Environmental Protection Agency
An Ghníomhaireacht um Chaomhnú Comhshaoil

Headquarters,
Johnstown Castle Estate,
County Wexford, Ireland

GREENHOUSE GAS EMISSIONS PERMIT

Permit Register Number: IE-GHG178-10501-4

Operator: Breedon Brick Limited
Rosemount Business Park
Ballycoolin Road
Dublin 11

Installation Name: Kingscourt Brick

Site Name: Breedon Brick Limited

Location: Breedon Brick Limited,
Drumgill
Kingscourt
Cavan
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-GHG178-10501.

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
P0528-01

Status Log

Current Permit

Permit number	Date application received	Date Permit issued	Comment
IE-GHG178-10501-4	10 October 2019	16 June 2020	Change of Operator name from Lagan Brick Limited to Breedon Brick Limited. Operator address updated to Rosemount Business Park, Ballycoolin Road, Dublin 11 and update of site name and address to Breedon Brick Limited, Drumgill, Kingscourt, Cavan.

Previous Permits

Permit number	Change Type	Date application received	Date Permit issued	Comment
IE-GHG178-10501-1	GHG Permit Application	15 May 2015	05 June 2015	

Permit number	Change Type	Date application received	Date Permit issued	Comment
IE-GHG178-10501-2	GHG Variation	28 June 2016	11 August 2016	1. Update of Emissions Summary Table to reflect that source stream combusted in boiler S9 (emission point A2-1A) is Natural Gas. 2.Update of Approach Description in relation to process additives. 3. Update of Installation Description and Approach Description to reflect current status of emission sources Kiln2(S2), driers S7, S10-S16 and the emergency generator (S8). 4. Update of start date in Application details. 5. Update of Management Section in relation to responsibilities changed from the Environmental Manager to the Site Operations Manager. 6.Change of site name and additional line in Installation address.
IE-GHG178-10501-3	GHG Variation	29 January 2018	05 December 2018	Update to service contact, holding company name and changes to references in the Management Section.

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)	Breedon Brick 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:

Breedon Brick Limited
Rosemount Business Park
Ballycoolin Road
Dublin 11

Company Registration Number: 10541

to carry out the following

Categories of activity:

Annex 1 Activity
Manufacture of ceramic products by firing, in particular roofing tiles, bricks, refractory bricks, tiles, stoneware or porcelain, with a production capacity exceeding 75 tonnes per day

at the following installation(s):

Kingscourt Brick **Installation number:** 207697

located at

Breedon Brick Limited,
Drumgill
Kingscourt
Cavan
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.: 207697

Activity Description
Manufacture of ceramic products by firing, in particular roofing tiles, bricks, refractory bricks, tiles, stoneware or porcelain, with a production capacity exceeding 75 tonnes per day

Directly Associated Activity Description
N/A

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	Kiln 1	134	tonnes/day
S2	Kiln 2	77	tonnes/day
S3	Kiln Dryer Burner 1	0.25	MW
S4	Kiln Dryer Burner 2	0.25	MW
S5	Kiln Dryer Burner 3	0.25	MW
S6	Kiln Dryer Burner 4	0.25	MW
S7	Kiln Dryer Burner 5	0.25	MW

Emission Source Reference	Emission Source Description	Capacity	Capacity Units
S8	Oil Fired Generator	0.94	MW
S9	Heating Boiler	0.06	MW
S10	Kiln Dryer Burner 6	0.25	MW
S11	Kiln Dryer Burner 7	0.25	MW
S12	Kiln Dryer Burner 8	0.25	MW
S13	Kiln Dryer Burner 9	0.25	MW
S14	Kiln Dryer Burner 10	0.25	MW
S15	Kiln Dryer Burner 11	0.25	MW
S16	Kiln Dryer Burner 12	0.25	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 16 June 2020:

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Dr Suzanne Monaghan
Inspector/ Authorised Person

Appendix 1 to Greenhouse Gas Emissions Permit Number IE-GHG178-10501

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	Kingscourt Brick
Site name	Breedon Brick Limited
Address	Breedon Brick Limited, Drumgill Kingscourt Cavan Ireland
Grid reference of site main entrance	E280835,N295077
Licence held pursuant to the Environmental Protection Agency Act 1992, as amended.	Yes

IPC/IE Licence Register Number	Licence holder	Competent body
P0528-01	Breedon Brick Limited	Environmental Protection Agency

Has the regulated activity commenced at the Installation?	Yes
Date of Regulated Activity commencement	09 June 2015

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	Breedon Brick Limited
Company Registration Number	10541

Operator Legal status

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

(c) Company / Corporate Body

Is the trading / business name different to the operator name?	Yes
Trading / business name	Kingscourt Brick

Registered office address

Address Line 1	Rosemount Business Park
Address Line 2	N/A
City/Town	Ballycoolin Road
County	N/A
Postcode	Dublin 11

Principal office address

Is the principal office address different to the registered office address?	Yes
Address Line 1	Breedon Brick limited
Address Line 2	Drumgill
City/Town	Kingscourt
County	Cavan
Postcode	N/A
Company registration number	N/A

Holding company

Does the company belong to a holding company?	Yes
Holding company name	Breedon Cement Limited

Holding company address

Address Line 1	Pinnacle House
Address Line 2	Breedon Quarry
City/Town	Breedon on The Hill, Derby, England
County	N/A
Postcode	DE73 8AP
Company registration number	N/A

Is the holding company principal address different to the holding company address?	No

(d) Operator Authority

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

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

4. Service Contact

e. Service Contact

Address	Breedon Brick Limited Kingscourt County Cavan 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.

The Kingscourt Brick facility is located at Drumgill in County Meath, approximately 3 kilometres from Kingscourt, County Cavan. The raw material for the operation comes from the Cormey clay quarry, which forms part of the licensed activity

(IE Reg No. P0528-01). Red clay, excavated from the Cormey quarry is brought to site and fed into the brick manufacturing plant. The resulting material is then fed into the clay preparation area, where additives such as water, molasses, anthracite, coke, manganese, titanium, surface stains, and pigments are added. Combustion related Carbon Emissions arise from Drying and Kiln firing. Green bricks are placed on trolley cars and conveyed into Drying Chambers, where the moisture content is reduced to a precise and consistent concentration. The drying chambers are heated through a combination of waste heat from the main brick firing kilns and from their own gas fired burners. The control of temperature of the chambers is controlled by a PLC system to ensure constant heating. Once dried the bricks are conveyed to one of the two kilns in a continuous operation. The firing temperature of the kilns is 1050oC. A chemical reaction takes place within the kilns which results in the hardening of the green bricks into finished bricks. The firing process takes up to 12 hours. The kiln operation is a continuous process, where bricks enter one end of the kiln and gradually pass through the kiln. The kiln firing process takes place 24 hours per day, 7 days per week.

