Headquarters,
Johnstown Castle Estate,
County Wexford, Ireland

# GREENHOUSE GAS EMISSIONS PERMIT

| | |
|---|---|
| **Permit Register Number:** | IE-GHG043-10364-5 |
| **Operator:** | CRH Plc<br>42 Fitzwilliam Square<br>Dublin 2 |
| **Installation Name:** | Irish Cement Limited (Platin Works) |
| **Site Name:** | Irish Cement Limited (Platin Works) |
| **Location:** | Irish Cement Limited<br>Platin Works<br>Drogheda<br>Meath<br>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-GHG043-10364.

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** |
|---|
| P0030-05 |

# Status Log

**Current Permit**

| Permit number | Date application received | Date Permit issued | Comment |
|---|---|---|---|
| IE-GHG043-10364-5 | 20 December 2018 | 25 May 2020 | 1. The weighbridges MD8-MD11 have been changed and the references have been updated; 2. Level gauges MD29 and MD30 related to kerosene and gas oil included in measurement devices table and the Tier for Activity Data for gas oil updated to Tier 3; 3. IE Licence reference updated to version 5 . 4.Update to Approach Description and to reference in procedures. |

**Previous Permits**

| Permit number | Change Type | Date application received | Date Permit issued | Comment |
|---|---|---|---|---|
| IE-GHG043-10364-1 | GHG Permit Application | 19 April 2013 | 14 June 2013 | |
| IE-GHG043-10364-2 | GHG Variation | 29 August 2014 | 02 September 2014 | Correction of the omission of acetylene gas as an emission source stream. |
| IE-GHG043-10364-3 | GHG Variation | 30 November 2015 | 09 February 2016 | 1. Correction to measuring device MD20. The description has been changed to flow meter.<br><br>2. Inclusion of the serial numbers of Weighbridges 5, 9 & 10. |

| Permit number | Change Type | Date application received | Date Permit issued | Comment |
|---|---|---|---|---|
| IE-GHG043-10364-4 | GHG Variation | 14 December 2016 | 05 January 2018 | 1. Addition of new emission source S8 (slag dryer) and associated emission Point EP13 and measurement device MD21.<br><br>2. CKD Cement Kiln Dust and F6 Kerosene are added as additional source streams.<br><br>3. Update of serial number for MD3 (Weighbridge 3) and removal of two weighbridges (MD6 and MD7) from Measurement Devices table.<br><br>4. Addition of 5 emission sources (boilers) S9-S13 and the associated emission points EP14-EP18. |

**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) | CRH Plc |
| "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:**

CRH Plc
42 Fitzwilliam Square
Dublin 2

Company Registration Number: 12965

to carry out the following

**Categories of activity:**

| **Annex 1 Activity** |
| --- |
| Production of cement clinker in rotary kilns with a production capacity exceeding 500 tonnes per day or in other furnaces with a production capacity exceeding 50 tonnes per day |

at the following installation(s):

Irish Cement Limited (Platin Works) **Installation number:** 34

located at

Irish Cement Limited
Platin Works
Drogheda
Meath
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.: 34**

| Activity Description |
|---|
| Production of cement clinker in rotary kilns with a production capacity exceeding 500 tonnes per day or in other furnaces with a production capacity exceeding 50 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 2 | 4265 | tonnes/day |
| S2 | Kiln 3 | 5165 | tonnes/day |
| S3 | Kiln 1 Emergency Stand-by Generator | 1 | MW |
| S4 | Kiln 2 Emergency Stand-by Generator | 1 | MW |
| S5 | Kiln 3 Emergency Stand-by Generator | 1.02 | MW |
| S6 | Cement Mill Stand-by Furnace | 3.21 | MW |
| S7 | Acetylene - Mobile Welding | 0 | MW |

| Emission Source Reference | Emission Source Description | Capacity | Capacity Units |
|---|---|---|---|
| S8 | Slag Dryer | 3.5 | MW |
| S9 | Buderus Central Heating Boiler 1 | 0.15 | MW |
| S10 | Buderus Central heating Boiler 2 | 0.15 | MW |
| S11 | ACV Hot Water Boiler 1 | 0.11 | MW |
| S12 | ACV Hot Water Boiler 2 | 0.11 | MW |
| S13 | Grant Vortex Hot Water and Central Heating Boiler | 0.05 | MW |

1.4 The activity shall be controlled, operated and maintained so that emissions of carbon dioxide shall take place only as set out in this GHG Emissions Permit. The permit does not control emissions of gases other than carbon dioxide. All agreed plans, programmes and methodologies required to be carried out under the terms of this permit, become part of this permit.

1.5 This GHG Permit is for the purposes of GHG emissions permitting under the European Communities (Greenhouse Gas Emissions Trading) Regulations 2012 and any amendments to the same only and nothing in this permit shall be construed as negating the Operator's statutory obligations or requirements under any other enactments or regulations unless specifically amended by the Regulations.

1.6 Any reference in this permit to 'installation' shall mean the installation as described in the Greenhouse Gas Emissions Permit application and any amendments approved by the Agency.

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

## Condition 2. Notification

2.1 No alteration to, or reconstruction in respect of, the activity or any part thereof which would, or is likely to, result in a change in:

2.1.1 the nature or functioning of the installation;

2.1.2 the capacity of the installation as detailed in this permit;

2.1.3 the fuels used at the installation;

2.1.4 the range of activities to be carried out at the installation

that may require updating of the GHG permit shall be carried out or commenced without prior notice to and without the prior written agreement of the Agency.

2.2 The Operator shall notify the Agency in writing of the cessation of all or part of any activity listed in Table 1 of this permit no later than one month from the date of cessation or by 31 December of the year of cessation, whichever is sooner.

2.3 The Operator shall apply for an update of this GHG Permit where there is a change to the Operator name and/or registered address of the Operator, within seven days of the change.

2.4 For installations or parts of installations which have not come into operation when the application for this permit was made the Operator shall notify the Agency of the date of commencement of the activity within seven days of commencement.

2.5 The Operator shall notify the Agency in writing within three days of becoming aware of any factors which may prevent compliance with the conditions of this permit.

2.6 The Operator shall submit to the Agency by 21 January of each year a declaration of operability. The declaration submitted shall be in the format required by the Agency.

2.7 All notifications required under Condition 2 above shall be made to the address given in the Explanatory Note included with this permit.

2.8 The Operator shall submit to the Agency by 31 December of each year all relevant information about any planned or effective changes to the capacity, activity level and operation of an installation. The information submitted shall be in the format required by the Agency.

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

## Condition 3. Monitoring and Reporting

3.1 The Operator shall monitor and record greenhouse gas emissions on site in accordance with the M&R Regulation and the approved Monitoring Plan attached at Appendix 1 to this GHG permit and in compliance with any other guidance approved by the Agency for the purposes of implementing the Directive and/or the Regulations.

3.2 The Operator shall modify the monitoring plan in any of the following situations:

3.2.1 new emissions occur due to new activities carried out or due to the use of new fuels or materials not yet contained in the monitoring plan;

3.2.2 the change of availability of data, due to the use of new measurement instrument types, sampling methods or analysis methods, or for other reasons, leads to higher accuracy in the determination of emissions;

3.2.3 data resulting from the previously applied monitoring methodology has been found incorrect;

3.2.4 changing the monitoring plan improves the accuracy of the reported data, unless this is technically not feasible or incurs unreasonable costs;

3.2.5 the monitoring plan is not in conformity with the requirements of the M&R Regulation and the Agency requests a change;

3.2.6 it is necessary to respond to the suggestions for improvement of the monitoring plan contained in the verification report.

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

3.3 Temporary changes to the monitoring methodology:

3.3.1 Where it is for technical reasons temporarily not feasible to apply the tier in the monitoring plan for the activity data or each calculation factor of a fuel or material stream as approved by the Agency, the Operator shall apply the highest achievable tier until the conditions for application of the tier approved in the monitoring plan have been restored. The Operator shall take all necessary measures to allow the prompt restoration of the tier in the approved monitoring plan. The Operator shall notify the temporary change to the monitoring methodology without undue delay to the Agency specifying:

(i) The reasons for the deviation from the tier;

(ii) in detail, the interim monitoring methodology applied by the Operator to determine the emissions until the conditions for the application of the tier in the monitoring plan have been restored;

(iii) the measures the Operator is taking to restore the conditions for the application of the tier in the approved monitoring plan;

(iv) the anticipated point in time when application of the approved tier will be resumed.

3.3.2 A record of all non-compliances with the approved monitoring plan shall be maintained on-site and shall be available on-site for inspection by authorised persons of the Agency and/or by the Verifier at all reasonable times.

3.4 The Operator shall appoint a Verifier to ensure that, before their submission, the reports required by Condition 3.5 below are verified in accordance with the criteria set out in Schedule 5 of the Regulations, the A&V Regulation and any more detailed requirements of the Agency.

3.5 The written report of the verified annual reportable emissions and the verification report in respect of each calendar year shall be submitted to the Agency by the Operator no later than 31 March of the following year. The reports shall be in the format required by the Agency and meet the criteria set out in the M&R and A&V Regulations.

3.6 The Operator shall enter the verified annual reportable emissions figure for the preceding year into the Registry no later than 31 March of the following year. This figure shall be electronically approved by the Verifier in the registry no later than 31 March of each year.

3.7 Where an Operator is applying the Fall-Back methodology, the Operator shall assess and quantify each year the uncertainties of all parameters used for the determination of the annual emissions in accordance with the ISO Guide to the Expression of Uncertainty in Measurement or another equivalent internationally accepted standard and include the verified results in the written report of the verified annual reportable emissions to be submitted to the Agency by 31 March each year.

3.8 An Operator shall submit to the Agency for approval a report containing the information detailed in (i) or (ii) below, where appropriate, by the following deadlines:

(a) for a category A installation, by 30 June every four years;

(b) for a category B installation, by 30 June every two years;

(c) for a category C installation, by 30 June every year.

