



Headquarters,
Johnstown Castle Estate,
County Wexford, Ireland

GREENHOUSE GAS EMISSIONS PERMIT

Permit Register Number:	IE-GHG146-10417-4
Operator:	Dublin Products Limited Tornant Lower Dunlavin Wicklow
Installation Name:	Dublin Products Limited
Site Name:	Dublin Products Limited
Location:	Dunlavin Wicklow Ireland

Introductory Note

This introductory note does not form a part of the Greenhouse Gas Emissions Permit.

This Greenhouse Gas Emissions Permit authorises the holder to undertake named activities resulting in emissions of Carbon Dioxide from the listed emission sources. It also contains requirements that must be met in respect of such emissions, including monitoring and reporting requirements. This Greenhouse Gas Emissions Permit places an obligation on the Operator to surrender allowances to the Agency equal to the annual reportable emissions of carbon dioxide equivalent from the installation in each calendar year, no later than four months after the end of each such year.

Contact with Agency:

If you contact the Agency about this Greenhouse Gas Emissions Permit please quote the following reference: Greenhouse Gas Emissions Permit N^o IE-GHG146-10417.

All correspondence in relation to this permit should be addressed to:

Email: help.ets@epa.ie

By Post: Climate Change Unit, Environmental Protection Agency
P.O. Box 3000, Johnstown Castle Estate,
Co. Wexford

Updating of the permit:

This Greenhouse Gas Emissions Permit may be updated by the Agency, subject to compliance with Condition 2. The current Greenhouse Gas Emissions Permit will normally be available on the Agency's website at www.epa.ie and [ETSWAP](#).

Surrender of the permit:

Before this Greenhouse Gas Emissions Permit can be wholly or partially surrendered, a written application must be made to the on-line ETS portal, and written permission received from, the Agency through [ETSWAP](#).

Transfer of the permit or part of the permit:

Before this Greenhouse Gas Emissions Permit can be wholly or partially transferred to another Operator a joint written application to transfer this Greenhouse Gas Emissions Permit must be made (by both the existing and proposed Operators) to, and written permission received from, the Agency through the on-line ETS portal [ETSWAP](#).

Licence held pursuant to the Environmental Protection Agency Act 1992, as amended. (as of the date of this permit):

IPC/IE Licence Register Number
P0041-03

Status Log

Current Permit

Permit number	Date application received	Date Permit issued	Comment
IE-GHG146-10417-4	18 February 2016	12 January 2017	Medium fuel oil and biogas added as fuel source streams. Tier 1 default value for NCV for tallow amended based on past analysis.

Previous Permits

Permit number	Change Type	Date application received	Date Permit issued	Comment
IE-GHG146-10417-1	GHG Permit Application	18 December 2013	21 January 2014	
IE-GHG146-10417-2	GHG Variation	04 February 2014	27 March 2014	The monitoring plan has been updated for the source stream Tallow (Tal-001) as tallow has been classified as a sustainable bioliquid.
IE-GHG146-10417-3	GHG Variation	08 October 2014	10 July 2015	Addition of the source stream Acetylene (ACT-001) and emission source WKS-1. Removal of the source stream medium fuel oil. Removal of the emission source STB-1.

End of Introductory Note

Glossary of Terms

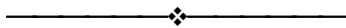
For the purposes of this permit the terms listed in the left hand column shall have the meaning given in the right hand column below:

The Agency	Environmental Protection Agency.
Agreement	Agreement in writing.
Allowance	Permission to emit to the atmosphere one tonne of carbon dioxide equivalent during a specified period issued for the purposes of Directive 2003/87/EC by the Agency or by a designated national competent authority of a Member State of the European Union.
Annual Reportable Emissions	Reportable Emissions of carbon dioxide made in any calendar year commencing from 1 January 2005 or the year of commencement of the activity, whichever is the later.
A & V Regulation	Commission Regulation (EU) No 600/2012 of 21 June 2012 on the verification of greenhouse gas emission reports and tonne-kilometre reports and the accreditation of verifiers pursuant to Directive 2003/87/EC of the European Parliament and of the Council and any amendments or revisions thereto.
Category A Installation	As defined in Article 19.2 (a) of the M&R Regulation.
Category B Installation	As defined in Article 19.2 (b) of the M&R Regulation.
Category C Installation	As defined in Article 19.2 (c) of the M&R Regulation.
The Directive	Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC.
Emissions	The release of greenhouse gases into the atmosphere from sources in an installation.
EPA	Environmental Protection Agency.
Fall-Back Methodology	As defined in Article 22 of the M&R Regulation.
GHG	Greenhouse gas.
GHG Permit	Greenhouse gas emissions permit.
Greenhouse Gas	Any of the gases in Schedule 2 of the Regulations.
IPC/IE	Integrated Pollution Control/Industrial Emissions.
Installation	Any stationary technical unit where one or more activities listed in Schedule 1 to the Regulations are carried out. Also any other directly associated activities which have a technical connection with the activities carried out on that site and which could have an effect on emissions and pollution. References to an installation include references to part of an installation.

Installation with low emissions	As defined in Article 47 of the M&R Regulation.
Major Source Streams	As defined in Article 19.3 (c) of the M&R Regulation.
M&R Regulation	Commission Regulation (EU) No 601/2012 of 21 June 2012 on the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC of the European Parliament and of the Council and any amendments or revisions thereto.
Mis-statement	An omission, misrepresentation or error in the Operators reported data, not considering the uncertainty permissible pursuant to Article 12(1)(a) of Regulation (EU) no 601/2012.
N/A	Not applicable.
Monitoring Plan	The Plan submitted and approved in accordance with Condition 3.1 of this permit and attached at Appendix 1.
Non-conformity	Any act or omission by the Operator, either intentional or unintentional, that is contrary to the greenhouse gas emissions permit and the requirements of the Monitoring Plan.
The National Administrator	The person so designated in accordance with the requirements of any Regulations adopted as provided for under Article 19.3 of Directive 2003/87/EC.
The Operator (for the purposes of this permit)	Dublin Products Limited
“operator”	Any person who operates or controls an installation or to whom decisive economic power over the functioning of the installation has been delegated.
Person	Any natural or legal person.
Reportable emissions	The total releases to the atmosphere of carbon dioxide (expressed in tonnes of carbon dioxide equivalent) from the emission sources specified in Table 2 and arising from the Schedule 1 activities which are specified in Table 1.
The Regulations	European Communities (Greenhouse Gas Emissions Trading) Regulations 2012 (S.I. No 490 of 2012) and any amendments or revisions thereto.
The Verifier	A legal person or another legal entity carrying out verification activities pursuant to Regulation (EU) No 600/2012 and accredited by a national accreditation body pursuant to Regulation (EC) No 765/2008 and Regulation (EU) No 600/2012 or a natural person otherwise authorised, without prejudice to Article 5(2) of Regulation (EC) No 765/2008, at the time a verification report is issued.
The Registry	The Registry as provided for under Article 19 of Directive 2003/87/EC.

Schedule 1

Schedule 1 to the Regulations.



Reasons for the Decision

The Agency is satisfied, on the basis of the information available, that subject to compliance with the conditions of this permit, the Operator is capable of monitoring and reporting emissions in accordance with the requirements of the Regulations.



Activities Permitted

Pursuant to the Regulations the Agency issues this Greenhouse Gas Emissions Permit, subject to any subsequent revisions, corrections or modifications it deems appropriate, to:

The Operator:

Dublin Products Limited
Tornant Lower
Dunlavin
Wicklow

Company Registration Number: 33508

to carry out the following

Categories of activity:

Annex 1 Activity

Combustion of fuels in installations with a total rated thermal input exceeding 20 MW (except in installations for the incineration of hazardous or municipal waste)
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at the following installation(s):

Dublin Products Limited **Installation number:** 107

located at

Dunlavin
Wicklow
Ireland

subject to the five conditions contained herein, with the reasons therefor and associated tables attached thereto.

