Environmental Protection Agency
An Ghníomhaireacht um Chaomhnú Comhshaoil

Headquarters
P.O. Box 3000
Johnstown Castle Estate
County Wexford
Ireland

INTEGRATED POLLUTION PREVENTION & CONTROL LICENCE
Recommended Determination

Licence Register Number:	**P0029-03**
Licensee:	**Irish Cement Limited**
Location of Installation:	**Castlemungret County Limerick**

INTRODUCTION

This introduction is not part of the licence and does not purport to be a legal interpretation of the licence.

This installation is for the production of cement clinker in a rotary kiln. Associated with the cement works are an inert landfill and an open cast limestone quarry. Cement works infrastructure includes a rotating kiln, mills and storage silos. Inert waste generated on-site is disposed to the on-site landfill. The installation occupies an area of approximately 346 hectares.

The installation falls for Category of Activity 3.1 under the IPPC Directive (2008/1/EC).

The licence sets out in detail the conditions under which Irish Cement Limited will operate and manage this installation.

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Glossary of Terms

All terms in this licence should be interpreted in accordance with the definitions in the Environmental Protection Agency Acts 1992 to 2011 / Waste Management Acts 1996 to 2011, unless otherwise defined in the section.

Adequate lighting	20 lux measured at ground level.
AER	Annual Environmental Report.
Agreement	Agreement in writing.
Annually	All or part of a period of twelve consecutive months.
Application	The application by the licensee for this licence.
Appropriate Facility	A waste management facility, duly authorised under relevant law and technically suitable.
Attachment	Any reference to Attachments in this licence refers to attachments submitted as part of this licence application.
BAT	Best Available Techniques.
Biannually	**At approximately six – monthly intervals.**
Biennially	Once every two years.
BOD	5 day Biochemical Oxygen Demand **(without nitrification suppression).**
CEN	Comité Européen De Normalisation – European Committee for Standardisation.
COD	Chemical Oxygen Demand.
Compliance Point	**The point (location, depth) at which a compliance value should be met. Generally it is represented by a borehole or monitoring well from which representative groundwater samples can be obtained.**
Compliance Value	**The concentration of a substance and associated compliance regime that, when not exceeded at the compliance point, will prevent pollution and/or achieve water quality objectives at the receptor.**
Construction and demolition (C&D) waste	Wastes that arise from construction, renovation and demolition activities: Chapter 17 of the EWC or as otherwise may be agreed.
Containment boom	A boom that can contain spillages and prevent them from entering drains or watercourses or from further contaminating watercourses.

Daily	During all days of plant operation and, in the case of emissions, when emissions are taking place; with at least one measurement on any one day.
Day	Any 24 hour period.
Daytime	0800 hrs to 2200 hrs.
dB(A)	Decibels (A weighted).
DO	Dissolved oxygen.
Documentation	Any report, record, results, data, drawing, proposal, interpretation or other document in written or electronic form which is required by this licence.
Drawing	Any reference to a drawing or drawing number means a drawing or drawing number contained in the application, unless otherwise specified in this licence.
EMP	Environmental Management Programme.
Emission limits	Those limits, including concentration limits and deposition rates, established in *Schedule B: Emission Limits,* of this licence.
Environmental damage	As defined in Directive 2004/35/EC.
EPA	Environmental Protection Agency.
European Waste Catalogue (EWC)	A harmonised, non-exhaustive list of wastes drawn up by the European Commission and published as Commission Decision 2000/532/EC and any subsequent amendment published in the Official Journal of the European Community.
Extractive Waste	**As defined in Schedule 3(2) of the Waste Management (Management of Waste from the Extractive Industries) Regulations, 2009, S.I. No. 566 of 2009.**
Facility	Any site or premises used for the purpose of the recovery of disposal of waste.
Fortnightly	A minimum of 24 times per year, at approximately two week intervals.
GC/MS	Gas chromatography/mass spectroscopy.
ha	Hectare.
Heavy metals	This term is to be interpreted as set out in "Parameters of Water Quality, Interpretation and Standards" published by the Agency in 2001. ISBN 1-84095-015-3.

HFO	**Heavy Fuel Oil as defined in Council Directive 1999/32/EC and meeting the requirements of S.I. No. 119 of 2008.**
Hours of operation	The hours during which the installation is authorised to be operational.
ICP	Inductively coupled plasma spectroscopy.
Incident	The following shall constitute as incident for the purposes of this licence: (i) an emergency; (ii) any emission which does not comply with the requirements of this licence; (iii) any exceedance of the daily duty capacity of the waste handling equipment; (iv) any trigger level specified in this licence which is attained or exceeded; **(v) any compliance value specified in this licence which is attained or exceeded; and;** (vi) any indication that environmental pollution has, or may have, taken place.
Inert Waste	Waste that does not undergo any significant physical, chemical or biological transformations. Inert waste will not dissolve, burn or otherwise physically or chemically react, biodegrade or adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or harm human health. The total leachability and pollutant content of the waste and the ecotoxicity of the leachate must be insignificant, and in particular not endanger the quality of surface water and/or groundwater.
Installation	A stationary technical unit or plant where the activity concerned referred to in the First Schedule of EPA Acts 1992 to 2011 is or will be carried on, and shall be deemed to include any directly associated activity, which has a technical connection with the activity and is carried out on the site of the activity.
IPPC	Integrated Pollution Prevention & Control.
K	Kelvin.
kPa	Kilopascals.
Landfill Directive	Council Directive 1999/31/EC.
L_{eq}	Equivalent continuous sound level.
Licensee	Irish Cement Limited, Platin, Drogheda, County Louth.
Liquid waste	Any waste in liquid form and containing less than 2% dry matter.

List I	**As listed in the EC Directives 2006/11/EC and 80/68/EEC and amendments.**
List II	**As listed in the EC Directives 2006/11/EC and 80/68/EEC and amendments.**
Local Authority	Limerick County Council.
Maintain	Keep in a fit state, including such regular inspection, servicing, calibration and repair as may be necessary to perform its function adequately.
Mass flow limit	An emission limit value expressed as the maximum mass of a substance that can be emitted per unit time.
Mass flow threshold	A mass flow rate above which a concentration limit applies.
Monthly	A minimum of 12 times per year, at intervals of approximately one month.
Night-time	2200 hrs to 0800 hrs.
Noise-sensitive location (NSL)	Any dwelling house, hotel or hostel, health building, educational establishment, place of worship or entertainment, or any other installation or area of high amenity which for its proper enjoyment requires the absence of noise at nuisance levels.
OD	Ordnance Datum Malin Head.
Oil separator	Device installed according to the International Standard I.S. EN 858-2:2003 (Separator system for light liquids, (e.g. oil and petrol) – Part 2: Selection of normal size, installation, operation and maintenance).
PRTR	Pollutant Release and Transfer Register.
Quarterly	**All or part of a period of three consecutive months beginning on the first day of January, April, July or October.**
Sample(s)	Unless the context of this licence indicates to the contrary, the term samples shall include measurements taken by electronic instruments.
Sanitary effluent	Wastewater from installation toilet, washroom and canteen facilities.
Shut-down	**Shut-down is that period of time during which the cement kiln is allowed to cool from operating temperature to a lower temperature.**
SNCR	Selective non-catalytic reduction.
SOP	Standard operating procedure.
Specified emissions	Those emissions listed in *Schedule B: Emission Limits,* of this licence.

Standard method	A National, European or internationally recognised procedure (e.g. I.S. EN, ISO, CEN, BS or equivalent); or an in-house documented procedure based on the above references; a procedure as detailed in the current edition of "Standard Methods for the Examination of Water and Wastewater" (prepared and published jointly by A.P.H.A., A.W.W.A. & W.E.F.), American Public Health Association, 1015 Fifteenth Street, N.W., Washington DC 20005, USA; or an alternative method as may be agreed by the Agency.
Start-up	**Start-up is that period of time during which the cement kiln is heated to operating temperature from a lower temperature.**
The Agency	Environmental Protection Agency.
TA Luft	Technical Instructions on Air Quality Control – TA Luft in accordance with art. 48 of the Federal Immission Control Law (BImSchG) dated 15 March 1974 (BGBI. I p 721). Federal Ministry for Environment, Bonn 1986, including the amendment for Classification of Organic Substances according to section 3.1.7 TA. Luft, published in July 1997.
TOC	Total organic carbon.
Trade effluent	Trade effluent has the meaning given in the Water Services Act, 2007.
Trigger level	A parameter value, the achievement or exceedance of which requires certain actions to be taken by the licensee.
Waste facility	**As defined in regulation 3(2) of the Waste Management (Management of Waste from the Extractive Industries) Regulations 2009. For the purposes of this licence, the overburden mound is a waste facility.**
Water Services Authority	Limerick County Council.
Weekly	During all weeks of plant operation and, in the case of emissions, when emissions are taking place; with at least one measurement in any one week.
WWTP	Waste water treatment plant.

