Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2010

Lafarge Tarmac Trading Limited

Tunstead Quarry

Wormhill

Buxton

Derbyshire

SK17 8TG

Variation application number

EPR/XP3534UY/V010

Permit number

EPR/XP3534UY

Tunstead Quarry
Permit number EPR/XP3534UY

Introductory note

This introductory note does not form a part of the notice.

The following gives notice of the variation and consolidation of an environmental permit. Schedule 1 of the notice specifies the conditions that have been varied and schedule 2 comprises a consolidated permit which reflects the variations being made.

Brief description of the changes introduced by this variation notice:

This is a normal variation to make the following revisions to the Permit:

- Incorporation of a revised Environmental Management System (EMS) - adopting the principles and procedures outlined in the Mineral Products Association (MPA) Code of Practice, dated October 2014.
- Revised specifications for fuels including:
  (i) removal of specification for group 3 metals in solid and liquid fuels;
  (ii) renaming of fuels to generic nomenclature;
  (iii) inclusion of list of waste codes of materials that could be used as fuels or alternative raw materials subject to completion of the EMS requirements.
- Other minor amendments to reflect the above

Brief description of the process:

Tunstead Quarry (the Installation) is operated by Lafarge Tarmac Trading Limited and is located in Wormhill, Derbyshire approximately 3km east of Buxton, and within 1km of the Peak District National Park (lying to the west of the Installation).

The main activities taking place at the Installation are the production of limestone (calcium carbonate) feedstock for cement, lime and aggregates; quicklime (calcium oxide); ground quicklime; hydrate (calcium hydroxide); and Portland cement. The two relevant businesses concern the production of cement and the production of lime, and are listed under the following activities of 'The Environmental Permitting (England and Wales) Regulations 2010':-

- Section 3.1 A (1) (a) - Producing cement clinker in rotary kilns with a production capacity exceeding 500 tonnes per day or in other kilns with a production capacity exceeding 50 tonnes per day.
- Section 3.1 A (1) (b) - Producing Lime or magnesium oxide in kilns with a production capacity of more than 50 tonnes per day.

Cement plant production capacity is permitted to around 2 million tonnes per annum. Permitted lime production is just less than 1 million tonnes per annum.

A range of fuels are permitted for use: - fuels, including Coal and Petcoke; and non hazardous Waste Derived Fuels of which a comprehensive list is included in table S2.1 of this permit.

An on-site power generation facility is permitted to be built on site. This will consist of four 8MWe gas engines and will fall under the following listed activity by aggregation:-

- Section 1.1 A (1) (a) – Burning any fuel in an appliance with a rated thermal input of 50 or more megawatts.

The installation includes:

- The quarries and associated activities except drilling and blasting
- All raw material handling and raw meal preparation operations
- All associated fuel handling and storage operations
- All clinker manufacturing, handling, grinding and storage operations
- All cement handling, storage and bagging operations
- All associated lime manufacturing, handling, hydrating, grinding and storage and bagging activities

Raw Materials and Materials Handling

Limestone (from either Tunstead quarry or Old Moor quarry) is transported to either the primary gyratory crusher or the No. 3 unit impact crusher.

Roadstone and Sand Plant

Crushed rock from the crushers is then either despatched offsite or used elsewhere within the site. The No. 2 unit crusher washes and screens the limestone, and from here the products are either despatched offsite or fed to the roadstone or lime kiln plants. The slurry from the stone washing (sand plant) is fed to thickeners prior to any settled-out solids being used within the cement making process.

Quicklime Production

The Installation operates eight shaft kilns (of which only five may be operational at any one time) and the Maerz (parallel flow regenerative) kiln. All are fuelled by natural gas. The shaft kilns vent via two bag filters to two stacks (emission points A1 and A2), and the Maerz kiln vents via a bag filter to a single stack (emission point A19).

Hydrated Lime Production

There are three hydration units incorporating six hydrators where quicklime is fed into each unit at a controlled rate along with water and additives. The quicklime reacts with the water and forms calcium hydroxide with the release of heat. The heat is used to drive off the water and form a fine dry powder.

Milling

There are facilities for grinding and screening the quicklime, as well as bagging operations, which are for both hydrated lime and quicklime.

Milk of Lime (Kalic) Plant

Ground quicklime is mixed with controlled quantities of water to produce of milk of lime.

Lime Bagging Plant

Hydrated lime and quicklime are bagged for sale to customers.

Lime Waste

Wastes from the lime production process are either used in the cement process or sent off-site to a permitted mining waste operation site for disposal.

Cement Clinker Production

Limestone is transported from storage silos to the raw meal mills (vertical roller mills), along with iron ore, imported marl and shale, and silica sand additives. Recycled lime products can also be fed to the raw meal mills. The clay slurry from the washing process is pumped into deep cone paste thickeners (producing a solids content of up to 71%) and used within the raw meal mills.

The raw meal is then mechanically conveyed to each of the pre-heater systems (consisting of four-stage pre-heaters operating at temperatures in excess of 850^{o}C) where the hot kiln exit gases are used to heat the incoming raw meal. Selective Non-Catalytic Reduction (SNCR) NOx abatement by aqueous ammonia is installed on the preheater of the existing cement kiln and included in the design of the new kiln (unbuilt).

Following the preheater systems, the raw meal enters the in-line calciners (ILCs) prior to entering one of the two rotary cement kilns (which operate at ~1400^{o}C). By this point, clinker has been formed from the high temperatures throughout the process. N.B. the second kiln has yet to be constructed.

The clinker is then allowed to cool on an air-cooled grate cooler prior to being transported to storage silos.

Cement Production

Milling of cooled clinker with gypsum, recovered gypsum, limestone and other materials produces cement. The cement is stored in silos or pneumatically conveyed to the rail and Bagging Plant silos.

Cement Bagging Plant

Cement is bagged for sale to customers.

The schedules specify the changes made to the permit.

The status log of a permit sets out the permitting history, including any changes to the permit reference number.

Status log of the permit		
Description	**Date**	**Comments**
Application BK9504 (EPR/BK9504XX/A001) - Buxton Lime Industries.	Received 15/08/01	
Commercial Confidentiality Claim (section 2.7).	Received 15/08/01	
Commercial Confidentiality claim accepted.	11/09/01	
Additional Information.	Request 20/12/01	Response 28/02/02
Permit BK9504 (EPR/BK9504) determined.	28/03/2003	
Variation VP3533LK (EPR/BK9504/V002) to correct permit errors.	Effective 10/03/06	
Variation application CP3238LW (EPR/BK9504/V003) - tyre chips as WDF.	Received 13/03/06	
Variation CP3238LW (EPR/BK9504/V003) determined.	31/08/06	
Permit Transfer XP3534UY (EPR/XP3534UY/T001) to Tarmac $^{t}/_{a}$ Buxton Lime and Cement.	Effective 17/05/07	
Variation application EP3734UX (EPR/XP3534UY/V002) – MBM as WDF.	Received 07/05/07	
Variation EP3734UX (EPR/XP3534/V002) determined.	05/11/07	
Variation application YP3630GS (EPR/XP3534UY/V003) - Maerz Kiln.	Duly Made 11/09/08	
Additional information	18/12/08, 23/21/08, 06/02/09	
Variation YP3630GS (EPR/XP3534UY/V003) determined.	27/02/09	
Variation application EPR/XP3534UY/V004 - K2 Cement Plant and Power Plant.	Duly Made 23/04/09	
Additional information (existing and new plant).	Request 14/07/09	Response 15/07/09
Additional information (met data for air quality modelling).	Request 17/07/09	Response 28/07/09
Additional information (BAT Options Appraisal).	Request 17/07/09	Response 23/10/09
Additional information (acid and nutrient nitrogen deposition for air quality modelling).	Request 12/11/09	Response 27/11/09
Additional information (existing chromium and arsenic	Request 07/12/09	Response 07/12/09

Status log of the permit		
emissions for EPAQS assessment).		
Additional information (acid and nutrient nitrogen deposition isopleths).	Request 26/03/10	Response 30/04/10
Additional information (revised acid and nutrient nitrogen deposition isopleths).		Response 10/05/10
Additional information (revised emissions modelling).	Request 11/05/10	Response 16/06/10
Letter informing of revised emission gas flow rates.	Dated 06/07/10	
Variation EPR/XP3534UY/V004 not issued but determined as part of EPR/XP3534UY/V006.	Decision made 01/06/10	
Variation application EPR/XP3534UY/V005 for Calfuel as WDF.	Duly Made 04/02/10	
Additional information supplied.		Received 07/04/10
Variation EPR/XP3534UY/V005 determined	26/04/10	
Environment Agency Cement & Lime Sector Review Variation EPR/XP3534UY/V006 determined	20/08/10	
Environment Agency Administrative Variation determined EPR/XP3534UY/V007 (PAS reference MP3435CV)	13/07/12	
Application for Administrative variation EPR/XP3534UY/V008	Duly made 10/09/13	Application to change company name and registered office address
Variation issued EPR/XP3534UY/V008 (PAS referenceUP3438EK)	22/11/13	Name changed to Lafarge Tarmac Trading Limited
Variation application EPR/XP3534UY/V009	Duly Made 14/03/14	SNCR at K1 and use of WTRG in the main burner.
Variation issued EPR/XP3534UY/V009 (Billing reference YP3033VF)	19/05/14	
Application for variation EPR/XP3534UY/V010	Duly made 28/10/14	MPA code of Practice Application to: add list of waste codes suitable in principle, remove Group 3 metals specification in fuels and consolidate waste derived fuels naming.
Varied and consolidated Permit issued EPR/XP3534UY (PAS billing reference XP3335WY)	Effective 19/01/15	

End of introductory note

Notice of variation and consolidation

The Environmental Permitting (England and Wales) Regulations 2010

The Environment Agency in exercise of its powers under regulation 20 of the Environmental Permitting (England and Wales) Regulations 2010 varies and consolidates

Permit number

EPR/XP3534UY

Issued to

Lafarge Tarmac Trading Limited ("the operator")

whose registered office is

Portland House
Bickenhall Lane
Solihull
Birmingham
B37 7BQ

company registration number 00453791

to operate a regulated facility at

Tunstead Quarry
Wormhill
Buxton
Derbyshire
SK17 8TG

to the extent set out in the schedules.

