

# EPA Application Form

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

**Organisation Name: \***

Indaver Ireland Ltd.

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

LA001689

*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

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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) <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	578973.8452	564236.9679	333	Flue gas from the incinerator is treated using the following: - Injection of ammonia solution or urea into the boiler (reduce NOx levels) also known as Selective Non-Catalytic Reduction (SNCR)	Incineration	70	101.3kPa	273K	11%	Dry

<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> Irish Transverse Mercator (ITM) Coordinates.

<sup>4</sup> Irish Transverse Mercator (ITM) Coordinates.

<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 <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>
				<ul style="list-style-type: none"> <li>- Lime (for acid concentration correction)</li> <li>- Activated carbon or carbon/clay mixture (for removal of dioxins and furans, particulates and heavy metals)</li> <li>- Baghouse filter (mechanical removal of particulates)</li> </ul>						

\*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)
A2-1	Waste	Light fuel oil	N/A	Indaver Ringaskiddy Waste to Energy Plant

\*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)
N/A	N/A	N/A	N/A	N/A

\*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	A2-1	578973.8452	564236.9679

\*add rows to the table as necessary

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

<sup>14</sup> Irish Transverse Mercator (ITM) Coordinates.

<sup>15</sup> Irish Transverse Mercator (ITM) Coordinates.



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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)
Total Dust	Iso-kinetic/gravimetric/optical or as otherwise agreed by the agency	Continuous
PM <sub>10</sub>	To be agreed by the Agency	Quarterly
PM <sub>2.5</sub>	To be agreed by the Agency	Quarterly
Gaseous & Vaporous organic substances expressed as total organic carbon (TOC)	Flame Ionisation Detector or as otherwise agreed by the agency	Continuous
Hydrogen chloride (HCl)	Infra-red analyser or as otherwise agreed by the agency	Continuous
Hydrogen fluoride (HF)	To be agreed by Agency	Continuous
Sulphur dioxide (SO <sub>2</sub> )	Infra-red analyser or as otherwise agreed by the agency	Continuous
Oxides of Nitrogen (NO and NO <sub>x</sub> expressed as NO <sub>2</sub> )	Infra-red analyser or as otherwise agreed by the agency	Continuous
Ammonia (NH <sub>3</sub> )	To be agreed by Agency	Continuous
Cadmium (as Cd) and thallium	To be agreed by Agency	Biannual measurement, average

<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.

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<b>Control<sup>16</sup> parameter</b>	<b>Monitoring to be carried out <sup>17</sup></b>	<b>Additional notes (where relevant)</b>
(as Tl), and their compounds		value over sample period of between 30min and 8 hours
Mercury (as Hg) and its compounds	To be agreed by Agency	Continuous
Antimony (as Sb), arsenic (as As), lead (as Pb), chromium (as Cr), cobalt (as Co), copper (as Cu), manganese (as Mn), nickel (as Ni), and vanadium (as V) and their compounds	To be agreed by Agency	Biannual measurement, average value over sample period of between 30min and 8 hours
Dioxins/furans	Continuous sampling method per application. Other measurements as per CEN method (EN 1948, parts 1,2, and 3) or as otherwise agreed by the agency	Continuous sampling with analysis every two weeks for duration of test programme or as otherwise agreed with the agency Biannual measurement, average value over sample period of between 6 and 8 hours.
Carbon monoxide (CO)	Infra-red analyser or as otherwise agreed by the agency	Continuous

\*add rows to the table as necessary

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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 <sup>18</sup>					How was the Proposed Emission Limit Derived?	BAT Associated Emission Range (if applicable)	Sampling / Monitoring <a href="#">EPA Guidance for Monitoring - AG2 Index of Preferred Methods</a>		
			Max. Hourly <sup>19</sup>	Average Hourly <sup>19</sup>	Average Daily <sup>19</sup>	Average Monthly <sup>19</sup>	Average Annual <sup>19</sup>			Proposed Monitoring Frequency	Proposed Monitoring and Analysis Method <sup>20</sup>	Compliant with BAT Monitoring Requirement?
A2-1	Flow	A2-1	211,000 Nm <sup>3</sup> /hr	161,977 Nm <sup>3</sup> /hr	3,887,448 Nm <sup>3</sup> /day	118,256,168 Nm <sup>3</sup> /month  (average daily x 30.42days)	1,418,918,520 Nm <sup>3</sup> /year  (average daily x 365 days)	N/A	N/A	Continuous	Iso-kinetic/gravimetric/optical or as otherwise agreed by the agency	Yes
A2-1	Total Dust	A2-1	30 mg/Nm <sup>3</sup> <b>Note 1</b>	10 mg/Nm <sup>3</sup> <b>Note 2</b>	10 mg/Nm <sup>3</sup> <b>Note 5</b>	-	-	IE Directive (2010/75/EU)	1-20 mg/Nm <sup>3</sup> (1/2 hour average) <b>Note 3</b>	Continuous	Iso-kinetic/gravimetric/optical or as otherwise agreed by the agency	Yes

<sup>18</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>19</sup> Specify the proposed limit **and** the units.

