



Headquarters,
Johnstown Castle Estate,
County Wexford, Ireland

GREENHOUSE GAS EMISSIONS PERMIT

Permit Register Number:	IE-GHG189-10513-1
Operator:	Runways Information Services Limited 4 Grand Canal Square Grand Canal Harbour Dublin 2
Installation Name:	Clonee Data Center
Site Name:	Clonee Data Center
Location:	Slí Na Cháirde Portan Clonee Co. Meath D15 NN9V Ireland

Introductory Note

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

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

Contact with Agency:

If you contact the Agency about this Greenhouse Gas Emissions Permit please quote the following reference: Greenhouse Gas Emissions Permit N^o IE-GHG189-10513.

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):

Status Log

Current Permit

Permit number	Date application received	Date Permit issued	Comment
IE-GHG189-10513-1	21 May 2018	03 September 2018	

Previous Permits

Permit number	Change Type	Date application received	Date Permit issued	Comment
IE-GHG189-10513-1	GHG Permit Application	21 May 2018		

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

Schedule 1

Schedule 1 to the Regulations.



Reasons for the Decision

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

Activities Permitted

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

The Operator:

Runways Information Services Limited
4 Grand Canal Square
Grand Canal Harbour
Dublin 2

Company Registration Number: 553841

to carry out the following

Categories of activity:

Annex 1 Activity

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

at the following installation(s):

Clonee Data Center **Installation number:**

located at

Slí Na Cháirde
Portan
Clonee
Co. Meath
D15 NN9V
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 is the first GHG permit granted to the installation.
- 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.:

Activity Description
Combustion of fuels in installations with a total rated thermal input exceeding 20 MW (except in installations for the incineration of hazardous or municipal waste)

Directly Associated Activity Description
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
S01	CLN 1 Emergency Generator EG-01	<500	MW
S02	CLN 1 Emergency Generator EG-02	<500	MW
S03	CLN 1 Emergency Generator EG-03	<500	MW
S04	CLN 1 Emergency Generator EG-04	<500	MW
S05	CLN 1 Emergency Generator EG-05	<500	MW
S06	CLN 1 Emergency Generator EG-06	<500	MW
S07	CLN 1 Emergency Generator EG-1R	<500	MW
S08	CLN 1 Emergency Generator EG-N1	<500	MW

Emission Source Reference	Emission Source Description	Capacity	Capacity Units
S09	CLN 1 Emergency Generator EG-N3	<500	MW
S10	CLN 1 Emergency Generator EG-07	<500	MW
S11	CLN 1 Emergency Generator EG-08	<500	MW
S12	CLN 1 Emergency Generator EG-09	<500	MW
S13	CLN 1 Emergency Generator EG-10	<500	MW
S14	CLN 1 Emergency Generator EG-11	<500	MW
S15	CLN 1 Emergency Generator EG-12	<500	MW
S16	CLN 1 Emergency Generator EG-2R	<500	MW
S17	CLN 1 Emergency Generator EG-N2	<500	MW
S18	CLN 1 Emergency Generator EG-N4	<500	MW
S19	CLN 2 Emergency Generator EG-01	<500	MW
S20	CLN 2 Emergency Generator EG-02	<500	MW
S21	CLN 2 Emergency Generator EG-03	<500	MW
S22	CLN 2 Emergency Generator EG-04	<500	MW
S23	CLN 2 Emergency Generator EG-05	<500	MW

Emission Source Reference	Emission Source Description	Capacity	Capacity Units
S24	CLN 2 Emergency Generator EG-06	<500	MW
S25	CLN 2 Emergency Generator EG-1R	<500	MW
S26	CLN 2 Emergency Generator EG-N1	<500	MW
S27	CLN 2 Emergency Generator EG-N3	<500	MW
S28	CLN 2 Emergency Generator EG-07	<500	MW
S29	CLN 2 Emergency Generator EG-08	<500	MW
S30	CLN 2 Emergency Generator EG-09	<500	MW
S31	CLN 2 Emergency Generator EG-10	<500	MW
S32	CLN 2 Emergency Generator EG-11	<500	MW
S33	CLN 2 Emergency Generator EG-12	<500	MW
S34	CLN 2 Emergency Generator EG-2R	<500	MW
S35	CLN 2 Emergency Generator EG-N2	<500	MW
S36	CLN 2 Emergency Generator EG-N4	<500	MW
S37	CLN 3 Emergency Generator EG-01	<500	MW
S38	CLN 3 Emergency Generator EG-02	<500	MW

Emission Source Reference	Emission Source Description	Capacity	Capacity Units
S39	CLN 3 Emergency Generator EG-03	<500	MW
S40	CLN 3 Emergency Generator EG-04	<500	MW
S41	CLN 3 Emergency Generator EG-05	<500	MW
S42	CLN 3 Emergency Generator EG-06	<500	MW
S43	CLN 3 Emergency Generator EG-1R	<500	MW
S44	CLN 3 Emergency Generator EG-N1	<500	MW
S45	CLN 3 Emergency Generator EG-N3	<500	MW
S46	CLN 3 Emergency Generator EG-07	<500	MW
S47	CLN 3 Emergency Generator EG-08	<500	MW
S48	CLN 3 Emergency Generator EG-09	<500	MW
S49	CLN 3 Emergency Generator EG-10	<500	MW
S50	CLN 3 Emergency Generator EG-11	<500	MW
S51	CLN 3 Emergency Generator EG-12	<500	MW
S52	CLN 3 Emergency Generator EG-2R	<500	MW
S53	CLN 3 Emergency Generator EG-N2	<500	MW

Emission Source Reference	Emission Source Description	Capacity	Capacity Units
S54	CLN 3 Emergency Generator EG-N4	<500	MW
S55	CLN 3 Emergency Generator EG-13	<500	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.

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

Condition 3. Monitoring and Reporting

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

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

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

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

the Agency in response to the report submitted in accordance with this Condition in accordance with a timeframe set by the Agency.

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

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

Condition 4. Allowances

- 4.1 Surrender of Allowances
- 4.1.1 The Operator shall, by 30 April in each year, surrender to the Agency, or other appropriate body specified by the Agency, allowances equal to the annual reportable emissions in the preceding calendar year.
- 4.1.2 The number of allowances to be surrendered shall be the annual reportable emissions for the preceding calendar year plus such allowances as may be necessary to cover any earlier calendar year in respect of which allowances remain outstanding and due. This includes allowances to cover the amount of any annual reportable emissions in respect of which allowances were not surrendered in accordance with Condition 4.1.1 in the previous year, and the amount of any reportable emissions which were discovered during the previous year to have been unreported in reports submitted under Condition 3 in that or in earlier years.
- 4.1.3 In relation to activities or parts of activities which have ceased to take place and have been notified to the Agency in accordance with Condition 2.2 above, the Operator shall surrender to the Agency allowances equal to the annual reportable emissions from such activities in the preceding calendar year or part thereof, together with such allowances as may be necessary to cover any earlier calendar year in respect of which allowances remain outstanding and due as described in Condition 4.1.2 above.
- 4.1.4 The Operator may, from 2008 onwards, subject to the provisions of the Regulations and the relevant National Allocation Plan for that compliance year, surrender emission reduction units (ERUs) and certified emission reduction units (CERs) in place of allowances.
- 4.2 The holding, transfer, surrender and cancellation of allowances shall be in accordance with the requirements of any Regulations adopted as provided for under Article 19.3 of Directive

2003/87/EC, any amendment or revision to the same and any guidance issued by the Agency or the National Administrator.

