

EPA Application Form

7.4.1 - Emissions to Atmosphere - Main and Fugitive Emissions - Attachment

Organisation Name: *

Knockharley Landfill Limited

Application I.D.: *

LA004307

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Authorisation Application Form

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
As above	Mar 2017	Identification of required fields	Assist correct completion of attachment

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EMISSIONS TO ATMOSPHERE

Emissions to air/atmosphere include the following:

Main Emissions

Main emissions include all emissions of environmental significance. Where a **mass emission threshold** is specified in a BAT document (BAT Conclusions, National BAT note or BREF), emissions which exceed this threshold prior to abatement are regarded as significant, i.e., 'main emissions'. (In some cases emissions below the threshold can still be significant and qualify as Main Emissions).

Minor Emissions

Emissions below the mass emission threshold may be considered minor emissions and therefore do not generally need to be specifically controlled by the conditions or schedules of the licence (i.e., setting of ELVs, abatement control measures, or monitoring requirements). Emissions may also be deemed minor by virtue of their source/nature (e.g., laboratory fume hoods, workspace extractions, passive vents from storage tanks, HVAC exhausts), or composition (e.g., water vapour emissions). For combustion plant such as boilers, these can be considered minor where the rated thermal input is < 1MW where natural gas is the main fuel, and for liquid and solid fuels where its < 250kW.

In completing the separate '*Emissions to Atmosphere - Minor and Potential*' attachment for minor emissions, the applicant should supply sufficient information to justify the determination of the emission as minor. Notwithstanding this guidance, the Agency may consider any emission to be significant (i.e., a main emission) on the basis of environmental impact.

Fugitive Emissions

Fugitive emissions include emissions from non-point sources and diffuse sources.

Potential Emissions

These are emissions which only operate under abnormal process conditions. Typical examples include bursting discs, pressure relief valves, and emergency generators. Bypasses and flares may also fall within this category, depending on how they are operated or designed to operate. Although the Agency does not normally set controls in licences for potential emissions, it may do so for the purposes of environmental protection.

This attachment collects information on main and fugitive emissions to atmosphere. Waste gas means the final gaseous emission from a stack or abatement equipment.

For minor and potential emissions to atmosphere, complete the separate '*Emissions to Atmosphere - Minor and Potential*' attachment.

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Main Emissions to Atmosphere - Waste Gas Emission Point Details - one row per emission point *

Complete the following table with summary details for all main emission points to atmosphere.

(Guidance on completing the table is included in **Note i** at the end of this attachment)

The applicant should address in particular any emissions which may contain the principal polluting substances listed in the First Schedule of Environmental Protection Agency (Integrated Pollution Control) (Licensing) Regulations 2013/ (Industrial Emissions)(Licensing) Regulations 2013.

Please note that the determination of any emission limit values and monitoring requirements in a proposed licence if granted will be based on the information supplied hereunder.

Emission Point Code	Emission Point Grid Ref.		Typical Days Usage/ Year	Measures to reduce /minimise / prevent emissions (list techniques) ¹ <i>Where EQS considerations require measures stricter than BAT, highlight these measures in bold</i>	Source of Waste Gases ²	Minimum Discharge Height Above Ground (m)	Reference Conditions			
	Easting ³	Northing ⁴					Pressure ⁵	Temp. ⁶	% Oxygen ⁷	Moisture ⁸
A2-1	297589.09	266889.81	365		Gas turbine	10	101.3kPa	273K	5%	Dry
A2-2	297595.61	266890.81	365		Gas turbine	10	101.3kPa	273K	5%	Dry
A2-3	297602.14	266891.81	365		Gas turbine	10	101.3kPa	273K	5%	Dry
A2-4	297608.74	266892.81	365		Gas turbine	10	101.3kPa	273K	5%	Dry

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¹ Detailed descriptions and schematics of all abatement systems should be included in the Operational Report (Tab 4.8 – ‘Reports’).