Kiln 1 is fired with natural gas and supplemented with propane. Historically Kiln 2 was fired with gas-oil, however this burner will be converted to run on natural gas and propane in an identical manner to Kiln 1. It should be noted that Kiln 2(S2) and kiln dryers S7 and S10-S16 and the emergency generator (S8) have not been in use since the plant re-start in 2015. Significant capital investment and commissioning would be required for this plant equipment in order for it to become operational.

Once through the kiln the bricks are allowed to cool. Waste heat emitted from the brick during cooling is recovered for use in the drying chambers. Once cooled the bricks are stacked onto pallets, wrapped and stored outside for distribution.There are a number of minor combustion emission sources that are required for supporting activity, heating etc. These utilise gas oil as fuel.

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
Manufacture of ceramic products by firing, in particular roofing tiles, bricks, refractory bricks, tiles, stoneware or porcelain, with a production capacity exceeding 75 tonnes per day	211	tonnes/day	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
Emisison source map.docx	Emission source map

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 $CO_{2(e)}$) 20000

Installation Category: A

6. Emissions Details

j. About your emissions

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

k. Emission Sources

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

Emission Source Reference	Emission Source Description
S1	Kiln 1
S2	Kiln 2
S3	Kiln Dryer Burner 1
S4	Kiln Dryer Burner 2
S5	Kiln Dryer Burner 3
S6	Kiln Dryer Burner 4
S7	Kiln Dryer Burner 5
S8	Oil Fired Generator
S9	Heating Boiler
S10	Kiln Dryer Burner 6
S11	Kiln Dryer Burner 7
S12	Kiln Dryer Burner 8

Emission Source Reference	Emission Source Description
S13	Kiln Dryer Burner 9
S14	Kiln Dryer Burner 10
S15	Kiln Dryer Burner 11
S16	Kiln Dryer Burner 12

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

Emission Source Reference	Emission Source Description
S1	Kiln 1
S2	Kiln 2
S3	Kiln Dryer Burner 1
S4	Kiln Dryer Burner 2
S5	Kiln Dryer Burner 3
S6	Kiln Dryer Burner 4
S7	Kiln Dryer Burner 5
S8	Oil Fired Generator
S9	Heating Boiler
S10	Kiln Dryer Burner 6
S11	Kiln Dryer Burner 7
S12	Kiln Dryer Burner 8
S13	Kiln Dryer Burner 9
S14	Kiln Dryer Burner 10
S15	Kiln Dryer Burner 11
S16	Kiln Dryer Burner 12

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
A2-1	Kiln 1 Stack
A2-2	Kiln 2 Stack
A2-3(1)	Natural Gas Burner Dryer Stack 1
A2-3(2)	Natural Gas Burner Dryer Stack 2
A2-3(3)	Natural Gas Burner Dryer Stack 3

Emission Point Reference	Emission Point Description
A2-3(4)	Natural Gas Burner Dryer Stack 4
A2-3(5)	Natural Gas Burner Dryer Stack 5
A2-4	Oil Fired Generator
A2-1A	Office Heating Boiler

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 (Propane)	Combustion: Commercial standard fuels	Propane
F2 (Natural Gas)	Combustion: Other gaseous & liquid fuels	Natural Gas
F3 (Gas Oil)	Combustion: Commercial standard fuels	Gas/Diesel Oil
M1 (Keuper Marl Clay)	Ceramics: Carbon inputs (Method A)	Keuper Marl Clay
M2 (Anthracite)	Ceramics: Carbon inputs (Method A)	Anthracite
M3 (Molasses)	Ceramics: Carbon inputs (Method A)	Molasses

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 (Propane)	S1,S2	A2-1,A2-2	Manufacture of ceramic products by firing, in particular roofing tiles, bricks, refractory bricks, tiles, stoneware or porcelain, with a production capacity exceeding 75 tonnes per day
F2 (Natural Gas)	S1,S2,S3,S4,S5,S6,S7,S9,S10,S11,S12,S13,S14,S15,S16	A2-1,A2-1A,A2-2,A2-3(1),A2-3(2),A2-3(3),A2-3(4),A2-3(5)	Manufacture of ceramic products by firing, in particular roofing tiles, bricks, refractory bricks, tiles, stoneware or porcelain, with a production capacity exceeding 75 tonnes per

Source streams (Fuel / Material)	Emission Source Refs.	Emission Point Refs.	Annex 1 Activity
			day
F3 (Gas Oil)	S8	A2-4	Manufacture of ceramic products by firing, in particular roofing tiles, bricks, refractory bricks, tiles, stoneware or porcelain, with a production capacity exceeding 75 tonnes per day
M1 (Keuper Marl Clay)	S1,S2	A2-1,A2-2	Manufacture of ceramic products by firing, in particular roofing tiles, bricks, refractory bricks, tiles, stoneware or porcelain, with a production capacity exceeding 75 tonnes per day
M2 (Anthracite)	S1,S2	A2-1,A2-2	Manufacture of ceramic products by firing, in particular roofing tiles, bricks, refractory bricks, tiles, stoneware or porcelain, with a production capacity exceeding 75 tonnes per day
M3 (Molasses)	S1,S2	A2-1,A2-2	Manufacture of ceramic products by firing, in particular roofing tiles, bricks, refractory bricks, tiles, stoneware or porcelain, with a production capacity exceeding 75 tonnes per day

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?	No

7. Low Emissions Eligibility

p. Low Emissions Eligibility

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

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

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

Note: the above data shall include transferred CO_2 but exclude CO_2 stemming from biomass.

