Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2010

Cemex UK Cement limited

Rugby Cement Plant
Lawford Road
Rugby
Warwickshire
CV21 2RY

Variation application number

EPR/BL7248IH/V016

Permit number

EPR/BL7248IH

WORKING DRAFT ONLY

Rugby Cement Plant
Permit number EPR/BL7248IH

Introductory note

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

Under the Environmental Permitting (England & Wales) Regulations 2010 (schedule 5, part 1, paragraph 19) a variation may comprise a consolidated permit reflecting the variations and a notice specifying the variations included in that consolidated 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. All the conditions of the permit have been varied and are subject to the right of appeal.

Brief description of the changes introduced by this variation notice:

This is an Environment Agency initiated variation and consolidation – consolidating previous variations of environmental permit EPR/BL7248IH/V016. This variation incorporates a number of changes as a result of:-

- a statutory review of permits in the Cement and Lime sector
- the incorporation of legislative changes following the publication of "Best Available Techniques (BAT) conclusions" for the production of cement, lime and magnesium oxide – published 9 April 2013.

Concurrent with this permit review we have considered an application for derogations from the applicant. This related to BAT Conclusions 18. Where we have granted a derogation, that derogation and the reasons for granting it, are also included in Annex 1 to the variation notice to the permit, as required by Article 15(4) of IED.

Brief description of the process:

Rugby Cement Works (the Installation) is operated by Cemex UK Cement Limited and is located at grid reference SP 48687569, on the western outskirts of the town of Rugby, Warwickshire, just off the A428.

The main activity taking place at the installation is the production of cement which is a listed activity under 'The Environmental Permitting (England and Wales) Regulations 2010':

- Section 3.1 part A(1)(a) Producing cement clinker in rotary kilns with a production capacity exceeding 500 tonnes per day.

The plant has the capacity to manufacture up to 1.5 million tonnes of clinker from a single rotating kiln with calciner referred to as No.7 Kiln.

The installation includes:

- 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

Raw Materials and Materials Handling

The principal raw materials for the process are clay and chalk with addition of iron oxide and sand. There are other materials such as limestone, gypsum and pulverised fuel ash that are used in the cement milling stage. Alternative raw materials are reviewed and sourced as a direct replacement for naturally occurring raw materials.

Around 4,000m^3 of Chalk slurry is pumped along a 57mile pipeline per day from Kensworth to the works at Lawford Road. The material is kept suspended in three open tanks and pumped to the main plant. 2000 tonnes per day of clay are delivered from Southam quarry to the works by lorry.

The remaining raw materials and fuels are stored in the combined materials store (CMS). The CMS is an enclosed structure where delivery vehicles tip raw materials onto stockpiles or transfer systems for combining and feed forward to the plant (as raw meal). There is also an option to store some material in the Old Raw Material Store. The raw meal and the solid fuels of coal and petroleum coke are dried and crushed separately. The drying gases are usually combustion gases from the main plant, although there is the option of using individual hot gas generators. The gas streams from coal and raw meal drying are cleaned with bag filters. The raw meal and solid fuels are stored in silos before being fed forward to the kiln process.

Cement Clinker Production

The plant is a single stream clinker facility designed to produce 1.5 million tonnes per year. The unit is referred to as No 7 Kiln and was started up as a new facility in February 2000. The unit consists of a single rotating kiln and a calciner unit. The chalk is fed to a crusher drier where the slurry is contacted with the combustion gas from the calciner section. The hot mixture is lifted to the cyclones, where the bulk of the dried chalk is separated from the gas stream in high efficiency cyclones. The separated gas stream goes to a bag filter where the dust content is abated. The dust from this is captured and is fed back into the process.

The dried chalk from the cyclones is fed to the calciner. There the chalk is heated to over 850 deg C to convert some 80% of the chalk to calcium oxide. The heat inputs to the calciner come from the kiln off gas and the auxiliary combustion chamber. The combustion chamber (located between the calciner and the top end of the kiln) is where 70% of the fuel mix is introduced to the process – coming into contact with the raw meal prior to it entering the kiln. The output from the base of the calciner is fed to the inlet to the kiln. There is a small draw off of gases from the base of the calciner, called the bypass duct, to control the alkalinity in the product clinker and to remove other chemicals that may create process problems. This bypass stream is cooled and dust removed with an electrostatic precipitator. The bypass dust generated is the only significant process waste produced by the Installation.

In the kiln, the feed is heated to approximately 1500 deg C to form the clinker. The fuel is fed into the unit from the opposite end to the feedstock. The clinker exits from the kiln and is cooled by direct contact with an air stream in the clinker cooler. This produces clinker in a nodule form. The cooling gas from the clinker cooler is abated for particulates with an electrostatic precipitator before being discharged to air via the main chimney. Some of the exhausted cooling air is used to fire the kiln and some is used to provide drying gas streams.

The clinker is conveyed to the clinker silo and off specification material is stored in an attached silo for return to the process. The clinker is fed forward to the cement production section or for export to other facilities.

The bypass dust material is stored in a dry state in silos and is either transferred internally by bulk tankers to the cement milling area to be incorporated into product, sold as a lime substitute, loaded into bulk tankers for offsite recovery and or treatment or reacted and conditioned in a two stage process with water and shipped in sheeted tipper lorries to landfill.

Cement Production

During cement production the clinker is mixed with calcium sulphate and limestone (brought in by lorry) and ground with additives including bypass dust to make the final cement product. There are three cement mills - two relying on air cooling in a closed cycle system (with occasional direct water addition for cooling), and the third using water to provide the cooling. The gas streams from these units are cleaned with bag filters before discharge to air. Pulverised fuel ash is also brought in by bulk tanker and fed into a dedicated silo for use in the cement milling.

Bulk Storage, Packing and Despatch

The product cement is air conveyed to the bulk silos or the bagging plant. The reception silos are all fitted with bag filters to minimise releases to air. The majority of the product is shipped in bulk by road. The bagging plant produces small package quantities and stores the product for road shipments.