Decision & Reasons for the Decision

The Environmental Protection Agency is satisfied, on the basis of the information available, that subject to compliance with the conditions of this licence, any emissions from the activity will comply with and will not contravene any of the requirements of Section 83(5) of the Environmental Protection Agency Acts 1992 to 2011.

In reaching this decision the Environmental Protection Agency has considered the application and supporting documentation received from the applicant, all submissions received from other parties and the report of its inspector.

Part I Schedule of Activities Licensed

In pursuance of the powers conferred on it by the Environmental Protection Agency Acts 1992 to 2011, the Agency proposes to determine the review of the existing licence (Reg. No. P0029-02) granted to:

Irish Cement Limited, Platin, Drogheda, County Louth

under Section 90(2) of the said Acts to carry on the following activities:

:- **the production of cement; and**

:- **the recovery or disposal of waste in a facility, within the meaning of the Waste Management Act, 1996, which facility is connected or associated with another activity specified in this Schedule in respect of which a licence or revised licence under Part IV is in force or in respect of which a licence under the said Part is or will be required.**

at **Castlemungret, County Limerick** subject to the following twelve Conditions, with the reasons therefor and associated schedules attached thereto. For the purpose of Article 48 of the Waste Management Licensing Regulations 2004 (S.I. No. 395 of 2004) the landfill associated with this activity is classed as an inert waste landfill.

Part II Schedule of Activities Refused

None of the proposed activities as set out in the licence application have been refused.

Part III Conditions

Condition 1. Scope

1.1 IPPC activities at this installation shall be restricted to those listed and described in *Part I Schedule of Activities Licensed,* and shall be as set out in the licence application or as modified under Condition 1.4 of this licence and subject to the conditions of this licence.

1.2 Activities at this installation shall be limited as set out in *Schedule A: Limitations,* of this licence.

1.3 For the purposes of this licence, the installation authorised by this licence is the area of land outlined in red on **Drawing No. D5373.40, Figure 1 (dated February 2008)** of the application **Reg. No. P0029-02**. Any reference in this licence to "installation" shall mean the area thus outlined in red. The licensed activities shall be carried on only within the area outlined.

1.4 No alteration to, or reconstruction in respect of, the activity, or any part thereof, that would, or is likely to, result in

(i) a material change or increase in:

- the nature or quantity of any emission;
- the abatement/treatment or recovery systems;
- the range of processes to be carried out;
- the fuels, raw materials, intermediates, products or wastes generated, or

(ii) any changes in:

- site management, infrastructure or control with adverse environmental significance;

shall be carried out or commenced without prior notice to, and without the agreement of, the Agency.

1.5 The installation shall be controlled, operated and maintained, and emissions shall take place as set out in the licence. All programmes required to be carried out under the terms of this licence become part of this licence.

1.6 This licence is for the purpose of IPPC licensing under the EPA Acts 1992 to **2011** only and nothing in this licence shall be construed as negating the licensee's statutory obligations or requirements under any other enactments or regulations.

1.7 This licence has been granted in substitution for the licence granted to the licensee on 28 April 2009 (Register No P0029-02). The previous IPPC licence (Reg. No. P0029-02) is superseded by this revised licence.

Reason: ***To clarify the scope of this licence.***

Condition 2. Management of the Installation

2.1 Installation Management

2.1.1 The licensee shall employ a suitable qualified and experienced installation manager who shall be designated as the person in charge. The installation manager or a nominated, suitably qualified and experienced deputy shall be present on the installation at all times during its operation or as otherwise required by the Agency. An appropriately trained and competent person(s) shall manage the landfill.

2.1.2 The licensee shall ensure that personnel performing specifically assigned tasks shall be qualified on the basis of appropriate education, training and experience as required and shall be aware of the requirements of this licence.

2.2 Environmental Management System (EMS)

2.2.1 The licensee shall maintain an Environmental Management System (EMS). The EMS shall be updated on an annual basis.

2.2.2 The EMS shall include, as a minimum, the following elements:

2.2.2.1 Management and Reporting Structure.

2.2.2.2 Schedule of Environmental Objectives and Targets.

The licensee shall maintain a Schedule of Environmental Objectives and Targets. The schedule shall, as a minimum, provide for a review of all operations and processes, including an evaluation of practicable options, for energy and resource efficiency, SNCR reduction efficiencies of 60%, the use of cleaner technology, cleaner production, production related carbon footprint, and the prevention, reduction and minimisation of waste and shall include waste reduction targets. The schedule shall include time frames for the achievement of set targets and shall address a five-year period as a minimum. The schedule shall be reviewed annually and amendments thereto notified to the Agency for agreement as part of the Annual Environmental Report (AER).

2.2.2.3 Environmental Management Programme (EMP)

The licensee shall maintain an EMP, including a time schedule, for achieving the Environmental Objectives and Targets prepared under Condition 2.2.2.2. Once agreed the EMP shall be maintained by the licensee. It shall include:

- designation of responsibility for targets;
- the means by which they may be achieved;
- the time within which they may be achieved.

The EMP shall be reviewed annually and amendments thereto notified to the Agency for agreement as part of the Annual Environmental Report (AER).

A report on the programme, including the success in meeting agreed targets, shall be prepared and submitted to the Agency as part of the AER. Such reports shall be retained on-site for a period of not less than seven years and shall be available for inspection by authorised persons of the Agency.

2.2.2.4 Documentation

(i) The licensee shall maintain an environmental management documentation system which shall be to the satisfaction of the Agency.

(ii) The licensee shall issue a copy of this licence to all relevant personnel whose duties relate to any condition of this licence.

2.2.2.5 Corrective Action

The licensee shall establish procedures to ensure that corrective action is taken should the specified requirements of this licence not be fulfilled. The responsibility and authority for persons initiating further investigation and corrective action in the event of a reported non-conformity with this licence shall be defined.

2.2.2.6 Awareness and Training

The licensee shall maintain procedures for identifying training needs, and for providing appropriate training, for all personnel whose work can have a

significant effect upon the environment. Appropriate records of training shall be maintained.

2.2.2.7 Communications Programme

The licensee shall maintain a Public Awareness and Communications Programme to ensure that members of the public can obtain information at the installation, at all reasonable times, concerning the environmental performance of the installation.

2.2.2.8 Maintenance Programme

The licensee shall maintain a programme for maintenance of all plant and equipment based on the instructions issued by the manufacturer/supplier or installer of the equipment. Appropriate record keeping and diagnostic testing shall support this maintenance programme. The licensee shall clearly allocate responsibility for the planning, management and execution of all aspects of this programme to appropriate personnel (see Condition 2.1 above).

2.2.2.9 Efficient Process Control

The licensee shall maintain a programme to ensure there is adequate control of processes under all modes of operation. The programme shall identify the key indicator parameters for process control performance, as well as identifying methods for measuring and controlling these parameters. Abnormal process operating conditions shall be documented, and analysed to identify any necessary corrective action.

Reason:	***To make provision for management of the activity on a planned basis having regard to the desirability of ongoing assessment, recording and reporting of matters affecting the environment.***

Condition 3. Infrastructure and Operation

3.1 The licensee shall establish and maintain, for each component of the installation, all infrastructure referred to in this licence in advance of the commencement of the licensed activities in that component, or as required by the conditions of this licence. Infrastructure specified in the application that relates to the environmental performance of the installation and is not specified in the licence, shall be installed in accordance with the schedule submitted in the application.

