Headquarters,
Johnstown Castle Estate,
County Wexford, Ireland

GREENHOUSE GAS EMISSIONS PERMIT

Permit Register Number: IE-GHG142-10413-2

Operator: Anglo Beef Processors Ireland
Unlimited Company
14 Castle Street
Ardee
Louth
A92 F409

Installation Name: Waterford Proteins/ABP Waterford

Site Name: Waterford Proteins/ABP Waterford

Location: Christendom
Ferrybank
Waterford
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 Nº IE-GHG142-10413.

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
P0205-02 P0040-02

Status Log

Current Permit

Permit number	Date application received	Date Permit issued	Comment
IE-GHG142-10413-2	08 December 2015	16 January 2017	1) New Natural Gas meter 83048472 installed and included in the Measurement Devices Table. 2) Biogas included as a source stream in the Thermal oxidiser. 3) Operator Name changed to Anglo Beef Processors Ireland Unlimited; Installation Name amended to Waterford Proteins/ABP Waterford 4) Minor clarification update to Tallow monitoring methodology.

Previous Permits

Permit number	Change Type	Date application received	Date Permit issued	Comment
IE-GHG142-10413-1	GHG Permit Application	13 August 2013	29 November 2013	

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)	Anglo Beef Processors Ireland Unlimited Company
"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:

Anglo Beef Processors Ireland Unlimited Company
14 Castle Street
Ardee
Louth
A92 F409

Company Registration Number: 217122

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)

at the following installation(s):

Waterford Proteins/ABP Waterford **Installation number:** 105

located at

Christendom
Ferrybank
Waterford
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.: 105

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
(WWTBF) 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
BEP 1	Boiler 1 ABP Waterford	6.7	MW
BEP 2	Boiler 2 ABP Waterford	6.6	MW
BEP 3	Boiler Waterford Proteins	14.66	MW
BEP 4	Boiler Waterford Proteins Office Heating	0.13	MW
BEP 6	Boiler 6 ABP Waterford Office Heating	0.08	MW
TO1	Thermal Oxidiser Waterford Proteins	14.1	MW
BEP 5	Cooker in Canteen ABP Waterford	0.1	MW

Emission Source Reference	Emission Source Description	Capacity	Capacity Units
MW1	Maintenance Workshop 1 ABP Waterford	0.01	MW
MW2	Maintenance Workshop 2 Waterford Proteins	0.01	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 16 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-GHG142-10413

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	Waterford Proteins/ABP Waterford
Site name	Waterford Proteins/ABP Waterford
Address	Christendom Ferrybank Waterford Ireland
Grid reference of site main entrance	ABP Waterford 261911E 112096N Waterford Proteins 262130E 112135N
Licence held pursuant to the Environmental Protection Agency Act 1992, as amended.	Yes

IPC/IE Licence Register Number	Licence holder	Competent body
P0205-02 P0040-02	Anglo Beef Processors Ireland	EPA

Has the regulated activity commenced at the Installation?	Yes
Date of Regulated Activity commencement	31 March 2004

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	Anglo Beef Processors Ireland Unlimited Company
Company Registration Number	217122

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?	Yes
Trading / business name	Anglo Beef Processors Ireland uc t/a ABP Waterford/Waterford Proteins

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

Title	[redacted]
Forename	
Surname	
Position	Group Environmental & Sustainabilty Manager

Registered office address

Address Line 1	14 Castle Street
Address Line 2	N/A
City/Town	Ardee
County	Louth
Postcode	A92 F409

Principal office address

Is the principal office address different to the registered office address?	Yes
Address Line 1	Anglo Beef Processors Ireland uc t/a ABP Cahir
Address Line 2	Kilcommon Road
City/Town	Cahir
County	Tipperary
Postcode	N/A
Company registration number	N/A

Holding company

Does the company belong to a holding company?	Yes
Holding company name	Anglo Beef Processors Ireland Unlimited Company

Holding company address

Address Line 1	14 Castle Street
Address Line 2	N/A
City/Town	Ardee
County	Louth
Postcode	N/A
Company registration number	N/A
Is the holding company principal address different to the holding company address?	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 end of a reporting period allowances can be balanced against reported emissions.	Yes

4. Service Contact

e. Service Contact

Name	[redacted]
Address / Email Address	14 Castle Street Ardee County Louth 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.

ABP Waterford

The activities at ABP Waterford involve the taking in of cattle to the lairage. The cattle are inspected by Department of Agriculture, Food and Rural Development Veterinary personnel. The cattle are subsequently moved to the knocking area of the slaughter hall where they are slaughtered. The slaughtered animal is then convoyed through the slaughter hall, where the hide is detached, and the feet and head are removed. Evisceration then takes place, which involves the removal of all red and green offal.Green offal and the animal stomach contents (paunch) are conveyed to separate trailers and sent off site for recovery. Red offal is trimmed, chilled and packaged. This product is either sent to the Coldstores, Vac-Pack store, or removed off-site. Fat from the animal carcasses is processed in the adjoining fat plant and pumped for temporary on-site storage in tallow storage tanks.This tallow fat is removed off-site at regular intervals.Hides from the carcasses are conveyed to the adjoining hide store where they are weighed, classified and salted. After salting, they are put on pallets and removed off site for further processing in a tannery.After the carcass is split in the slaughtering hall, it is conveyed to the chills where it is rapidly chilled. After chilling the carcasses are conveyed to the marshalling area for quartering. Quarters are then either dispatched off site in refrigerated trucks, or sent to the adjoining Boning Hall for deboning. The bones from the Boning hall are conveyed direct to trailers. These trailers are then covered and sealed prior to transportation of the bone off site for processing in a rendering facility.Further processing also takes place on site. product is processed is processed and placed in consumer packs for dispatch off site within 7 days in a fresh state.After on-site de-boning, the meat is packed into lined boxes and dispatched to blast freezers where the product is frozen. Vacuum packed meat from the boning hall is sent to the Vac-Pack store where it is held for up to 4 weeks prior to dispatch to the customer.