(i) Where the Operator does not apply at least the tiers required pursuant to the first subparagraph of Article 26(1) and to Article 41(1) of the M&R Regulation, the Operator shall provide a justification as to why it is technically not feasible or would incur unreasonable costs to apply the required tiers. Where evidence is found that measures needed for reaching those tiers have become technically feasible and do not incur unreasonable costs, the Operator shall notify the Agency of appropriate modifications to the monitoring plan and submit proposals for implementing appropriate measures and its timing.

(ii) Where the Operator applies a fall-back monitoring methodology, the Operator shall provide a justification as to why it is technically not feasible or would incur unreasonable costs to apply at least tier 1 for one or more major or minor source streams. Where evidence is found that measures needed for reaching at least tier 1 for those source streams have become technically feasible and do not incur unreasonable costs, the Operator shall notify the Agency of appropriate modifications to the monitoring plan, submit proposals and a timeframe for implementing appropriate measures.

3.9 Where the verification report states outstanding non conformities, misstatements or recommendations for improvements the Operator shall submit a report to the Agency for approval by 30 June of the year in which the verification report is issued. This requirement does not apply to the Operator of an installation with low emissions where the verification report contains recommendations for improvements only. The report shall describe how and when the Operator has rectified or plans to rectify the non-conformities identified and to implement recommended improvements. Where recommended improvements would not lead to an improvement of the monitoring methodology this must be justified by the Operator. Where the recommended improvements would incur unreasonable costs the Operator shall provide evidence of the unreasonable nature of the costs. The Operator shall implement the improvements specified by the Agency in response to the report submitted in accordance with this Condition in accordance with a timeframe set by the Agency.

3.10 The Operator shall make available to the Verifier and to the Agency any information and data relating to emissions of carbon dioxide which are required in order to verify the reports referred to in Condition 3.5 above or as required by the Agency to facilitate it in establishing benchmarks and/or best practice guidance.

3.11 Provision shall also be made for the transfer of environmental information, in relation to this permit, to the Agency's computer system, as may be requested by the Agency.

3.12 The Operator shall retain all information as specified in the M&R Regulation for a period of at least 10 years after the submission of the relevant annual report.

3.13 A record of independent confirmation of capacities listed in this permit shall be available on-site for inspection by authorised persons of the Agency at all reasonable times.

3.14 The Operator shall keep records of all modifications of the monitoring plan. The records shall include the information specified in Article 16.3 of the M&R Regulation.

3.15 The Operator shall ensure that members of the public can view a copy of this permit and any reports submitted to the Agency in accordance with this permit at all reasonable times. This requirement shall be integrated with the requirements of any public information programme approved by the Agency in relation to any other permit or licence held by the Operator for the site.

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

# Condition 4. Allowances

4.1 Surrender of Allowances

4.1.1 The Operator shall, by 30 April in each year, surrender to the Agency, or other appropriate body specified by the Agency, allowances equal to the annual reportable emissions in the preceding calendar year.

4.1.2 The number of allowances to be surrendered shall be the annual reportable emissions for the preceding calendar year plus such allowances as may be necessary to cover any earlier calendar year in respect of which allowances remain outstanding and due. This

includes allowances to cover the amount of any annual reportable emissions in respect of which allowances were not surrendered in accordance with Condition 4.1.1 in the previous year, and the amount of any reportable emissions which were discovered during the previous year to have been unreported in reports submitted under Condition 3 in that or in earlier years.

4.1.3 In relation to activities or parts of activities which have ceased to take place and have been notified to the Agency in accordance with Condition 2.2 above, the Operator shall surrender to the Agency allowances equal to the annual reportable emissions from such activities in the preceding calendar year or part thereof, together with such allowances as may be necessary to cover any earlier calendar year in respect of which allowances remain outstanding and due as described in Condition 4.1.2 above.

4.1.4 The Operator may, from 2008 onwards, subject to the provisions of the Regulations and the relevant National Allocation Plan for that compliance year, surrender emission reduction units (ERUs) and certified emission reduction units (CERs) in place of allowances.

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

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

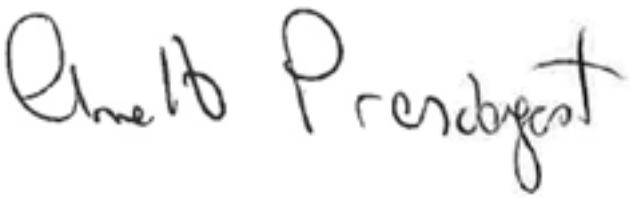
*Reason:* *To provide for the surrendering, holding, transfer and cancellation of allowances in respect of reported emissions.*

## Condition 5. Penalties

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

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

Signed by the Authorised Person on this the 25 May 2020:



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Ms. Annette Prendergast
Inspector/ Authorised Person

# Appendix 1 to Greenhouse Gas Emissions Permit Number IE-GHG043-10364

# 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** | Irish Cement Limited (Platin Works) |
| **Site name** | Irish Cement Limited (Platin Works) |
| **Address** | Irish Cement Limited<br>Platin Works<br>Drogheda<br>Meath<br>Ireland |
| **Grid reference of site main entrance** | 306490E 271801N |
| **Licence held pursuant to the Environmental Protection Agency Act 1992, as amended.** | Yes |

| IPC/IE Licence Register Number | Licence holder | Competent body |
|---|---|---|
| P0030-05 | Irish Cement Limited | Environmental Protection Agency |

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

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

## 3. About the Operator

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

### (b) Operator Details

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

| | |
|---|---|
| **Operator name** | CRH Plc |
| **Company Registration Number** | 12965 |

**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 | Irish Cement Limited |

**Registered office address**

| | |
|---|---|
| Address Line 1 | 42 Fitzwilliam Square |
| Address Line 2 | N/A |
| City/Town | Dublin 2 |
| County | N/A |
| Postcode | N/A |

**Principal office address**

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

**Holding company**

| | |
|---|---|
| Does the company belong to a holding company? | Yes |
| Holding company name | CRH plc |

**Holding company address**

| | |
|---|---|
| Address Line 1 | 42 Fitzwilliam Square |
| Address Line 2 | N/A |
| City/Town | Dublin 2 |
| County | N/A |
| Postcode | N/A |
| Company registration number | 12965 |
| 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 | Irish Cement Limited<br>Platin Works<br>Drogheda<br>Meath<br>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.

Irish Cement Limited, Platin Works, Co. Meath manufactures and supplies a range of cements to the Irish construction industry. The Cement manufacture process begins at the raw material preparation stage, i.e. quarrying, crushing, grinding and blending of limestones, shales/clays and small amounts of bauxite and iron-ore. The prepared raw material is called 'raw meal' and following an homogenizing process stage is renamed as 'kiln feed', i.e. the material that is fed to the Kilns.

The next stage of the process is called Kiln burning and is the stage that kiln feed is burnt at temperatures of up to 1500C, to produce an intermediate product called 'clinker'. The Kiln process creates synthetic minerals / clinker that

exhibit hydraulic properties on mixing with water. The fuel used in the Kilns are Petroleum Coke, Coal and Solid Recovered Fuel (SRF) although small quantities of Gas/Diesel Oil can also be used.

The final product, Portland cement is made at the Cement Milling stage of the process and involves blending and grinding cement clinker, gypsum, additional materials (limestone/slag/raw meal) and more recently ferrous/tin sulphate (EU directive on Chromium Levels in Cement) to form the final Portland cement powder. The final product is stored in concrete storage silos, either fitted with a transfer mechanism to Road Dispatch / Rail Dispatch / Bag Cement Packing and Palletising.

Acetylene is used for mobile welding operations at various locations around the site.

**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 |
|---|---|---|---|
| Production of cement clinker in rotary kilns with a production capacity exceeding 500 tonnes per day or in other furnaces with a production capacity exceeding 50 tonnes per day | 9430 | 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 |
|---|---|
| P011-003-1018-01-12.pdf | Site Diagram 2017 |

**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 $CO_{2(e)}$) 702869

Installation Category: C

## 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 2 |
| S2 | Kiln 3 |
| S3 | Kiln 1 Emergency Stand-by Generator |
| S4 | Kiln 2 Emergency Stand-by Generator |
| S5 | Kiln 3 Emergency Stand-by Generator |
| S6 | Cement Mill Stand-by Furnace |
| S7 | Acetylene - Mobile Welding |
| S8 | Slag Dryer |
| S9 | Buderus Central Heating Boiler 1 |
| S10 | Buderus Central heating Boiler 2 |
| S11 | ACV Hot Water Boiler 1 |
| S12 | ACV Hot Water Boiler 2 |
| S13 | Grant Vortex Hot Water and Central Heating Boiler |

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 2 |
| S2 | Kiln 3 |
| S3 | Kiln 1 Emergency Stand-by Generator |

| Emission Source Reference | Emission Source Description |
|---|---|
| S4 | Kiln 2 Emergency Stand-by Generator |
| S5 | Kiln 3 Emergency Stand-by Generator |
| S6 | Cement Mill Stand-by Furnace |
| S7 | Acetylene - Mobile Welding |
| S8 | Slag Dryer |
| S9 | Buderus Central Heating Boiler 1 |
| S10 | Buderus Central heating Boiler 2 |
| S11 | ACV Hot Water Boiler 1 |
| S12 | ACV Hot Water Boiler 2 |
| S13 | Grant Vortex Hot Water and Central Heating Boiler |

**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 |
|---|---|
| EP1 (14604 (A2-01)) | Kiln 1/Raw Mill 1/Stack |
| EP2 (16576) | Coal Mill 1 Stack |
| EP3 (24601 (A2-02)) | Kiln 2/Raw Mill 2/Bypass Stack |
| EP4 (22676 (A2-03)) | Coal Mill 2 Stack |
| EP5 (34436 (A2-08)) | Kiln 3/Raw Mill 3/Coal Mill 3/Bypass Stack |
| EP6 (14207 (A3-200)) | Kiln 1 Emergency Generator Stack |
| EP7 (24271 (A3-201)) | Kiln 2 Emergency Generator Stack |
| EP8 (34230 (A3-202)) | Kiln 3 Emergency Generator Stack |
| EP9 (25470 (A2-05)) | Cement Mill 2 Stack |
| EP10 (35663 (A2-06)) | Cement Mill 3 Stack |
| EP11 (45248 (A2-10)) | Cement Mill 4 Stack |
| EP12 | Acetylene - Mobile Welding |
| EP 13 (A3-107) | Exhaust Stack Dryer |
| EP14 | Buderus Boiler 1 stack engineering block boilerhouse |
| EP15 | Buderus Boiler 2 stack engineering block boilerhouse |
| EP16 | ACV Boiler 1 stack engineering block boilerhouse |
| EP17 | ACV Boiler 2 stack engineering block boilerhouse |
| EP18 | Grant Vortex Boiler stack engineering block boilerhouse |