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

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

8. Monitoring Approaches

q. Monitoring Approaches

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

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

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

Calculation	Yes
Measurement	No
Fall-back approach	No
Monitoring of N_2O	No
Monitoring of PFC	No
Monitoring of transferred / inherent CO_2	No

9. Calculation

r. Approach Description

The calculation approach including formulae used to determine annual CO_2 emissions:

Emissions will be calculated in accordance with the requirements of the Monitoring and Reporting Regulations (MRR 601/2012). The emissions will be calculated taking into account the EPA and EU guidance with respect to values for the Emission Factors, Net Calorific Values & Oxidation Factors. Calculations will be done monthly based on metered fuel supply for each fuel source and an annual summary will be compiled. Density of liquid fuels will be as stated by the supplier of the fuel. Annual CO2 emissions will be determined from the sum of the estimates for each fuel type.

Combustion Emissions will be calculated and reported in accordance with the MRR. Combustion emissions for each source stream will be calculated by multiplying the activity data related to the amount of fuel combusted, expressed as terajoules based on net calorific value (NCV), with the corresponding emission factor, expressed as tonnes CO2 per terajoule (t CO 2 /TJ) consistent with the use of NCV, and with the corresponding oxidation factor. Each fuel usage rate will be determined from supplier invoices for fuel delivered and consumed.

CO2 (Natural Gas) calculations: Natural Gas is used in the kilns the kiln dryer burners and for the site heating system. The quantity of natural gas used is metered at the intake point. The company is invoiced monthly for the total quantity piped to the site. The natural gas metering system is made up of a flow, temperature and pressure meter to give a combined uncertainty of less than 5%. This fuel accounts for approx. 35% of the CO2 emissions. Natural Gas Calculation: The kWh on the Natural Gas bill (based on gross calorific value) is converted to kWh based on NCV by using the gross to net conversion factor on the EPA website. This value is then converted to TJ by multiplying by 3.6 x 10 -6. The TJ value is multiplied by the country specific emission factor (tCO2/TJ) for natural gas on the EPA website and by the oxidation factor (1.0) to calculate CO2 emissions arising from combustion of Natural Gas. (The natural gas volume used is reported in Nm3 based on the conversion calculation outlined on the EPA website).

It should be noted that Kiln 2(S2) and kiln dryers S7 and S10-S16 and the emergency generator (S8) have not been in use since the plant re-start in 2015. Significant capital investment and commissioning would be required for this plant equipment in order for it to become operational.

Activity data (Nm3)* NCV (TJ/Nm3) *Emission Factor(tCO2/TJ) * Oxidation Factor(1.0)

CO2 (Propane) Calculations: Propane (with Natural Gas) is used to fire the Kiln Burners. This fuel accounts for approx. 35% of the CO2 emissions. The delivery dockets for propane as well as the stock levels of propane read from the storage tank gauge are used to quantify the annual usage. CO2 emissions arising from combustion of propane are calculated by multiplying the propane consumed (tonnes(calculated from supplier density)) by the country specific NCV for propane (TJ/kt)/1000 by the country specific emission factor for propane (tCO2/TJ) and by the Oxidation Factor (1.0).

CO2 (Gas Oil) Calculations: Fuel usage is calculated from supplier invoices and stock takes. Emissions from diesel / gas oil are minimal. CO2 emissions arising from the combustion of gas oil are calculated by multiplying the annual gas oil usage (tonnes (calculated from supplier density)) by the country specific NCV for gas oil (TJ/kt)/1000 by the country specific emission factor for gas oil (tCO2/TJ) and by the Oxidation Factor (1.0).

Process Emissions: CO2 is released during calcination of the raw materials in the kiln and the oxidation of organic material of the clay and additives. Process emissions for each source stream will be calculated by multiplying the activity data related to the material consumption, throughput or production output, expressed in tonnes with the corresponding emission factor, expressed in t CO 2 /t , and the corresponding conversion factor.

CO2 from Input Material (Clay): Emissions will be calculated from carbon content of the materials and from the amount of material used per unit time. This is consistent with Method A (Input based) in the Annex IV of the Monitoring and Reporting Regulations. Clay usage will be measured as follows: The consumption of clay will be based on the number of bricks set on the kiln cars on a monthly basis from the “Dry Weight Brick Summary” report. The ‘average monthly brick weight’ related to the dry “green” brick is obtained from the Dry Weight Summary Report. A brick sample will be measured daily on the calibrated weigh scales and the weight recorded on the production through put sheet. The

monthly number of bricks produced is multiplied by the average monthly brick weight to get the quantity of clay used. The Anthracite and Molasses used in each month will be subtracted to get the final weight of clay used. The final weight of clay used figure is multiplied by the Tier 2 emission factor (CO_2/t dry clay). The emission factor is from the average of the 2 analysis reports per year . These reports will be generated through the sending of 2 dry clay samples to an ISO 17025 accredited laboratory for Carbon Dioxide from Carbonates testing.

Anthracite as a material input will also lead to the release of CO_2. Anthracite consumption is calculated using a mass balance approach based on the quantity of anthracite purchased and the difference in the quantity held in stock on a monthly basis. Anthracite is supplied in 25kg bags. Anthracite consumption is calculated using the formula:

Consumption = opening stock + purchases – closing stock. Stock measurements are determined using a physical stock count of the number of bags in stock. A Tier 1 emission factor of 2.6246 tCO_2/t Anthracite (based on factors in MRR Annex VI) is used to calculate CO_2 arising from this process material.

Molasses is added to clay as an input material. Molasses consumption is calculated using a mass balance approach based on the quantity of Molasses purchased and the difference in the quantity held in stock on a monthly basis. Molasses consumption is calculated using the formula: Consumption = opening stock + purchases – closing stock. Stock measurements are determined using a physical stock count . As a de minimis source stream a Tier 1 emission factor based on Carbon content (in accordance with Article 31 of the MRR) is used for the calculation of CO_2 emissions.

Barium Chloride ($BaCl_2$), known as Additive A, is used as an input material. This additive does not contribute to CO_2 emissions. Additive A consumption is calculated using a mass balance approach, based on an opening stock, closing stock and quantity purchased for each calendar year. The weight of additive used will be subtracted from the clay.