Waterford Proteins

Waterford Proteins is situated at Christendom, Ferrybank, Co. Waterford. The company process and sterilise two categories of raw material on the site, namely Specified Risk Material and Fallen Animals. The sites main activity is rendering, where predominantly animal by-products are rendered to produce tallow and meat and bone meal. ABP Waterford Proteins sources its raw materials from abattoirs situated throughout Ireland and also fallen animals collected under DAFRD supervision. The raw materials are transported to site in sealed containers as soon as is practical after slaughtering, and are received in a purpose built raw material intake building. This is a sealed building with an automatically controlled entrance door . This building is ventilated via ducting to a biofilter. When the vehicle arrives in the building, its load is tipped in the intake area. After the load is tipped the vehicle is washed and covered before leaving the building. The raw materials are blended and crushed before being pumped in a sealed pipe into the cooking /process stage. During the cooking stage, the product is heat treated to remove the moisture and this also allows the liquid fraction to be separated from the solid fraction. The liquid fraction (tallow) is separated after cooking and passed through a centrifuge stage which removes finer particle of solids. This oil is then pumped to the storage tanks . The solid fraction is passed through a pressing stage to remove excess oil after which the product is conveyed for meal cooling and into bulk silo/bags where it is stored for dispatch. Meat and bone meal and tallow are sterilised on site prior to dispatch.

There are 5 boilers and one thermal oxidiser on site providing steam for both the rendering process in Waterford Proteins and the abattoir boning process in ABP Waterford. The boilers also provide hot water and heating for office buildings. There are also de minimis emissions arising from canteen cooker and welding equipment from maintenance workshops.

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)	42.39	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
Boiler & Gas Meter locations ABP Waterford.pdf	ABP Waterford Boiler & Gas Meter Locations
Proteins Waterford Boiler & Gas Meter Locations.pdf	Waterford Proteins Boiler & Gas Meter Locations

i. Estimated Annual Emissions

Detail of the estimated annual emission of CO_2 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 CO_2 excluding CO_2 from biomass.

Estimated Annual Emissions (tonnes $CO_{2(e)}$) 15949

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
BEP 1	Boiler 1 ABP Waterford
BEP 2	Boiler 2 ABP Waterford
BEP 3	Boiler Waterford Proteins
BEP 4	Boiler Waterford Proteins Office Heating
BEP 5	Cooker in Canteen ABP Waterford
BEP 6	Boiler 6 ABP Waterford Office Heating
TO1	Thermal Oxidiser Waterford Proteins
WWTBF	Wastewater Treatment and Biofiltration (Odour Abatement)
MW1	Maintenance Workshop 1 ABP Waterford
MW2	Maintenance Workshop 2 Waterford Proteins

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

Emission Source Reference	Emission Source Description
BEP 1	Boiler 1 ABP Waterford
BEP 2	Boiler 2 ABP Waterford
BEP 3	Boiler Waterford Proteins
BEP 4	Boiler Waterford Proteins Office Heating
BEP 6	Boiler 6 ABP Waterford Office Heating
TO1	Thermal Oxidiser Waterford Proteins
BEP 5	Cooker in Canteen ABP Waterford
MW1	Maintenance Workshop 1 ABP Waterford
MW2	Maintenance Workshop 2 Waterford Proteins

l. 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
BEP 1	Boiler 1 ABP Waterford Stack
BEP 2	Boiler 2 ABP Waterford Stack
BEP 3	BEP 3 Waterford Proteins
BEP 4	Boiler 4 Waterford Proteins Office Heating
BEP 5	ABP Waterford Cooker in Canteen
BEP 6	BEP 6 ABP Waterford Office Heating
TO1	Thermal Oxidiser Waterford Proteins
N/A	N/A
MW1	Maintenance Workshop 1 ABP Waterford
MW2	Maintenance Workshop 2 Waterford Proteins

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
HFO-001	Combustion: Other gaseous & liquid fuels	Heavy Fuel Oil
TAL-001	Combustion: Other gaseous & liquid fuels	Tallow
NG-001	Combustion: Other gaseous & liquid fuels	Natural Gas
Kerosene-001	Combustion: Commercial standard fuels	Kerosene (other than jet kerosene)
PRP-001	Combustion: Other gaseous & liquid fuels	Liquefied Petroleum Gases
Diesel	Combustion: Commercial standard fuels	Gas/Diesel Oil
N/A	Other	N/A
ACT-001	Combustion: Other gaseous & liquid fuels	Acetylene
Propane-001	Combustion: Commercial standard fuels	Propane
Biogas	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**
HFO-001	BEP 1,BEP 2,BEP 3,TO1	BEP 1,BEP 2,BEP 3,TO1	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	BEP 1,BEP 2,BEP 3,TO1	BEP 1,BEP 2,BEP 3,TO1	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)
Diesel	BEP 1,BEP 2,BEP 3,TO1	BEP 1,BEP 2,BEP 3,TO1	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)
NG-001	BEP 1,BEP 2,BEP 3,BEP 6,TO1	BEP 1,BEP 2,BEP 3,BEP 6,TO1	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)
Kerosene-001	BEP 4	BEP 4	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	MW1,MW2	MW1,MW2	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)
PRP-001	BEP 5	BEP 5	Combustion of fuels in installations with a total

Source streams (Fuel / Material)	Emission Source Refs.	Emission Point Refs.	Annex 1 Activity
			rated thermal input exceeding 20 MW (except in installations for the incineration of hazardous or municipal waste)
Propane-001	MW1,MW2	MW1,MW2	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)
Biogas	TO1	TO1	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
N/A	WWTBF	N/A

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 CO_2 but exclude CO_2 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_2O	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 CO_2 emissions:

The major fuels used at the ABP Waterford/Waterford Proteins site include Natural Gas or Heavy Fuel Oil as a major source stream and gas oil (diesel), kerosene, LPG, Tallow, propane, acetylene and biogas as de minimis source streams.

