EPA Application Form

9.1- Environmental Management Techniques- Attachment

Organisation Name:	Knockharley Landfill Limited
Application I.D.:	LA004307

Amendments to this Application Form Attachment

Version No.	Date	Amendment since previous version	Reason
V.1.0	July 2017	N/A	Online application form attachment

9 Environmental Management Techniques[1]

9.1. Accident Prevention Measures

Measures to prevent accidental emissions and liabilities

Incidents and accidents are unplanned events. Emissions from incidents and (major) accidents usually occur within a relatively short time frame but with greater intensity than under normal operating conditions. Incidents such as fire or fuel spillages can result in liabilities such as contaminated soil and groundwater. Proactive risk management reduces the potential for an incident.

Abnormal operating conditions must be managed without endangering human health and harming the environment, and in particular without risk to water, air, soil, plants or animals, without causing a nuisance through noise or odours, and without adversely affecting the countryside or places of special interest.

The applicant must firstly undertake a risk assessment in accordance with EPA guidance on assessing and costing environmental liabilities. Having identified the key risks, the applicant should populate the following table with the measures to be taken to treat the key risks, e.g., bunding, integrity testing, fire prevention, etc.

The range of measures is dependent on the complexity of the site. Pollution prevention measures may, inter alia, include the following information:

- Conclusions on BAT set out in the EU Reference document on BAT on emissions from storage such as a safety management system; corrosion prevention measures on tanks, etc.
- Details of storage of all raw materials, products and wastes such as segregation, labelling, designation and impervious surface;
- Details of spill or emergency containment measures and structures such as bunds, high level alarms, absorbent materials;
- Details of fire detection and fire-water retention facilities in the event of emergencies or other measures to contain fire-water;
- Details of transport of material within the site, solid, liquid or sludge transported by pipe, vehicle or conveyor; etc.,
- The Agency has published a guidance document on Fire-Water Retention Facilities and on the Storage and transfer of materials.

[1] This part of the form collects information on environmental management at the installation/ facility. It seeks to understand the maturity of the management system in terms of knowledge of abnormal operating conditions, prevention and early detection measures and emergency response procedures. The level of detail required in this part of form relates to the environmental risk posed.

Describe in the table below existing and/or proposed measures, including emergency procedures, to minimise the impact on the environment of an accidental emission or spillage.(This table should include the measures to be taken under abnormal operating conditions, including start-up, shutdown, leaks, malfunctions, breakdowns and momentary stoppages that will demonstrate that any emission arising will not cause significant environmental pollution)[2].

Measure	Surveillance Measures		
	Description	Frequency of Surveillance	Method / Standard
Accident Prevention Plan	Identifies the main hazards that may arise at the site		Documented Procedure
Fire and Emergency Response Procedure	Identifies the actions to be taken in the event of an emergency		Documented Procedure
Odour Surveys	Carried out by installation staff when required		
Firewater Retention Risk Assessment	Assess the available retention capacity for firewater generated in the response to a fire		Report
Environmental Liability Risk Assessment	Assesses the level of risk to the environment posed by the site and outlines mitigation measures		Report

*add rows to the table as necessary

[2]Information relating to the integrity, impermeability and recent testing or pipes, tanks and bund areas should be included.

Outline what provisions have been made to ensure an adequate response to emergency situations outside of normal working hours, i.e.,during night-time, weekends and holiday periods (attach additional pages to this document if required):

In the event that an emergency occurs outside of normal operational hours, contact details for the designated person on call are displayed on the Notice Boards at the entrance to the installation.

Soil Monitoring Points

Periodic monitoring of soil and groundwater is required having regard to the possibility of soil and groundwater contamination of the site[3].

Complete the table below with details of soil monitoring locations and in particular where a baseline report has been/is required in accordance with Section 86B of the EPA Act 1992 as amended.

Is periodic soil monitoring proposed at the installation/facility? (Yes/No): **No**

Soil Monitoring Point Code	Monitoring Point Grid Ref.	
	Easting [4]	Northing [5]

*add rows to the table as necessary

3 Inherent in the monitoring of soil and groundwater is accepting the possible necessity for remediation of the soil / groundwater. Regular monitoring of soil and groundwater provides an early detection of any contaminations.

4 Six Digit GPS Irish National Grid Reference

5 Six Digit GPS Irish National Grid Reference

Soil Parameters

Complete the table below with details of soil monitoring parameters (where a baseline report is required in accordance with Section 86B of the EPA Act 1992 as amended). (If different parameters are associated with different monitoring points this should also be identified in the table below.)

