

# EPA Application Form

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

**Organisation Name: \***

Bord na Móna Public Limited Company

**Application I.D.: \***

LA010978

*Authorisation Application Form*

**Amendments to this Application Form Attachment**

<b>Version No.</b>	<b>Date</b>	<b>Amendment since previous version</b>	<b>Reason</b>
V.1.0	July 2017	N/A	Online application form attachment
As above	Mar 2017	Identification of required fields	Assist correct completion of attachment

## *Authorisation Application Form*

### **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) <sup>1</sup> <i>Where EQS considerations require measures stricter than BAT, highlight these measures in <b>bold</b></i>	Source of Waste Gases <sup>2</sup>	Minimum Discharge Height Above Ground (m)	Reference Conditions			
	Easting <sup>3</sup>	Northing <sup>4</sup>					Pressure <sup>5</sup>	Temp. <sup>6</sup>	% Oxygen <sup>7</sup>	Moisture <sup>8</sup>
A2-1	274580	231818	365	Flare 1 (F1) - Utilisation of landfill gas for electricity generation to maximum extent possible.	Landfill Gas Flare	7.67	101.3	273.15	3	Wet
A2-2	274585	231815	60	Utilisation of landfill gas for electricity generation to maximum extent possible.	Landfill Gas Flare	8.15	101.3	273.15	3	Wet

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

<sup>2</sup> **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).

<sup>3</sup> **Six Digit GPS Irish National Grid Reference.**

<sup>4</sup> **Six Digit GPS Irish National Grid Reference.**

<sup>5</sup> **Options:** 101.325kPa **or** No correction.

<sup>6</sup> **Options:** 273.15K or No correction.

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

<sup>8</sup> **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) <sup>1</sup> <i>Where EQS considerations require measures stricter than BAT, highlight these measures in bold</i>	Source of Waste Gases <sup>2</sup>	Minimum Discharge Height Above Ground (m)	Reference Conditions			
	Easting <sup>3</sup>	Northing <sup>4</sup>					Pressure <sup>5</sup>	Temp. <sup>6</sup>	% Oxygen <sup>7</sup>	Moisture <sup>8</sup>
				This flare (F2) only used when landfill gas utilisation plant is out of operation.						
A2-3	274574	231815	30	Backup flare to F2 above. Preventative maintenance programme.	Landfill Gas Flare	8.155	101.3	273.15	3	Wet
A2-4	274601	231805	365	Preventative maintenance to ensure landfill gas utilisation plant operates as efficiently as possible.	Landfill Gas Utilisation Plant - Engine	14.1	101.3	273.15	3	Wet
A2-5	274601	231805	365	Preventative maintenance to ensure landfill gas utilisation plant operates as efficiently as possible.	Landfill Gas Utilisation Plant - Engine	14.1	101.3	273.15	3	Wet
A2-6	274601	231805	365	Preventative maintenance to ensure landfill gas utilisation plant operates as efficiently as possible.	Landfill Gas Utilisation Plant - Engine	14.1	101.3	273.15	3	Wet
A2-7	274601	231805	365	Preventative maintenance to ensure landfill gas utilisation plant operates as efficiently as possible.	Landfill Gas Utilisation Plant - Engine	14.1	101.3	273.15	3	Wet
A2-8	274517	231670	350	Adherence to an Odour Management Plan, building ventilation control under negative pressure, monitoring of composting temperatures using SCADA, compartmentalised biofilters on odour abatement system with preventative maintenance programme.	Composting Tunnels & Building Ventilation	17	101.3	273.15	3	Wet

