic tank is in use at the facility with a puraflo unit and associated percolation area. The system has been designed to treat a discharge quantity of 2.16 cubic metres per day. The puraflo unit and percolation area have been designed, located, constructed and maintained in accordance with the manufacturer's instructions. The design of the treatment system is in line with the requirements of EPA Wastewater Treatment Manual and sewage generated at the facility will not adversely impact on the environment.

### **Groundwater**

There are no direct groundwater emissions from the facility. The design of the domestic effluent system is in line with the requirements of EPA Wastewater Treatment Manual therefore sewage generated at the facility will not adversely impact on the environment. Process effluent drains to a holding tank, before being sent to Tralee WWTP for treatment. This holding tank passed a bund integrity test in March 2009. This shows that no leachate is being released into the environment. Control measures are in place for depollution of ELV's. Stormwater is collected and treated on site and discharged to surface water. In July 2009, 4 no. groundwater monitoring boreholes were installed at the facility. The location of the groundwater monitoring points are shown in Drawing No. DG0035-01 Detailed Site Layout Plan. GW1 and GW2 are located downgradient and GW3 and GW4 are located upgradient of the facility. Elevated levels of ammonia present in an upgradient borehole indicates that other sources of contamination unrelated to the KWD facility are likely to be responsible.

### **Ecology**

The facility is not included by any ecological designation (NHA, SPA, SAC) and there will be no impact on ecology in the vicinity.

### **Noise Emissions**

Noise emissions are generated from traffic using the adjacent road network, traffic movements on site and operations on site which mostly take place within the MRF building. Processing of timber waste occurs outdoors on an intermittent basis and the timber shredder is housed on three sides to reduce noise emissions. The monitoring programme for noise will ensure that standard emissions limits are not exceeded.

A noise survey was carried out by OES Consulting in 2009 in accordance with the conditions of the waste licence. The noise levels measured are below the EPA

standard emission levels and it is unlikely that the facility will have a negative impact on adjacent landowners.

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