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
M1 (Keuper Marl Clay)	S1,S2	MD5	Weighscale	0 - 35	kg	5	Production Area
F1 (Propane)	S1,S2	MD1	Suppliers Weighbridge	0-60,000	Kg	1.5	Supplier Premises
F2 (Natural Gas)	S1,S2,S3,S4,S5,S6,S7,S9,S10,S11,S12,S13,S14,S15,S16	MD2 (Serial Number 83049320)	Turbine meter	50-1000	m3/h	5	NG Meter
F3 (Gas Oil)	S8	MD3	Suppliers Volume Meter (from delivery dockets)	0 - 50,000	Litres	5	Supplier tanker
M2 (Anthracite)	S1,S2	MD4	Suppliers Weighscale (Invoices)	0 - 50,000	kg	5	Supplier facility
M3 (Molasses)	S1,S2	MD6	Purchase Records	N/A	kg	N/A	Supplier premises

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
M1 (Keuper Marl Clay)	MD5	Batch	Operator	N/A	N/A	N/A
F1 (Propane)	MD1	Batch	Trade partner	Yes	Yes	Yes
F2 (Natural Gas)	MD2 (Serial Number	Continual	Trade partner	Yes	Yes	Yes

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
	83049320)					
F3 (Gas Oil)	MD3	Batch	Trade partner	Yes	Yes	Yes
M2 (Anthracite)	MD4	Batch	Trade partner	Yes	Yes	Yes
M3 (Molasses)	MD6	Batch	Trade partner	Yes	Yes	Yes

t. Applied Tiers

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

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

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

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

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

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

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

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

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

Source Stream Refs.	**Emission Source Refs.**	**Measurement Device Refs.**	**Overall Metering Uncertainty (less than +/- %)**	**Applied Monitoring Approach**	**Activity Data Tier Applied**	**Net Calorific Value Tier Applied**	**Emission Factor Tier Applied**	**Carbon Content Tier Applied**	**Oxidation Factor Tier Applied**	**Conversion Factor Tier Applied**	**Biomass Fraction Tier Applied**	**Estimated Emissions $tCO_{2(e)}$**	**% of Total Estimated Emissions**	**Source Category**	**Highest Tiers Applied**	**Justification for not applying the highest tiers**	**Improvement Plan Reference (where applicable)**
M1 (Keuper Marl Clay)	S1,S2	MD5	<7.5%	Standard	1	N/A	2	N/A	N/A	1	N/A	4000	20	Minor	Yes	n/a	n/a
F1 (Propane)	S1,S2	MD1	<5.0%	Standard	2	2a	2a	N/A	1	N/A	N/A	7000	35	Major	Yes	n/a	n/a
F2 (Natural Gas)	S1,S2,S3,S4,S5,S6,S7,S9,S10,S11,S12,S13,S14,S15,S16	MD2 (Serial Number 83049320)	<5.0%	Standard	2	2b	2a	N/A	1	N/A	N/A	7000	35	Major	Yes	n/a	n/a
F3 (Gas Oil)	S8	MD3	<5.0%	Standard	2	2a	2a	N/A	1	N/A	N/A	1000	5	Minor	Yes	n/a	n/a
M2 (Anthracite)	S1,S2	MD4	<5.0%	Standard	No tier	N/A	1	N/A	N/A	1	N/A	950	4.75	De-minimis	N/A	n/a	n/a

Source Stream Refs.	**Emission Source Refs.**	**Measurement Device Refs.**	**Overall Metering Uncertainty (less than +/- %)**	**Applied Monitoring Approach**	**Activity Data Tier Applied**	**Net Calorific Value Tier Applied**	**Emission Factor Tier Applied**	**Carbon Content Tier Applied**	**Oxidation Factor Tier Applied**	**Conversion Factor Tier Applied**	**Biomass Fraction Tier Applied**	**Estimated Emissions $tCO_{2(e)}$**	**% of Total Estimated Emissions**	**Source Category**	**Highest Tiers Applied**	**Justification for not applying the highest tiers**	**Improvement Plan Reference (where applicable)**
M3 (Molasses)	S1,S2	MD6	N/A	Standard	No tier	N/A	1	N/A	N/A	1	N/A	50	0.25	De-minimis	N/A	n/a	n/a

Total Estimated Emissions for Calculation (tonnes $CO_{2(e)}$) 20000

u. Applied tiers

Applied tiers for each source stream

Source Stream Ref.	Emission Source Refs.	Activity Data Tier Applied	Net Calorific Value Tier Applied	Emission Factor Tier Applied	Carbon Content Tier Applied	Oxidation Factor Tier Applied	Conversion Factor Tier Applied	Biomass Fraction Tier Applied
M1 (Keuper Marl Clay)	S1,S2	1	N/A	2	N/A	N/A	1	N/A
F1 (Propane)	S1,S2	2	2a	2a	N/A	1	N/A	N/A
F2 (Natural Gas)	S1,S2,S3,S4,S5,S6,S7,S9,S10,S11,S12,S13,S14,S15,S16	2	2b	2a	N/A	1	N/A	N/A
F3 (Gas Oil)	S8	2	2a	2a	N/A	1	N/A	N/A
M2 (Anthracite)	S1,S2	No tier	N/A	1	N/A	N/A	1	N/A
M3 (Molasses)	S1,S2	No tier	N/A	1	N/A	N/A	1	N/A

v. Justification for Applied tiers

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

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

10. Calculation Factors

w. Default Values

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

Source Stream Refs.	Emission Source Refs.	Parameter	Reference Source	Default Value applied (where appropriate)
F1 (Propane)	S1,S2	NCV and Emission Factor	Ireland's National Greenhouse Gas Inventory	n/a
M2 (Anthracite)	S1,S2	EF	MRR Annex VI	2.62461 tCO2/t
F2 (Natural Gas)	S1,S2,S3,S4,S5,S6,S7,S9,S10,S11, S12,S13,S14,S15,S16	EF	Ireland's National Greenhouse Gas Inventory	n/a
F3 (Gas Oil)	S8	NCV and Emission Factor	Ireland's National Greenhouse Gas Inventory	n/a
M3 (Molasses)	S1,S2	EF	Tier 1 (Article 31 of MRR)	n/a
F1 (Propane),F2 (Natural Gas),F3 (Gas Oil)	S1,S10,S11,S12,S13,S14,S15,S16, S2,S3,S4,S5,S6,S7,S8,S9	OxF	MRR	1.0
M1 (Keuper Marl Clay),M2 (Anthracite),M3 (Molasses)	S1,S2	Conversion Factor	MRR	1.0