The notice shall take effect from 19/01/2015

Name	Date
A.J. Nixon	**19 January 2015**

Authorised on behalf of the Environment Agency

Schedule 1

The following conditions and tables have been varied by the consolidated permit EPR/XP3534UY.

- Condition 1.1.4 (added to require compliance with the MPA protocol),
- Condition 2.3.3 (amended to remove “type and quantity” and to refer to table S2.1),
- Condition 2.3.6 (amended to remove condition, without renumbering the permit),
- Condition 4.2.6 (ARM and WDF reporting condition added),
- Table S1.2 (amended to include operating techniques for the MPA code of practice),
- Table S1.3 (amended to record the completion of improvement requirement IC9 and submission of IC11),
- Table S2.1 (amended to add ARM’s and non-hazardous WDF’s covered by the MPA code of practice),
- Table S2.2 (deleted),
- Table S3.1 (amended to reflect the completion of commissioning of the SNCR system on kiln K1)
- Table S3.2 (amended to reflect completion of improvement condition IC9)
- Table S4.3 (amended to add reporting form for ARM and WDF usage),
- Schedule 6 (amended to add the meaning of the “MPA code of practice”, and a definition of “tyre chips”),

Schedule 2 – consolidated permit

Consolidated permit issued as a separate document.

Permit

The Environmental Permitting (England and Wales) Regulations 2010

Permit number

EPR/XP3534UY

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/XP3534UY/V009 authorising,

Lafarge Tarmac Trading Limited ("the operator"),

whose registered office is

Portland House
Bickenhall Lane
Solihull
Birmingham
B37 7BQ

company registration number 00453791

to operate an installation at

Tunstead Quarry
Wormhill
Buxton
Derbyshire
SK17 8TG

to the extent authorised by and subject to the conditions of this permit.

Name	Date
A.J. Nixon	**19 January 2015**

Authorised on behalf of the Environment Agency

Contents

Conditions

1 Management

1.1 General management

1.1.1 The operator shall manage and operate the activities:

(a) in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints; and

(b) using sufficient competent persons and resources.

1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.

1.1.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.

1.1.4 The Operator shall comply with the MPA Code of Practice dated October 2014.

1.2 Energy efficiency

1.2.1 The operator shall:

(a) take appropriate measures to ensure that energy is used efficiently in the activities;

(b) review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and

(c) take any further appropriate measures identified by a review.

1.3 Efficient use of raw materials

1.3.1 The operator shall:

(a) take appropriate measures to ensure that raw materials and water are used efficiently in the activities;

(b) maintain records of raw materials and water used in the activities;

(c) review and record at least every four years whether there are suitable alternative materials that could reduce environmental impact or opportunities to improve the efficiency of raw material and water use; and

(d) take any further appropriate measures identified by a review.

1.4 Avoidance, recovery and disposal of wastes produced by the activities

1.4.1 The operator shall take appropriate measures to ensure that:

(a) the waste hierarchy referred to in Article 4 of the Waste Framework Directive is applied to the generation of waste by the activities; and

(b) any waste generated by the activities is treated in accordance with the waste hierarchy referred to in Article 4 of the Waste Framework Directive; and

(c) where disposal is necessary, this is undertaken in a manner which minimises its impact on the environment.

1.4.2 The operator shall review and record at least every four years whether changes to those measures should be made and take any further appropriate measures identified by a review.

2 Operations

2.1 Permitted activities

2.1.1 The operator is only authorised to carry out the activities specified in schedule 1 table S1.1 (the "activities").

2.2 The site

2.2.1 The activities shall not extend beyond the site, being the land shown edged in green on the site plan at schedule 7 to this permit.

2.3 Operating techniques

2.3.1 (a) The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by the Environment Agency.

(b) If notified by the Environment Agency that the activities are giving rise to pollution, the operator shall submit to the Environment Agency for approval within the period specified, a revision of any plan or other documentation ("plan") specified in schedule 1, table S1.2 or otherwise required under this permit which identifies and minimises the risks of pollution relevant to that plan , and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by the Environment Agency.

2.3.2 Any raw materials or fuels listed in schedule 2 table S2.1 shall conform to the specifications set out in that table.

2.3.3 Waste shall only be accepted if:

(a) it is of a type listed in schedule 2 table S2.1 and

(b) it conforms to the description in the documentation supplied by the producer and holder.

2.3.4 The operator shall ensure that where waste produced by the activities is sent to a relevant waste operation, that operation is provided with the following information, prior to the receipt of the waste:

(a) the nature of the process producing the waste;

(b) the composition of the waste;

(c) the handling requirements of the waste;

(d) the hazardous property associated with the waste, if applicable; and

(e) the waste code of the waste.

2.3.5 The operator shall ensure that where waste produced by the activities is sent to a landfill site, it meets the waste acceptance criteria for that landfill.

2.3.6 No condition applies

2.3.7 All waste derived fuels used at the installation are subject to the following conditions:

(a) No radioactive materials or radioactive wastes (as defined by sections 1 and 2 of the Radioactive Substances Act 1993) shall be included.

(b) No substances with PCB concentrations greater than 10mg/kg shall be included.

(c) No substances with PCP concentrations greater than 100mg/kg shall be included.

(d) No pharmaceutical products, pesticide products, biocide products and iodine compounds shall be included except as constituents of other materials and at levels that are minimised as far as reasonably practicable.

(e) No dioxins or furans shall be included except as constituents of other materials and at levels that are minimised as far as reasonably practicable.

(f) No medical/clinical waste shall be included.

2.3.8 No new waste derived fuels shall be used for the purposes of carrying out a feasibility trial without obtaining the Environment Agency's prior written approval in each case. Any such feasibility trials will be limited to a maximum of 100 tonnes of the fuel and a maximum duration of 14 days.

2.3.9 No new waste materials shall be used as raw materials in the process except with the prior written approval of the Environment Agency, and shall be subject to the specification in table S2.1 of schedule 2 or otherwise agreed in writing with the Environment Agency.

2.3.10 The operator shall ensure that prior to accepting waste derived fuels subject to condition 2.3.2 at the site, it has obtained sufficient information about the wastes to be burned as fuel to demonstrate compliance with the characteristics described in condition 2.3.2.

2.3.11 The operator shall take representative samples of all waste derived fuels delivered to the site unless otherwise agreed in writing with the Environment Agency and test a representative selection of these samples to verify conformity with the information obtained as required by condition 2.3.10. These samples shall be retained for inspection by the Environment Agency for a period of at least 1 month after the material is burned and results of any analysis made of such samples will be retained for at least 2 years after the material is burned.

2.3.12 For activities A1 and A2 (schedule 1, table S1.1) waste derived fuels shall not be burned, or shall cease to be burned, if:

(a) the kiln is in start up (as agreed in writing with the Environment Agency); or

(b) the kiln is in the process of shutting down (as agreed in writing with the Environment Agency); or

(c) raw meal feed rate is less than 140 tonnes/hr; or

(d) the fourth stage cyclone exit temperature is below or falls below 835°C when using non-hazardous or hazardous waste where the content of halogenated organic substances (as chlorine) does not exceed 1%; or

(e) any continuous emission limit value in schedule 3 table S3.1 is exceeded due to disturbances or failures of the abatement systems, other than under “abnormal operating conditions”; or

(f) monitoring results required to demonstrate compliance with any continuous emission limit value in schedule 3, table S3.1 are unavailable other than under “abnormal operating conditions”.

2.3.13 The operator shall record the beginning and end of each period of “abnormal operation”, and shall restore normal operation of the failed equipment or replace the failed equipment as rapidly as possible.

2.3.14 Where, during “abnormal operation”, any of the following situations arise, the operator shall, as soon as is practicable, cease the burning of waste derived fuels until normal operation can be restored:

(a) continuous measurement shows that an emission exceeds any emission limit value in schedule 3 table S3.1 due to disturbances or failures of the abatement systems, or continuous emission monitor(s) for a total of four hours uninterrupted duration;

(b) the cumulative duration of abnormal operation periods over one calendar year exceeds 60 hours on each kiln.

2.3.15 The operator shall interpret the end of the period of “abnormal operation” as the earliest of the following:

(a) when the failed equipment is repaired and brought back into normal operation;

(b) when the operator initiates a shut down of the waste derived fuels, as described in the application or as agreed in writing with the Environment Agency;

(c) when a period of four hours has elapsed from the start of the” abnormal operation”;

(d) when, in any calendar year, an aggregated period of 60 hours “abnormal operation” has been reached for a given kiln.

2.4 Improvement programme

2.4.1 The operator shall complete the improvements specified in schedule 1 table S1.3 by the date specified in that table unless otherwise agreed in writing by the Environment Agency.

2.4.2 Except in the case of an improvement which consists only of a submission to the Environment Agency, the operator shall notify the Environment Agency within 14 days of completion of each improvement.

2.5 Pre-operational conditions

2.5.1 The operations specified in schedule 1 table S1.4 shall not commence until the measures specified in that table have been completed.

3 Emissions and monitoring

3.1 Emissions to water, air or land

3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 tables S3.1, S3.2 and S3.3.