The steps for entering data from invoices for ABP Waterford/Waterford Proteins and calculating Carbon Dioxide emissions arising in relation to the following fuels, HFO, gas oil (diesel), Kerosene and LPG are outlined as follows:On receipt of the invoices (at ABP Cahir office), all data is entered into the GHG database through the following process. The GHG database is made up of 3 spreadsheets. Sheet 1, the Invoice Number, date of delivery, the weight and the total are entered on a weekly basis for HFO, diesel (gas oil), kerosene and LPG. HFO is measured in tonnes, diesel (gas oil) , kerosene and LPG in litres.The weekly total figure carries over to Sheet 2. Sheet 2 shows the fuel split per site taking into account the opening stock plus a weekly allocation of fuel. These two figures are taking away from each other which show our credit figure. The debit figure on Week 1 shows our allocation taken away from our opening

stock. Going forward on a weekly basis, the debit figure is added to the credit figure of each week which gives the debit figure for the proceeding week. At year end the stock takes of all fuels are recorded to calculate the total of each fuel combusted on site during the reporting year. Sheet 3 calculates the tonnes of carbon dioxide produced by using (the density factor of the fuel where necessary from the specified fuel MSDS sheet) , the NCV (TJ/kt), the Emission factor (tCO2/TJ) and the oxidation factor for the relevant fuel from the Country Specific Net Calorific and CO2 Emission Factors on the EPA website. CO2 emissions = Amount of fuel combusted (t)/1000*NCV (TJ/kt)* Emission Factor (tCO2/TJ).

The calorific value for Tallow is determined annually (in any year that it is combusted on site) by analysis of a representative sample at an independent laboratory. When Tallow is used as a source stream at the site a certificate covering the relevant period will be provided to confirm that the Category 1 Tallow meets the sustainability criteria in order that it may be treated as a biomass material with an emission factor of zero. The Certificate covering the period 20 July 2016 to 19 July 2017 has been submitted as an attachment.

The steps for entering data from Natural Gas invoices for ABP Waterford/ABP Waterford Proteins and calculating Carbon Dioxide emissions arising in relation to the combustion of Natural Gas is outlined as follows:On receipt of the invoices/bills (at ABP Cahir office), all data is entered into the GHG database through the following process. The monthly Gross energy usage (KWh) is then converted to Net using step 1 in the document " Country Specific Values and CO2 Emission Factors" for the relevant year from the EPA website.Step 1 Convert to Net Calorific value by multiplying by the current gross to net conversion factor and then convert to to TJ by multiplying by 3.6 x 10-6. The monthly actual volumes are totalled and this total on an annual basis is converted to standard gas volume as follows: Vs (Nm3) = (Va*273.15)/288.15 where Vs is the standardised gas volume and Va is the actual gas volume determined from the gas bills.(Bills report at standardised pressure of 101,325 Pa, therefore no pressure correction required). Calculate the net calorific value of the fuel (TJ/Nm3) as follows: TJ/Nm3 = Annual TJ (as calculated above)/Annual standardised gas volume (as calculated above). To complete the CO2 calculation, the total TJ is multiplied by the country specific emission factor (tCO2/TJ) and the oxidation factor.

A no tier approach is applied for the determination of fuel consumption for the de minimis source streams acetylene and propane which are used in welding equipment in the maintenance workshop. Country specific NCV and Emission factor are used in the calculation of CO2 arising from propane and Tier 1 default factors for NCV and Emission Factor (from the EPA website) are applied for acetylene.On a biannual basis the Environmental Manager will cross check all invoices reported in the GHG database ensuring accuracy of information to be reported in Annual Installation Emission Report.

Biogas which arises from the cooker and other equipment is treated in the Thermal Oxidiser. The quantity of treated biogas is calculated using a "No Tier" methodology based on recorded run hours for the Thermal Oxidiser by the maximum flow rate of effluent vapour in the manufacturers specification (20,000 kg/hour). The NCV of the Biogas is the Tier 1 value of 50.4 TJ/Gg from Annex VI of the Monitoring and Reporting Regulations. The Tier 1 emission factor (MRR) applied for biomass is 0 t CO2/TJ and the Tier 1 Oxidation Factor (MRR) of 1.0 is also applied.

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
HFO-001,TAL-001	BEP 1,BEP 2,BEP 3,TO1	WGHB-001	Weighbridge	0-50,000	kg	0.12	Waterford Proteins Entrance
HFO-001	BEP 1,BEP 2,BEP 3,TO1	Inver Weighbridge A36561	Weighbridge	0-50	Tonnes	1.0	Inver Headquarter
NG-001	BEP 1,BEP 2,BEP 3,BEP 5,BEP 6,TO1	Natural Gas Meters ABP Waterford SN 3400328989 Waterford Proteins SN 83048472	Turbine meter	50-1000	NM3/hour	1.41	Entrance to ABP Waterford and Back of Waterford Proteins Site
Diesel	BEP 1,BEP 2,BEP 3,TO1	Flowmeter on Truck FM-003	Flow meter	0-50,000	Litre	1.0	Third Party Delivery Truck
TAL-001	BEP 1,BEP 2,BEP 3,TO1	Flowmeter FM-001	Flow meter	Unknown	kg	4.1	Waterford Proteins
PRP-001	BEP 5	Flowmeter on Truck	Flow meter	N/A	N/A	N/A	Third Party Delivery Truck
Kerosene-001	BEP 4	Flowmeter on Truck FM-002	Flow meter	N/A	N/A	N/A	Third Party Delivery Truck
ACT-001,Propane-001	MW1,MW2	Invoices	Invoices for cylinders	N/A	N/A	N/A	Maintenance Workshops
HFO-001,TAL-001,Kerosene-001,Diesel	BEP 1,BEP 2,BEP 3,BEP 4,TO1	Stock Take	Tank Dip	Unknown	litres	10	Fuel Tanks