3.2 Installation Notice Board

3.2.1 The licensee shall maintain Installation Notice Board on the installation so that it is legible to persons outside the main entrance to the installation. The minimum dimensions of the board shall be 1200 mm by 750 mm. The notice board shall be maintained thereafter.

3.2.2 The board shall clearly show:

(i) the name and telephone number of the installation;

(ii) the normal hours of operation;

(iii) the name of the licence holder;

(iv) an emergency out of hours contact telephone number;

(v) the licence reference number; and

(vi) where environmental information relating to the installation can be obtained.

3.3 The licensee shall install on all emission points such sampling points or equipment, including any data-logging or other electronic communication equipment, as may be required by the

Agency. All such equipment shall be consistent with the safe operation of all sampling and monitoring systems.

3.4 The licensee shall clearly label and provide safe and permanent access to all on-site sampling and monitoring points and to off-site points as required by the Agency. The requirement with regard to off-site points is subject to the prior agreement of the landowner(s) concerned.

3.5 Tank, Container and Drum Storage Areas

3.5.1 All tank, container and drum storage areas shall be rendered impervious to the materials stored therein. Bunds shall be designed having regard to Agency guidelines 'Storage and Transfer of Materials for Scheduled Activities' (2004).

3.5.2 With the exception of double walled tanks equipped with leak detection, all tank and drum storage areas shall, as a minimum, be bunded, either locally or remotely, to a volume not less than the greater of the following:

(i) 110% of the capacity of the largest tank or drum within the bunded area; or

(ii) 25% of the total volume of substance that could be stored within the bunded area.

3.5.3 All drainage from bunded areas shall be treated as hazardous waste unless it can be demonstrated to be otherwise. All drainage from bunded areas shall be diverted for collection and safe disposal.

3.5.4 All inlets, outlets, vent pipes, valves and gauges must be within the bunded area.

3.5.5 All tanks, containers and drums shall be labelled to clearly indicate their contents.

3.5.6 Leak detection alarms shall be maintained at all double walled tanks.

3.6 Spillage and Containment

3.6.1 The licensee shall have in storage an adequate supply of containment booms and/or suitable absorbent material to contain and absorb any spillage at the installation. Once used, the absorbent material shall be disposed of at an appropriate facility.

3.6.2 Two 3 metre absorbent booms at emission point reference number SW1 and SW2 and a permanent 30 metre containment boom on Bunlicky Pond shall be maintained.

3.7 Silt Traps and Oil Separators

The licensee shall maintain silt traps and oil separators at the installation:

(i) Silt traps to ensure that all storm water discharges, other than from roofs, from the installation pass through a silt trap in advance of discharge;

(ii) An oil separator on the storm water discharge from yard areas. The separator shall be a Class I full retention separator.

The silt traps and separator shall be in accordance with I.S. EN-858-2: 2003 (separator systems for light liquids).

3.8 All pumps sumps, storage tanks, lagoons or other treatment plant chambers from which spillage of environmentally significant materials might occur in such quantities as are likely to breach local or remote containment or separators, shall be fitted with high liquid level alarms (or oil detectors as appropriate).

3.9 The provision of a catchment system to collect any leaks from flanges and valves of all over-ground pipes used to transport material other than water shall be examined. This shall be incorporated into a Schedule of Environmental Objectives and Targets set out in Condition 2. of this licence for the reduction in fugitive emissions.

3.10 At least one groundwater monitoring well in the inflow region and two groundwater monitoring wells in the outflow region to the landfill shall be maintained. The exact locations of the monitoring wells shall be agreed with the Agency. All wellheads, shall be adequately protected to prevent contamination or physical damage.

3.11 The licensee shall maintain in a prominent location on the site a wind sock, or other wind direction indicator, which shall be visible from the public roadway outside the site.

3.12 Sanitary effluent

3.12.1 Sanitary effluent not discharging to the Local Authority sewer shall be treated in the waste water treatment system.

3.12.2 Any waste water treatment system and any percolation area for the treatment of sanitary effluent arising on-site, shall satisfy the criteria set out in the *Code of Practice: Waste Water Treatment and Disposal Systems Serving Single Houses*, published by the Environmental Protection Agency.

3.13 Waste disposal by on-site landfill

3.13.1 Only inert waste shall be disposed of at the on-site landfill.

3.13.2 The landfill is the area of land indicated on Drawing No. D5373.40, Figure 16 of the application register number P0029-02.

3.13.3 The licensee shall review and update, to the satisfaction of the Agency, the Landfill Operational Plan as required by the Agency. This Plan shall apply to closed and active areas of the landfill and to new cells developed. The Plan shall have regard to the guidance on monitoring, operation, and restoration and aftercare in the Agency's Landfill Manuals and Guidance Note, unless otherwise agreed by the Agency. The Plan shall be in accordance with Council Directive 1999/31/EC on the Landfill of Waste and Council Decision 2003/33/EC on establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 of and Annex II to Directive 1999/31/EC. This Plan shall, as a minimum, comprise the following elements:

(i) Waste Acceptance and Characterisation Procedures (includes waste acceptance criteria and waste checking and analysis).

(ii) Waste handling & placement.

(iii) Dust control.

(iv) Development (phasing) programme.

(v) Capping and progressive restoration of closed areas of the landfill.

3.13.4 The Waste Acceptance and Characterisation Procedures described in paragraph 3.16.3 above shall, where necessary, be revised to reflect any further European Union Decisions adopted pursuant to Article 16 and Annex II of the Council Directive 1999/31/EC on the landfill of waste.

3.13.5 The licensee shall have regard to all current and any future Manuals, Criteria and Procedures issued by the Agency with regard to landfill sites.

3.13.6 The landfill shall not extend to or interfere with designated candidate Special Area of Conservation, site code 002165 or the cormorant roost and nesting colony.

3.14 **The *Method Statement for Bunlicky Landfill Asbestos Removal and Land Remediation* received on the 16th February 2009 and as varied by any agreements with the Agency, shall be implemented within twelve months of grant of this licence, unless otherwise approved by the Agency. A final validation report to include a certificate of completion shall be submitted to the Agency within three months of execution of the removal plan. The licensee shall carry out such tests, investigations or submit certification, as requested by the Agency, to confirm that there is no continuing risk to the environment.**

Reason: ***To provide for appropriate operation of the installation to ensure protection of the environment.***

Condition 4. Interpretation

4.1 Emission limit values for emissions to atmosphere in this licence shall be interpreted in the following way:

4.1.1 Continuous Monitoring

(i) No 24 hour mean value shall exceed the emission limit value.

(ii) 97% of all 30 minute mean values taken continuously over an annual period (excluding periods of start-up, shutdown, and, in the case of particulates, safety trip-outs) shall not exceed 1.2 times the emission limit value.

(iii) No 30 minute mean value shall exceed twice the emission limit value except during start-up and shutdown periods for NOx emissions.

4.1.2 Non-Continuous Monitoring

(i) For any parameter where, due to sampling/analytical limitations, a 30 minute sample is inappropriate, a suitable sampling period should be employed and the value obtained therein shall not exceed the emission limit value.

(ii) For flow, no hourly or daily mean value, calculated on the basis of appropriate spot readings, shall exceed the relevant limit value.

(iii) For all other parameters, no 30 minute mean value shall exceed the emission limit value.

4.2 The concentration and volume flow limits for emissions to atmosphere specified in this licence shall be achieved without the introduction of dilution air and shall be based on gas volumes under standard conditions of:

4.2.1 From non-combustion sources:

Temperature 273K, Pressure 101.3 kPa (no correction for oxygen or water content).

4.2.2 From combustion sources:

Temperature 273K, Pressure 101.3 kPa, dry gas; 10% oxygen.

4.3 Emission limit values for emissions to waters in this licence shall be interpreted in the following way:

4.3.1 Continuous Monitoring

(i) No flow value shall exceed the specific limit.

(ii) No pH value shall deviate from the specified range.

(iii) No temperature value shall exceed the limit value.

4.3.2 Composite Sampling

(i) No pH value shall deviate from the specified range.

(ii) For parameters other than pH and flow, eight out of ten consecutive composite results, based on flow proportional composite sampling, shall not exceed the emission limit value. No individual results similarly calculated shall exceed 1.2 times the emission limit value.

