

DRAFT Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

Steetley Dolomite Limited
Whitwell Quarry Lime works
Southfield Lane
Whitwell
Worksop
Nottinghamshire
S80 3LJ

Variation application number

EPR/BL3269IH/V009

Permit number

EPR/BL3269IH

Whitwell Quarry Lime works

Permit number EPR/BL3269IH

Introductory note

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

Under the Environmental Permitting (England & Wales) Regulations 2016 (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 variation allows a time limited Derogation of 5 years in accordance with article 15(4) of IED. The details of the Derogation are contained in Annex at the end of this permit. This Derogation relates to the existing time limited derogation that was granted in variation notice EPR/BL3269IH/V007.

The Derogation covers:-

- BATc47 – Sulphur dioxide emissions from flue-gases of kiln firing processes: [BAT-AEL of 400 mg/Nm³]
- BATc51 – HCl (and HF) emissions from flue-gases of kiln firing processes: [BAT-AEL of 10 mg/Nm³]
- BATc53 – Group III metal emissions from flue-gases of kiln firing processes: [BAT-AEL of 0.5 mg/Nm³]

The Derogation will expire on 31st December 2024, a duration of 7.5 years beyond the BATc compliance date of April 2017. At the end of this period the operator will cease the production of Sintered Dolime, the product subject to BAT-AELs. The operator will continue to manufacture Ultra Low-Carbon Dolime (ULCD), which is exempt from the BAT conclusions, and will therefore be in full compliance with BAT-AELs without need of a Derogation.

The operator has trialled additional materials, techniques and fuels aiming to produce Sintered Dolime with reduced emissions which comply with BAT-AELs. The trials proved unsuccessful in achieving consistent compliance, and the Operator concluded that additional abatement plant would be required to achieve full compliance however it is currently not possible to install such plant. The Operator has therefore committed to ceasing production of Sintered Dolime.

Emission limit values relating to BATc47, 51 and 53 will be retained from the previous derogation, variation EPR/BL3269IH/V007: Sulphur dioxide ELV of 1200 mg/Nm³ (with waste fuels) / 1530 mg/Nm³ (without waste fuels), Hydrogen chloride ELV of 200 mg/Nm³ (with waste fuels only), and group III metals ELV of 2.6 mg/Nm³ (with waste fuels only). These limits will reduce on 1 January 2025 to the BAT-AELs.

We have removed permission to manufacture Sintered Dolime in table S1.1. We have included a pre-operational measure (table S1.4B) which requires Steetley Dolomite Ltd to demonstrate compliance with all BAT-AELs in the event that they wish to restart producing Sintered Dolime.

Brief description of the process:

Whitwell Quarry Lime works (multi-operator installation) is operated by both Steetley Dolomite Limited (SDL) and Tarmac Aggregates Limited (TAL). Steetley Dolomite Ltd (operator of this permit) operate the lime kilns (primary activity for this site) while Tarmac Aggregates Ltd operate the quarry and supply dolomitic limestone to the lime kilns under permit EPR/BL3242IA.

The Installation is located at grid reference SK53547516, between the villages of Creswell and Whitwell, around 7km south west of Worksop, Nottinghamshire and 8km west of Clumber Park.

The main activity taking place at the Installation is the production of dolomitic lime (covered by this permit), which is a listed activity under 'The Environmental Permitting (England and Wales) Regulations 2016':

Section 3.1 Part A(1)(b): Producing lime or magnesium oxide in kilns with a production capacity of more than 50 tonnes per day.

Lime production capacity of the works is around 400,000 tonnes per annum, with two kilns (W1 & W2) operating continuously 24 hours per day, seven days per week.

The Installation includes:

- The quarry and associated activities except drilling and blasting (TAL);
- All raw material handling and preparation operations (TAL and SDL);
- Lime manufacturing on two kilns, and all product handling, processing, storage, packing and loading (SDL).
- All associated fuel handling, storage and preparation operations, including waste derived fuel (SDL).
- Air emission points and associated abatement (SDL)
- Discharge of treated surface water drainage to local watercourses (TAL).

Raw Materials and Materials handling

Tarmac Aggregates Ltd quarry dolomitic limestone from the onsite quarry and prepare it, by crushing and screening, for use in the kilns (operated by SDL). Refer to permit EPR/BL3242IA and the Introductory Note stated within that permit for more detail. Tarmac deliver prepared stone into the kiln feed silos, from where SDL receive their kiln feed material. The stone is further screened (by SDL) prior to feeding into Kiln W2 to remove fine material.

Production of Lime

Dolomitic limestone, which has a higher level of magnesium carbonate than ordinary limestone, is heated in the kilns to produce dolomitic lime products for use in manufacturing Industries including steel, refractory and chemicals. SDL manufacture three specific Dolomitic lime products:

- **ULCD** Ultra Low Carbon Dolime (product name '*Dolomet*'),
- **SD** Sintered Dolime (product name '*Dolofrit*'),
- **DBD** Sintered Dolime (Dead Burnt Dolime or double pass) (product name '*Dolopel*').

Kiln W1 is a long rotary kiln with an electrostatic precipitator (ESP) for dust abatement and is used to make all three products. Kiln W2 is a preheater kiln with a bag filter and is used to produce ULCD only. Variants of all three products are made, with some enriched in iron and others coated in oil for longer life storage.

Stone (raw material) is fed into each kiln and heated up to temperatures ranging between 1600 – 2200°C using a combination of fossil fuels (petroleum coke, known as petcoke, and coal) and two types of waste derived fuels: 'solvent derived fuel' (SDF) and 'tyre derived fuel'. There is no natural gas supply to the site. Both kilns are equipped with low NOx burners, however the process has high thermal NOx emissions which are directly related to the temperatures and calcining energy required to complete the process.

Dead burnt dolime (DBD) is produced using the double pass technique. Here, ULCD is produced, pelletised and then further heated (second period within the kiln at >2,000°C) to create a dense product "DBD". Note that kiln operating temperatures to produce dolomitic lime are significantly higher than those used in the production of standard lime products (c1000°C).

On exiting the kilns, the lime product is immediately cooled by having air blown through the material, then crushed, screened and conveyed to product storage. There are facilities for oiling and packing products. All finished products are dispatched by road; in bulk tanker or in sealed bags.

Emissions

Emissions to air: the main emissions from the kilns are oxides of nitrogen (NOx), sulphur dioxide (SO₂), particulate matter (PM), total organic carbon (TOC), hydrogen chloride (HCl), hydrogen fluoride (HF) and carbon monoxide (CO). These parameters are monitored continuously prior to being emitted to atmosphere via a 95m high chimney. Particulate emissions from crushing and screening processes are abated by filters and emitted via individual stacks.

Emissions to water: There are 4 permitted discharge points to water from the installation which are operated by Tarmac Aggregates Ltd and regulated through permit EPR/BL32421A. Surface water drainage is collected from the SDL permit area and most is pumped to TAL's settlement tanks prior to discharge with TAL's treated water (emission point W2 on permit EPR/BL32421A). There is some drainage which isn't treated; these emissions are listed in table S3.3 as SW1 and SW2.

Material from the lime production process which cannot be sold is disposed of at SDL's on-site Mining Waste facility, and regulated under separate permit EAWML 43761 (EPR/NP3132SY)

There are a number of sensitive ecological receptors close to the installation, including one Special Area of Conservation (SAC) 'Birklands & Bilhaugh' which is located within 10km, one Site of Special Scientific Interest (SSSI) 'Creswell Crags' located within 2 km, 14 local wildlife sites (located within 2 km), and 2 ancient woodlands (located within 2km). The installation overlies a principal aquifer.

Steeley Dolomite Ltd operates a documented Business and Environmental Management System, which is certified as conforming to ISO14001.