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Emission Point Code	Emission Point Grid Ref.		Typical Days Usage/ Year	Measures to reduce /minimise / prevent emissions (list techniques) <sup>1</sup> <i>Where EQS considerations require measures stricter than BAT, highlight these measures in bold</i>	Source of Waste Gases <sup>2</sup>	Minimum Discharge Height Above Ground (m)	Reference Conditions			
	Easting <sup>3</sup>	Northing <sup>4</sup>					Pressure <sup>5</sup>	Temp. <sup>6</sup>	% Oxygen <sup>7</sup>	Moisture <sup>8</sup>
A2-9	274519	231670	350	Adherence to an Odour Management Plan, building ventilation control under negative pressure, monitoring of composting temperatures using SCADA, compartmentalised biofilters on odour abatement system with preventative maintenance programme.	Composting Tunnels & Building Ventilation	15	101.3	273.15	3	Wet
A2-10	274619	231670	350	Adherence to an Odour Management Plan, building ventilation control under negative pressure, monitoring of composting temperatures using SCADA, compartmentalised biofilters on odour abatement system with preventative maintenance programme.	Composting Tunnels & Building Ventilation	15	101.3	273.15	3	Wet
A2-11	274621	231670	350	Adherence to an Odour Management Plan, building ventilation control under negative pressure, monitoring of composting temperatures using SCADA, compartmentalised biofilters on odour abatement system with preventative maintenance programme.	Composting Tunnels & Building Ventilation	17	101.3	273.15	3	Wet



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Emission Point Code	Emission Point Grid Ref.		Typical Days Usage/ Year	Measures to reduce /minimise / prevent emissions (list techniques) <sup>1</sup> <i>Where EQS considerations require measures stricter than BAT, highlight these measures in <b>bold</b></i>	Source of Waste Gases <sup>2</sup>	Minimum Discharge Height Above Ground (m)	Reference Conditions			
	Easting <sup>3</sup>	Northing <sup>4</sup>					Pressure <sup>5</sup>	Temp. <sup>6</sup>	% Oxygen <sup>7</sup>	Moisture <sup>8</sup>

\*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 <sup>9</sup> (where applicable)	Secondary Fuel Type <sup>10</sup> (where applicable)	LCP Plant Reference (where applicable)	Waste incineration or co-incineration plant reference (where applicable)
A2-4	Landfill Gas	None	Not Applicable	Not Applicable
A2-5	Landfill Gas	None	Not Applicable	Not Applicable
A2-6	Landfill Gas	None	Not Applicable	Not Applicable
A2-7	Landfill Gas	None	Not Applicable	Not Applicable

\*add rows to the table as necessary

<sup>9</sup> **Options:** Coal, Lignite, Heavy Fuel Oil, Other Fuel Oil, Peat, Natural Gas, Biogas, Solid Biomass, Waste, Gas Oil, Other or None

<sup>10</sup> **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 <sup>11</sup> Emitted?	Mass Flow of Emitted Hazardous Substances (g/hour)	Halogenated VOCs <sup>12</sup> Emitted?	Mass Flow of Emitted Halogenated VOCs (g/hour)
-	-	-	-	-

\*add rows to the table as necessary

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<sup>11</sup> 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.

<sup>12</sup> 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 <sup>13</sup>	Monitoring Point Grid Reference	
		Easting <sup>14</sup>	Northing <sup>15</sup>
A2-1	F1	274580	231818
A2-2	F2	274585	231815
A2-3	F3	274574	231815
A2-4	E1	274601	231805
A2-5	E2	274601	231805
A2-6	E3	274601	231805
A2-7	E4	274601	231805
A2-8	Existing Compost Facility Biofilter Stack 1A	274517	231670
A2-9	Existing Compost Facility Biofilter Stack 1B	274519	231670
A2-10	New MSW Processing Facility Biofilter Stack 2A	274619	231670
A2-11	New MSW Processing Facility Biofilter Stack 2B	274621	231670

\*add rows to the table as necessary

<sup>13</sup> To include monitoring and sampling points

<sup>14</sup> Six Digit GPS Irish National Grid Reference

<sup>15</sup> 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 <sup>16</sup> parameter	Monitoring to be carried out <sup>17</sup>	Additional notes (where relevant)
Continuous burn	Continuous with alarm/call-out	Flare 1 operates in Pilot mode when the gas engines are running
Extraction	Continuous with alarm/call-out	If there is an issue with the engine(s), then the pilot flare then ramps up

\*add rows to the table as necessary

**Emission Point Code:**   A2-2  

Control <sup>18</sup> parameter	Monitoring to be carried out <sup>19</sup>	Additional notes (where relevant)
Continuous burn	Continuous with alarm/call-out	

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

<sup>17</sup> List the monitoring of the control parameter to be carried out.