3.1.2 The limits given in schedule 3 shall not be exceeded.

3.1.3 Periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil, unless such monitoring is based on a systematic appraisal of the risk of contamination.

3.2 Emissions of substances not controlled by emission limits

3.2.1 Emissions of substances not controlled by emission limits (excluding odour) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved emissions management plan, have been taken to prevent or where that is not practicable, to minimise, those emissions.

3.2.2 The operator shall:

(a) if notified by the Environment Agency that the activities are giving rise to pollution, submit to the Environment Agency for approval within the period specified, an emissions management plan which identifies and minimises the risks of pollution from emissions of substances not controlled by emission limits;

(b) implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.2.3 All liquids in containers, whose emission to water or land could cause pollution, shall be provided with secondary containment, unless the operator has used other appropriate measures to prevent or where that is not practicable, to minimise, leakage and spillage from the primary container.

3.3 Odour

3.3.1 Emissions from the activities shall be free from odour at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved odour management plan, to prevent or where that is not practicable to minimise the odour.

3.3.2 The operator shall:

(a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to odour, submit to the Environment Agency for approval within the period specified, an odour management plan which identifies and minimises the risks of pollution from odour;

(b) implement the approved odour management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.4 Noise and vibration

3.4.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan to prevent or where that is not practicable to minimise the noise and vibration.

3.4.2 The operator shall:

(a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to noise and vibration, submit to the Environment Agency for approval within the period specified, a noise and vibration management plan which identifies and minimises the risks of pollution from noise and vibration;

(b) implement the approved noise and vibration management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.5 Monitoring

3.5.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring specified in the following tables in schedule 3 to this permit:

(a) point source emissions specified in tables S3.1, S3.2 and S3.3;

(b) ambient air monitoring specified in table S3.5;

(c) process monitoring specified in table S3.6.

3.5.2 The operator shall maintain records of all monitoring required by this permit including records of the taking and analysis of samples, instrument measurements (periodic and continual), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data.

3.5.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.5.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate) unless otherwise agreed in writing by the Environment Agency. Newly installed CEMs, or CEMs replacing existing CEMs, shall have MCERTS certification and have an MCERTS certified range which is not greater than 1.5 times the daily emission limit value (ELV) specified in schedule 3 table S3.1. The CEM shall also be able to measure instantaneous values over the ranges which are to be expected during all operating conditions. If it is necessary to use more than one range setting of the CEM to achieve this requirement, the CEM shall be verified for monitoring supplementary, higher ranges.

3.5.4 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in schedule 3 tables S3.1, S3.2 and S3.3 unless otherwise agreed in writing by the Environment Agency.

3.5.5 Where Continuous Emission Monitors are installed to comply with the monitoring requirements in schedule 3 table S3.1; the Continuous Emission Monitors shall be used such that;

(a) the values of the 95% confidence intervals of a single measured result at the daily emission limit value shall not exceed the following percentages:

(i)	Carbon monoxide	10%
(ii)	Sulphur dioxide	20%
(iii)	Oxides of nitrogen (NO & NO_2 expressed as NO_2)	20%
(iv)	Particulate matter	30%
(v)	Total organic carbon (TOC)	30%
(vi)	Hydrogen chloride	40%
(vii)	Ammonia (NH_3)	40%

(b) valid half-hourly average values shall be determined within the effective operating time (excluding the start-up and shut-down periods) from the measured values after having subtracted the value of the confidence intervals in condition 3.5.5 (a);

(c) where it is necessary to calibrate or maintain the monitor and this means that data are not available for a complete half-hour period, the half-hourly average shall in any case be considered valid if measurements are available for a minimum of 20 minutes during the half-hour period. The number of half-hourly averages so validated shall not exceed 5 per day;

(d) daily average values shall be determined as the average of all the valid half-hourly average values within a calendar day. The daily average value shall be considered valid if no more than five half-hourly average values in any day have been determined not to be valid;

(e) no more than ten daily average values per year shall be determined not to be valid.

3.5.6 Where Continuous Emission Monitors are installed to comply with the monitoring requirements in schedule 3 table S3.1:

(i) a QAL2 test as specified in BS EN 14181 shall be performed at least every three years or whenever there are significant changes to either the process, the fuel used or to the CEMs themselves;

(ii) an Annual Surveillance Test (AST) shall be performed at least annually, as specified within BS EN 14181;

(iii) the operator shall have a procedure to apply the QAL3 requirements of BS EN 14181.

4 Information

4.1 Records

4.1.1 All records required to be made by this permit shall:

(a) be legible;

(b) be made as soon as reasonably practicable;

(c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and

(d) be retained, unless otherwise agreed in writing by the Environment Agency, for at least 6 years from the date when the records were made, or in the case of the following records until permit surrender:

(i) off-site environmental effects; and

(ii) matters which affect the condition of the land and groundwater.

4.1.2 The operator shall keep on site all records, plans and the management system required to be maintained by this permit, unless otherwise agreed in writing by the Environment Agency.

4.2 Reporting

4.2.1 The operator shall send all reports and notifications required by the permit to the Environment Agency using the contact details supplied in writing by the Environment Agency.

4.2.2 A report or reports on the performance of the activities over the previous year shall be submitted to the Environment Agency by 28 February (or other date agreed in writing by the Environment Agency) each year. The report(s) shall include as a minimum:

(a) a review of the results of the monitoring and assessment carried out in accordance with the permit including an interpretive review of that data;

(b) the annual production /treatment data set out in schedule 4 table S4.2; and

(c) the functioning and monitoring of the plant involved with the burning of waste derived fuels, in a format agreed with the Environment Agency. The report shall, as a minimum requirement (as required by Chapter IV of the Industrial Emissions Directive) give an account of the running of the process and the emissions into air and water compared with the emission standards in the IED.

4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by the Environment Agency, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:

(a) in respect of the parameters and emission points specified in schedule 4 table S4.1;

(b) for the reporting periods specified in schedule 4 table S4.1 and using the forms specified in schedule 4 table S4.3 ; and

(c) giving the information from such results and assessments as may be required by the forms specified in those tables.

4.2.4 The operator shall, unless notice under this condition has been served within the preceding four years, submit to the Environment Agency, within six months of receipt of a written notice, a report assessing whether there are other appropriate measures that could be taken to prevent, or where that is not practicable, to minimise pollution.

4.2.5 Within 1 month of the end of each quarter, the operator shall submit to the Environment Agency using the form made available for the purpose, the information specified on the form relating to the site and the waste accepted and removed from it during the previous quarter, if during that quarter the total amount accepted exceeds 100 tonnes of non-hazardous waste or 10 tonnes of hazardous waste.

4.2.6 Within 1 month of the end of each quarter, the operator shall submit to the Environment Agency, using the form specified by the Environment Agency for the purpose, the information specified on the form, relating to the types of waste Alternative Raw Materials and waste-derived fuels that the Operator has used in that quarter.

4.3 Notifications

4.3.1 (a) In the event that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately—

(i) inform the Environment Agency,

(ii) take the measures necessary to limit the environmental consequences of such an incident or accident, and

(iii) take the measures necessary to prevent further possible incidents or accidents;

(b) in the event of a breach of any permit condition the operator must immediately—

(i) inform the Environment Agency, and

(ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;

(c) in the event of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.

4.3.2 Any information provided under condition 4.3.1 (a)(i), or 4.3.1 (b)(i) where the information relates to the breach of a limit specified in the permit, shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.

4.3.3 Where the Environment Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Environment Agency when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to the Environment Agency at least 14 days before the date the monitoring is to be undertaken.

4.3.4 The Environment Agency shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:

Where the operator is a registered company:

(a) any change in the operator's trading name, registered name or registered office address; and

(b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.

Where the operator is a corporate body other than a registered company:

(c) any change in the operator's name or address; and

(d) any steps taken with a view to the dissolution of the operator.

4.3.5 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:

(a) the Environment Agency shall be notified at least 14 days before making the change; and

(b) the notification shall contain a description of the proposed change in operation.

4.3.6 The Environment Agency shall be given at least 14 days notice before implementation of any part of the site closure plan.

4.3.7 Where the operator has entered into a climate change agreement with the Government, the Environment Agency shall be notified within one month of:

(a) a decision by the Secretary of State not to re-certify the agreement;

(b) a decision by either the operator or the Secretary of State to terminate the agreement; and

(c) any subsequent decision by the Secretary of State to re-certify such an agreement.

4.4 Interpretation

4.4.1 In this permit the expressions listed in schedule 6 shall have the meaning given in that schedule.

4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made "without delay", in which case it may be provided by telephone.

Schedule 1 – Operations

Table S1.1 activities			
Activity reference	**Activity listed in Schedule 1 of the EP Regulations**	**Description of specified activity**	**Limits of specified activity**
A1	Section 3.1 Part A(1)(a)	Producing and grinding cement clinker on K1 cement kiln system.	From recovery of raw materials from the quarry floor and receipt on site of other raw materials and fuels (including substitute fuels) through storage, crushing, other processing and feeding into the kiln system to discharge of clinker from the clinker cooler, to the milling and blending of clinker and the associated releases to air from the stacks and other process vents.
A2	Section 3.1 Part A(1)(a)	Producing and grinding cement clinker on K2 cement kiln system.	From recovery of raw materials from the quarry floor and receipt on site of other raw materials and fuels (including substitute fuels) through storage, crushing, other processing and feeding into the kiln system to discharge of clinker from the clinker cooler, to the milling and blending of clinker and the associated releases to air from the stacks and other process vents.
A3	Section 1.1 Part A(1)(a)	Production of electrical power for on-site use	From the receipt of natural gas to the generation of electrical power (utilising four 8MWe gas engines with an aggregated thermal input greater than 50MWth) for use on-site.
A4 – A11	Section 3.1 Part A(1)(b)	Producing lime in shaft kilns 1 – 8 with a production capacity of more than 50 tonnes per day. Maximum of five kilns permitted to operate at any one time.	From the receipt, storage, preparation and feed of all materials and fuels into kiln system, the associated releases to air from the stacks and other process vents.
A12	Section 3.1 Part A(1)(b)	Producing lime in the parallel flow regenerative Maerz kiln with a production capacity of more than 50 tonnes per day	From the receipt, storage, preparation and feed of all materials and fuels into kiln system, the associated releases to air from the stacks and other process vents.
A13	Section 3.1 Part B(c)	Slaking lime for the purposes of making calcium hydroxide or calcium magnesium hydroxide.	From the receipt of quicklime to the production of calcium hydroxide or calcium magnesium hydroxide by hydration (including the addition of any additives), the associated releases to air from the stacks and other process vents.