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

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

Condition 5. Penalties

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

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

Sealed by the seal of the Agency on this the 03 September 2018:

PRESENT when the seal of the Agency was affixed hereto:

Ms. Annette Prendergast
Inspector/ Authorised Person

Appendix 1 to Greenhouse Gas Emissions Permit Number IE-GHG189-10513

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 Clonee Data Center

Site name Clonee Data Center

Address Slí Na Cháirde
Portan
Clonee
Co. Meath
D15 NN9V
Ireland

Grid reference of site main entrance East 304237 North 241967

Licence held pursuant to the Environmental Protection Agency Act 1992, as amended. No

Has the regulated activity commenced at the Installation? Yes

Date of Regulated Activity commencement 28 August 2017

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 Runways Information Services Limited

Company Registration Number 553841

Operator Legal status

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

(c) Company / Corporate Body

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

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

Title	█
Forename	█
Surname	█
Position	Environmental Consultant

Registered office address

Address Line 1	4 Grand Canal Square
Address Line 2	Grand Canal Harbour
City/Town	Dublin 2
County	N/A
Postcode	N/A

Principal office address

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

Address Line 1	Clonee Data Center
Address Line 2	Slí Na Cháirde, Portan
City/Town	Clonee
County	Meath
Postcode	N/A
Company registration number	553841

Holding company

Does the company belong to a holding company? Yes

Holding company name Facebook International Operations Limited

Holding company address

Address Line 1	4 Grand Canal Square
Address Line 2	Grand Canal Harbour
City/Town	Dublin
County	N/A
Postcode	N/A
Company registration number	N/A

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

(d) Operator Authority

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

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

4. Service Contact

e. Service Contact

Name	
Address / Email Address	4 Grand Canal Square Grand Canal Harbour Dublin 2 Ireland

5. Installation Activities

f. Installation Description

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

The Clonee Data Center is a stationary installation housing computer systems and associated components including telecommunications and data storage systems, security, air conditioning, fire suppression systems and power supply.

The installation is powered by the Irish national electricity grid and is installed with backup power generation in the form of stationary, diesel-fueled electricity generators which would power the facility in the event of disruption of electricity supply.

As part of the facility's routine maintenance programme the emergency back-up generators are operated periodically throughout the year, generating carbon dioxide (CO₂) emissions.

The facility's total annual CO₂ emissions are predicted to be less than 25,000 tonnes on the basis of the generator run-time scheduled for maintenance purposes; accordingly, monitoring and reporting of CO₂ emissions will be conducted in accordance with Article 47 of the European Regulations No. 601/2012 for installation with low emissions.

The installation's CO₂ emissions will be calculated based on the standard methodology set out in Article 24 of the MRR, i.e.:

Combustion Emissions = Fuel Consumption x Emission Factor x NCV x Oxidation Factor

Where:

- Combustion Emissions are reported as tonnes of carbon dioxide equivalent (tCO₂(eq));
- Fuel Consumption is the quantity of fuel consumed expressed in tonnes (t);
- Emission Factor is expressed as tonnes of CO₂ per Tera joule of energy (tCO₂/TJ);
- NCV (net calorific value) is expressed as Tera joules of energy per kiloton of fuel (TJ/kt); and
- The oxidation factor applied is 1 (in accordance with Annex II section 2.3 of the MRR).

Annual fuel consumption is determined by means of fuel vendor invoices (i.e. records of metered diesel deliveries by the fuel vendor) and start/end of year stocktake.

The values for emission factor and NCV are to be obtained from the latest 'Country Specific Net Calorific Values and CO₂ Emission Factors for use in the Annual Installation Emissions Report' published on the EPA website.

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.

Installation Category: A

6. Emissions Details

j. About your emissions

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

k. Emission Sources

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

Emission Source Reference	Emission Source Description
S01	CLN 1 Emergency Generator EG-01
S02	CLN 1 Emergency Generator EG-02
S03	CLN 1 Emergency Generator EG-03
S04	CLN 1 Emergency Generator EG-04
S05	CLN 1 Emergency Generator EG-05
S06	CLN 1 Emergency Generator EG-06
S07	CLN 1 Emergency Generator EG-1R
S08	CLN 1 Emergency Generator EG-N1
S09	CLN 1 Emergency Generator EG-N3
S10	CLN 1 Emergency Generator EG-07
S11	CLN 1 Emergency Generator EG-08
S12	CLN 1 Emergency Generator EG-09
S13	CLN 1 Emergency Generator EG-10
S14	CLN 1 Emergency Generator EG-11
S15	CLN 1 Emergency Generator EG-12
S16	CLN 1 Emergency Generator EG-2R
S17	CLN 1 Emergency Generator EG-N2
S18	CLN 1 Emergency Generator EG-N4
S19	CLN 2 Emergency Generator EG-01
S20	CLN 2 Emergency Generator EG-02
S21	CLN 2 Emergency Generator EG-03
S22	CLN 2 Emergency Generator EG-04

Emission Source Reference	Emission Source Description
S23	CLN 2 Emergency Generator EG-05
S24	CLN 2 Emergency Generator EG-06
S25	CLN 2 Emergency Generator EG-1R
S26	CLN 2 Emergency Generator EG-N1
S27	CLN 2 Emergency Generator EG-N3
S28	CLN 2 Emergency Generator EG-07
S29	CLN 2 Emergency Generator EG-08
S30	CLN 2 Emergency Generator EG-09
S31	CLN 2 Emergency Generator EG-10
S32	CLN 2 Emergency Generator EG-11
S33	CLN 2 Emergency Generator EG-12
S34	CLN 2 Emergency Generator EG-2R
S35	CLN 2 Emergency Generator EG-N2
S36	CLN 2 Emergency Generator EG-N4
S37	CLN 3 Emergency Generator EG-01
S38	CLN 3 Emergency Generator EG-02
S39	CLN 3 Emergency Generator EG-03
S40	CLN 3 Emergency Generator EG-04
S41	CLN 3 Emergency Generator EG-05
S42	CLN 3 Emergency Generator EG-06
S43	CLN 3 Emergency Generator EG-1R
S44	CLN 3 Emergency Generator EG-N1
S45	CLN 3 Emergency Generator EG-N3
S46	CLN 3 Emergency Generator EG-07
S47	CLN 3 Emergency Generator EG-08
S48	CLN 3 Emergency Generator EG-09
S49	CLN 3 Emergency Generator EG-10
S50	CLN 3 Emergency Generator EG-11
S51	CLN 3 Emergency Generator EG-12
S52	CLN 3 Emergency Generator EG-2R
S53	CLN 3 Emergency Generator EG-N2
S54	CLN 3 Emergency Generator EG-N4
S55	CLN 3 Emergency Generator EG-13