4.3.3 Discrete Sampling

For parameters other than pH and temperature, no grab sample value shall exceed 1.2 times the emission limit value.

4.4 Where the ability to measure a parameter is affected by mixing before emission, then, with agreement from the Agency, the parameter may be assessed before mixing takes place.

4.5 Noise

Noise from the installation shall not give rise to sound pressure levels (Leq, T) measured at NSLs of the installation which exceed the limit value(s).

4.6 Blasting

Blasting operations at the installation shall not give rise to vibration levels or air over-pressure values measured at noise sensitive locations in excess of the vibration limit value or over-pressure value, subject to the following:

(i) Vibration levels measured at noise sensitive location(s) shall not exceed the specified limit values.

(ii) 95% of all air over-pressure levels measured at noise sensitive locations(s) shall conform to the specified limit value. No individual air over-pressure value shall exceed the limit value by more than 2.5dB(lin).

4.7 Dust

Dust from the activity shall not give rise to deposition levels which exceed the limit value(s).

Reason: ***To clarify the interpretation of limit values fixed under the licence.***

Condition 5. Emissions

5.1 No specified emission from the installation shall exceed the emission limit values set out in *Schedule B: Emission Limits,* of this licence. There shall be no other emissions of environmental significance.

5.2 No emissions, including odours, from the activities carried on at the site shall result in an impairment of, or an interference with amenities or the environment beyond the installation boundary or any other legitimate uses of the environment beyond the installation boundary.

5.3 No substance shall be discharged in a manner, or at a concentration, that, following initial dilution, causes tainting of fish or shellfish.

5.4 The licensee shall ensure that all or any of the following:

- Mud
- Dust

associated with the activity do not result in an impairment of, or an interference with, amenities or the environment at the installation or beyond the installation boundary or any other legitimate uses of the environment beyond the installation boundary. Any method used by the licensee to control or prevent any such impairment/interference shall not cause environmental pollution.

Reason: ***To provide for the protection of the environment by way of control and limitation of emissions.***

Condition 6. Control and Monitoring

6.1 The licensee shall carry out such sampling, analyses, measurements, examinations, maintenance and calibrations as set out below and as in accordance with *Schedule C: Control & Monitoring,* of this licence.

6.1.1 Analyses shall be undertaken by competent staff in accordance with documented operating procedures.

6.1.2 Such procedures shall be assessed for their suitability for the test matrix and performance characteristics shall be determined.

6.1.3 Such procedures shall be subject to a programme of Analytical Quality Control using control standards with evaluation of test responses.

6.1.4 Where any analysis is sub-contracted it shall be to a competent laboratory.

6.2 The licensee shall ensure that:

(i) sampling and analysis for all parameters listed in the Schedules to this licence; and

(ii) any reference measurements for the calibration of automated measurement systems;

shall be carried out in accordance with CEN-standards. If CEN standards are not available, ISO, national or international standards that will ensure the provision of data of an equivalent scientific quality shall apply.

6.3 All automatic monitors and samplers shall be functioning at all times (except during maintenance and calibration) when the activity is being carried on unless alternative sampling or monitoring has been agreed in writing by the Agency for a limited period. In the event of the malfunction of any continuous monitor, the licensee shall contact the Agency as soon as practicable, and alternative sampling and monitoring facilities shall be put in place. The use of alternative equipment, other than in emergency situations, shall be as agreed by the Agency.

6.4 Monitoring and analysis equipment shall be operated and maintained as necessary so that monitoring accurately reflects the emission/discharge (or ambient conditions where that is the monitoring objective).

6.5 The licensee shall ensure that groundwater monitoring well sampling equipment is available/installed on-site and is fit for purpose at all times. The sampling equipment shall be to Agency specifications.

6.6 All treatment/abatement and emission control equipment shall be calibrated and maintained in accordance with the instructions issued by the manufacturer/supplier or installer.

6.7 The frequency, methods and scope of monitoring, sampling and analyses, as set out in this licence, may be amended with the agreement of the Agency following evaluation of test results.

6.8 The licensee shall prepare a programme, to the satisfaction of the Agency, for the identification and reduction of fugitive emissions using an appropriate combination of best available techniques. This programme shall be included in the Environmental Management Programme.

6.9 The integrity and water tightness of all underground pipes, tanks, bunding structures and containers and their resistance to penetration by water or other materials carried or stored therein shall be tested and demonstrated by the licensee. This testing shall be carried out by the licensee at least once every three years and reported to the Agency on each occasion. This testing shall be carried out in accordance with any guidance published by the Agency. A written record of all integrity tests and any maintenance or remedial work arising from them shall be maintained by the licensee.

6.10 The drainage system (i.e., gullies, manholes, any visible drainage conduits and such other aspects as may be agreed) and bunds, silt traps and oil separators shall be inspected weekly and desludged as necessary. All sludge and drainage from these operations shall be collected for safe disposal. The drainage system, bunds, silt traps and oil interceptors shall be properly maintained at all times.

6.11 An inspection for leaks on all flanges and valves on over-ground pipes used to transport materials other than water shall be carried out weekly. A log of such inspections shall be maintained.

6.12 Emissions to Atmosphere

6.12.1 The licensee shall maintain a log of shutdown and start-up periods, and safety trip outs. This log shall contain information on the time, duration, cause and shall be available for inspection at all times by Agency personnel.

6.12.2 During weather conditions that favour the dispersion of dust, (such as dry periods) the licensee shall ensure that dust is controlled in accordance with the dust control procedure. This documented procedure shall be available on-site for inspection by the Agency.

6.12.3 The Monitoring Program for Minor Bag Filter emission points received on the 1st February 2010 in accordance with licence register number P0029-02 shall be maintained. The programme shall take account of the nature, magnitude and variability of the emissions and the reliability of the controls and ensure that a representative selection of these emission points is monitored annually and that all emission points are monitored at least every three years.

6.13 Ground Water

Within eighteen months of the date of grant of this licence, the licensee shall carry out a risk screening and where necessary a technical assessment in accordance with the *Guidance on the Authorisation of Discharges to Groundwater*, published by the Environmental Protection Agency. A report on the outcome of the screening and where relevant the recommendations of the technical assessment in relation to the setting of groundwater compliance points and values, shall be included in the next AER. Any actions required to demonstrate compliance with the European Communities Environmental Objectives (Groundwater) Regulations 2010, shall be agreed by the Agency and implemented before 22nd December 2015. Groundwater monitoring results shall be submitted annually or as required in the Schedules to this licence.

6.14 Noise

6.14.1 The licensee shall carry out a noise survey of the site operations annually. The survey programme shall be undertaken in accordance with the methodology specified in the 'Environmental Noise Survey Guidance Document' as published by the Agency.

6.14.2 For noise sources, the licensee shall **maintain** the noise mitigation and control programme to reduce noise emissions. This must specify target noise levels for key equipment and highlight specific goals and a time scale, together with noise mitigation and control measures having regard to Agency guidelines 'Guidance Note for Noise in relation to Schedule Activities, 2nd Edition' (2006). **The programme shall be included in the Environmental Management Programme**.

6.15 Pollutant Release and Transfer Register (PRTR)

The licensee shall prepare and report a PRTR for the site. The substance and/or wastes to be included in the PRTR shall be as agreed by the Agency each year by reference to EC Regulations No. 166/2006 concerning the establishment of the European Pollutant Release and Transfer Register. The PRTR shall be prepared in accordance with any relevant guidelines issued by the Agency and shall be submitted electronically in specified format and as part of the AER.

6.16 The licensee shall maintain a Data Management System for collation, archiving, assessing and graphically presenting the monitoring data generated as a result of this licence.

Reason:	***To provide for the protection of the environment by way of treatment and monitoring of emissions.***

Condition 7. Resource Use and Energy Efficiency

7.1 The licensee shall carry out an audit of the energy efficiency of the site at intervals as required by the Agency. The audit shall be carried out in accordance with the guidance published by the Agency, "Guidance Note on Energy Efficiency Auditing".

7.2 The audit shall identify all practicable opportunities for energy use reduction and efficiency and the recommendations of the audit will be incorporated into the Schedule of Environmental Objectives and Targets under Condition 2 above.