Sampling and Analysis

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

x. Analysis

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

Source Stream Refs.	**Emission Source Refs.**	**Parameter**	**Method of Analysis**	**Frequency**	**Laboratory Name**	**Laboratory ISO17025 Accredited**	**Evidence Reference**
M1 (Keuper Marl Clay)	S1,S2	EF	Determination of Carbonate in ceramic materials	Biannual	Ceram Laboratory or other agreed laboratory	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	Analysis of Clay
Reference for procedure	Analysis of Clay
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	Representative sample taken for raw material stockpiles of individual material, bagged, individually labelled,dispatched to laboratory with unique identification number, date & sample description. Original certificates results held on GHG master file. Sample scheduled to span manufacturing periods. Carbon analysis undertaken on clay samples by CERAM UK or alternative agreed laboratory using in-house methods.
Post or department responsible for the procedure and for any data generated	Site Operations Manager
Location where records are kept	Kingscourt office
Name of IT system used	N/A
List of EN or other standards applied	N/A

y. Sampling Plan

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

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

Attachment	**Description**
Sampling Plan for Clay at Kingscourt Bricks.pdf	Sampling Plan for Clay at Kingscourt Bricks

Title of procedure	Sampling of Clay
Reference for procedure	Sampling of Clay
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	Representative sample taken at least twice per year for raw material stockpiles of individual material, bagged, individually labelled, dispatched to laboratory with unique identification number, date & sample description. Sample to be kept under strict segregation from any other materials and split into two parts, with sample sent to external lab and master sample kept for reference.
Post or department responsible for the procedure and for any data generated	Site Operations Manager
Location where records are kept	Kingscourt Office
Name of IT system used	N/A
List of EN or other standards applied	N/A

z. Sampling Plan Appropriateness

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

Title of procedure	Sample Audit
Reference for procedure	Sampling Audit
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	A review of sampling procedure completed annually.
Post or department responsible for the procedure and for any data generated	Site Operations Manager
Location where records are kept	Kingscourt Office
Name of IT system used	N/A
List of EN or other standards applied	N/A

Are stock estimates carried out as part of the emission calculations?	Yes

aa. Year-end reconciliations

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

Title of procedure	Year End Closing Stocks- Production
Reference for procedure	Financial Year End Closing Stock
Diagram reference	N/A
Brief description of procedure.	Closing Stocks counted and recorded. Internal secondary count completed by another person with Finanical Auditors attending at site for verification of stocks.
Post or department responsible for the procedure and for any data generated	Site Operations Manager
Location where records are kept	Kingscourt Office
Name of IT system used	N/A
List of EN or other standards applied	N/A

bb. Tracking Instruments

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

Title of procedure	N/A
Reference for procedure	N/A
Diagram reference	N/A
Brief description of procedure.	N/A
Post or department responsible for the procedure and for any data generated	N/A
Location where records are kept	N/A
Name of IT system used	N/A
List of EN or other standards applied	N/A

11. Management

cc. Monitoring and Reporting Responsibilities

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

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

Job Title / Post	**Responsibilities**
Plant Manager	Operation of brick facility in compliance with all relevant legislation.
Site Operations Manager	IPPC/IPC management and GHG permit management

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 Responsibilites
Reference for procedure	KBGHG M01
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	Assignment of Responsibility: 1.It is the responsibility of the site environmental manager and the site facility manager to appoint competent and responsible personnel to monitor and report on greenhouse gas data. 2.The environmental manager will identify all relevant greenhouse gas sources on-site 3. In addition, the environmental manager will ensure that the following tasks are undertaken and completed in a competent and timely manner: i. Correct calculation method for quantity of greenhouse gas emitted ii. Schedule for the maintenance and calibration of all equipment used in the process of calculating greenhouse gas emissions. iii. An accountable system of reporting and recording of all information pertaining to the calculation of greenhouse gas emissions. iv. A system of internal review audits to assist in a continual check of all procedures and data. v. Setting up of corrective and preventative action plans. vi. The establishment and running of correct data management, quality assurance and control processes in accordance with Art 61 segregation of duties.

	vii. The establishment of training schedules 4. All data flow activities will be confirmed by the Site facility manager in compliance with Article 61 of the MRR. Competence & Training: 1. All personnel performing specifically assigned tasks shall be qualified on the basis of appropriate education, training and/or experience, as required. 2. Current personnel assigned to the monitoring and reporting of data pertaining to greenhouse gas emissions are listed. 3.External companies utilised are listed in Table 2. All laboratories are ISO 17025
Post or department responsible for the procedure and for any data generated	Site Operations Manager
Location where records are kept	Kingscourt Brick Server T Drive
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 and Reporting Plan Review
Reference for procedure	KBGHG M02
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	The monitoring plan's appropriateness is evaluated on a regular basis throughout the year and the evaluation covers the following: Checking the list of emissions sources and source streams, ensuring completeness of the emissions and source streams and that all relevant changes in the nature and functioning of the installation will be included in the monitoring plan; Assessing compliance with the uncertainty thresholds for activity data and other parameters (where applicable) for the applied tiers for each source stream and emission source; and assessment of potential measures for improvement of the monitoring methodology applied. All emissions sources and source streams are checked regularly against the Monitoring Plan.
Post or department responsible for the procedure and for	Site Operations Manager

any data generated	
Location where records are kept	Kingscourt Brick Server T Drive
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	Sequence and Interaction of Data Flow Activities
Reference for procedure	KBGHG M03
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	The scope of this procedure is to accurately detail the sequence and interaction of data flow activities for the monitoring and reporting of greenhouse gas emissions in accordance with Article 57 of the MRR.
Post or department responsible for the procedure and for any data generated	Site Operations Manager
Location where records are kept	Kingscourt Brick Server T Drive
Name of IT system used	N/A
List of EN or other standards applied	N/A
List of primary data sources	Primary Data Sources (Fuel and Materials) Natural Gas Propane Gas-oil Clay Anthracite Molasses
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	Activity Data Collation: 1. An activity data spread sheet is generated for each of the primary data sources. 2. The annual total tonnes utilised for each fuel stream and product produced is calculated. 3. This tonnage data is transferred to a summary spread sheet in which the total tonnes of CO2 for each fuel/product stream is calculated. 4.All equations required to calculate the annual CO2

tonnage are contained within the summary spread sheet.

