Environmental Protection Agency
An Ghníomhaireacht um Chaomhnú Comhshaoil

Headquarters,
Johnstown Castle Estate,
County Wexford, Ireland

GREENHOUSE GAS EMISSIONS PERMIT

Permit Register Number:	IE-GHG050-10369-3
Operator:	Dairygold Co-Operative Society Limited Clonmel Road Mitchelstown Cork
Installation Name:	Dairygold Co-Operative Society Limited (Mitchelstown)
Site Name:	Dairygold Co-Operative Society Limited
Location:	Castlefarm Centre and Clonmel Road Centre Mitchelstown Cork 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-GHG050-10369.

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
P0404-02

Status Log

Current Permit

Permit number	Date application received	Date Permit issued	Comment
IE-GHG050-10369-3	23 January 2020	25 June 2021	1. Replacement of small boilers S15 and S16. 2. Update of Approach Description to include Tier 3 Methodology for determination of NCV and emission factor for Natural Gas. 3. De minimis Natural gas source stream used by S17 boiler added. 4. Measurement Devices Table updated with latest Natural Gas metering data.

Previous Permits

Permit number	Change Type	Date application received	Date Permit issued	Comment
IE-GHG050-10369-1	GHG Permit Application	16 July 2013	22 October 2013	

Permit number	Change Type	Date application received	Date Permit issued	Comment
IE-GHG050-10369-2	GHG Variation	08 December 2014	01 March 2017	1. Inclusion of Measurement Device 6090502 (related to the emission source S17) 2. The addition of emission source S19 (A1/CF7) booster heater on Niro 3. 3. The removal/decommissioning of stand by generator S8 (A2/CF7). 4. The inclusion of Acetylene as a source stream and related emission source S20 (A1/CF13). 5. Update to reflect change in capacity of S2 (Boiler 2). 6. Clarification of Biogas calculation methodology. 7. Update of Approach Description to include the subtraction of the metered Natural Gas used outside the installation at the Kerrygold Butter Packaging Ireland Limited building and the addition of this meter to the metering devices table. 8. The site map was updated to reflect all the above changes.

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)	Dairygold Co-Operative Society Limited
"operator"	Any person who operates or controls an installation or to whom decisive economic power over the functioning of the installation has been delegated.
Person	Any natural or legal person.
Reportable emissions	The total releases to the atmosphere of carbon dioxide (expressed in tonnes of carbon dioxide equivalent) from the emission sources specified in Table 2 and arising from the Schedule 1 activities which are specified in Table 1.
The Regulations	European Communities (Greenhouse Gas Emissions Trading) Regulations 2012 (S.I. No 490 of 2012) and any amendments or revisions thereto.
The Verifier	A legal person or another legal entity carrying out verification activities pursuant to Regulation (EU) No 600/2012 and accredited by a national accreditation body pursuant to Regulation (EC) No 765/2008 and Regulation (EU) No 600/2012 or a natural person otherwise authorised, without prejudice to Article 5(2) of Regulation (EC) No 765/2008, at the time a verification report is issued.
The Registry	The Registry as provided for under Article 19 of Directive 2003/87/EC.

Schedule 1	Schedule 1 to the Regulations.

Reasons for the Decision

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

Activities Permitted

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

The Operator:

Dairygold Co-Operative Society Limited
Clonmel Road
Mitchelstown
Cork

Company Registration Number: 4621 R

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):

Dairygold Co-Operative Society Limited (Mitchelstown) **Installation number:** 40

located at

Castlefarm Centre and Clonmel Road Centre
Mitchelstown
Cork
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.: 40

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
(WWT) Wastewater Treatment

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
S1	Boiler 1 Castlefarm	16.92	MW
S2	Boiler 2 Castlefarm	8.06	MW
S3	Boiler 4 Castlefarm	15.23	MW
S4	CHP 1 Castlefarm	23.85	MW
S5	CHP 2 Castlefarm	26.81	MW
S7	Casein Castlefarm	2.2	MW
S9	Boiler B Maintenance Workshop Castlefarm	0.07	MW

Emission Source Reference	Emission Source Description	Capacity	Capacity Units
S10	Boiler C Spreads/Office Castlefarm	0.07	MW
S11	AD Boiler CastleFarm	3.64	MW
S12	Boiler 1 Clonmel Rd	5.76	MW
S13	Boiler 2 Clonmel Rd	5.76	MW
S14	Boiler 3 Clonmel Rd	4.47	MW
S17	Boiler F Clonmel Rd	0.06	MW
S18	AD Biogas Flare	3.2	MW
S19	Niro 3 Booster heater Castlefarm	1.01	MW
S20	Workshop	0.1	MW
S15	Boiler A Clonmel Rd	0.11	MW
S16	Boiler B Clonmel Rd	0.11	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.

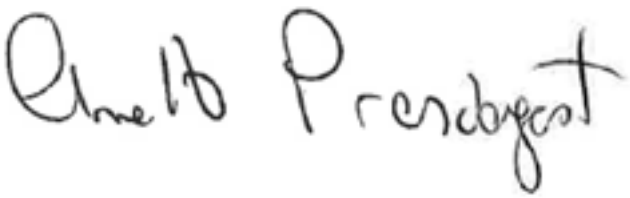
Reason: *To provide for the surrendering, holding, transfer and cancellation of allowances in respect of reported emissions.*

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.

Signed by the Authorised Person on this the 25 June 2021:



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Ms. Annette Prendergast
Inspector/ Authorised Person

Appendix 1 to Greenhouse Gas Emissions Permit Number IE-GHG050-10369

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	Dairygold Co-Operative Society Limited (Mitchelstown)
Site name	Dairygold Co-Operative Society Limited
Address	Castlefarm Centre and Clonmel Road Centre Mitchelstown Cork Ireland
Grid reference of site main entrance	180822E 113146N and 181754E 112966N
Licence held pursuant to the Environmental Protection Agency Act 1992, as amended.	Yes

IPC/IE Licence Register Number	Licence holder	Competent body
P0404-02	Dairygold Co-operative Society Limited	Environmental Protection Agency

Has the regulated activity commenced at the Installation?	Yes
Date of Regulated Activity commencement	01 January 2008

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	Dairygold Co-Operative Society Limited
Company Registration Number	4621 R

Operator Legal status

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

(c) Company / Corporate Body

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

Registered office address

Address Line 1	Clonmel Road
Address Line 2	N/A
City/Town	Mitchelstown
County	Cork
Postcode	N/A

Principal office address

Is the principal office address different to the registered office address?	Yes

Address Line 1	Castlefarm
Address Line 2	N/A
City/Town	Mitchelstown
County	Cork
Postcode	N/A
Company registration number	N/A

Holding company

Does the company belong to a holding company?	No

(d) Operator Authority

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

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

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

4. Service Contact

e. Service Contact

Address	Castlefarm Mitchelstown Cork 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.