Parameter	Unit	Trigger Level	How was the trigger level determined?	Proposed Monitoring Frequency	Sample Method	Analysis Method / Technique

*add rows to the table as necessary

Groundwater Monitoring Points

Based on the assessment(s) carried out previously or as part of this licence application, complete the table below with summary details of the groundwater monitoring points.

Is groundwater monitoring proposed at the installation/facility? (Yes/No): **Yes**

Monitoring Point Code	Monitoring Point Grid Ref.	
	Easting [6]	Northing [7]
MW1D	296689	267649
MW2D	297191	267988
MW3D	297562	267742
MW5D	297712	267102
MW6D	297377	266718
MW7D	297054.62	266875.6
MW16D	297678	264143
MW17D	297833.46	267424.35
MW18D	297677.66	267190.15
MW19D	297646.03	266580.16

*add rows to the table as necessary

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[6]Six Digit GPS Irish National Grid Reference
[7]Six Digit GPS Irish National Grid Reference

Groundwater Parameters

Complete the table below with summary details of the groundwater parameters. (If different parameters are associated with different monitoring points this should be identified in the table below.)

Parameter	Unit	Trigger Level	How was the trigger level determined?	Proposed Monitoring Frequency	Sample Method	Analysis Method / Technique
Ammoniacal Nitrogen	Mg/l	1.96	Agency approved method	Quarterly	Inertial pump	ISO/CEN approved or equivalent
Chloride	Mg/l	31.28	Agency approved method	Quarterly	Inertial pump	ISO/CEN approved or equivalent
Dissolved Oxygen	Mg/l	-		Quarterly	Inertial pump	ISO/CEN approved or equivalent
Electrical conductivity	µS/cm	-		Quarterly	Inertial pump	ISO/CEN approved or equivalent
pH	pH units	8.28	Agency approved method	Quarterly	Inertial pump	ISO/CEN approved or equivalent
Temperature	°C	-		Monthly	Inertial pump	ISO/CEN approved or equivalent
Iron	mg/l	-		Quarterly	Inertial pump	ISO/CEN approved or equivalent
Potassium	mg/l	6.25	Agency approved method	Quarterly	Inertial pump	ISO/CEN approved or equivalent
Sodium	mg/l	112.3	Agency approved method	Quarterly	Inertial pump	ISO/CEN approved or equivalent
Total Oxidised Nitrogen	mg/l	-		Quarterly	Inertial pump	ISO/CEN approved or equivalent
Total Organic Carbon	mg/l	-		Quarterly	Inertial pump	ISO/CEN approved or equivalent

Parameter	Unit	Trigger Level	How was the trigger level determined?	Proposed Monitoring Frequency	Sample Method	Analysis Method / Technique
Phenols	mg/l	0.02	Agency approved method	Quarterly	Inertial pump	ISO/CEN approved or equivalent
Total Coliforms	cfu/100mls	-		Quarterly	Inertial pump	ISO/CEN approved or equivalent
Faecal Coliforms	cfu/100mls	-		Quarterly	Inertial pump	ISO/CEN approved or equivalent
Boron	µg/l	-		Annual	Inertial pump	ISO/CEN approved or equivalent
Cadmium	µg/l	-		Annual	Inertial pump	ISO/CEN approved or equivalent
Calcium	mg/l	-		Annual	Inertial pump	ISO/CEN approved or equivalent
Chromium	µg/l	-		Annual	Inertial pump	ISO/CEN approved or equivalent
Copper	µg/l	-		Annual	Inertial pump	ISO/CEN approved or equivalent
Cyanide	mg/l	-		Annual	Inertial pump	ISO/CEN approved or equivalent
Fluoride	mg/l	-		Annual	Inertial pump	ISO/CEN approved or equivalent
Lead	mg/l	-		Annual	Inertial pump	ISO/CEN approved or equivalent
Magnesium	mg/l	-		Annual	Inertial pump	ISO/CEN approved or equivalent
Manganese	µg/l	-		Annual	Inertial pump	ISO/CEN approved or equivalent

Parameter	Unit	Trigger Level	How was the trigger level determined?	Proposed Monitoring Frequency	Sample Method	Analysis Method / Technique
Mercury	µg/l	-		Annual	Inertial pump	ISO/CEN approved or equivalent
Sulphate	mg/l	-		Annual	Inertial pump	ISO/CEN approved or equivalent
Alkalinity	mg/l	-		Annual	Inertial pump	ISO/CEN approved or equivalent
Orthophosphate (PO4)	mg/l	-		Annual	Inertial pump	ISO/CEN approved or equivalent
Zinc	µg/l	-		Annual	Inertial pump	ISO/CEN approved or equivalent
VOCs	µg/l	-		Annual	Inertial pump	ISO/CEN approved or equivalent
SVOCs	µg/l	-		Annual	Inertial pump	ISO/CEN approved or equivalent

*add rows to the table as necessary

Costed Environmental Liabilities Risk Assessment (ELRA)

Indicate if the activity, through pre-application meeting with the Agency or other means, is required to submit a costed ELRA[8] as part of the licence, or licence review application.