The dolomitic lime kilns are deemed waste co-incineration plants under chapter IV of the Industrial Emission Directive due to the use of waste-derived fuels. Regulatory conditions relating to co-incineration of waste 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 BL3269IH (EPR/BL3269IH/A001)	Received 23/08/01	Applicant – Lafarge Lime Ltd
Additional information	Received 17/02/03	Response to Schedule 4 notice issued 22/01/02 (EP dust disposal)
Additional information	Received 15/07/02	Response to Schedule 4 notice issued 11/03/02 (site condition report)
Additional information	Received 15/01/04	Response to Schedule 4 notice issued 25/09/03 (general)
Additional information	Submission dated 14/03/02 Submission dated 23/03/02 Submission dated 17/06/02 Submission dated 15/01/04	SDF pH range 40% SDF trial report/request amendment to 23/03/02 submission 40% SDF use/ addition of 4 th EP zone to kiln W2
Permit BL3269IH (EPR/BL3269IH) determined	Issued 31/03/04	Permit issued to Lafarge Lime Ltd
Application for variation EPR/BL3269IH/V002	Duly made 31/03/05	Operator name Steeley Dolomite Ltd
Additional information	Received 15/06/05	Response to Schedule 4 notice issued 19/05/05
Additional information	Received 03/10/05	Letter from Operator re proposed investigation of emission limits
Variation EPR/BL3269IH/V002 determined	Effective 07/12/05	Implementing Waste Incineration Directive requirements
Application for variation EPR/BL3269IH/V003	Duly made 14/06/10	Application to burn Tyre Crumb (Tyre derived fuel) as a waste derived fuel
Additional information	Received 10/09/10	Response to Schedule 4 notice issued 15/07/10
Variation EPR/BL3269IH/V003 determined	Effective 10/09/10	
Environment Agency Variation EPR/BL3269IH/V004	Issued 17/02/11 Effective 01/03/11	Agency initiated variation following the Cement and Lime Sector permit review 2010

Status log of the permit		
Description	Date	Comments
Application for variation EPR/BL3269IH/V006	Duly made 23/07/13	Due to an administrative error EPR/BL3269IH/V005 does not exist for this site.
Additional information	Received 04/09/13	Response to Schedule 5 notice issued 27/08/13
Additional information	Received 01/10/13, 10/10/13, 15/10/13	Responses to Schedule 5 notice issued 19/09/13
Variation EPR/BL3269IH/V006 determined	Effective 21/11/13	Installation of a preheater and bag filter on kiln W2.
Regulation 60 Notice	Issued 25/04/14	
Response to Regulation 60 Notice	Received 09/01/15	
Additional information	Received 02/07/15	Response to Schedule 5 notice issued 22/05/15
	Received 22/12/16	Response to Schedule 5 notice issued 29/09/16
	Received 26/03/18	Information regarding Sch6 definitions
Environment Agency Variation and consolidation EPR/BP3269IH/V007 determined (PAS billing reference RP3937WG)	Effective 04/04/19	Environment Agency initiated variation and consolidation following the Cement and Lime Sector permit review.
Application for variation EPR/BP3269IH/V008	Received 12/07/19 Returned 14/10/19	Application for Derogation (extension) to BATc 47 51 and 53 - returned as not duly made.
Application for variation EPR/BP3269IH/V009	Received 23/12/2019 Duly made 28/02/2020	Application for Derogation (extension) to BATc 47 51 and 53.
Additional Information	Received 05/12/2022	Trial progress update requiring amendment to application – subject to stone reserves project).
Additional Information	Received 25/05/2023	Amendment to application as a result of stone reserves project decision).
Draft notice for consultation	14/11/2024	
Variation and consolidation EPR/BP3269IH/V009 decision	XX/XX/XXXX	

Other Part A installation permits relating to this installation		
Operator	Permit number	Date of issue
Tarmac Aggregates Limited	EPR/BL3242IA	31/03/04
Steetley Dolomite Limited	EAWML 43761 (EPR/NP3132SY)	30/04/12

End of introductory note

Notice of variation and consolidation

The Environmental Permitting (England and Wales) Regulations 2016

The Environment Agency in exercise of its powers under regulation 20 of the Environmental Permitting (England and Wales) Regulations 2016 varies and consolidates

Permit number

EPR/BL3269IH

Issued to

Steetley Dolomite Limited (“the operator”)

whose registered office is

**Southfield Lane
Whitwell
Worksop
Nottinghamshire
S80 3LJ**

company registration number **04071554**

to operate part of a regulated facility at

**Whitwell Quarry Lime works
Southfield Lane
Whitwell
Worksop
Nottinghamshire
S80 3LJ**

to the extent set out in the schedules.

The notice shall take effect from XX/XX/XXXX

Name	Date

Authorised on behalf of the Environment Agency

Schedule 1 – Conditions to be amended

The following conditions are amended as a result of the application made by the operator.

- We have amended table S1.1 to include limitations for the production of Sintered Dolime until 31/12/2024. This relates to the Derogation granted by this variation:-

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)(b)	Producing dolime in a Long Rotary Kiln (LRK) W1 with a production capacity of more than 50 tonnes per day	<p>From the kiln feed stone silos and bulk storage of other materials and fuels, the subsequent preparation (including blending of raw materials and waste-derived raw materials specified within table S2.1) and feed of all materials and fuels into the W1 kiln system through any product processing steps to bulk storage of product.</p> <p>Includes releases to air from the main stack via an electro-static precipitator and any other process vents and associated abatement.</p> <p>Production of Sintered Dolime until 31/12/2024, and beyond this date subject to approval of pre-operational measure for future development reference 1, table S1.4B.</p>

- We have amended table S1.2 to include reference to application EPR/BL3269IH/V009.
- We have amended IC16 within table S1.3 to superseded. This relates to the Derogation granted by this variation:-

IC16	<p>The operator shall submit a written report detailing the steps they have taken to reduce emissions to air of Sulphur dioxide, hydrogen chloride and group III metals (under normal operating conditions) from the Installation as part of trials proposed by the Operator through their request for derogation and agreed by the Environment Agency.</p> <p>The report shall identify the actions implemented along with an appraisal of their success including any results from trials, including but not limited to:</p> <ul style="list-style-type: none"> changing fuel sources, operating techniques, reducing sulphur content in raw materials, and any abatement methods employed. <p>The report shall include proposals for any further methods to be implemented, along with a commitment from the operator to provide a regular update to this report throughout the period of the derogation. The report shall be submitted for written approval from the Environment Agency.</p>	Superseded
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- We have amended table S3.1b to reflect the emission limit compliance date periods for production of Sintered Dolime for emissions of SO₂, HCl and Metals (as approved by this notice). The table below shows the parameters subject to change only. Table S3.1b within the consolidated permit in Schedule 3 of this notice is inclusive of all parameters. Tables S3.1a and S3.1c have not been amended.

Table S3.1b Point source emissions to air – emission limits and monitoring requirements for kiln exhausts – for the production of DOLOFRIT (Sintered Dolime)						
Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
Limits for Dolofrit (Sintered Dolime) production with WDFs; substitution rate of up to 40%						
A1/1	Kiln W1 ESP	Sulphur dioxide (SO ₂)	Until 31/12/2024 1200 mg/Nm ³	Daily average	Continuous	BS EN 14181
			From 01/01/2025 325 mg/Nm ³			
			Until 31/12/2024 2400 mg/Nm ³ <i>Note 1</i>	Half hour average		
			From 01/01/2025 650 mg/Nm ³ <i>Note 1</i>			
		Hydrogen chloride (HCl)	Until 31/12/2024 200 mg/Nm ³	Daily average		
			From 01/01/2025 10 mg/Nm ³			
			400 mg/Nm ³ <i>Note 1</i>	Half hour average		
		Group III metals and their compounds (total)	Until 31/12/2024 2.6 mg/Nm ³	Average value over minimum 30 minute, maximum 8 hour period		
From 01/01/2025 0.5 mg/Nm ³						
Limits for Dolofrit (Sintered Dolime) production without WDFs						
A1/1	Kiln W1 ESP	Sulphur dioxide (SO ₂)	Until 31/12/2024 1530 mg/Nm ³	Daily average	Continuous	BS EN 14181
			From 01/01/2025 400 mg/Nm ³			

Note 1: Half hourly average limits on kiln W1 (emission point A1/1) do not apply during product changeover. See Schedule 6 for definition of product changeover.

- We have amended Annex to conditions – Derogation under Industrial Emissions Directive to reflect the Derogation agreed by this notice.

The following conditions are amended as detailed, following an Environment Agency initiated variation.