**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 (Pet Coke) | Combustion: Solid fuels | Petroleum Coke |
| F2 (Coal) | Combustion: Solid fuels | Coal |
| F3 (SRF) | Combustion: Solid fuels | Solid Recovered Fuel |
| F4 (Gas Oil) | Combustion: Commercial standard fuels | Diesel Gas Oil |
| M1 (Clinker) | Cement clinker: Clinker output (Method B) | Clinker |
| M4 (Lime Fines) | Cement clinker: Non-carbonate carbon | Lime Fines |
| F5 (ACET) | Combustion: Other gaseous & liquid fuels | Acetylene |
| M3 (CKD) | Cement clinker: CKD | Cement Kiln Dust |
| F6 (Kerosene) | Combustion: Other gaseous & liquid fuels | Kerosene (other than jet kerosene) |

**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 (Pet Coke) | S1,S2 | EP1 (14604 (A2-01)),EP2 (16576),EP3 (24601 (A2-02)),EP4 (22676 (A2-03)),EP5 (34436 (A2-08)) | Production of cement clinker in rotary kilns with a production capacity exceeding 500 tonnes per day or in other furnaces with a production capacity exceeding 50 tonnes per day |
| F2 (Coal) | S1,S2 | EP1 (14604 (A2-01)),EP2 (16576),EP3 (24601 (A2-02)),EP4 (22676 (A2-03)),EP5 (34436 (A2-08)) | Production of cement clinker in rotary kilns with a production capacity exceeding 500 tonnes per day or in other furnaces with a production capacity exceeding 50 tonnes per day |
| F3 (SRF) | S2 | EP1 (14604 (A2-01)),EP2 (16576),EP5 (34436 (A2-08)) | Production of cement clinker in rotary kilns with a production capacity exceeding 500 tonnes per day or in other furnaces |

| **Source streams ( Fuel / Material )** | **Emission Source Refs.** | **Emission Point Refs.** | **Annex 1 Activity** |
|---|---|---|---|
| | | | with a production capacity exceeding 50 tonnes per day |
| F4 (Gas Oil) | S1,S2,S3,S4,S5,S6,S8,S9,S10,S11,S12 | EP1 (14604 (A2-01)),EP3 (24601 (A2-02)),EP5 (34436 (A2-08)),EP6 (14207 (A3-200)),EP7 (24271 (A3-201)),EP8 (34230 (A3-202)),EP9 (25470 (A2-05)),EP10 (35663 (A2-06)),EP11 (45248 (A2-10)),EP 13 (A3-107),EP14,EP15,EP16,EP17 | Production of cement clinker in rotary kilns with a production capacity exceeding 500 tonnes per day or in other furnaces with a production capacity exceeding 50 tonnes per day |
| M1 (Clinker) | S1,S2 | EP1 (14604 (A2-01)),EP2 (16576),EP3 (24601 (A2-02)),EP4 (22676 (A2-03)),EP5 (34436 (A2-08)) | Production of cement clinker in rotary kilns with a production capacity exceeding 500 tonnes per day or in other furnaces with a production capacity exceeding 50 tonnes per day |
| M4 (Lime Fines) | S1,S2 | EP1 (14604 (A2-01)),EP2 (16576),EP3 (24601 (A2-02)),EP4 (22676 (A2-03)),EP5 (34436 (A2-08)) | Production of cement clinker in rotary kilns with a production capacity exceeding 500 tonnes per day or in other furnaces with a production capacity exceeding 50 tonnes per day |
| F5 (ACET) | S7 | EP12 | Production of cement clinker in rotary kilns with a production capacity exceeding 500 tonnes per day or in other furnaces with a production capacity exceeding 50 tonnes per day |
| M3 (CKD) | S2 | EP5 (34436 (A2-08)) | Production of cement clinker in rotary kilns with a production capacity exceeding 500 tonnes per day or in other furnaces with a production capacity exceeding 50 tonnes per day |
| F6 (Kerosene) | S13 | EP18 | Production of cement clinker in rotary kilns with a production capacity exceeding 500 tonnes per day or in other furnaces with a production capacity |

| Source streams ( Fuel / Material ) | Emission Source Refs. | Emission Point Refs. | Annex 1 Activity |
|---|---|---|---|
| | | | exceeding 50 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)? No

## 8. Monitoring Approaches

**q. Monitoring Approaches**

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

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

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

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

# 9. Calculation

**r. Approach Description**

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

The calculation approach is based on Annex II and Annex V of the Commission Regulation (EU) No. 601/2012 of 21 June 2012 on the monitoring and reporting of greenhouse gas emissions. A more detailed description of the calculation approach used is included in attachment.

Total CO2 emissions = Fuel Combustion CO2 (A) + Raw Material Calcination CO2(B)

A – Fuel Combustion CO2

Fuel Combustion CO2= Activity Data*Emission Factor*Oxidation Factor

A.1) Fuel Activity Data- (Energy Content (TJ)) = Fuel Consumed (t)*Net Calorific Value (Tj/t)

Fuel consumption is based on mass balance approach based on annual quantity of fuel purchased using calibrated weighbridge measurements and the difference in quantity held in stock at the start and the end of the year. The fuels used are Petroleum Coke, Coal, Solid Recovered Fuel (SRF), Diesel Oil, Kerosene and Acetylene.

Net Calorific Value (NCV) for Petroleum Coke, Coal and SRF is measured by an ISO17025 laboratory (Tier 3) and the relevant country-specific NCV (Tier 2a) is used for Diesel Oil, Kerosene and Acetylene.

A.2) Fuel Emission Factor (EF) for Pet Coke and coal (Tier 3) is calculated based on analysis at an ISO17025 accredited laboratory.

For SRF which is a mixed fuel the emission factor is calculated and reported as the preliminary emission factor (Tier 3) determined in accordance with Article 30 of the Monitoring and Reporting Regulations in an ISO17025 accredited laboratory multiplied by the fossil fraction of the fuel (determined in the accredited laboratory using the relevant standard methods- Tier 2). The country-specific emission factors (Tier 2a) are applied for Diesel Oil, Kerosene and Acetylene.

A.3) Oxidation Factor (OxF) of 1.0 is used for all fuels.

B- Raw Material Calcination CO2

Raw Material Calcination CO2= Activity Data*Emission Factor*Conversion Factor

The Calculation method applied to determine CO2 arising from calcination of raw materials is Method B: Clinker Output Based

B1.1) M1(Clinker) Activity Data (Tier 4) : Clinker production is calculated using a mass balance approach taking into account dispatch/supply of clinker using calibrated weighbridges, clinker stocks and clinker in cement produced (calculated based on tonnes cement produced less filler used in cement (from weighbridge and stock take measurements)).

B1.2) M1 (Clinker) Emission Factor: The emission factor is calculated based on the determination of the amount of CaO and MgO in the product which is carried out in accordance with Articles 32 – 35 (Tier 3). The CaO and MgO present in the raw materials (including lime fines) is also analysed in accordance with Articles 32 - 35 to ensure that the amount of CaO and MgO determined in the clinker product stems from the decomposition of carbonates.

The Stoichiometric factors in Annex VI Section 2 Table 3 are used to convert this composition data (from ISO17025 accredited laboratory analysis) in to emission factors.

B1.3 ) M1 (Clinker)Conversion Factor:Tier 1: A conversion factor of 1 shall be used.

B2.1 M3 (CKD) Discarded dust emissions: Activity Data (Tier 2) : The quantity of CKD produced is determined from an annual survey of the stockpile and weighbridge records of the quantity sent off-site. This meets the highest tier for CKD in Annex II for activity data of 7.5% (Tier 2).

B2.2 M3 (CKD) Emission Factor (Tier 1) : As this source stream is de minimis the emission factor is derived from Commission Regulation 601/2012 Annex IV, Section 9 (c) Emissions related to discarded dust.

B2.3 M3 (CKD) Conversion Factor: Tier 1: A conversion factor of 1 shall be used.

B3.1 M4 (lime fines) Activity Data (Tier 2) Non-carbonate carbon which is present in the lime fines added to the raw meal is measured across the weighbridge and accounted for in stock takes meeting the highest required tier for non-carbonate carbon in Annex II for activity data of 7.5% (Tier 2).

B3.2 M4 (lime fines) Emission Factor (Tier 2): The non-carbonate carbon (lime fines in raw meal) is analysed in an ISO 17025 accredited laboratory for total organic carbon content. The non-carbonate carbon content by 3.664 tCO2/tC is used to determine the CO2 emissions from this source stream. This meets Tier 2 which is the highest required tier for emission factor for Non-Carbonate Carbon as specified in Commission Regulation 601/2012 Annex IV, Section 9 (d) Emissions from non-carbonate carbon in raw meal.

B3.3 M4 (Lime Fines) Conversion Factor: Tier 1: A conversion factor of 1 shall be used.