² **Options:** Boiler, Gas Turbine, Incineration, Co-Incineration, CHP, Kiln, Engine, Indirect drying activity (e.g. milk drying), Other Combustion activity (e.g., oven), Distillation/Chemical reaction, Solvent based coating activity, Other coating activity (provide description), Composting Tunnels, General extraction from buildings or Other (provide a description if ‘Other’ is selected).

³ **Six Digit GPS Irish National Grid Reference.**

⁴ **Six Digit GPS Irish National Grid Reference.**

⁵ **Options:** 101.325kPa or No correction.

⁶ **Options:** 273.15K or No correction.

⁷ **Options:** 3%, 6%, 10%, 11%, 15%, 18% or No correction.

⁸ **Options:** Wet or Dry.



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Emission Point Code	Emission Point Grid Ref.		Typical Days Usage/ Year	Measures to reduce /minimise / prevent emissions (list techniques) ¹ <i>Where EQS considerations require measures stricter than BAT, highlight these measures in bold</i>	Source of Waste Gases ²	Minimum Discharge Height Above Ground (m)	Reference Conditions			
	Easting ³	Northing ⁴					Pressure ⁵	Temp. ⁶	% Oxygen ⁷	Moisture ⁸
A2-5	297571.54	266916.1			Landfill gas flare	8.75	101.3kPA	273K	3%	
A2-6	297572.56	266908.08			Landfill gas flare	10	101.3kPA	273K	3%	
A2-7	To be agreed	To be agreed			Biofilter	20				

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*add rows to the table as necessary



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Emission Points from Combustion, Incineration or Co-incineration Sources Only

Complete the table below for each emission point to atmosphere from a combustion source, waste incineration or co-incineration plant

Emission Point Code	Primary Fuel Type ⁹ (where applicable)	Secondary Fuel Type ¹⁰ (where applicable)	LCP Plant Reference (where applicable)	Waste incineration or co-incineration plant reference (where applicable)
A2-1	Landfill gas			
A2-2	Landfill gas			
A2-3	Landfill gas			
A2-4	Landfill gas			
A2-5	Landfill gas			
A2-6	Landfill gas			

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*add rows to the table as necessary

⁹ Options: Coal, Lignite, Heavy Fuel Oil, Other Fuel Oil, Peat, Natural Gas, Biogas, Solid Biomass, Waste, Gas Oil, Other or None

¹⁰ Options: Coal, Lignite, Heavy Fuel Oil, Other Fuel Oil, Peat, Natural Gas, Biogas, Solid Biomass, Waste, Gas Oil, Other or None

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Emission Points with Solvent Emissions Only

Complete the table below for each emission point associated with a solvent activity

Emission Point Code	Are specific Hazardous Substances ¹¹ Emitted?	Mass Flow of Emitted Hazardous Substances (g/hour)	Halogenated VOCs ¹² Emitted?	Mass Flow of Emitted Halogenated VOCs (g/hour)

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*add rows to the table as necessary

¹¹ Emissions of volatile organic compounds referred to in Article 58 (Substances or mixtures which, because of their content of volatile organic compounds classified as carcinogens, mutagens, or toxic to reproduction under Regulation (EC) No. 1272/2008, are assigned or need to carry the hazard statements H340, H350,H350i, H360D or H360F) of the Industrial Emissions Directive.

¹² Halogenated volatile organic compounds which are assigned or need to carry the hazard statements H341 or H351.

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Waste Gas Emission Monitoring Points

Complete the table below for each emission point, by entering the Emission Point Code, the associated Monitoring Point Code and the grid reference of the Monitoring Point. *

Emission Point Code	Monitoring Point Code ¹³	Monitoring Point Grid Reference	
		Easting ¹⁴	Northing ¹⁵
A2-1	KH01	297589.09	266889.81
A2-2	KH02	297595.61	266890.81
A2-3	KH03	297602.14	266891.81
A2-4	KH04	297608.74	266892.81
A2-5	F1	297571.54	266916.1
A2-6	F2	297572.56	266908.08
A2-7			

*add rows to the table as necessary

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¹³ To include monitoring and sampling points

¹⁴ Six Digit GPS Irish National Grid Reference

¹⁵ Six Digit GPS Irish National Grid Reference

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Waste Gas - Abatement /Treatment Control