7.3 The licensee shall identify opportunities for reduction in the quantity of water used on site including recycling and reuse initiatives, wherever possible. Reductions in water usage shall be incorporated into Schedule of Environmental Objectives and Targets.

7.4 The licensee shall undertake an assessment of the efficiency of use of raw materials in all processes, having particular regard to the reduction in waste generated. The assessment should take account of best international practice for this type of activity. Where improvements are identified, these shall be incorporated into the Schedule of Environmental Objectives and Targets.

Reason: ***To provide for the efficient use of resources and energy in all site operations.***

Condition 8. Materials Handling

8.1 Disposal or recovery of waste on-site shall only take place in accordance with the conditions of this licence and in accordance with the appropriate National and European legislation and protocols.

8.2 Waste sent off-site for recovery or disposal shall be transported only by an authorised waste contractor. The waste shall be transported from the site of the activity to the site of recovery/disposal only in a manner that will not adversely affect the environment and in accordance with the appropriate National and European legislation and protocols.

8.3 The licensee shall ensure that, in advance of transfer to another person, waste shall be classified, packaged and labelled in accordance with National, European and any other standards which are in force in relation to such labelling.

8.4 The loading and unloading of materials shall be carried out in designated areas protected against spillage and leachate run-off.

8.5 Waste shall be stored in designated areas, protected as may be appropriate against spillage and leachate run-off. The waste shall be clearly labelled and appropriately segregated.

8.6 No waste classified as green list waste in accordance with the EU Shipment of Waste Regulations (Council Regulation EEC No. 1013/2006, as may be amended) shall be consigned for recovery without the agreement of the Agency.

8.7 Waste for disposal/recovery off-site shall be analysed in accordance with *Schedule C: Control & Monitoring,* of this licence.

8.8 Unless approved in writing, in advance, by the Agency the licensee is prohibited from mixing a hazardous waste of one category with a hazardous waste of another category or with any other non-hazardous waste.

8.9 Waste disposal by on-site landfill

8.9.1 Waste disposed of on-site shall be in accordance with the Landfill Operational Plan.

8.9.2 Only inert wastes are acceptable for disposal at the on-site inert landfill. Inert waste accepted at the landfill shall comply with the standards established in the EU Council Decision 2003/22/EC on establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 of and Annex II to Directive 1999/31/EC.

8.10 The licensee shall neither import waste into the State nor export waste out of the State except in accordance with the relevant provisions of Regulation (EC) No 1013/2006 of the European Parliament and of the Council of 14th June 2006 on shipments of waste and associated national regulations.

8.11 Extractive Waste Management Plan

8.11.1 The operator shall draw up a Waste Management Plan (to be known as an Extractive Waste Management Plan) for the minimisation, treatment, recovery and disposal of extractive waste. This Plan shall, where appropriate, meet the requirements of Regulation 5 of the Waste Management (Management of Waste from the Extractive Industries) Regulations, 2009. The Plan shall be submitted for agreement by the Agency within 6 months of the date of grant of this licence. The Plan shall be reviewed at least once every five years thereafter in a manner agreeable to the Agency and amended in the event of substantial changes to the operation of the waste facility or to the waste deposited. Any amendments shall be notified to the Agency.

8.11.2 All extractive waste shall be managed in accordance with the Extractive Waste Management Plan. A report on the implementation of the Extractive Waste Management Plan shall be provided in the AER.

8.12 Excavation voids

8.12.1 Unless otherwise agreed with the Agency, waste other than extractive waste shall not be deposited in excavation voids.

8.12.2 When placing extractive waste into excavation voids for rehabilitation and construction purposes, the licensee shall, in accordance with Regulation 10 of the Waste Management (Management of Waste from the Extractive Industries) Regulations, 2009 and the Extractive Waste Management Plan:

(i) Secure the stability of the waste.
(ii) Put in place measures to prevent pollution of soil, surface water and ground water.
(iii) Carry out monitoring of the extractive waste and excavation void.

8.13 Overburden mound waste facility

8.13.1 Only extractive waste shall be deposited at the overburden mound.

8.13.2 The licensee shall not modify the overburden mound without agreement of the Agency.

8.13.3 The licensee shall not develop a new waste facility without agreement by the Agency.

8.13.4 The licensee shall ensure that all new waste facilities are constructed, managed and maintained to ensure their physical stability and to prevent pollution or contamination of soil, air, surface water or groundwater.

8.13.5 Operational measures shall be continuously employed to prevent damage to the overburden mound from personnel, plant or equipment.

8.13.6 The licensee shall establish and maintain a system for regular monitoring and inspection of the overburden mound.

8.13.7 All records of monitoring and inspections of the overburden mound, as required under the licence, shall be maintained on-site in order to ensure the appropriate handover of information in the event of a change of operator or relevant personnel.

Reason: ***To provide for the appropriate handling of material and the protection of the environment.***

Condition 9. Accident Prevention and Emergency Response

9.1 The licensee shall ensure that a documented Accident Prevention Procedure is in place that addresses the hazards on-site, particularly in relation to the prevention of accidents with a possible impact on the environment. This procedure shall be reviewed annually and updated as necessary.

9.2 The licensee shall ensure that a documented Emergency Response Procedure is in place, that addresses any emergency situation which may originate on-site. This procedure shall include provision for minimising the effects of any emergency on the environment. This procedure shall be reviewed annually and updated as necessary.

9.3 Incidents

9.3.1 In the event of an incident the licensee shall immediately:

(i) carry out an investigation to identify the nature, source and cause of the incident and any emission arising therefrom;

(ii) isolate the source of any such emission;

(iii) evaluate the environmental pollution, if any, caused by the incident;

(iv) identify and execute measures to minimise the emissions/malfunction and the effects thereof;

(v) identify the date, time and place of the incident;

(vi) notify the Agency and other relevant authorities.

9.3.2 The licensee shall provide a proposal to the Agency for its agreement within one month of the incident occurring or as otherwise agreed by the Agency, to:

(i) identify and put in place measures to avoid recurrence of the incident; and

(ii) identify and put in place any other appropriate remedial actions.

Reason: ***To provide for the protection of the environment.***

Condition 10. Decommissioning, Closure, Restoration and Aftercare Management

10.1 Following termination, or planned cessation for a period greater than six months, of use or involvement of all or part of the site in the licensed activity, the licensee shall, to the satisfaction of the Agency, decommission, render safe or remove for disposal/recovery any soil, subsoil, buildings, plant or equipment, or any waste, materials or substances or other matter contained therein or thereon, that may result in environmental pollution.

10.2 Closure, Restoration and Aftercare Management Plan (CRAMP)

10.2.1 The licensee shall maintain, to the satisfaction of the Agency, a fully detailed and costed plan for the decommissioning or closure of the site or part thereof.

10.2.2 The plan shall be reviewed annually and proposed amendments thereto notified to the Agency for agreement as part of the AER. No amendments may be implemented without the agreement of the Agency.

10.2.3 The licensee shall have regard to the Environmental Protection Agency Guidance on Environmental Liability Risk Assessment, Decommissioning Management Plans and Financial Provision when implementing Condition 10.2.1 above.

10.3 The Decommissioning Management Plan shall include, as a minimum, the following:

(i) a scope statement for the plan;

(ii) the criteria that define the successful decommissioning of the activity or part thereof, which ensures minimum impact on the environment;

(iii) a programme to achieve the stated criteria;

(iv) where relevant, a test programme to demonstrate the successful implementation of the decommissioning plan; and

(v) details of the costings for the plan and the financial provisions to underwrite those costs.

10.4 A final validation report to include a certificate of completion for the Decommissioning Management Plan, for all or part of the site as necessary, shall be submitted to the Agency within three months of execution of the plan. The licensee shall carry out such tests, investigations or submit certification, as requested by the Agency, to confirm that there is no continuing risk to the environment.

Reason: ***To make provision for the proper closure of the activity ensuring protection of the environment.***

Condition 11. Notification, Records and Reports

11.1 The licence shall notify the Agency by both telephone and facsimile, if available, to the Agency's headquarters in Wexford, or to such other Agency office as may be specified by the Agency, as soon as practicable after the occurrence of any of the following:

(i) any release of environmental significance to atmosphere from any potential emissions point including bypasses;

(ii) any emission that does not comply with the requirements of this licence;

(iii) any malfunction or breakdown of key control equipment or monitoring equipment set out in *Schedule C: Control and Monitoring,* of this licence which is likely to lead to loss of control of the abatement system; and

(iv) any incident with the potential for environmental contamination of surface water or groundwater, or posing an environment threat to air or land, or requiring an emergency response by the Local Authority.