Conditions

Condition 1. The Permitted Installation

- 1.1 This permit is being granted in substitution for the previous GHG permit granted to the Operator as listed in the Status Log of this GHG permit.
- 1.2 The Operator is authorised to undertake the activities and/or the directly associated activities specified in Table 1 below resulting in the emission of carbon dioxide:

Table 1 - Activities which are listed in Schedule 1 of the Regulations and other directly associated activities carried out on the site:

Installation No.: 107

Activity Description
Combustion of fuels in installations with a total rated thermal input exceeding 20 MW (except in installations for the incineration of hazardous or municipal waste)
Directly Associated Activity Description
(S1) Wastewater treatment and Biofiltration (odour abatement)

- 1.3 Carbon dioxide from Schedule 1 activities shall be emitted to atmosphere only from the emission sources as listed in Table 2 below:

Table 2 Emission Sources and Capacities:

Emission Source Reference	Emission Source Description	Capacity	Capacity Units
A4-1	Thermal Oxidizer	16.57	MW
STB-2	Steam Boiler	14.29	MW
STB-3	Steam Boiler	12.68	MW
OFFB-1	Water heating boiler	0.03	MW
OFFB-2	Office heating boiler	0.04	MW
WKS-1	Workshop heating boiler	0.05	MW
WKS-1	Workshop	0	MW

- 1.4 The activity shall be controlled, operated and maintained so that emissions of carbon dioxide shall take place only as set out in this GHG Emissions Permit. The permit does not control emissions of gases other than carbon dioxide. All agreed plans, programmes and methodologies required to be carried out under the terms of this permit, become part of this permit.
- 1.5 This GHG Permit is for the purposes of GHG emissions permitting under the European Communities (Greenhouse Gas Emissions Trading) Regulations 2012 and any amendments to the same only and nothing in this permit shall be construed as negating the Operator's statutory obligations or requirements under any other enactments or regulations unless specifically amended by the Regulations.
- 1.6 Any reference in this permit to 'installation' shall mean the installation as described in the Greenhouse Gas Emissions Permit application and any amendments approved by the Agency.

Reason: *To describe the installation and clarify the scope of this permit.*

Condition 2. Notification

- 2.1 No alteration to, or reconstruction in respect of, the activity or any part thereof which would, or is likely to, result in a change in:
- 2.1.1 the nature or functioning of the installation;
 - 2.1.2 the capacity of the installation as detailed in this permit;
 - 2.1.3 the fuels used at the installation;
 - 2.1.4 the range of activities to be carried out at the installation
- that may require updating of the GHG permit shall be carried out or commenced without prior notice to and without the prior written agreement of the Agency.
- 2.2 The Operator shall notify the Agency in writing of the cessation of all or part of any activity listed in Table 1 of this permit no later than one month from the date of cessation or by 31 December of the year of cessation, whichever is sooner.
- 2.3 The Operator shall apply for an update of this GHG Permit where there is a change to the Operator name and/or registered address of the Operator, within seven days of the change.
- 2.4 For installations or parts of installations which have not come into operation when the application for this permit was made the Operator shall notify the Agency of the date of commencement of the activity within seven days of commencement.
- 2.5 The Operator shall notify the Agency in writing within three days of becoming aware of any factors which may prevent compliance with the conditions of this permit.
- 2.6 The Operator shall submit to the Agency by 21 January of each year a declaration of operability. The declaration submitted shall be in the format required by the Agency.
- 2.7 All notifications required under Condition 2 above shall be made to the address given in the Explanatory Note included with this permit.
- 2.8 The Operator shall submit to the Agency by 31 December of each year all relevant information about any planned or effective changes to the capacity, activity level and operation of an installation. The information submitted shall be in the format required by the Agency.

Reason: *To provide for the notification of updated information on the activity.*

Condition 3. Monitoring and Reporting

- 3.1 The Operator shall monitor and record greenhouse gas emissions on site in accordance with the M&R Regulation and the approved Monitoring Plan attached at Appendix 1 to this GHG permit and in compliance with any other guidance approved by the Agency for the purposes of implementing the Directive and/or the Regulations.
- 3.2 The Operator shall modify the monitoring plan in any of the following situations:
- 3.2.1 new emissions occur due to new activities carried out or due to the use of new fuels or materials not yet contained in the monitoring plan;
 - 3.2.2 the change of availability of data, due to the use of new measurement instrument types, sampling methods or analysis methods, or for other reasons, leads to higher accuracy in the determination of emissions;
 - 3.2.3 data resulting from the previously applied monitoring methodology has been found incorrect;
 - 3.2.4 changing the monitoring plan improves the accuracy of the reported data, unless this is technically not feasible or incurs unreasonable costs;
 - 3.2.5 the monitoring plan is not in conformity with the requirements of the M&R Regulation and the Agency requests a change;
 - 3.2.6 it is necessary to respond to the suggestions for improvement of the monitoring plan contained in the verification report.

The Operator shall notify any proposals for modification of the monitoring plan to the Agency without undue delay. Any significant modifications of the monitoring plan, as defined in Article 15 of the M&R Regulation, shall be subject to approval by the Agency. Where approved these changes shall be implemented within a timeframe agreed by the Agency.

- 3.3 Temporary changes to the monitoring methodology:
- 3.3.1 Where it is for technical reasons temporarily not feasible to apply the tier in the monitoring plan for the activity data or each calculation factor of a fuel or material stream as approved by the Agency, the Operator shall apply the highest achievable tier until the conditions for application of the tier approved in the monitoring plan have been restored. The Operator shall take all necessary measures to allow the prompt restoration of the tier in the approved monitoring plan. The Operator shall notify the temporary change to the monitoring methodology without undue delay to the Agency specifying:
 - (i) The reasons for the deviation from the tier;
 - (ii) in detail, the interim monitoring methodology applied by the Operator to determine the emissions until the conditions for the application of the tier in the monitoring plan have been restored;
 - (iii) the measures the Operator is taking to restore the conditions for the application of the tier in the approved monitoring plan;
 - (iv) the anticipated point in time when application of the approved tier will be resumed.
 - 3.3.2 A record of all non-compliances with the approved monitoring plan shall be maintained on-site and shall be available on-site for inspection by authorised persons of the Agency and/or by the Verifier at all reasonable times.

- 3.4 The Operator shall appoint a Verifier to ensure that, before their submission, the reports required by Condition 3.5 below are verified in accordance with the criteria set out in Schedule 5 of the Regulations, the A&V Regulation and any more detailed requirements of the Agency.
- 3.5 The written report of the verified annual reportable emissions and the verification report in respect of each calendar year shall be submitted to the Agency by the Operator no later than 31 March of the following year. The reports shall be in the format required by the Agency and meet the criteria set out in the M&R and A&V Regulations.
- 3.6 The Operator shall enter the verified annual reportable emissions figure for the preceding year into the Registry no later than 31 March of the following year. This figure shall be electronically approved by the Verifier in the registry no later than 31 March of each year.
- 3.7 Where an Operator is applying the Fall-Back methodology, the Operator shall assess and quantify each year the uncertainties of all parameters used for the determination of the annual emissions in accordance with the ISO Guide to the Expression of Uncertainty in Measurement or another equivalent internationally accepted standard and include the verified results in the written report of the verified annual reportable emissions to be submitted to the Agency by 31 March each year.
- 3.8 An Operator shall submit to the Agency for approval a report containing the information detailed in (i) or (ii) below, where appropriate, by the following deadlines:
- (a) for a category A installation, by 30 June every four years;
 - (b) for a category B installation, by 30 June every two years;
 - (c) for a category C installation, by 30 June every year.
- (i) Where the Operator does not apply at least the tiers required pursuant to the first subparagraph of Article 26(1) and to Article 41(1) of the M&R Regulation, the Operator shall provide a justification as to why it is technically not feasible or would incur unreasonable costs to apply the required tiers. Where evidence is found that measures needed for reaching those tiers have become technically feasible and do not incur unreasonable costs, the Operator shall notify the Agency of appropriate modifications to the monitoring plan and submit proposals for implementing appropriate measures and its timing.
- (ii) Where the Operator applies a fall-back monitoring methodology, the Operator shall provide a justification as to why it is technically not feasible or would incur unreasonable costs to apply at least tier 1 for one or more major or minor source streams. Where evidence is found that measures needed for reaching at least tier 1 for those source streams have become technically feasible and do not incur unreasonable costs, the Operator shall notify the Agency of appropriate modifications to the monitoring plan, submit proposals and a timeframe for implementing appropriate measures.
- 3.9 Where the verification report states outstanding non conformities, misstatements or recommendations for improvements the Operator shall submit a report to the Agency for approval by 30 June of the year in which the verification report is issued. This requirement does not apply to the Operator of an installation with low emissions where the verification report contains recommendations for improvements only. The report shall describe how and when the Operator has rectified or plans to rectify the non-conformities identified and to implement recommended improvements. Where recommended improvements would not lead to an improvement of the monitoring methodology this must be justified by the Operator. Where the recommended improvements would incur unreasonable costs the Operator shall provide evidence of the unreasonable nature of the costs. The Operator shall implement the improvements specified by the Agency in response to the report submitted in accordance with this Condition in accordance with a timeframe set by the Agency.