Source Stream Refs.	Emission Source Refs.	Measurement Device Ref.	Type of Measurement Device	Measurement Range	Metering Range Units	Specified Uncertainty (+/- %)	Location
Biogas	TO1	MDBiogas	Thermal Oxidiser Run Hour records and Flow rate from Manufacturers Specification	N/A	tonnes/Hour	N/A	On site records

Source Stream Refs.	Measurement Device Ref.	Determination Method	Instrument Under Control Of	Conditions Of Article 29(1) Satisfied	Invoices Used To Determine Amount Of Fuel Or Material	Trade Partner And Operator Independent
HFO-001,TAL-001	WGHB-001	Batch	Operator	N/A	N/A	N/A
HFO-001	Inver Weighbridge A36561	Batch	Trade partner	Yes	Yes	Yes
NG-001	Natural Gas Meters ABP Waterford SN 3400328989 Waterford Proteins SN 83048472	Continual	Trade partner	Yes	Yes	Yes
Diesel	Flowmeter on Truck FM-003	Batch	Trade partner	Yes	Yes	Yes
TAL-001	Flowmeter FM-001	Batch	Operator	N/A	N/A	N/A
PRP-001	Flowmeter on Truck	Batch	Trade partner	Yes	Yes	Yes
Kerosene-001	Flowmeter on Truck FM-002	Batch	Trade partner	Yes	Yes	Yes
ACT-001,Propane-001	Invoices	Batch	Trade partner	Yes	Yes	Yes
HFO-001,TAL-001,Kerosene-001,Diesel	Stock Take	Batch	Operator	N/A	N/A	N/A
Biogas	MDBiogas	Continual	Operator	N/A	N/A	N/A

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)**
HFO-001	BEP 1,BEP 2,BEP 3,TO1	Inver Weighbridge A36561,WGHB-001	<1.5%	Standard	4	2a	2a	N/A	1	N/A	N/A	1013	9.26	Major	N/A	n/a	n/a
NG-001	BEP 1,BEP 2,BEP 3,BEP 5,BEP 6,TO1	Natural Gas Meters ABP Waterford SN 34003 28989 Waterford Proteins SN 83048 472	<1.5%	Standard	4	2b	2a	N/A	1	N/A	N/A	9887	90.35	Major	N/A	n/a	n/a
TAL-001	BEP 1,BEP 2,BEP 3,TO1	Flowmeter FM-001,WGHB-001	<5.0%	Standard	2	No tier	1	N/A	1	N/A	N/A	0	0	De-minimis	N/A	n/a	n/a

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)**
Kerosene-001	BEP 4	Flowmeter on Truck	N/A	Standard	No tier	2a	2a	N/A	1	N/A	N/A	13.79	0.13	De-minimis	N/A	n/a	n/a
Diesel	BEP 1,BEP 2,BEP 3,TO1	Flowmeter on Truck FM-003	<7.5%	Standard	1	2a	2a	N/A	1	N/A	N/A	26.98	0.25	De-minimis	N/A	n/a	n/a
ACT-001	MW1, MW2	Invoices	N/A	Standard	No tier	1	1	n/a	1	n/a	n/a	1	0.01	De-minimis	N/A	n/a	n/a
PRP-001	BEP 5	Flowmeter on Truck	N/A	Standard	No tier	2a	2a	n/a	1	n/a	n/a	1	0.01	De-minimis	N/A	n/a	n/a
Biogas	TO1	MDBiogas	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 $CO_{2(e)}$) 10942.77

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
HFO-001	BEP 1,BEP 2,BEP 3,TO1	4	2a	2a	N/A	1	N/A	N/A
NG-001	BEP 1,BEP 2,BEP 3,BEP 5,BEP 6,TO1	4	2b	2a	N/A	1	N/A	N/A
TAL-001	BEP 1,BEP 2,BEP 3,TO1	2	No tier	1	N/A	1	N/A	N/A
Kerosene-001	BEP 4	No tier	2a	2a	N/A	1	N/A	N/A
Diesel	BEP 1,BEP 2,BEP 3,TO1	1	2a	2a	N/A	1	N/A	N/A
ACT-001	MW1,MW2	No tier	1	1	n/a	1	n/a	n/a
PRP-001	BEP 5	No tier	2a	2a	n/a	1	n/a	n/a
Biogas	TO1	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)
HFO-001	BEP 1,BEP 2,BEP 3,TO1	NCV and Emission Factor	Irish National Green House Gas Inventory	n/a
Kerosene-001	BEP 4	NCV and Emission Factor	Irish National Green House Gas Inventory	n/a
NG-001	BEP 1,BEP 2,BEP 3,BEP 6,TO1	Emission Factor	Irish National Green House Gas Inventory	n/a
Diesel	BEP 1,BEP 2,BEP 3,TO1	NCV and Emission Factor	Irish National Green House Gas Inventory	n/a
PRP-001,Propane-001	BEP 5,MW1,MW2	NCV and Emission Factor	Ireland's National Greenhouse Gas Inventory	n/a
ACT-001	MW1,MW2	NCV and Emission Factor	EPA website	n/a
Biogas	TO1	NCV	Annex VI of MRR	50.4 TJ/Gg (other biogas)
TAL-001,Biogas	BEP 1,BEP 2,BEP 3,TO1	EF	MRR (Sustainability Certificate required for Tallow)	0 t CO2/TJ
ACT-001,Biogas,Diesel,HFO-001,Kerosene-001,NG-001,Propane-001,PRP-001,TAL-001	BEP 1,BEP 2,BEP 3,BEP 4,BEP 5,BEP 6,MW1,MW2,TO1	OxF	MRR	1.0

Sampling and Analysis

Do you undertake sampling and analysis of any of the Yes

parameters used in the calculation of your CO_2 emissions?