Dairygold Mitchelstown is a dairy and food ingredients processing installation situated in Mitchelstown Co. Cork. The installation comprises two processing plants with a biological nutrient removal plant with anaerobic digestion. The Clonmel Road plant produces cheddar cheese and the Castlefarm plant produces skim milk powders, casein, demineralised whey powders and whey protein concentrates. Over 200 tonnes of milk is treated and processed on the site per day.

The site is almost entirely supplied by Natural Gas. The main carbon dioxide emissions arise from 2 Natural Gas CHP boilers and 3 standby boilers (1,2 and 4) at Castlefarm and 3 Natural Gas Boilers (1,2 and 3) at Clonmel Road. The two main energy using processes involved in production are production of steam for the evaporation and drying of milk to produce milk concentrate and whey powder and for the manufacture of cheddar cheese. Boiler 2 also can operate on biogas as well as Natural Gas. There is a natural gas fuelled casein dryer on site. The skim powder (Niro 3) dryer which had a natural gas preheater was decommissioned and removed in 2013 and has been replaced with another Niro 3 dryer in 2014. Other combustion sources at the site include a biogas flare and biogas boiler located at the anaerobic digester in addition to some minor emission sources including maintenance and catering facilities and office heating.

There is an agreement in place to provide services from the Castlefarm site including Natural Gas to the Kerrygold Butter Packaging Ireland Limited facility. This gas stream is separately metered and is taken into account when calculating the total Natural Gas consumed by Dairygold Mitchelstown .

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)	117.43	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
Castlefarm GHG Emission Points updated 070713[1].pdf	Castlefarm GHG Emission Points updated 070713
Clonmel Road GHG Emission Points.pdf	Clonmel Road GHG Emission Points
Castlefarm GHG Emission Points Rev E updated 18-01-17.pdf	Castlefarm GHG Emission Points Rev E updated 18-01-17.

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 $CO_{2(e)}$) 62000

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
S1	Boiler 1 Castlefarm
S2	Boiler 2 Castlefarm
S3	Boiler 4 Castlefarm
S4	CHP 1 Castlefarm
S5	CHP 2 Castlefarm
S7	Casein Castlefarm
S9	Boiler B Maintenance Workshop Castlefarm
S10	Boiler C Spreads/Office Castlefarm
S11	AD Boiler CastleFarm
S12	Boiler 1 Clonmel Rd
S13	Boiler 2 Clonmel Rd
S14	Boiler 3 Clonmel Rd
S15	Boiler A Clonmel Rd
S16	Boiler B Clonmel Rd
S17	Boiler F Clonmel Rd
S18	AD Biogas Flare
WWT	Wastewater Treatment
S19	Niro 3 Booster heater Castlefarm
S20	Workshop

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

Emission Source Reference	Emission Source Description
S1	Boiler 1 Castlefarm

Emission Source Reference	Emission Source Description
S2	Boiler 2 Castlefarm
S3	Boiler 4 Castlefarm
S4	CHP 1 Castlefarm
S5	CHP 2 Castlefarm
S7	Casein Castlefarm
S9	Boiler B Maintenance Workshop Castlefarm
S10	Boiler C Spreads/Office Castlefarm
S11	AD Boiler CastleFarm
S12	Boiler 1 Clonmel Rd
S13	Boiler 2 Clonmel Rd
S14	Boiler 3 Clonmel Rd
S17	Boiler F Clonmel Rd
S18	AD Biogas Flare
S19	Niro 3 Booster heater Castlefarm
S20	Workshop
S15	Boiler A Clonmel Rd
S16	Boiler B Clonmel Rd

I. Emission Points

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

Emission Point Reference	Emission Point Description
A1/CF1	Boiler 1 CF Stack
A1/CF2	Boiler 2 CF Stack
A1/CF4	Boiler 4 CF Stack
A1/CF5	CHP 1 CF Stack
A1/CF6	CHP 2 CF Stack
A2/CF3	Casein CF Stack
A1/CF9	Boiler B CF Stack
A1/CF10	Boiler C CF Stack
A1/CF11	AD Boiler CF Stack
A1/CR1	Boiler 1 CR Stack
A1/CR2	Boiler 2 CR Stack
A1/CR3	Boiler 3 CR Stack
A1/CR4	Boiler A CR Stack

Emission Point Reference	Emission Point Description
A1/CR5	Boiler B CR Stack
A1/CR9	Boiler F CR Stack
A1/CF12	AD Biogas Flare
WWT	Wastewater treatment
A1/CF7	Niro 3 booster heater Castlefarm
A1/CF13	Workshop Acetylene emission

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
F1 (Natural Gas)	Combustion: Other gaseous & liquid fuels	Natural Gas
F2 (Gas Oil)	Combustion: Commercial standard fuels	Gas/Diesel Oil
F3 (LPG)	Combustion: Other gaseous & liquid fuels	Liquefied Petroleum Gases
F4 (Biogas)	Combustion: Other gaseous & liquid fuels	Biogas
N/A	Other	N/A
F5 (Acetylene)	Combustion: Other gaseous & liquid fuels	Acetylene
F6 (Natural Gas CR IT Office)	Combustion: Other gaseous & liquid fuels	Natural Gas

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
F1 (Natural Gas)	S1,S2,S3,S4,S5,S7,S9,S10,S11,S12,S13,S14,S15,S16,S19	A1/CF1,A1/CF2,A1/CF4,A1/CF5,A1/CF6,A2/CF3,A1/CF9,A1/CF10,A1/CF11,A1/CR1,A1/CR2,A1/CR3,A1/CR4, A1/CR5,A1/CF7	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)
F2 (Gas Oil)	S1,S2,S5,S12,S13,S14	A1/CF1,A1/CF2,A1/CF6,A1/CR1,A1/CR2,A1/CR3	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)
F3 (LPG)	S1,S2,S5,S12,S13,S14	A1/CF1,A1/CF2,A1/CF6,A1/CR1,A1/CR2,A1/CR3	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)
F4 (Biogas)	S2,S11,S18	A1/CF2,A1/CF11,A1/CF12	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)
F5 (Acetylene)	S20	A1/CF13	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)
F6 (Natural Gas CR IT Office)	S17	A1/CR9	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	WWT	WWT