5. The summary spread sheet breaks down the reporting between the various fuel streams and product produced.

6.Included within the summary spread sheets are written instruction on how to access and interpret all information pertinent to the calculation of CO2 emissions.

7. A detailed description of the calculation process is given below.

Emissions will be calculated in accordance with the requirements of the Monitoring and Reporting Regulations (MRR 601/2012). The emissions will be calculated taking into account the EPA and EU guidance with respect to values for the Emission Factors, Net Calorific Values & Oxidation Factors. Calculations will be done monthly based on metered fuel supply for each fuel source and an annual summary will be compiled. Density of liquid fuels will be as stated by the supplier of the fuel. Annual CO2 emissions will be determined from the sum of the estimates for each fuel type.

Combustion Emissions will be calculated and reported in accordance with the MRR. Combustion emissions for each source stream will be calculated by multiplying the activity data related to the amount of fuel combusted, expressed as terajoules based on net calorific value (NCV), with the corresponding emission factor, expressed as tonnes CO2 per terajoule (t CO 2 /TJ) consistent with the use of NCV, and with the corresponding oxidation factor. Each fuel usage rate will be determined from supplier invoices for fuel delivered and consumed.

CO2 (Natural Gas) calculations: Natural Gas is used in the Kiln and in the Kiln Dryer burners and the quantity of natural gas used is metered at the intake point. The company is invoiced monthly for the total quantity piped to the site. The natural gas metering system is made up of a flow, temperature and pressure meter to give a combined uncertainty of less than 5%. This fuel accounts for approx. 35% of the CO2 emissions. Natural Gas Calculation: The kWh on the Natural Gas bill (based on gross calorific value) is converted to kWh based on NCV by using the gross to net conversion factor on the EPA website. This value is then converted to TJ by multiplying by 3.6 x 10 -6. The TJ value is multiplied by the country specific emission factor (tCO2/TJ) for natural gas on the EPA website and by the oxidation factor (1.0) to calculate CO2 emissions arising from combustion of Natural Gas. (The natural gas volume used is reported in Nm3 based on the conversion calculation

outlined on the EPA website).

Activity data (Nm3)* NCV (TJ/Nm3) *Emission Factor(tCO2/TJ) * Oxidation Factor(1.0)

CO2 (Propane) Calculations: Propane (with Natural Gas) is used to fire the Kiln Burners. This fuel accounts for approx. 35% of the CO2 emissions. The delivery dockets for propane as well as the stock levels of propane read from the storage tank gauge are used to quantify the annual usage. CO2 emissions arising from combustion of propane are calculated by multiplying the propane consumed (tonnes(calculated from supplier density)) by the country specific NCV for propane (TJ/kt)/1000 by the country specific emission factor for propane (tCO2/TJ) and by the Oxidation Factor (1.0).

CO2 (Gas Oil) Calculations: Fuel usage is calculated from supplier invoices and stock takes. Emissions from diesel / gas oil are minimal. CO2 emissions arising from the combustion of gas oil are calculated by multiplying the annual gas oil usage (tonnes (calculated from supplier density)) by the country specific NCV for gas oil (TJ/kt)/1000 by the country specific emission factor for gas oil (tCO2/TJ) and by the Oxidation Factor (1.0).

Process Emissions: CO2 is released during calcination of the raw materials in the kiln and the oxidation of organic material of the clay and additives. Process emissions for each source stream will be calculated by multiplying the activity data related to the material consumption, throughput or production output, expressed in tonnes with the corresponding emission factor, expressed in t CO 2 /t , and the corresponding conversion factor.

CO2 from Input Material (Clay): Emissions will be calculated from carbon content of the materials and from the amount of material used per unit time. This is consistent with Method A (Input based) in the Annex IV of the Monitoring and Reporting Regulations. Clay usage will be measured as follows: The consumption of clay will be based on the number of bricks set on the kiln cars on a monthly basis from the “Dry Weight Brick Summary” report. The ‘average monthly brick weight’ related to the dry “green” brick is obtained from the Dry Weight Summary Report. A brick sample will be measured daily on the calibrated weigh scales and the weight recorded on the production through put sheet. The monthly number of bricks produced is multiplied by the average monthly brick weight to get the quantity of clay used. The Anthracite and Molasses and any other additives used in each month will be subtracted to get the final weight of clay used. The final weight of clay

used figure is multiplied by the Tier 2 emission factor (CO2/t dry clay). The emission factor is from the average of the 2 analysis reports per year . These reports will be generated through the sending of 2 dry clay samples to an ISO 17025 accredited laboratory for Carbon Dioxide from Carbonates testing.

Anthracite as a material input will also lead to the release of CO2. Anthracite consumption is calculated using a mass balance approach based on the quantity of anthracite purchased and the difference in the quantity held in stock on a monthly basis. Anthracite is supplied in 25kg bags. Anthracite consumption is calculated using the formula:

Consumption = opening stock + purchases – closing stock. Stock measurements are determined using a physical stock count of the number of bags in stock. A Tier 1 emission factor of 2.6246 tCO2/t Anthracite (based on factors in MRR Annex VI) is used to calculate CO2 arising from this process material

Molasses is added to clay as an input material. Molasses consumption is calculated using a mass balance approach based on the quantity of Molasses purchased and the difference in the quantity held in stock on a monthly basis. Molasses consumption is calculated using the formula: Consumption = opening stock + purchases – closing stock. Stock measurements are determined using a physical stock count. As a de minimis source stream a Tier 1 emission factor based on Carbon content (in accordance with Article 31 of the MRR) is used for the calculation of CO2 emissions.