- 3.10 The Operator shall make available to the Verifier and to the Agency any information and data relating to emissions of carbon dioxide which are required in order to verify the reports referred to in Condition 3.5 above or as required by the Agency to facilitate it in establishing benchmarks and/or best practice guidance.
- 3.11 Provision shall also be made for the transfer of environmental information, in relation to this permit, to the Agency's computer system, as may be requested by the Agency.
- 3.12 The Operator shall retain all information as specified in the M&R Regulation for a period of at least 10 years after the submission of the relevant annual report.
- 3.13 A record of independent confirmation of capacities listed in this permit shall be available on-site for inspection by authorised persons of the Agency at all reasonable times.
- 3.14 The Operator shall keep records of all modifications of the monitoring plan. The records shall include the information specified in Article 16.3 of the M&R Regulation.
- 3.15 The Operator shall ensure that members of the public can view a copy of this permit and any reports submitted to the Agency in accordance with this permit at all reasonable times. This requirement shall be integrated with the requirements of any public information programme approved by the Agency in relation to any other permit or licence held by the Operator for the site.

Reason: *To provide for monitoring and reporting in accordance with the Regulations.*

Condition 4. Allowances

4.1 Surrender of Allowances

- 4.1.1 The Operator shall, by 30 April in each year, surrender to the Agency, or other appropriate body specified by the Agency, allowances equal to the annual reportable emissions in the preceding calendar year.
- 4.1.2 The number of allowances to be surrendered shall be the annual reportable emissions for the preceding calendar year plus such allowances as may be necessary to cover any earlier calendar year in respect of which allowances remain outstanding and due. This includes allowances to cover the amount of any annual reportable emissions in respect of which allowances were not surrendered in accordance with Condition 4.1.1 in the previous year, and the amount of any reportable emissions which were discovered during the previous year to have been unreported in reports submitted under Condition 3 in that or in earlier years.
- 4.1.3 In relation to activities or parts of activities which have ceased to take place and have been notified to the Agency in accordance with Condition 2.2 above, the Operator shall surrender to the Agency allowances equal to the annual reportable emissions from such activities in the preceding calendar year or part thereof, together with such allowances as may be necessary to cover any earlier calendar year in respect of which allowances remain outstanding and due as described in Condition 4.1.2 above.
- 4.1.4 The Operator may, from 2008 onwards, subject to the provisions of the Regulations and the relevant National Allocation Plan for that compliance year, surrender emission reduction units (ERUs) and certified emission reduction units (CERs) in place of allowances.

- 4.2 The holding, transfer, surrender and cancellation of allowances shall be in accordance with the requirements of any Regulations adopted as provided for under Article 19.3 of Directive 2003/87/EC, any amendment or revision to the same and any guidance issued by the Agency or the National Administrator.

- 4.3 The Operator shall provide the National Administrator with all the necessary information for the opening of an Operator holding account for the installation described in Condition 1 of this permit within twenty working days of the issue of this permit, unless such an account is already open.

Reason: To provide for the surrendering, holding, transfer and cancellation of allowances in respect of reported emissions.

Condition 5. Penalties

- 5.1 Any Operator who fails to comply with Condition 4.1 above shall be subject to the provisions of the Regulations, including, but not limited to the payment of penalties.

Reason: To provide for the payment of excess emissions penalties as required under the Regulations.

Sealed by the seal of the Agency on this the 12 January 2017:

PRESENT when the seal of the Agency was affixed hereto:

Ms. Annette Prendergast
Inspector/ Authorised Person

Appendix 1 to Greenhouse Gas Emissions Permit Number IE-GHG146-10417

Monitoring Plan

1. Guidelines & Conditions

1. Directive 2003/87/EC as amended by Directive 2009/29/EC (hereinafter "the (revised) EU ETS Directive") requires operators of installations which are included in the European Greenhouse Gas Emission Trading Scheme (the EU ETS) to hold a valid GHG emission permit issued by the relevant Competent Authority and to monitor and report their emissions and have the reports verified by an independent and accredited verifier.

The Directive can be downloaded from:

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CONSLEG:2003L0087:20090625:EN:PDF>

2. The Monitoring and Reporting Regulation (Commission Regulation (EU) No 601/2012) (hereinafter the "MRR") defines further requirements for monitoring and reporting.

The MRR can be downloaded from:

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:181:0030:0104:EN:PDF>

Article 12 of the MRR sets out specific requirements for the content and submission of the monitoring plan and its updates. Article 12 outlines the importance of the Monitoring plan as follows:

The monitoring plan shall consist of a detailed complete and transparent documentation of the monitoring methodology of a specific installation [or aircraft operator] and shall contain at least the elements laid down in Annex I.

Furthermore Article 74(1) states:

Member States may require the operator and aircraft operator to use electronic templates or specific file formats for submission of monitoring plans and changes to the monitoring plan as well as for submission of annual emissions reports tonne-kilometre data reports verification reports and improvement reports. Those templates or file format specifications established by the Member States shall at least contain the information contained in electronic templates or file format specifications published by the Commission

3. All Commission guidance documents on the Monitoring and Reporting Regulation will be published at the link below as they become available:

http://ec.europa.eu/clima/policies/ets/monitoring/index_en.htm

(a) Information sources:

EU Websites:

EU-Legislation: <http://eur-lex.europa.eu/en/index.htm>

EU ETS general: http://ec.europa.eu/clima/policies/ets/index_en.htm

Monitoring and Reporting in the EU ETS: http://ec.europa.eu/clima/policies/ets/monitoring/index_en.htm

Environmental Protection Agency Website:

<http://www.epa.ie>

Environmental Protection Agency Contact:

GHGpermit@epa.ie

2. Application Details

The Installation Name, Site Name and the address of the site of the installation are detailed below. The Site Name and address can be updated from the Organisation Details Page on the ETSWAP website. The Installation Name can only be updated by your Competent Authority.

Installation name	Dublin Products Limited
Site name	Dublin Products Limited
Address	Dunlavin Wicklow Ireland

Grid reference of site main entrance	286523E 200944N
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Licence held pursuant to the Environmental Protection Agency Act 1992, as amended.	Yes
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IPC/IE Licence Register Number	Licence holder	Competent body
P0041-03	Dublin Products Ltd	Environmental Protection Agency

Has the regulated activity commenced at the Installation? Yes

Date of Regulated Activity commencement	01 January 2008
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This information is only required to identify the first relevant reporting year of an installation. If the installation was in operation from the beginning of 2008 and held a Greenhouse Gas Emissions Permit from this point, 1 January 2008 will be used where the actual date of commencement is not readily known.

3. About the Operator

The information about the "Operator" is listed below. The "Operator" is defined as the person who it is proposed will have control over the relevant Regulated Activities in the installation in respect of which this application is being made.

(b) Operator Details

The name of the operator and where applicable the company registration number are detailed below. These details can only be updated by the Environmental Protection Agency.

Operator name Dublin Products Limited

Company Registration Number 33508

Operator Legal status

The legal status of the operator is: Company / Corporate Body

(c) Company / Corporate Body

Is the trading / business name different to the operator name? No

Details of the individual authorised to submit this application on behalf of the company / corporate body.

Title	Ms
Forename	Antoinette
Surname	Whelan
Position	Environmental Coordinator

Registered office address

Address Line 1	Tornant Lower
Address Line 2	N/A
City/Town	Dunlavin
County	Wicklow
Postcode	N/A

Principal office address

Is the principal office address different to the registered office address? No

Holding company

Does the company belong to a holding company? No

(d) Operator Authority

Does the operator named above have the authority and ability to:

- | | |
|---|-----|
| a. manage site operations through having day-to-day control of plant operation including the manner and rate of operation | Yes |
| b. ensure that permit conditions are effectively complied with | Yes |
| c. control monitor and report specified emissions | Yes |
| d. be responsible for trading in Allowances so that at the | Yes |

end of a reporting period allowances can be balanced against reported emissions.