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

Emission Source Reference	Emission Source Description
S01	CLN 1 Emergency Generator EG-01
S02	CLN 1 Emergency Generator EG-02
S03	CLN 1 Emergency Generator EG-03
S04	CLN 1 Emergency Generator EG-04
S05	CLN 1 Emergency Generator EG-05
S06	CLN 1 Emergency Generator EG-06
S07	CLN 1 Emergency Generator EG-1R
S08	CLN 1 Emergency Generator EG-N1
S09	CLN 1 Emergency Generator EG-N3
S10	CLN 1 Emergency Generator EG-07
S11	CLN 1 Emergency Generator EG-08
S12	CLN 1 Emergency Generator EG-09
S13	CLN 1 Emergency Generator EG-10
S14	CLN 1 Emergency Generator EG-11
S15	CLN 1 Emergency Generator EG-12
S16	CLN 1 Emergency Generator EG-2R
S17	CLN 1 Emergency Generator EG-N2
S18	CLN 1 Emergency Generator EG-N4
S19	CLN 2 Emergency Generator EG-01
S20	CLN 2 Emergency Generator EG-02
S21	CLN 2 Emergency Generator EG-03
S22	CLN 2 Emergency Generator EG-04
S23	CLN 2 Emergency Generator EG-05
S24	CLN 2 Emergency Generator EG-06
S25	CLN 2 Emergency Generator EG-1R
S26	CLN 2 Emergency Generator EG-N1
S27	CLN 2 Emergency Generator EG-N3
S28	CLN 2 Emergency Generator EG-07
S29	CLN 2 Emergency Generator EG-08
S30	CLN 2 Emergency Generator EG-09
S31	CLN 2 Emergency Generator EG-10
S32	CLN 2 Emergency Generator EG-11
S33	CLN 2 Emergency Generator EG-12
S34	CLN 2 Emergency Generator EG-2R
S35	CLN 2 Emergency Generator EG-N2
S36	CLN 2 Emergency Generator EG-N4
S37	CLN 3 Emergency Generator EG-01

Emission Source Reference	Emission Source Description
S38	CLN 3 Emergency Generator EG-02
S39	CLN 3 Emergency Generator EG-03
S40	CLN 3 Emergency Generator EG-04
S41	CLN 3 Emergency Generator EG-05
S42	CLN 3 Emergency Generator EG-06
S43	CLN 3 Emergency Generator EG-1R
S44	CLN 3 Emergency Generator EG-N1
S45	CLN 3 Emergency Generator EG-N3
S46	CLN 3 Emergency Generator EG-07
S47	CLN 3 Emergency Generator EG-08
S48	CLN 3 Emergency Generator EG-09
S49	CLN 3 Emergency Generator EG-10
S50	CLN 3 Emergency Generator EG-11
S51	CLN 3 Emergency Generator EG-12
S52	CLN 3 Emergency Generator EG-2R
S53	CLN 3 Emergency Generator EG-N2
S54	CLN 3 Emergency Generator EG-N4
S55	CLN 3 Emergency Generator EG-13

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
EP01	Diesel Engine Exhaust for S01
EP02	Diesel Engine Exhaust for S02
EP03	Diesel Engine Exhaust for S03
EP04	Diesel Engine Exhaust for S04
EP05	Diesel Engine Exhaust for S05
EP06	Diesel Engine Exhaust for S06
EP07	Diesel Engine Exhaust for S07
EP08	Diesel Engine Exhaust for S08
EP09	Diesel Engine Exhaust for S09
EP10	Diesel Engine Exhaust for S10
EP11	Diesel Engine Exhaust for S11
EP12	Diesel Engine Exhaust for S12

Emission Point Reference	Emission Point Description
EP13	Diesel Engine Exhaust for S13
EP14	Diesel Engine Exhaust for S14
EP15	Diesel Engine Exhaust for S15
EP16	Diesel Engine Exhaust for S16
EP17	Diesel Engine Exhaust for S17
EP18	Diesel Engine Exhaust for S18
EP19	Diesel Engine Exhaust for S19
EP20	Diesel Engine Exhaust for S20
EP21	Diesel Engine Exhaust for S21
EP22	Diesel Engine Exhaust for S22
EP23	Diesel Engine Exhaust for S23
EP24	Diesel Engine Exhaust for S24
EP25	Diesel Engine Exhaust for S25
EP26	Diesel Engine Exhaust for S26
EP27	Diesel Engine Exhaust for S27
EP28	Diesel Engine Exhaust for S28
EP29	Diesel Engine Exhaust for S29
EP30	Diesel Engine Exhaust for S30
EP31	Diesel Engine Exhaust for S31
EP32	Diesel Engine Exhaust for S32
EP33	Diesel Engine Exhaust for S33
EP34	Diesel Engine Exhaust for S34
EP35	Diesel Engine Exhaust for S35
EP36	Diesel Engine Exhaust for S36
EP37	Diesel Engine Exhaust for S37
EP38	Diesel Engine Exhaust for S38
EP39	Diesel Engine Exhaust for S39
EP40	Diesel Engine Exhaust for S40
EP41	Diesel Engine Exhaust for S41
EP42	Diesel Engine Exhaust for S42
EP43	Diesel Engine Exhaust for S43
EP44	Diesel Engine Exhaust for S44
EP45	Diesel Engine Exhaust for S45
EP46	Diesel Engine Exhaust for S46
EP47	Diesel Engine Exhaust for S47
EP48	Diesel Engine Exhaust for S48
EP49	Diesel Engine Exhaust for S49

Emission Point Reference	Emission Point Description
EP50	Diesel Engine Exhaust for S50
EP51	Diesel Engine Exhaust for S51
EP52	Diesel Engine Exhaust for S52
EP53	Diesel Engine Exhaust for S53
EP54	Diesel Engine Exhaust for S54
EP55	Diesel Engine Exhaust for S55

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 (Gas Oil)	Combustion: Commercial standard fuels	Gas/Diesel Oil

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 (Gas Oil)	S01,S02,S03,S04,S05,S06,S07,S08,S09,S10,S11,S12,S13,S14,S15,S16,S17,S18,S19,S20,S21,S22,S23,S24,S25,S26,S27,S28,S29,S30,S31,S32,S33,S34,S35,S36,S37,S38,S39,S40,S41,S42,S43,S44,S45,S46,S47,S48,S49,S50,S51,S52,S53,S54,S55	EP01,EP02,EP03,EP04,EP05,EP06,EP07,EP08,EP09,EP10,EP11,EP12,EP13,EP14,EP15,EP16,EP17,EP18,EP19,EP20,EP21,EP22,EP23,EP24,EP25,EP26,EP27,EP28,EP29,EP30,EP31,EP32,EP33,EP34,EP35,EP36,EP37,EP38,EP39,EP40,EP41,EP42,EP43,EP44,EP45,EP46,EP47,EP48,EP49,EP50,EP51,EP52,EP53,EP54,EP55	Combustion of fuels in installations with a total rated thermal input exceeding 20 MW (except in installations for the incineration of hazardous or municipal waste)

o. Excluded Activities

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

Do you have any excluded activities which need to be identified in your monitoring plan? 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 CO₂ but exclude CO₂ stemming from biomass.