- We have amended the status or compliance dates for improvement conditions within table S1.3 that contained dates prior to the issue of this variation:-

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC13	The Operator shall provide a written report to the Environment Agency on the implementation of planned improvements to the kiln process control systems and to the fuel feeds for both kilns, as proposed in the response to Regulation 60 notice received on the 9th January 2015 and on the 2 nd July 2015.	Complete
IC14	Provide a written report to the Environment Agency on the implementation of improvements to minimise and prevent diffuse dust emissions from dusty operations as indicated in the response, received on 9 th January 2015, to the Regulation 60 notice.	Complete
IC15	<p>The Operator shall undertake an assessment of containment measures on site including the ability of any containment structures, such as bunds or other secondary containment, and site drainage infrastructure, to prevent pollution to surface water and groundwater from the storage of chemicals and liquids.</p> <p>A written report detailing the findings from the assessment shall be submitted to the Environment Agency. The report shall include, but not be limited to:</p> <ul style="list-style-type: none"> • The requirements of Environment Agency guidance: Control and monitor emissions for your environmental permit. • CIRIA guidance: containment systems for the prevention of pollution (C736). <p>The report shall identify any required improvements, together with proposed timescales for their implementation.</p> <p>The report shall be submitted to the Environment Agency for written approval.</p>	Complete
IC16	<p>The operator shall submit a written report detailing the steps they have taken to reduce emissions to air of Sulphur dioxide, hydrogen chloride and group III metals (under normal operating conditions) from the Installation as part of trials proposed by the Operator through their request for derogation and agreed by the Environment Agency.</p> <p>The report shall identify the actions implemented along with an appraisal of their success including any results from trials, including but not limited to:</p> <ul style="list-style-type: none"> • changing fuel sources, • operating techniques, • reducing sulphur content in raw materials, and • any abatement methods employed. <p>The report shall include proposals for any further methods to be implemented, along with a commitment from the operator to provide a regular update to this report throughout the period of the derogation. The report shall be submitted for written approval from the Environment Agency.</p>	Superseded
IC17	<p>The operator shall submit a written report to the Environment Agency for approval in writing, on process improvements for preventing, and where not practicable, minimising diffuse dust releases from bulk storage areas. The report should include details of:</p> <ul style="list-style-type: none"> • improvements implemented to reduce fugitive dust from bulk storage areas (since submission of Regulation 60 response). • Improvements that have been implemented relating to BATc41 technique g; the surfacing of <u>all</u> areas used by vehicles within the installation boundary of this permit. • Methods implemented for preventing, and where not practicable, minimising the migration of fugitive emissions, such as vehicle movement on internal roads within this permit's Installation boundary. • Any other improvements that have been implemented in order to prevent, and where that is not practicable, reduce diffuse dust emissions. <p>The report shall outline any additional improvements proposed including but not limited to:</p>	31/10/19

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
	<ul style="list-style-type: none"> Options for enclosing the coal and petcoke storage areas to improve containment. <p>The report shall include timescales for implementation of proposed improvements and shall be implemented on receipt of written approval by the Environment Agency.</p>	
IC18	<p>The operator shall undertake a review of the baseline report (as provided in response to our Regulation 60 Notice issued on 25/04/14), and submit a written report to the Environment Agency for approval in writing.</p> <p>The review shall include at least the following:</p> <ul style="list-style-type: none"> Reference to historical spillages, the chemicals involved and locations so as to inform existing locations of chemicals and storage tanks. Confirmation of the locations of bulk liquid storage areas (for storage of hazardous substances) within the permit boundary, including an inventory of storage quantities / maximum storage quantities. Specifications and details of the storage tanks employed for the storage of hazardous substances (as identified above), including a location plan. An appraisal of the condition of any storage tanks (as identified above). Results from any visual or olfactory checks (of contamination) located around such hazardous storage areas (as identified above). <p>The review shall consider Environmental Standards (rather than ICRCL criteria) for assessing contamination, specifically 'Industrial emissions Directive Draft EPR Guidance on Part A installations.' Dated March 2011 by DEFRA (section 5.8 - 5.13 on baseline reports, and Annex 3).</p> <p>Where the review establishes that additional baseline data is required, the operator shall submit proposals for undertaking further intrusive sampling (to ensure that all areas containing potential hazardous substances are assessed) together with a proposed date for submission of an updated baseline report.</p> <p>Any updated baseline report shall include a monitoring plan (for the testing of soil every 10 years and groundwater every 5 years, or more frequently where required) in consideration of condition 3.1.5 of this permit unless demonstration can be made that this is not required.</p>	31/10/19
IC19	<p>The Operator shall undertake an assessment of all untreated surface water discharges which leave the installation, and provide a written report to the Environment Agency. The report shall include, but not be limited to:</p> <ul style="list-style-type: none"> Location of all water discharges leaving the area of installation covered by this permit. Details of controls in place to prevent, and where that is not practicable, minimise the impacts from such discharges, prior to release. Characterisation of any discharges not receiving treatment prior to release to watercourse. An updated detailed drainage plan for the area of installation covered by this permit. <p>Where it is identified that appropriate measures or controls are not in place to minimise the impacts of a discharge, the operator shall provide either:</p> <ol style="list-style-type: none"> proposed measures for isolating the discharge (in order to prevent, or where not practicable, minimise the emission), <p>OR</p> <ol style="list-style-type: none"> proposed measures for monitoring and sampling all discharges prior to leaving the Installation, including flow measurement. <p>(Note that characterisation is not required if a discharge is isolated prior to the deadline of this condition)</p> <p>The report shall be submitted to the Environment Agency for written approval.</p>	31/10/19

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
	The Environment Agency may impose additional requirements, such as monitoring, sampling and emission limits, in response to this improvement condition.	

Schedule 2 – conditions to be added

The following conditions are added as a result of the application made by the operator

- We have added permit condition 2.5.1 to the permit relating to pre-operational condition and linked to table S1.4b
 - 2.5.1 The operations specified in schedule 1 table S1.4B shall not commence until the measures specified in that table have been completed.
- We have added table S1.4b, and a 'pre-operational measure for future development' (reference 1) to the permit. This relates to the Derogation granted by this variation:-

Table S1.4B Pre-operational measures for future development		
Reference	Operation	Pre-operational measures
1	Production of Sintered Dolime (beyond 31/12/2024)	Where future stone supplies become available (enabling the production of Sintered Dolime to resume) the operator shall submit a report to the Environment Agency (for written approval) demonstrating that compliance to all relevant BAT-AELs and BATc's will be achieved.

Schedule 3 – consolidated permit

Consolidated permit issued as a separate document.

Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number

EPR/BL3269IH

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/BL3269IH/V009 authorising,

Stetley Dolomite Limited (“the operator”),

whose registered office is/whose principal office is

**Southfield Lane
Whitwell
Worksop
Nottinghamshire
S80 3LJ**

company registration number **04071554**

to operate part of an installation at

**Whitwell Quarry Lime works
Southfield Lane
Whitwell
Worksop
Nottinghamshire
S80 3LJ**

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

Name	Date

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.

1.2 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.

1.5 Multiple operator installations

- 1.5.1 Where the operator notifies the Environment Agency under condition 4.3.1 (a) or 4.3.1 (c), the operator shall also notify without delay the other operator(s) of the installation of the same information.

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 red on the site plan at schedule 7 to this permit, which is within the area edged in green on the site plan that represents the extent of the installation covered by this permit and that of the other operator of the installation.

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:
- it is of a type and quantity listed in schedule 2 tables S2.1 and S2.2; and
 - it conforms to the description in the documentation supplied by the producer and holder; and
 - 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:
- the nature of the process producing the waste;
 - the composition of the waste;
 - the handling requirements of the waste;
 - the hazardous property associated with the waste, if applicable; and
 - 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 Schedule 23 of the Environmental Permitting Regulations 2016, as amended) 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) kiln feed rate is less than 5 tonnes/hr on kiln W1 and 10 tonne per hour on W2; or
 - (d) the combustion chamber is below or falls below 850°C when using non-hazardous or hazardous waste where the content of halogenated organic substances (as chlorine) does not exceed 1%; or
 - (e) the combustion chamber is below or falls below 1100°C when using hazardous waste where the content of halogenated organic substances (as chlorine) exceeds 1%;
 - (f) 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
 - (g) 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 tables S3.1a, S3.1b and S3.1c due to disturbances or failures of the abatement systems, or continuous emission monitors are out of service 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 shutdown 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 derived fuels (where the content of halogenated organic substances (as chlorine) exceeds 1%) shall only be burned in the main burner of the kiln.