Complete the table below for each emission point with an abatement/treatment system (one table per emission point)

Emission Point Code: A2-1

Control ¹⁶ parameter	Monitoring to be carried out ¹⁷	Additional notes (where relevant)
Total Particulates	Annual	
Carbon monoxide (CO)	Continuous	
Nitrogen Oxides (Nox/NO2)	Annual	
Chlorine and inorganic compounds (as HCl)	Annual	
Fluorine and inorganic compounds (s HF)	Annual	
TA Luft organic substances class 1	Annual	
Sulphur oxides (Sox/SO2)	Annual	
Volumetric flow	Annual	

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¹⁶ List the operating parameters of the treatment/abatement system which control its function.

¹⁷ List the monitoring of the control parameter to be carried out.

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Emission Point Code: A2-2

Control ¹⁸ parameter	Monitoring to be carried out ¹⁹	Additional notes (where relevant)
Total Particulates	Annual	
Carbon monoxide (CO)	Continuous	
Nitrogen Oxides (Nox/NO2)	Annual	
Chlorine and inorganic compounds (as HCl)	Annual	
Fluorine and inorganic compounds (s HF)	Annual	
TA Luft organic substances class 1	Annual	
Sulphur oxides (Sox/SO2)	Annual	
Volumetric flow	Annual	

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¹⁸ List the operating parameters of the treatment/abatement system which control its function.

¹⁹ List the monitoring of the control parameter to be carried out.

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Emission Point Code: A2-3

Control ²⁰ parameter	Monitoring to be carried out ²¹	Additional notes (where relevant)
Total Particulates	Annual	
Carbon monoxide (CO)	Continuous	
Nitrogen Oxides (Nox/NO2)	Annual	
Chlorine and inorganic compounds (as HCl)	Annual	
Fluorine and inorganic compounds (s HF)	Annual	
TA Luft orgainc substances class 1	Annual	
Sulphur oxides (Sox/SO2)	Annual	
Volumetric flow	Annual	

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²⁰ List the operating parameters of the treatment/abatement system which control its function.

²¹ List the monitoring of the control parameter to be carried out.

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Emission Point Code: A2-4

Control ²² parameter	Monitoring to be carried out ²³	Additional notes (where relevant)
Total Particulates	Annual	
Carbon monoxide (CO)	Continuous	
Nitrogen Oxides (Nox/NO2)	Annual	
Chlorine and inorganic compounds (as HCl)	Annual	
Fluorine and inorganic compounds (s HF)	Annual	
TA Luft organic substances class 1	Annual	
Sulphur oxides (Sox/SO2)	Annual	
Volumetric flow	Annual	

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²² List the operating parameters of the treatment/abatement system which control its function.

²³ List the monitoring of the control parameter to be carried out.

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Emission Point Code: A2-5

Control ²⁴ parameter	Monitoring to be carried out ²⁵	Additional notes (where relevant)
Carbon monoxide (CO)	Continuous	
Nitrogen Oxides (Nox/NO2)	Annual	
Volatile organic compounds (as TOC)	Annual	
Chlorine and inorganic compounds (as HCl)	Annual	
Fluorine and inorganic compounds (s HF)	Annual	
Sulphur oxides (Sox/SO2)	Annual	

*add rows to the table as necessary

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²⁴ List the operating parameters of the treatment/abatement system which control its function.

²⁵ List the monitoring of the control parameter to be carried out.

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Emission Point Code: A2-6

Control ²⁶ parameter	Monitoring to be carried out ²⁷	Additional notes (where relevant)
Carbon monoxide (CO)	Continuous	
Nitrogen Oxides (Nox/NO ₂)	Annual	
Volatile organic compounds (as TOC)	Annual	
Chlorine and inorganic compounds (as HCl)	Annual	
Fluorine and inorganic compounds (s HF)	Annual	
Sulphur oxides (Sox/SO ₂)	Annual	

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²⁶ List the operating parameters of the treatment/abatement system which control its function.