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

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

8. Monitoring Approaches

q. Monitoring Approaches

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

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

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

Calculation	<input type="checkbox"/> Yes
Measurement	<input type="checkbox"/> No
Fall-back approach	<input type="checkbox"/> No
Monitoring of N ₂ O	<input type="checkbox"/> No
Monitoring of PFC	<input type="checkbox"/> No
Monitoring of transferred / inherent CO ₂	<input type="checkbox"/> No

9. Calculation

r. Approach Description

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

The only fuel used on site is low sulphur content diesel, which is used to power emergency backup generators which are used in the event of grid supply failure or disturbance. The fuel for each generator is stored within an above ground tank integrated within the generator. Only fuel relating to emergency generators is considered when calculating the installation's emissions. The fuel consumed during each GHG reporting period (calendar year) is calculated based on the quantity of the fuel delivered by the vendor during the year reconciled against the stock of fuel at the beginning and the end of the year, as referred to in Article 27(2). Diesel is delivered to the facility by the vendor's fiscally metered road tankers. Delivery quantities are determined based on the delivery dockets and invoices provided by the vendor. The fiscal meters are calibrated and certified at least every two years in accordance with national legislation.

All generator diesel oil tanks are fitted with level gauges calibrated to the appropriate measurement range by the manufacturer. All generator diesel oil tanks are also fitted with tank dip sticks to allow tank measurement in the event of failure of the tank level gauges. Tank levels are recorded at the beginning of each year as near to 1st January as practicable, with the level recorded serving as both the closing stock for the previous year and the opening stock for the new year. The stock difference between start and end of the year will be determined using these tank level records.

All volumes of fuel are converted from Litres to Tonnes using either a specified diesel density supplied by the fuel vendor or else using the diesel density value published on the SEAI website.

Calculation is based on the standard methodology set out in Article 24 of the MRR, i.e.:

Combustion Emissions = Fuel Consumption x Emission Factor x NCV x Oxidation Factor

Where:

- Combustion Emissions are reported as tonnes of carbon dioxide equivalent (tCO₂(eq));
- Fuel Consumption is the quantity of fuel consumed expressed in tonnes (t);
- Emission Factor is expressed as tonnes of carbon dioxide per Tera joule of energy (tCO₂/TJ);
- NCV is the net calorific value expressed as Tera joules of energy per kiloton of fuel (TJ/kt); and
- The oxidation factor applied is 1 (in accordance with Annex II section 2.3 of the MRR).

The values for emission factor and NCV are obtained from the latest 'Country Specific Net Calorific Values and CO₂ Emission Factors for use in the Annual Installation Emissions Report' published on the EPA website.

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 (Gas Oil)	S01,S02,S03,S04,S05,S06,S07,S08,S09,S10,S11,S12,S13,S14,S15,S16,S17,S18,S19,S20,S21,S22,S23,S24,S25,S26,S27,S28,S29,S30,S31,S32,S33,S34,S35,S36,S37,S38,S39,S40,S41,S42,S43,S44,S45,S46,S47,S48,S49,S50,S51,S52,S53,S54,S55	MD - Vendor	Diesel delivery records (fiscal meter) and stock level changes	0 - 38000	L	7.5	Diesel vendor tanker meter
F1 (Gas Oil)	S01	MD01	Level gauge	0 - 40000	L	7.5	S01 fuel tank
F1 (Gas Oil)	S02	MD02	Level gauge	0 - 40000	L	7.5	S02 fuel tank
F1 (Gas Oil)	S03	MD03	Level gauge	0 - 40000	L	7.5	S03 fuel tank
F1 (Gas Oil)	S04	MD04	Level gauge	0 - 40000	L	7.5	S04 fuel tank
F1 (Gas Oil)	S05	MD05	Level gauge	0 - 40000	L	7.5	S05 fuel tank
F1 (Gas Oil)	S06	MD06	Level gauge	0 - 40000	L	7.5	S06 fuel tank
F1 (Gas Oil)	S07	MD07	Level gauge	0 - 40000	L	7.5	S07 fuel tank
F1 (Gas Oil)	S08	MD08	Level gauge	0 - 40000	L	7.5	S08 fuel tank
F1 (Gas Oil)	S09	MD09	Level gauge	0 - 40000	L	7.5	S09 fuel tank

Source Stream Refs.	Emission Source Refs.	Measurement Device Ref.	Type of Measurement Device	Measurement Range	Metering Range Units	Specified Uncertainty (+/- %)	Location
F1 (Gas Oil)	S10	MD10	Level gauge	0 - 40000	L	7.5	S10 fuel tank
F1 (Gas Oil)	S11	MD11	Level gauge	0 - 40000	L	7.5	S11 fuel tank
F1 (Gas Oil)	S12	MD12	Level gauge	0 - 40000	L	7.5	S12 fuel tank
F1 (Gas Oil)	S13	MD13	Level gauge	0 - 40000	L	7.5	S13 fuel tank
F1 (Gas Oil)	S14	MD14	Level gauge	0 - 40000	L	7.5	S14 fuel tank
F1 (Gas Oil)	S15	MD15	Level gauge	0 - 40000	L	7.5	S15 fuel tank
F1 (Gas Oil)	S16	MD16	Level gauge	0 - 40000	L	7.5	S16 fuel tank
F1 (Gas Oil)	S17	MD17	Level gauge	0 - 40000	L	7.5	S17 fuel tank
F1 (Gas Oil)	S18	MD18	Level gauge	0 - 40000	L	7.5	S18 fuel tank
F1 (Gas Oil)	S19	MD19	Level gauge	0 - 40050	L	7.5	S19 fuel tank
F1 (Gas Oil)	S20	MD20	Level gauge	0 - 40050	L	7.5	S20 fuel tank
F1 (Gas Oil)	S21	MD21	Level gauge	0 - 40050	L	7.5	S21 fuel tank
F1 (Gas Oil)	S22	MD22	Level gauge	0 - 40050	L	7.5	S22 fuel tank
F1 (Gas Oil)	S23	MD23	Level gauge	0 - 40050	L	7.5	S23 fuel tank
F1 (Gas Oil)	S24	MD24	Level gauge	0 - 40050	L	7.5	S24 fuel tank
F1 (Gas Oil)	S25	MD25	Level gauge	0 - 40050	L	7.5	S25 fuel tank
F1 (Gas Oil)	S26	MD26	Level gauge	0 - 40050	L	7.5	S26 fuel tank
F1 (Gas Oil)	S27	MD27	Level gauge	0 - 40050	L	7.5	S27 fuel tank
F1 (Gas Oil)	S28	MD28	Level gauge	0 - 40050	L	7.5	S28 fuel tank
F1 (Gas Oil)	S29	MD29	Level gauge	0 - 40050	L	7.5	S29 fuel tank
F1 (Gas Oil)	S30	MD30	Level gauge	0 - 40050	L	7.5	S30 fuel tank
F1 (Gas Oil)	S31	MD31	Level gauge	0 - 40050	L	7.5	S31 fuel tank