Hazardous waste storage and treatment

2.3.17 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.

2.5 Pre-operational conditions

2.5.1 The operations specified in schedule 1 table S1.4B 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 S3.1a, S3.1b, S3.1c, S3.2, S3.3 and S3.4.
- 3.1.2 The limits given in schedule 3 shall not be exceeded.
- 3.1.3 Total annual emissions from the emission points set out in schedule 3 tables S3.1a, S3.1b, S3.1c, S3.2, S3.3 and S3.4 of a substance listed in schedule 3 table S3.5 shall not exceed the relevant limit in table S3.5.
- 3.1.4 Process wastes produced at the site shall, as a minimum, be sampled and analysed in accordance with Schedule 3 table S3.6. Additional samples shall be taken and tested and appropriate action taken, whenever:
- (a) disposal or recovery routes change, or
 - (b) It is suspected that the nature or composition of the waste has changed such that the route currently selected may no longer be appropriate.
- 3.1.5 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;
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:
- 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;
 - 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:
- point source emissions specified in tables S3.1a, S3.1b and S3.1c, S3.2, S3.3 and S3.4;
 - 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 3.3.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate), where available, 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 tables S3.1a, S3.1b, and S3.1c. 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 S3.1a, S3.1b and S3.1c, S3.2, S3.3 and S3.4 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 S3.1a, S3.1b and S3.1c; the Continuous Emission Monitors shall be used such that:
- the values of the 95% confidence intervals of a single measured result at the daily emission limit value shall not exceed the following percentages:

• Carbon monoxide	10%
• Sulphur dioxide	20%
• Oxides of nitrogen (NO & NO ₂ expressed as NO ₂)	20%
• Particulate matter	30%
• Total organic carbon (TOC)	30%
• Hydrogen chloride	40%
 - 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 tables S3.1a, S3.1b and S3.1c:

- (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.

4.3 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.

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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)(b)	Producing dolime in a Long Rotary Kiln (LRK) W1 with a production capacity of more than 50 tonnes per day	<p>From the kiln feed stone silos and bulk storage of other materials and fuels, the subsequent preparation (including blending of raw materials and waste-derived raw materials specified within table S2.1) and feed of all materials and fuels into the W1 kiln system through any product processing steps to bulk storage of product.</p> <p>Includes releases to air from the main stack via an electro-static precipitator and any other process vents and associated abatement.</p> <p>Production of Sintered Dolime until 31/12/2024, and beyond this date subject to approval of pre-operational measure for future development reference 1, table S1.4B.</p>
AR2	Section 3.1 Part A(1)(b)	Producing dolime in a Pre-heater Kiln (PRK) W2 with a production capacity of more than 50 tonnes per day	<p>From the kiln feed stone silos and bulk storage of other materials and fuels, the subsequent preparation (including blending of raw materials specified within table S2.1) and feed of all materials and fuels into the W2 kiln system through any product processing steps to bulk storage of product.</p> <p>Includes releases to air from the main stack via a bag filter, and any other process vents and associated abatement.</p> <p>Kiln W2 shall only be used to produce ULCD.</p>
Directly Associated Activity			
AR3	Raw materials storage and handling	Raw materials receipt, transport, preliminary preparation and bulk storage	<p>Receipt on site of raw materials, including alternative raw materials, through to bulk storage, and bulk storage of prepared stone in dolomitic limestone feed silos.</p> <p><i>Note: recovery of stone from the quarry floors and its bulk handling, storage and preparation is not covered within the scope of this permit. These activities are covered by permit BL3242IA</i></p>
AR4	Fuels delivery and storage	Delivery and bulk storage of fuels	<p>Offloading of waste-derived fuels and fossil fuels, and transfer to bulk storage. This includes the use of gas oil as a start-up, shutdown and support fuel.</p>
AR5	All dolime storage, handling and loading	Dolime handling, storage, packing and dispatch	<p>Storage, crushing, screening, pelletising, packing and dispatch by road. This includes ULCD processing for the manufacture of Dolopel.</p>
AR6	Waste storage and handling	Waste storage and handling	<p>From waste generation, handling, storage and monitoring through to dispatch off site.</p>
AR7	Surface water drainage	Management of site drainage and process water	<p>Collection of surface water drainage, including any reuse in site activities, through to discharge to the settlement tanks at emission points S1 (table S3.4), and at emission points SW1 and SW2 (table S3.3).</p>

Description	Parts	Date Received
Application BL3242IH	The response to questions 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 2.10, 2.11, and 2.12	23/08/01
Operator submissions(x3) of additional information	All	23/03/02 17/06/02 15/01/04
Response to Schedule 4(3) Information Notice	All	15/01/04
Application for variation HP3132SE	The response to questions given in sections C2.1, C2.7 and C2.10 of the Application for variation	31/03/05
Schedule 4 notice (dated 19/05/05)	The response to questions 2, 3, 4 and 5	15/06/05
Application for variation	All	14/06/10
Schedule 5 notice (dated 15/07/10)	The response to questions 1 and 2	10/09/10
Variation Application EPR/BL3269IH/V006	Form EPC: Application for an environmental permit, Part C2 general – varying a bespoke permit ; Sections 2b and 6	04/07/13
	Form EPC: Application for an environmental permit, Part C3 varying a bespoke installation permit; Section 3	04/07/13
	Response to Further Information Request, reference SDL_WW_07	23/07/13
Response to Regulation 60(1) Notice dated 25/04/14 requiring information	In relation to the IED Best Available Techniques, the details submitted against CLM BATc numbers 1, 2, 30 – 54 [excluding responses to BATc 53].	09/01/15
	In relation to the IED Best Available Techniques, the details submitted against CLM BATc numbers 30, 33, 41, 42, 43, 47, 51, 52, and 53	02/07/15
	In relation to the IED Best Available techniques, the details submitted against CLM BATc numbers 47, 51 and 53.	22/12/16
Application for Derogation (EPR-BL3269IH-V009)	All application documents (initial submission dated 23/12/2019 and non duly made responses dated 28/02/2020) excluding cost benefit analysis (CBA).	28/02/20
	Amendment to application following trial progress report	05/12/22
	Amendment to application following decision on stone reserves project	25/05/23

Reference	Requirement	Date
IC13	The Operator shall provide a written report to the Environment Agency on the implementation of planned improvements to the kiln process control systems and to the fuel feeds for both kilns, as proposed in the response to Regulation 60 notice received on the 9th January 2015 and on the 2 nd July 2015.	Complete
IC14	Provide a written report to the Environment Agency on the implementation of improvements to minimise and prevent diffuse dust emissions from dusty operations as indicated in the response, received on 9 th January 2015, to the Regulation 60 notice.	Complete
IC15	The Operator shall undertake an assessment of containment measures on site including the ability of any containment structures, such as bunds or other	Complete