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)?	No

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:

F1 (Natural Gas) is the major fuel source at this site . The main Gas Networks Ireland (GNI) turbine meters measure the consumption of F1 (Natural gas) by the main emission sources at the installation at Castlefarm and Clonmel Road. Natural Gas combusted outside the permitted installation is subtracted using a dedicated Natural Gas turbine meter located at the CHP building at Castlefarm, measuring the supply of Natural Gas to the externally operated Butter Packaging building. The calculation is carried out by Dairygold Energy Buyer. The total volume of gas supplied to the butter packaging plant is calculated as follows and deducted from the total consumption of the installation = (Consumption m3*273.15)/288.15. Annual temperature and pressure calibration/checks are carried out on the main meters by GNI and on the dedicated meter supplying the butter packaging building by the operator to ensure the overall Tier 4 uncertainty of 1.5 % is met.

Natural Gas consumption is requested by the energy systems lead from the gas supplier. The consumption in thousands of cubic meters (KCM) is converted to standardised gas volume for reporting purpose as follows: Vs (Nm3) = (Va*273.15)/288.15 where Vs is the standardised gas volume and Va is the actual gas volume. The net calorific value of the fuel is also reported as TJ/Nm3 using the annual standardised gas volume (as calculated above).

To determine the NCV and Emission Factor for Natural Gas in accordance with Tier 3, chromatograph data is sourced from the Curraleigh West chromatograph (calibrated annually) which samples the gas every 4 minutes. Details taken from the chromatograph report include specific gravity, CO2 concentration, methane (%), ethane (%), propane (%), N-butane (%), ISO-butane (%), N-pentane (%), ISO-pentane (%), NEO-pentane (%), hexane (%)and nitrogen (%).

Step 1 Step 1 Calculate Net CV (MJ/M3) using the method detailed in ISO 6976

Step 2 For Each gas component listed above ascertain the:-

1.Molecular Weight

Example: Methane (CH4)

Molecular Weight = C+ (H*4),

Where C = 12.011

Where H = 1.008

Molecular weight of CH4=16.043

2. Total Gas Component Weight broken down into

a. Weight (gm)

b. Carbon weight (gm)

c. Hydrogen weight (gm)

Example: Methane (CH4)

a. Weight (gm)

= i*10*Molecular weight/ 23.645

Where under the Ideal Gas Law of PV=nRT

1mol of ideal gas occupies this volume (litres) at STP: = 22.414 ,

ST: 0

SP: 1.03125

Corrected to 15degC =23.645=22.414*288.14/273.14 where 273.14k=0°C

b. Carbon weight (gm)

= Weight*C/Molecular weight

c. Hydrogen weight (gm)

=Weight*(H*4)/ Molecular weight

Step 3 Total C02 (gm) /SCM =

(Sum carbon weight (gm)) * (Molecular figure for carbon dioxide) / (Molecular figure for Carbon)

Where Molecular figure for Carbon Dioxide = C+(O*2) = 12.011 + (15.999*2) = 44.009

Step 4 Tonnes CO2 / hr = Total C02 (gm) /SCM * (d+g)*1000/1000000

Step 5 Tonnes CO2 / hr with Oxidation factor = Tonnes CO2 / hr*

Oxidation factor Oxidation factor must be agreed as per M&R Regulation = 1

In the event that chromatograph data for a specific hour is not available, the EPA should be notified in accordance with the permit requirements, of the missing data and agree an alternative methodology to calculate data for the missing hours data. Any incidents of missing data should be noted in the Annual Installation Emissions Report.

De minimis amounts of Natural Gas are used for space heating in the Clonmel Road IT offices. As a "de minimis" source stream, F6 (Natural Gas CR IT Office) used in the emission source S17 (Boiler F located at the old IT offices at Clonmel Road), a "no tier" approach in relation to activity data has been adopted using data from a rotary gas meter . Monthly invoices from the gas supplier are passed from the lead Energy Buyer and monthly t(CO2) values are generated. The monthly tCO2 values are then summed for the year. The Natural Gas bills show kWh based on Gross Calorific Value which is converted to Net Calorific Value by multiplying by gross to net conversion factor (as listed annually on the EPA website) and then converted to TJ by multiplying by 3.6 x 10-6. The Country Specific CO2 emission factor for Natural Gas, based on Ireland's Specific Emission Factors used in the National Inventory reported to UNFCCC (Source of Data:EPA website) and an oxidation factor of 1.0 is then applied. The CO2 emission (tCO2) is calculated on a monthly basis as the product of kWh x gross to net conversion factor x 3.6x 10-6 x EF x OF. The monthly tCO2 values are then summed for the reporting year for submission in the verified Annual Installation Emissions Report.

De minimis amounts of gas oil are used for space heating and operation of the standby generator. As a "de minimis" source stream, a "no tier" approach in relation to activity data has been adopted. Monthly invoices from Gas oil deliveries are passed from the lead Energy Buyer and monthly t(CO2) values are generated. The monthly tCO2 values are then summed for the year. Very small amounts of LPG is used for space heating and boiler pilot light generating less than 1 tonne CO2 /annum. It is also proposed to adopt a "de minimis" approach for activity data for this fuel. LPG consumption is calculated by reference to invoiced quantities. As consumption is very low a "no tier" approach has been adopted. this assumes that any LPG purchased in a reporting year is all combusted during that period. Gas oil and LPG consumed shall be on the basis of fuel purchases as metered and invoiced by the supply company.Data for NCV

and EF for both Gas oil and LPG are taken from the latest National Inventory data for Ireland and with the oxidation factor of 1.0 are applied to calculate the CO2 emissions for each source stream.

Biogas arising from the anaerobic digester (AD) is combusted in the AD boiler and by exception using the flare. Boiler 2 can also be fired on biogas as well as natural gas. A "No Tier " approach is applied for the determination of the Activity Data and the NCV. The quantity of biogas combusted is measured in m3 using a flow meter and converted to Nm3.The NCV reading is converted from therms to TJ, based on Methane content of the biogas and reported on a monthly basis in TJ/Nm3 following the use of conversion factors. The Tier 1 emission factor of 0 for 100% biomass and the Tier 1 Oxidation factor of 1.0 is applied.