Fuel Handling Operations

Gas oil and natural gas are primarily used as a start-up fuel and a supplement to maintain the heat balance as and when required. The oil is delivered by road tanker and transferred into a dedicated storage tank.

Gas oil is also used for vehicles on the site. There are two areas where Gas oil is stored. The tank for the start up Gas oil is bunded. The vehicle refuelling area uses doubled skinned tanks for storage.

The plant can be fuelled by coal, or coal with petroleum coke or permitted waste derived fuels.

Coal and Petroleum coke are delivered by road to the Combined Material Store, where the material is tipped and transferred to the storage bunker. The fuel is then collected by automatic grab and transferred to the feed conveyor system. The fuels are ground and dried using off gas from the combustion gasses. The gas stream is sent through a bag filter to the main chimney.

Emissions

Emissions to air: The plant has a single main chimney of 115 metres high that serves the whole of the clinker production area. This chimney stack discharges, in addition to the combustion gas, the bypass air stream (abated by ESP), clinker cooler air (abated by ESP), raw mill (abated by fabric filter), coal mill (abated by fabric filter). Two of the three cement mills have two release points. No 4 Mill has a single release stack. All mill release points are abated with bag filters. The bulk silos for both dry fine raw materials and product have bag filters to control releases to air that are controlled under the routine inspection regime. These units return the captured dust to the associated unit.

Emission to water: Surface water is collected from five separate areas. Four go directly from the site to the Sow Brook. The fifth area drains to an on site lagoon and this is pumped to the Parkfield Quarry lagoon, or directly to the Sow Brook. Cooling water for the Cement Mills is supplied from the mains water supply. Vehicle washing and storage area water is discharged to sewer.

Emission to land: The bypass dust is stored in a silo and used in the process, recovered off site, treated off site for reuse or sent for landfill after treatment with water. Other wastes are stored in designated storage on site before being disposed of off site. The by-pass dust conditioning plant and the loadout area has the steam and dust collected and abated in a wet scrubber.

There are no sensitive ecological receptors close to the installation, no Special Areas of Conservation (SAC) or Special Protection Area (SPA) within 10km, and no Sites of Special Scientific Interest (SSSI) within 2km.

The installation operates a documented Environmental Management System, which is certified as conforming to ISO14001.

The cement kilns are deemed waste co-incineration plants under chapter IV of the Industrial Emission Directive (IED) due to the use of waste-derived fuels. IED requirements are applied through this permit.

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 BL7248IH (EPR/BL7248IH/A001)	Received 21/08/01	Duly made 31/08/01.
Response to request for further information	Schedule 4 Notice dated 21/12/01	Response dated 15/02/02.
Further supplementary information clarifying site report	Dated 20/12/01	Additional Information submitted by Applicant.
Further supplementary information	Letter dated 01/03/02	Additional Information submitted by Applicant received 07/03/02.
Further supplementary information	Letter dated 05/03/02	Additional Information submitted by Applicant received 07/03/02.
Response to request for further information	Dated 28/03/02	Risk assessment for tyre trials.

Status log of the permit		
Description	**Date**	**Comments**
Response to request for further information	Dated 03/05/02	Information about tyre handling.
Further supplementary information	Dated 31/05/02	Additional Information submitted by Applicant for Non Technical Summary.
Revised site plan	Dated 05/06/03	Revised site plan and installation boundary.
Permit Issued (EPR/BL7248IH)	12/08/03	
Application for Variation UP3435SV (EPR/BL7248IH/V002)	Received 06/06/05	Duly made 17/06/05.
Request for further information	Letter dated 13/10/05	Additional information supplied by Applicant received 14/10/05.
Variation Issued	01/11/05	Effective 02/11/05.
Application for WID variation (EPR/BL7248IH/V003)	Received 31/03/05	Duly made 31/03/05.
Further supplementary information	Received 14/07/05	Details of particulate abatement.
Further supplementary information	Received 17/08/05	Details of proposed WID TOC limits following acceptance of TOC Variation.
Variation BP3932SB issued	21/12/05	
Application for Variation LP3634LS (EPR/BL7248IH/V004)	13/02/06	Alteration to Improvement Condition completion date.
Variation Issued	18/05/06	Effective 19/05/06.
Application for Variation XP3834MR (EPR/BL7248IH/V005)	Received 20/11/06	Duly made 04/01/07.
Response to request for further information	Schedule 7 Notice dated 03/04/07	Response received dated 23/04/07.
Request by Agency to extend determination from 04/05/07 to 04/06/07	Request dated 03/04/07	Request accepted.
Response to request for further information	Schedule 7 Notice dated 21/05/07	Response dated 14/06/07.
Request by Agency to extend determination until 31/07/07	Request dated 25/06/07	Request accepted
Further supplementary information	Received 24/08/05	Updated details on Climafuel storage arrangements.
Further supplementary information	Received 31/08/05	Notification to withdraw petcoke from the Cimafuel trial.
Response to request for further information	Schedule 7 Notice dated 29/08/07	Response received dated 31/08/07
Request by Agency to extend determination until 30/10/07	Request dated 01/10/07	Request accepted.
Variation XP3834MR Issued	08/10/07	