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
	<p>secondary containment, and site drainage infrastructure, to prevent pollution to surface water and groundwater from the storage of chemicals and liquids.</p> <p>A written report detailing the findings from the assessment shall be submitted to the Environment Agency. The report shall include, but not be limited to:</p> <ul style="list-style-type: none"> • The requirements of Environment Agency guidance: Control and monitor emissions for your environmental permit. • CIRIA guidance: containment systems for the prevention of pollution (C736). <p>The report shall identify any required improvements, together with proposed timescales for their implementation.</p> <p>The report shall be submitted to the Environment Agency for written approval.</p>	
IC16	<p>The operator shall submit a written report detailing the steps they have taken to reduce emissions to air of Sulphur dioxide, hydrogen chloride and group III metals (under normal operating conditions) from the Installation as part of trials proposed by the Operator through their request for derogation and agreed by the Environment Agency.</p> <p>The report shall identify the actions implemented along with an appraisal of their success including any results from trials, including but not limited to:</p> <ul style="list-style-type: none"> • changing fuel sources, • operating techniques, • reducing sulphur content in raw materials, and • any abatement methods employed. <p>The report shall include proposals for any further methods to be implemented, along with a commitment from the operator to provide a regular update to this report throughout the period of the derogation. The report shall be submitted for written approval from the Environment Agency.</p>	Superseded
IC17	<p>The operator shall submit a written report to the Environment Agency for approval in writing, on process improvements for preventing, and where not practicable, minimising diffuse dust releases from bulk storage areas. The report should include details of:</p> <ul style="list-style-type: none"> • improvements implemented to reduce fugitive dust from bulk storage areas (since submission of Regulation 60 response). • Improvements that have been implemented relating to BATc41 technique g; the surfacing of <u>all</u> areas used by vehicles within the installation boundary of this permit. • Methods implemented for preventing, and where not practicable, minimising the migration of fugitive emissions, such as vehicle movement on internal roads within this permit's Installation boundary. • Any other improvements that have been implemented in order to prevent, and where that is not practicable, reduce diffuse dust emissions. <p>The report shall outline any additional improvements proposed including but not limited to:</p> <ul style="list-style-type: none"> • Options for enclosing the coal and petcoke storage areas to improve containment. <p>The report shall include timescales for implementation of proposed improvements and shall be implemented on receipt of written approval by the Environment Agency.</p>	31/10/19
IC18	<p>The operator shall undertake a review of the baseline report (as provided in response to our Regulation 60 Notice issued on 25/04/14), and submit a written report to the Environment Agency for approval in writing.</p> <p>The review shall include at least the following:</p> <ul style="list-style-type: none"> • Reference to historical spillages, the chemicals involved and locations so as to inform existing locations of chemicals and storage tanks. 	31/10/19

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
	<ul style="list-style-type: none"> Confirmation of the locations of bulk liquid storage areas (for storage of hazardous substances) within the permit boundary, including an inventory of storage quantities / maximum storage quantities. Specifications and details of the storage tanks employed for the storage of hazardous substances (as identified above), including a location plan. An appraisal of the condition of any storage tanks (as identified above). Results from any visual or olfactory checks (of contamination) located around such hazardous storage areas (as identified above). <p>The review shall consider Environmental Standards (rather than ICRCCL criteria) for assessing contamination, specifically ‘Industrial emissions Directive Draft EPR Guidance on Part A installations.’ Dated March 2011 by DEFRA (section 5.8 - 5.13 on baseline reports, and Annex 3).</p> <p>Where the review establishes that additional baseline data is required, the operator shall submit proposals for undertaking further intrusive sampling (to ensure that all areas containing potential hazardous substances are assessed) together with a proposed date for submission of an updated baseline report.</p> <p>Any updated baseline report shall include a monitoring plan (for the testing of soil every 10 years and groundwater every 5 years, or more frequently where required) in consideration of condition 3.1.5 of this permit unless demonstration can be made that this is not required.</p>	
IC19	<p>The Operator shall undertake an assessment of all untreated surface water discharges which leave the installation, and provide a written report to the Environment Agency. The report shall include, but not be limited to:</p> <ul style="list-style-type: none"> Location of all water discharges leaving the area of installation covered by this permit. Details of controls in place to prevent, and where that is not practicable, minimise the impacts from such discharges, prior to release. Characterisation of any discharges not receiving treatment prior to release to watercourse. An updated detailed drainage plan for the area of installation covered by this permit. <p>Where it is identified that appropriate measures or controls are not in place to minimise the impacts of a discharge, the operator shall provide either:</p> <p>c) proposed measures for isolating the discharge (in order to prevent, or where not practicable, minimise the emission),</p> <p>OR</p> <p>d) proposed measures for monitoring and sampling all discharges prior to leaving the Installation, including flow measurement.</p> <p>(Note that characterisation is not required if a discharge is isolated prior to the deadline of this condition)</p> <p>The report shall be submitted to the Environment Agency for written approval.</p> <p>The Environment Agency may impose additional requirements, such as monitoring, sampling and emission limits, in response to this improvement condition.</p>	31/10/19

Table S1.4B Pre-operational measures for future development		
Reference	Operation	Pre-operational measures
1	Production of Sintered Dolime (beyond 31/12/2024)	Where future stone supplies become available (enabling the production of Sintered Dolime to resume) the operator shall submit a report to the Environment Agency (for written approval) demonstrating that compliance to all relevant BAT-AELs and BATc's will be achieved.

Schedule 2 – Waste types, raw materials and fuels

Raw materials and fuel description	Specification	
Gas oil	Sulphur Content	<0.2% by weight (w/w)
Coal	Sulphur Content	<2.0% by weight (w/w) maximum <1.8% by weight (w/w) annual average
Petroleum coke (petcoke)	Sulphur Content	<6.0% by weight (w/w) maximum <5.0% by weight (w/w) annual average
Solvent Derived Fuel SDF (Waste liquid fuel)	EWC Number	19 02 08*
	Gross CV	10 – 42 MJ/kg
	Sulphur	<2.0%
	Chlorine	<2.0%
	Total Fluorine, Bromine & Iodine	<1.5%
	Mercury	<20 mg/kg
	Group II Metals: (Total Cadmium & Thallium)	<40 mg/kg
	Group III Metals: Copper Lead	<1000 mg/kg <800 mg/kg
	Total Group III Metals	<1,800 mg/kg
Rubber Crumb (Tyre Derived Fuel)	EWC Number	16 01 03
	Gross CV	15 – 42 MJ/kg
	Sulphur	<2.0% by weight (w/w) monthly average
New waste derived fuel for feasibility trials	Specification to be agreed in writing with the Environment Agency.	
Wastes used as raw materials (not as fuels) including: Mill Scale (EWC 10 02 10)	Minimum Mineral Content	At least 80% dry weight (w/w)
	Organic Materials	Net Caloric Value (NCV) <10 MJ/kg
	No materials which are defined as carcinogens for the purposes of the COSHH Regulations 2002 (as amended) shall be used	

Waste Fuel Type	Where used and % of Total Thermal Input	Total Usage Rates
Solvent Derived Fuel (EWC 19 02 08*)	Kilns W1 and W2 only Main burner only 40%	0 - 40% thermal input
		0 – 4.8 tonnes/hour per kiln
		0 – 40,000 tonnes/year
Rubber Crumb (Tyre Derived Fuel EWC 16 01 03)	Kilns W1 and W2 only Main burner only 60%	0 – 60% thermal input
		0 – 2.4 tonnes/hour per kiln
		0 - 42,000 tonnes/year

Schedule 3 – Emissions and monitoring

Table S3.1a Point source emissions to air – emission limits and monitoring requirements for kiln exhausts – for the production of DOLOMET (ULCD)								
Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method		
Limits for Dolomet (ULCD) production with WDFs; substitution rate of up to 40%								
A1/1	Kiln W1 ESP	Particulate matter	30 mg/Nm ³	Daily average	Continuous	BS EN 14181		
			60 mg/Nm ³ Note 1	Half hour average				
		Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	2400 mg/Nm ³	Daily average				
			4800 mg/Nm ³ Note 1	Half hour average				
		Sulphur dioxide (SO ₂)	750 mg/Nm ³	Daily average				
			1500 mg/Nm ³ Note 1	Half hour average				
		Carbon monoxide (CO)	400 mg/Nm ³	Daily average				
			1000 mg/Nm ³ Note 1	Half hour average				
		Total Organic Carbon (TOC)	10 mg/Nm ³	Daily average				
			20 mg/Nm ³ Note 1	Half hour average				
		Hydrogen chloride (HCl)	160 mg/Nm ³	Daily average				
			320 mg/Nm ³ Note 1	Half hour average				
		Hydrogen fluoride (HF)	1 mg/Nm ³	Daily average				
			4 mg/Nm ³ Note 1	Half hour average				
		Cadmium (Cd) & thallium (Tl) and their compounds (total)	0.05 mg/Nm ³	Average value over minimum 30 minute, maximum 8 hour period			6 monthly	BS EN 14385
		Mercury (Hg) and its compounds	0.05 mg/Nm ³					BS EN 13211
		Group III metals and their compounds (total)	4 mg/Nm ³					BS EN 14385
		Dioxins / furans (I-TEQ)	0.1 ng/Nm ³	Average value over sample period of between 6 and 8 hours			6 monthly	BS EN 1948 Parts 1, 2 & 3
PCBs [Dioxin-like PCBs (WHO-TEQ Humans /Mammals/fish/birds)]	No limit set	Average value over sample period of between 6 and 8 hours	BS EN/TS 1948 part 4					
PAHs Specific individual poly-cyclic aromatic hydrocarbons	No limit set	Average value over sample period of between 6 and 8 hours	BS ISO 11338 parts 1, 2					