**s. Measurement Devices**

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

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

| Source Stream Refs. | Emission Source Refs. | Measurement Device Ref. | Type of Measurement Device | Measurement Range | Metering Range Units | Specified Uncertainty (+/- %) | Location |
|---|---|---|---|---|---|---|---|
| F1 (Pet Coke),F2 (Coal),F3 (SRF),M1 (Clinker),M4 (Lime Fines) | S1,S2 | MD1(L093142073) | Weighbridge | 0-50 | t | 0.12 | Cement Despatch Weighbridge 1, WB1 |
| F1 (Pet Coke),F2 (Coal),F3 (SRF),M1 (Clinker),M4 (Lime Fines) | S1,S2 | MD2(06F666136) | Weighbridge | 0-50 | t | 0.12 | Cement Despatch Weighbridge 2, WB2 |
| F1 (Pet Coke),F2 (Coal),F3 (SRF),M1 (Clinker),M4 (Lime Fines) | S1,S2 | MD3(01F856914) | Weighbridge | 0-50 | t | 0.12 | Cement Despatch Weighbridge 3, WB3 |
| F1 (Pet Coke),F2 (Coal),F3 (SRF),M1 (Clinker),M4 (Lime Fines) | S1,S2 | MD4(F645830) | Weighbridge | 0-50 | t | 0.12 | Cement Despatch Weighbridge 4, WB4 |
| F1 (Pet Coke),F2 (Coal),F3 (SRF),M1 (Clinker),M4 (Lime Fines) | S1,S2 | MD5(01F853058) | Weighbridge | 0-50 | t | 0.12 | Cement Despatch Weighbridge 5, WB5 |
| F1 (Pet Coke),F2 (Coal),F3 (SRF),M1 (Clinker),M4 (Lime | S1,S2 | MD8(02F896538) | Weighbridge | 0-50 | t | 0.12 | Cement Despatch Weighbridge 7.1, WB7.1 |

| Source Stream Refs. | Emission Source Refs. | Measurement Device Ref. | Type of Measurement Device | Measurement Range | Metering Range Units | Specified Uncertainty (+/- %) | Location |
|---|---|---|---|---|---|---|---|
| Fines) | | | | | | | |
| F1 (Pet Coke),F2 (Coal),F3 (SRF),M1 (Clinker),M4 (Lime Fines) | S1,S2 | MD9(03F896538) | Weighbridge | 0-50 | t | 0.12 | Cement Despatch Weighbridge 7.2, WB7.2 |
| F1 (Pet Coke),F2 (Coal),F3 (SRF),M1 (Clinker),M4 (Lime Fines) | S1,S2 | MD10(04F896538) | Weighbridge | 0-50 | t | 0.12 | Cement Despatch Weighbridge 8.1, WB8.1 |
| F1 (Pet Coke),F2 (Coal),F3 (SRF),M1 (Clinker),M4 (Lime Fines) | S1,S2 | MD11(01F896538) | Weighbridge | 0-50 | t | 0.12 | Cement Despatch Weighbridge 8.2, WB8.2 |
| F1 (Pet Coke),F2 (Coal),F3 (SRF),M1 (Clinker),M4 (Lime Fines) | S1,S2 | MD12(1208404) | Weighbridge | 0-50 | t | 0.12 | Materials Inward "In" Weighbridge, WB9 |
| F1 (Pet Coke),F2 (Coal),F3 (SRF),M1 (Clinker),M3 (CKD),M4 (Lime Fines) | S1,S2 | MD13(1208405) | Weighbridge | 0-50 | t | 0.12 | Materials Outward "Out" Weighbridge, WB10 |
| F1 (Pet Coke),F2 (Coal),F3 (SRF),M1 (Clinker),M4 (Lime Fines) | S1,S2 | MD14(1205446) | Weighbridge | 0-50 | t | 0.12 | Clinker Despatch Weighbridge, WB11 |
| F1 (Pet Coke),F2 (Coal),F3 (SRF),M1 (Clinker),M4 (Lime | S1,S2 | MD15(1205445) | Weighbridge | 0-50 | t | 0.12 | Clinker Despatch Weighbridge, WB12 |

| Source Stream Refs. | Emission Source Refs. | Measurement Device Ref. | Type of Measurement Device | Measurement Range | Metering Range Units | Specified Uncertainty (+/- %) | Location |
|---|---|---|---|---|---|---|---|
| Fines) | | | | | | | |
| F1 (Pet Coke),F2 (Coal),F3 (SRF),M1 (Clinker),M3 (CKD) | S1,S2 | MD16(Geomap Ltd Surveyors) | Ordnance survey using GPS | 0-10000 | m3 | 2.00 | Material Stockpile |
| F4 (Gas Oil) | S1,S2,S3,S4,S5,S6,S8,S9,S10,S11,S12 | MD20(Diesel Dispatch Flowmeters) | Rotary meter | 0-50000 | L | 0.02 | Diesel Dispatch Terminal |
| F4 (Gas Oil) | S1,S2,S3,S4,S5,S6,S8,S9,S10,S11,S12 | MD21(247XL01) | Ultrasonic meter | 0-144 | m3 | 1.00 | Production Diesel Gas Oil Tank |
| M1 (Clinker) | S1,S2 | MD22(VAB10498) | Weighscale | 0-60 | kg | 0.08 | Cement Packing Plant, Packer 1 Weigher |
| M1 (Clinker) | S1,S2 | MD23 (BO-GC0069AA0029-0001) | Weighscale | 0-60 | kg | 0.08 | Cement Packing Plant, Packer 2 Weigher |
| M1 (Clinker) | S1,S2 | MD24 (254xF12) Limestone weigh scale | Feeder | 0-200 | kg | 1 | Cement Mill building |
| M1 (Clinker) | S1,S2 | MD25(356xF09) Limestone weighscale | Feeder | 0-200 | kg | 1 | Cement Mill Building |
| M1 (Clinker) | S1,S2 | MD26(45206/M01) Limestone weigh scale | Feeder | 0-50 | kg | 1 | Cement Mill 4 Building |
| F5 (ACET) | S7 | MD27 (Invoices) | Invoices | N/A | N/A | N/A | Acetylene cylinder supplier measurement |

| Source Stream Refs. | Emission Source Refs. | Measurement Device Ref. | Type of Measurement Device | Measurement Range | Metering Range Units | Specified Uncertainty (+/- %) | Location |
|---|---|---|---|---|---|---|---|
| F6 (Kerosene) | S13 | MD28 | Delivery Truck flowmeter/Kerosene invoice | N/A | litres | 0.02 | Delivery Truck meter |
| F6 (Kerosene) | S13 | MD29 | Ultrasonic pressure sensor | 0-3262 | litres | 2 | Kerosene tank |
| F4 (Gas Oil) | S9,S10,S11,S12 | MD30 | Pressure Sensor | 0-6096 | litres | 2 | Gas oil tank |

| Source Stream Refs. | Measurement Device Ref. | Determination Method | Instrument Under Control Of | Conditions Of Article 29(1) Satisfied | Invoices Used To Determine Amount Of Fuel Or Material | Trade Partner And Operator Independent |
|---|---|---|---|---|---|---|
| F1 (Pet Coke),F2 (Coal),F3 (SRF),M1 (Clinker),M4 (Lime Fines) | MD1(L093142073) | Continual | Operator | N/A | N/A | N/A |
| F1 (Pet Coke),F2 (Coal),F3 (SRF),M1 (Clinker),M4 (Lime Fines) | MD2(06F666136) | Continual | Operator | N/A | N/A | N/A |
| F1 (Pet Coke),F2 (Coal),F3 (SRF),M1 (Clinker),M4 (Lime Fines) | MD3(01F856914) | Continual | Operator | N/A | N/A | N/A |
| F1 (Pet Coke),F2 (Coal),F3 (SRF),M1 (Clinker),M4 (Lime Fines) | MD4(F645830) | Continual | Operator | N/A | N/A | N/A |
| F1 (Pet Coke),F2 (Coal),F3 (SRF),M1 (Clinker),M4 (Lime | MD5(01F853058) | Continual | Operator | N/A | N/A | N/A |

| 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 |
|---|---|---|---|---|---|---|
| Fines) | | | | | | |
| F1 (Pet Coke),F2 (Coal),F3 (SRF),M1 (Clinker),M4 (Lime Fines) | MD8(02F896538) | Continual | Operator | N/A | N/A | N/A |
| F1 (Pet Coke),F2 (Coal),F3 (SRF),M1 (Clinker),M4 (Lime Fines) | MD9(03F896538) | Continual | Operator | N/A | N/A | N/A |
| F1 (Pet Coke),F2 (Coal),F3 (SRF),M1 (Clinker),M4 (Lime Fines) | MD10(04F896538) | Continual | Operator | N/A | N/A | N/A |
| F1 (Pet Coke),F2 (Coal),F3 (SRF),M1 (Clinker),M4 (Lime Fines) | MD11(01F896538) | Continual | Operator | N/A | N/A | N/A |
| F1 (Pet Coke),F2 (Coal),F3 (SRF),M1 (Clinker),M4 (Lime Fines) | MD12(1208404) | Continual | Operator | N/A | N/A | N/A |
| F1 (Pet Coke),F2 (Coal),F3 (SRF),M1 (Clinker),M3 (CKD),M4 (Lime Fines) | MD13(1208405) | Continual | Operator | N/A | N/A | N/A |
| F1 (Pet Coke),F2 (Coal),F3 (SRF),M1 (Clinker),M4 (Lime Fines) | MD14(1205446) | Continual | Operator | N/A | N/A | N/A |
| F1 (Pet Coke),F2 (Coal),F3 (SRF),M1 (Clinker),M4 (Lime Fines) | MD15(1205445) | Continual | Operator | N/A | N/A | N/A |

| Source Stream Refs. | Measurement Device Ref. | Determination Method | Instrument Under Control Of | Conditions Of Article 29(1) Satisfied | Invoices Used To Determine Amount Of Fuel Or Material | Trade Partner And Operator Independent |
|---|---|---|---|---|---|---|
| F1 (Pet Coke),F2 (Coal),F3 (SRF),M1 (Clinker),M3 (CKD) | MD16(Geomap Ltd Surveyors) | Batch | Trade partner | Yes | No | Yes |
| F4 (Gas Oil) | MD20(Diesel Dispatch Flowmeters) | Batch | Trade partner | Yes | Yes | Yes |
| F4 (Gas Oil) | MD21(247XL01) | Continual | Operator | N/A | N/A | N/A |
| M1 (Clinker) | MD22(VAB10498) | Continual | Operator | N/A | N/A | N/A |
| M1 (Clinker) | MD23 (BO-GC0069AA0029-0001) | Continual | Operator | N/A | N/A | N/A |
| M1 (Clinker) | MD24 (254xF12) Limestone weigh scale | Continual | Operator | N/A | N/A | N/A |
| M1 (Clinker) | MD25(356xF09) Limestone weighscale | Continual | Operator | N/A | N/A | N/A |
| M1 (Clinker) | MD26(45206/M01) Limestone weigh scale | Continual | Operator | N/A | N/A | N/A |
| F5 (ACET) | MD27 (Invoices) | Batch | Operator | N/A | Yes | N/A |
| F6 (Kerosene) | MD28 | Batch | Trade partner | Yes | Yes | Yes |
| F6 (Kerosene) | MD29 | Batch | Operator | N/A | N/A | N/A |
| F4 (Gas Oil) | MD30 | Batch | Operator | N/A | N/A | N/A |