Acetylene is used in small quantities in the workshop areas. As consumption is very low a "no tier" approach has been adopted. this assumes that any Acetylene purchased in a reporting year is all combusted during that period. It is proposed to adopt a "de minimis" approach for the activity data for this fuel. The consumption will be measured according to invoiced quantities for the period. Data for the NCV and Emission Factor are taken from the EPA website and an oxidation factor of 1.0 is applied to calculate the CO2 emissions .

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
F1 (Natural Gas)	S1,S2,S3,S4,S5,S7,S9,S10,S11,S19	83049539	Turbine meter	20- 650	Cubic Meters/hr	1.4	Castlefarm AGI
F1 (Natural Gas)	S1,S2,S3,S4,S5,S7,S9,S10,S11,S19	83049540	Turbine meter	20-650	Cubic Meters/hr	1.4	Castlefarm AGI
F1 (Natural Gas)	S12,S13,S14,S15,S16	80051282	Turbine meter	32 - 250	Cubic Meters/hr	1.4	Clonmel Road AGI
F2 (Gas Oil)	S1,S2,S5,S12,S13,S14	Gas Oil Invoices	Truck Meter	N/A	N/A	N/A	N/A
F3 (LPG)	S1,S2,S5,S12,S13,S14	LPG Deliveries	No. of Cylinders	N/A	N/A	N/A	N/A
F4 (Biogas)	S2,S11,S18	Flowmeter	N/A	N/A	N/A	N/A	N/A
F5 (Acetylene)	S20	Acetylene Gas Cylinder Invoices	Balance	N/A	N/A	N/A	N/A
F6 (Natural Gas CR IT Office)	S17	6090502	Rotary piston gas meter	1.3 to 25	cubic metres/hr	3	Old IT Offices Clonmel Road
F1 (Natural Gas)	S1,S2,S3,S4,S5,S7,S9,S10,S11,S19	80117960	Turbine meter	13-250	m3/h	1.4	CHP Building (for subtraction of exported gas)
F1 (Natural Gas)	S1,S2,S3,S4,S5,S7,S9,S10,S11,S19	2637108003/B	Turbine meter	50-1000	m3/hr	1.41	Castlefarm AGI
F1 (Natural Gas)	S1,S2,S3,S4,S5,S7,S	2637108004/B	Turbine meter	50-1000	m3/hr	1.41	Castlefarm AGI

Source Stream Refs.	Emission Source Refs.	Measurement Device Ref.	Type of Measurement Device	Measurement Range	Metering Range Units	Specified Uncertainty (+/- %)	Location
	9,S10,S11,S19						

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
F1 (Natural Gas)	83049539	Continual	Trade partner	Yes	Yes	Yes
F1 (Natural Gas)	83049540	Continual	Trade partner	Yes	Yes	Yes
F1 (Natural Gas)	80051282	Continual	Trade partner	Yes	Yes	Yes
F2 (Gas Oil)	Gas Oil Invoices	Batch	Trade partner	Yes	Yes	Yes
F3 (LPG)	LPG Deliveries	Batch	Trade partner	Yes	Yes	Yes
F4 (Biogas)	Flowmeter	Continual	Operator	N/A	N/A	N/A
F5 (Acetylene)	Acetylene Gas Cylinder Invoices	Batch	Trade partner	Yes	Yes	Yes
F6 (Natural Gas CR IT Office)	6090502	Continual	Trade partner	Yes	Yes	Yes
F1 (Natural Gas)	80117960	Continual	Operator	N/A	N/A	N/A
F1 (Natural Gas)	2637108003/B	Continual	Trade partner	Yes	Yes	Yes
F1 (Natural Gas)	2637108004/B	Continual	Trade partner	Yes	Yes	Yes

t. Applied Tiers

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

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

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

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

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

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

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

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

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

Source Stream Refs.	**Emission Source Refs.**	**Measurement Device Refs.**	**Overall Metering Uncertainty (less than +/- %)**	**Applied Monitoring Approach**	**Activity Data Tier Applied**	**Net Calorific Value Tier Applied**	**Emission Factor Tier Applied**	**Carbon Content Tier Applied**	**Oxidation Factor Tier Applied**	**Conversion Factor Tier Applied**	**Biomass Fraction Tier Applied**	**Estimated Emissions $tCO_{2(e)}$**	**% of Total Estimated Emissions**	**Source Category**	**Highest Tiers Applied**	**Justification for not applying the highest tiers**	**Improvement Plan Reference (where applicable)**
F1 (Natural Gas)	S1,S2,S3,S4,S5,S7,S9,	83049539,8304954	<1.5%	Standard	4	3	3	N/A	1	N/A	N/A	57000	99.1	Major	Yes	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)**
	S10,S11,S12,S13,S14,S15,S16,S19	0,80051282,80117960,26371080803/B,263710 8004/B															
F2 (Gas Oil)	S1,S2,S5,S12,S13,S14	Gas Oil Invoices	N/A	Standard	No tier	2a	2a	N/A	1	N/A	N/A	500	0.87	De-minimis	N/A	n/a	n/a
F3 (LPG)	S1,S2,S5,S12,S13,S14	LPG Deliveries	N/A	Standard	No tier	2a	2a	N/A	1	N/A	N/A	3	0.01	De-minimis	N/A	n/a	n/a
F4 (Biogas)	S2,S11,S18	Flowmeter	N/A	Standard	No tier	No tier	1	N/A	1	N/A	N/A	0	0	De-minimis	N/A	n/a	n/a
F5 (Acetylene)	S20	Acetylene Gas Cylinder Invoices	N/A	Standard	No tier	1	1	N/A	1	No tier	N/A	1	0	De-minimis	Yes	n/a	n/a
F6	S17	60905	N/A	Standa	No tier	2b	2a	N/A	1	N/A	N/A	11	0.02	De-	Yes	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)**
(Natural Gas CR IT Office)		02		rd										minimis			

Total Estimated Emissions for Calculation (tonnes $CO_{2(e)}$) 57515

u. Uncertainty Calculations

The table below lists evidence attached to the application that demonstrates compliance with the applied tiers in accordance with Article 12 of the MRR.