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

<sup>19</sup> List the monitoring of the control parameter to be carried out.

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Control <sup>18</sup> parameter	Monitoring to be carried out <sup>19</sup>	Additional notes (where relevant)
Extraction	Continuous with alarm/call-out	If all four engines are out, then two flares burn off the gas

Emission Point Code:   A2-3  

Control <sup>20</sup> parameter	Monitoring to be carried out <sup>21</sup>	Additional notes (where relevant)
Continuous burn	Continuous with alarm/call-out	Stand-by flare only
Extraction	Continuous with alarm/call-out	

Emission Point Code:   A2-4  

Control <sup>22</sup> parameter	Monitoring to be carried out <sup>23</sup>	Additional notes (where relevant)
Active carbon filtration	H2S levels using hand held monitor on daily basis	

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

<sup>21</sup> List the monitoring of the control parameter to be carried out.

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

<sup>23</sup> List the monitoring of the control parameter to be carried out.

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<b>Control<sup>22</sup> parameter</b>	<b>Monitoring to be carried out <sup>23</sup></b>	<b>Additional notes (where relevant)</b>
Continuous burn	Continuous with alarm/call-out	
Extraction	Continuous with alarm/call-out	

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Emission Point Code:   A2-5  

Control <sup>24</sup> parameter	Monitoring to be carried out <sup>25</sup>	Additional notes (where relevant)
Active carbon filtration	H2S levels using hand held monitor on daily basis	
Continuous burn	Continuous with alarm/call-out	
Extraction	Continuous with alarm/call-out	

Emission Point Code:   A2-6  

Control <sup>26</sup> parameter	Monitoring to be carried out <sup>27</sup>	Additional notes (where relevant)
Active carbon filtration	H2S levels using hand held monitor on daily basis	
Continuous burn	Continuous with alarm/call-out	
Extraction	Continuous with alarm/call-out	

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

<sup>25</sup> List the monitoring of the control parameter to be carried out.

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

<sup>27</sup> List the monitoring of the control parameter to be carried out.

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Emission Point Code:   A2-7  

Control <sup>28</sup> parameter	Monitoring to be carried out <sup>29</sup>	Additional notes (where relevant)
Active carbon filtration	H2S levels using hand held monitor on daily basis	
Continuous burn	Continuous with alarm/call-out	
Extraction	Continuous with alarm/call-out	

Emission Point Code:   A2-8  

Control <sup>30</sup> parameter	Monitoring to be carried out <sup>31</sup>	Additional notes (where relevant)
Odour assessment	Daily	
Condition and depth of biofilter	Daily	
Moisture content	Bi-annually	
pH	Bi-annually	
Ammonia	Bi-annually (Inlet and outlet gas)	
Mercaptans	Bi-annually (Inlet and outlet gas)	

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

<sup>29</sup> List the monitoring of the control parameter to be carried out.

<sup>30</sup> List the operating parameters of the treatment/abatement system which control its function.

<sup>31</sup> List the monitoring of the control parameter to be carried out.

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Control <sup>30</sup> parameter	Monitoring to be carried out <sup>31</sup>	Additional notes (where relevant)
Total viable counts	Annually (Inlet and outlet gas)	
Flow/Negative Air Pressure	Pressure gauge/flow - continuous	

Emission Point Code:   A2-9  

Control <sup>32</sup> parameter	Monitoring to be carried out <sup>33</sup>	Additional notes (where relevant)
Odour assessment	Daily	
Condition and depth of biofilter	Daily	
Moisture content	Bi-annually	
pH	Bi-annually	
Ammonia	Bi-annually (Inlet and outlet gas)	
Mercaptans	Bi-annually (Inlet and outlet gas)	
Total viable counts	Annually (Inlet and outlet gas)	
Flow/Negative Air Pressure	Pressure gauge/flow - continuous	

<sup>32</sup> List the operating parameters of the treatment/abatement system which control its function.

<sup>33</sup> List the monitoring of the control parameter to be carried out.