**t. Applied Tiers**

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

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

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

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

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

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

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

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

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

| **Source Stream Refs.** | **Emission Source Refs.** | **Measurement Device Refs.** | **Overall Metering Uncertainty (less than +/- %)** | **Applied Monitoring Approach** | **Activity Data Tier Applied** | **Net Calorific Value Tier Applied** | **Emission Factor Tier Applied** | **Carbon Content Tier Applied** | **Oxidation Factor Tier Applied** | **Conversion Factor Tier Applied** | **Biomass Fraction Tier Applied** | **Estimated Emissions $tCO_{2(e)}$** | **% of Total Estimated Emissions** | **Source Category** | **Highest Tiers Applied** | **Justification for not applying the highest tiers** | **Improvement Plan Reference (where applicable)** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| F1 (Pet Coke) | S1,S2 | MD1(L09314 2073), | <1.5% | Standard | 4 | 3 | 3 | N/A | 1 | N/A | N/A | 190000 | 21.57 | Major | Yes | n/a | n/a |

| Source Stream Refs. | Emission Source Refs. | Measurement Device Refs. | Overall Metering Uncertainty (less than +/- %) | Applied Monitoring Approach | Activity Data Tier Applied | Net Calorific Value Tier Applied | Emission Factor Tier Applied | Carbon Content Tier Applied | Oxidation Factor Tier Applied | Conversion Factor Tier Applied | Biomass Fraction Tier Applied | Estimated Emissions $tCO_{2(e)}$ | % of Total Estimated Emissions | Source Category | Highest Tiers Applied | Justification for not applying the highest tiers | Improvement Plan Reference (where applicable) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MD2(06F666136),MD3(01F856914),MD4(F645830),MD5(01F853058),MD8(02F896538),MD9(03F896538),MD10(04F896538),MD11(01F896538),MD12(1208404),MD13(1208405),MD14(12 | | | | | | | | | | | | | | | |

| 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ors) | | | | | | | | | | | | | | | |
| F2 (Coal) | S1,S2 | MD1(L093142073), MD2(06F666136),MD3(01F856914),MD4(F645830),MD5(01F853058),MD8(02F896538),MD9(03F896538),MD10(04F896538),MD11(01F896538),MD12(120 | <1.5% | Standard | 4 | 3 | 3 | N/A | 1 | N/A | N/A | 0 | 0 | Major | Yes | n/a | n/a |

| Source Stream Refs. | Emission Source Refs. | Measurement Device Refs. | Overall Metering Uncertainty (less than +/- %) | Applied Monitoring Approach | Activity Data Tier Applied | Net Calorific Value Tier Applied | Emission Factor Tier Applied | Carbon Content Tier Applied | Oxidation Factor Tier Applied | Conversion Factor Tier Applied | Biomass Fraction Tier Applied | Estimated Emissions $tCO_{2(e)}$ | % of Total Estimated Emissions | Source Category | Highest Tiers Applied | Justification for not applying the highest tiers | Improvement Plan Reference (where applicable) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 8404), MD13(1208405),MD14(1205446),MD15(1205445),MD16(Geomap Ltd Surveyors) | | | | | | | | | | | | | | | |
| F3 (SRF) | S2 | MD1(L093142073), MD2(06F666136),MD3(01F856914),MD4(F645830),MD5(01F85305 | <1.5% | Standard | 4 | 3 | 3 | N/A | 1 | N/A | 2 | 90000 | 10.22 | Major | Yes | n/a | n/a |

| Source Stream Refs. | Emission Source Refs. | Measurement Device Refs. | Overall Metering Uncertainty (less than +/- %) | Applied Monitoring Approach | Activity Data Tier Applied | Net Calorific Value Tier Applied | Emission Factor Tier Applied | Carbon Content Tier Applied | Oxidation Factor Tier Applied | Conversion Factor Tier Applied | Biomass Fraction Tier Applied | Estimated Emissions $tCO_{2(e)}$ | % of Total Estimated Emissions | Source Category | Highest Tiers Applied | Justification for not applying the highest tiers | Improvement Plan Reference (where applicable) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 8),MD8(02F896538),MD9(03F896538),MD10(04F896538),MD11(01F896538),MD12(1208404),MD13(1208405),MD14(1205446),MD15(1205445),MD16(Geomap Ltd Surveyors) | | | | | | | | | | | | | | | |

| 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| F4 (Gas Oil) | S1,S2,S3,S4,S5,S6,S8,S9,S10,S11,S12 | MD20(Diesel Dispatch Flowmeters), MD21(247XL01),MD30 | <2.5% | Standard | 3 | 2a | 2a | N/A | 1 | N/A | N/A | 3000 | 0.34 | De-minimis | N/A | n/a | n/a |
| M1 (Clinker) | S1,S2 | MD1(L093142073), MD2(06F666136),MD3(01F856914),MD4(F645830),MD5(01F853058),MD8(02F896538),MD9( | <2.5% | Standard | 2 | N/A | 3 | N/A | N/A | 1 | N/A | 590000 | 66.98 | Major | Yes | n/a | n/a |

| Source Stream Refs. | Emission Source Refs. | Measurement Device Refs. | Overall Metering Uncertainty (less than +/- %) | Applied Monitoring Approach | Activity Data Tier Applied | Net Calorific Value Tier Applied | Emission Factor Tier Applied | Carbon Content Tier Applied | Oxidation Factor Tier Applied | Conversion Factor Tier Applied | Biomass Fraction Tier Applied | Estimated Emissions $tCO_{2(e)}$ | % of Total Estimated Emissions | Source Category | Highest Tiers Applied | Justification for not applying the highest tiers | Improvement Plan Reference (where applicable) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 03F896538),MD10(04F896538),MD11(01F896538),MD12(1208404),MD13(1208405),MD14(1205446),MD15(1205445),MD16(Geomap Ltd Surveyors),MD22(VAB10498),MD23(BO- | | | | | | | | | | | | | | | |

| 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M4 (Lime Fines) | S1,S2 | MD1(L093142073), MD2(06F666136),MD3(01F856914),MD4(F645830),MD5(01F853058),MD8(02F896538),MD9(03F896538),MD10(04F896538),MD11(01F896538),MD12(1208404),MD13( | <1.5% | Standard | 2 | N/A | 3 | N/A | N/A | 1 | N/A | 300 | 0.03 | 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)** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| F5 (ACET) | S7 | MD27 (Invoices) | N/A | Standard | No tier | 1 | 1 | N/A | 1 | N/A | N/A | 25 | 0 | De-minimis | N/A | n/a | n/a |
| M3 (CKD) | S2 | MD13(12084 05),MD16(Geomap Ltd Surveyors) | <2.5% | Standard | 2 | N/A | 1 | N/A | N/A | 1 | N/A | 5800 | 0.66 | De-minimis | Yes | n/a | n/a |
| F6 (Kerosene) | S13 | MD28, MD29 | N/A | Standard | No tier | 2a | 2a | N/A | 1 | N/A | N/A | 1800 | 0.2 | De-minimis | N/A | n/a | n/a |

Total Estimated Emissions for Calculation (tonnes $CO_{2(e)}$) 880925

**u. Uncertainty Calculations**

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

| **Attachment** | **Description** |
|---|---|
| IEGHG043-10364-1_2016 Uncertainty Calculations Rev1.pdf | Uncertainty Calculations Rev1 |

**v. Applied tiers**

Applied tiers for each source stream

| Source Stream Ref. | Emission Source Refs. | Activity Data Tier Applied | Net Calorific Value Tier Applied | Emission Factor Tier Applied | Carbon Content Tier Applied | Oxidation Factor Tier Applied | Conversion Factor Tier Applied | Biomass Fraction Tier Applied |
|---|---|---|---|---|---|---|---|---|
| F1 (Pet Coke) | S1,S2 | 4 | 3 | 3 | N/A | 1 | N/A | N/A |
| F2 (Coal) | S1,S2 | 4 | 3 | 3 | N/A | 1 | N/A | N/A |
| F3 (SRF) | S2 | 4 | 3 | 3 | N/A | 1 | N/A | 2 |
| F4 (Gas Oil) | S1,S2,S3,S4,S5,S6,S8,S9,S10,S11,S12 | 3 | 2a | 2a | N/A | 1 | N/A | N/A |
| M1 (Clinker) | S1,S2 | 2 | N/A | 3 | N/A | N/A | 1 | N/A |
| M4 (Lime Fines) | S1,S2 | 2 | N/A | 3 | N/A | N/A | 1 | N/A |
| F5 (ACET) | S7 | No tier | 1 | 1 | N/A | 1 | N/A | N/A |
| M3 (CKD) | S2 | 2 | N/A | 1 | N/A | N/A | 1 | N/A |
| F6 (Kerosene) | S13 | No tier | 2a | 2a | N/A | 1 | N/A | N/A |