Table S1.1 activities			
Activity reference	**Activity listed in Schedule 1 of the EP Regulations**	**Description of specified activity**	**Limits of specified activity**
	Directly Associated Activity		
A14	All cement storage, blending, packing and loading.	Cement handling, storage, packing and dispatch	Discharge from cement silo(s), all transport, bulk storage through to bulk discharge to road/rail transport or bagging, storage and loading to road transport.
A15	All lime storage and associated milling	Lime handling, storage and milling	Feed of lime from lime kilns or import facility, all transport, milling and blending activities through to discharge from lime store(s) or export facilities.
A16	All quick lime and hydrated lime blending, packing and loading.	Lime handling, storage, packing and dispatch	From receipt of lime product from the kilns and hydrators to the despatch offsite.

Table S1.2 Operating techniques		
Description	**Parts**	**Date Received**
Application BK9504IM (EPR/BK9504IM/A001)	The response to questions 2.1and 2.3 in the Application.	15/08/2001
Schedule 4 Response	The response to schedule 4 notice dated 05/02/2002	05/02/2002
Application for tyre chip variation CP3238LW	The response to questions given in section C2.1, C2.3, C2.4 and C2.10 of the application for this variation.	13/03/2006
Application for MBM variation EP3734UX	The response to questions given in section C2.1, C2.3, C2.4 and C2.10 of the application for this variation.	07/05/2007
Application YP3630GS (EPR/XP3534UY/V003) for Maerz Kiln	Sections 2.1, 2.2 and 2.3 of the Application (report 49306597).	29/08/2008
Application EPR/XP3534UY/V004 for Cement Kiln K2	Sections 2, 3, and 6 of Application to vary PPC Permit ref XP3534UY.	23/03/2009
Additional information (distinguishing existing and new plant associated to K2 Cement Kiln).	All.	15/07/2009
Additional Information (BAT Options Appraisal).	All.	23/10/2009
Application EPR/XP3534UY/V005 for Calfuel.	Sections 4, 5, 6 and 7 of Application	04/02/2010
Additional information (revised emissions modelling).	All.	16/06/2010
Letter informing of revised emission gas flow rates.	All.	06/07/2010
Technical Evaluation of the burning of Calfuel as a Cement Fuel.	All.	27/07/2011
Application EPR/XP3534UY/V009 for SNCR at Cement Kiln K1 and use of WTRG in the main burner.	The response to question 3 Operating techniques, given in Part C3 of the application form. Includes Table 3a – Technical Standards Application Supporting Information dated February 2014	14/03/2014
Application for variation EPR/XP3534UY/V010 to adopt the procedures outlined in the Code of Practice dated October 2014.	The response to question 3 Operating techniques, given in Part C3 of the application form. Includes Table 3 – Technical Standards The following sections of the supporting information document “Application for a Normal Variation to allow the addition of the MPA Code of Practice for the use of Waste Materials in Cement Manufacture” dated 11th September 2014: C3 section 1 – Types of wastes accepted, C3 section 3 – Operating Techniques	Duly Made 28/10/14

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
IC1	The Operator shall provide and submit a project plan setting out how releases of NOx in the exhaust gases from cement kiln K1 (emission point A20, table S3.1) will be minimised and at least reduced to <450 mg/m^3 as a daily average by the target date of 30th June 2014. The project plan will be based on consideration of costs and benefits of all relevant options and using options appraisal methodology H1 or equivalent.	Complete
IC2	The operator shall produce and submit a project plan setting out how releases of particulates from all significant non-kiln sources will be minimised and at least reduced to <10 – 20 mg/m^3 as a daily average by the target date of 30th June 2014. The project plan will be based on consideration of costs and benefits of all relevant options and using options appraisal methodology H1 or equivalent.	Complete
IC3	The operator shall carry out an exercise, agreed in writing with the Environment Agency, to characterise the releases of NOx, Particulate Matter, CO and SO_2 in the exhaust gases from the shaft lime kilns and hydrators (activity references A4 – A11 and A13, table S1.1), and submit a risk-based plan describing any changes to monitoring arrangements that will be taken including consideration of installing continuous monitors, or more frequent periodic monitoring as described in the Sector Guidance Note for the Lime Sector (How to comply with your environmental permit – Additional guidance for The Lime Industry EPR 3.01b).	Complete
IC4	The operator shall produce and submit a project plan setting out how releases of CO in the exhaust gases from the lime kilns (emission points A1, A2 and A19, table S3.2) will be minimised and at least reduced to less than 500 mg/m^3 as a daily average by the target date of 30th June 2014. The project plan will be based on consideration of costs and benefits of all relevant options and using options appraisal methodology H1 or equivalent.	Complete
IC5	The operator shall submit an evaluation report to the Environment Agency on the technical evaluation programme for using Calfuel on cement kiln K1. The report shall:- Demonstrate that the use of Calfuel on a permanent basis (in the manner and at the levels proposed) represents the use of Best Available Techniques. Assess the environmental performance with a comparison of emissions with (and without) using Calfuel. Data obtained in previous technical evaluations of alternative fuels in the kiln may be included for comparison.	Complete
IC6	Following commissioning of cement kiln K2, the Operator shall supply a commissioning report detailing performance against the plan submitted in accordance with pre-operational measure PO3, table S1.4. The report shall include :- A report demonstrating that the plant complies in full with the WID requirements. A report of any abnormal waste generated as a result of commissioning. Details of any modifications made to the process during commissioning that change the details included in the application. A full record of monitored emissions from the installation during commissioning. Where emissions exceed stated limits, the reasons for this should be stated and what action was taken to correct matters. A report on the noise assessment carried out.	Within 4 months from the end of commissioning of cement kiln K2.
IC7	The Operator shall carry out an assessment of the impact of emissions to air of Arsenic and Chromium (VI) having regard to the 2009 report of the Expert Panel on Air Quality Standards – Guidelines for Metal and Metalloids in Ambient Air for the Protection of Human Health. The assessment shall predict the impact of Arsenic and Chromium (VI) against the guidelines through the use of emissions monitoring data during the first year of operation and air dispersion modelling. A report on the assessment shall be made to the Environment Agency.	Within 15 months from the commencement of cement and clinker production on cement kiln K2.

Table S1.3 Improvement programme requirements		
IC8	The Operator shall provide a report to the Environment Agency showing monitoring results for Cement Kiln K2 (following 12 months of operation) in comparison to the BAT emission level values listed within Annex 1 of 'How to comply with your environmental permit – Additional guidance for The Cement Industry (EPR 3.01a)'. Where any variances occur to BAT levels (including the lowest value where a range is specified), the Operator shall provide either :- a timetable for the implementation of improvements in order to comply with the lowest value (or value within such range) for BAT emission levels, or justification for not meeting such levels. The report shall be submitted for written approval from the Environment Agency.	Within 16 months from the commencement of cement and clinker production on cement kiln K2.
IC9	The Operator shall submit a written report to the Environment Agency for approval. The report must contain the results of a review of the emissions of sulphur dioxide from emission points A1 and A2, and propose an emission limit which is within the BAT Associated Emission Level range of <50-200mg/Nm3. The report shall also include an impact assessment of the emissions of sulphur dioxide from the installation as a whole, demonstrating that emissions at the proposed limit will not cause significant pollution from the Installation.	Complete
IC10	The Operator shall submit a written plan to the Environment Agency for approval. The plan must contain proposals for minimising carbon monoxide emissions from emission point A20, table S3.1 to less than 2,200 mg/m3. A timetable for implementing such proposals shall be included within the report The notification requirements of condition 2.4.2 will be deemed to have been complied with on submission of the plan. The Operator shall implement the plan as approved, and from the date stipulated by the Environment Agency	Complete
IC11	The Operator shall submit a report to the Environment Agency following the commissioning and optimisation of the ammonia solution-based SNCR system at cement kiln K1. The report shall assess the environmental performance of cement kiln K1 with a comparison of emissions with (and without) SNCR. The assessment shall have specific regard to the emissions of NOx, carbon monoxide (CO) and total ammonia (NH_3) in the exhaust gases from K1 (emission point A20, Table S3.1) and how they will be minimised and at least reduced to <450mg/m^3 (NO_x) and <40-50 mg/m^3 (NH_3) as daily averages. The assessment shall also have regard to the variation in NH_3 emissions when the raw mill is not operational and how these emissions will be minimised.	Submitted to the Environment Agency
IC12	The Operator shall submit a report to the Environment Agency following the commissioning and optimisation of WTRG in the main burner on cement kiln K1. The report shall assess the environmental performance of cement kiln K1 with a comparison of emissions (emission point A20, Table S3.1) with (and without) WTRG in the main burner.	Within 6 months of the completion of commissioning of WTRG in the main burner.
IC13	The Operator shall carry out an assessment of the impact of emissions to air from the Installation based on actual (un-corrected) monitoring data. A report on the assessment shall be made to the Environment Agency. Emissions monitoring data obtained during operation shall be used to compare the actual emissions with those assumed in the impact assessment submitted with this application EPR/XP3534UY/V009. The assessment shall have specific regard to the impact at the Peak District SAC by comparison of process contributions with the relevant critical levels and loads. In the event that the assessment shows that critical levels and loads can be exceeded as a result of emissions from the Installation, the report shall include proposals for further investigative work.	31/10/15