²⁷ List the monitoring of the control parameter to be carried out.

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Emission Point Code: A2-7

Control ²⁸ parameter	Monitoring to be carried out ²⁹	Additional notes (where relevant)
Carbon monoxide (CO)	Continuous	
Nitrogen Oxides (Nox/NO2)	Annual	
Volatile organic compounds (as TOC)	Annual	
Chlorine and inorganic compounds (as HCl)	Annual	
Fluorine and inorganic compounds (s HF)	Annual	
Sulphur oxides (Sox/SO2)	Annual	

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²⁸ List the operating parameters of the treatment/abatement system which control its function.

²⁹ List the monitoring of the control parameter to be carried out.

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Waste Gas Emissions

Complete the table below for all main emission points to atmosphere (include one row for each identified parameter) *

Emission Point Code	Parameter	Monitoring Point Code	Proposed Emission Limits ³⁰					BAT Associated Emission Range (if applicable)	Sampling / Monitoring EPA Guidance for Monitoring - AG2 Index of Preferred Methods			
			Max. Hourly ³¹	Max. Daily ³²	Average Month ³³	Average Annual ³⁴	How was the Proposed Emission Limit Derived?		Proposed Monitoring Frequency	Proposed Monitoring and Analysis Method ³⁵	Compliant with BAT Monitoring Requirement?	
A2-1	Total Particulates	KH01	0.39 kg					(Max vol in existing licence – 3000 m ³ /hr) x ELV in licence – 130 mg/m ³)		Annual	Isokinetic gravimetric	
A2-1	Carbon monoxide (CO)	KH01	4.2 kg					(Max vol in existing licence – 3000 m ³ /hr) x ELV in licence – 1400 mg/m ³)		Continuous	Flue gas analyser datalogger	

³⁰ For emissions outside the BAT Conclusion, BREF or BAT guidance limit, a full evaluation of the existing abatement/treatment system must be provided. **A planned programme of improvement towards meeting upgraded standards is required.** This should highlight specific goals and a time scale, together with options for modification, upgrading or replacement as required to bring emissions within the limits set out in the BAT Conclusion(s), BREF(s) or BAT guidance note(s). These notes can be found on the EPA website at www.epa.ie.

³¹ Specify the proposed limit **and** the units.

³² Specify the proposed limit **and** the units.

³³ Specify the proposed limit **and** the units.

³⁴ Specify the proposed limit **and** the units.

³⁵ For continuous monitoring 'EN15267 approved CEMS' is the standard method. For periodic monitoring please refer to the EPA guidance document '[AG2 Index of Preferred Methods](#)'.

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Emission Point Code	Parameter	Monitoring Point Code	Proposed Emission Limits ³⁰					BAT Associated Emission Range (if applicable)	Sampling / Monitoring EPA Guidance for Monitoring - AG2 Index of Preferred Methods		
			Max. Hourly ³¹	Max. Daily ³²	Average Month ³³	Average Annual ³⁴	How was the Proposed Emission Limit Derived?		Proposed Monitoring Frequency	Proposed Monitoring and Analysis Method ³⁵	Compliant with BAT Monitoring Requirement?
A2-1	Nitrogen Oxides (Nox/NO2)	KH01	1.5 kg				(Max vol in existing licence – 3000 m ³ /hr) x ELV in licence – 500 mg/m ³)		Annual	Flue gas analyser	
A2-1	Chlorine and inorganic compounds (as HCl)	KH01	0.15 kg				(Max vol in existing licence – 3000 m ³ /hr) x ELV in licence – 50 mg/m ³)		Annual	Impinger/ion chromatography	
A2-1	Fluorine and inorganic compounds (s HF)	KH01	0.015 kg				(Max vol in existing licence – 3000 m ³ /hr) x ELV in licence – 5 mg/m ³)		Annual	Impinger/ion chromatography	
A2-1	TA Luft organic substances class 1	KH01	0.06 kg				(Max vol in existing licence – 3000 m ³ /hr) x ELV in licence – 20 mg/m ³)		Annual	Adsorption / desorption / GC / GCMS	
A2-1	Sulphur oxides (Sox/SO2)	KH01					No ELV specified		Annual	Flue gas analyser	
A2-1	volumetric flow	KH01	3000 m ³ /hr				(Max vol in existing licence – 3000 m ³ /hr)		Annual		