Status log of the permit		
Description	**Date**	**Comments**
Application for variation MP3435UH (EPR/BL7248IH/V006)	Received 22/02/07	Duly Made 23/03/07.
Response to request for further information	Schedule 7 Notice dated 15/06/07	Response received dated 10/07/07.
Request by Agency to extend determination until 30/09/07	Request dated 13/08/07	Request accepted.
Variation MP3435UH Issued	16/10/07	
Application for variation CP3636UX (EPR/BL7248IH/V007)	Received 06/07/07	Duly Made 30/07/07.
Response to request for further information	Schedule 7 Notice dated 27/09/07	Response received dated 01/10/07.
Variation CP3636UX Issued	21/11/07	
Application for variation SP3735GK (EPR/BL7248IH/V008)	Received 02/10/08	Duly Made 09/10/08
Variation SP3735GK Issued	28/10/08	
Application for variation AP3439GV (EPR/BL7248IH/V009)	Received 29/09/08	Duly Made 29/09/08.
Variation AP3439GV Issued	02/03/09	
Application for variation EPR/BL7248IH/V010	Received 07/05/09	Duly Made 26/05/09.
Further supplementary information	Letter dated 25/06/09	Additional Information submitted by Applicant received 26/06/09.
Response to request for further information	Schedule 5 Notice dated 21/08/09	Response received dated 11/09/09.
Variation EPR/BL7248IH/V010 Issued	27/11/09	
Environment Agency Cement and Lime Sector review Variation EPR/BL7248IH/V011 issued	22/10/10	
Application for variation EPR/BL7248IH/V012	Received 21/04/11	
Variation determined EPR/BL7248IH/V012	27/06/11	
Variation application EPR/BL7248IH/V013	Duly made 06/12/12	Administrative Variation.
Variation determined EPR/BL7248IH/V013	02/01/13	Varied permit issued.
Variation determined EPR/BL7248IH/V014 (Billing Ref: GP3237VU)	03/07/14	Agency variation to implement chapter IV of the Industrial Emissions Directive.

Status log of the permit		
Description	**Date**	**Comments**
Variation application EPR/BL7248IH/V015	Duly made 04/11/14	
Variation determined EPR/BL7248IH/V015 (Billing Ref: FP3238WG)	28/01/15	Variation issued to add list of waste codes suitable in principle, remove Group III metals specification in fuels and consolidate waste derived fuels naming.
Regulation 60 Notice issued	Issued 01/05/14	Notice issued to Cemex UK cement limited
Regulation 60 Notice response received	08/01/15	Additional information was also received on 6/07/15, 23/06/16 and 16/12/16.
Variation EPR/BL7248IH/V016 (Billing Ref: VP3937WF) determined	Xx/xx/xx	Agency initiated variation following the Cement and Lime Sector permit review

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/BL7248IH

Issued to

Cemex UK Cement limited ("the operator")

whose registered office is

Cemex House
Coldharbour Lane
Thorpe
Egham
Surrey
TW20 8TD

company registration number 00475212

to operate a regulated facility at

Rugby Cement Plant
Lawford Road
Rugby
Warwickshire
CV21 2RY

to the extent set out in the schedules.

The notice shall take effect from [DD/MM/YYYY]

Name	Date
[name of authorised person] **Type name, signature not needed**	**[DD/MM/YYYY]**

Authorised on behalf of the Environment Agency

Schedule 1

All conditions have been varied by the consolidated permit as a result of an Environment Agency initiated variation.

Schedule 2 – consolidated permit

Consolidated permit issued as a separate document.

Permit

The Environmental Permitting (England and Wales) Regulations 2010

Permit number

EPR/BL7248IH

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/BL7248IH/V016 authorising,

Cemex UK Cement limited ("the operator"),

whose registered office is

Cemex House
Coldharbour Lane
Thorpe
Egham
Surrey
TW20 8TD

company registration number 00475212

to operate an installation at

Rugby Cement Plant
Lawford Road
Rugby
Warwickshire
CV21 2RY

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

Name	**Date**
[name of authorised person]	**[DD/MM/YYYY]**

Authorised on behalf of the Environment Agency

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 recovered with a high level of energy efficiency and 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 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.

2.3.2 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.

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

2.3.4 Waste shall only be accepted if:

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

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

(c) it having been separately collected for recycling, it is subsequently unsuitable for recovery by recycling.

2.3.5 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.

2.3.6 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.

2.3.7 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 The operator shall obtain prior written approval from the Environment Agency for each feasibility trial of a Waste Derived Fuel (WDF) not listed in table S2.1. 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 Waste materials, not listed in table S2.1, shall not 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 2.3.3 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 2.3.3.

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 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 200 tonnes/hr; of dry raw feed or

(d) the temperature at the top of the calciner is below or falls below 850^{o}C when using non-hazardous wastes 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 “Chapter IV 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 “Chapter IV abnormal operating conditions”.

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

2.3.14 Where, during “Chapter IV abnormal operating conditions”, 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 “Chapter IV abnormal operating conditions” periods over one calendar year exceeds 60 hours on each kiln.

2.3.15 The operator shall interpret the end of the period of “Chapter IV abnormal operating conditions” 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 “Chapter IV abnormal operating conditions”;

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

2.3.16 Hazardous waste shall not be mixed, either with a different category of hazardous waste or with other waste, substances or materials, unless it is authorised by schedule 1 table S1.1 and appropriate measures are taken.

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.

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 Where a substance is specified in schedule 3 table S3.3 but no limit is set for it, the concentration of such substance in emissions to water from the relevant emission point shall be no greater than the background concentration.

3.1.4 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 and S3.2;

(b) surface water or groundwater specified in table S3.3;

(c) process monitoring specified in table S3.5;

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), where available, unless otherwise agreed in writing by the Environment Agency.

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 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:

- Ammonia 40%
- Carbon monoxide 10%
- Sulphur dioxide 20%
- Oxides of nitrogen (NO & NO2 expressed as NO2) 20%
- Particulate matter 30%
- Total organic carbon (TOC) 30%
- Hydrogen chloride 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:

(a) 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;

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

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

3.6 Fire prevention

3.6.1 The operator shall take all appropriate measures to prevent fires on site and minimise the risk of pollution from them including, but not limited to, those specified in any approved fire prevention plan.

3.6.2 The operator shall:

(a) if notified by the Environment Agency that the activities are giving rise to a risk of fire, submit to the Environment Agency for approval within the period specified, a fire prevention plan which prevents fires and minimises the risk of pollution from fires;

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

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 31 January (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 performance parameters set out in schedule 4 table S4.3 using the forms specified in table S4.4 of that schedule.

(d) 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 S4.4 ; 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.