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	BEP 1,BEP 2,BEP 3,TO1	NCV	Standard Method for Determination of NCV	Annual	Exova or alternate laboratory agreed with the EPA	No	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	Standard Operating Procedure to Sample Tallow for the ABP Waterford and Waterford Proteins site.
Reference for procedure	11.5
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	The sample of must be representative of tallow combusted on site in that year. It shall be sealed in a suitable container and sent off to an accredited laboratory for analysis for calorific value (Net). All results shall be maintained in the greenhouse gas emission folder – monitoring and reporting plan for a minimum of ten years.
Post or department responsible for the procedure and for any data generated	ABP Group Environmental
Location where records are kept	Z:\ISO\ISO\Accredited Sites\ABP IRL Sites\Waterford\New Licence\Manual 2 SOP'S\11. Green House Gas\11.5 SOP Sample Tallow Rev 2.0.doc
Name of IT system used	N/A
List of EN or other standards applied	ISO 14001

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**
11.5 SOP Sample Tallow Rev 2.0.doc	Sampling Tallow

Title of procedure	Standard Operating Procedure to Sample Tallow for the ABP Waterford and Waterford Proteins site.
Reference for procedure	11.5
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	A sample of tallow is taken on an annual basis (in any year in which tallow is combusted at the site) during the offloading of tallow to the bulk tallow storage tank . The tank to be sampled is selected.A stainless steel ladle is used to take the sample. Open inspection hatch on the top of the tank and dip with ladle.A 500ml sample is taken. The required amount (100ml) is poured into a sample bottle.The ladle is then steam cleaned before the next sample is taken.The sample must be representative of tallow combusted on site. It shall be sealed in a suitable

	container and sent off to an accredited laboratory for analysis for calorific value (Net). All results shall be maintained in the greenhouse gas emission folder – monitoring and reporting plan and must be kept for a minimum of ten years.
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

z. Sampling Plan Appropriateness

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

Title of procedure	Standard Operating Procedure to Sample Tallow for the ABP Waterford and Waterford Proteins site.
Reference for procedure	11.5
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	The sample must be representative of tallow combusted on site.All results shall be maintained in the greenhouse gas emission folder – monitoring and reporting plan and must be kept for a minimum of ten years.
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
Are stock estimates carried out as part of the emission calculations?	Yes

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	Standard Operating Procedure for Recording Stock at ABP Waterford and Waterford Proteins site.
Reference for procedure	11.3
Diagram reference	N/A
Brief description of procedure.	An annual stock take is to be undertaken on all fuel storage tanks .This stock take is to be undertaken by the manager or another designated person in the presence of an independent verifier. In this case it shall be Independent

	verified stock take consultant. The stock take will be undertaken as close as possible to the 1st January of each year and no later than six weeks after the start of the New Year.Independent verified stock take consultant to provide verified data from the stock take for record purposes within 14 days of the stock take.These records are to be kept in the greenhouse emissions folder for a period not exceeding ten years.The data is to be used in the calculations as required under the greenhouse gases permit.
Post or department responsible for the procedure and for any data generated	ABP GRoup Environmental Office
Location where records are kept	Z:\ISO\ISO\Accredited Sites\ABP IRL Sites\Waterford\New Licence\Manual 2 SOP'S\11. Green House Gas\11.3 SOP Recording Stock Rev 2.0.doc
Name of IT system used	N/A
List of EN or other standards applied	ISO 14001

bb. Tracking Instruments

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

Title of procedure	N/A
Reference for procedure	N/A
Diagram reference	N/A
Brief description of procedure.	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

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
Managing Director (PRC) (AAR)	In order to surrender the relevant units the PAR logs onto the ETR website and indicates and submits the number of units to be surrendered. At this stage the AAR logs onto the ETR website and indicates, approves and submits the surrender of the relevant number of units.
Group Environmental & Sustainabilty Manager (AR)	Responsible for complying with Green House Gas Permit Conditions, Emission monitoring plans and any legislation relating to Green House Gas as advised by EPA
Proteins Cahir Accountant (PAR)	The PAR for the installation enters the Emissions Trading Public Website (etr.ie) and logs in using user name and password. The PAR then proposes online the verified emissions from the previous calendar year. An e-mail confirming that PAR submitted a verified emissions data entry of a specific number of units for the specific installation is subsequently generated by the ETR site.
Environmental Administrator	Gather all invoice relating to site emissions, complying with Green House Gas permit conditions and emission monitoring plans. Liase with Group Environmental Manager in relation to reports to be submitted to EPA
Site General Manager	Liase Environmental Manager on any prosposed changes to Site and be aware of all permit conditions in relation to site changes

Attachment	Description
11.8 SOP GHG Monitoring and Reporting to EU ETs Rev 9.0.doc	SOP 11.8 Monitoring & Reporting to EU ETS

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	Standard Operating Procedure for Assignement of Responsibilites for Green House Gas ABP Waterford and Waterford Proteins
Reference for procedure	11.12
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	The purpose of this document is to establish a procedure for assigning and identifying personnel to carry out monitoring and reporting in relation to Green House Gas permit conditions. The procedure ensures that the responsible persons are assigned for data flow activities in such a way as to segregate conflicting duties and that all employees whose responsibilities involve activities in relating to Green House Gas Monitoring must be identified and trained in accordance with the appropriate Standard Operating Procedure(s).A register of all training given to personnel should be maintained on the employee training file.
Post or department responsible for the procedure and for any data generated	ABP Group Environmental Office Cahir
Location where records are kept	Z:\ISO\ISO\Accredited Sites\ABP IRL Sites\Waterford\New Licence\Manual 2 SOP'S\11. Green House Gas\11.12 SOP Assignement of Responsibilites GHG Rev 1.0.doc
Name of IT system used	ABP Group Evironmental Server
List of EN or other standards applied	ISO 14001

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	Standard Operating Procedure to Ensure Monitoring Plan Appropriateness at ABP Waterford and Waterford Proteins.
Reference for procedure	11.13
Diagram reference	N/A