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Emission Point Code	Parameter	Monitoring Point Code	Proposed Emission Limits ³⁰					BAT Associated Emission Range (if applicable)	Sampling / Monitoring EPA Guidance for Monitoring - AG2 Index of Preferred Methods		
			Max. Hourly ³¹	Max. Daily ³²	Average Month ³³	Average Annual ³⁴	How was the Proposed Emission Limit Derived?		Proposed Monitoring Frequency	Proposed Monitoring and Analysis Method ³⁵	Compliant with BAT Monitoring Requirement?
A2-2	Total Particulates	KH02	0.39 kg				(Max vol in existing licence – 3000 m ³ /hr) x ELV in licence – 130 mg/m ³)		Annual	Isokinetic gravimetric	
A2-2	Carbon monoxide (CO)	KH02	4.2 kg				(Max vol in existing licence – 3000 m ³ /hr) x ELV in licence – 1400 mg/m ³)		Continuous	Flue gas analyser datalogger	
A2-2	Nitrogen Oxides (Nox/NO ₂)	KH02	1.5 kg				(Max vol in existing licence – 3000 m ³ /hr) x ELV in licence – 500 mg/m ³)		Annual	Flue gas analyser	
A2-2	Chlorine and inorganic compounds (as HCl)	KH02	0.15 kg				(Max vol in existing licence – 3000 m ³ /hr) x ELV in licence – 50 mg/m ³)		Annual	Impinger/ion chromatography	
A2-2	Fluorine and inorganic compounds (s HF)	KH02	0.015 kg				(Max vol in existing licence – 3000 m ³ /hr) x ELV in licence – 5 mg/m ³)		Annual	Impinger/ion chromatography	

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Emission Point Code	Parameter	Monitoring Point Code	Proposed Emission Limits ³⁰					BAT Associated Emission Range (if applicable)	Sampling / Monitoring EPA Guidance for Monitoring - AG2 Index of Preferred Methods		
			Max. Hourly ₃₁	Max. Daily ₃₂	Average Month ₃₃	Average Annual ₃₄	How was the Proposed Emission Limit Derived?		Proposed Monitoring Frequency	Proposed Monitoring and Analysis Method ³⁵	Compliant with BAT Monitoring Requirement?
A2-2	TA Luft organic substances class 1	KH02	0.06 kg				(Max vol in existing licence – 3000 m ³ /hr) x ELV in licence – 20 mg/m ³)		Annual	Adsorption / desorption / GC / GCMS	
A2-2	Sulphur oxides (Sox/SO2)	KH02					No ELV specified		Annual	Flue gas analyser	
A2-2	volumetric flow	KH02	3000 m ³ /hr				(Max vol in existing licence – 3000 m ³ /hr)		Annual		
A2-3	Total Particulates	KH03	0.39 kg				(Max vol in existing licence – 3000 m ³ /hr) x ELV in licence – 130 mg/m ³)		Annual	Isokinetic gravimetric	
A2-3	Carbon monoxide (CO)	KH03	4.2 kg				(Max vol in existing licence – 3000 m ³ /hr) x ELV in licence – 1400 mg/m ³)		Continuous	Flue gas analyser datalogger	
A2-3	Nitrogen Oxides (Nox/NO2)	KH03	1.5 kg				(Max vol in existing licence – 3000 m ³ /hr) x ELV in licence – 500 mg/m ³)		Annual	Flue gas analyser	