Source Stream Refs.	Emission Source Refs.	Measurement Device Ref.	Type of Measurement Device	Measurement Range	Metering Range Units	Specified Uncertainty (+/- %)	Location
F1 (Gas Oil)	S32	MD32	Level gauge	0 - 40050	L	7.5	S32 fuel tank
F1 (Gas Oil)	S33	MD33	Level gauge	0 - 40050	L	7.5	S33 fuel tank
F1 (Gas Oil)	S34	MD34	Level gauge	0 - 40050	L	7.5	S34 fuel tank
F1 (Gas Oil)	S35	MD35	Level gauge	0 - 40050	L	7.5	S35 fuel tank
F1 (Gas Oil)	S36	MD36	Level gauge	0 - 40050	L	7.5	S36 fuel tank
F1 (Gas Oil)	S37	MD37	Level gauge	0 - 40050	L	7.5	S37 fuel tank
F1 (Gas Oil)	S38	MD38	Level gauge	0 - 40050	L	7.5	S38 fuel tank
F1 (Gas Oil)	S39	MD39	Level gauge	0 - 40050	L	7.5	S39 fuel tank
F1 (Gas Oil)	S40	MD40	Level gauge	0 - 40050	L	7.5	S40 fuel tank
F1 (Gas Oil)	S41	MD41	Level gauge	0 - 40050	L	7.5	S41 fuel tank
F1 (Gas Oil)	S42	MD42	Level gauge	0 - 40050	L	7.5	S42 fuel tank
F1 (Gas Oil)	S43	MD43	Level gauge	0 - 40050	L	7.5	S43 fuel tank
F1 (Gas Oil)	S44	MD44	Level gauge	0 - 40050	L	7.5	S44 fuel tank
F1 (Gas Oil)	S45	MD45	Level gauge	0 - 40050	L	7.5	S45 fuel tank
F1 (Gas Oil)	S46	MD46	Level gauge	0 - 40050	L	7.5	S46 fuel tank
F1 (Gas Oil)	S47	MD47	Level gauge	0 - 40050	L	7.5	S47 fuel tank
F1 (Gas Oil)	S48	MD48	Level gauge	0 - 40050	L	7.5	S48 fuel tank
F1 (Gas Oil)	S49	MD49	Level gauge	0 - 40050	L	7.5	S49 fuel tank
F1 (Gas Oil)	S50	MD50	Level gauge	0 - 40050	L	7.5	S50 fuel tank
F1 (Gas Oil)	S51	MD51	Level gauge	0 - 40050	L	7.5	S51 fuel tank
F1 (Gas Oil)	S52	MD52	Level gauge	0 - 40050	L	7.5	S52 fuel tank
F1 (Gas Oil)	S53	MD53	Level gauge	0 - 40050	L	7.5	S53 fuel tank

Source Stream Refs.	Emission Source Refs.	Measurement Device Ref.	Type of Measurement Device	Measurement Range	Metering Range Units	Specified Uncertainty (+/- %)	Location
F1 (Gas Oil)	S54	MD54	Level gauge	0 - 40050	L	7.5	S54 fuel tank
F1 (Gas Oil)	S55	MD55	Level gauge	0 - 12500	L	7.5	S55 fuel tank

Source Stream Refs.	Measurement Device Ref.	Determination Method	Instrument Control Of	Under	Conditions Of Article 29(1) Satisfied	Invoices Used To Determine Amount Of Fuel Or Material	Trade Partner And Operator Independent
F1 (Gas Oil)	MD - Vendor	Batch	Trade partner		Yes	Yes	Yes
F1 (Gas Oil)	MD01	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD02	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD03	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD04	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD05	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD06	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD07	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD08	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD09	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD10	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD11	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD12	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD13	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD14	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD15	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD16	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD17	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD18	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD19	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD20	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD21	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD22	Batch	Operator		N/A	N/A	N/A

Source Stream Refs.	Measurement Device Ref.	Determination Method	Instrument Control Of	Under	Conditions Of Article 29(1) Satisfied	Invoices Used To Determine Amount Of Fuel Or Material	Trade Partner And Operator Independent
F1 (Gas Oil)	MD23	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD24	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD25	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD26	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD27	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD28	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD29	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD30	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD31	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD32	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD33	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD34	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD35	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD36	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD37	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD38	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD39	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD40	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD41	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD42	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD43	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD44	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD45	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD46	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD47	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD48	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD49	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD50	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD51	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD52	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD53	Batch	Operator		N/A	N/A	N/A
F1 (Gas Oil)	MD54	Batch	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 (Gas Oil)	MD55	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 (Gas Oil)	S01,S02,S03,S04,S05,S06,S07,S08,S09,S10,S11,S12,S13,S14,S15,S16,S17,S18,S19,S20,S21,S22,S23,S24,S25,S26,S27,S28,S29,S30,S31,S32,S33,S34,S35,S36	MD - Vendor, MD01, MD02, MD03, MD04, MD05, MD06, MD07, MD08, MD09, MD10, MD11, MD12, MD13, MD14, MD15, MD16, MD17, MD18, MD19, MD20, MD21, MD22, MD23,	<7.5%	Standard	1	2a	2a	N/A	1	N/A	N/A	2524.6	65.45	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)
		MD24, MD25, MD26, MD27, MD28, MD29, MD30, MD31, MD32, MD33, MD34, MD35, MD36															
F1 (Gas Oil)	S37,S38,S39,S40,S41,S42,S43,S44,S45,S46,S47,S48,S49,S50,S51,S52,S53,S54,S55	MD - Vendor, MD37, MD38, MD39, MD40, MD41, MD42, MD43, MD44, MD45, MD46, MD47, MD48,	<7.5%	Standard	1	2a	2a	N/A	1	N/A	N/A	1332.6	34.55	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)
		MD49, MD50, MD51, MD52, MD53, MD54, MD55															

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

3857.2

u. Applied tiers

Applied tiers for each source stream

Source Stream Ref.	Emission Source Refs.	Activity Data Tier Applied	Net Calorific Value Tier Applied	Emission Factor Tier Applied	Carbon Content Tier Applied	Oxidation Factor Tier Applied	Conversion Factor Tier Applied	Biomass Fraction Tier Applied
F1 (Gas Oil)	S01,S02,S03,S04, S05,S06,S07,S08, S09,S10,S11,S12, S13,S14,S15,S16, S17,S18,S19,S20, S21,S22,S23,S24, S25,S26,S27,S28, S29,S30,S31,S32, S33,S34,S35,S36	1	2a	2a	N/A	1	N/A	N/A
F1 (Gas Oil)	S37,S38,S39,S40, S41,S42,S43,S44, S45,S46,S47,S48, S49,S50,S51,S52, S53,S54,S55	1	2a	2a	N/A	1	N/A	N/A

v. Justification for Applied tiers

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

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

10. Calculation Factors

w. Default Values

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

Source Stream Refs.	Emission Source Refs.	Parameter	Reference Source	Default Value applied (where appropriate)
F1 (Gas Oil)	S01,S02,S03,S04,S05,S06,S07,S08,S09,S10,S11,S12,S13,S14,S15,S16,S17,S18,S19,S20,S21,S22,S23,S24,S25,S26,S27,S28,S29,S30,S31,S32,S33,S34,S35,S36,S37,S38,S39,S40,S41,S42,S43,S44,S45,S46,S47,S48,S49,S50,S51,S52,S53,S54,S55	NCV	Ireland's National Greenhouse Gas Inventory	n/a
F1 (Gas Oil)	S01,S02,S03,S04,S05,S06,S07,S08,S09,S10,S11,S12,S13,S14,S15,S16,S17,S18,S19,S20,S21,S22,S23,S24,S25,S26,S27,S28,S29,S30,S31,S32,S33,S34,S35,S36,S37,S38,S39,S40,S41,S42,S43,S44,S45,S46,S47,S48,S49,S50,S51,S52,S53,S54,S55	EF	Ireland's National Greenhouse Gas Inventory	n/a
F1 (Gas Oil)	S01,S02,S03,S04,S05,S06,S07,S08,S09,S10,S11,S12,S13,S14,S15,S16,S17,S18,S19,S20,S21,S22,S23,S24,S25,S26,S27,S28,S29,S30,S31,S32,S33,S34,S35,S36,S37,S38,S39,S40,S41,S42,S43,S44,S45,S46,S47,S48,S49,S50,S51,S52,S53,S54,S55	OxF	Annex II section 2.3 of the MRR	1