Table S3.1a Point source emissions to air – emission limits and monitoring requirements for kiln exhausts – for the production of DOLOMET (ULCD)

Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method		
A1/2	Kiln W2 Bag filter	Particulate matter	10 mg/Nm ³	Daily average	Continuous	BS EN 14181		
			20 mg/Nm ³	Half hour average				
		Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	2400 mg/Nm ³	Daily average				
			4800 mg/Nm ³	Half hour average				
		Sulphur dioxide (SO ₂)	170 mg/Nm ³	Daily average				
			340 mg/Nm ³	Half hour average				
		Carbon monoxide (CO)	400 mg/Nm ³	Daily average				
			1000 mg/Nm ³	Half hour average				
		Total Organic Carbon (TOC)	10 mg/Nm ³	Daily average				
			20 mg/Nm ³	Half hour average				
		Hydrogen chloride (HCl)	80 mg/Nm ³	Daily average				
			160 mg/Nm ³	Half hour average				
		Hydrogen fluoride (HF)	1 mg/Nm ³	Daily average				
			4 mg/Nm ³	Half hour average				
		Cadmium (Cd) & thallium (Tl) and their compounds (total)	0.05 mg/Nm ³	Average value over minimum 30 minute, maximum 8 hour period			6 monthly	BS EN 14385
		Mercury (Hg) and its compounds	0.05 mg/Nm ³					BS EN 13211
Group III metals and their compounds (total)	4 mg/Nm ³	BS EN 14385						
Dioxins / furans (I-TEQ)	0.1 ng/Nm ³	BS EN 1948 Parts 1, 2 & 3						
PCBs [Dioxin-like PCBs (WHO-TEQ Humans /Mammals/fish/birds)]	No limit set	Average value over sample period of between 6 and 8 hours	6 monthly	BS EN/TS 1948 part 4				
PAHs Specific individual poly-cyclic aromatic hydrocarbons	No limit set			BS ISO 11338 parts 1, 2				

Table S3.1a Point source emissions to air – emission limits and monitoring requirements for kiln exhausts – for the production of DOLOMET (ULCD)

Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
Limits for Dolomet (ULCD) production without WDFs						
A1/1	Kiln W1 ESP	Particulate matter	30 mg/Nm ³	Daily average	Continuous	BS EN 14181
		Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	3000 mg/Nm ³			
		Sulphur dioxide (SO ₂)	950 mg/Nm ³			
		Carbon monoxide (CO)	500 mg/Nm ³			
		Total Organic Carbon (TOC)	10 mg/Nm ³			
		Hydrogen chloride (HCl)	200 mg/Nm ³			
		Hydrogen fluoride (HF)	No limit			
		Cadmium (Cd) & thallium (Tl) and their compounds (total)	0.05 mg/Nm ³	Average value over minimum 30 minute, maximum 8 hour period	6 monthly	BS EN 14385
		Mercury (Hg) and its compounds	0.05mg/Nm ³			BS EN 13211
		Group III metals and their compounds (total)	5 mg/Nm ³			BS EN 14385
		Dioxins / furans (I-TEQ)	0.1 ng/Nm ³	Average value over sample period of between 6 and 8 hours	6 monthly	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
		PAHs Specific individual poly-cyclic aromatic hydrocarbons	No limit set			BS ISO 11338 parts 1, 2
A1/2	Kiln W2 Bag filter	Particulate matter	10 mg/Nm ³	Daily average	Continuous	BS EN 14181
		Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	3000 mg/Nm ³			
		Sulphur dioxide (SO ₂)	200 mg/Nm ³			
		Carbon monoxide (CO)	500 mg/Nm ³			
		Total Organic Carbon (TOC)	10 mg/Nm ³			
		Hydrogen chloride (HCl)	100 mg/Nm ³			
		Hydrogen fluoride (HF)	No limit			

Table S3.1a Point source emissions to air – emission limits and monitoring requirements for kiln exhausts – for the production of DOLOMET (ULCD)

Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
A1/2	Kiln W2 Bag filter	Cadmium (Cd) & thallium (Tl) and their compounds (total)	0.05 mg/Nm ³	Average value over minimum 30 minute, maximum 8 hour period	6 monthly	BS EN 14385
		Mercury (Hg) and its compounds	0.05 mg/Nm ³			BS EN 13211
		Group III metals and their compounds (total)	5 mg/Nm ³			BS EN 14385
		Dioxins / furans (I-TEQ)	0.1 ng/Nm ³	Average value over sample period of between 6 and 8 hours		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
		PAHs Specific individual poly-cyclic aromatic hydrocarbons	No limit set			BS ISO 11338 parts 1, 2

Note 1: Half hourly average limits on kiln W1 (emission point A1/1) do not apply during product changeover. See Schedule 6 for definition of product changeover.

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Table S3.1b Point source emissions to air – emission limits and monitoring requirements for kiln exhausts – for the production of DOLOFRIT (Sintered Dolime)

Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method		
Limits for Dolofrit (Sintered Dolime) production with WDFs; substitution rate of up to 40%								
A1/1	Kiln W1 ESP	Particulate matter	30 mg/Nm ³	Daily average	Continuous	BS EN 14181		
			60 mg/Nm ³ Note 1	Half hour average				
		Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	2400 mg/Nm ³	Daily average				
			4800 mg/Nm ³ Note 1	Half hour average				
		Sulphur dioxide (SO ₂)	Until 31/12/2024 1200 mg/Nm ³	Daily average				
			From 01/01/2025 325 mg/Nm ³					
			Until 31/12/2024 2400 mg/Nm ³ Note 1	Half hour average				
			From 01/01/2025 650 mg/Nm ³ Note 1					
		Carbon monoxide (CO)	400 mg/Nm ³	Daily average				
			1000 mg/Nm ³ Note 1	Half hour average				
		Total Organic Carbon (TOC)	10 mg/Nm ³	Daily average				
			20 mg/Nm ³ Note 1	Half hour average				
		Hydrogen chloride (HCl)	Until 31/12/2024 200 mg/Nm ³	Daily average				
			From 01/01/2025 10 mg/Nm ³					
			400 mg/Nm ³ Note 1	Half hour average				
		Hydrogen fluoride (HF)	1 mg/Nm ³	Daily average				
			4 mg/Nm ³ Note 1	Half hour average				
		Cadmium (Cd) & thallium (Tl) and their compounds (total)	0.05 mg/Nm ³	Average value over minimum 30 minute, maximum 8 hour period			6 monthly	BS EN 14385
		Mercury (Hg) and its compounds	0.05 mg/Nm ³					BS EN 13211
		Group III metals and their compounds (total)	Until 31/12/2024 2.6 mg/Nm ³					BS EN 14385
From 01/01/2025 0.5 mg/Nm ³								
Dioxins / furans (I-TEQ)	0.1 ng/Nm ³	Average value over sample period of between 6 and 8 hours		BS EN 1948 Parts 1, 2 & 3				

Table S3.1b Point source emissions to air – emission limits and monitoring requirements for kiln exhausts – for the production of DOLOFRIT (Sintered Dolime)

Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
A1/1	Kiln W1 ESP	PCBs [Dioxin-like PCBs (WHO-TEQ Humans /Mammals/fish/birds)]	No limit set	Average value over sample period of between 6 and 8 hours	6 monthly	BS EN/TS 1948 part 4
		PAHs Specific individual poly-cyclic aromatic hydrocarbons				BS ISO 11338 parts 1, 2
Limits for Dolofrit (Sintered Dolime) production without WDFs						
A1/1	Kiln W1 ESP	Particulate matter	30 mg/Nm ³	Daily average	Continuous	BS EN 14181
		Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	3000 mg/Nm ³			
		Sulphur dioxide (SO ₂)	Until 31/12/2024 1530 mg/Nm ³			
			From 01/01/2025 400 mg/Nm ³			
		Carbon monoxide (CO)	500 mg/Nm ³			
		Total Organic Carbon (TOC)	10 mg/Nm ³			
		Hydrogen chloride (HCl)	200 mg/Nm ³			
		Hydrogen fluoride (HF)	No limit			
		Cadmium (Cd) & thallium (Tl) and their compounds (total)	0.05 mg/Nm ³	Average value over minimum 30 minute, maximum 8 hour period	6 monthly	BS EN 14385
		Mercury (Hg) and its compounds	0.05 mg/Nm ³			BS EN 13211
		Group III metals and their compounds (total)	5 mg/Nm ³			BS EN 14385
		Dioxins / furans (I-TEQ)	0.1 ng/Nm ³	Average value over sample period of between 6 and 8 hours	6 monthly	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
		PAHs Specific individual poly- cyclic aromatic hydrocarbons	No limit set			BS ISO 11338 parts 1, 2

Note 1: Half hourly average limits on kiln W1 (emission point A1/1) do not apply during product changeover.
See Schedule 6 for definition of product changeover.