**w. Justification for Applied tiers**

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

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

# 10. Calculation Factors

### x. Default Values

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

| Source Stream Refs. | Emission Source Refs. | Parameter | Reference Source | Default Value applied (where appropriate) |
|---|---|---|---|---|
| F1 (Pet Coke),F2 (Coal),F3 (SRF),F4 (Gas Oil),F5 (ACET),F6 (Kerosene) | S1,S2,S3,S4,S5,S6,S7,S8,S9,S10,S11,S12,S13 | OxF | MRR Annex II | 1.0 |
| F4 (Gas Oil) | S1,S2,S3,S4,S5,S6,S8,S9,S10,S11,S12 | Emission Factor and NCV | Country Specific NCV and Emissions Factor on EPA website from National Inventory Report | n/a |
| F5 (ACET) | S7 | Emission Factor and NCV | Tier 1 NCV and Emission Factor on EPA website | n/a |
| M3 (CKD) | S2 | EF | Annex IV of COMMISSION REGULATION (EU) No 601/2012 (Tier 1) | 0.525 tCO2/t dust |
| F6 (Kerosene) | S13 | NCV and Emission Factor | Country Specific NCV and Emissions Factors on EPA website | n/a |
| M1 (Clinker),M4 (Lime Fines),M3 (CKD) | S1,S2 | Conversion Factor | MRR | 1.0 |
| M1 (Clinker) | S1,S2 | CaO and MgO stoichiometric emission factors | MRR Annex VI Section2 Table 3 | n/a |

**Sampling and Analysis**

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

**y. Analysis**

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

| Source Stream Refs. | Emission Source Refs. | Parameter | Method of Analysis | Frequency | Laboratory Name | Laboratory ISO17025 Accredited | Evidence Reference |
|---|---|---|---|---|---|---|---|
| F1 (Pet Coke) | S1,S2 | NCV | ASTM D5865; ISO 1928 | Every 20000t and at least 6 times per year | McCreath, Knight Energy Services, INTERTEK IBERICA SPAIN S.L. and other ISO 17025 accredited laboratories agreed with the EPA prior to use. | Yes | n/a |
| F1 (Pet Coke) | S1,S2 | EF | ASTM D5373; ISO 29541 | Every 20000t and at least 6 times per year | McCreath; Knight Energy Services Ltd and other ISO 17025 accredited laboratories agreed with the EPA prior to use. | Yes | n/a |
| F2 (Coal) | S1,S2 | NCV | ISO 1928; ASTM D5865 | Every 20000t and at least 6 times per year | Knight Energy Services Ltd, INTERTEK IBERICA SPAIN S.L. and other ISO 17025 accredited laboratories agreed with the EPA prior to use. | Yes | n/a |
| F2 (Coal) | S1,S2 | EF | ASTM D5373; ISO 29541 | Every 20000t and at least 6 times per | Knight Energy Services Ltd; | Yes | n/a |

| Source Stream Refs. | Emission Source Refs. | Parameter | Method of Analysis | Frequency | Laboratory Name | Laboratory ISO17025 Accredited | Evidence Reference |
|---|---|---|---|---|---|---|---|
| | | | | year | INTERTEK IBERICA SPAIN S.L. and other ISO 17025 accredited laboratories agreed with the EPA prior to use. | | |
| F3 (SRF) | S2 | NCV | BS EN 15400:2011 | Fortnightly | Knight Energy Services Ltd | Yes | n/a |
| F3 (SRF) | S2 | EF | BS EN 15407:2011 | Fortnightly | Knight Energy Services Ltd | Yes | n/a |
| F3 (SRF) | S2 | Biomass Fraction | BS EN 15440:2011 | Fortnightly | Knight Energy Services Ltd | Yes | n/a |
| M1 (Clinker) | S1,S2 | EF | X-ray fluorescence of CaO and MgO HM-No. 007 FIZ 2001-08 based on ISO 29581-2 | Monthly analysis of kiln input material sample and clinker sample | VDZ | Yes | n/a |
| M4 (Lime Fines) | S1,S2 | EF | EN 13639 | Determination of TOC in Lime Fines (quarterly) and kiln feed sample (annually) | VDZ | 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 | Source Stream Analytical Approaches |
| Reference for procedure | K:\Environmental\Environmental - Greenhouse Gas Emissions\GHG Permit application and correspondence\NAP III\Procedures |
| Diagram reference | N/A |
| Brief description of procedure. The description should cover the essential parameters and operations performed | This procedure outlines the quality assurance of the various analytical techniques to be applied to each source stream.<br><br>NCV and EF for pet coke are performed to ISO 1928 or ASTM D5865 and ISO 29541 or D5373.<br><br>NCV and EF for SRF is performed to BS EN 15400:2011 and CEN/TS 15407:2011 respectively.<br><br>Biomass of SRF is performed to BS EN 15440:2011.<br><br>NCV and EF for coal are performed to ISO 1928 and ISO 29541 or D5373.<br><br>CaO and MgO XRF analysis in clinker are performed to ISO 29581-2.<br><br>Carbon analysis for non-carbonate carbon is carried out using EN 13639. |
| Post or department responsible for the procedure and for any data generated | Environmental Department |
| Location where records are kept | On file at reference quoted above in computer archive. |
| Name of IT system used | Microsoft Office (Word document) |
| List of EN or other standards applied | Listed above in methods of analysis. |

**z. Sampling Plan**

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

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

| **Attachment** | **Description** |
|---|---|
| Sampling Plan.docx | Sampling Plan |
| Sampling Plan 2017 Rev.pdf | Sampling Plan 2017 Rev |

| | |
|---|---|
| Title of procedure | Sampling Plan of Fuels and Materials wrt GHG |
| Reference for procedure | K:\Environmental\Environmental - Greenhouse Gas |

| | |
|---|---|
| | Emissions\GHG Permit application and correspondence\NAP III\Procedures |
| Diagram reference | N/A |
| Brief description of procedure. The description should cover the essential parameters and operations performed | Sampling plan includes sampling standards and methods as per Article 33 and Article 35 of the regulation. The sampling plan document outlines the various sampling plans for fuels and clinker. |
| Post or department responsible for the procedure and for any data generated | Environmental Department |
| Location where records are kept | On file at reference quoted above in computer archive |
| Name of IT system used | Microsoft Office (Word document) |
| List of EN or other standards applied | Listed above in methods of sampling |

**aa. Sampling Plan Appropriateness**

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

| | |
|---|---|
| Title of procedure | Sampling Plan Appropriateness |
| Reference for procedure | K:\Environmental\Environmental - Greenhouse Gas Emissions\GHG Permit application and correspondence\NAP III\Procedures |
| Diagram reference | N/A |
| Brief description of procedure. The description should cover the essential parameters and operations performed | This is a procedure to review all GHG sampling plans. Should any part of the sampling plan change or additional materials change, the sampling plan will be reviewed and updated as neccessary.<br><br>The procedure to do so will form part of the ISO 9000 and ISO 14000 systems where controls to amend, compose and review sampling plans will be updated. |
| Post or department responsible for the procedure and for any data generated | Environmental Department |
| Location where records are kept | On file at reference quoted above in computer archive |
| Name of IT system used | Microsoft Office (Word document) |
| List of EN or other standards applied | Listed above in methods of sampling |

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

**bb. 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 | Physical vs. Book Stock Reconciliation |
| Reference for procedure | Production Department |
| Diagram reference | N/A |

| | |
|---|---|
| Brief description of procedure. | Every quarter and year a stock reconciliation is carried out to assess the stock variations in Clinker and Cement.<br><br>Every year a survey of Petroleum Coke, Coal, SRF and Clinker is carried out by an independent surveyor. This is audited by the company auditors and forms part of the company accounts at year end. |
| Post or department responsible for the procedure and for any data generated | Finance Department |
| Location where records are kept | Production Department |
| Name of IT system used | Microsoft Office (Various) |
| List of EN or other standards applied | N/A |

**cc. Tracking Instruments**

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

| | |
|---|---|
| Title of procedure | GHG Metering Matrix |
| Reference for procedure | K:\Environmental\Environmental - Greenhouse Gas Emissions\GHG Permit application and correspondence\NAP III\Procedures |
| Diagram reference | N/A |
| Brief description of procedure. | The Metering Matrix describes the location, calibration, maintenance frequency and any repairs carried out so as to have all measurement devices in good working order. The metering marix and weighbridge certs are attached at the end for reference. |
| Post or department responsible for the procedure and for any data generated | Maintenance Department |
| Location where records are kept | On file at reference quoted above in computer archive |
| Name of IT system used | Microsoft Office (Excel document) |
| List of EN or other standards applied | n/a |

# 11. Management

**dd. Monitoring and Reporting Responsibilities**

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

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

| **Job Title / Post** | **Responsibilities** |
|---|---|
| Environmental Manager | Company environmental obligations |
| Environmental Engineer/Chemical Engineer | Process environmental data for report submission |
| Sustainability and Technical Manager | Responsible for Company strategy and policy in environmental matters |

| **Attachment** | **Description** |
|---|---|
| Organisational Chart.docx | Organisational Chart |

**ee. Assignment of Responsibilities**

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

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

| | |
|---|---|
| Title of procedure | GHG M&R Responsibilities and Review |
| Reference for procedure | K:\Environmental\Environmental - Greenhouse Gas Emissions\GHG Permit application and correspondence\NAP III\Procedures |
| Diagram reference | N/A |
| Brief description of procedure. The description should cover the essential parameters and operations performed | The procedure outlines the responsibilities for the GHG operator and the duties they perform.<br><br>GHG permit and reporting system -<br><br>The Environmental Manager Platin is the overall responsible person for, GHG responsibilities with tasks split between;<br><br>(a) Environmental Manager:<br><br>Collection of data<br><br>GHG calculations for reporting and verification<br><br>Verification audit<br><br>Compilation of the AIER<br><br>Notification re non conformance and filing of relevant documents.<br><br>(b) Laboratory Co-ordinator:<br><br>Arranging ISO 17025 analysis of fuel and clinker.<br><br>(c) Works Engineer:<br><br>Calibration and assessment of weighbridges.<br><br>(d) Production Manager |

| | |
|---|---|
| | Physical stock checks.<br><br>Annual Production report including annual Cement despatch report.<br><br>It also details that their training needs are reviewed on a regular basis and addressed as required. |
| Post or department responsible for the procedure and for any data generated | Environmental Department |
| Location where records are kept | On file at reference quoted above in computer archive |
| Name of IT system used | Microsoft Office (Word document) |
| List of EN or other standards applied | N/A |