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Emission Point Code	Parameter	Monitoring Point Code	Proposed Emission Limits ³⁰					BAT Associated Emission Range (if applicable)	Sampling / Monitoring EPA Guidance for Monitoring - AG2 Index of Preferred Methods		
			Max. Hourly ³¹	Max. Daily ³²	Average Month ³³	Average Annual ³⁴	How was the Proposed Emission Limit Derived?		Proposed Monitoring Frequency	Proposed Monitoring and Analysis Method ³⁵	Compliant with BAT Monitoring Requirement?
A2-3	Chlorine and inorganic compounds (as HCl)	KH03	0.15 kg				(Max vol in existing licence – 3000 m ³ /hr) x ELV in licence – 50 mg/m ³)		Annual	Impinger/ion chromatography	
A2-3	Fluorine and inorganic compounds (s HF)	KH03	0.015 kg				(Max vol in existing licence – 3000 m ³ /hr) x ELV in licence – 5 mg/m ³)		Annual	Impinger/ion chromatography	
A2-3	TA Luft organic substances class 1	KH03	0.06 kg				(Max vol in existing licence – 3000 m ³ /hr) x ELV in licence – 20 mg/m ³)		Annual	Adsorption / desorption / GC / GCMS	
A2-3	Sulphur oxides (Sox/SO ₂)	KH03					No ELV specified		Annual	Flue gas analyser	
A2-3	volumetric flow	KH03	3000 m ³ /hr				(Max vol in existing licence – 3000 m ³ /hr)		Annual		
A2-4	Total Particulates	KH04	0.39 kg				(Max vol in existing licence – 3000 m ³ /hr) x ELV in licence – 130 mg/m ³)		Annual	Isokinetic gravimetric	

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Emission Point Code	Parameter	Monitoring Point Code	Proposed Emission Limits ³⁰					BAT Associated Emission Range (if applicable)	Sampling / Monitoring EPA Guidance for Monitoring - AG2 Index of Preferred Methods		
			Max. Hourly ³¹	Max. Daily ³²	Average Month ³³	Average Annual ³⁴	How was the Proposed Emission Limit Derived?		Proposed Monitoring Frequency	Proposed Monitoring and Analysis Method ³⁵	Compliant with BAT Monitoring Requirement?
A2-4	Carbon monoxide (CO)	KH04	4.2 kg				(Max vol in existing licence – 3000 m ³ /hr) x ELV in licence – 1400 mg/m ³)		Continuous	Flue gas analyser datalogger	
A2-4	Nitrogen Oxides (Nox/NO ₂)	KH04	1.5 kg				(Max vol in existing licence – 3000 m ³ /hr) x ELV in licence – 500 mg/m ³)		Annual	Flue gas analyser	
A2-4	Chlorine and inorganic compounds (as HCl)	KH04	0.15 kg				(Max vol in existing licence – 3000 m ³ /hr) x ELV in licence – 50 mg/m ³)		Annual	Impinger/ion chromatography	
A2-4	Fluorine and inorganic compounds (s HF)	KH04	0.015 kg				(Max vol in existing licence – 3000 m ³ /hr) x ELV in licence – 5 mg/m ³)		Annual	Impinger/ion chromatography	
A2-4	TA Luft organic substances class 1	KH04	0.06 kg				(Max vol in existing licence – 3000 m ³ /hr) x ELV in licence – 20 mg/m ³)		Annual	Adsorption / desorption / GC / GCMS	

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Emission Point Code	Parameter	Monitoring Point Code	Proposed Emission Limits ³⁰					BAT Associated Emission Range (if applicable)	Sampling / Monitoring EPA Guidance for Monitoring - AG2 Index of Preferred Methods		
			Max. Hourly ³¹	Max. Daily ³²	Average Month ³³	Average Annual ³⁴	How was the Proposed Emission Limit Derived?		Proposed Monitoring Frequency	Proposed Monitoring and Analysis Method ³⁵	Compliant with BAT Monitoring Requirement?
A2-4	Sulphur oxides (Sox/SO2)	KH04					No ELV specified		Annual	Flue gas analyser	
A2-4	volumetric flow	KH04	3000 m ³ /hr				(Max vol in existing licence – 3000 m ³ /hr)		Annual		
A2-5	Carbon monoxide (CO)	F1	0.15 kg				(Max vol in existing licence – 3000 m ³ /hr) x ELV in licence – 50 mg/m ³)		Continuous	Flue gas analyser datalogger	
A2-5	Nitrogen Oxides (Nox/NO2)	F1	0.45 kg				(Max vol in existing licence – 3000 m ³ /hr) x ELV in licence – 150 mg/m ³)		Annual	Flue gas analyser	
A2-5	Volatile organic compounds (as TOC)	F1	0.03 kg				(Max vol in existing licence – 3000 m ³ /hr) x ELV in licence – 10 mg/m ³)		Annual	Flame Ionisation	
A2-5	Chlorine and inorganic compounds (as HCl)	F1	0.15 kg				(Max vol in existing licence – 3000 m ³ /hr) x ELV in licence – 50 mg/m ³)		Annual	Impinger/ion chromatography	