Table S3.1c Point source emissions to air – emission limits and monitoring requirements for kiln exhausts – for the production of DOLOPEL (Dead Burnt Dolime)

Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
Limits for DolopeL (Dead Burnt Dolime) production without WDFs						
A1/1	Kiln W1 ESP	Particulate matter	30 mg/Nm ³	Daily average	Continuous	BS EN 14181
		Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	3000 mg/Nm ³			
		Sulphur dioxide (SO ₂)	3000 mg/Nm ³			
		Carbon monoxide (CO)	500 mg/Nm ³			
		Total Organic Carbon (TOC)	10 mg/Nm ³			
		Hydrogen chloride (HCl)	200 mg/Nm ³			
		Hydrogen fluoride (HF)	No limit set	-	-	-
		Cadmium (Cd) & thallium (Tl) and their compounds (total)	0.05 mg/Nm ³	Average value over minimum 30 minute, maximum 8 hour period	6 monthly	BS EN 14385
		Mercury (Hg) and its compounds	0.05 mg/Nm ³			BS EN 13211
		Group III metals and their compounds (total)	5 mg/Nm ³			BS EN 14385
		Dioxins / furans (I-TEQ)	0.1 ng/Nm ³	Average value over sample period of between 6 and 8 hours		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
		PAHs Specific individual poly-cyclic aromatic hydrocarbons	No limit set			BS ISO 11338 parts 1, 2

Table S3.2 Point source emissions to air – emission limits and monitoring requirements for non-kiln sources						
Emission point ref. & location	Source	Parameter	Limit (incl. unit)	Reference Period	Monitoring frequency	Monitoring standard or method
A2	SDF tank vent	Volatile Organic Carbon (TOC)	-	-	-	-
A3	Kiln W1 Coal Mill	Particulate matter	10 mg/Nm ³	Average value over minimum 30 minute period	6 monthly <small>note1</small>	BS EN 13284-1
A4	Kiln W1 Coal Mill					
A5	Pan Mill (LEV ID no. 1)					
A6	Oiling Plant (LEV ID no. 2)					
A7	Oiling Plant (LEV ID no. 4)					
A8	Bunker Top (LEV ID no. 8)					
A9	Pellet Plant (LEV ID no. 10)					
A10	Product Loading bag filter					
All other channelled dust emissions abated by filters	Dusty operations such as oiling, crushing, conveying, material handling, silos	Particulate matter	10 mg/Nm ³	-	In accordance with a maintenance management system	Permanent sampling access not required

Note 1: Monitoring frequency shall be reduced to annually with written agreement from the Environment Agency following 3 consecutive compliant results.

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
SW1 (SK53537552) [Emission to W2 on permit EPR/BL32421A prior to discharge from Installation with treated water]	Surface water drainage from back end of kilns	Note 1	Note 1	Note 1	Note 1	Note 1
SW2 (SK53617513)	Surface water drainage from lower carpark	Note 1	Note 1	Note 1	Note 1	Note 1

Note 1: Subject to change following the completion of improvement condition IC19, table S1.3.

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 (SK53337535) [Pumped discharge to settlement lagoons operated under permit EPR/BL3242IA]	Site drainage and process effluent	-	-	-	-	-

Table S3.5 Annual limits

Substance	Medium	Limit (including unit)
-	-	-
-	-	-

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
Kilns W1 and W2	Fuels usage	Monthly	As agreed in writing with the EA	-
	Waste-derived fuels usage		-	
	Relative thermal input of Waste-derived fuels		-	
	Kiln exit temperature (°C)	Continuous	Traceable to National Standards	
	Kiln feed rate (t/hr)		-	
	Fuels feed rate (t/hr)		-	
A1/1 and A1/2	Temperature	Continuous	Traceable to National Standards	-
	Pressure		BS EN 14181	
	Oxygen			
	Water vapour			
A1/1 ESP inlet	Temperature		-	

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
ESP and Bag filter dust	Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds.	6 monthly	Sampling in accordance with a protocol agreed in writing with the Agency.	
	Halides (Chloride, Bromide and Fluoride)			
	Dioxins/furans and dioxin-like PCBs			
	Total soluble fraction for metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc)	Before use of a new disposal or recycling route		

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Schedule 4 – Reporting

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

Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Emissions to air Parameters as required by condition 3.5.1.	A1/1, A1/2	Monthly summary of continuous monitoring reported quarterly	1 January, 1 April, 1 July, 1 October
	A1/1, A1/2, A3, A4, A9	6 monthly extractive monitoring reported every 6 months	1 January, 1 July
	A5, A6, A7, A8	Annual extractive monitoring reported annually	1 January
Process monitoring Parameters as required by condition 3.5.1	Fuels usage	Quarterly	1 January, 1 April, 1 July, 1 October
	Waste-derived fuels usage		
	Relative thermal input of Waste-derived fuels		
Functioning and monitoring of the plant involved in the burning of waste derived fuels, as required by condition 4.2.2.		Every 12 months	1 January

Parameter	Units
-	-

Parameter	Frequency of assessment	Units
-	-	-

Media/parameter	Reporting format	Date of form
Air	Form Air1, Air2 and Air3 or other form as agreed in writing by the Environment Agency	April 2019
Fuel Usage summary and relative thermal input	Form Fuel Usage or other form as agreed in writing by the Environment Agency	

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	EPR/BL3269IH
Name of operator	Steetley Dolomite Limited
Location of Facility	Whitwell Works
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	
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.

“BAT conclusions” or “BATCs” means COMMISSION IMPLEMENTING DECISION of 26 March 2013 establishing the best available techniques (BAT) conclusions under Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions.

“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.

“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.

“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).

“CO trip” means a de-energisation of an electrical precipitator 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 0600hrs.

“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 to land” includes emissions to groundwater.

“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.

“EP Regulations” means The Environmental Permitting (England and Wales) Regulations SI 2016 No.1154 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 III 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.

“IED” or “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.

“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 5 tonne per hour on kiln W1 and 10 tonne per hour on W2.

“Kiln Start Up”

This means, from the time when raw material is introduced into the kiln to the time the feed rate has reached 30 tonne per hour on kiln W1 and 24 tonne per hour on kiln W2, and the kiln is stable or as otherwise agreed in writing by the Agency.

On commencing kiln operation, the first continuous monitoring daily average may 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 0600hrs each day.

“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.

“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.

“oxides of nitrogen (NO_x)” means nitric oxide (NO) plus nitrogen dioxide (NO₂) expressed as NO₂

“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, Dibenz[ah]anthracene, Dibenz[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.

“product changeover” means the period of time from when kiln W1 ceases producing one product to the point when the correct quality levels have been achieved on a different product. The kiln will continue to operate and waste derived fuels may be burned, during product changeover however the half hourly emission limits for the oncoming product do not apply until changeover is complete. Daily average limits will continue to apply.

“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.

“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 and in relation to hazardous waste, includes the asterisk.

“WDF” means waste-derived fuels.

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

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.

“year” means calendar year ending 31 December.

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

- (a) 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;
- (b) in relation to emissions from lime kilns producing sintered dolime using the ‘double-pass process’, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with no correction required for oxygen;
- (c) 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.