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Emission Point Code:   A2-10  

Control <sup>34</sup> parameter	Monitoring to be carried out <sup>35</sup>	Additional notes (where relevant)
Odour assessment	Daily	
Condition and depth of biofilter	Daily	
Moisture content	Bi-annually	
pH	Bi-annually	
Ammonia	Bi-annually (Inlet and outlet gas)	
Mercaptans	Bi-annually (Inlet and outlet gas)	
Total viable counts	Annually (Inlet and outlet gas)	
Flow/Negative Air Pressure	Pressure gauge/flow - continuous	

Emission Point Code:   A2-11  

Control <sup>36</sup> parameter	Monitoring to be carried out <sup>37</sup>	Additional notes (where relevant)
Odour assessment	Daily	
Condition and depth of biofilter	Daily	
Moisture content	Bi-annually	

<sup>34</sup> List the operating parameters of the treatment/abatement system which control its function.

<sup>35</sup> List the monitoring of the control parameter to be carried out.

<sup>36</sup> List the operating parameters of the treatment/abatement system which control its function.

<sup>37</sup> List the monitoring of the control parameter to be carried out.

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Control <sup>36</sup> parameter	Monitoring to be carried out <sup>37</sup>	Additional notes (where relevant)
pH	Bi-annually	
Ammonia	Bi-annually (Inlet and outlet gas)	
Mercaptans	Bi-annually (Inlet and outlet gas)	
Total viable counts	Annually (Inlet and outlet gas)	
Flow/Negative Air Pressure	Pressure gauge/flow - continuous	

**Waste Gas Emissions**

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

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Emission Point Code	Parameter	Monitoring Point Code	Proposed Emission Limits <sup>38</sup>					BAT Associated Emission Range (if applicable)	Sampling / Monitoring <a href="#">EPA Guidance for Monitoring - AG2 Index of Preferred Methods</a>		
			Max. Hourly <sup>39</sup>	Max. Daily <sup>40</sup>	Average Month <sup>41</sup>	Average Annual <sup>42</sup>	How was the Proposed Emission Limit Derived?		Proposed Monitoring Frequency	Proposed Monitoring and Analysis Method <sup>43</sup>	Compliant with BAT Monitoring Requirement?
A2-1, A2-2 & A2-3	Nitrogen Oxides	F1, F2 & F3	150mg/m <sup>3</sup>	150mg/m <sup>3</sup>	150mg/m <sup>3</sup>	150mg/m <sup>3</sup>	EPA BAT Guidance Note	150mg/m <sup>3</sup>	Biannual	Flue gas analyser or equivalent approved	Yes
A2-1, A2-2 & A2-3	Carbon Monoxide	F1, F2 & F3	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Continuous	Flue gas analyser/datalogger or equivalent approved	Not Applicable
A2-1, A2-2 & A2-3	Sulphur Dioxide	F1, F2 & F3	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Biannual	Flue gas analyser or equivalent approved	Not Applicable
A2-4, A2-5, A2-6 & A2-7	Nitrogen Oxides	E1, E2, E3 & E4	500mg/m <sup>3</sup>	500mg/m <sup>3</sup>	500mg/m <sup>3</sup>	500mg/m <sup>3</sup>	EPA BAT Guidance Note	500mg/m <sup>3</sup>	Biannual	Flue gas analyser or equivalent approved	Yes
A2-4, A2-5, A2-6 & A2-7	Particulates	E1, E2, E3 & E4	130mg/m <sup>3</sup>	130mg/m <sup>3</sup>	130mg/m <sup>3</sup>	130mg/m <sup>3</sup>	Existing IED Licence ELV	Not Applicable	Annual	Isokinetic/gravimetric or equivalent approved	Not Applicable

<sup>38</sup> 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](http://www.epa.ie).

<sup>39</sup> Specify the proposed limit **and** the units.

<sup>40</sup> Specify the proposed limit **and** the units.

<sup>41</sup> Specify the proposed limit **and** the units.

<sup>42</sup> Specify the proposed limit **and** the units.