Brief description of procedure. The description should cover the essential parameters and operations performed	The monitoring plan's appropriateness is evaluated on a regular basis and the evaluation covers the following: 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; 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 assessment of potential measures for improvement of the monitoring methodology applied.
Post or department responsible for the procedure and for any data generated	ABP Group Environmental Office Cahir
Location where records are kept	Z:\ISO\ISO\Accredited Sites\ABP IRL Sites\Waterford\New Licence\Manual 2 SOP'S\11. Green House Gas\11.13 SOP Monitoring Plan Appropriateness Rev 1.0.doc
Name of IT system used	ABP Group Environmental Server
List of EN or other standards applied	ISO 14001

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	Standard Operating Procedure for Data Collection and Record Keeping at ABP Waterford & Waterford Proteins
Reference for procedure	11.2
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	The major fuels used at the ABP Waterford/Waterford Proteins site include Natural Gas or Heavy Fuel Oil as a major source stream and gas oil (diesel), kerosene, LPG, Tallow, propane and acetylene as de minimis source streams. Data from invoices for ABP Waterford/ABP Waterford Proteins and stock takes at year end are used to calculate the quantity of HFO, Tallow, Kerosene, Gas Oil and LPG combusted on site during the reporting year.Where relevant the density factor for the fuel is obtained form the specified fuel MSDS sheet.The tonnes of carbon dioxide produced is calculated using the NCV (TJ/kt), the Emission factor (tCO2/TJ) and the oxidation factor for the relevant fuel from the Country Specific Net Calorific and CO2 Emission Factors on the EPA website. CO2 emissions = Amount of fuel combusted (t)/1000*NCV (TJ/kt)* Emission Factor (tCO2/TJ). In relation to Natural gas, the monthly Gross energy usage (KWh) from the Natural Gas bills is converted to net using the current gross to net conversion factor in the document " Country Specific Values and CO2

	Emission Factors" for the relevant year on the EPA website.This value id then converted to to TJ by multiplying by 3.6 x 10-6. The monthly actual volumes are totalled and this total on an annual basis is converted to standard gas volume as follows: Vs (Nm3) = (Va*273.15)/288.15 where Vs is the standardised gas volume and Va is the actual gas volume determined from the gas bills.(Bills report at standardised pressure of 101,325 Pa, therefore no pressure correction required). The net calorific value of the fuel (TJ/Nm3) as follows: TJ/Nm3 = Annual TJ (as calculated above)/Annual standardised gas volume (as calculated above). To complete the CO2 calculation, the total TJ is multiplied by the country specific emission factor (tCO2/TJ) and the oxidation factor. The calorific value for Tallow is determined annually (during a year when it is combusted on site) by analysis of a representative sample at an independent laboratory. The calorific value for Tallow is determined annually (in any year that it is combusted on site) by analysis of a representative sample at an independent laboratory. When Tallow is used as a source stream at the site a certificate covering the relevant period will be provided to confirm that the Category 1 Tallow meets the sustainability criteria in order that it may be treated as a biomass material with an emission factor of zero. A certificate (valid 20 July 2016 to 19 July 2017) was provided to confirm that the Category 1 Tallow meets the sustainability criteria in order that it may be treated as a biomass material with an emission factor of zero. A no tier approach is applied for the determination of fuel consumption for the de minimis source streams acetylene and propane which are used in welding equipment in the maintenance workshop. Country specific NCV and Emission factor are used in the calculation of CO2 arising from propane and Tier 1 default factors for NCV and Emission Factor (from the EPA website) are applied for acetylene. Biogas which arises from the cooker and other equipment is treated in the Thermal Oxidiser. The quantity of treated biogas is calculated using a "No Tier" methodology based on recorded run hours for the Thermal Oxidiser by the maximum flow rate of effluent vapour in the manufacturers specification (20,000 kg/hour). The NCV of the Biogas is the Tier 1 value of 50.4 TJ/Gg from Annex VI of the Monitoring and Reporting Regulations. The Tier 1 emission factor (MRR) applied for biomass is 0 t CO2/TJ and the Tier 1 Oxidation Factor (MRR) of 1.0 is also applied.
Post or department responsible for the procedure and for any data generated	ABP Group Environmental Office Cahir
Location where records are kept	Z:\ISO\ISO\Accredited Sites\ABP IRL Sites\Waterford\New Licence\Manual 2 SOP'S\11. Green House Gas\11.2 SOP

	Data Collection & Record Keeping Rev2.0.doc
Name of IT system used	ABP Group Environmental Server
List of EN or other standards applied	ISO14001
List of primary data sources	http://www.epa.ie/downloads/pubs/air/airemissions_factors_2012
Description of the relevant processing steps for each specific data flow activity. 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	All fuel entering the ABP Waterford/Waterford Proteins site must be logged into the fuel delivery docket book.The fuel type must be specified on each delivery load.All of the above information is transferred from the security log book to the excel sheets (designated for GHG fuel usage) on the computer of the ABP Cahir Environmental Office. With regard to Natural Gas Site usage is recorded on a meter and Bord Gais Supply Monthly bill with details of Monthly usage.At the end of the year all information is collated and entered in AIER report and submitted to Independent verifier once verified it will be submitted to EPA by 31st March. 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 kept in the ABP stores for a minimum of 10 years and made readily available upon request for the verifier or EPA.Once Invoices are received all data is entered into the GHG database through the following process.GHG database is made up of 3 spreadsheets. Sheet 1, the Invoice Number, date of delivery, the weight and the total are entered on a weekly basis for HFO, diesel and LPG. HFO is measured in tonnes, Diesel in litres and LPG in litres.The weekly total figure carries over to Sheet 2. Sheet 2 shows the fuel split per site taking into account the opening stock plus a weekly allocation of fuel. These 2 figures are taking away from each other which show our credit figure. The debit figure on Week 1 shows our allocation taken away from our opening stock. Going forward on a weekly basis, the debit figure is added to the credit figure of each week which gives the debit figure for the proceeding week.Sheet 3 calculates the tonnes of carbon dioxide produced by using the density factor of the fuel which we get from the specified fuel MSDS sheet, the oxidation factor and Emission factor from the EPA website. The calorific value for Tallow is taken from the Exova Cert or certificate from any other agreed laboratory. The Calorific/Emission Factor value for all other fuels used on site is taken from Country Specific Net Calorific and CO2 Emission Factors. The total amount of fuel used in a particular week is multiplied by the calorific value which gives the total TJ's (when HFO or tonnes used it is /1000). The total TJs is multiplied by the emission factor and the oxidation factor which in turn shows the tonnes of carbon dioxide produced. On Biannual basis Environmental manager will cross check all invoices reported in the excel database ensuring accuracy of Information to be reported in Annual Installation Emission