<sup>20</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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					5 mg/Nm <sup>3</sup> <b>Note 6</b>			BAT-AEL's for a New Plant	1-7 mg/ Nm <sup>3</sup> (24 hour average) <b>Note 4</b>			
A2-1	Gaseous & Vaporious organic substances expressed as total organic carbon (TOC)	A2-1	20 mg/Nm <sup>3</sup> <b>Note 1</b>	10 mg/Nm <sup>3</sup> <b>Note 2</b>	10 mg/Nm <sup>3</sup> <b>Note 5</b>  10 mg/Nm <sup>3</sup> <b>Note 6</b>	-	-	IE Directive (2010/75/EU)  BAT-AEL's for a New Plant	1-20 mg/Nm <sup>3</sup> (1/2 hour average) <b>Note 3</b>  3-10mg/ Nm <sup>3</sup> (24 hour average) <b>Note 4</b>	Continuous	Flame Ionisation Detector or as otherwise agreed by the agency	Yes
A2-1	Hydrogen chloride (HCl)	A2-1	60 mg/Nm <sup>3</sup> <b>Note 1</b>	10 mg/Nm <sup>3</sup> <b>Note 2</b>	10 mg/Nm <sup>3</sup> <b>Note 5</b>  6 mg/Nm <sup>3</sup> <b>Note 6</b>	-	-	IE Directive (2010/75/EU)  BAT-AEL's for a New Plant	1-50 mg/Nm <sup>3</sup> (1/2 hour average) <b>Note 3</b>  2-8 mg/ Nm <sup>3</sup> (24 hour average) <b>Note 4</b>	Continuous	Infra-red analyser or as otherwise agreed by the agency	Yes
A2-1	Hydrogen fluoride (HF)	A2-1	4 mg/Nm <sup>3</sup> <b>Note 1</b>	2 mg/Nm <sup>3</sup> <b>Note 2</b>	1 mg/Nm <sup>3</sup> <b>Note 5</b>  1 mg/Nm <sup>3</sup> <b>Note 6</b>	-	-	IE Directive (2010/75/EU)  BAT-AEL's for a New Plant	<2 mg/Nm <sup>3</sup> (1/2 hour average) <b>Note 3</b>  <1 mg/ Nm <sup>3</sup> (24 hour average) <b>Note 4</b>	Continuous	To be agreed by Agency	Yes

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A2-1	Sulphur dioxide (SO <sub>2</sub> )	A2-1	200 mg/Nm <sup>3</sup> <b>Note 1</b>	50 mg/Nm <sup>3</sup> <b>Note 2</b>	50 mg/Nm <sup>3</sup> <b>Note 5</b>  30 mg/Nm <sup>3</sup> <b>Note 6</b>	-	-	IE Directive (2010/75/EU)  BAT-AEL's for a New Plant	1-150 mg/Nm <sup>3</sup> (1/2 hour average) <b>Note 3</b> 5-40 mg/ Nm <sup>3</sup> (24 hour average) <b>Note 4</b>	Continuous	Infra-red analyser or as otherwise agreed by the agency	Yes
A2-1	Oxides of Nitrogen (NO and NO <sub>x</sub> expressed as NO <sub>2</sub> )	A2-1	400 mg/Nm <sup>3</sup> <b>Note 1</b>	200 mg/Nm <sup>3</sup> <b>Note 2</b>	200 mg/Nm <sup>3</sup> <b>Note 5</b>  120 mg/Nm <sup>3</sup> <b>Note 6</b>	-	-	IE Directive (2010/75/EU)  BAT-AEL's for a New Plant	30-350 mg/Nm <sup>3</sup> (1/2 hour average) <b>Note 3</b> 50-180 mg/Nm <sup>3</sup> (24 hour average) <b>Note 4</b>	Continuous	Infra-red analyser or as otherwise agreed by the agency	Yes
A2-1	Ammonia (NH <sub>3</sub> )	A2-1			10 mg/Nm <sup>3</sup> <b>Note 6</b>	-	-	BAT-AEL's for a New Plant	2-15 mg/Nm <sup>3</sup> (24-hour average) <b>Note 4</b>	Continuous	To be agreed by Agency	Yes
A2-1	Cadmium (as Cd) and thallium (as Tl), and their compounds	A2-1	-	-	0.05 mg/Nm <sup>3</sup> <b>Note 5</b>  0.02 mg/Nm <sup>3</sup> <b>Note 6</b>	-	-	IE Directive (2010/75/EU)  BAT-AEL's for a New Plant	0.005 – 0.05 mg/Nm <sup>3</sup> <b>Note 3</b>  0.005 – 0.02 mg/Nm <sup>3</sup> <b>Note 4</b>	Biannual	To be agreed by Agency	Yes
A2-1	Mercury (as Hg) and its compounds	A2-1	-		50 µg/Nm <sup>3</sup> <b>Note 5</b>	-	-	IE Directive (2010/75/EU)	<50 µg/Nm <sup>3</sup> <b>Note 3</b>	Biannual	To be agreed by Agency	Yes