4. Service Contact

e. Service Contact

Name	Ms Antoinette Whelan
Address / Email Address	Dunlavin Wicklow Ireland

5. Installation Activities

f. Installation Description

Below is a description of the installation and its activities, a brief outline description of the site and the installation and the location of the installation on the site. The description also includes a non-technical summary of the activities carried out at the installation briefly describing each activity performed and the technical units used within each activity.

Dublin Products Ltd has operated in Dunlavin, Co. Wicklow since 1973. The company processes animal by-products to produce meat and bone meal and tallow oil. The site extends over an area of about 6 acres. The NACE code (Rev2) for Dublin Products Ltd is 10.41. Plant and equipment is used in the process area to convey raw materials, to crush raw materials, to load raw materials, to press product so as to separate tallow oil from protein meal, to pump tallow oil, to clarify tallow oil, to condense steam from cookers, to extract air from designated areas to the odour abatement system and thermal oxidizer, pump waste waters and sludges, to aerate treatment tanks, to de-water sludges, etc. Large quantities of steam are required to facilitate processing of the raw materials. This resource is supplied from two on-site boilers burning tallow oil or from heat recovery in the thermal oxidizer. The installations are listed as follows:

- a) 2 Industrial boilers fuelled with tallow oil used to generate steam for processing and sterilising of materials at the Dublin Products Ltd. animal by-products rendering facility in Dunlavin, Co. Wicklow.
- b) 1 Thermal Oxidiser: One large Thermal Oxidiser unit fuelled with tallow oil, MFO and biogas used to treat all vapours arising from the cooking and sterilising processes as well as some potentially odorous room air extracted from the processing areas. It operates at temperatures between 870 degC and 1000 degC. Biogas forms part of the fuel source stream.
- c) There are also three further boilers, which are used to provide heat for the office building and heat water. These are fuelled by kerosene.

The sources of emissions of carbon dioxide from this installation are:

- a) The two industrial boilers used to generate steam for processing and sterilising of materials.

- b) The one Thermal Oxidiser, which treats cooker vapours from the processing areas.
- c) The three boilers, which are used to heat the office building and water.
- d) The one acetylene welding workshop.

Emissions from this facility are monitored by Calculation using the procedures outlined below: Calculations of emissions will be performed using the formula: Carbon Dioxide Emissions = Activity data × NCV × Emission factor × Oxidation factor

g. Annex 1 Activities

The table below lists the technical details for each Annex 1 activity carried out at the installation.

Note that 'capacity' in this context means:

- Rated thermal input (for combustion installations) which is defined as the rate at which fuel can be burned at the maximum continuous rating of the installation multiplied by the calorific value of the fuel and expressed as megawatts thermal.
- Production capacity for those specified Annex I activities for which production capacity determines ETS eligibility.

Annex 1 Activity	Total Capacity	Capacity units	Specified Emissions
Combustion of fuels in installations with a total rated thermal input exceeding 20 MW (except in installations for the incineration of hazardous or municipal waste)	43.66	MW	Carbon Dioxide

h. Site Diagram

The table below lists attachments (if available) that provide a simple diagram showing emissions sources source streams sampling points and metering/measurement equipment.

Attachment	Description
Site Drawing GHG146.pdf	Site drawing showing emissions sources, source streams, sampling points & metering equipment.

i. Estimated Annual Emissions

Detail of the estimated annual emission of CO₂ equivalent. This information enables categorisation of the installation in accordance with Article 19 of the MRR and is based on the average verified annual emissions of the previous trading period data OR if this data is not available or is inappropriate a conservative estimate of annual average emissions including transferred CO₂ excluding CO₂ from biomass.

Estimated Annual Emissions (tonnes CO_{2(e)})

39

Installation Category: A

6. Emissions Details

j. About your emissions

Annex I of the Monitoring and Reporting Regulations (MRR) requires that monitoring plans include a description of "the installation" and activities to be carried out and monitored including a list of emission sources and source streams. The information provided in this template relates to the Annex I activity(ies) comprised in the installation in question and should relate to a single installation. It includes any activities carried out by the operator and does not include related activities carried out by other operators.

k. Emission Sources

The table below lists all the emission sources at the installation, which may include directly associated activities/excluded activities.

Emission Source Reference	Emission Source Description
A4-1	Thermal Oxidizer
STB-2	Steam Boiler
STB-3	Steam Boiler
OFFB-1	Water heating boiler
OFFB-2	Office heating boiler
WKS-1	Workshop heating boiler
S1	Wastewater treatment and Biofiltration (odour abatement)
WKS-1	Workshop

The table below lists the emission sources which are linked to the Regulated Activities at the installation.

Emission Source Reference	Emission Source Description
A4-1	Thermal Oxidizer
STB-2	Steam Boiler
STB-3	Steam Boiler
OFFB-1	Water heating boiler
OFFB-2	Office heating boiler
WKS-1	Workshop heating boiler
WKS-1	Workshop

I. Emission Points

The table below lists all the emission points at the installation, which may include directly associated activities/excluded activities.

Emission Point Reference	Emission Point Description
A4-1	Thermal Oxidizer
STB-2	Steam Boiler 2
STB-3	Steam Boiler 3
OFFB-1	Water heating boiler
OFFB-2	Office heating boiler
WKS-1	Workshop heating boiler
EP1	Wastewater treatment and Biofiltration (odour abatement)
WKS-1	Workshop

m. Source Streams (fuels and/or materials)

The table below lists the source streams which are used in Schedule 1 Activities at the installation.

Source Stream Reference	Source Stream Type	Source Stream Description
TAL-001	Combustion: Other gaseous & liquid fuels	Biomass
LFO-001	Combustion: Commercial standard fuels	Kerosene (other than jet kerosene)
F1	Other	Wastewater treatment and Biofiltration (odour abatement)
ACT-001	Combustion: Other gaseous & liquid fuels	Acetylene
MFO-001	Combustion: Commercial standard fuels	Fuel Oil
BIOG-001	Combustion: Other gaseous & liquid fuels	Other Biogas

n. Emissions Summary

The table below provides a summary of the emission source and source stream details in the installation.

Source streams (Fuel / Material)	Emission Source Refs.	Emission Point Refs.	Annex 1 Activity
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Source streams (Fuel / Material)	Emission Source Refs.	Emission Point Refs.	Annex 1 Activity
LFO-001	OFFB-1,OFFB-2,WKSB-1	OFFB-1,OFFB-2,WKSB-1	Combustion of fuels in installations with a total rated thermal input exceeding 20 MW (except in installations for the incineration of hazardous or municipal waste)
TAL-001	A4-1,STB-2,STB-3	A4-1,STB-2,STB-3	Combustion of fuels in installations with a total rated thermal input exceeding 20 MW (except in installations for the incineration of hazardous or municipal waste)
ACT-001	WKS-1	WKS-1	Combustion of fuels in installations with a total rated thermal input exceeding 20 MW (except in installations for the incineration of hazardous or municipal waste)
MFO-001	A4-1	A4-1	Combustion of fuels in installations with a total rated thermal input exceeding 20 MW (except in installations for the incineration of hazardous or municipal waste)
BIOG-001	A4-1	A4-1	Combustion of fuels in installations with a total rated thermal input exceeding 20 MW (except in installations for the incineration of hazardous or municipal waste)

o. Excluded Activities

Certain activities that result in greenhouse gas emissions may be excluded under the EU ETS Directive for example truly mobile sources such as vehicle emissions.

Do you have any excluded activities which need to be identified in your monitoring plan? Yes

Detail of these activities:

Source Stream Refs	Emission Source Ref	Emission Point Ref
F1	S1	EP1

7. Low Emissions Eligibility

p. Low Emissions Eligibility

The operator may submit a simplified monitoring plan for an installation where no nitrous oxide activities are carried out and it can be demonstrated that:

(a) the average verified annual emissions of the installation during the previous trading period was less than 25 000 tonnes CO_{2(e)} per year or;

(b) where this data is not available or inappropriate a conservative estimate shows that emissions for the next 5 years will be less than 25 000 tonnes CO_{2(e)} per year.