The licensee shall include as part of the notification, date and time of the incident, summary details of the occurrence, and where available, the steps taken to minimise any emissions.

11.2 In the event of any incident which relates to discharges to sewer having taken place, the licensee shall notify the Local and Water Services Authority as soon as practicable after such an incident.

11.3 In the case of any incident relating to discharges to water, the licensee shall notify the Local and Water Services Authority and the Inland Fisheries Ireland as soon as practicable after such an incident.

11.4 The licensee shall make a record of any incident. This record shall include details of the nature, extent, and impact of, and circumstances giving rise to, the incident. The record shall include all corrective actions taken to manage the incident, minimise wastes generated and the effect on the environment, and avoid recurrence. The licensee shall, as soon as practicable following incident notification, submit to the Agency the incident record.

11.5 The licensee shall record all complaints of an environmental nature related to the operation of the activity. Each such record shall give details of the date and time of the complaint, the name of the complainant (if provided), and give details of the nature of the complaint. A record shall also be kept of the response made in the case of each complaint.

11.6 The licensee shall record all sampling, analyses, measurements, examinations, calibrations and maintenance carried out in accordance with the requirements of this licence and all other such monitoring which relates to the environmental performance of the installation.

11.7 The licensee shall as a minimum keep the following documents at the site:

(i) the licences relating to the installation;

(ii) the current EMS for the installation;

(iii) the previous year's AER for the installation;

(iv) records of all sampling, analyses, measurements, examinations, calibrations and maintenance carried out in accordance with the requirements of this licence and all other such monitoring which relates to the environmental performance of the installation;

(v) relevant correspondence with the Agency;

(vi) up-to-date site drawings/plans showing the location of key process and environmental infrastructure, including monitoring locations and emission points;

(vii) up-to-date Standard Operational Procedures for all processes, plant and equipment necessary to give effect to this licence or otherwise to ensure that standard operation of such processes, plant or equipment does not result in unauthorised emissions to the environment;

(viii) any elements of the licence application or EIS documentation referenced in this licence.

This documentation shall be available to the Agency for inspection at all reasonable times.

11.8 The licensee shall submit to the Agency, by the 31st March of each year, an AER covering the previous calendar year. This report, which shall be to the satisfaction of the Agency, shall include as a minimum the information specified in *Schedule D: Annual Environmental Report,* of this licence and shall be prepared in accordance with any relevant guidelines issued by the Agency.

11.9 A full record, which shall be open to inspection by authorised persons of the Agency at all times, shall be kept by the licensee on matters relating to the waste management operations and practices at this site. This record shall be maintained on a monthly basis and shall as a minimum contain details of the following:

(i) the tonnages and EWC Code for the waste materials imported and/or sent off-site for disposal/recovery;

(ii) the names of the agent and carrier of the waste, and their waste collection permit details, if required (to include issuing authority and vehicle registration number);

(iii) details of the ultimate disposal/recovery destination facility for the waste and its appropriateness to accept the consigned waste stream, to include its permit/licence details and issuing authority, if required;

(iv) written confirmation of the acceptance and disposal/recovery of any hazardous waste consignments sent off-site;

(v) details of all waste consigned abroad for Recovery and classified as 'Green' in accordance with the EU Shipment of Waste Regulations (Council Regulation EEC No. 1013/2006, as may be amended). The rationale for the classification must form part of the record;

(vi) details of any rejected consignments;

(vii) details of any approved waste mixing;

(viii) the results of any waste analyses required under *Schedule C: Control & Monitoring,* of this licence; and

(ix) the tonnage and EWC Code for the waste materials recovered/disposed on-site.

11.10 The licensee shall submit report(s) as required by the conditions of this licence to the Agency's Headquarters in Wexford, or to such other Agency office as may be specified by the Agency.

11.11 All reports shall be certified accurate and representative by the installation manager or a nominated, suitably qualified and experienced deputy.

Reason:	***To provide for the collection and reporting of adequate information on the activity.***

Condition 12. Financial Charges and Provisions

12.1 Agency Charges

12.1.1 The licensee shall pay to the Agency an annual contribution of **€15,057.22,** or such sum as the Agency from time to time determines, having regard to variations in the extent of reporting, auditing, inspection, sampling and analysis or other functions carried out by the Agency, towards the cost of monitoring the activity as the Agency considers necessary for the performance of its functions under the Environmental Protection Agency Acts 1992 to 2011. The first payment shall be a pro-rata amount for the period from the date of grant of this licence to the 31st day of December, and shall be paid to the Agency within one month from the date of grant of the licence. In subsequent years the licensee shall pay to the Agency such revised annual contribution as the Agency shall from time to time consider necessary to enable performance by the Agency of its relevant functions under the Environmental Protection Agency Acts 1992 to 2011, and all such payments shall be made within one month of the date upon which demanded by the Agency.

12.1.2 In the event that the frequency or extent of monitoring or other functions carried out by the Agency needs to be increased, the licensee shall contribute such sums as determined by the Agency to defray its costs in regard to items not covered by the said annual contribution.

12.2 Environmental Liabilities

12.2.1 The licensee shall as part of the AER, provide an annual statement as to the measures taken or adopted at the site in relation to the prevention of environmental damage, and the financial provisions in place in relation to the underwriting of costs for remedial actions following anticipated events (including closure and aftercare) or accidents/incidents, as may be associated with the carrying on of the activity.

12.2.2 The licensee shall arrange for the completion, by an independent and appropriate qualified consultant, of a comprehensive and fully costed Environmental Liabilities Risk Assessment (ELRA) which addresses the liabilities from past and present activities. The assessment shall include those liabilities and costs identified in Condition 10 for execution of the DMP/CRAMP. A report on this assessment shall be submitted to the Agency for agreement as part of the AER. The ELRA shall be reviewed as necessary to reflect any significant change on site, and in any case every three years following initial agreement. Review results are to be notified as part of the AER.

12.2.3 As part of the measures identified in Condition 12.2.1, the licensee shall, to the satisfaction of the Agency, make financial provision to cover any liabilities associated with the operation (including closure, restoration and aftercare). The amount of indemnity held shall be reviewed and revised as necessary, but at least annually. Proof of renewal or revision of such financial indemnity shall be included in the annual 'Statement of Measures' report identified in Condition 12.2.1.

12.2.4 The licensee shall revise the cost of closure, restoration and aftercare annually and any adjustments shall be reflected in the financial provision made under Condition 12.2.3.

12.2.5 The licensee shall have regard to the Environmental Protection Agency Guidance on Environmental Liability Risk Assessment, Residuals Management Plans and Financial Provision when implementing Conditions 12.2.2 and 12.2.3 above.

Reason:	***To provide for adequate financing for monitoring and financial provisions for measures to protect the environment.***

SCHEDULE A: Limitations

The following waste related processes are authorised:

(i) Landfilling of inert waste

(ii) Surplus overburden comprising natural materials of soil and stone arising from the on-site quarrying activities (classified as extractive waste) may be deposited at the overburden mound.

No additions to these **waste related** processes are permitted unless agreed in advance by the Agency.

A.2 Waste Acceptance at the inert landfill

Table A.2.1 Waste Categories and Quantities

WASTE TYPE		MAXIMUM Note 2 (TONNES PER ANNUM)
Inert wastes Note 1	Concrete EWC 17 01 01	80
	Bricks EWC 17 01 02	20
	Mixture of concrete, bricks, tiles and ceramics EWC 17 01 07	20
	Soil and stone EWC 17 05 04	100
	Spent refractories (EWC 16 11 06)	1000
	Wet/off spec raw meal EWC 10 13 01	20
	Off spec clinker and kiln coating EWC 10 13 04	20
	General dust EWC 10 13 06	20
	Filter dust and cooling tower dust EWC 10 13 13	20
Inert Waste Total		**1,300**

Note 1: Any proposals to accept other compatible inert waste types must be agreed in advance by the Agency.