<sup>43</sup> 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 <sup>38</sup>					BAT Associated Emission Range (if applicable)	Sampling / Monitoring <a href="#">EPA Guidance for Monitoring - AG2 Index of Preferred Methods</a>		
			Max. Hourly <sup>39</sup>	Max. Daily <sup>40</sup>	Average Month <sup>41</sup>	Average Annual <sup>42</sup>	How was the Proposed Emission Limit Derived?		Proposed Monitoring Frequency	Proposed Monitoring and Analysis Method <sup>43</sup>	Compliant with BAT Monitoring Requirement?
A2-8, A2-9, A2-10 & A2-11	Ammonia	Compost 1 – 4	50mg/m <sup>3</sup>	50mg/m <sup>3</sup>	50mg/m <sup>3</sup>	50mg/m <sup>3</sup>	Existing IED Licence ELV	0.3 – 20mg/m <sup>3</sup>	Biannual	Sampling tubes, fresh bed media	Yes – BAT 34
A2-8, A2-9, A2-10 & A2-11	Hydrogen Sulphide	Compost 1 – 4	5mg/m <sup>3</sup>	5mg/m <sup>3</sup>	5mg/m <sup>3</sup>	5mg/m <sup>3</sup>	Existing IED Licence ELV	Not Applicable	Biannual	Sampling tubes, fresh media bed	Yes – BAT 34
A2-8, A2-9, A2-10 & A2-11	Mercaptans	Compost 1 – 4	5mg/m <sup>3</sup>	5mg/m <sup>3</sup>	5mg/m <sup>3</sup>	5mg/m <sup>3</sup>	Existing IED Licence ELV	Not Applicable	Biannual	Sampling tubes, fresh media bed	Yes – BAT 34

\* 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

## Minor and/or Potential Emissions to Atmosphere <sup>44</sup>

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

No

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:

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<sup>44</sup> 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?<sup>45</sup> **(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	General site traffic and landfilling activities	350	mg/m <sup>2</sup> /day	Dust deposition
VOC <sup>46</sup>	No	Not Applicable	Not Applicable	%	of solvent input
Ammonia	No	Not Applicable	Not Applicable	ug/m <sup>3</sup>	at the nearest European Site
Nitrogen	No	Not Applicable	Not Applicable	kgN/ha/yr	at the nearest European Site
Odour	Yes	Landfill – Waste Body	Not Applicable	Odour Units	at boundary of installation
Methane	Yes	Landfill – Waste Body	20 OR 1	% Lower Explosive Limit (LEL)  % v/v	Measured in any building on or adjacent to the facility and perimeter boreholes

<sup>45</sup> For waste activities, dust and odour emissions should be considered and described in the table below where applicable.

<sup>46</sup> 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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Type of Fugitive Emission	Emission Type Applicable? (Yes/No)	Description of fugitive emissions source(s)	Maximum Level	Units	Descriptor/Location
Carbon Dioxide	Yes	Landfill – Waste Body	1.5	% v/v	<i>Measured in any building on or adjacent to the facility and perimeter boreholes</i>

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

Existing MSW Landfill and proposed additional Landfill will have landfill gas extraction wells to direct landfill derived gas to the landfill gas utilisation plant and flares.

The existing gas monitoring programme includes monthly measurements of methane, carbon dioxide, oxygen and atmospheric pressure in wells located both inside and outside the waste body. The wells are at 50m intervals around the landfill footprint and approximately two per hectare within the cells. The location of the 48 external wells (LG-01 – LG-48) have been agreed in advance with the Agency. A similar gas monitoring network and programme will be established for the additional Landfill which will be agreed with the Agency prior to commencement of construction.

The existing IED Licence has gas concentration limits in buildings on or adjacent to the facility and in MSW Landfill perimeter boreholes for methane (1% v/v) and carbon dioxide (1.5% v/v). These concentration limits will also be applied to the proposed additional Landfill.

Minimise open working face on the landfills and ensuring that waste at the MSW Landfill is compacted within 3 to 4 minutes.

Odour Management Plan is in place for the existing facility and will be extended to cover the activities of the proposed additional infrastructure where applicable.

**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



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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.

**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.