Note: the above data shall include transferred CO₂ but exclude CO₂ stemming from biomass.

Does the installation satisfy the criteria for installations with low emissions (as defined by Article 47 of the MRR)? Yes

If the installation is an installation with low emissions as defined above there are a number of special provisions which may be applied to provide a simplified monitoring plan. These provisions are set out in Article 47 of the MRR.

8. Monitoring Approaches

q. Monitoring Approaches

Emissions may be determined using either a calculation based methodology ("calculation") or measurement based methodology ("measurement") except where the use of a specific methodology is mandatory according to the provisions of the MRR. [MRR Article 21].

Note: the operator may subject to competent authority approval combine measurement and calculation for different sources. The operator is required to ensure and demonstrate that neither gaps nor double counting of reportable emissions occurs.

Please specify whether or not you propose to apply the following monitoring approaches. Select all monitoring approaches that are applicable to you. The consecutive sections will become mandatory based on the selected approaches.

Calculation	Yes
Measurement	No
Fall-back approach	No
Monitoring of N ₂ O	No
Monitoring of PFC	No
Monitoring of transferred / inherent CO ₂	No

9. Calculation

r. Approach Description

The calculation approach including formulae used to determine annual CO₂ emissions:

Dublin Products Ltd uses the calculation approach to determine the annual carbon dioxide emissions.

Boilers STB-3, STB-2 and the thermal oxidizer (A4-1) can operate on tallow oil (TAL-001) and the thermal oxidizer only can operate on MFO (MFO-001) and biogas. Dublin Products Ltd uses the tallow oil produced from the process as a fuel. Fuel flow meter readings are used to monitor tallow fuel oil consumption. A stock take is also taken of the the tallow fuel oil storage tank as a guidance. MFO usage is determined by an opening and closing stock plus purchases on supplier invoices.

The tallow fuel meter readings are taken weekly by the Production Manager. All readings are passed onto the Accounts Dept for tracking. All fuel meters are calibrated on purchase and subsequent calibrations are carried out using a 20 litre calibrated vessel. The fuel is allowed to flow through the metre at 5 litres at a time and the metre readings are recorded. The calibration is done under the supervision of an independent qualified Engineer. A calibration certificate is retained on file for the vessel.

A Tier 1 emission factor (tCO₂/t) and a tier 1 NCV (TJ/kt) factor (based on past analysis) are applied for tallow. To demonstrate that the NCV value is representative for future batches a representative sample of tallow is taken annually and analyzed by an independent accredited laboratory for calorific value and the results used for comparison with the tier 1 default values. The carbon dioxide emissions are calculated on an annual basis as the product of Activity data x NCV x EF x OF. A sustainability certificate has been issued to Dublin Products Ltd by ASG to verify that Dublin Products Ltd complies with the requirements of the RED (Renewable Energy Directive 2009/28/EC) and ISCC (International Sustainability & Carbon Certification) for the use of tallow oil as a biofuel on the site. This confirms that tallow oil is CO₂ neutral with an emission factor of 0 (t CO₂ /Tj). The tier for emission factor for tallow oil is Tier 1 (Ref. Article 38.2 of the Monitoring and Reporting Regulation). Please refer to the Sustainability Certificate attached. A current sustainability certificate will be maintained on-site and submitted annually with the AEM report.

The MFO stock is checked weekly. MFO usage only takes place in the thermal oxidizer therefore usage can be determined using opening and closing stock takes plus purchases on supplier invoices. The MFO tiers have been chosen as follows: Activity Data = 2 which gives it an uncertainty of +/-5%, the NVC = 2a & EF = 2a as they are based on country specific data (ref. Annex II), and the oxidation factor = 1 based on country specific data (Ref. Annex II). A request is made annually to the fuel supplier for calibration certificates for the delivery trucks. Densities are obtained from the suppliers specification sheet for MFO.

Kerosene (LFO-001) is used to heat the office block and water (OFFB-1, OFFB-2) and the workshop (WKS-1). Kerosene figures are sourced from supplier invoices. A full tank is assumed at the beginning of the year. This is the worst case scenario. A request is made annually to the fuel supplier for calibration certificates for the delivery trucks. The Kerosene tiers have been chosen as follows: Activity Data = 2 which gives it an uncertainty of +/-5%, the NVC = 2a & EF = 2a as they are based on country specific data (ref. Annex II), and the oxidation factor = 1 based on country specific data (Ref. Annex II). Densities are obtained from the suppliers specification sheet for kerosene.

Acetylene usage is de-minimis and is determined by supplier invoices during the year. NCV, EF and oxidation factors are sourced from the current Country Specific tier 1 emission factors. The carbon dioxide emissions are calculated on an annual basis as the product of Activity data x NCV x EF x OF.

Biogas (BIOG-001) also forms part of the fuel source stream as waste gases from the process are diverted for combustion to the thermal oxidizer (A4-1). Biogas (based on TOC) is determined by calculating the fraction entering the stack by the operation time per annum, considering the TO efficiency. The result is converted to methane and the energy content calculated using the NCV tier 1 for biogas. Biogas has no tier for activity data as it is de-minimis. NCV = tier 1 as the standard factor is listed in Annex VI. EF = tier 1 as it is a default value of zero as it is considered a biogas (biomass) and the oxidation factor = tier 1.

s. Measurement Devices

Below is a description of the specification and location of the measurement systems used for each source stream where emissions are determined by calculation

Also a description of all measurement devices including sub-meters and meters used to deduct non-Annex I activities to be used for each source and source stream.

Source Stream Refs.	Emission Source Refs.	Measurement Device Ref.	Type of Measurement Device	Measurement Range	Metering Range Units	Specified Uncertainty (+/- %)	Location
TAL-001	A4-1	TOx-T	Rotary meter	10-600 L/hr	litre	0.5	Thermal Oxidizer
TAL-001	STB-3	B3-T	Rotary meter	10-600L/hr	litre	0.5	Boiler House
TAL-001	STB-2	B2-T	Rotary meter	10-600L/hr	litre	0.5	Boiler House
LFO-001	OFFB-1,OFFB-2,WKSB-1	LFO-001	Delivery Truck Meter	n/a	n/a	n/a	Oil Compound
ACT-001	WKS-1	Purchasing records	Balance	n/a	n/a	n/a	Workshop
BIOG-001	A4-1	TOx-BIOG	TOC Meter	n/a	n/a	n/a	Thermal Oxidizer
MFO-001	A4-1	Truck Meter	Delivery Truck Meter	n/a	Litres	0.5	Delivery Truck

Source Stream Refs.	Measurement Device Ref.	Determination Method	Instrument Control Of	Under	Conditions Of Article 29(1) Satisfied	Invoices Used To Determine Amount Of Fuel Or Material	Trade Partner And Operator Independent
TAL-001	TOx-T	Continual	Operator		N/A	No	N/A
TAL-001	B3-T	Continual	Operator		N/A	No	N/A
TAL-001	B2-T	Continual	Operator		N/A	No	N/A
LFO-001	LFO-001	Batch	Trade partner		Yes	Yes	Yes
ACT-001	Purchasing records	Batch	Trade partner		Yes	Yes	Yes
BIOG-001	TOx-BIOG	Continual	Operator		N/A	N/A	N/A
MFO-001	Truck Meter	Batch	Trade partner		Yes	Yes	Yes

t. Applied Tiers

The table below identifies the tiers applied against the relevant input data for each source stream and confirms whether a standard (MRR Article 24) or mass balance (MRR Article 25) approach is applied.

(i) The highest tiers as defined in Annex II of the MRR should be used by Category B and C installations to determine the activity data and each calculation factor (except the oxidation factor and conversion factor) for each major source stream. Category A installations should apply as a minimum the tiers listed in Annex V.

(ii) Operators may apply a tier one level lower than those referred to in sub paragraph (i) above for Category C installations and up to two levels lower for Category A and B installations with a minimum of tier 1 if the operator can demonstrate to the satisfaction of the competent authority that this is not technically feasible or would lead to unreasonable cost to apply the higher tier. The justification for not applying the higher tier should be recorded when completing the tier table.