Attachment	**Description**
Galtee Cheese 12-07-12.pdf	Gas Meter Calibration Cert
Galtee St.5 22-08-12.pdf	Gas Meter Calibration Cert
Galtee St.6 22-08-12.pdf	Gas Meter Calibration Cert
Uncertainty Calcs Version 1.1.xls	Revised Uncertainty Calculations V1.1
Uncertainty Calcs Version 1.2(1).xls	Revised Overall Uncertainty Calculations
Uncertainty Calcs V1.1.xlsx	Uncertainty Calcs

v. 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
F1 (Natural Gas)	S1,S2,S3,S4,S5,S7 ,S9,S10,S11,S12, S13,S14,S15,S16, S19	4	3	3	N/A	1	N/A	N/A
F2 (Gas Oil)	S1,S2,S5,S12,S13 ,S14	No tier	2a	2a	N/A	1	N/A	N/A
F3 (LPG)	S1,S2,S5,S12,S13 ,S14	No tier	2a	2a	N/A	1	N/A	N/A
F4 (Biogas)	S2,S11,S18	No tier	No tier	1	N/A	1	N/A	N/A
F5 (Acetylene)	S20	No tier	1	1	N/A	1	No tier	N/A
F6 (Natural Gas CR IT Office)	S17	No tier	2b	2a	N/A	1	N/A	N/A

w. 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

x. 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)
F6 (Natural Gas CR IT Office)	S17	Emission Factor	Ireland's National Greenhouse Gas Inventory	n/a
F2 (Gas Oil)	S1,S2,S5,S12,S13,S14	NCV and Emission Factor	Ireland's National Greenhouse Gas Inventory	n/a
F1 (Natural Gas),F2 (Gas Oil),F3 (LPG),F4 (Biogas),F5 (Acetylene),F6 (Natural Gas CR IT Office)	S1,S10,S11,S12,S13,S14,S15,S16,S17,S18,S19,S2,S20,S3,S4,S5,S7,S9	OxF	MRR	1
F3 (LPG)	S1,S2,S5,S12,S13,S14	NCV and Emission Factor	Ireland's National Greenhouse Gas Inventory	n/a
F4 (Biogas)	S2,S11,S18	Emission Factor	MRR	0 tCO2/TJ
F5 (Acetylene)	S20	NCV and Emission Factor	Tier 1 NCV and Emission Factors on EPA Website	n/a

Sampling and Analysis

Do you undertake sampling and analysis of any of the parameters used in the calculation of your CO_2 emissions? Yes

y. 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**
F1 (Natural Gas)	S1,S2,S3,S4,S5,S7,S9,S10,S11,S12,S13,S14,S15,S16,S19	NCV, EF	Gas Chromatography	Continuous	EffecTech	Yes	n/a

Detail about the written procedures for the above analysis.

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

Title of procedure	15. Fuel Sampling
Reference for procedure	Analysis
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	The relevant EN standards EN ISO 10723:2012 (Natural Gas performance evaluation for analytical systems) and EN ISO 6976:2005 (Natural Gas calculation of calorific value, density relative density and Wobbe-index) are applied. The relevant EN/ISO standard for the determination of composition with defined uncertainty by gas chromatography are also detailed. Analysis is conducted by Gas Networks Ireland and communicated to the installation on a monthly basis for the purpose of preparing annual emission returns.
Post or department responsible for the procedure and for any data generated	Group EHS Manager
Location where records are kept	EHS Computer System and Gas Networks Ireland
Name of IT system used	N/A
List of EN or other standards applied	N/A

z. 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**
20_0266_01 Calibration Certificate Curraleigh West 2020 (H-17G36040167).pdf	Curraleigh West Calibration

Title of procedure	15. Fuel Sampling
Reference for procedure	Sampling Plan
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	The sampling system to the GC is part of the overall system to design and supply the flow metering and GC system by Honeywell RMG , World suppliers in Oil and Gas metering systems. It is designed and built to Gas industry best practice but it isn't necessary designed and built to comply to EN ISO 10715 Natural Gas. Effectively there is a Vendor Supplied sample probe that feeds the gas sample at line

	pressure (Approx 60 Bar) to a heated pressure let down panel that reduces the pressure of sample to approx. 2 Bar and is fed in a SS tubing to the GC . Effectech Ltd as part of the 10723 Performance evaluation test, audited the Sampling system.
Post or department responsible for the procedure and for any data generated	Group EHS Manager
Location where records are kept	EHS Dairygold and Gas Networks Ireland
Name of IT system used	N/A
List of EN or other standards applied	N/A

aa. Sampling Plan Appropriateness

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

Title of procedure	15. Fuel Sampling
Reference for procedure	Sampling Plan Appropriateness
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	Sampling plan is developed and executed in accordance with the relevant standards including: s EN ISO 10723:2012 (Natural Gas performance evaluation of on-line analytical systems) and EN ISO 6976:2005 (Natural Gas calculation of calorific value, density relative density and Wobbe-index) are applied.Compliance with the applicable standards can be requested from Gas Networks/EffecTech as required.
Post or department responsible for the procedure and for any data generated	Group EHS Manager
Location where records are kept	EHS Dairygold
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?	No

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	N/A

any data generated	
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**
Group EHS Manager	Ensure all procedures are maintained and followed. Ensure compliance with GHG permit including that the verified annual emissions report is submitted to the EPA by 31 March each year Ensure all correspondence to the Agency is completed. Ensure all Change Management involving the Emission points is managed correctly.

Attachment	**Description**
N/A	N/A

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	Assignment of Responsibilities
Reference for procedure	ETM Section 3
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	This procedure assigns the responsibilities of the personnel involved in the Emissions Trading Scheme. It lists their responsibility, their position in the company and their function regarding the emissions trading on site. The procedure also list the competency which the contact person & principal officer must have in order to understand and meet the requirements under the EU Emissions Trading Scheme.
Post or department responsible for the procedure and for any data generated	Group EHS Manager
Location where records are kept	M:\Environmental\GHG Permit (Mitch and Mallow)\Emissions Trading Manual\Version X.X
Name of IT system used	N/A
List of EN or other standards applied	N/A

ee. Monitoring Plan Appropriateness

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

Title of procedure	Monitoring Plan Appropriateness
Reference for procedure	ETM Section 4
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	The monitoring plan should be checked prior to any on site changes to see if any of the following require updating:Emission sources; Source streams;Function of the Installation; Metering devices;Metering Uncertainties and Applied tiers The Monitoring Methodology shall be regularly checked (in line with Article 69 of the MRR) as to whether it can be improved.
Post or department responsible for the procedure and for	Group EHS Manager

any data generated	
Location where records are kept	M:\Environmental\GHG Permit (Mitch and Mallow)\Emissions Trading Manual\Version X.X
Name of IT system used	N/A
List of EN or other standards applied	N/A