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 In the event:

(a) 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) 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) 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:

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

(b) 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 “immediately” 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
AR1	Section 3.1 Part 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.	Kiln K7. From the transport of raw materials and fuels from bulk storage, the preparation (including blending of raw materials specified within table S2.1 in order to produce raw meal) and feeding of all materials into the kiln systems, through to discharge of cooled clinker to the clinker store. Includes emissions to air from the main stack and other process vents.
AR2	Section 3.1 Part A(2)(a)	Grinding cement clinker	The transport of clinker, including imported clinker, from clinker storage and handling of raw materials from bulk storage, through milling and blending to storage of cement, including emissions to air from the mill stacks and other process vents.
AR3	Section 3.1 part B (a)	Storing, loading or unloading cement or cement clinker in bulk prior to further transportation in bulk.	Storage and dispatch of cement clinker and cement in bulk by road or rail.
AR4	Section 3.1 part B (b)	Blending cement in bulk or using cement in bulk other than at a construction site, including the bagging of cement and cement mixtures, the batching of ready-mixed concrete and the manufacture of concrete blocks and other cement products.	Blending and bagging of cement products
	Directly Associated Activity		
AR5	Raw materials storage and handling	Raw materials receipt, transport, preliminary preparation and bulk storage	From the receipt of raw materials via road and pipeline, and the receipt on site of other raw materials, including alternative raw materials, through to bulk storage.
AR6	Fuels storage and handling	Delivery and bulk storage of fuels	Offloading of waste-derived and fossil fuels, and transfer to bulk storage
AR7	Clinker import	Bulk import of cement clinker by road and rail	Offloading of cement clinker imported to site by road and rail and transfer to the clinker stores.

AR8	Waste storage and handling	Waste storage and handling	From waste generation, storage and monitoring through to dispatch off site.
AR9	Water discharge to controlled water	Management of site drainage and process water.	From collection of surface water drainage including reuse within site activities through to discharge to controlled waters

Table S1.2 Operating techniques

Description	Parts	Date Received
Application	The response to question 2.3 given in the application.	21/08/01
Schedule 4	The response given to question 2.4	21/02/02
Additional Information	Further supporting information, relating to operating techniques, in the Additional Information, 01/03/02.	07/03/02
Additional Information	Further supporting information, relating to operating techniques, in the Additional Information, 28/03/02.	02/04/02
Additional Information	Further supporting information, relating to operating techniques, in the Additional Information, 03/05/02.	10/05/02
Additional Information	Further supporting information, relating to operating techniques, in the Additional Information	31/05/02
Application for WID Variation BP3932SB	The response to questions given in sections C2.1, C2.3, C2.7 and C2.10 of the Application for variation.	31/03/05
Further supplementary information	Details of particulate abatement.	14/07/05
Application for a variation to allow burning of Climafuel	Section C2 of the application for variation	20/11/06
Additional Information	Schedule 7 response to Climafuel variation XP3834MR	25/04/07
Additional Information	Schedule 7 response to Climafuel variation XP3834MR	18/06/07
Additional information	Further supporting information, relating to operating techniques, in the Additional information	24/08/07
Additional information	Further supporting information, relating to operating techniques, in the Additional information	31/08/07
Additional information	Schedule 7 response to Climafuel variation XP3834MR	31/08/07
Application for a variation to improve the clinker transfer system	Section C2 of the application	22/02/07
Additional information	Schedule 7 response to variation MP3435UH	10/07/07
Application for a variation to allow burning of Further Tyres	Section C2 of the application for variation CP3636UX	06/07/07
Additional information	Schedule 7 response to Further Tyres variation CP3636UX	01/10/07
Application for a variation to use an open ribbon mixer to nodulise bypass dust	Section C2 of the application for variation SP3735GK	02/10/08

Table S1.2 Operating techniques		
Description	**Parts**	**Date Received**
Application for a variation to allow burning of Further Tyres	Section C2 of the application for variation AP3439GV excluding section C2.4	29/09/09
Application for a variation to allow burning of Further Climafuel	Section C2 of the application for variation EPR/BL7248IH/V010, and the application report (ref Variation 2009/01), excluding section C2.10.1 of the application report	07/05/09
Additional information	Schedule 5 response to further Climafuel variation EPR/BL7248IH/V010	11/09/09
Application for a variation to allow burning of Further Climafuel	Response to Section 3 (Operating techniques) provided in Part C3 of variation application EPR/BL7248IH/V012. Sections C2.1.2 (Operational Procedures) and C2.3 (Management techniques) of document reference 2011/01, dated March 2011.	21/04/11
Application EPR/BL7248IH/V015 Code of Practice variation application	All parts, including changes to the Environment Management System (EMS) for the introduction of Alternative Raw Materials and Waste Derived Fuels.	04/11/14
Response to Regulation 60(1) Notice dated 01/05/14 requiring information	In relation to the IED Best Available Techniques, the details submitted against BAT conclusion numbers 1-29	08/01/15
	Additional information provided against the IED Best Available Techniques, the details submitted against BAT conclusion numbers 5, 9, 13, 16, 17, 18, 19.	Received 06/07/15

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
IC16	The operator shall investigate the feasibility of installing monitoring access to and/or modifying the ductwork of dust emission points A8 –A12 to enable MCERTS monitoring of emissions to be carried out at each point. The operator shall assess each emission point and produce a risk-based plan of modifications with the aim of ensuring that MCERTS monitoring can be carried out. The plan shall prioritise the larger and more significant dust emission points. For any emission points where MCERTS monitoring is not proposed, the operator shall provide justification for why and propose an alternative means for demonstrating compliance with the limit of 10 mg/Nm^3. A report detailing the assessment of each dust emission, the plan for modifications, timescales and any alternative compliance assessments shall be submitted to the Environment Agency for written approval. The plan shall be implemented upon approval by the Environment Agency,	31/07/17

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
IC17	The operator shall submit a report to the Environment Agency proposing an Ammonia Emission Limit Value (ELV) for each kiln, for written approval by the Environment Agency. The report shall include the following, as a minimum: • Assessment of ambient (background) ammonia levels. • Assessments of ammonia slip emissions arising from the use of SNCR (selective non-catalytic reduction) operations and at varying operational conditions. • Assessment of impacts (Predicted Environmental Concentrations) at the proposed ELV. The assessment of impacts shall be undertaken using emission rates without confidence correction applied (IED ch IV), and shall be calculated at the maximum production capacity, or any future maximum capacity, if a further increase is planned (in order to ensure that worst case scenario is covered). The assessment shall consider the impacts at discrete receptors, including non-statutory sites such as Local Wildlife sites and SSSIs within 2km and European sites within 10km of the installation. Following the completion of this condition, the Environment Agency will set an ELV for inclusion within table S3.1.	31/03/18