**ff. Monitoring Plan Appropriateness**

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

| | |
|---|---|
| Title of procedure | GHG M&R Responsibilities and Review |
| Reference for procedure | K:\Environmental\Environmental - Greenhouse Gas Emissions\GHG Permit application and correspondence\NAP III\Procedures |
| Diagram reference | N/A |
| Brief description of procedure. The description should cover the essential parameters and operations performed | The procedure outlines the responsibilities for the GHG operator and the duties they perform. It also outlines the review process for updating changes and the overall strategy to lower CO2 emissions.The procedure covers the following: checking the list of emissions sources and source streams, ensuring completeness of the emissions and source streams and that all relevant changes in the nature and functioning of the installation will be included in the monitoring plan; assessing compliance with the uncertainty thresholds for activity data and other parameters (where applicable) for the applied tiers for each source stream and emission source; and assessment of potential measures for improvement of the monitoring methodology applied. |
| Post or department responsible for the procedure and for any data generated | Environmental Department |
| Location where records are kept | On file at reference quoted above in computer archive |
| Name of IT system used | Microsoft Office (Word document) |
| List of EN or other standards applied | N/A |

**gg. Data Flow Activities**

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

| | |
|---|---|
| Title of procedure | Data Flow Management Procedure |

| | |
|---|---|
| Reference for procedure | K:\Environmental\Environmental - Greenhouse Gas Emissions\GHG Permit application and correspondence\NAP III\Procedures |
| Diagram reference | N/A |
| Brief description of procedure. The description should cover the essential parameters and operations performed | The attached file below outlines the process and combustion data flow. CO2 emissions at Irish Cement are monitored using a calculation based methodology as detailed in Annex II and IV of the Commission regulation No 601/2012 for the monitoring and reporting of greenhouse gas emissions pursuant to directive 2003/87/EC.<br><br>The reporting format as set out in Annex IV is used as the basis for reporting quantitative data. The report will be submitted to the competent authority annually for emissions during the preceding year.<br><br>Each report will contain the appropriate information as set out in Annex I of the Commission Regulation No 601/2012. The data flow procedure attached outlines the process and combustion data flow. |
| Post or department responsible for the procedure and for any data generated | Environmental Department |
| Location where records are kept | On file at reference quoted above in computer archive |
| Name of IT system used | Microsoft Office (Word document) |
| List of EN or other standards applied | N/A |
| List of primary data sources | As per the attachment below |
| Description of the relevant processing steps for each specific data flow activity.<br><br>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 | The calculation approach is based on Annex II and Annex V of the Commission Regulation (EU) No. 601/2012 of 21 June 2012 on the monitoring and reporting of greenhouse gas emissions. A more detailed description of the calculation approach used is included in attachment.<br><br>Total CO2 emissions = Fuel Combustion CO2 (A) + Raw Material Calcination CO2(B)<br><br>A – Fuel Combustion CO2<br><br>Fuel Combustion CO2= Activity Data*Emission Factor*Oxidation Factor<br><br>A.1) Fuel Activity Data- (Energy Content (TJ)) = Fuel Consumed (t)*Net Calorific Value (Tj/t)<br><br>Fuel consumption is based on mass balance approach based on annual quantity of fuel purchased using calibrated weighbridge measurements and the difference in quantity held in stock at the start and the end of the year. The fuels used are Petroleum Coke, Coal, Solid Recovered Fuel (SRF), Diesel Oil, Kerosene and Acetylene.<br><br>Net Calorific Value (NCV) for Petroleum Coke, Coal and SRF |

is measured by an ISO17025 laboratory (Tier 3) and the relevant country-specific NCV (Tier 2a) is used for Diesel Oil, Kerosene and Acetylene.

A.2) Fuel Emission Factor (EF) for Pet Coke and coal (Tier 3) is calculated based on analysis at an ISO17025 accredited laboratory.

For SRF which is a mixed fuel the emission factor is calculated and reported as the preliminary emission factor (Tier 3) determined in accordance with Article 30 of the Monitoring and Reporting Regulations in an ISO17025 accredited laboratory multiplied by the fossil fraction of the fuel (determined in the accredited laboratory using the relevant standard methods- Tier 2). The country-specific emission factors (Tier 2a) are applied for Diesel Oil, Kerosene and Acetylene.

A.3) Oxidation Factor (OxF) of 1.0 is used for all fuels.

B- Raw Material Calcination CO2

Raw Material Calcination CO2= Activity Data*Emission Factor*Conversion Factor

The Calculation method applied to determine CO2 arising from calcination of raw materials is Method B:Clinker Output Based

B1.1) M1(Clinker) Activity Data (Tier 4) : Clinker production is calculated using a mass balance approach taking into account dispatch/supply of clinker using calibrated weighbridges, clinker stocks and clinker in cement produced (calculated based on tonnes cement produced less filler used in cement (from weighbridge and stock take measurements)).

B1.2) M1 (Clinker) Emission Factor: The emission factor is calculated based on the determination of the amount of CaO and MgO in the product which is carried out in accordance with Articles 32 – 35 (Tier 3). The CaO and MgO present in the raw materials (including lime fines) is also analysed in accordance with Articles 32 - 35 to ensure that the amount of CaO and MgO determined in the clinker product stems from the decomposition of carbonates.

The Stoichiometric factors in Annex VI Section 2 Table 3 are used to convert this composition data (from ISO17025

accredited laboratory analysis) in to emission factors.

B1.3 ) M1 (Clinker)Conversion Factor:Tier 1: A conversion factor of 1 shall be used.

B2.1 M3 (CKD) Discarded dust emissions: Activity Data (Tier 2) : The quantity of CKD produced is determined from an annual survey of the stockpile and weighbridge records of the quantity sent off-site. This meets the highest tier for CKD in Annex II for activity data of 7.5% (Tier 2).

B2.2 M3 (CKD) Emission Factor (Tier 1) : As this source stream is de minimis the emission factor is derived from Commission Regulation 601/2012 Annex IV, Section 9 (c) Emissions related to discarded dust.

B2.3 M3 (CKD) Conversion Factor: Tier 1: A conversion factor of 1 shall be used.

B3.1 M4 (lime fines) Activity Data (Tier 2) Non-carbonate carbon which is present in the lime fines added to the raw meal is measured across the weighbridge and accounted for in stock takes meeting the highest required tier for non-carbonate carbon in Annex II for activity data of 7.5% (Tier 2).

B3.2 M4 (lime fines) Emission Factor (Tier 2): The non-carbonate carbon (lime fines in raw meal) is analysed in an ISO 17025 accredited laboratory for total organic carbon content. The non-carbonate carbon content by 3.664 tCO2/tC is used to determine the CO2 emissions from this source stream. This meets Tier 2 which is the highest required tier for emission factor for Non-Carbonate Carbon as specified in Commission Regulation 601/2012 Annex IV, Section 9 (d) Emissions from non-carbonate carbon in raw meal.

B3.3 M4 (Lime Fines) Conversion Factor: Tier 1: A conversion factor of 1 shall be used.

Submit relevant documents to record data flow activities

| **Attachment** | **Description** |
|---|---|
| Appendix 8 Data Flow Management.pdf | Data Flow Management Procedure |

**hh. 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 | Risk Assessment Procedure |
| Reference for procedure | K:\Environmental\Environmental - Greenhouse Gas Emissions\GHG Permit application and correspondence\NAP III\Procedures |
| Diagram reference | N/A |
| Brief description of procedure. The description should cover the essential parameters and operations performed | A risk assessment (RA) is carried out and reviewed at least annually. The RA above outlines what is to be assessed. A RA is carried out in accordance with MRR article 12 and 13 of the Commission Regulation No 601/2012 of the risks associated with inherent and control risks to errors, misrepresentations in AIER, non conformances against the monitoring plan. |
| Post or department responsible for the procedure and for any data generated | Environmental Department |
| Location where records are kept | On file at reference quoted above in computer archive |
| Name of IT system used | Microsoft Office (Word document) |
| List of EN or other standards applied | N/A |

**ii. 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 | Control of Monitoring and Measuring Devices |
| Reference for procedure | Site Quality Manual Section 7.6 Monitoring and Reporting |
| Diagram reference | n/a |
| Brief description of procedure. The description should cover the essential parameters and operations performed | The quality manual outlines what meters are calibrated, their frequency and by whom. The weighbridges are serviced annually by a Third Party expert contractor and calibrated to legal metrology services criteria. A metering matrix is updated and maintained on site to record the serial number of each meter, the type, location and range as well as the last calibration date. |
| Post or department responsible for the procedure and for any data generated | Production Department |
| Location where records are kept | Production Department |
| Name of IT system used | Microsoft Office (Various) |
| List of EN or other standards applied | ISO 9001:2008 |

**jj. Quality Assurance of Information Technology used for Data Flow Activities**

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

| | |
|---|---|
| Title of procedure | Quality Assurance of IT |
| Reference for procedure | K:\Environmental\Environmental - Greenhouse Gas Emissions\GHG Permit application and correspondence\NAP III\Procedures |
| Diagram reference | N/A |
| Brief description of procedure. The description should cover the essential parameters and operations performed | The procedure describes the Management of the IT Network at the site , and other relevant IT Systems. It addresses security, controlled access, backup and anti-virus controls. The procedure also outlines the updating of software and other activities related to ensuring the reliability of the facilities on site. The procedure specifies that access to the GHG related documents and calculations are controlled by password security. Calculation sheets used in reporting are validated against manual calculation. Backups including the GHG related documentation and calculation sheets are carried out to ensure there is no loss of data. |
| Post or department responsible for the procedure and for any data generated | IT/Environmental Department |
| Location where records are kept | Platin network |
| Name of IT system used | Overland Reo 1500 |
| List of EN or other standards applied | N/A |