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Emission Point Code	Parameter	Monitoring Point Code	Proposed Emission Limits ³⁰					BAT Associated Emission Range (if applicable)	Sampling / Monitoring EPA Guidance for Monitoring - AG2 Index of Preferred Methods			
			Max. Hourly ³¹	Max. Daily ³²	Average Month ³³	Average Annual ³⁴	How was the Proposed Emission Limit Derived?		Proposed Monitoring Frequency	Proposed Monitoring and Analysis Method ³⁵	Compliant with BAT Monitoring Requirement?	
A2-5	Fluorine and inorganic compounds (s HF)	F1	0.015 kg					(Max vol in existing licence – 3000 m ³ /hr) x ELV in licence – 5 mg/m ³)		Annual	Impinger/ion chromatography	
A2-5	Sulphur oxides (Sox/SO ₂)	F1						No ELV specified		Annual	Flue gas analyser	
A2-6	Carbon monoxide (CO)	F2	0.15 kg					(Max vol in existing licence – 3000 m ³ /hr) x ELV in licence – 50 mg/m ³)		Continuous	Flue gas analyser datalogger	
A2-6	Nitrogen Oxides (Nox/NO ₂)	F2	0.45 kg					(Max vol in existing licence – 3000 m ³ /hr) x ELV in licence – 150 mg/m ³)		Annual	Flue gas analyser	
A2-6	Volatile organic compounds (as TOC)	F2	0.03 kg					(Max vol in existing licence – 3000 m ³ /hr) x ELV in licence – 10 mg/m ³)		Annual	Flame Ionisation	
A2-6	Chlorine and inorganic compounds (as HCl)	F2	0.15 kg					(Max vol in existing licence – 3000 m ³ /hr) x ELV in licence – 50 mg/m ³)		Annual	Impinger/ion chromatography	

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Emission Point Code	Parameter	Monitoring Point Code	Proposed Emission Limits ³⁰					BAT Associated Emission Range (if applicable)	Sampling / Monitoring EPA Guidance for Monitoring - AG2 Index of Preferred Methods			
			Max. Hourly ₃₁	Max. Daily ₃₂	Average Month ₃₃	Average Annual ₃₄	How was the Proposed Emission Limit Derived?		Proposed Monitoring Frequency	Proposed Monitoring and Analysis Method ³⁵	Compliant with BAT Monitoring Requirement?	
A2-6	Fluorine and inorganic compounds (s HF)	F2	0.015 kg					(Max vol in existing licence – 3000 m ³ /hr) x ELV in licence – 5 mg/m ³)		Annual	Impinger/ion chromatography	
A2-6	Sulphur oxides (Sox/SO2)	F2						No ELV specified		Annual	Flue gas analyser	

* For continuous monitoring 'EN15267 approved CEMS' is the standard method. For periodic monitoring please refer to the EPA guidance document 'AG2 Index of Preferred Methods' linked above

*add rows to the table as necessary

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Minor and/or Potential Emissions to Atmosphere ³⁶

Are there any minor or potential emission point(s) to atmosphere at the installation/facility?
(Yes/No) *

Yes

If 'Yes' complete and upload the **Emissions to Atmosphere – Minor and Potential Emissions** template with details of minor and potential emissions (select Document Type: '**Minor - Potential Emissions**' in the application form)

Emissions to Atmosphere - Minor - Potential Emissions file name:

Attachment-7-4-2-Emissions-to-Air-Minor-Potential

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³⁶ Refer to page 3 for guidance on what constitutes a minor or potential emission.