Schedule 2 – Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels			
Raw materials and fuel description			
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 dry (w/w)	
	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
	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

Table S2.1 Raw materials and fuels		
Raw materials and fuel description		
	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 hazardous 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 hazardous 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
	wastes from calcination and hydration of lime	10 13 04
	Particulates and dust (except 10 13 12 and 10 13 13)	10 13 06

Table S2.1 Raw materials and fuels		
Raw materials and fuel description		
	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 hazardous 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 hazardous 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 industrial use	Aqueous liquid wastes from gas treatment and other aqueous liquid wastes	19 01 06*
	Fly ash containing hazardous substances	19 01 13*
	Premixed wastes composed only of non-hazardous wastes	19 02 03
	Premixed wastes composed of at least one hazardous waste	19 02 04*
	Sludges from treatment of urban waste water	19 08 05

Table S2.1 Raw materials and fuels		
Raw materials and fuel description		
	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 hazardous 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 ≤2.0% by weight (w/w)	
Petcoke	Sulphur Content ≤7.0% by weight (w/w)	
Waste generated on-site in connection with the handling and storing of waste derived fuels	Burnt with chipped tyres or Solid Recovered Fuel at a rate that constitutes less than 1.0% by mass of the chipped tyre or Solid Recovered Fuel 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 (MBM)	EWC Number	02 02 03
	Gross CV	10 – 40 MJ/kg
	Sulphur	≤2.0%
	Chlorine	≤2.0%
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

Table S2.1 Raw materials and fuels		
Raw materials and fuel description		
Waste Liquid Fuels (WLF)	Gross CV	10 – 42 MJ/kg
	Sulphur	≤2.0%
	Chlorine	≤2.0%
	Total Fluorine, Bromine & Iodine	≤1.5%
	Mercury	≤20 mg/kg
	Total Group II Metals (Cd + Tl)	≤40 mg/kg
Processed Sewage Pellets (PSP)	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
Recovered Fuel Oil (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%
	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

Table S2.1 Raw materials and fuels		
Raw materials and fuel description		
	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
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
	End-of-Life Tyres	16 01 03

Table S2.1 Raw materials and fuels		
Raw materials and fuel description		
16 Wastes not otherwise specified in the list	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 separately collected fractions	Paper and cardboard	20 01 01
	Clothes	20 01 10
	Textiles	20 01 11
	Wood other than that mentioned in 20 01 37	20 01 38
	Plastics	20 01 39

Schedule 3 – Emissions and monitoring

Table S3.1 Point source emissions to air – emission limits and monitoring requirements for kiln exhaust(s)						
Emission point ref. & location	**Source**	**Parameter**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
A1	Cement plant K1, main stack	Particulate matter	20 mg/Nm^3	Daily average	Continuous measurement	EN 14181
		Oxides of nitrogen (NO and NO_2 expressed as NO_2)	500 mg/Nm^3 From 9/4/2017 450 mg/Nm^3			
		Sulphur dioxide	200 mg/Nm^3			
		Ammonia	No limit set			
		Total Organic Carbon (TOC)	50 mg/Nm^3			
		Hydrogen chloride	10 mg/Nm^3			
		Hydrogen fluoride	1 mg/Nm3	Periodic over minimum 1-hour period	Six monthly periodic monitoring	ISO 15713
		Cadmium & thallium and their compounds (total)	0.05 mg/Nm^3	Periodic over minimum 30 minute, maximum 8 hour period	Six monthly periodic monitoring	BS EN 14385
		Mercury and its compounds	0.05 mg/Nm^3			BS EN 13211
		Group III metals and their compounds (total)	0.5 mg/Nm^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	Six monthly periodic monitoring	BS EN 1948 Parts 1, 2 & 3
		Dioxins / furans (WHO-TEQ Humans / Mammals /fish / birds)	No limit set			BS EN 1948 Parts 1, 2 & 3
		PCBs [Dioxin-like PCBs (WHO-TEQ Humans / Mammals / fish / birds)]	No limit set			BS EN/TS 1948 part 4

Table S3.1 Point source emissions to air – emission limits and monitoring requirements for kiln exhaust(s)						
Emission point ref. & location	**Source**	**Parameter**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
		PAHs Specific individual poly-cyclic aromatic hydrocarbons	No limit set			BS ISO 11338 part 1 and 2

Table S3.2 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	**Source**	**Parameter**	**Limit (including unit) (1)**	**Reference Period**	**Monitoring frequency**	**Monitoring standard or method**
A2	Cement mill 4	Particulate matter	30 mg/Nm^3 From 9/4/2017 10mg/Nm3	Periodic over minimum ½ hour period	Six monthly periodic monitoring	BS EN 13284-1
A4	Cement Mill 5	Particulate matter	30 mg/Nm^3 From 9/4/2017 10mg/Nm^3			
A5	Cement mill 5 separator	Particulate matter	30 mg/Nm^3			
A6	Cement mill 6	Particulate matter	30 mg/Nm^3			
A7	Cement mill 6 separator	Particulate matter	30 mg/Nm^3			
A8	Cement packer 1	Particulate matter	From 9/4/2017 10 mg/Nm^3	Periodic over minimum ½ hour period	Annually	BS EN 13284-1
A9	Cement packer 2	Particulate matter	From 9/4/2017 10 mg/Nm^3	Periodic over minimum ½ hour period	Annually	BS EN 13284-1
A10	LEV for Bypass dust	Particulate matter	From 9/4/2017 10 mg/Nm^3	Periodic over minimum ½ hour period	Annually	BS EN 13284-1
A11	Clinker store cooling filter	Particulate matter	From 9/4/2017 10 mg/Nm^3	Periodic over minimum ½ hour period	Annually	BS EN 13284-1
A12	Clinker silo bag filter	Particulate matter	From 9/4/2017 10 mg/Nm^3	Periodic over minimum ½ hour period	Annually	BS EN 13284-1

Table S3.2 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	**Source**	**Parameter**	**Limit (including unit) (1)**	**Reference Period**	**Monitoring frequency**	**Monitoring standard or method**
All other channelled dust emissions abated by fabric filters	Dusty operations such as crushing, conveyors, material handling, silos	Particulate matter	From 9/4/2017 10 mg/Nm^3	-	In accordance with maintenance management system	Permanent sampling access not required

(1) Release points A5, A6 and A7 are subject to derogation and will become 10mg/Nm^3 upon upgrading of fabric filter.