(iii) The competent authority may allow an operator to apply even lower tiers than those referred to in the sub paragraph (ii) with a minimum of tier 1 for a transition period of up to three years if the operator can demonstrate to the satisfaction of the competent authority that this is not technically feasible or would lead to unreasonable cost to apply the higher tier and provides an improvement plan detailing how and by when at least the tier referred to in sub paragraph (ii) will be achieved. The improvement plan should be referenced in subsequent table and provided to the competent authority at the time of submission of this plan.

(iv) For minor source streams operators shall apply the highest tier which is technically feasible and will not lead to unreasonable costs with a minimum of tier 1 for activity data and each calculation factor. For de-minimis source streams operators may use conservative estimations rather than tiers unless a defined tier can be achieved without additional effort (MRR Article 26(2)).

(v) Installations with low emissions as identified in section 6(d) may apply as a minimum tier 1 for determining activity data and calculation factors for all source streams unless higher accuracy is achievable without additional effort.

* Note 1: For commercial standard fuels the minimum tiers listed in Annex V of the MRR may be applied for all activities in all installations.

* Note 2: If you are intending to apply a fall-back approach please complete the table below and select "n/a" for the tiers to be applied for each source stream where a fall-back approach is used. Section 10 "Fall-back" must also be completed for these source streams.

* Note 3: For biomass or mixed fuels the emission factor is the preliminary emission factor as defined in Definition 35 Article 3 of the MRR.

Source Stream Refs.	Emission Source Refs.	Measurement Device Refs.	Overall Metering Uncertainty (less than +/- %)	Applied Monitoring Approach	Activity Data Tier Applied	Net Calorific Value Tier Applied	Emission Factor Tier Applied	Carbon Content Tier Applied	Oxidation Factor Tier Applied	Conversion Factor Tier Applied	Biomass Fraction Tier Applied	Estimated Emissions tCO _{2(e)}	% of Total Estimated Emissions	Source Category	Highest Tiers Applied	Justification for not applying the highest tiers	Improvement Plan Reference (where applicable)
TAL-001	A4-1,STB-2,STB-3	B2-T,B3-T,TOX-T	<5.0%	Standard	2	1	1	N/A	1	N/A	N/A	0	0	De-minimis	Yes	n/a	n/a
LFO-001	OFFB-1,OFFB-2,WKS B-1	LFO-001	N/A	Standard	No tier	2a	2a	N/A	1	N/A	N/A	56.89	36.23	De-minimis	Yes	n/a	n/a
ACT-001	WKS-1	Purchasing records	N/A	Standard	No tier	1	1	N/A	1	N/A	N/A	0.12	0.08	De-minimis	Yes	n/a	n/a
MFO-001	A4-1	Truck Meter	<5.0%	Standard	2	2a	2a	N/A	1	N/A	N/A	100	63.69	Minor	Yes	n/a	n/a
BIOG-001	A4-1	TOx-BIOG	N/A	Standard	No tier	1	1	N/A	1	N/A	N/A	0	0	De-minimis	N/A	n/a	n/a

Total Estimated Emissions for Calculation (tonnes CO_{2(e)})

157.01

u. Applied tiers

Applied tiers for each source stream

Source Stream Ref.	Emission Source Refs.	Activity Data Tier Applied	Net Calorific Value Tier Applied	Emission Factor Tier Applied	Carbon Content Tier Applied	Oxidation Factor Tier Applied	Conversion Factor Tier Applied	Biomass Fraction Tier Applied
TAL-001	A4-1,STB-2,STB-3	2	1	1	N/A	1	N/A	N/A
LFO-001	OFFB-1,OFFB-2,WKSB-1	No tier	2a	2a	N/A	1	N/A	N/A
ACT-001	WKS-1	No tier	1	1	N/A	1	N/A	N/A
MFO-001	A4-1	2	2a	2a	N/A	1	N/A	N/A
BIOG-001	A4-1	No tier	1	1	N/A	1	N/A	N/A

v. Justification for Applied tiers

Justifications for the applied tiers for each major source stream where highest tiers are not currently achieved.

Source Stream Ref.	Emission Source Refs.	Justification for the applied tier	Improvement Plan Reference (where applicable)
N/A	N/A	N/A	N/A

10. Calculation Factors

w. Default Values

The table below lists, for each parameter, where default values are to be used for calculation factors.

Source Stream Refs.	Emission Source Refs.	Parameter	Reference Source	Default Value applied (where appropriate)
LFO-001	OFFB-1,OFFB-2,WKSB-1	NCV, EF, Oxidation Factor	Ireland's National Greenhouse Gas Inventory	n/a
TAL-001	A4-1,STB-2,STB-3	NCV	Past Analysis	37.402TJ/kt
TAL-001	A4-1,STB-2,STB-3	EF	Sustainability Certificate no. EU-ISCC-Cert-DE119-35343998	0 t CO ₂ /Tj
ACT-001	WKS-1	NCV, EF, Oxidation Factor	Ireland's National Greenhouse Gas Inventory (Tier 1 Factors)	n/a
MFO-001	A4-1	NCV, EF, Oxidation factor	Ireland's National Greenhouse Gas Inventory	n/a
BIOG-001	A4-1	NCV	Annex VI of the MRR	50.4Tj
BIOG-001	A4-1	EF	MRR	0 t CO ₂ /Tj

Sampling and Analysis

Do you undertake sampling and analysis of any of the parameters used in the calculation of your CO₂ emissions? Yes

x. Analysis

The table below lists, for each source stream, where calculation factors are to be determined by analysis.

Source Stream Refs.	Emission Source Refs.	Parameter	Method of Analysis	Frequency	Laboratory Name	Laboratory ISO17025 Accredited	Evidence Reference
TAL-001	A4-1,STB-2,STB-3	NCV	Energy value is calculated ISO Method 1928	Annual	ALT	Yes	n/a

Detail about the written procedures for the above analysis.

Where a number of procedures are used details of an overarching procedure which covers the quality assurance of analyses methods and links together individual analytical methods is listed.

Title of procedure	WI 009
Reference for procedure	ISO 1928 Method;
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	ISO 1928:2009 specifies a method for the determination of the gross calorific value and the calculation of NCV of a solid mineral fuel at constant volume and at the reference temperature of 25 °C in a bomb calorimeter calibrated by combustion of certified benzoic acid.
Post or department responsible for the procedure and for any data generated	Environmental Coordinator
Location where records are kept	Environmental Office
Name of IT system used	N/A
List of EN or other standards applied	N/A

y. Sampling Plan

Details about the procedure covering the sampling plan for the analysis table above.

The procedure below covers the elements of a sampling plan as required by Article 33 of the MRR. Where a number of procedures are used, details of an overarching procedure which covers the sampling methods and links together individual sampling methods are listed.

Attachment	Description
WI014 Tallow Sampling Plan.doc	Details the method used to sample the tallow oil annually for NCV analysis.
Certificate ISCC EU Dublin Products annex 3998 01 16.pdf	Sustainability Certificate for Tallow Oil
Tallow Calorific Values Quarterly 2014.pdf	2014 Tallow Calorific values Quarterly
Tallow Calorific Values Quarterly 2013.pdf	2013 Tallow Calorific Values Quarterly
Tallow Calorific Values Quarterly 2015.pdf	2015 Tallow Calorific values quarterly
Summary of Calorific Values for Tallow Oil 2013-2015.docx	Tallow calorific values 2013 to 2015
009 GHG Emissions Operation & Control.doc	GHG Emissions Operation and Control

Title of procedure	Tallow Sampling Plan
Reference for procedure	WI015
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	As part of the Greenhouse Gas Emissions permit, there is a requirement to sample the tallow oil used as a fuel to determine its calorific value. See attached procedure for sampling details.

Post or department responsible for the procedure and for any data generated	Environmental Coordinator
Location where records are kept	Environmental Office
Name of IT system used	N/A
List of EN or other standards applied	N/A

z. Sampling Plan Appropriateness

The procedure to be used to revise the appropriateness of the sampling plan.

Title of procedure	GHG Emissions Operation & Control
Reference for procedure	WI009
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	The tallow sampling plan is reviewed as part of the ISO 14001 EMS using WI009 GHG Emissions Procedure.
Post or department responsible for the procedure and for any data generated	Environmental Coordinator
Location where records are kept	Environmental Office
Name of IT system used	N/A
List of EN or other standards applied	N/A

Are stock estimates carried out as part of the emission calculations?	Yes
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aa. Year-end reconciliations

The procedure to be used to estimate stocks at the beginning/end of a reporting period where applicable. This should include any source streams monitored using batch metering e.g. where invoices are used.