Submit relevant documents to record data flow activities

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

gg. Assessing and Controlling Risks

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

Title of procedure	Assessing and Controlling Risks
Reference for procedure	KBGHG M04

Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	The purpose of this document is to detail the inherent risks and control those risks for the monitoring and reporting of greenhouse gases.The scope of this procedure is to identify and put in controls to assess any inherent risks for the monitoring and reporting of greenhouse gases in accordance with Article 58 of the MRR.Assessing & Controlling Risks: The following controls have been implemented to assess and mitigate any activities associated with the quality of greenhouse gas data. •Quality assurance of the measuring equipment •Quality assurance of the information technology system •Internal reviews •Validation of data •Control of outsourced processes •Keeping of records and documentation •Control System Risk Assessment:
Post or department responsible for the procedure and for any data generated	Site Operations Manager
Location where records are kept	Kingscourt Brick Server T Drive
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	Maintenace and Calibration of Measuring Equipment
Reference for procedure	KB GHG M05
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	Scope:The scope of this procedure is to detail the calibration procedures used to correctly maintain the measurement equipment and to detail how a non-compliance is dealt with.Measurement Equipment: The measurement equipment used in the data flow process for the calculation of carbon emissions are:

	o Brick Weighing Equipment o Gas Meter o Propane tank level.
Post or department responsible for the procedure and for any data generated	Site Operations Manager
Location where records are kept	Kingscourt Brick Server T Drive
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 Control of IT system
Reference for procedure	KB GHG M06
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	The purpose of this document is to detail the IT security policies of BREEDON Group Companies (Kingscourt Brick). All personnel must receive specific safety training before they can begin to train on or perform any procedures as detailed in the Greenhouse Gas Control Procedures. Scope: The scope of this procedure is to outline the methods of protecting digital information stored within the Breedon computer system as per article 58 and 60 of the MRR. System Security: General: 1. All users are provided with a unique domain logon name and password. 2. Passwords are set to expire every 45 days. 3. Accounts are created only on instruction of senior managers, the resources to which a user requires access are defined at this point. 4. Access to resources is controlled by permission groups applied to file shares or SharePoint areas.

5. Line of business applications e.g. accounts, HR, Maximo have separate logons controlled by the application manager. The access to underlying application infrastructure e.g. SQL servers, is restricted to Breedon IT staff only, access for application providers to carry out maintenance work is carried out using unique credentials and access is monitored or shadowed using remote control software.

6. When a user leaves the password of the account is changed immediately IT is notified, to prevent unauthorised access. The user data will then be deleted or moved, in accordance with the senior managers instructions, to be made available to other users.

Virtual Private Networks:

1. Remote users can access information via VPN sessions via the Fortigate firewall.

2. A separate user name and password is provided to users for this access.

Back-Up Information

1. Backups are monitored and controlled by Breedon IT staff only, there is no general user access to backup files or operations.

2. Restore requests are submitted via the IT helpdesk, and work carried out accordingly.

Disaster Recovery:

1. The site at Kinnegad is backed up using phd virtual software. Full machine copies of all virtual machines are made daily.

2. Backups are stored on an HP storage appliances located in the workshops at Kinnegad, this is remote from the main servers in the admin building.

3. Restores can be made at file, disk or machine level.

4. Disaster recovery makes use of the full disk backups taken by phd, DR will be one day behind production.

5. In case of a disaster situation the last backup of each server would be fully restored to new hardware and restarted in the workshop.

	6. Disaster recovery testing has shown all servers can be restored in 2 hours. 7. Email and Email archived services are held in Cloud infrastructure by Microsoft and Mimecast. 8. Mimecast keep all email for all users for 10 years.
Post or department responsible for the procedure and for any data generated	Site Operations Manager
Location where records are kept	Kingscourt Brick Server T Drive
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	KB GHG M07
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	The scope of this procedure is to identify the mechanisms put in place to ensure that data used for the determination of emissions is reviewed and validated.in accordance with Article 62 of the MRR. The review and validation of data will encompass the following: • Activity Data – Comparative Checks • Emissions calculation spread sheet • Uncertainty Analysis • Calibration Certificates • Management and Sampling procedures.

• End of Year Clinker Check – Carbon trading V Process.

Activity Data – Comparative Checks:

1. Activity data, consisting of fuels and product, are reconciled by the finance department.

2. All fuels and products are received or despatched by the calibrated weighbridge.

3. The net tonnages of fuels and products are downloaded by the finance department directly from the weighbridge computer system (WinVRS)

4. Reports are run on a monthly basis.

5. All fuels/products that invoices are received for, are matched against our downloads from the weighbridge to ensure accuracy/comparability of data.

6. If invoices do not match, additional checks are undertaken back to primary dockets.

Emissions Calculation Spreadsheet:

1. The emissions calculation spreadsheet is reviewed on an annual basis.

2. The spreadsheet is checked to ensure that no cross-over of data has occurred.

Uncertainty Analysis:

1. The uncertainty analysis document is reviewed on an annual basis.

2. The document is checked to ensure that all fuels and products are still active.

3. In addition, the document is checked against updated calibration certificates and internal calibrations to ensure on-going accuracy and compliance.

Calibration Certificates:

1. The internal spreadsheet of meter calibrations is reviewed on an annual basis.

2. The objective of the review is to ensure that all external

	calibration certificates and internal calibrations are current. Management and Sampling Procedures : 1. The internal management and sampling procedures are formally reviewed on an annual basis. 2. The objective of the review is to ensure that all procedures reflect current practices. 3. As changes in practices/procedures arise during the year, changes are effected immediately.
Post or department responsible for the procedure and for any data generated	Site Operations Manager
Location where records are kept	Kingscourt Brick Server T Drive
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	KBGHG M08
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	The scope of this procedure is to identify the mechanisms of how to handle corrections and corrective actions in accordance with Articles 58 and 63 of the MRR. Corrective Actions: If any corrective action is undertaken pertaining to the validity of the data from an incorrect input or calculation formula, the following steps are followed: 1. All activity data spread sheets and summary spread sheets will be rechecked by both the environmental department and the technical manager to ensure 100% accuracy. 2. The priority of the data check will be to ensure that the carbon emissions are not understated. 3. A 'root cause analysis' will be undertaken to identify the error and the relevant procedure or risk assessment control system will be updated to reflect this.