Table S3.3 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements						
Emission point ref. & location	**Source**	**Parameter**	**Limit (incl. unit)**	**Reference Period**	**Monitoring frequency**	**Monitoring standard or method**
W2 on site plan	Surface water and Works water lagoon and Quarry lagoon discharge	Suspended Solids	40 mg/l	-	3 monthly spot	BS EN 872
		pH	9 max 6 min			BS6068-2.50
		Temperature	25^{o}C			
W3, W4, W5, W6	Surface water drainage	No parameter set	No limit set			

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	**Source**	**Parameter**	**Limit (incl. Unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
S1	Vehicle washing	No parameter set	No limit set			
S2	Bypass dust granulator					
S3	CMS Drainage					

Table S3.5 Process monitoring requirements				
Emission point reference or source or description of point of measurement	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
Cement Kiln Dust and / or By-pass dust.	dioxins/furans and dioxin-like PCBs	Annual (1)	Sampling in accordance with a protocol agreed in writing with the W2Agency.	
Cement Kiln Dust and / or By-pass dust.	Halides (Chloride, Bromide and Fluoride)	Annual (1)		
Cement Kiln Dust and / or By-pass dust.	Total soluble fraction for Group I, Group II and Group II metals, Zinc and their compounds)	Annual (1)		
Kiln A1	Fuels usage	Monthly	As agreed in writing with the EA	
	Waste-derived fuels usage			
	Relative thermal input of Waste-derived fuels			
	Raw meal feed rate (t/hr)	Continuous		
	Calciner combustion temperature (°C)			
	Temperature	Continuous		
	Pressure			
	Oxygen content			
	Water vapour content			
A2-A12	Particulates	continuous	Indicative	From 9 April 2017

(1) Additional sample required before the use of a new disposal or recovery route.

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.	A1	Continuous: every 3 month	1 January, 1 April, 1 July, 1 October
	A1, A2-A7 (TBC)	Periodic: every 6 months	1 January, 1 July
	A8 - A12	Periodic: every 12 months	1 January
Emissions to water Parameters as required by condition 3.5.1	W2	Every 3 months	1 January, 1 April, 1 July, 1 October
Fuel Usage, Alternative raw materials and Waste Derived Fuel usage as required by condition 4.2.6		Quarterly	1 January
Functioning and monitoring of the plant involved in the burning of waste derived fuels, as required by condition 4.2.2		Annually	1 January
Process monitoring Parameters as required by condition 3.5.1	Cement Kiln Dust and / or By-pass dust composition for disposal Fuels usage Waste-derived fuels usage Relative thermal input of Waste-derived fuels	Quarterly	1 January

Table S4.2: Annual production/treatment	
Parameter	**Units**
Nil	

Table S4.3 Performance parameters		
Parameter	**Frequency of assessment**	**Units**
Mass of CKD/BPD sent off site for recovery	Quarterly	tonnes
Mass of CKD/BPD sent off site for landfill	Quarterly	tonnes

Table S4.4 Reporting forms		
Media/parameter	**Reporting format**	**Date of form**
Air	Form air 1 or other form as agreed in writing by the Environment Agency	DD/MM/YY
Water and Land	Form Water 1 or other form as agreed in writing by the Environment Agency	DD/MM/YY
Fuels usage summary and relative thermal input	Form Fuel Usage or other form as agreed in writing by the Environment Agency	DD/MM/YY
Alternative Raw Materials usage	Form ARM Usage1 or other form as agreed in writing by the Environment Agency	DD/MM/YY
Waste Derived fuels usage	Form WDF Usage1 or other form as agreed in writing by the Environment Agency	DD/MM/YY
Annual WID report		

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 malfunction, breakdown or failure of equipment or techniques, accident, or emission of a substance not controlled by an emission limit which has caused, is causing or may cause significant pollution	
To be notified within 24 hours of detection	
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 limit	
To be notified within 24 hours of detection unless otherwise specified below	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value and uncertainty	
Date and time of monitoring	

(b) Notification requirements for the breach of a limit	
To be notified within 24 hours of detection unless otherwise specified below	
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**

(c) Notification requirements for the detection of any significant adverse environmental effect	
To be notified within 24 hours of detection	
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.

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

“annual average” means the average of all daily averages in a calendar year.

"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.

“background concentration” means such concentration of that substance as is present in:

- for emissions to surface water, the surface water quality up-gradient of the site; or
- for emissions to sewer, the surface water quality up-gradient of the sewage treatment works discharge.

“*CEM”* means Continuous Emission Monitor.

“Chapter IV abnormal operating conditions” 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.

“*Climate Change Agreement*” means an agreement made between the Secretary of State and the operator, either directly or through the offices of any association of which he is a member, in which he agrees to secure energy efficiency improvements as set out in a plan agreed with the Secretary of State in that agreement in return for a discount from the amount he would otherwise pay as a Climate Change Levy.

“*Chipped tyres*” means both chipped and granulated tyre and rubber conveyor belt derived material.

“*Commissioning*” 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.

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

“*CO trip*” means a de-energisation of electrical precipitators following detection of carbon monoxide in the kiln gases above a pre-determined concentration. This is a safety system.

“*daily*” means a 24 hour period commencing at either midnight or midday.