Title of procedure	See Details in Approach Description Section
Reference for procedure	NA
Diagram reference	NA
Brief description of procedure.	See Details in Approach Description Section
Post or department responsible for the procedure and for any data generated	See Details in Approach Description Section
Location where records are kept	See Details in Approach Description Section
Name of IT system used	NA
List of EN or other standards applied	NA

bb. Tracking Instruments

The procedure used to keep track of instruments installed in the installation used for determining activity data.

Title of procedure	GHG Emissions Operation & Control
Reference for procedure	WI009
Diagram reference	N/A

Brief description of procedure.

The procedure details requirements to control full compliance of the GHG Emissions Permit. It covers all emissions of greenhouse gases arising from the activity and includes monitoring and reporting to the EPA. It details in a flow diagram the individual responsibilities, their duties and the operations performed. It includes an explanation of how to determine the calculations required for the AEM. It states the class for the source streams.

Post or department responsible for the procedure and for any data generated

Environmental Coordinator

Location where records are kept

Environmental Office

Name of IT system used

N/A

List of EN or other standards applied

N/A

11. Management

cc. Monitoring and Reporting Responsibilities

Responsibilities for monitoring and reporting emissions from the installation are listed below:

Relevant job titles/posts and provide a succinct summary of their role relevant to monitoring and reporting are listed below.

Job Title / Post	Responsibilities
Environmental Coordinator	Compiling GHG Emissions data and reports for submission.

Attachment	Description
009 GHG Emissions Operation & Control.doc	GHG Emissions Operation and Control

dd. Assignment of Responsibilities

Details of the procedure used for managing the assignment of responsibilities for monitoring and reporting within the installation and for managing the competencies of responsible personnel in accordance with Article 58(3)(c) of the MRR:

This procedure identifies how the monitoring and reporting responsibilities for the roles identified above are assigned and how training and reviews are undertaken.

Title of procedure	GHG Emissions Operation & Control
Reference for procedure	WI 009
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	The Greenhouse Gas Emissions Operation & Control procedure details requirements to control full compliance of the GHG Emissions Permit. It covers all emissions of greenhouse gases arising from the activity and includes monitoring and reporting to the EPA. The Environmental Coordinator is responsible for the effective implementation of this procedure. Individual responsibilities are identified in the GHG process flow diagram attached. The procedure identifies how training and reviews of roles and responsibilities are undertaken.
Post or department responsible for the procedure and for any data generated	Environmental Dept
Location where records are kept	Environmental Office
Name of IT system used	N/A
List of EN or other standards applied	N/A

ee. Monitoring Plan Appropriateness

Details of the procedure used for regular evaluation of the monitoring plan's appropriateness covering in particular any potential measures for the improvement of the monitoring methodology:

Title of procedure	GHG Emissions Operation & Control
Reference for procedure	WI 009
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	<p>The monitoring plan's appropriateness is evaluated at regular intervals and the evaluation covers the following:</p> <ul style="list-style-type: none"> o Checking the list of emissions sources and source streams, ensuring completeness of the emissions and source streams and that all relevant changes in the nature and functioning of the installation will be included in the monitoring plan;

o Assessing compliance with the uncertainty thresholds for activity data and other parameters (where applicable) for the applied tiers for each source stream and emission source; and

o assessment of potential measures for improvement of the monitoring methodology applied.

Post or department responsible for the procedure and for any data generated Environmental Dept

Location where records are kept Environmental Office

Name of IT system used N/A

List of EN or other standards applied N/A

ff. Data Flow Activities

Details of the procedures used to manage data flow activities in accordance with Article 57 of the MRR:

Title of procedure GHG Emissions Operation & Control

Reference for procedure WI 009

Diagram reference N/A

Brief description of procedure. The description should cover the essential parameters and operations performed The Greenhouse Gas Emissions procedure details requirements to control full compliance of the GHG Emissions Permit. It covers all emissions of greenhouse gases arising from the activity and includes monitoring and reporting to the EPA.

Post or department responsible for the procedure and for any data generated Environmental Dept

Location where records are kept Environmental Office

Name of IT system used N/A

List of EN or other standards applied N/A

List of primary data sources Weekly fuel meter readings for Tallow

Purchasing records for Kerosene

Weighbridge delivery dockets for Kerosene

Purchasing records for Acetylene

Purchasing records for medium fuel oil

Description of the relevant processing steps for each specific data flow activity. Air emissions analysis reports for biogas
Dublin Products Ltd uses the calculation approach to determine the annual carbon dioxide emissions. Boilers STB-3, STB-2 and the thermal oxidizer (A4-1) operate on tallow oil (TAL-001). The thermal oxidizer can also operate

Identify each step in the data flow and include the formulas

and data used to determine emissions from the primary data. Include details of any relevant electronic data processing and storage systems and other inputs (including manual inputs) and confirm how outputs of data flow activities are recorded

on MFO (MFO-001) and biogas (BIO-001) as well as tallow oil. Kerosene (LFO-001) is used to heat the office block and water (OFFB-1, OFFB-2) and the workshop (WKS-1). Dublin Products Ltd uses the tallow oil produced from the process as a fuel. Fuel flow meter readings are used to monitor tallow fuel oil consumption. A stock take is also taken of the the tallow fuel oil storage tank as a guidance. The tallow fuel meter readings are taken weekly by the Production Manager. All readings are passed onto the Accounts Dept for tracking. All fuel meters are calibrated on purchase and subsequent calibrations are carried out using a 20 litre calibrated vessel. The fuel is allowed to flow through the metre at 5 litres at a time and the metre readings are recorded. The calibration is done under the supervision of an independent qualified Engineer. A calibration certificate is retained on file for the vessel.

Kerosene figures are sourced from supplier invoices. A full tank is assumed at the beginning of the year. This is the worst case scenario. A request is made annually to the fuel supplier for calibration certificates for the delivery trucks.

For kerosene an oxidation factor of 1 is applied and the current country specific emission factor and NCV applied for calculation of emissions. The carbon dioxide emission are calculated on an annual basis as the product of Activity x NCV x EF x OF. Then the CO₂ tonnage is totalled for all activities in the year being examined. Densities are obtained from the suppliers specification sheet for kerosene.

A Tier 1 emission factor (tCO₂/t) and a tier 1 NCV (TJ/kt) factor (based on past analysis) are applied for tallow . To demonstrate that the NCV value is representative for future batches a representative sample of tallow is taken annually and analyzed by an independent accredited laboratory for calorific value and the result is used for comparison with the tier 1 default value. The carbon dioxide emissions are calculated on an annual basis as the product of Activity data x NCV x EF x OF. A sustainability certificate (EU-ISCC-Cert-DE119-35343998) has been issued to Dublin Products Ltd by ASG to verify that Dublin Products Ltd complies with the requirements of the RED (Renewable Energy Directive 2009/28/EC) and ISCC (International Sustainability & Carbon Certification) for the use of tallow oil as a biofuel on the site. This confirms that tallow oil is CO₂ neutral with an emission factor of 0 (t CO₂ /Tj). A current sustainability certificate will be maintained on-site and submitted annually with the AEM report. The tier for emission factor for tallow oil is Tier 1 (Ref. Article 38.2 of the Monitoring and Reporting Regulation). Please refer to the Sustainability

Certificate attached.

The MFO Activity Data has a Tier 2 applied and is based on supplier invoices and a weekly stock take, the NVC has a Tier 2a & EF has a tier 2a as they are based on country specific data (ref. Annex II), and the oxidation factor = 1 based on country specific data (Ref. Annex II & V).

Acetylene usage is de-minimis and is determined by supplier invoices during the year. NCV, EF and oxidation factors are sourced from the tier 1 country specific emission factors. The carbon dioxide emissions are calculated on an annual basis as the product of Activity data x NCV x EF x OF.