Note 2: The limitation on individual inert waste types may be varied with the agreement of the Agency subject to the total limit for inert waste staying the same.

Table A.2.2 Total Quantity of Waste to be deposited in the inert landfill

WASTE TYPE	CAPACITY
Inert Waste	**23,500 tonnes**

SCHEDULE B: Emission Limits

B.1 Emissions to Air

Emission Point Reference No.: A2-01

Location: Kiln 6 /Rawmill

Volume to be emitted: Maximum in any one day: 8,040,000 m^3

Maximum rate per hour: 335,000 m^3

Minimum discharge height: 98 m above Ordnance Datum

Parameter	Emission Limit Value
Nitrogen oxides as (NO_2)	800 mg/m^3
Oxides of sulphur	200 mg/m^3
Particulates	50 mg/m^3

Emission Point Reference No.: A2-02

Location: Coal /Pet Coke Mill

Volume to be emitted: Maximum in any one day: 840,000 m^3

Maximum rate per hour: 35,000 m^3

Minimum discharge height: 40 m above Ordnance Datum

Parameter	Emission Limit Value
Nitrogen oxides as (NO_2)	800 mg/m^3
Oxides of sulphur	200 mg/m^3
Particulates	50 mg/m^3

Parameter: Total Particulates

Emission Point Reference No.	Location	Minimum discharge height above Ordnance Datum (m)	Maximum volumetric rate to be emitted (m^3/hr)	Maximum Volume emitted in any one day (m^3)	Emission Limit Value (mg/m^3)
A2-03	Cement Mill 5	34	17,000	408,000	50
A2-04	Cement Mill 6	31	25,500	612,000	50
A2-05	Cement Mill 6 separator	45	85,000	2,040,000	50
A2-06	Cement Mill 7	31	25,500	612,000	50
A2-07	Cement Mill 7 separator	40	85,000	2,040,000	50

Emission Point Reference No.: A3-01 to A3-28, A3-30 to A3-36, A3-39 to A3-40, A3-42 to A3-51, A3-58 to A3-63

Description of Treatment: Bag filters

Volume to be emitted: As specified in Table E.1 (iv) of the application.

Parameter	Emission Limit Value
Particulates	20 mg/m^3

B.2 Emissions to Water

Emission Point Reference No.: SW1 (WE1 drain "A")

Source: Cooling water, storm water and quarry water

Name of Receiving Waters: Bunlicky Pond

Location: 153644E, 155138N

Volume to be emitted: Maximum in any one day: 18,000 m^3

Maximum rate per hour: 740 m^3

Parameter	Emission Limit Value
Temperature	25°C (max.)
pH	6 - 9
	mg/l
BOD	10
Mineral oil	12

Emission Point Reference No.: SW2 (WE2 drain "B")

Source: Excess quarry water

Name of Receiving Waters: Bunlicky Pond

Location: 153582E, 155314N

Volume to be emitted: Maximum in any one day: 12,000 m^3

Maximum rate per hour: 500 m^3

Parameter	Emission Limit Value
pH	6 - 9
	mg/l
BOD	6
Suspended Solids	35
Mineral oil	10

Emission Point Reference No.: **SW3 (outfall from Bunlicky Pond to Limerick Dock waterbody - River Shannon)**

Name of Receiving Waters: **Limerick Dock waterbody - River Shannon (IE_SH_060_0900)**

Location: **154024E, 156083N**

Parameter	Emission Limit Value
pH	6 - 9
Toxicity	1 TU
	mg/l
BOD	10
Suspended Solids	35
Mineral oil	10

B.3 Emissions to Sewer

There shall be no process effluent emissions to sewer.

B.4 Noise Emissions

Daytime dB(A) L_{Aeq} (30 minutes)	Night-time dB(A) L_{Aeq} (30 minutes)
55 Note 1	45 Note 1

Note 1: There shall be no clearly audible tonal component or impulsive component in the noise emission from the activity of any noise-sensitive location.

B.5 Vibration

Operation	Location	Peak Particle Velocity Limit Value Note 1
Blasting	Noise Sensitive Location	12 mm/sec

Note 1: As measured in three mutually orthogonal directions about a fixed point.

B.6 Air Overpressure

Operation	Location	Air Overpressure Limit Value
Blasting	Noise Sensitive Location	125 dB $(Lin)_{max\ peak}$

B.7 Ambient Air Limits

Parameter	Emission Limit Value
Total dust deposition	240 $mg/m^2/day$ Notes 1,2

Note 1: 30 day composite sample with the results expressed as mg/m^2 /day.
Note 2: Samples shall be analysed to characterise the dust depositions. The level of clinker, raw meal, quarry or landfill derived dust shall be expressed as a percentage of the total dust deposited. Any sample where the emission limit value is exceeded shall be accompanied by a corresponding compositional analysis.

B.8 Groundwater Trigger Levels

Parameter	Groundwater Trigger Level Note 1	Interim Guideline Values
pH	**8.0**	**> 6.5 - < 9.5**
Conductivity	**1,500 µS/cm**	**1,000 µS/cm**
Calcium	**200 mg/l**	**200 mg/l**
Magnesium	**50 mg/l**	**50 mg/l**
Sodium	**150 mg/l**	**150 mg/l**
Potassium	**5 mg/l**	**5 mg/l**
Chloride	**250 mg/l**	**30 mg/l**
Sulphate	**200 mg/l**	**200 mg/l**
Nitrate	**0.1 mg/l**	**0.1 mg/l**
Aluminum	**0.2 mg/l**	**0.2 mg/l**
Fluoride	**1.0 mg/l**	**1.0 mg/l**
Boron	**1.0 mg/l**	**1.0 mg/l**
Total Hydrocarbons	**0.01 mg/l**	**0.01 mg/l**
Visual	**Any change**	**--**
Odours	**Any change**	**--**

Note 1: Groundwater Trigger Levels as agreed by the Agency on the 2nd September 2011.

SCHEDULE C: Control & Monitoring

C.1.1. Control of Emissions to Air

Emission Point Reference No.: A2-01, A2-02

Description of Treatment: Selective non-catalytic reduction (SNCR)

Control Parameter	Monitoring	Key Equipment Note 1
Nitrogen oxides (after treatment)	Continuous	On-line monitor
Ammonium hydroxide flow	Continuous	Pump Injectors Flow meter
Oxygen content	Continuous	On-line monitor
Other	**As might be required by the Agency**	**To be agreed by the Agency**

Note 1: The licensee shall maintain appropriate access to standby and/or spares to ensure the operation of the abatement system.

Emission Point Reference No.: A2-01, A2-04, A2-06

Description of Treatment: Electrostatic precipitator

Control Parameter	Monitoring	Key Equipment Note 1
Kilovolts	Continuous	Rapping gear Kilovolt meter
Milliamps	Continuous	Rectifier Milliamp meter
Temperature	Continuous	Screw conveyor Thermocouple
Deterioration of equipment	Inspect monthly for corrosion and obstructions	--

Note 1: The licensee shall maintain appropriate access to standby and/or spares to ensure the operation of the abatement system.

Emission Point Reference No.: A2-03, A2-05, A2-07
A3-01 to A3-28, A3-30 to A3-36, A3-39 toA3-40, A3-42 to A3-51, A3-58 to A3-63
Following installation of bag filters: A2-01, A2-04, A2-06

Description of Treatment: Bag filters

Control Parameter	Monitoring	Key Equipment[Note 1]
Filter integrity	Continuous pressure differential across filter	Differential pressure gauge Filter Cleaning system Screws/ Conveyor
Air flow	Flow rate as per maintenance schedule	Digital manometer/Pitot tube Fan

Note 1: The licensee shall maintain appropriate access to standby and/or spares to ensure the operation of the abatement system.

Emission Point Reference No.: A2-02

Description of Treatment: Hybrid filter (electrostatic precipitator and bag filter)

Control Parameter	Monitoring	Key Equipment[Note 1]
Kilovolts	Continuous	Rapping gear Kilovolt meter
Milliamps	Continuous	Rectifier Milliamp meter
Temperature	Continuous	Screw conveyor Thermocouple
Filter integrity	Continuous pressure differential across filter	Differential pressure gauge Filter Cleaning system Screws/ Conveyor
Air flow	Flow rate as per maintenance schedule	Digital manometer/Pitot tube Fan
Deterioration of equipment	Inspect monthly for corrosion and obstructions	--

Note 1: The licensee shall maintain appropriate access to standby and/or spares to ensure the operation of the abatement system.