Sampling and Analysis

Do you undertake sampling and analysis of any of the parameters used in the calculation of your CO₂ emissions? No

11. Management

x. 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
EHS Coordinator	Ensuring that the Clonee Data Center is compliant with the conditions and monitoring and reporting requirements of the installation's GHG Permit. This includes ensuring that the Permit is up to date, review and validation of monitoring data and CO2 emissions calculations, and preparation and submission of the site's AEM.
Chief Building Engineer	The Chief Building Engineer has overall responsibility of the operation of the data center, including scheduling of generator operation and maintenance and fuel ordering and delivery scheduling. The CBE is also responsible for implementation of the Monitoring Plan and collection and validation of monitoring data (fuel invoices and stock level data), and for calculation of annual CO2 emissions. The CBE is supported in this role by the Facility Technical Manager.
Critical Facilities Engineer / Critical Facilities Technician	The CFE/CFTs are responsible for the operation and maintenance of the generators, including recording of fuel usage and tank levels, supervision and recording of fuel deliveries, validation of delivered diesel volumes and reconciliation of delivery dockets against metered delivery volumes

Attachment	Description
Org Chart GHG permit.pdf	Org Chart

y. 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	SOP - CLN - GHG Permit Compliance Requirements
Reference for procedure	SOP - CLN - GHG Permit Compliance Requirements - Section 6
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	This procedure sets out in detail the roles and responsibilities of the personnel involved in EU ETS compliance. EHS Coordinator has overall responsibility for compliance with the Installation’s GHG Permit requirements, and is assisted by the Chief Building Engineers and their line reports to whom duties relating to GHG M&R are assigned. The EHS Coordinator is responsible for: ensuring the GHG Permit is in place and up to date, ensuring compliance with the GHG Permit, review and validation of monitoring data and CO2 emissions calculations, and preparation and submission of the site's AEM. The Chief Building Engineer has overall responsibility of the operation of the data center, including scheduling of generator operation and maintenance and fuel ordering and delivery scheduling. The CBE is also responsible for implementation of the Monitoring Plan and collection and validation of monitoring data (fuel invoices and stock level data), and for calculation of annual CO2 emissions. The Critical Facilities Engineers are responsible for the operation and maintenance of the generators, including recording of fuel usage and tank levels, supervision and recording of fuel deliveries, validation of delivered diesel volumes and reconciliation of delivery dockets against metered delivery volumes. All site personnel are expected to conduct their responsibilities as per the business processes outlined in all relevant Clonee Data Center procedures. Competence of staff to carry out their respective functions is ensured through the education and experience requirements of team members and through provision of appropriate training for their role. All employees participate in annual performance appraisals and regular one-to-one meetings with their line managers in which their performance with regard to the functions and responsibilities associated with their role, including those relevant to GHG M&R, is reviewed and assessed. Any

	additional training requirements identified as an outcome of this process are facilitated on an appropriate timescale to ensure that staff competencies match the requirements of their role and to maintain the efficient and compliant functioning of the facility.
Post or department responsible for the procedure and for any data generated	EHS Coordinator
Location where records are kept	Internal Sharepoint & internal network server
Name of IT system used	N/A
List of EN or other standards applied	N/A

z. 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	SOP - CLN - GHG Permit Compliance Requirements
Reference for procedure	SOP - CLN - GHG Permit Compliance Requirements - Section 10
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	<p>This procedure ensures that the monitoring plan is reviewed at least annually or when a change to the installation might affect conformity with the MRR. Assessment of MP completeness and appropriateness is carried out with regard to the following aspects:</p> <ul style="list-style-type: none"> • Evaluation of any potential measures for the improvement of the monitoring methodology and review of the following: <ul style="list-style-type: none"> o the category of the Installation and its installed capacity; o the nature or function of the Installation and its Schedule I Activities o the installation's emission sources or emission points; o Fuels used at the Installation (source streams); o Metering devices used; and o Tiers applied.

Post or department responsible for the procedure and for any data generated	EHS Coordinator
Location where records are kept	Internal Sharepoint & internal network server
Name of IT system used	N/A

List of EN or other standards applied N/A

aa. Data Flow Activities

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

<p>Title of procedure Reference for procedure</p>	<p>SOP - CLN - GHG Permit Compliance Requirements SOP - CLN - GHG Permit Compliance Requirements - Section 11</p>
<p>Diagram reference Brief description of procedure. The description should cover the essential parameters and operations performed</p>	<p>N/A All data for the purposes of calculation of GHG emissions relates to diesel as this is the only fuel used on site. This procedure specifies: The data to be captured (fuel delivery and stock data); How the data are to be recorded, processed and validated; How the installation's CO2 emissions are to be calculated; and The roles with responsibility for each of the data flow activities lies.</p>
<p>Post or department responsible for the procedure and for any data generated Location where records are kept Name of IT system used List of EN or other standards applied List of primary data sources</p>	<p>EHS Coordinator supported by the Chief Building Engineers Internal Sharepoint & internal network server N/A N/A Diesel supply data provided by vendor - delivery dockets and invoices Fuel level checks completed by facility staff</p>
<p>Description of the relevant processing steps for each specific data flow activity. Identify each step in the data flow and include the formulas and data used to determine emissions from the primary data. Include details of any relevant electronic data processing and storage systems and other inputs (including manual inputs) and confirm how outputs of data flow activities are recorded</p>	<p>'Country Specific Net Calorific Values and CO2 Emission Factors for use in the Annual Installation Emissions Report' published on the EPA website The fuel consumed during each GHG reporting period (calendar year) is calculated based on the quantity of the fuel delivered by the vendor during the year reconciled against the stock of fuel at the beginning and the end of the year, as referred to in Article 27(2). Diesel is delivered to the facility by the vendor's fiscally metered road tankers. Delivery quantities are determined based on the delivery dockets and invoices provided by the vendor. The fiscal meters are calibrated and certified at least every two years in accordance with national legislation. All generator diesel oil tanks are fitted with level gauges calibrated to the</p>