“*daily average”* for releases of substances to air means the average of valid half-hourly averages over consecutive discrete period 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.*

“disposal”. Means any of the operations provided for in Annex I to Directive 2008/98/EC of the European Parliament and of the Council on waste

“ELV” means emission limit value.

“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 or background concentration limit.

“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.

"*EWC code"* means the code number from the European Waste Catalogue.

"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 I metals*" means mercury (Hg).

"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).

"*half-hour or half-hourly*" means a 30 minute period commencing on the hour or at half past the hour.

"Hazardous property" has the meaning in Annex lll of the Waste Framework Directive.

"Hazardous waste" has the meaning given in the Hazardous Waste (England and Wales) Regulations 2005 (as amended).

"*hourly*" means a 60 minute period commencing on the hour.

"Industrial Emissions Directive" or "*IED*" 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.

"Kiln flush" refers to kiln upset due to a surge of feed material into the kiln which passes through without reacting fully.

"*Kiln shut down*"

Kiln 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 200 tonne per hour.

'Kiln Start Up'

This means, from the time when raw meal is introduced into the kiln to the time the feed rate has reached 200 tonne per hour and the kiln is stable or as otherwise agreed in writing by the Agency.

> On commencing kiln operation, the first continuous monitoring daily average can be calculated from the 24 hour period starting from the time that kiln start-up has completed. Subsequent daily averages will be based on a 24 hour period commencing 12 noon/midnight.

"List of Wastes" means the list of wastes established by Commission Decision 2000/532/EC replacing Decision 94/3/EC establishing a list of wastes pursuant to Article 1(a) of Council Directive 75/442/EEC on waste and Council Decision 94/904/EC establishing a list of hazardous waste pursuant to Article 1(4) of Council Directive 91/689/EEC on hazardous waste, as amended from time to time.

"MBM" means Meat and Bone Meal. MBM is classified as a non-hazardous waste by the EWC 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.

"monitoring" includes the taking and analysis of samples, instrumental measurements (periodic and continual), calibrations, examinations, tests and surveys.

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

"*oxides of nitrogen (NO_x)*" means nitric oxide (NO) plus nitrogen dioxide (NO_2) expressed as NO_2

"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,

"permitted installation" means the activities and the limits to those activities described in Table S1.1 of this Permit.

"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.

"recovery" means any of the operations provided for in Annex II to Directive 2008/98/EC of the European Parliament and of the Council on waste.

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

"*SSSI*" means a site of special scientific interest designated under the Wildlife and Countryside Act 1981 being a site in the UK which is of particular importance because of its geology, topography, or ecology.

"*thermal input"* refers to the combined pre-calciner and main kiln burner inputs. Maximum thermal substitution of hazardous waste shall not exceed 40% to comply with IED co-incineration requirements. Hazardous waste may be substituted only as a main kiln burner input due to IED minimum thermal operating requirements.

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

"Waste code" means the six digit code referable to a type of waste in accordance with the List of Wastes and in relation to hazardous waste, includes the asterisk.

'waste co-incineration plant' means any stationary or mobile technical unit whose main purpose is the generation of energy or production of material products and which uses waste as a regular or additional fuel or in which waste is thermally treated for the purpose of disposal through the incineration by oxidation of waste as well as other thermal treatment processes, such as pyrolysis, gasification or plasmaprocess, if the substances resulting from the treatment are subsequently incinerated;

"Waste Framework Directive" or "WFD" means Waste Framework Directive 2008/98/EC of the European Parliament and of the Council on waste

"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 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

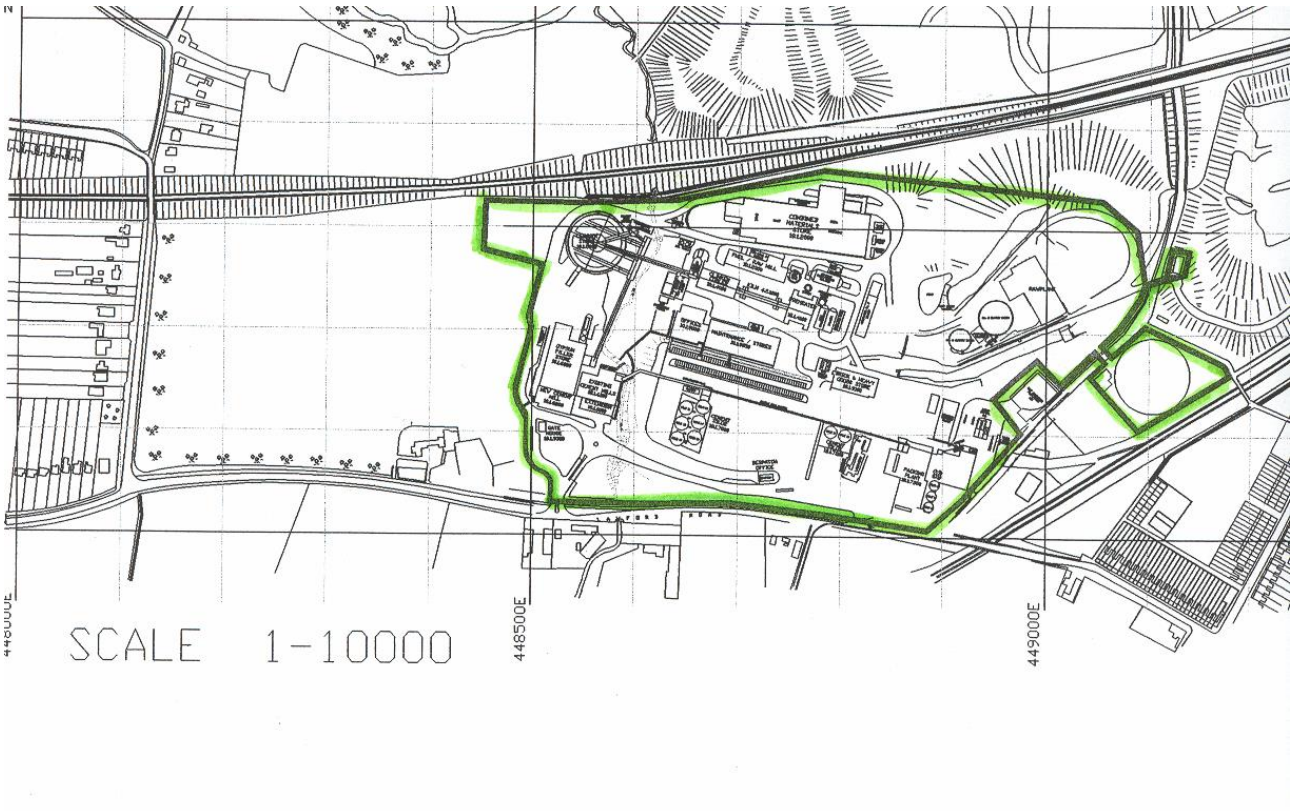
in relation to emissions from non-combustion sources, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with no correction required for oxygen.