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Fugitive Emission to Atmosphere

Fugitive emissions must be controlled by way of appropriate controls and techniques to minimise emissions.

(Additional information on fugitive emission is included in **Note ii** at the end of this attachment)

Are there any sources of fugitive emissions at the installation/facility?³⁷ **(Yes/No) ***

If 'Yes' provide summary details of the fugitive emissions in the table below:

Type of Fugitive Emission	Emission Type Applicable? (Yes/No)	Description of fugitive emissions source(s)	Maximum Level	Units	Descriptor/Location
Dust	Yes	IBA handling and storage, movement of vehicles around the site, landfilling of wastel	350	mg/m ² /day	Dust deposition
VOC ³⁸	No			%	of solvent input
Ammonia	No			ug/m ³	at the nearest European Site
Nitrogen	No			kgN/ha/yr	at the nearest European Site
Odour	Yes	Landfill gas and the biological treatment facility	147.9	Odour Units	at boundary of installation

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³⁷ For waste activities, dust and odour emissions should be considered and described in the table below where applicable.

³⁸ In relation to activities listed in Chapter V (for installations using Organic Solvents) of the Industrial Emissions Directive (2010/75/EU):

- specify how the requirements in relation to fugitive emissions will be met.

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Provide details of the techniques to be used to reduce / minimise / prevent fugitive emissions in text box below

Refer to Chapter 7 of Volume 2 of the Environmental Impact Assessment Report accompanying this application

Note i Complete the table for each emission point having regard to the guidance hereunder.

The following convention should be observed when labelling emission points:

Boiler Emissions A1-1, A1-2, A1-3,...etc.

Main Emissions A2-1, A2-2, A2-3,...etc.

Minor Emissions A3-1, A3-2, A3-3,...etc. (NOTE: Minor emission points are to be included in the 'Emissions to Atmosphere - Minor and Potential' attachment)

Potential Emissions A4-1, A4-2, A4-3,...etc. (NOTE: Potential emission points are to be included in the 'Emissions to Atmosphere - Minor and Potential' attachment)

A National Grid Reference (12 digit, 6E, 6N) must be provided for each emission point.

Measures are usually required to reduce, minimise or prevent emissions from occurring. They may involve the application of a single technique or a combination of techniques including process integrated, recovery, abatement and treatment techniques. List all techniques proposed/employed. Technique(s) employed must comply with BAT. Highlight additional measures required for the purposes of protecting the environment i.e. AQS considerations. The measures or techniques to be taken must be capable of complying with the proposed/known emission level(s).

The measures required shall be informed by the following:

1. BAT techniques with BAT-AEL
2. BAT techniques without BAT-AEL
3. Stricter measures/techniques than BAT (due to AQS)
4. BAT determined by competent authority in consultation with the applicant
5. Measures to minimise pollution over long distances or in the territory of other states.
6. Emerging techniques
7. Less strict measures than BAT (due to derogation)
8. Other measures

Select from the drop down list the source of the emission as it helps explain the nature of the emission.

Particular attention should be paid to ensuring that emissions data (volumetric flow and pollutant concentrations) are presented at the required reference conditions for oxygen, temperature, pressure and moisture.

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Note ii Fugitive emissions include the following:

- Dust from area sources such as a quarry.
- Odour from volume sources such as a pig unit, waste water treatment plant, waste handling etc.
- VOCs from processes using solvent not captured in waste gases.
- Ammonia and nitrogen from pig and poultry units.

Processes that can give rise to fugitive emissions include:

- o Leaks from valve seals, pump seals and flanges;
- o Breathing and working losses from liquid storage facilities;
- o Dust emissions from solids stored in the open;
- o Loading and unloading operations;
- o Cleaning operations; and,
- o Emissions from waste water treatment (e.g. volatile organics).

The measures taken to reduce/ prevent fugitive emissions to atmosphere must be addressed, and the facilities and operations required to control emissions must be detailed.

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