C.1.2. Monitoring of Emissions to Air

Emission Point Reference No.: A2-01

Parameter	Monitoring Frequency	Analysis Method/Technique
Nitrogen oxides as NO_2	Continuous Quarterly	UV -Absorption Flue gas analyser
Sulphur dioxide	Quarterly	Flue gas analyser
Particulates	Continuous Quarterly	Photometric Iso-kinetic/ Gravimetric
Particle size distribution	Annually	To be agreed by the Agency
Ammonia	Quarterly	Standard method

Emission Point Reference No.: A2-02

Parameter	Monitoring Frequency	Analysis Method/Technique
Nitrogen oxides as NO_2	Quarterly	Flue gas analyser
Sulphur dioxide	Quarterly	Flue gas analyser
Particulates	Continuous [Note 1] Quarterly	Photometric Iso-kinetic/ Gravimetric

Emission Point Reference No.: **A2-03, A2-04, A2-05, A2-06, A2-07**

Parameter	Monitoring Frequency	Analysis Method/Technique
Particulates	**Annually**	**Iso-kinetic/ Gravimetric**

Emission Point Reference No.: A3-01 to A3-28, A3-30 to A3-36, A3-39 to A3-40, A3-42 to A3-51, A3-58 to A3-63

Parameter	Monitoring Frequency	Analysis Method/Technique
Particulates	**Annually** Note 1	**Iso-kinetic/ Gravimetric**
Particulates	**Minimum every three years** Note 2	**Iso-kinetic/ Gravimetric**

Note 1: A representative selection of the emission points shall be monitored annually in accordance with Condition 6.12.3.

Note 2: All emission points shall be monitored at least every three years in accordance with Condition 6.12.3.

C.2.1. Control of Emissions to Water

Control Parameter	Monitoring	Key Equipment Note 1
Oil removal	As per maintenance procedure	Oil removal equipment Interceptors
Suspended Solids	As per maintenance procedure	Sumps in collection system.

Note 1: The licensee shall maintain appropriate access to standby and/or spares to ensure the operation of the abatement system.

C.2.2. Monitoring of Emissions to Water

Emission Point Reference No.: SW1

Parameter	Monitoring Frequency	Analysis Method/Technique
Flow	Continuous Daily Note 1	On-line flow meter with recorder
Temperature	Monthly	Temperature probe
pH	Monthly	pH meter
Biochemical Oxygen Demand	Monthly	Standard Method
Suspended Solids	Monthly	Standard Method
Mineral oil	Monthly	Standard Method
Toxicity Note 2	Annually	To be agreed by the Agency
Visual inspection	Weekly	Sample and examine for colour and odour

Note 1: Total effluent volume discharged over the 24 hour period shall be recorded.

Note 2: The number of toxic units (Tu) = 100/x hour EC/LC_{50} in percentage vol/vol so that higher Tu values reflect greater levels of toxicity. For test regimes where species death is not easily detected, immobilisation is considered equivalent to death.

Emission Point Reference No.: SW2

Parameter	Monitoring Frequency	Analysis Method/Technique
pH	Quarterly	pH meter
Conductivity	Quarterly	Conductivity meter
Biochemical Oxygen Demand	Quarterly	Standard Method
Suspended Solids	Quarterly	Standard Method
Mineral oil	Quarterly	Standard Method

Emission Point Reference No.: SW3 (Outflow from Bunlicky Pond to Limerick Dock waterbody - River Shannon)

Parameter	Monitoring Frequency	Analysis Method/Technique
pH	Biannually	pH meter
Conductivity	Biannually	Conductivity meter
Biochemical Oxygen Demand	Biannually	Standard Method
Suspended Solids	Biannually	Standard Method
Total Ammonia	Biannually	Standard Method
Chloride	Biannually	Standard Method
Mineral oil	Biannually	Standard Method
Individual heavy metals	Biannually	GC-MS

C.2.3. Monitoring of Storm Water Emissions

Storm water shall be emitted through emission point reference number SW1.

C.3.1. Control of Emissions to Sewer

There shall be no process effluent emissions to sewer.

C.3.2. Monitoring of Emissions to Sewer

There shall be no process effluent emissions to sewer.

C.4 Waste Monitoring

Waste Class	Frequency	Parameter	Method
Inert Waste	Per consignment	Basic Characterisation [Note 1]	To be agreed by the Agency
Septic Tank Sludge	Bi-annually	TOC, water content, heavy metals and their compounds, organic compounds	To be agreed by the Agency
Other [Note 2]			

Note 1: Waste shall be characterised in accordance with EU Decision (2003/33/EC) and to the satisfaction of the Agency.

Note 2: Analytical requirements to be determined on a case by case basis.

C.5 Noise Monitoring [Note 1]

Location	Measurement	Frequency
Boundary locations, **Noise Sensitive Locations**	L_{Aeq}, L_{A10}, L_{A90}, $^1/_3$ octave band analysis	Annual
Fixed monitor location, **At least two noise sensitive locations**	Peak particle velocity, dB $(Lin)_{max\ peak}$	Per blast.

Note 1: Noise monitoring shall be undertaken in accordance with the 'Environmental Noise Survey Guidance Document' as published by the Agency.

C.6 Ambient Monitoring

Air Monitoring

Parameter	Location	Monitoring Frequency	Analysis Method/Technique
Dust deposition	AA1–5, AA6, AA8–9, AA11	Quarterly	VDI method 2119 part 2 (Bergerhoff Gauge)
Fine particulates	153900E, 154600N	Continuous	PrEN12341 method

Groundwater Monitoring

Locations:

Quarry groundwater extraction well

At least one groundwater monitoring well in the inflow region and two groundwater monitoring wells in the outflow region to the landfill

Parameter	Monitoring Frequency	Analysis Method/Technique
Water level	Biannually	Dip meter
pH	Biannually	pH electrode/meter
Conductivity	Biannually	Standard Method
Total ammonia	Biannually	Standard Method
Chloride	Biannually	Standard Method
Major Anions	Biannually	Standard Method
Major Cations	Biannually	Standard Method
Individual heavy metals Note 1	Biannually	Atomic Absorption/ICP
Trace Organics Note 2	Biannually	GC-MS
Other Note 3	As may be required	To be agreed by the Agency

Note 1: Antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, molybdenum and zinc.
Note 2: Screening for priority pollutant list substances (such as US EPA volatile and/or semi-volatile compounds).
Note 3: Other parameters as may be agreed by the Agency.

SCHEDULE D: Annual Environmental Report

Annual Environmental Report Content [Note 1]
Emissions from the installation.
Waste management record.
Resource consumption summary.
Complaints summary.
Schedule of Environmental Objectives and Targets.
Environmental management programme – report for previous year.
Environmental management programme – proposal for current year.
Pollutant Release and Transfer Register – report for previous year.
Pollutant Release and transfer Register – proposal for current year.
Noise monitoring report summary.
Ambient monitoring summary.
Tank and pipeline testing and inspection report.
Reported incidents summary.
Energy efficiency audit report summary.
Report on the assessment of the efficiency of use of raw materials in processes and the reduction in waste generated.
Report on progress made and proposals being developed to minimise water demand and the volume of trade effluent discharges.
SNCR reduction efficiencies.
Report on the outcome of the screening and where relevant the recommendations of the technical assessment in relation to the setting of groundwater compliance points and values.
Review of Decommissioning Management Plan/Closure, Restoration & Aftercare Management Plan.
Statement of measures in relation to prevention of environmental damage and remedial actions (Environmental Liabilities).
Environmental Liabilities Risk Assessment Review (every three years or more frequently as dictated by relevant on-site change including financial provisions.
Any other items specified by the Agency.

Note 1: Content may be revised subject to the agreement of the Agency.

Sign off for Proposed Determinations/Decisions

Signed on behalf of the said Agency _____
On the xx day of xxxxx, 200X xxxxxxxxxxxx **Authorised Person**