appropriate measurement range by the manufacturer. All generator diesel oil tanks are also fitted with tank dip sticks to allow tank measurement in the event of failure of the tank level gauges. Tank levels are recorded at the beginning of each year as near to 1st January as practicable, with the level recorded serving as both the closing stock for the previous year and the opening stock for the new year. The stock difference between start and end of the year will be determined using these tank level records. Fuel level checks on the diesel tanks are recorded in the CLN Emissions and Fuel Tracking Sheet as part of the generator maintenance schedule. The CLN Emissions and Fuel Tracking Sheet is stored on the site IT system and is available to the Chief Building Engineer and the EHS Coordinator. Refuelling is scheduled based on an alarm system which indicates when refuelling is required. Diesel deliveries are supervised onsite and the volumes delivered are recorded in the CLN Emissions and Fuel Tracking Sheet. The change in volume of fuel in the tank is validated against the metered volume of fuel delivered. Delivery dockets are received by the CFE/CFT supervising delivery and filed on the site IT system where they are available to the Chief Building Engineer and EHS Coordinator. Fuel invoices received from the Vendor are obtained by the Chief Building Engineer and diesel delivery volumes are validated against delivery dockets and entered into the CO2 emissions monitoring spreadsheet. During calculation of CO2 emissions diesel delivery dockets and invoices are cross-referenced against fuel deliveries recorded in the CLN Emissions and Fuel Tracking Sheet to ensure completeness and quality of the dataset. All volumes of fuel are converted from Litres to Tonnes using either a specified diesel density supplied by the fuel vendor or else using the diesel density value published on the SEAI website. Calculation is based on the standard methodology set out in Article 24 of the MRR, i.e.: $\text{Combustion Emissions} = \text{Fuel Consumption} \times \text{Emission Factor} \times \text{NCV} \times \text{Oxidation Factor}$ where: Combustion Emissions are reported as tonnes of carbon dioxide equivalent (tCO₂(eq)); Fuel Consumption is the quantity of fuel consumed expressed in tonnes (t); Emission Factor is expressed as tonnes of carbon dioxide per Tera joule of energy (tCO₂/TJ); NCV is the net calorific value expressed as Tera joules of energy per kiloton of fuel (TJ/kt); and The oxidation factor applied is 1 (in accordance with Annex II section 2.3 of the MRR). The values for emission factor and NCV are obtained from the latest 'Country Specific Net Calorific Values and CO₂ Emission Factors for use in the Annual Installation Emissions Report' published on the EPA website. Annual reported values are trended, reviewed and assessed in relation to historic data to identify whether emissions are in line with expected values with deviations investigated.

Submit relevant documents to record data flow activities

Attachment	Description
CLN Data Flow Activities.pdf	Data Flow Activities

bb. 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	SOP - CLN - GHG Permit Compliance Requirements
Reference for procedure	SOP - CLN - GHG Permit Compliance Requirements - Section 12
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	<p>This procedure describes the risks that could lead to misstatements and non-conformance with the monitoring plan and this MRR and the control measures in place to mitigate those risks. The inherent risk of material error or miscalculation in the determination of emissions is considered to be low owing to the installed emission sources (generator sets) being a common and well understood technology. The main control risk is that emissions will be incorrectly reported as a result of errors within the data flow activities. A control system based on technical quality review and control check by a second person who is not the originator of the data input/calculations ('four eyes principle') is in place to ensure that the AEM does not contain misstatements and is in conformity with the monitoring plan and the MRR. As a quality assurance measure, tank level meter readings are checked through tank dips on an annual basis. Where a variance in measured levels exceeds the allowable uncertainty threshold, the more conservative amount will be used for calculation purposes and the discrepancy will be investigated. Where necessary the level meter will be repaired or replaced as soon as practicable in order to ensure that fuel measurements are as accurate as possible. Cross-referencing of fuel deliveries / POs / invoices with recorded fuel levels in tanks provides an additional quality check that the reported quantities of fuel consumed are accurate.</p>
Post or department responsible for the procedure and for any data generated	EHS Coordinator supported by Chief Building Engineer
Location where records are kept	Internal Sharepoint & internal network server
Name of IT system used	N/A

List of EN or other standards applied N/A

cc. 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	SOP - CLN - GHG Permit Compliance Requirements
Reference for procedure	SOP - CLN - GHG Permit Compliance Requirements - Section 13
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	<p>This procedure describes how the metering/measuring equipment used to determine the activity data for the installation is calibrated and the data verified. Diesel delivery data is obtained from the approved, contracted fuel vendor via invoices. Fuel volumes are based on tanker flow meters which are subject to national metrological control, compliance with which is a contractual obligation of the fuel vendor. Calibration records are obtained for the gas oil delivery trucks and reviewed upon receipt. Diesel stock levels in each tank are recorded at the start/end of each year in the CLN Emissions and Fuel Tracking Sheet. The tank level meters are supplied with factory calibration and do not require further calibration. If one of the meters is found to not be reading correctly then the meter will be repaired or replaced as quickly as possible, with the fuel usage in the meantime based on delivered fuel volumes and manual tank dips, adopting a conservative approach at all times to ensure that no under-reporting of emissions takes place.</p> <p>As a quality assurance measure, tank level meter readings are checked through tank dips on an annual basis. Where a variance in measured levels exceeds the allowable uncertainty threshold, the more conservative amount will be used for calculation purposes and the discrepancy will be investigated. Where necessary the level meter will be repaired or replaced as soon as practicable in order to ensure that fuel measurements are as accurate as possible. Cross-referencing of fuel deliveries / POs / invoices with recorded fuel levels in tanks provides an additional quality check that the reported quantities of fuel consumed are accurate.</p>
Post or department responsible for the procedure and for any data generated	Facility Technical Manager
Location where records are kept	Internal Sharepoint & internal network server
Name of IT system used	N/A
List of EN or other standards applied	N/A

dd. 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	SOP - CLN - GHG Permit Compliance Requirements
Reference for procedure	SOP - CLN - GHG Permit Compliance Requirements - Section 14
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	This procedure describes how data is stored, secured and backed-up on the company IT systems. All documents relating to the EU ETS including fuel delivery and consumption data and annual emissions calculations are stored on the company network drive system which is backed up and secured. Access to IT systems is controlled through the use of unique personal usernames and passwords which are not shared or distributed, and access to EU ETS data is only available to the EHS Coordinator and delegates and appointed site Authorised Representatives. Access to the EPA's online EU ETS portal ETSWAP is only available to the EHS Coordinator and authorised delegates.
Post or department responsible for the procedure and for any data generated	EHS Coordinator
Location where records are kept	Internal Sharepoint & internal network server
Name of IT system used	N/A
List of EN or other standards applied	N/A

ee. 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	SOP - CLN - GHG Permit Compliance Requirements
Reference for procedure	SOP - CLN - GHG Permit Compliance Requirements - Section 15
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	This procedure describes the data review and validation processes implemented on site and sets out the actions and responsibilities in relation to the assessment of data completeness, data quality and variances from previous years. Review and validation of data shall cover all steps of the data flow activities.