Table S1.4 Pre-operational measures		
Reference	**Operation**	**Pre-operational measures**
PO1	Activity A2 (table S1.1)	The Operator shall provide a report detailing the storage and containment measures in place for the storage and containment of aqueous Ammonia for Cement Kiln K2 - for approval in writing by the Environment Agency. The report shall confirm compliance in accordance with current and best practice design standards in order to demonstrate emissions are prevented, and where not practicable, minimised.
PO2	Activity A2 (table S1.1)	The operator shall submit written proposals for a commissioning programme for Cement Kiln K2 (for approval in writing by the Environment Agency) to include, but not be limited to: Monitoring of process parameters in accordance with IED chapter IV article 50. Monitoring of any abnormal waste generated during commissioning. A noise survey in accordance with the criteria specified within BS4142. Testing of associated new plant (as identified within additional information dated 15/07/2010).
PO3	Activity A3 (table S1.1)	The operator shall submit written proposals for a commissioning programme for the power plant (for approval in writing by the Environment Agency) to include, but not be limited to: Monitoring of process parameters in accordance Table S3.2. A noise survey in accordance with the criteria specified within BS4142.

Schedule 2 – Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels			
Raw materials and fuel description	**Specification**		
Alternative Raw Materials			
Wastes used as raw materials (not as fuels)	Minimum Mineral Content	At least 80% dry weight (w/w)	
	Organic Materials	Organic Materials as measured by net CV should be <10MJ/kg	
	Mercury	2 ppm	
	TOC/VOC	5000 mg/kg as organic hydrocarbon	
	No materials which are defined as carcinogens for the purposes of the COSHH Regulations 2002 (as amended) shall be used.		
EWC Numbers (excluding domestic municipal wastes)			
01 Wastes resulting from exploration, mining, quarrying, physical and chemical treatment of minerals	wastes from mineral metalliferous excavation		01 01 01
	wastes from mineral non-metalliferous excavation		01 01 02
	waste gravel and crushed rocks other than those mentioned in 01 04 07		01 04 08
	waste sand and clays		01 04 09
	wastes from stone cutting and sawing other than those mentioned in 01 04 07		01 04 13
02 Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing	soil from cleaning and washing beet		02 04 01
	off-specification calcium carbonate		02 04 02
03 Wastes from wood processing and the production of panels and furniture, pulp, paper and cardboard	lime mud waste		03 03 09
04 Wastes from the leather, fur and textile industries	liming waste		04 01 02
06 Wastes from inorganic chemical processes	calcium-based reaction wastes other than those mentioned in 06 09 03		06 09 04

Table S2.1 Raw materials and fuels		
Raw materials and fuel description	**Specification**	
	calcium-based reaction wastes from titanium dioxide production	06 11 01
10 Wastes from thermal processes	bottom ash, slag and boiler dust (excluding boiler dust mentioned in 10 01 04)	10 01 01
	Coal fly ash	10 01 02
	fly ash from peat and untreated wood	10 01 03
	calcium-based reaction wastes from flue-gas desulphurisation in solid form	10 01 05
	calcium-based reaction wastes from flue-gas desulphurisation in sludge form	10 01 07
	bottom ash, slag and boiler dust from co-incineration other than those mentioned in 10 01 14	10 01 15
	fly ash from co-incineration containing dangerous substances	10 01 16*
	Fly ash from co-incineration other than those mentioned in 10 01 16	10 01 17
	Mill scales	10 02 10
	sludges and filter cakes from gas treatment containing dangerous substances.	10 02 13*
	casting cores and moulds which have not undergone pouring other than those mentioned in 10 09 05	10 09 06
	Casting cores and moulds which have undergone pouring other than those mentioned in 10 09 07	10 09 08
	casting cores and moulds which have not undergone pouring, other than those mentioned in 10 10 05	10 10 06
	casting cores and moulds which have undergone pouring, other than those mentioned in 10 10 07	10 10 08
	Waste glass-based fibrous materials	10 11 03
	Discarded moulds	10 12 06
	waste ceramics, bricks, tiles and construction products (after thermal processing)	10 12 08
	waste preparation mixture before thermal processing	10 13 01

Table S2.1 Raw materials and fuels		
Raw materials and fuel description	**Specification**	
	wastes from calcination and hydration of lime	10 13 04
	Particulates and dust (except 10 13 12 and 10 13 13)	10 13 06
	Wastes from cement-based composite materials other than those mentioned in 10 13 09 and 10 13 10	10 13 11
	Solid wastes from gas treatment containing dangerous substances	10 13 12*
	Solid wastes from gas treatment other than those mentioned in 10 13 12	10 13 13
	Waste concrete and concrete sludge	10 13 14
16 Wastes not otherwise specified in the list	Spent catalysts containing transition metals or transition metal compounds not otherwise specified	16 08 03
	Spent fluid catalytic cracking catalysts (except 16 08 07)	16 08 04
	spent catalysts contaminated with dangerous substances	16 08 07*
17 Construction and demolition wastes (including excavated soil from contaminated sites)	concrete	17 01 01
	bricks	17 01 02
	tiles and ceramics	17 01 03
	Mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06*.	17 01 07
	soil and stones other than those mentioned in 17 05 03	17 05 04
	dredging spoil other than those mentioned in 17 05 05	17 05 06
	track ballast other than those mentioned in 17 05 07	17 05 08
	Gypsum-based construction materials other than those mentioned in 17 08 01	17 08 02
19 Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for	Aqueous liquid wastes from gas treatment and other aqueous liquid wastes	19 01 06*
	Fly ash containing dangerous substances	19 01 13*
	Premixed wastes composed only of non-hazardous wastes	19 02 03

Table S2.1 Raw materials and fuels		
Raw materials and fuel description	**Specification**	
industrial use	Premixed wastes composed of at least one hazardous waste	19 02 04*
	Sludges from treatment of urban waste water	19 08 05
	Sludges from water clarification	19 09 02
	minerals (for example sand, stones)	19 12 09
	Other wastes (including mixtures of materials) from mechanical treatment of waste containing dangerous substances	19 12 11*
	Other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	19 12 12
Fuels (including Waste Derived Fuels)		
Gas oil	Sulphur Content ≤0.1% by weight (w/w)	
Coal	Sulphur Content ≤5.0% by weight (w/w)	
Petcoke	Sulphur Content ≤8.0% by weight (w/w)	
Coal / Petcoke mix	Sulphur Content ≤5.5% by weight (w/w)	
Waste generated on-site in connection with the handling and storing of waste derived fuels	Burnt with chipped tyres at a rate that constitutes less than 1.0% by mass of the chipped tyre feed rate.	
New waste derived fuel for feasibility trials	Specification to be agreed in writing with the Environment Agency.	
Chipped Tyres	EWC Number	16 01 03
	Gross CV	15 – 40 MJ/kg
	Sulphur	≤2.0%
Meat & Bone Meal	EWC Number	02 02 03
	Gross CV	10 – 40 MJ/kg
	Sulphur	≤2.0%
	Chlorine	≤2.0%

Table S2.1 Raw materials and fuels		
Raw materials and fuel description	**Specification**	
Solid Recovered Fuel (SRF)	Gross CV	10 – 40 MJ/kg
	Sulphur	≤2.0%
	Chlorine	≤2.0%
	Total Fluorine, Bromine & Iodine	≤1.5%
	Mercury	≤10 mg/kg
	Total Group II Metals (Cd + Tl)	≤30 mg/kg
Waste Liquid Fuels (WLF)	Gross CV	10 – 40 MJ/kg
	Sulphur	≤2.0%
	Chlorine	≤2.0%
	Total Fluorine, Bromine & Iodine	≤1.5%
	Mercury	≤10 mg/kg
	Total Group II Metals (Cd + Tl)	≤30 mg/kg
PSP (Sewage Sludge Pellets)	Gross CV	10 – 40 MJ/kg
	Sulphur	≤2.0%
	Chlorine	≤2.0%
	Mercury	≤10 mg/kg
	Total Group II Metals (Cd + Tl)	≤30 mg/kg
RFO	Gross CV	30 – 48 MJ/kg
	Sulphur	≤2.0%
	Chlorine	≤2.0%
	Mercury	≤10 mg/kg
	Total Group II Metals (Cd + Tl)	≤40 mg/kg
Wood	Gross CV	10 – 40 MJ/kg
	Sulphur	≤2.0%

Table S2.1 Raw materials and fuels			
Raw materials and fuel description	**Specification**		
	Chlorine	≤2.0%	
	Total Fluorine, Bromine & Iodine	≤1.5%	
	Mercury	≤10 mg/kg	
	Total Group II Metals (Cd + Tl)	≤30 mg/kg	
EWC Numbers (excluding domestic municipal wastes)			
02 Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing	Waste plastics (except packaging)	02 01 04	
	Wastes from forestry	02 01 07	
	materials unsuitable for consumption or processing	02 02 03	
03 Wastes from wood processing and the production of panels and furniture, pulp, paper and cardboard	Waste bark and cork	03 01 01	
	Sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in 03 01 04	03 01 05	
	Waste bark and wood	03 03 01	
	De-inking sludges from paper recycling	03 03 05	
	Mechanically separated rejects from pulping of waste paper and cardboard	03 03 07	
	Wastes from sorting of paper and cardboard destined for recycling	03 03 08	
	Fibre rejects, fibre-, filler- and coating-sludges from mechanical separation	03 03 10	
04 Wastes from the leather, fur and textile industries	Wastes from dressing and finishing	04 01 09	
	Wastes from composite materials (impregnated textile, elastomer, plastomer)	04 02 09	
	Wastes from unprocessed textile fibers	04 02 21	
	Wastes from processed textile fibers	04 02 22	
07 Wastes from organic chemical processes	Waste plastic.	07 02 13	
09 Wastes from the photographic industry	Photographic film and paper free of silver or silver compounds	09 01 08	