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



["©Crown Copyright. All rights reserved. Environment Agency, 100024198, YYYY."]

END OF PERMIT

Annex to conditions – Derogation under Industrial Emissions Directive

Derogation under Article 15(4) of Industrial Emissions Directive

DIRECTIVE 2010/75/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 November 2010 on industrial emissions

We have considered the Operator's proposed techniques and its comparison against other relevant techniques as described in best available techniques (BAT) conclusions (BATc) for the production of cement, lime and magnesium oxide and detailed in document reference 2013/163/EU. Our reasoning is given in our decision document that accompanies the permit determination.

As part of their Regulation 60 Notice response, the operator has requested a derogation from compliance with the AEL values included in the following BAT Conclusion as detailed below.

Cemex UK Limited requested a derogation from BATC18.

- BATC 18 Dust emission from milling processes specifically Cement mill 5 separator, Cement mill 6 main vent and Cement mill 6 separator. The BAT-AEL for mills abated with fabric filters is <10mg/Nm^3 with the operator requesting to maintain the existing limits of 30mg/Nm^3. The request was to allow a phased replacement of the fabric filters with new units capable of meeting the new <10mg/Nm^3 limit. The justification for the request was on technical grounds linked to the general investment cycle of the industry and specifically to align with the kiln down times.

Although information was provided in their response to allow us to commence assessment of the derogation request it was insufficient to enable us to complete the determination and further information was requested and subsequently supplied on 23 June 2016 (detailed arguments and CBA) and 16 December 2016 (relative capacities of mills).

On review and assessment of this information we have decided to grant the derogation requested by the operator in respect to the AEL values described in BAT Conclusion 18 but have included other Emission Limit Values in the Consolidated Variation Notice that will ensure suitable protection of the environment.

The Operator requested a time limited derogation from BAT 18, associated with dust emissions from the flue-gases of cooling and milling processes as described in the BAT Conclusions for the Production of Cement, lime and magnesium oxide, implementation date 9th April 2017. The derogation request was on the on the basis of the technical characteristics of the plants specifically the general investment cycle and the timing of installation of abatement plant linked to the kiln run times.

The derogations for three emission points have been considered together as they form part of a phased replacement of fabric filters on two separators and one main cement mill which we have considered together because the technical criteria for allowing the derogation are linked.

The Operator's application considered 4 options for meeting the BAT-AEL. They have proposed to retain existing ELV for particulate matter (PM) on three release points; Cement mill 5 and 6 separators and the main cement mill 6 until new bag filter abatement plant are fitted after which the BAT AEL of 10mg/Nm^3 will be achieved. The operator rejected all the other options. The phased approach to replacing existing bag filters is outlined below:

Emission point	Current limit	Emission point BATAEL Compliance date
Cement Mill 5 separator	30mg/Nm^3	10 mg/Nm^3 limit from 30 June 2019
Cement Mill 6 main	30mg/Nm^3	10 mg/Nm^3 limit from 30 April 2020
Cement Mill 6 separator	30mg/Nm^3	10 mg/Nm^3 limit from 30 April 2021

The Environment Agency has reviewed the application and concluded

- The operator has supplied a valid derogation request against the BAT conclusions 18. The derogation request is based on technical characteristics specifically the investment cycle and the practicality of replacing 3 bag filtration systems. The operator has described three relevant techniques for achieving the BAT-AEL and justified the screening out two of them. Two options were taken forward to conduct a cost benefit analysis, compliance by April 2017 and compliance by phased replacement of existing mill filters. The derogation request included a proposal to retain the existing ELV of 30mg/Nm^3, for 2 separators and one cement mill until a range of dates commencing June 2019 to April 2021 according to a supplied schedule of works. After this date the operator has proposed that the fitting of new bag filtration systems to all three points will be completed and the BAT-AEL levels of 10mg/Nm^3 would be met.

- That the operator has provided a credible argument that the increased costs linked to the technical characteristics are disproportionate for achieving the BAT AEL. The operator supplied 3 valid CBA analysis, one for each of the fabric filters subject to the derogation. Taken individually they show the costs are disproportionate to the environmental benefits. The data was combined into a single CBA which also confirmed that the costs were disproportionate.

- The operator has demonstrated that the costs of achieving the BAT-AEL by April 2017 are disproportionate to the environmental benefits. The environmental impacts of the current releases are not considered significant and the phased introduction of new abatement equipment will result in significant reductions from over 37.5 tonnes per year to 12 tonnes by 2021.

- That the operator has provided a credible argument that the increased costs linked to the technical characteristics are disproportionate for achieving the BAT AEL. The operator supplied 3 valid CBA analysis, one for each of the fabric filters subject to the derogation. Taken individually they show the costs are disproportionate to the environmental benefits. The data was combined into a single CBA which also confirmed that the costs were disproportionate. The CBA shows that the option of achieving BAT on time has significantly higher costs than environmental benefits in comparison to the proposed derogation option

- There is no requirement for an additional improvement condition as the operator has provided a timeline and commitment for the introduction of new abatement plant as part of the derogation request.

The Environment Agency is therefore minded to allow this derogation request.