Report.

Submit relevant documents to record data flow activities

Attachment	Description
ERF 11.12A Data Flow Green House Gas Rev 2 .0.xlsx	ERF 11.12A Data Flow Green House Gas

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	11.7 Standard Operating Procedure for notification to the EPA with Respect to conditions of the GHG PERMIT at ABP Waterford/Waterford Proteins
Reference for procedure	11.7A
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	This procedure has a record form ERF 11.7A which gives a detailed Risk Assessment (attached).The procedure requires a good working knowledge of the GHG permit and familiarity with each condition and how the system is maintained, recorded, reported and verified.In the event of a breakdown or malfunction of all agreed equipment used to monitor or record the emissions for Green House Gas. The site shall put in place an interim monitoring and reporting methodology and inform the EPA in writing without undue delay.Any non compliance of any condition of the permit including the Monitoring Plan must be highlighted as soon as possible and reported to the Agency. Documentation Manual 2B ERF 11.7 Risk Assessment GHG
Post or department responsible for the procedure and for any data generated	ABP Group Environmental Office Cahir
Location where records are kept	Z:\ISO\ISO\Accredited Sites\ABP IRL Sites\Waterford\New Licence\Manual 2 SOP'S\Manual 2B\11. Green house Gas\ERF 11.7A Risk Assessment for Green House Gas.doc
Name of IT system used	ABP Group Environmental Server
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	Standard Operating Procedure for the Calibration Requirements, for Green House Gas and Responsibilities at ABP Waterford/Waterford Proteins.
Reference for procedure	11.9
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	This procedure details the Calibration requirements for Weighbridges at ABP Waterford. 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.This procedure details the Calibration requirements for Weighbridge at ABP Waterford. On an annual basis the General Manager on each site will organise calibration of the weighbridge. A copy of the Calibration cert will be given to Environmental Manager for Verification of Annual AIER Report. HFO Oil delivered to each site by Inver will have its weighbridge calibrated on an annual basis. The Environmental administrator will contact the third party fuel supplier on an annual basis in order to keep an updated calibration cert on site.Tallow Flow meter is calibrated on an annual basis as organised by General Manager. Natural Gas meter is calibrated on an annual basis. Documentation. Manual 2B ERF 11.9A Calibration Matrix
Post or department responsible for the procedure and for any data generated	ABP Group Environmental Office Cahir
Location where records are kept	Z:\ISO\ISO\Accredited Sites\ABP IRL Sites\Waterford\New Licence\Manual 2 SOP'S\11. Green House Gas\11.9 SOP Calibration Requirements GHG Rev 3.0.doc
Name of IT system used	ABP Group Environmental Server
List of EN or other standards applied	ISO 14001

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	Standard Operating Procedure to Ensure Quality Assurance of Information Technology
Reference for procedure	11.14
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	The information Technology used in the environmental office include a server, computers and a printer.All invoices,

	EPA correspondence, permits, standard operating procedures are stored on the server in designated folders. The server is scheduled to back up every evening to the server in the main office building in ABP Waterford. The Environmental office server is housed in a fire proof cabinet.Blank Templates of all calculation sheets are stored on server.All documentation relating to Green House Gas is also kept on hardcopy.The Environmental Server is serviced and maintained by the site IT Department.All Computers in the Environmental Department have a login name and password to ensure all data is secure.
Post or department responsible for the procedure and for any data generated	ABP Group Environmental Office Cahir
Location where records are kept	Z:\ISO\ISO\Accredited Sites\ABP IRL Sites\Waterford\New Licence\Manual 2 SOP'S\11. Green House Gas\11.14 SOP Quality Assurnace of Information Technology Rev 1.0.doc
Name of IT system used	ABP Group Environmental Server
List of EN or other standards applied	ISO 14001

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	Standard Operating Procedure for The Review of Greenhouse Gases
Reference for procedure	11.6
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	To undertake a management review of GHG emissions, the collection of data and assessment with compliance of the Monitoring plan & GHG permit. Regular reviews are also 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 installations allocation under the commission decision 2011/278/EC.It will apply to all activity in regard to the GHG Emission permit for ABP Waterford and Waterford Proteins site. A meeting will be held within 6 months of the start of the Greenhouse monitoring proposal. The meeting will review progress to date in the following areas:.The monitoring of data collection for fuel used on site;The assessment of work procedures in accordance with the procedure as outlined in the Monitoring plan;The collation of data in accordance with the Monitoring plan, to undertake the verification of data collected i.e. Cross checking weighbridge dockets and invoices and ensuring the necessary signage is in place on tanks and emission plants; to make sure the provision is made for stock takes, to ensure adequate drawings are in

	place to show fuel flow, storage and fuel use locations; to ensure all personnel are adequately trained in the collection and interpretation of the data;to ensure that the conditions of the GHG permit are adhered to. Ensure Monitoring Plan is reviewed and updated as required by permit ;AIER Report is verified by independent verifier and submitted to EPA by 31st March annually;Any malfunction of equipment is reported to EPA if alternative is not agreed in plan;regular internal reviews and validation of data is undertaken which includes a check on whether data is complete, comparisons with data over previous years, comparison of fuel consumption with product through put and criteria for rejecting data.
Post or department responsible for the procedure and for any data generated	ABP Group Environmental Office Cahir
Location where records are kept	Z:\ISO\ISO\Accredited Sites\ABP IRL Sites\Waterford\New Licence\Manual 2 SOP'S\11. Green House Gas\11.6 SOP Review of GHG Rev 2.0.doc
Name of IT system used	ABP Group Environmental Server
List of EN or other standards applied	ISO 14001