ff. Data Flow Activities

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

Title of procedure	Data Flow Activies
Reference for procedure	ETM Section 8
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	The data flow is represented in the attached file. The main sources of data are the invoices for the fuels, with Natural Gas being the only major fuel used on site.The consumption figures are taken from the invoices and entered into the calculation workbook. If there is any inaccuracies in the data, it will be corrected. The Verification takes place before the AIER is completed. The Verifier checks the AIER and submits their opinion statement. The AIER is then submitted to the EPA. All documentation is backed up continuously on the Dairygold servers.
Post or department responsible for the procedure and for any data generated	Group EHS Manager
Location where records are kept	M:\Environmental\GHG Permit (Mitch and Mallow)\Emissions Trading Manual\Version X.X
Name of IT system used	N/A
List of EN or other standards applied	N/A
List of primary data sources	Natural Gas Invoices; Gas Oil Invoices;LPG Invoices; Biogas flowmeter data
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	F1 (Natural Gas) is the major fuel source at this site . The main Gas Networks Ireland (GNI) turbine meters measure the consumption of F1 (Natural gas) by the main emission sources at the installation at Castlefarm and Clonmel Road. Natural Gas combusted outside the permitted installation is subtracted using a dedicated Natural Gas turbine meter located at the CHP building at Castlefarm, measuring the supply of Natural Gas to the externally operated Butter Packaging building. The calculation is carried out by Dairygold Energy Buyer. The total volume of gas supplied to the butter packaging plant is calculated as follows and deducted from the total consumption of the installation = (Consumption m3*273.15)/288.15. Annual temperature and pressure calibration/checks are carried out on the main meters by GNI and on the dedicated meter supplying the butter packaging building by the operator to ensure the overall Tier 4 uncertainty of 1.5 % is met. Natural Gas consumption is requested by the energy

systems lead from the gas supplier. To determine the NCV and Emission Factor for Natural Gas in accordance with Tier 3, chromatograph data is sourced from the Curraleigh West chromatograph (calibrated annually) which samples the gas every 4 minutes. Details taken from the chromatograph report include specific gravity, CO2 concentration, methane (%), ethane (%), propane (%), N-butane (%), ISO-butane (%), N-pentane (%), ISO-pentane (%), NEO-pentane (%), hexane (%)and nitrogen (%).

Step 1 Step 1 Calculate Net CV (MJ/M3) using the method detailed in ISO 6976

Step 2 For Each gas component listed above ascertain the:-

1.Molecular Weight

Example: Methane (CH4)

Molecular Weight = C+ (H*4),

Where C = 12.011

Where H = 1.008

Molecular weight of CH4=16.043

2. Total Gas Component Weight broken down into

a. Weight (gm)

b. Carbon weight (gm)

c. Hydrogen weight (gm)

Example: Methane (CH4)

a. Weight (gm)

= i*10*Molecular weight/ 23.645

Where under the Ideal Gas Law of PV=nRT

1mol of ideal gas occupies this volume (litres) at STP: = 22.414 ,

ST: 0

SP: 1.03125

Corrected to 15degC =23.645=22.414*288.14/273.14
where 273.14k=0°C

b. Carbon weight (gm)

= Weight*C/Molecular weight

c. Hydrogen weight (gm)

=Weight*(H*4)/ Molecular weight

Step 3 Total C02 (gm) /SCM =

(Sum carbon weight (gm)) * (Molecular figure for carbon dioxide) / (Molecular figure for Carbon)

Where Molecular figure for Carbon Dioxide = C+(O*2) = 12.011 + (15.999*2) = 44.009

Step 4 Tonnes CO2 / hr = Total C02 (gm) /SCM * (d+g)*1000/1000000

Step 5 Tonnes CO2 / hr with Oxidation factor = Tonnes CO2 / hr*

Oxidation factor Oxidation factor must be agreed as per M&R Regulation = 1

In the event that chromatograph data for a specific hour is not available, the EPA should be notified in accordance with the permit requirements, of the missing data and agree an alternative methodology to calculate data for the missing hours data. Any incidents of missing data should be noted in the Annual Installation Emissions Report.

De minimis amounts of Natural Gas are used for space heating in the Clonmel Road IT offices. As a "de minimis" source stream, F6 (Natural Gas CR IT Office) used in the emission source S17 (Boiler F located at the old IT offices at Clonmel Road), a "no tier" approach in relation to activity data has been adopted using data from a rotary gas meter . Monthly invoices from the gas supplier are passed from the lead Energy Buyer and monthly t(CO2) values are generated. The monthly tCO2 values are then summed for the year. The Natural Gas bills show kWh based on Gross Calorific Value which is converted to Net Calorific Value by multiplying by gross to net conversion factor (as listed annually on the EPA website) and then converted to TJ by multiplying by 3.6 x 10-6. The Country Specific CO2 emission factor for Natural Gas, based on Ireland's Specific Emission Factors used in the National Inventory reported to

UNFCCC (Source of Data:EPA website) and an oxidation factor of 1.0 is then applied. The CO2 emission (tCO2) is calculated on a monthly basis as the product of kWh x gross to net conversion factor x 3.6x 10-6 x EF x OF. The monthly tCO2 values are then summed for the reporting year for submission in the verified Annual Installation Emissions Report.

De minimis amounts of gas oil are used for space heating and operation of the standby generator. As a "de minimis" source stream, a "no tier" approach in relation to activity data has been adopted. Monthly invoices from Gas oil deliveries are passed from the lead Energy Buyer and monthly t(CO2) values are generated. The monthly tCO2 values are then summed for the year. Very small amounts of LPG is used for space heating and boiler pilot light generating less than 1 tonne CO2 /annum. It is also proposed to adopt a "de minimis" approach for activity data for this fuel. LPG consumption is calculated by reference to invoiced quantities. As consumption is very low a "no tier" approach has been adopted. this assumes that any LPG purchased in a reporting year is all combusted during that period. Gas oil and LPG consumed shall be on the basis of fuel purchases as metered and invoiced by the supply company.Data for NCV and EF for both Gas oil and LPG are taken from the latest National Inventory data for Ireland and with the oxidation factor of 1.0 are applied to calculate the CO2 emissions for each source stream.

Biogas arising from the anaerobic digester (AD) is combusted in the AD boiler and by exception using the flare. Boiler 2 can also be fired on biogas as well as natural gas. A "No Tier " approach is applied for the determination of the Activity Data and the NCV. The quantity of biogas combusted is measured in m3 using a flow meter and converted to Nm3.The NCV reading is converted from therms to TJ, based on Methane content of the biogas and reported on a monthly basis in TJ/Nm3 following the use of conversion factors. The Tier 1 emission factor of 0 for 100% biomass and the Tier 1 Oxidation factor of 1.0 is applied.