Table S2.1 Raw materials and fuels		
Raw materials and fuel description	**Specification**	
12 Wastes from shaping and physical and mechanical surface treatment of metals and plastics	Plastic shavings and turnings	12 01 05
15 Waste packaging; absorbents, wiping cloths, filter materials and protective clothing not otherwise specified	Paper and cardboard packaging	15 01 01
	Plastic packaging	15 01 02
	Wooden packaging	15 01 03
	Composite packaging	15 01 05
	Mixed packaging	15 01 06
	Textile packaging	15 01 09
16 Wastes not otherwise specified in the list	End-of-Life Tyres	16 01 03
	Plastic	16 01 19
17 Construction and demolition wastes (including excavated soil from contaminated sites)	Wood	17 02 01
	Plastic	17 02 03
19 Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use	Combustible waste other than those in 19 02 08* and 19 02 09*	19 02 10
	Sludges from treatment of urban waste water	19 08 05
	Paper and cardboard	19 12 01
	Plastic and rubber	19 12 04
	Wood other than mentioned in 19 12 06	19 12 07
	Textiles	19 12 08
	Combustible waste (refuse-derived fuel)	19 12 10
	Other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	19 12 12
20 Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including	Paper and cardboard	20 01 01
	Clothes	20 01 10
	Textiles	20 01 11

Table S2.1 Raw materials and fuels		
Raw materials and fuel description	**Specification**	
separately collected fractions	Wood other than that mentioned in 20 01 37	20 01 38
	Plastics	20 01 39

Schedule 3 – Emissions and monitoring

Table S3.1 Kiln Exhaust emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	**Source**	**Parameter**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
A20	Cement plant K1 main stack	Particulate matter	20 mg/m^3	Daily average	Continuous measure-ment	BS 14181
		Oxides of nitrogen (NO and NO_2 expressed as NO_2)	450 mg/m^3			
		Sulphur dioxide (SO_2)	100 mg/m^3			
		Carbon monoxide (CO)	<3000 mg/m^3 Note 2			
		Total Organic Carbon (TOC)	110 mg/m^3			
		Hydrogen chloride (HCl)	10 mg/m^3			
		Total Ammonia (NH_3)	40 mg/m^3			
			50 mg/m^3	Hourly average		
			7 mg/m^3	Annual average		
		Hydrogen fluoride (HF)	1 mg/m^3	Periodic over minimum 1-hour period	Six monthly periodic monitoring	BS ISO 15713
		Cadmium (Cd) & thallium (Tl) and their compounds (total)	0.05 mg/m^3	Periodic over minimum 30 minute, maximum 8 hour period		BS EN 14385
		Mercury (Hg) and its compounds	0.05 mg/m^3			BS EN 13211
		Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total)	0.5 mg/m^3			BS EN 14385
		Dioxins / furans (I-TEQ)	0.1 ng/m^3	Periodic average value over sample period of between 6 and 8 hours		BS EN 1948 Parts 1, 2 and 3
		Dioxins / furans (WHO-TEQ Humans / Mammals /fish / birds)	No limit set	Periodic average value over sample period of between 6 and 8 hours		BS EN 1948 Parts 1, 2 and 3
		PCBs [Dioxin-like PCBs (WHO-TEQ Humans / Mammals / fish / birds)]	No limit set	Periodic average value over sample period of between 6 and 8 hours		BS EN 1948 Part 4
		PAHs Specific individual poly-cyclic aromatic hydrocarbons	No limit set	Periodic average value over sample period of between 6 and 8 hours		BS ISO 11338 Parts 1 and 2

Table S3.1 Kiln Exhaust emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	**Source**	**Parameter**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
A24	Cement plant K2 main stack	Particulate matter	20 mg/m^3	Daily average	Continuous measure-ment	BS 14181
		Oxides of nitrogen (NO and NO_2 expressed as NO_2)	350 mg/m^3			
		Sulphur dioxide (SO_2)	100 mg/m^3			
		Carbon monoxide (CO)	2200 mg/m^3			
		Total Organic Carbon (TOC)	110 mg/m^3			
		Hydrogen chloride (HCl)	10 mg/m^3			
		Total Ammonia (NH_3)	40 mg/m^3 Note 1			
			50 mg/m^3 Note 1	Hourly average		
			7 mg/m^3 Note 1	Annual average		
		Hydrogen fluoride (HF)	1 mg/m^3	Periodic over minimum 1-hour period	Six monthly periodic monitoring	BS ISO 15713
		Cadmium (Cd) & thallium (Tl) and their compounds (total)	0.05 mg/m^3	Periodic over minimum 30 minute, maximum 8 hour period		BS EN 14385
		Mercury (Hg) and its compounds	0.05 mg/m^3			BS EN 13211
		Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total)	0.5 mg/m^3			BS EN 14385
		Dioxins / furans (I-TEQ)	0.1 ng/m^3	Periodic average value over sample period of between 6 and 8 hours		BS EN 1948 Parts 1, 2 and 3
		Dioxins / furans (WHO-TEQ Humans / Mammals /fish / birds)	No limit set			BS EN 1948 Parts 1, 2 and 3
		PCBs [Dioxin-like PCBs (WHO-TEQ Humans / Mammals / fish / birds)]	No limit set			BS EN 1948 Part 4
		PAHs Specific individual poly-cyclic aromatic hydrocarbons (PAHs).	No limit set			BS ISO 11338 Parts 1 and 2

Note 1: These limits shall apply following commissioning of the SNCR system at cement kiln K2.

Note 2: This limit shall be reviewed following submission of IC11 in Table S1.3 of this permit.

Table S3.2 Non-kiln point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	**Source**	**Parameter**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
A1 and A2	Lime shaft kilns' Filter	Particulate matter	20 mg/m^3	Averaged over the sampling period (at least half an hour)	Six monthly periodic monitoring	BS EN 13284-1
		Oxides of nitrogen (NO and NO_2 expressed as NO_2)	150 mg/m^3			BS EN 14792
		Carbon Monoxide (CO)	No limit set			BS EN 15058
		Sulphur dioxide (SO_2)	To be set at permit review	Averaged over the sampling period (at least half an hour)		BS EN 14791
A12 – A17	Lime hydrators, No.s 1 - 6	Particulate matter	100 mg/m^3 (excluding first 200 hours of a new mop operation)	Averaged over the sampling period (at least half an hour)	Six monthly periodic monitoring	BS EN 13284-1
A19	Maerz lime kiln	Particulate matter	20 mg/m^3	Daily average	Continuous measure-ment	BS EN 14181
		Oxides of nitrogen (NO and NO_2 expressed as NO_2)	150 mg/m^3	Averaged over the sampling period (at least half an hour)	Six monthly periodic monitoring	BS EN 14792
		Sulphur dioxide (SO_2)	50 mg/m^3			BS EN 14791
		Carbon Monoxide (CO)	No limit set			BS EN 15058
A21	Cement Plant K1 cooler stack	Particulate matter	30 mg/m^3	Daily average	Continuous measure-ment	BS EN 14181
A22	Cement Plant K1 coal mill stack		30 mg/m^3			
A23	Cement Plant K1 cement mill stack		30 mg/m^3			
A25	Cement Plant K2 coal mill stack		20 mg/m^3			
A26	Cement Plant K2 cement mill stack		10 mg/m^3			

Table S3.2 Non-kiln point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	**Source**	**Parameter**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
A27 A–D	Power generation plant (four 8MWe gas engines A – D)	Oxides of nitrogen (NO and NO_2 expressed as NO_2)	250 mg/m^3	Averaged over the sampling period (at least half an hour)	Quarterly in first year of operation then annually	BS EN 14792
A27 A–D		Carbon monoxide (CO)	400 mg/m^3			
A28 & A29	Lopulco Mills LM12 and LM16	Particulate matter	No limit set	Averaged over the sampling period (at least half an hour)	Six monthly periodic monitoring	BS EN 13284-1
Vents on storage silos and conveyor lines	Storage silos and conveyor lines	No parameter set	No limit set	-	-	-

Table S3.3 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements						
Emission point ref. & location	**Parameter**	**Source**	**Limit (incl. unit)**	**Reference Period**	**Monitoring frequency**	**Monitoring standard or method**
W1	Suspended Solids	Overflow pipe from Bold Venture settlement pond	50 mg/m^3	-	Weekly if discharging for more than 12 hours per week.	
	Oil or Grease		None Visible	-		
	pH		7 – 9	-		
W2	Suspended Solids	Overflow pipe from B Pond settlement pond	50 mg/m^3	-		
	Oil or Grease		None Visible	-		
	pH		7 – 9	-		
W3	Suspended Solids	Overflow pipe from the settlement tank from the vehicle wash	50 mg/m^3	-		
	Oil or Grease		None Visible	-		
	pH		7 – 9	-		

Table S3.4 Point source emissions to sewer, effluent treatment plant or other transfers off-site– emission limits and monitoring requirements						
Emission point ref. & location	**Parameter**	**Source**	**Limit (incl. Unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
None	-	-	-	-	-	-

Table S3.5 Ambient air monitoring requirements				
Location or description of point of measurement	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
Installation	Wind Speed	Each working day	-	Records to be kept for a minimum period of 1 year.
	Wind Direction			
	Daily Rainfall Data			

Table S3.6 Process monitoring requirements				
Emission point reference or source or description of point of measurement	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
A20 and A24	Temperature	Continuous		As described in the Application
	Pressure	Continuous		As described in the Application
	Oxygen content	Continuous		As described in the Application
Stage 4 pre-heater temperature (K1 and K2)	Temperature	Continuous		Traceable to National Standards

Schedule 4 – Reporting

Parameters, for which reports shall be made, in accordance with conditions of this permit, are listed below.