Costed Environmental Liabilities Risk Assessment (ELRA) required to be submitted? (Yes/No):	**Yes**

If '**Yes**', uploadacosted Environmental Liabilities Risk Assessment (ELRA), prepared in accordance with the *Environmental Protection Agency's Guidance on Assessing and Costing Environmental Liabilities* (2014) (select Document Type: '**ELRA**' in the application form).

Costed **ELRA** document filename:	130531_501 00303 00002 001_Knockharley ELRA_CW_Rev3.pdf

Indicate your preferred form of financial provision instrument to meet ELRA costingshave regard to the Environmental Protection Agency's Guidance on Financial Provision (2015), e.g., Environmental Liability Insurance:

Environmental Liability Insurance

Upload a financial provision proposalhave regard to the Environmental Protection Agency's Guidance on Financial Provision (2015)(where required at application /review application stage) (select Document Type: '**Financial Provision Proposal**' in the application form)

Financial Provision Proposalfilename:	Financial Provision.pdf

[8] There is an explicit requirement in EU and Irish law for financial provision for certain activities. The following categories of activities have an ELRA/CRAMP/FP requirement:
1. Landfills (excl. closed L.A. Landfills closed before 16th July 2009)
2. CAT A Extractive Waste Facilities
3. High Risk Contaminated Land Facilities
4. All Haz-Waste Transfer Stations
5. Non-Haz WTS (Accepting >50,000 tons/annum)
6. Incineration (incl. co-incineration of hazardous waste)
7. Upper & Lower Tier Seveso Sites
8. Exceptional circumstances associated with the site, e.g., significant ground/groundwater contamination.

Regard should be had by applicants to relevant Agency guidance on these matters.

Closure, Restoration and Aftercare Management Plan (CRAMP)

A restoration/aftercare period will be required where there are on-going environmental liabilities following closure. Applicants are required to describe the existing or proposed measures to avoid any risk of environmental pollution and to return the site to a satisfactory state or the state established in the baseline report where applicable, after the activity or part of the activity ceases operation.

A key measure is the preparation of a Closure, Restoration and Aftercare Management Plan (CRAMP) by the operator, for certain activities[9]. Notwithstanding the requirements of the EC Environmental Objectives (Groundwater) Regulations 2010, S.I. No. 9 of 2010, the closure and restoration/ aftercare target is the site condition at the time of the original application or the baseline report. The applicant shall have regard to the Environmental Protection Agency's Guidance on Assessing and Costing Environmental Liabilities (2014) in the preparation of the CRAMP.

Upload aCRAMP, where applicable (select Document Type: '**Site Closure**' in the application form).

CRAMP filename:	CRAMP-Knockharley.pdf

Costed CRAMP

Indicate if the activity, through pre-application meeting with the Agency or other means, is required to have a CRAMP [9]submitted as part of the licence, or licence review application.

CRAMP required to be submitted an application/licence review application stage? (Yes/No):	**Yes**

[9] There is an explicit requirement in EU and Irish law for financial provision for certain activities. The applicant shall have regard to the Environmental Protection Agency's Guidance in determining CRAMP requirements and on Financial Provision (2015) in making financial provision to cover any liabilities.

The following categories of activities have an ELRA/CRAMP/FP requirement:
1. Landfills (excl. closed L.A. Landfills closed before 16th July 2009)
2. CAT A Extractive Waste Facilities
3. High Risk Contaminated Land Facilities
4. All Haz-Waste Transfer Stations
5. Non-Haz WTS (Accepting >50,000 tons/annum)
6. Incineration (incl. co-incineration of hazardous waste)
7. Upper & Lower Tier Seveso Sites
8. Exceptional circumstances associated with the site e.g. significant ground/groundwater contamination.

Indicate your preferred form of financial provision instrument to meet CRAMP costings (where appropriate), e.g., Secured fund, On-demand performance Bond, Parent Company Guarantee, Charge on Property (have regard to the Environmental Protection Agency'sGuidance on Financial Provision (2015) on the Agency's website):

State preferred form of financial provision instrument?	Bond

Upload afinancial provision proposal (where required) having regard to the Environmental Protection Agency's Guidance on Financial Provision (2015) in making financial provision to cover any liabilities(select Document Type: '**Financial Provision Proposal**' in the application form)

Financial Provision Proposalfilename: Financial Provision.pdf

Cessation of Activity

Where a CRAMP is notrequired, describe the measures to be taken on and following the permanent cessation of the activity or part of the activity to avoid any risk of environmental pollution and to return the site of the activity to a satisfactory state. (Input your response in the text box below or attach the information in to thisattachment).