	4. The environmental department has responsibility for ensuing all corrective actions are implemented. If any corrective action is undertaken pertaining to the validity of the data from an inaccurate weighing or control system, the following steps will be followed: 1. All internal weighing or control issues will have corrective action undertaken by the responsible department. 2. A root cause analysis will be undertaken for each issue by the responsible department. 3. If applicable the issue will be recorded as a non-compliance and dealt with accordingly. 4. A data review will be undertaken to ensure that the carbon emissions were not understated as a result. 5. The environmental department has responsibility for ensuing all corrective actions are recorded.
Post or department responsible for the procedure and for any data generated	Site Operations Manager
Location where records are kept	Kingscourt Brick Server T Drive
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 Activites
Reference for procedure	KB GHG M09
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	The scope of this procedure is to identify the mechanisms of how to control activities of outsourced processes in accordance with Articles 59 and 64 of the MRR. Outsourced activities include the following areas: Fuel/Product Analysis;Calibration of Weighbridge Platforms; Calibration of Natural gas meter;Calibration of Fuel Delivery System; Fuel/Product Stocktake. 1. All fuel/product analysis are to be conducted by EN

	ISO/IEC 17025 accredited laboratories. 2. Accreditation certificates and schedules of accreditation are to be in date and retained on site. 3. It is the responsibility of the environmental department to ensure all laboratories are appropriately accredited. Calibration of the Fuel Delivery System: 1. Ensure all out sourced 'delivery' systems are calibrated on an appropriate frequency. 2. All relevant calibration certificates are to be up-to-date and retained on site. 3. It is the responsibility of the environmental department to ensure all calibration certificates are valid. Fuel/Product Stock take: 1. Fuel and product stock takes are conducted by appropriately qualified external contractors. 2. It is the responsibility of the environmental department to ensure that the stock takes are undertaken in a correct and timely fashion. The Calibration certficate for third party meters such as the Natural Gas meter are to be obtained annually and held on site.
Post or department responsible for the procedure and for any data generated	Site Operations Manager
Location where records are kept	Kingscourt Brick Server T Drive
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	KBGHG M10
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	The scope of this procedure is to identify the practices in place to adequately manage all documentation and record keeping in accordance with Article 66(1) of the MRR.

Record Keeping:

1. The data retained on site for carbon emissions trading purposes is in accordance with the data and information stipulated in Annex IX of the MRR.(see below)

2. All relevant data will be retained on site for a 10 year period.

3. Data and records are archived and available in such a fashion to allow ease of verification in accordance with Regulation (EU) No 600/2012.

4. All records and documentation will be made available to the competent authority as well as to the verifier upon request.

5. The environmental department have overall responsibility for the up keep of all records and documentation.

Information Retained Under Annex IX of the MRR

1. The verified annual emissions report and verification report.

2. An approved monitoring plan by the competent authority.

3. A list of all versions of the monitoring plan.

4. The EU Emissions Trading Scheme Declaration Form.

5. Greenhouse Gas Emissions Permit.

6. All relevant updates of monitoring plans and relevant communication in relation to the plan.

7. Back-up documentation in relation to the selection of monitoring methodologies.

8. All relevant greenhouse gas emissions correspondence.

9. Non-compliance logs.

10. Internal audits and the control system risk assessment.

11. Internal annual review meeting minutes.

12. All procedures for data flow activities, control activities

	and sampling. 13. All relevant calibration certificates 14. All relevant accreditation certificates and schedules of accreditation. 15. The full set of sampling and analysis results for the determination of calculation factors. 16. All relevant activity data and summary emissions data. Location of Data: 1.Data is stored and maintained as detailed in procedure GHG06 'Quality Control of IT System'.
Post or department responsible for the procedure and for any data generated	Site Operations Manager
Location where records are kept	Kingscourt Brick Server T Drive
Name of IT system used	N/A
List of EN or other standards applied	N/A

nn. Risk Assessment

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

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

oo. Environmental Management System

Does your organisation have a documented Environmental Management System?	Yes
Is the Environmental Management System certified by an accredited organisation?	Yes
The standard to which the Environmental Management System is certified:	ISO14001

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	Documenting and Reporting Operational Changes
Reference for procedure	KB GHG M11
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	The scope of this procedure is to detail the system in place which is utilised to identify any planned or effective changes to the capacity and activity level and also to detail how the EPA is notified. System Review: The following are reviewed for planned or effective changes on a quarterly basis: • Capacity level and production volumes • Activity level • General operation of the activity. • Internal Carbon Emissions Spreadsheet • Calibration Schedules

• Monitoring Data

• Forecast of predicted emissions

Changes to the capacity level and notification:

1. The capacity level of brick production as per greenhouse gas emissions permit is verified as being current and correct on a bi-annual basis.

2. The appropriate installation category is verified as being current and correct on a bi-annual basis.

3. A formal review is undertaken at the end of each calendar year and any changes are communicated to the relevant authority by 31st December of each year.

In the event of Changes in Operation:

• If the Environmental Manager determines that a change in capacity, or activity level, has occurred in a calendar year, which is considered relevant under Commission Decision 2011/278/EC, a NER template will be filled in by the environmental manager and submitted to the EPA by the 31 December of each year, in accordance with Article 24(1) of 2011/278/EC.

Internal Carbon Emissions Spreadsheet/Calibration Schedules /Monitoring Data

1.The emissions spreadsheet, calibration schedule and monitoring data is reviewed as per procedure KB GHG M07.

Forecast of predicted emissions

1.A forecast of predicted emissions is undertaken at the end of the third quarter of each year.

2.The process output figure is utilised in conjunction the previous reporting period.

3.The annual predicted figure is extrapolated from this.

Responsibility:The overall responsibility for the review and notification of planned and effective changes within Kingscourt Brick lies with the Environmental manager. In the absence of the Environmental manager, the standby person in charge of greenhouse gas monitoring and reporting is the Plant Manager.

Post or department responsible for the procedure and for any data generated	Site Operations Manager
Location where records are kept	Kingscourt Brick Server T Drive
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
N/A	N/A

14. Additional Information

Any other information:

Attachment	Description
22039 Lagan Brick EPA Verification Rev. 1.0.pdf	Capacity Verification
22039 Lagan Brick EPA Verification Rev 2 0.pdf	Independent confirmation of Kiln Capacities and Capacity of Dryer Burners
20150512130749 Certificate.pdf	Natural Gas Meter
img-106100354-0001.pdf	Suppliers weighbridge for propane deliveries.
Lagan Brick Drumgill Metering Summary 2018.pdf	Kingscourt Brick Metering Summary NG Meter
Lagan Brick Drumgill Calibration Sheet 2018.pdf	Kingscourt Brick NG Meter Calibration sheet

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.