Table S4.1 Reporting of monitoring data			
Parameter	**Emission or monitoring point/reference**	**Reporting period**	**Period begins**
Emissions to air Parameters as required by condition 3.5.1	A19, A20, A21, A22, A23, A24, A25 and A26.	Monthly summary of continuous monitoring reported quarterly	01/07/10
	A1, A2, A12, A13, A14, A15, A16, A17, A19, A20, A24, A28 and A29	6 monthly extractive monitoring reported every 6 months	01/07/12
	A27A-D	3 monthly extractive monitoring reported every 6 months	01/07/10
Functioning and monitoring of the plant involved in the burning of waste derived fuels, as required by condition 4.2.2		Every 12 months	01/07/10
Fuel usage	A20 and A24.	Annually	01/07/10

Table S4.2: Annual production/treatment	
Parameter	**Units**
On site electrical energy used within the installation	kWhrs
Electrical energy produced by the installation (power plant)	kWhrs
Power plant operational hours	hrs
SNCR – annual ammonia consumption (K1 & K2)	Tonnes
Raw mills non-operational (K1 & K2)	hrs

Table S4.3 Reporting forms		
Media/parameter	**Reporting format**	**Date of form**
Air	Form Air1, Air2, Air3 and Air4 or other form as agreed in writing by the Environment Agency	2014
SNCR - Ammonia and urea usage	Ammonia/urea Usage form or other form as agreed in writing by the Environment Agency	16/08/2010
Power plant utilisation	Power Utilisation form or other form as agreed in writing by the Environment Agency	16/08/2010
Fuel Usage Summary	Fuel Usage form or other form as agreed in writing by the Environment Agency	16/08/2010

Table S4.3 Reporting forms		
Media/parameter	**Reporting format**	**Date of form**
Waste ARM Usage Summary	List of waste based Alternative Raw Materials that are authorised for use at the installation under the code of Practice.	ARM usage1 (January 2015)
Waste derived fuel usage Summary	List of Waste derived fuels that are authorised for use at the installation under the code of Practice.	WDF Usage 1 (January 2015)

Schedule 5 – Notification

These pages outline the information that the operator must provide.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

If any information is considered commercially confidential, it should be separated from non-confidential information, supplied on a separate sheet and accompanied by an application for commercial confidentiality under the provisions of the EP Regulations.

Part A

Permit Number	
Name of operator	
Location of Facility	
Time and date of the detection	

(a) Notification requirements for any activity that gives rise to an incident or accident which significantly affects or may significantly affect the environment	
To be notified Immediately	
Date and time of the event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substances(s) potentially released	
Best estimate of the quantity or rate of release of substances	
Measures taken, or intended to be taken, to stop any emission	
Description of the failure or accident.	

(b) Notification requirements for the breach of a permit condition	
To be notified immediately	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value and uncertainty	
Date and time of monitoring	
Measures taken, or intended to be taken, to stop the emission	

Time periods for notification following detection of a breach of a limit	
Parameter	Notification period
In the event of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment:	
Description of where the effect on the environment was detected	
Substances(s) detected	
Concentrations of substances detected	
Date of monitoring/sampling	

Part B - to be submitted as soon as practicable

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident	
Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission	
The dates of any unauthorised emissions from the facility in the preceding 24 months.	

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of the operator

Schedule 6 – Interpretation

“abatement equipment” means that equipment dedicated to the removal of polluting substances from releases from the installation to air or water media.

“abnormal operation” means any technically unavoidable stoppages, disturbances, or failures of the abatement plant or the measurement devices, during which the concentrations in the discharges into air or waste water of the regulated substances may exceed the normal emission limit values.

“accident” means an accident that may result in pollution.

“annually” means once every year.

“application” means the application for this permit, together with any additional information supplied by the operator as part of the application and any response to a notice served under Schedule 5 to the EP Regulations.

“authorised officer” means any person authorised by the Environment Agency under section 108(1) of The Environment Act 1995 to exercise, in accordance with the terms of any such authorisation, any power specified in section 108(4) of that Act.

“CEM” means Continuous Emission Monitoring.

“CEN” means Commité Européen de Normalisation

“Chipped Tyres” means both chipped and granulate tyre derived material

“Commissioning” means:

> “Commissioning” for K2 relates to the period after construction has been completed or when a modification has been made to the plant or the raw materials when the Permitted Installation process is being tested and modified to operate according to its design.
>
> “Commissioning” for WTRG and ammonia based SNCR means to bring into full operation following the applicable safety and reliability checks and following 240 hours of continuous operation, or as otherwise agreed in writing with the Environment Agency.

“Corrected” monitoring data shall take account of confidence intervals in condition 3.5.5.

“COSHH Regulations 2002 (as amended)” means the Control of Substances Hazardous to Human Health Regulations 2002 (as amended) (SI 2002 No. 2677).

“daily average” for releases of substances to air means the average of valid half-hourly averages over consecutive discrete periods of 24 hours commencing at a time agreed in writing with the Environment Agency during normal operation.

“dioxin and furans” means polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans.

“emissions to land” includes emissions to groundwater.

“EP Regulations” means The Environmental Permitting (England and Wales) Regulations SI 2010 No.675 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

“emissions of substances not controlled by emission limits” means emissions of substances to air, water or land from the activities, either from the emission points specified in schedule 3 or from other localised or diffuse sources, which are not controlled by an emission limit.

“Extended Start Up Period” means a period of possible unstable operation following normal start up. Emission limit values do not apply until this extended start up period is complete.

> **For Cement processes**
>
> The end of the extended start up period is defined as when the minimum kiln feed rate of 140 tonnes per hour has been reached for a continuous period of 8 hours. The use of waste-derived fuels is permitted during this period providing the operator can demonstrate that the combustion process is

operating at a temperature of >850oC (>1100oC for hazardous waste) with a residence time greater than 2 seconds.

For Lime processes

This is the period of heating the kiln from ambient temperatures. Emission limit values do not apply until this extended start up period is complete.

Maerz kiln: The end of the extended start up period is defined as when normal gas firing patterns/cycles are in place and the minimum kiln production rate of 200 tonnes per day has been reached for a continuous period of 8 hours.

Shaft kiln: The end of the extended start up period is defined as when normal gas firing patterns/cycles are in place and the minimum kiln production rate of 180 tonnes per day has been reached for a continuous period of 8 hours.

"groundwater" means all water, which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

"Group II Metals" means Cadmium (Cd) and Thallium (Tl)

"Group III Metals" means Antimony (Sb), Arsenic (As), Chromium (Cr), Cobalt (Co), Copper (Cu), Lead (Pb), Manganese (Mn), Nickel (Ni), & Vanadium (V)

"Industrial Emissions Directive" means DIRECTIVE 2010/75/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 November 2010 on industrial emissions

"ISO" means International Standards Organisation.

"MBM" means Meat and Bone Meal. It is produced at animal rendering plants during the high temperature processing of animal remains comprising mainly abattoir waste arising in the course of preparing meat for consumption. It is a granular solid residue that is left after extracting fat (tallow) during the rendering process. The waste for rendering may contain Specified Risk Material (SRM) such as brain and spinal cords from animals. MBM is classified as a non-hazardous waste by the waste code 02 02 03, defined as "Wastes from the preparation and processing of meat, fish and other foods of animal origin" and the sub-clause "Materials unsuitable for consumption or processing". MBM cannot contain raw or unprocessed meat, bones or animal parts, or any other waste of agricultural, horticultural or industrial origin.

"MCERTS" means the Environment Agency's Monitoring Certification Scheme.

"MPA Code of Practice" means the Mineral Products Association Code of Practice for the use of waste materials in Cement and Dolomitic Lime Manufacture – dated October 2014

"Operation at Reduced Feed" means

For Cement processes

The kiln may operate at below the 140 tonne per hour feed rate and continue to use waste-derived fuels, provided the operator can demonstrate compliance with the IED chapter IV combustion requirements i.e. temperature and residence time. Emission limit values continue to apply in these circumstances.

Should process conditions require a reduced feed rate, the kiln may operate at below the 140 tonne per hour feed rate without waste-derived fuels. Emission limit values do not apply in these circumstances unless the process conditions requiring the reduced feed rate continue for more than 8 hours.

For Lime processes

Not applicable.

"PAH" means Poly-cyclic aromatic hydrocarbon, and comprises Anthanthrene, Benzo[a]anthracene, Benzo[b]fluoranthene, Benzo[k]fluoranthene, Benzo[b]naph(2,1-d)thiophene, Benzo[c]phenanthrene, Benzo[ghi]perylene, Benzo[a]pyrene, Cholanthrene, Chrysene, Cyclopenta[c,d]pyrene, Dibenzo[ah]anthracene, Dibenzo[a,i]pyrene Fluoranthene, Indo[1,2,3-cd]pyrene, Naphthalene

“PCB” means Polychlorinated Biphenyl. Dioxin-like PCBs are the non-ortho and mono-ortho PCBs listed in the table below.

“PCP” means Pentachlorophenol,

“quarter” means a calendar year quarter commencing on 1 January, 1 April, 1 July or 1 October.

“quarterly periodic monitoring” for reporting/sampling means after/during each 3 month period, January to March; April to June; July to September and October to December and, when sampling, with at least 2 months between each sampling date.