Post or department responsible for the procedure and for any data generated	EHS Coordinator supported by Chief Building Engineer
Location where records are kept	Internal Sharepoint & internal network server
Name of IT system used	N/A
List of EN or other standards applied	N/A

ff. 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	SOP - CLN - GHG Permit Compliance Requirements
Reference for procedure	SOP - CLN - GHG Permit Compliance Requirements - Section 16
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	<p>This procedure describes the processes in place to address errors identified in data flow activities, which include:</p> <ul style="list-style-type: none"> •Assessment of the materiality of the error identified; •Assessment of the validity of the outputs of the data flow activity concerned; •Determination of the cause of the error; •Identification and implementation of appropriate corrective action to remedy the error; and •Revision of procedures as necessary to prevent a re-occurrence of the non-conformance. <p>Section 16 of the GHG Permit Compliance procedure states that ‘the EHS Coordinator shall notify the EPA in writing within three days of becoming aware of any factors which may prevent compliance with the conditions of the GHG permit’ and ‘Where it is, for technical reasons, temporarily not feasible to apply the approved monitoring methodology, Clonee Data Center shall take all necessary measures to allow the prompt restoration of the approved monitoring methodology and shall notify the temporary change to the monitoring methodology without undue delay to the Agency specifying:</p> <ol style="list-style-type: none"> 1.The reasons for the deviation from the approved methodology. 2. A detailed description of the interim monitoring

methodology applied to determine the emissions until the normal or approved monitoring methodology specified in the monitoring plan have been restored.

3.The measures being taken restore the monitoring methodology specified in the approved monitoring plan.

4. The anticipated point in time when monitoring by the approved methodology will be resumed.

Post or department responsible for the procedure and for any data generated	EHS Coordinator
Location where records are kept	Internal Sharepoint & internal network server
Name of IT system used	N/A
List of EN or other standards applied	N/A

gg. 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	SOP - CLN - GHG Permit Compliance Requirements
Reference for procedure	SOP - CLN - GHG Permit Compliance Requirements - Section 17
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	This procedure describes the checks in place regarding outsourced activities which from part of the site's data flow activities. The primary control mechanism for all outsourced activities is the use of RISL approved suppliers/subcontractors and SOW (Scope of Works) with which contractors are bound to comply. These agreements set out the controls which contractors must adhere to, including legal, training and accreditation requirements.

Post or department responsible for the procedure and for any data generated	Facility Technical Manager
Location where records are kept	Internal Sharepoint & internal network server

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

hh. Record Keeping and Documentation

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

Title of procedure	SOP - CLN - GHG Permit Compliance Requirements
Reference for procedure	SOP - CLN - GHG Permit Compliance Requirements - Section 18
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	In Accordance with Article 66 of the M&R Regulation Clonee Data Center shall keep records of all relevant data and information for a period of at least 10 years and make the data available to the EPA or Verifier on request. This procedure sets out the records to be maintained, as stipulated in Annex IX of the MRR. All data resulting from data flow activities (e.g. fuel data) and all data relating to control activities (e.g. calibration data) will be retained along with any and all data required for the calculation or verification of emissions. All relevant supplementary data and records relating to the site’s GHG M&R which are not required to be submitted on ETSWAP will be retained.
Post or department responsible for the procedure and for any data generated	EHS Coordinator
Location where records are kept	Internal Sharepoint & internal network server
Name of IT system used	N/A
List of EN or other standards applied	N/A

ii. Risk Assessment

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

Attachment	Description
N/A	N/A

jj. Environmental Management System

Does your organisation have a documented Environmental Management System? No

12. Changes in Operation

kk. 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	SOP - CLN - GHG Permit Compliance Requirements
Reference for procedure	SOP - CLN - GHG Permit Compliance Requirements - Section 19
Diagram reference	N/A
Brief description of procedure. The description should cover the essential parameters and operations performed	<p>This procedure describes the process in place on site to ensure that any planned or effective changes to the installation are assessed to determine whether:</p> <ul style="list-style-type: none"> • The activity at the installation will change • There will be a change in the Installed capacity on site • There will be a large increase/decrease in activity level • A GHG Permit update is required • A modification is required to the site's Monitoring Plan or associated procedures <p>No changes 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</p>

Environmental Protection Agency, including:

- Installation of new generators or other emission sources
- Changes to the fuel used in the site’s emission sources

The procedure outlines the responsibilities relating to:

- Identification of proposed changes to the installation;
- Assessment of the impact of proposed changes to the installation;
- Liaison with the EPA regarding any proposed change to the installation and obtaining prior approval for the change;
- Notification of the EPA of the commencement of activity of any part of the installation not included in the GHG Permit application within seven days of commencement;
- Notification of the EPA of intended cessation of all or any part of any permitted Activity at least one month from the date of cessation; and
- Completion the Capacity/ Activity Level Changes Declaration form by 31 December.

Post or department responsible for the procedure and for any data generated
 Location where records are kept
 Name of IT system used

EHS Coordinator supported by Chief Building Engineers
 Internal Sharepoint & Internal IT Server
 N/A

13. Abbreviations

II. Abbreviations Acronyms or definitions

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

Abbreviation	Definition
CBE	Chief Building Engineer
CFE	Critical Facilities Engineer
CFT	Critical Facilities Technician

Abbreviation	Definition
FacOps	Facility Operations
MOP Room	Method of Procedure Room

14. Additional Information

Any other information:

Attachment	Description
CLN Emissions and Fuel Tracking Sheet.xlsx	CLN Fuel Tracking Sheet
Emo PS Gas Oil updated 10ppm sulphur new June 16.doc	Gas Oil Product Specification Sheet
CLN Generators Performance Data.pdf	CLN Generators Performance Data Sheets
SOP CLN Monthly Generator Load bank test.pdf	Generator Monthly Load Bank Test SOP
SOP CLN Generator Refueling.pdf	Generator Refueling SOP
Tech_Sub_712_Level_sensing_pressure_transmitter.pdf	Tank level meter specification
OEM Level sensing pressure transmitter Operating instructions.pdf	Tank level meter operating instructions
SOP CLN GHG Permit Compliance 2018.05.21.pdf	CLN GHG Permit Compliance Procedure
IE_GHG189_10513_Clonee_Data_Centre_GHG_Calculati on_Spreadsheet_20180521.xlsx	CLN GHG Calculations spreadsheet

15. Confidentiality

mm. 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: true

The table below identifies which (if any) sections of the form the operator considers should be treated as commercially confidential and explains why disclosure of this information would cause an adverse effect to commercial interests.

Section	Justification
Installation Activities	<p>Site Diagram Attachment "Clonee Data Center Site Layout Emissions Sources"</p> <p>RISL implement robust procedures and policies and security infrastructure to ensure the safety and security of both data and physical security at their data centers.</p> <p>RISL therefore request that site maps facilitating identifying the geographical location and layout of key facility equipment are not made public.</p> <p>RISL also request the following information remain confidential on the basis that it is commercially sensitive data that would be of use to our competitors:</p> <ul style="list-style-type: none"> - Data on the thermal input capacity of the individual generators - Data on the total installed thermal input capacity at the installation
Emissions Details	<p>RISL request the following information remain confidential on the basis that it is commercially sensitive data that would be of use to our competitors:</p>

Section	Justification
	<ul style="list-style-type: none"> - Data on the thermal input capacity of the individual generators - Data on the total installed thermal input capacity at the installation
Additional Information	<p>RISL request the following information remain confidential on the basis that it is commercially sensitive data that would be of use to our competitors:</p> <ul style="list-style-type: none"> - Data on the thermal input capacity of the individual generators - Data on the total installed thermal input capacity at the installation - Generator performance data sheets - Drawings/specifications of equipment - Standard operating procedures (SOPs)
Management	<p>RISL request the following information remain confidential on the basis that it is commercially sensitive data that would be of use to our competitors:</p> <p>Org Chart - GHG Permit</p>

END of Appendix I.