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					20 µg/Nm <sup>3</sup> <b>Note 6</b>			BAT-AEL's for a New Plant	1-20 µg/Nm <sup>3</sup> (24 hour average) <b>Note 4</b>	Continuous		
A2-1	Sum of Metals	A2-1	-	-	0.5 mg/Nm <sup>3</sup> <b>Note 5</b>  0.3 mg/Nm <sup>3</sup> <b>Note 6</b>	-	-	IE Directive (2010/75/E U)  BAT-AEL's for a New Plant	0.005 – 0.5 mg/Nm <sup>3</sup> <b>Note 3</b>  0.01 – 0.3 mg/Nm <sup>3</sup> <b>Note 4</b>	Biannual	To be agreed by Agency	Yes
A2-1	Dioxins/ furans	A2-1	-	-	0.1 ng/Nm <sup>3</sup> (I-TEQ) <b>Note 5</b>  0.04 ng/Nm <sup>3</sup> (I-TEQ) <b>Note 6</b>	-	-	IE Directive (2010/75/E U)  BAT-AEL's for a New Plant	0.01 – 0.1 ng/Nm <sup>3</sup> <b>Note 3</b>  0.01 – 0.8 ng/Nm <sup>3</sup> <b>Note 4</b>	Continuous sampling with analysis every two weeks  Biannual	Continuous sampling method per application. Other measurements as per CEN method (EN 1948, parts 1,2, and 3) or as otherwise agreed by the agency	Yes
A2-1	Carbon monoxide (CO)	A2-1	150 mg/Nm <sup>3</sup> (10 minute average)	100 mg/Nm <sup>3</sup> (30 minute average)	50 mg/Nm <sup>3</sup> <b>Note 5</b>  50 mg/Nm <sup>3</sup> <b>Note 6</b>	-	-	IE Directive (2010/75/E U)  And BAT-AEL's for a New Plant	5-100 mg/Nm <sup>3</sup> (1/2 hour average) <b>Note 3</b>  10-50 mg/ Nm <sup>3</sup> (24 hour average) <b>Note 4</b>	Continuous	Infra-red analyser or as otherwise agreed by the agency	Yes

\* 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



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\*add rows to the table as necessary

**Note 1:** Half hourly average for all samples, OR

**Note 2:** Half hourly average for 97% of sample.

**Note 3:** **BAT** ELV Range based on BREF for Waste Incineration 2006

**Note 4:** BAT ELV Range based on WI BAT Conclusions Document June 2019

**Note 5:** ELV's based on IED 2010/75/EU for Effective Operating Time (EOT)

**Note 6:** ELV's based on BAT-AEL's for Normal Operating Conditions (NOC)



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### Minor and/or Potential Emissions to Atmosphere <sup>21</sup>

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.docx

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<sup>21</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>22</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
<b>Dust</b>	<b>Yes</b>	No significant fugitive emissions anticipated as controls have been incorporated into the design of the facility to minimise fugitive dust emissions.	Dust levels will be compliant with ambient air quality levels at all locations beyond the site boundary.	<i>mg/m<sup>2</sup>/day</i>	<i>Dust deposition</i>
<b>VOC<sup>23</sup></b>	<b>No</b>	N/A	N/A	%	<i>of solvent input</i>
<b>Ammonia</b>	<b>No</b>	All potential ammonia emissions are point source emissions (minor or potential) only and have been addressed in Attachment 7.4.2.	N/A	<i>ug/m<sup>3</sup></i>	<i>At Source</i>
<b>Nitrogen</b>	<b>No</b>	N/A	N/A	<i>kgN/ha/yr</i>	<i>at the nearest European Site</i>
<b>Odour</b>	<b>Yes</b>	No odour emissions anticipated as plant will be held under negative pressure during operations.	Trace	<i>Odour Units</i>	<i>at boundary of installation</i>

<sup>22</sup> For waste activities, dust and odour emissions should be considered and described in the table below where applicable.

<sup>23</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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Provide details of the techniques to be used to reduce / minimise / prevent fugitive emissions in text box below

Fugitive emissions of dust and odour from the facility have been minimised through the design of the facility.

Controls will be in place to prevent dust escaping the waste handling building (e.g. by carrying out all waste handling activities within the enclosed waste tipping hall and bunker and by maintaining those areas under negative pressure). Maintaining the facility under negative pressure will also prevent fugitive odour emissions.

Monitoring of Odour emissions will be undertaken quarterly as part of an odour management plan to be developed for the proposed facility in compliance with the Odour Impact Assessment Guidance for EPA Licensed Sites (AG5).

**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

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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.