Acetylene is used in small quantities in the workshop areas. As consumption is very low a "no tier" approach has been adopted. this assumes that any Acetylene purchased in a reporting year is all combusted during that period. It is proposed to adopt a "de minimis" approach for the activity data for this fuel. The consumption will be measured according to invoiced quatities for the period. Data for the NCV and Emission Factor are taken from the EPA website and an oxidation factor of 1.0 is applied to calculate the CO2 emissions .

Submit relevant documents to record data flow activities

Attachment	Description
8 Data Flow Activities.docx	Data Flow

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	Assessing and Controlling Risks
Reference for procedure	ETM Section 9
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	This procedure lists the hazards associated with the EU ETS. The hazards identified include: Incorrect factors used in calculations, EU ETS documentation not kept up to date and corrupted formula used in the calculation workbook. Each of the hazards risks are rated as high, medium or low depending on the how likely it is that this hazard could happen. For each of the hazards there are controls in place to reduce the risk of losses/errors in the data.
Post or department responsible for the procedure and for any data generated	Group EHS Manager
Location where records are kept	M:\Environmental\GHG Permit (Mitch and Mallow)\Emissions Trading Manual\Version X.X
Name of IT system used	N/A
List of EN or other standards applied	N/A

hh. Quality Assurance of Metering / Measuring Equipment

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

Title of procedure	Quality Assurance of Metering Measuring Equipment
Reference for procedure	ETM Section 10A
Diagram reference	N/A

Brief description of procedure. The description should cover the essential parameters and operations performed	Procedure: 1.All calibration certificates are available via the Energy Purchasing Manager. 2.On receipt of calibration certificates complete the relevant table. 3.A separate table must be completed for each calibration date. 4.All Certificates must have a calibration certificates available for review. 5.Keep this check sheet and the calibration certificates available within the GHG site folder. All relevant metering equipment is maintained, calibrated and checked at regular intervals. Where a non compliance with the required performance is identified, appropriate corrective and preventative actions are taken. Responsibility:Of the Energy Purchasing Manager to ensure that Calibration Certificates are received on a yearly basis; Of the EHS coordinator to ensure that all calibration certificates are recorded; Of the EHS coordinator to ensure that the records are available for inspection.
Post or department responsible for the procedure and for any data generated	Group EHS Manager
Location where records are kept	M:\Environmental\GHG Permit (Mitch and Mallow)\Emissions Trading Manual\Version X.X
Name of IT system used	N/A
List of EN or other standards applied	N/A

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

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

Title of procedure	Quality Assurance of Information Technology used for Data Flows
Reference for procedure	ETM Section 11
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	This procedure outlines where the EU ETS data is kept on file, the personnel who have access to the data and how the data is backed up to ensure the safety of the

	data.Details of recording data errors is also included in this procedure. It is necessary to record an error in the data flow process and the solution/corrective actions taken as this data will be required when carrying out annual CO2 calculations and will ensure no error goes unaccounted.
Post or department responsible for the procedure and for any data generated	Group EHS Manager
Location where records are kept	M:\Environmental\GHG Permit (Mitch and Mallow)\Emissions Trading Manual\Version X.X
Name of IT system used	N/A
List of EN or other standards applied	N/A

jj. Review and Validation of Data

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

Title of procedure	Review and Validation of Data
Reference for procedure	ETM Section 12
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	Procedure: 1.It is the responsibility of the EHS Coordinator to ensure that all the fuels used on site as part of the GHG Monitoring & Reporting plan is kept up to date. 2.Receipt of all Gas bills and chromatograph reports are to be received from the Lead Energy Buyer. 3.All fuel bills are to be verified by the EHS Coordinator before they are entered into the spreadsheet. Responsibility: 1.It is responsibility of the EHS coordinator to maintain this register. 2.It is the responsibility of the Group EHS Manager to audit the system before it is sent to the Agency. Data Validation & Verification The review and validation process includes a check on whether data is complete, comparisons with data over previous years and comparison of fuel consumption reported with purchase records. Records of delivery are recorded and checked against invoices or purchase orders. Gas bills are reviewed versus meter readings by the energy

	purchasing manager and verified. Gas Oil Supporting Documentation •Documentation required to support Gas Oil consumption calculations includes: •Tank Level readings at beginning and end of relevant period. •Gas Oil delivery details •Gas Oil Invoices will be available for inspection by verifier. Manual Inputs •After the CO2 calculations have been completed the AIER is filled out. •Verification takes place to ensure all calculations are correct and procedures updated. •The AIER is sent electronically from verifier and must be approved. Once approved verifier will send a hard copy and this must be signed and sent to the EPA. •The total emissions are entered into the registry . •Once entered in the registry, this is verified by the verifier before 31st March. •In the registry, allowances must be surrendered before 30th April.
Post or department responsible for the procedure and for any data generated	Group EHS Manager
Location where records are kept	M:\Environmental\GHG Permit (Mitch and Mallow)\Emissions Trading Manual\Version X.X
Name of IT system used	N/A
List of EN or other standards applied	N/A

kk. Corrections and Corrective Actions

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

Title of procedure	Corrections and Corrective Actions

Reference for procedure	ETM Section 13
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	The following procedure is used to handle corrections and corrective actions in accordance with Articles 58 and 63 of the MRR. 1.It is the responsibility of the EHS Coordinator/Plant Manager/Maintenance Manager to identify any corrective actions required. 2.Any such deviation shall be immediately notified to the Group Environmental Manager, who shall conduct an investigation of the deviation and recommend appropriate corrective and/or preventative action where necessary. 3.Deviations that need to be reported to the Agency can include but are not confined to the following: a.Breakdown or malfunction of equipment used to monitor or record the emissions of GHG. b.Any failure to comply with the monitoring and reporting methodology 4.The Group Environmental Manager on completion of their investigation must send a report to the Agency in writing detailing the interim monitoring and reporting methodology (to the highest tier achievable).The temporary change to the monitoring methodology shall be notified to the Agency without undue delay specifying: a. The reasons for the deviation from the tier b. Interim monitoring & reporting methodology in place c. Explanation of the measures taken or which will be taken to enable a prompt restoration of compliance. d. The anticipated point in time when application of the approved tier will be resumed. Responsibility: 1.It is responsibility of the EHS Coordinator/Plant Manager/Maintenance Manager to identify any corrective actions required. 2.It is the responsibility of the Group Environmental Manager, who shall conduct an investigation of the deviation and recommend appropriate corrective and/or

	preventative action where necessary. 3.It is the responsibility of the Group Environmental Manager to communicate any issues to the Agency. Frequency required: 1.Ongoing 2.A Review will be carried out annually with the aim of verifying compliance with the permit and monitoring and reporting plan. This review will check that the following the following: •The procedure is up to date in the following areas: Officers and responsibilities, fuels being used and instrument failure procedures. •The monitoring and reporting plan is up to date in the following areas: description of calculation approach, fuels used and the correct tiers are applied. •Compliance with the permit.
Post or department responsible for the procedure and for any data generated	Group EHS Manager
Location where records are kept	M:\Environmental\GHG Permit (Mitch and Mallow)\Emissions Trading Manual\Version X.X
Name of IT system used	N/A
List of EN or other standards applied	N/A