**kk. Review and Validation of Data**

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

| | |
|---|---|
| Title of procedure | GHG M&R Responsibilities and Review |
| Reference for procedure | K:\Environmental\Environmental - Greenhouse Gas Emissions\GHG Permit application and correspondence\NAP III\Procedures |
| Diagram reference | N/A |
| Brief description of procedure. The description should cover the essential parameters and operations performed | This procedure entails data verification by a registered GHG verifier. Before any reports are submitted to the verifier they are subject to a peer review system in accordance with the following sequence: Environmental Engineer, Environmental Manager, Sustainability and Technical Manager.The review and validation process includes a check on whether data is complete, comparisons with data over previous years, comparison of fuel consumption reported with purchase records and factor obtained for fuel suppliers with international reference factors , if applicable, and criteria for rejecting data. |
| Post or department responsible for the procedure and for | Environmental Department |

| | |
|---|---|
| any data generated | |
| Location where records are kept | On file at reference quoted above in computer archive |
| Name of IT system used | Microsoft Office (Word document) |
| List of EN or other standards applied | ISO 14001:2015 |

**II. 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 | Corrective and Preventative Action Procedure |
| Reference for procedure | K:\Environmental\Environmental - Greenhouse Gas Emissions\GHG Permit application and correspondence\NAP III\Procedures |
| Diagram reference | N/A |
| Brief description of procedure. The description should cover the essential parameters and operations performed | 4.5.3 Non-conformity, corrective action and preventative action.A non-conformity is a non-fulfilment of a requirement. A requirement may be stated in terms of the Environmental Management System or in terms of the environmental performance of the operations concerned. Non-conformities are identified through the monitoring and measurement process and or through evaluation of compliance as described in Section 4.5.2.Should a non-conformity be identified, then it is investigated to determine the cause so that corrective actions are focused on the appropriate part of the system. Actions are taken to eliminate the cause and to prevent the problem from recurring where relevant. Where a potential problem is identified but no actual non-conformity exists then preventive actions are taken to eliminate potential causes of future problems.<br><br>The corrective action process and the preventative action process are described in the "Corrective and Preventative Action Procedure".The responsibility for initiating corrective actions in the event of an incident at a particular location leading to a non-conformity rests with the Environmental manager and the relevant production manger at that site. it is also the responsibility of management to ensure corrective actions are implemented and that there is follow up to ensure their effectiveness.<br><br>Corrective and preventative action(s) shall be appropriate to the level of problem and details of non-conformances notified to the EPA as soon as possible in accordance with the requirements of the greenhouse gas permit.The responsibility for initiating corrective actions in the event of an incident at a particular location leading to a non-conformity rests with the Environmental Manager and the relevant Production Manager at that location. It is also the |

| | |
|---|---|
| | responsibility of management to ensure corrective actions are implemented and that there is follow-up to ensure their effectiveness.Any corrective or preventive action taken to eliminate the causes of actual and potential non-conformance shall be appropriate to the magnitude of the problems and commensurate with the environmental impact encountered.Details of non-conformances should be notified to the EPA in accordance with the GHG permit requirements. |
| Post or department responsible for the procedure and for any data generated | Environmental Department |
| Location where records are kept | On file at reference quoted above in computer archive |
| Name of IT system used | Microsoft Office (Word document) |
| List of EN or other standards applied | ISO 14001:2015 |

**mm. 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 | Data Flow Procedure |
| Reference for procedure | K:\Environmental\Environmental - Greenhouse Gas Emissions\GHG Permit application and correspondence\NAP III\Procedures |
| Diagram reference | N/A |
| Brief description of procedure. The description should cover the essential parameters and operations performed | The procedures outlines the responsibilities for the GHG operator and the duties they perform. Calibration of weighbridges is carried out by external contractors.It outlines the calculations required to finalise the total CO2 emissions for the site. NCV and EF are calculated from certified ISO 17025 Laboratories. Stock surveys are carried out by certified surveyors. Stock surveys are carried out by approved surveyors. The quality of the data is reviewed and cross checked with previous reports. Corrective action is initiated as required. |
| Post or department responsible for the procedure and for any data generated | Enviornmental/Production Department |
| Location where records are kept | Production Department |
| Name of IT system used | Microsoft Office (Various) |
| List of EN or other standards applied | ISO 17025 |

**nn. Record Keeping and Documentation**

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

| | |
|---|---|
| Title of procedure | Control of Records Procedure |
| Reference for procedure | K:\Environmental\Environmental - Greenhouse Gas |

| | |
|---|---|
| | Emissions\GHG Permit application and correspondence\NAP III\Procedures |
| Diagram reference | N/A |
| Brief description of procedure. The description should cover the essential parameters and operations performed | The procedure identifies the process of document control,specifically in relation to the data and information in the MRR and for GHG Reporting. Includes details on storage, availability and retrieval. The procedure outlines how the company ensures that that data and records generated by the various processes and system are controlled, secured and accessed as required.This procedure outlines that the data and information stipulated in Annex IX of the MRR is stored for at least 10 years in accordance with Article 66 of the Monitoring and Reporting Regulation. This information can be made readily available upon request of the competent authority or verifier. |
| Post or department responsible for the procedure and for any data generated | Environmental/Quality Department |
| Location where records are kept | Production Department |
| Name of IT system used | Microsoft Office (Word document) |
| List of EN or other standards applied | ISO 14001:2015<br><br>ISO 9001:2008 |

**oo. Risk Assessment**

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

| **Attachment** | **Description** |
|---|---|
| Risk Assessment.xlsx | Risk Asssessment |

**pp. Environmental Management System**

| | |
|---|---|
| Does your organisation have a documented Environmental Management System? | Yes |
| Is the Environmental Management System certified by an accredited organisation? | Yes |
| The standard to which the Environmental Management System is certified: | ISO 14001:2015 |

# 12. Changes in Operation

**qq. Changes in Operation**

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

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

The procedure specified below cover the following:

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

| | |
|---|---|
| Title of procedure | GHG M&R Responsibilities and Review |
| Reference for procedure | K:\Environmental\Environmental - Greenhouse Gas Emissions\GHG Permit application and correspondence\NAP III\Procedures |
| Diagram reference | N/A |
| Brief description of procedure. The description should cover the essential parameters and operations performed | This procedure entails the auditing of information, a review of the Monitoring Plan and checks required to submit final data for approval. Production budgets and forecasts are prepared annually and are reviewed quarterly. The monitoring of data is performed on a regular basis and is reviewed quarterly. Data stored on line in process and quality control systems and monthly data extracted and transferred into Excel. External data is also collated from ISO 17025 laboratories.<br><br>Quality assurance of clinker stock is performed versus surveyor stock take.<br><br>Data is entered to 31st October each year by the responsible person to assess any change in Activity level. If it is determined that there has been a change in capacity or activity level in that year, an NER template will be filled in by the responsible person and submitted by the Operator to the EPA by 31 December each year in accordance with Article 24(1) of the Commission Decision 2011/278/EC. |

| | |
|---|---|
| Post or department responsible for the procedure and for any data generated | Environmental Department |
| Location where records are kept | On file at reference quoted above in computer archive |
| Name of IT system used | Microsoft Office (Word document) |

## 13. Abbreviations

**rr. 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 |
|---|---|
| PM1-28-03-12.pdf | Calibration cert Precia Molen |
| Metering Matrix 2016.pdf | Metering Matrix 2016 |
| MD15 1205445.pdf | MD15 1205445 Clinker weighbridge cert |
| MD14 1205446.pdf | MD14 1205446 Clinker weighbridge cert |
| MD26 45206M01 CM4 Limestone feeder.pdf | MD26 45206M01 CM4 Limestone feeder |
| EWK439 IC Platin Packer 1 602181116.1.pdf | Cement Packer 1 weigher |
| 254XF12.pdf | MD24 (254xF09) Limestone feeder |
| IC Platin, Packer 2 605100816.1.pdf | Cement Packer 2 weigher |
| 356XF09.pdf | CM3 Limestone Feeder |
| 15617-11 (247XL01).pdf | Diesel Tank Level Indicator |
| SO4858G Irish Cement Platin C1 Weighbridge Calibration Test Report Rev2.pdf | MD1 Cement Dispatch Weighbridge |
| SO4858G Irish Cement Platin C2 Weighbridge Calibration Test Report Rev2.pdf | MD2 SO4858G Irish Cement Platin C2 Weighbridge Calibration |
| SO4858G-C3 ECV DoC.pdf | MD3 Cement Dispatch Weighbridge |

| Attachment | Description |
|---|---|
| SO4858G Irish Cement Platin C4 Weighbridge Calibration Test Report Rev2.pdf | MD4 Cement Dispatch Weighbridge |
| SO4858G Irish Cement Platin C5 Weighbridge Calibration Test Report Rev2.pdf | MD5 Cement Dispatch Weighbridge |
| SO4858G Irish Cement Platin C6 Weighbridge Calibration Test Report Rev2.pdf | MD8 SO4858G Irish Cement Platin C6 Weighbridge Calibration Test |
| SO4858G Irish Cement Platin C7 Weighbridge Calibration Test Report Rev2.pdf | MD9 SO4858G Irish Cement Platin C7 Weighbridge Calibration Test |
| SO4858G Irish Cement Platin C8 Weighbridge Calibration Test Report Rev2.pdf | MD10 SO4858G Irish Cement Platin C8 Weighbridge Calibration Test |
| SO4858G Irish Cement Platin C9 Weighbridge Calibration Test Report Rev2.pdf | MD11SO4858G Irish Cement Platin C9 Weighbridge Calibration Test |
| MD12 and MD13 Material Inward Weighbridge WB9 and Materials Outward Weighbridge WB10.pdf | MD12 and MD13 Calibration Certs |
| McCreath Scope of accreditation.pdf | McCreath Scope of accreditation |
| Knight UKAS cert 1st August 2016.pdf | Knight UKAS cert 1st August 2016 |
| VDZ accreditation cert .pdf | VDZ accreditation cert |
| Anexo técnico LE 2322 03.06.16.pdf | INTERTEK IBERICA SPAIN Annex to Certificate |
| CERT_2926_LE_2322_rev0.pdf | INTERTEK IBERICA SPAIN Certificate |

## 15. Confidentiality

**ss. 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.**