Emergency Response Procedure

Do you have an emergency response procedure (ERP)? (Yes/No)	**Yes**
Is the ERP compliant with the EPA guidance? (Yes/No)	**Yes**

9.2. Nuisance

Complete the table below in relation to each potential nuisance. Identify if the activity may cause or contribute to the type of nuisance in the area of the installation/facility and, where applicable, identify the techniques used to prevent/minimise the nuisance.

Type of Nuisance	**Applicable to the activity?** (Yes/No/ Not Applicable)	**Techniques to prevent nuisances**	**Where nuisances cannot be prevented, techniques to be used to minimise and reduce nuisances**
Odour	Yes	Up-to-date Odour Management Plan maintained	Refer to Section 4.16.3 of the Operational Report
Fire Control	Yes	Fire Prevention Procedure	
Dust	Yes	Refer to Section 4.16.4 of the Operational Report	Refer to Section 4.16.4 of the Operational Report
Litter	Yes	Refer to Section 4.17.2 of the Operational Report	Refer to Section 4.17.2 of the Operational Report
Birds	Yes	Refer to Section 4.17.1 of the Operational Report	Refer to Section 4.17.1 of the Operational Report
Mud	Yes	Refer to Section 4.16.4 of the Operational Report	Refer to Section 4.16.4 of the Operational Report
Flies	Yes	Refer to Section 4.17.1 of the Operational Report	Refer to Section 4.17.1 of the Operational Report
Vermin	Yes	Refer to Section 4.17.1 of the Operational Report	Refer to Section 4.17.1 of the Operational Report
Other	No		

If '**Other**' is selected define the other nuisance(s):

Note: Odour must also be addressed in the fugitive emissions section of the '*7.4 Emissions to Atmosphere – Main and Fugitive*' template, where applicable.

9.3. Environmental Management System (EMS)

Do you have an environmental management system? (Yes/No)	**Yes**
If '**Yes**', is theenvironmental management system accredited? (Yes/No)	**Yes**
State the date accreditation was achieved **or** is expected to be achieved, where applicable:	**01/11/2016**
State the standard of accreditation achieved:	ISO 140001

Energy Efficiency

Outline the measures taken to ensure that energy is used efficiently having regard to the relevant decision on BAT conclusions and/or BAT guidance and where appropriate, an energy audit with reference to the EPA Guidance document on Energy Audit should be carried out.	
Has an energy audit been carried out? (Yes/No)	**Yes**
Do you have an energy efficiency management system? (Yes/No)	**No**
If '**Yes**', is the energy efficiency management system accredited? (Yes/No)	
State the date accreditation was achieved **or** is expected to be achieved, where applicable:	
State the standard of accreditation achieved:	

9.4. Hours of Operation

Provide details of the hours of operation for the installation (hours and days per week, etc.), including:

(a) Proposed hours of operation.
0730 hrs to 1830 hrs Monday to Saturday, inclusive.

(b) Proposed hours of construction and development works and timeframes.
0730 hrs to 1830 hrs Monday to Saturday, inclusive.

(c) For waste activities, the proposed hours of waste acceptance.
0800 hrs to 1800 hrs Monday to Saturday, inclusive.

(d) Any other relevant hours of operation expected (e.g., waste handling, etc.).
Due to its function the landfill gas utilisation plant will operate 24/7/365, as will the biological treatment plant.

9.5. Review of a Licence

Where the Office of Environmental Enforcement (OEE) has agreed any variations or adjustments to the conditions or schedules of the existing licence, the licensee must provide details of these agreed variations and adjustments to the existing licence conditions in the table that follows.

An updated, scaled drawing of the site layout (no larger than A3) providing visual information on such adjustments or variations where appropriate should be uploaded in the **site tab** – 'site plan(s)' upload.

In the case of once-off assessments/reports required under conditions/schedules of the existing licence the licensee must provide details of those assessments/reports that have been completed and agreed with the OEE or as otherwise agreed, in the table below.

Condition/ Schedule No.	Existing Condition	OEE Agreement Reference	Description
Schedule E	Reporting Requirements		Monitoring reporting frequency for landfill gas, storm water, groundwater, leachate noise and dust amended to annual.

*add rows to the table as necessary