"Kiln shut down"

Cement

Shutdown is defined as when the plant is being returned to a non operational state and no waste is being burned. Emission limit values do not apply during shutdown once the feed rate is below 140 tonne per hour.

Lime

Maerz kiln: Shutdown is defined as when the plant is being returned to a non operational state and no fuel is being burned. Emission limit values do not apply during shutdown once normal gas firing/patterns are stopped.

Shaft kiln: Shutdown is defined as when the plant is being returned to a non operational state and no fuel is being burned. Emission limit values do not apply during shutdown once normal gas firing/patterns are stopped.

'Kiln Start Up'

Cement

This means, from the time when raw meal is introduced into the kiln to the time the feed rate has reached 140 tonne per hour and the kiln is stable, or the feed rate has reached an average of 140 tonnes per hour over one hour, or 10 hours have elapsed from commencing the feed of raw meal, whichever occurs first, or as otherwise agreed in writing by the Agency.

Lime

This is the period of heating the kiln from above ambient temperatures. Emission limit values do not apply until this start up period is complete.

Maerz kiln: This means, from the time when gas is introduced into the kiln to the time the kiln production rate reached 200 tonnes per day and the kiln is stable on normal gas firing patterns/cycles, or as otherwise agreed in writing by the Agency.

Shaft kiln: This means, from the time when gas is introduced into the kiln to the time the kiln production rate has reached 180 tonnes per day and the kiln is stable on normal gas firing patterns/cycles, or as otherwise agreed in writing by the Agency.

"six monthly periodic monitoring" means periodic monitoring in each 6 month period (January-June & July – December) with at least 4 months between sampling dates.

“TOC” means Total Organic Carbon. In respect of releases to air, this means the gaseous and vaporous organic substances, expressed as TOC.

“Un-Corrected” monitoring data shall not take account of confidence intervals in condition 3.5.5.

“Waste code” means the six digit code referable to a type of waste in accordance with the List of Wastes (England)Regulations 2005, or List of Wastes (Wales) Regulations 2005, as appropriate, and in relation to hazardous waste, includes the asterisk.

“Waste Incineration Directive” means Directive 2000/76/EC on the incineration of waste (O.J. L 332, 28.12.2000)

“year” means calendar year ending 31 December.

Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit shall mean that the parameter shall not be less than that limit.

Unless otherwise stated, any references in this permit to concentrations of substances in emissions into air means:

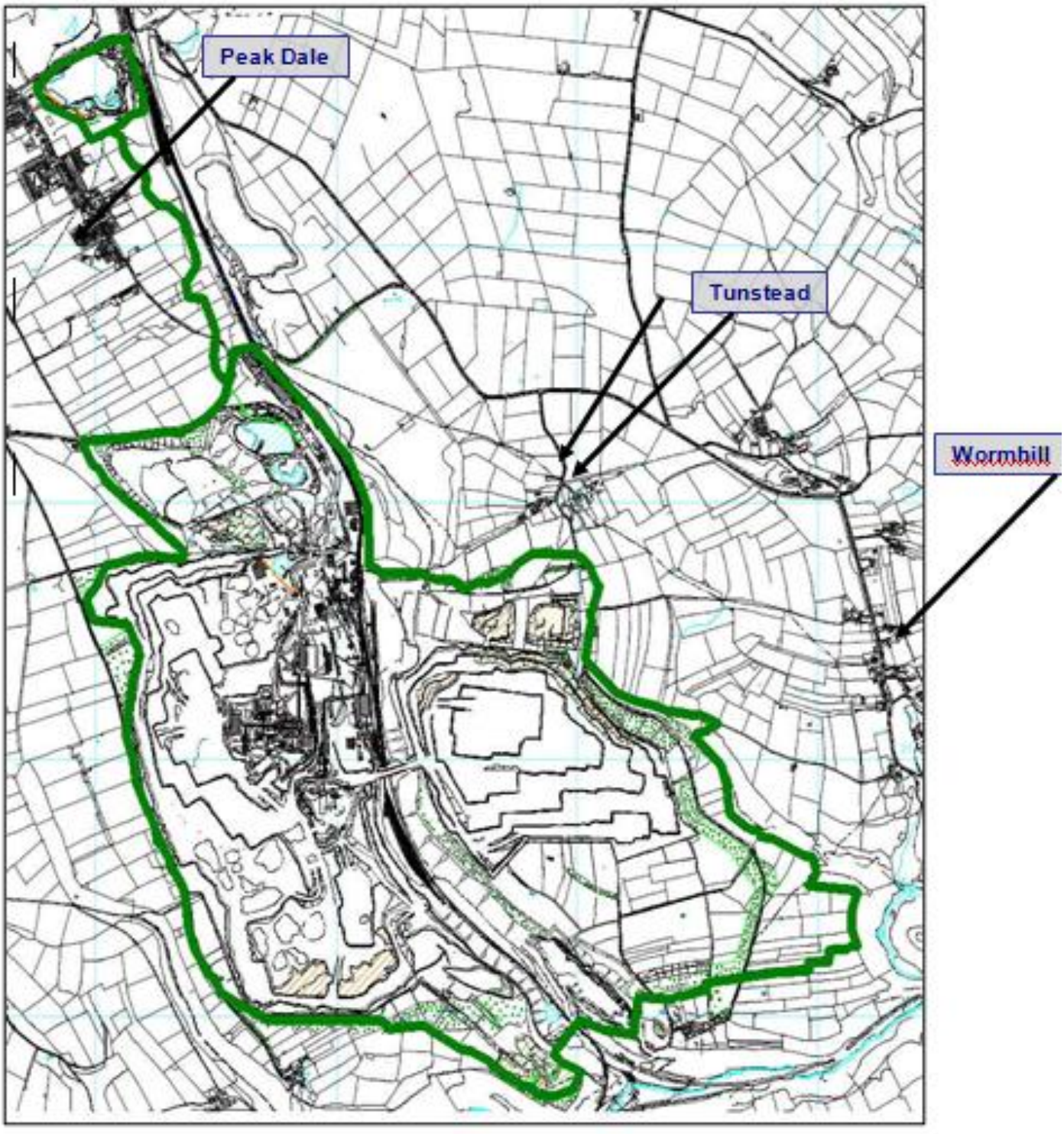
(a) in relation to emissions from cement kilns, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 10% dry for all fuels;
(b) in relation to emissions from lime kilns, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 11% dry for all fuels;
(c) in relation to emissions from combustion processes from other sources, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 3% dry for liquid and gaseous fuels; and
(d) in relation to emissions from non-combustion sources, no correction is required for temperature, pressure, oxygen or water vapour content.

For dioxins/furans and dioxin-like PCBs the determination of the toxic equivalence concentration (I-TEQ, & WHO-TEQ for dioxins/furans, WHO-TEQ for dioxin-like PCBs) stated as a release limit and/ or reporting requirement, the mass concentrations of the following congeners have to be multiplied with their respective toxic equivalence factors before summing.

TEF schemes for dioxins and furans				
Congener	I-TEF(1990)	WHO-TEF (1997/8)		
		Humans / Mammals	Fish	Birds
Dioxins				
2,3,7,8-TCDD	1	1	1	1
1,2,3,7,8-PeCDD	0.5	1	1	1
1,2,3,4,7,8-HxCDD	0.1	0.1	0.5	0.05
1,2,3,6,7,8-HxCDD	0.1	0.1	0.01	0.01
1,2,3,7,8,9-HxCDD	0.1	0.1	0.01	0.1
1,2,3,4,6,7,8-HpCDD	0.01	0.01	0.001	<0.001
OCDD	0.001	0.0001	-	-
Furans				
2,3,7,8-TCDF	0.1	0.1	0.05	1
1,2,3,7,8-PeCDF	0.05	0.05	0.05	0.1
2,3,4,7,8-PeCDF	0.5	0.5	0.5	1
1,2,3,4,7,8-HxCDF	0.1	0.1	0.1	0.1
1,2,3,7,8,9-HxCDF	0.1	0.1	0.1	0.1
1,2,3,6,7,8-HxCDF	0.1	0.1	0.1	0.1
2,3,4,6,7,8-HxCDF	0.1	0.1	0.1	0.1
1,2,3,4,6,7,8_HpCDF	0.01	0.01	0.01	0.01
1,2,3,4,7,8,9-HpCDF	0.01	0.01	0.01	0.01
OCDF	0.001	0.0001	0.0001	0.0001

TEF schemes for dioxin-like PCBs			
Congener	WHO-TEF (1997/8)		
	Humans / Mammals	Fish	Birds
Non-ortho PCBs			
3,4,4',5-TCB (81)	0.0001	0.0005	0.1
3,3',4,4'-TCB (77)	0.0001	0.0001	0.05
3,3',4,4',5 - PeCB (126)	0.1	0.005	0.1
3,3',4,4',5,5'-HxCB(169)	0.01	0.00005	0.001
Mono-ortho PCBs			
2,3,3',4,4'-PeCB (105)	0.0001	<0.000005	0.0001
2,3,4,4',5-PeCB (114)	0.0005	<0.000005	0.0001
2,3',4,4',5-PeCB (118)	0.0001	<0.000005	0.00001
2',3,4,4',5-PeCB (123)	0.0001	<0.000005	0.00001
2,3,3',4,4',5-HxCB (156)	0.0005	<0.000005	0.0001
2,3,3',4,4',5'-HxCB (157)	0.0005	<0.000005	0.0001
2,3',4,4',5,5'-HxCB (167)	0.00001	<0.000005	0.00001
2,3,3',4,4',5,5'-HpCB (189)	0.0001	<0.000005	0.00001

Schedule 7 – Site plan



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