II. 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	Control of Outsourced Activities
Reference for procedure	ETM Section 14
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	Outsourced Processes •Meter Calibration •Verifier

	•Chromatigraph Calibration Meter Calibrations The calibration of the Bord Gais Meter/chromatograph is carried out by Gas Networks as these are third party meters and are not in the control of Dairygold Co-Operative Society. Calibration of these meters is recorded and certificates of calibration are available for the meters/chromatograph. These certificates are available for inspection during the EU ETS verification. Verifier 1. An external audit is to be completed by a verifier – A competent, independent, accredited verification body with responsibility for performing and reporting on the verification process is contracted by the Operator. 2. A written report of the verified annual reportable emissions and the verification report in response of each calendar year must be submitted to the EPA by the Operator no later than 31 March of the following year. 3. The reports must be in the format as required by the Agency. 4. A signed copy of the Verifiers non-material misstatements, non material non-conformities that are outstanding on site and recommendations for improvement in the monitoring and reporting plan and the Verifiers final conclusions must be submitted at the same time as submitting the verified report.
Post or department responsible for the procedure and for any data generated	Group EHS Manager
Location where records are kept	M:\Environmental\GHG Permit (Mitch and Mallow)\Emissions Trading Manual\Version X.X
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	Record Keeping and Documentation

Reference for procedure	ETM Section 15
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	All record retention and keeping shall comply with the requirements of Article 66 and Annex IX of Commission Regulation No 601/2012 on the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/8/7 and be retained for at least 10 years.It is the responsibility of the Group Environmental Manager or designated person within the organisation that all relevant documentation and monitoring data is made readily available upon request of the competent authority or verifier. Details of the location for all documentation to be kept for the EU ETS. The manual is recorded at the address below. When the manual is updated the version number will be changed. This will ensure that the most recent Manual is being used.All relevant EU ETS documentation is recorded in the same folder as the ETM. A list of the documentation to be kept in the folder is listed in the procedure.The documents to be archived are: Most up to date GHG Permit; Most up to date Monitoring Plan; Where possible calibration certificates for the Bord Gais Gas meters ;Fuel Invoices;CO2 Calculation workbook; EPA Correspondence for that year; Verifier correspondence for that year; Verifier reports; AIER.
Post or department responsible for the procedure and for any data generated	Group EHS Manager
Location where records are kept	M:\Environmental\GHG Permit (Mitch and Mallow)\Emissions Trading Manual\Version X.X
Name of IT system used	N/A
List of EN or other standards applied	N/A

nn. Risk Assessment

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

Attachment	**Description**
9 Assessing and Controlling Risks.docx	Risk Assessment

oo. Environmental Management System

Does your organisation have a documented Environmental Management System?	Yes
Is the Environmental Management System certified by an	No

12. Changes in Operation

pp. Changes in Operation

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

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

The procedure specified below cover the following:

- planning and carrying out regular checks to determine whether any planned or effective changes to the capacity activity level and operation of an installation are relevant under Commission Decision 2011/278/EC; and
- Procedures to ensure such information is submitted to the competent authority by 31 December of each year.

Title of procedure	Changes in operation
Reference for procedure	ETM Section 16
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	Throughout the year reviews will be carried out to identify any planned or effective changes to the capacity, activity level and operation of the installation that have will an impact on the installation's allocation. The following should be considered in the event of a proposed change: • Will there be a change in the Installed capacity on site? • Will there be a large increase/decrease in activity level? • Is the activity of the installation changing? If yes, is the answer to any of the above, the EPA should be notified and subsequently any information which the EPA request from the installation should be passed on as soon

	as possible. If it is determined that there has been a change in capacity or activity level in that year that have an impact on the installation's allocation , an NER template should be filled in by the responsible person and submitted by the Operator to the EPA by 31 December each year in accordance with Article 24(1) of the Commission Decision 2011/278/EC.
Post or department responsible for the procedure and for any data generated	Group EHS Manager
Location where records are kept	M:\Environmental\GHG Permit (Mitch and Mallow)\Emissions Trading Manual\Version X.X
Name of IT system used	N/A

13. Abbreviations

qq. Abbreviations Acronyms or definitions

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

Abbreviation	**Definition**
ETM	Emissions Trading Manual

14. Additional Information

Any other information:

Attachment	**Description**
Tier Justification Letter.pdf	Tier Justification letter
Proposal for flare.pdf	AD Flare proposal
Scanned from a Xerox multifunction device001.pdf	E-mail confirmation of AD flare 3.2MW
TENDER 13 NOV..doc	Tender proposal for AD Boiler supply
15 Record Keeping and Documentation V1.2.docx	Record and Documentation Procedure V1.2
4 Monitoring Plan Appropriateness V1.2.docx	Updated Monitoring Plan Appropriateness Procedure V1.2
Castlefarm GHG Emission Points updated 070713.pdf	Castlefarm GHG Emission Points updated 070713
16 Changes in Operation V1.2.docx	Operational Changes V1.2

Attachment	Description
13- Tier Justification Calculation.pdf	Tier Justification Calculation
2960 L1.doc	Letter of confirmation of capability of standby generator Castelfarm from Imtech
Gas Burner Commissioning 2014.pdf	Niro 3 Gas Burner commissioning Report
GPRN 948520 Dairygold (2).pdf	Details on dometic Gas Meter in Clonmel Road
Dairygold.doc	Letter from Dunphy combustion Limited regarding capacity of Boiler 2 burner
CH4 Calorific Value.pdf	Calculation of Calorific Value of Methan for Biogas Therms
Tier Justification 5 June 2014.pdf	Tier Justification

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.