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	Standard Operating Procedure for notification to the EPA with Respect to conditions of the GHG Permit at ABP Waterford/Waterford Proteins
Reference for procedure	11.7
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	In the event of a breakdown or malfunction of all agreed equipment used to monitor or record the emissions for EU ETS. The site shall put in place an interim monitoring and reporting methodology and inform the Agency in writing in accordance with permit conditions without undue delay.Any non compliance of any condition of the permit including the Monitoring Plan must be highlighted as soon as possible and reported to the Agency.Documentation: Manual 2B ERF 11.7 Risk Assessment GHG
Post or department responsible for the procedure and for	ABP Group Environmental Office Cahir

any data generated	
Location where records are kept	Z:\ISO\ISO\Accredited Sites\ABP IRL Sites\Waterford\New Licence\Manual 2 SOP'S\11. Green House Gas\11.7 SOP Notification to EPA GHG Rev 2.0.doc
Name of IT system used	ABP Group Environmental Server
List of EN or other standards applied	ISO 14001

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	Standard Operating Procedure for Data Collection and Record Keeping at ABP Waterford & Waterford Proteins
Reference for procedure	11.2
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	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 kept in the ABP stores for a minimum of 10 years and made readily available upon request for the verifier or EPA.At the end of the year all information is collated and entered in AIER report and submitted to Independent verifier for verification.Once verifed AIER Report is submitted to EPA by 31st March . All Records in relation to Green House Gas are kept in Stores in ABP Cahir for a minimum of 10 Years.
Post or department responsible for the procedure and for	ABP Group Environmental Office Cahir

any data generated	
Location where records are kept	Z:\ISO\ISO\Accredited Sites\ABP IRL Sites\Cahir Site\Manual 2 SOP'S\11.Green House Gas\11.2 SOP Data Collection & Record Keeping Rev 1.0.doc
Name of IT system used	ABP Group Environmental Server
List of EN or other standards applied	ISO 14001

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?	Yes
The standard to which the Environmental Management System is certified:	ISO 14001

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	11.6 Standard Operating Procedure for The Review of Greenhouse Gases
Reference for procedure	11.6
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	The purpose of the procedure is to undertake a management review of GHG emissions, the collection of data and assessment with compliance of the Monitoring plan & GHG permit. Regular reviews are also 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 installations allocation under the Commission Decision 2011/278/EC.It will apply to all activity in regard to the GHG Emission permit for ABP Waterford and Waterford Proteins site.Where such changes are identified the application for amending amounts allocated free of charge is completed and submitted to the EPA by 31st December.
Post or department responsible for the procedure and for any data generated	ABP Group Environmental Office
Location where records are kept	Z:\ISO\ISO\Accredited Sites\ABP IRL Sites\Waterford\New Licence\Manual 2 SOP'S\11. Green House Gas\11.6 SOP Review of GHG Rev 2.0.doc
Name of IT system used	ABP Group Environmental Server

13. Abbreviations

qq. Abbreviations Acronyms or definitions

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

Abbreviation	**Definition**
HFO	Heavy Fuel Oil
NG	Natural Gas
Keros	Kerosene

Abbreviation	Definition
TAL	Tallow
BEP	Boiler Emission Point
WGHB	Weighbridge
TO	Thermal Oxidiser
GHG	Green House Gas
GEN	Generator

14. Additional Information

Any other information:

Attachment	Description
Letter Sent to EPA Name Change Waterford Proteins Nov 2012.pdf	Letter Sent to EPA Ref Name Change ABP Proteins Waterford to Waterford Proteins
ERF 11.7A Risk Assessment for Green House Gas Rev 9.0.doc	ERF 11.7A Risk Assessment GHG
Tallow Sustainabilty Cert Waterford Proteins.pdf	Tallow sustainability CERT Waterford Proteins
Response to EPA queries on GHG Permit Application 142.pdf	Response to EPA Queries on GHG Application
1163363 EPA Response 23-01-13.pdf	Calibration Certificate for meter 3400328989
Lifetime Meter Calibration Cert Meter Natural Gas Waterford Proteins.pdf	Natural Gas Meter calibration certificate 1
Lifetime Meter Calibration Cert Meter Natural Gas AIBP Waterford.pdf	NG Meter AIBP Waterford
New Waterford Proteins Weighbridge Cert July 2013.pdf	Weighbridge Certificate
Standard Operating Procedure for Assignmant of Responsibilities for Green House GAS ABP Waterford 11.12.pdf	SOP Responsibilities
Standard Operating procedure for The Review of Greenhouse Gases 11.pdf	SOP Review
Standard Operating Procedure to Ensure Monitoring Plan Appropriateness at ABP Waterford.pdf	SOP Monitoring Plan Appropriateness
Waterford Metering Proteins Summary 21-Feb-2013.pdf	Waterford Metering Proteins Summary
11.3 SOP Recording Stock Rev 9.0.doc	11.3 SOP Recording Stock Rev 9.0
Wateford Proteins Closing Stock 2012.pdf	Wateford Proteins Closing Stock 2012

Attachment	Description
Waterford Closing Stock 2012.pdf	Waterford Closing Stock 2012
New Gas Meter Waterford Proteins Calibration Cert.pdf	New Gas Meter Waterford Proteins
ISCC EU 2016 certificate.pdf	2016/2017 Sustainability Certificate for Tallow

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.