Submit relevant documents to record data flow activities

Attachment	Description
N/A	N/A

gg. Assessing and Controlling Risks

Details of the procedures used to assess inherent risks and control risks in accordance with Article 58 of the MRR:

Title of procedure	GHG Emissions Operation & Control
Reference for procedure	WI 009
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	The Greenhouse Gas Emissions procedure details requirements to control full compliance of the GHG Emissions Permit. It covers all emissions of greenhouse gases arising from the activity and includes monitoring and reporting to the EPA. The procedure includes details of the assessment of inherent risks and control risks in accordance with Article 58 of the MRR in the establishment of an effective control procedure.
Post or department responsible for the procedure and for any data generated	Environmental Dept
Location where records are kept	Environmental Office
Name of IT system used	N/A
List of EN or other standards applied	N/A

hh. Quality Assurance of Metering / Measuring Equipment

Details of the procedures used to ensure quality assurance of measuring equipment in accordance with Article 58 and 59 of the MRR.

Title of procedure	GHG Emissions Operation & Control
Reference for procedure	WI 009
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	WI 009 outlines that auditing and error checking takes place. In the event of a non-conformance a corrective action sheet is completed and filed as part of the ISO 14001 EMS. All relevant measurement equipment is maintained, calibrated and checked at regular intervals. Where non-compliance with required performance is identified appropriate corrective and preventative actions are taken.
Post or department responsible for the procedure and for any data generated	Environmental Dept
Location where records are kept	Environmental Office
Name of IT system used	N/A
List of EN or other standards applied	N/A

ii. Quality Assurance of Information Technology used for Data Flow Activities

Details of the procedures used to ensure quality assurance of information technology used for data flow activities in accordance with Article 58 and 60 of the MRR:

Title of procedure	GHG Emissions Operation & Control
Reference for procedure	WI 009
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	Dublin Products Ltd has put in place an IT system in order to access control, back up, recover and store data in relation to the GHG emission permit. The IT system on site is backed up daily on a server and regularly maintained up to date. The server is secure and stored in a fire proof case.
Post or department responsible for the procedure and for any data generated	Accounts Dept
Location where records are kept	Accounts Office
Name of IT system used	N/A
List of EN or other standards applied	N/A

jj. Review and Validation of Data

Details of the procedures used to ensure regular internal reviews and validation of data in accordance with Articles 58 and 62 of the MRR.

Title of procedure	GHG Emissions Operation & Control
Reference for procedure	WI 009

Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	WI 009 outlines that auditing and error checking takes place (step 6). A review takes place for unusual trends in fuel usage. An Annual Review of energy usage and comparison with annual targets takes place before the final report is submitted.
Post or department responsible for the procedure and for any data generated	Environmental Dept
Location where records are kept	Environmental Office
Name of IT system used	N/A
List of EN or other standards applied	N/A

kk. Corrections and Corrective Actions

Details of the procedures used to handle corrections and corrective actions in accordance with Articles 58 and 63 of the MRR:

Title of procedure	GHG Emissions Operation & Control
Reference for procedure	WI 009
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	In the event of a non-conformance arising in any part of the data flow activity then a corrective action sheet will be completed. An investigation will take place in order to determine the cause of the non-conformance. A corrective action will take place to correct the affected data. A review of the system will take place and the appropriate amendments will be implemented as required to prevent the risk of the event recurring.
Post or department responsible for the procedure and for any data generated	Environmental Dept
Location where records are kept	Environmental Office
Name of IT system used	N/A
List of EN or other standards applied	N/A

ll. Control of Outsourced Activities

Details of the procedures used to control outsourced processes in accordance with Articles 59 and 64 of the MRR.

Title of procedure	n/a
Reference for procedure	n/a
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	n/a
Post or department responsible for the procedure and for any data generated	n/a
Location where records are kept	n/a

Name of IT system used	N/A
List of EN or other standards applied	N/A

mm. Record Keeping and Documentation

Details of the procedures used to manage record keeping and documentation:

Title of procedure	EMS Documentation/ Document Control
Reference for procedure	EMP007
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	<p>The organization will clearly define the various types of documents that establish and specify effective operational procedures and control. All data and information stipulated in Annex IX of the Monitoring and Reporting Regulation (MRR) of relevance to the installation in accordance with the requirements of Article 66 of the MRR are maintained for a minimum of 10 Years and made readily available upon request of the EPA or Verifier. All documentation is dated, readily identifiable, organized and filed so that they can be easily retrieved. Documents are revised as necessary and approved by authorized personnel prior to issue. Documents that don't undergo regular revision shall be reviewed and updated if necessary every ten years. All changes to documentation are recorded on a "History of Document Change" sheet. This sheet is found at the end of each Environmental Management Procedure and at the beginning of the Environmental Management Manual. All records (EMR) are date controlled only. A master copy of all documentation is maintained electronically by the Environmental Co-ordinator with the exception of the Environmental Manual. The master copy of the Environmental Manual is an approved hard copy. Documents are signed and dated on each page for approval. Electronically stored master copies are approved and dated electronically. Current versions of relevant documents are available at all locations where operations essential to the effective functioning of the system are performed. Procedures will be issued to the relevant personnel and records are maintained on document issue sheets (Reference EMR 014). These documents will be stamped "COPY" in red. Obsolete documents are removed from all points of issue and all points of use. Obsolete documents shall be clearly identified with a red "OBSOLETE" stamp. All electronic data is automatically backed up daily through a server and tapes are stored in a fire proof safe.</p>

Post or department responsible for the procedure and for any data generated	Environmental Dept
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Location where records are kept	Environmental Office
Name of IT system used	N/A
List of EN or other standards applied	N/A

nn. Risk Assessment

The results of a risk assessment that demonstrates that the control activities and procedures are commensurate with the risks identified:

Attachment	Description
N/A	N/A

oo. Environmental Management System

Does your organisation have a documented Environmental Management System? Yes

Is the Environmental Management System certified by an accredited organisation? No

12. Changes in Operation**pp. Changes in Operation**

Article 24(1) of Commission Decision 2011/278/EC requires that Member States must ensure that all relevant information about any planned or effective changes to the capacity activity level and operation of an installation is submitted by the operator to the competent authority by 31 December each year. Article 12(3) of the MRR further provides that Member States may require information to be included in the monitoring plan of an installation for the purposes of meeting these requirements.

Details of the procedure used to ensure regular reviews are carried out to identify any planned or effective changes to the capacity activity level and operation of the installation that have an impact on the installation's allocation:

The procedure specified below cover the following:

- planning and carrying out regular checks to determine whether any planned or effective changes to the capacity activity level and operation of an installation are relevant under Commission Decision 2011/278/EC; and

- Procedures to ensure such information is submitted to the competent authority by 31 December of each year.

Title of procedure	GHG Emissions Operation & Control
Reference for procedure	WI 009
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	The Greenhouse Gas Emissions procedure details requirements to control full compliance of the GHG Emissions Permit. It covers all emissions of greenhouse gases arising from the activity and includes monitoring and reporting to the EPA. Any planned or effective changes to the capacity, activity level and operation of the installation will reported to the EPA before the 31st of December each year. A review takes place quarterly to identify any changes to the capacity, activity level and operation of the installation. A record of the review is recorded as part of the Environmental/ Production Meeting.
Post or department responsible for the procedure and for any data generated	Environmental Dept
Location where records are kept	Environmental Office
Name of IT system used	N/A

13. Abbreviations

qq. Abbreviations Acronyms or definitions

Abbreviations acronyms or definitions that have been used in this monitoring plan:

Abbreviation	Definition
GHG	Green House Gas

14. Additional Information

Any other information:

Attachment	Description
EU-ISCC-Cert-DE119-35363998.pdf	Sustainability Cert

15. Confidentiality

rr. Confidentiality Statement

It is the Environmental Protection Agency's policy to make information received by it in the course of its work open to inspection by any person on request. This is in accordance with the provisions of the European Communities (Access to Information on the Environment) Regulations 2007 to 2011.

In the event that you considered that some of the information being submitted of a confidential nature, then the nature of this information and the reasons why it should be considered confidential, with reference to the European Communities (Access to Information on the Environment) Regulations 2007 to 2011 and any amendments must be explicitly requested using the facility below. The Board of the Environmental Protection Agency will consider the requests and if the information can be deemed as confidential and necessary.

Notwithstanding any request for confidentiality, the Environmental Protection Agency explicitly reserves the right to release data to the Commission, including emissions and allocations to the public, on the basis that the data will be used for the purposes foreseen in Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC.

Please tick this box if you consider that any part of your form should be treated as commercially confidential/sensitive: ☐ false

END of Appendix I.