‘PCBs’ means

- polychlorinated biphenyls
- polychlorinated terphenyls

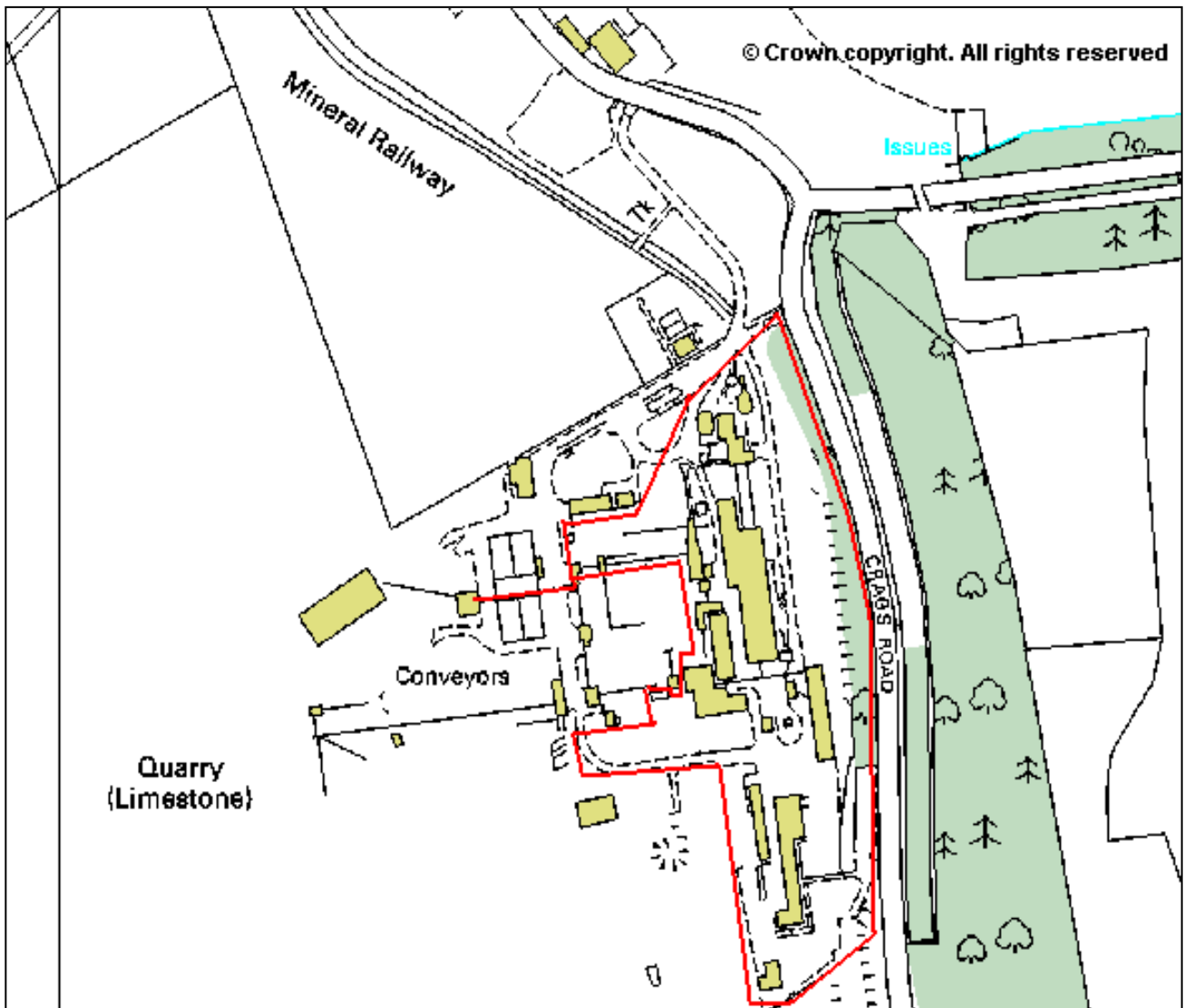
- monomethyl-tetrachlorodiphenyl methane, Monomethyl-dichloro-diphenyl methane, Monomethyldibromo-diphenyl methane
- any mixture containing any of the above mentioned substances in a total of more than 0,005 %by weight

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.

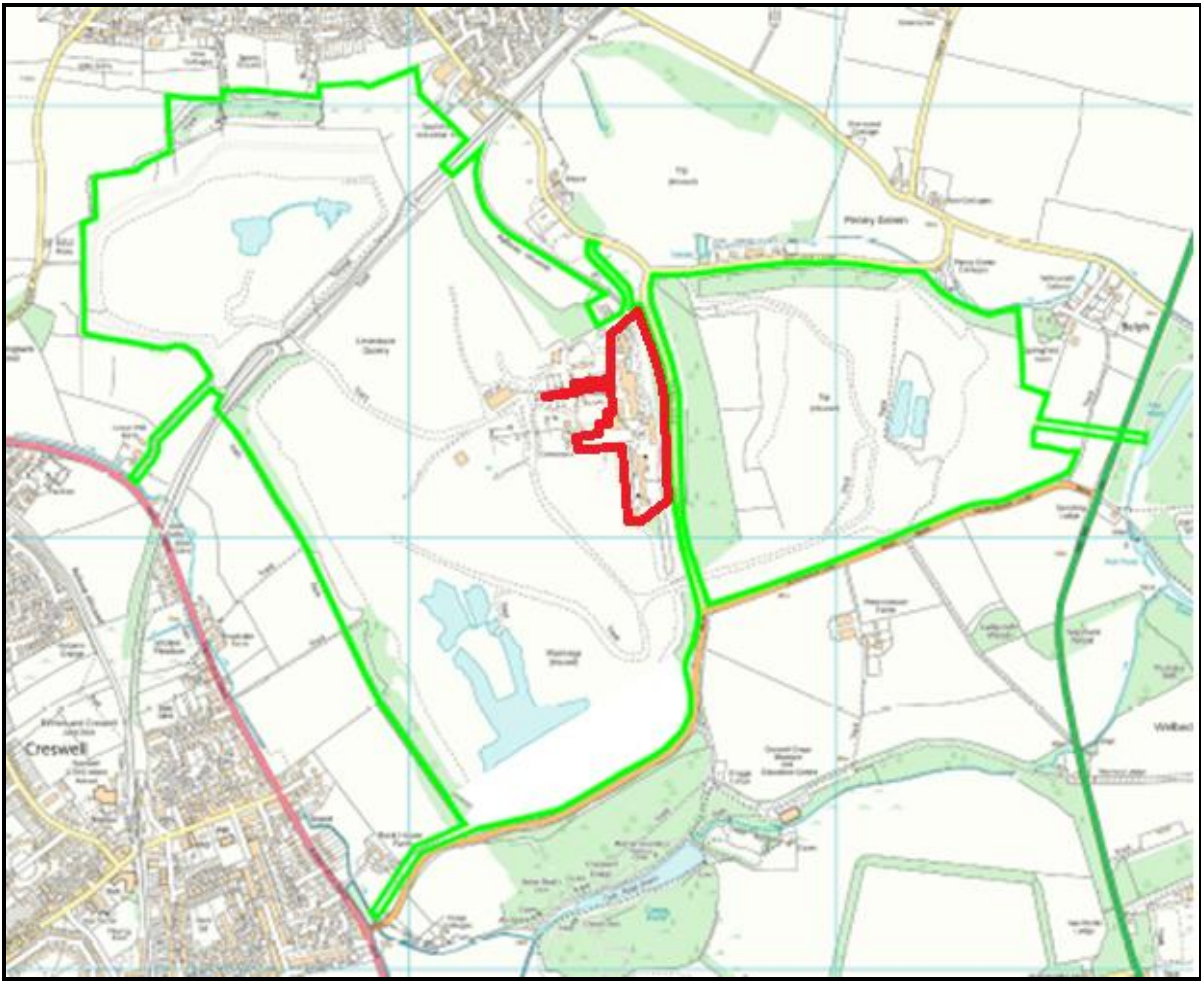
TEF schemes for dioxins and furans				
Congener	I-TEF(1990)	WHO-TEF (1997/8)		
		Humans / Mammals	Fish	Birds
Dioxins				
2,3,7,8-TCDD	1	1	1	1
1,2,3,7,8-PeCDD	0.5	1	1	1
1,2,3,4,7,8-HxCDD	0.1	0.1	0.5	0.05
1,2,3,6,7,8-HxCDD	0.1	0.1	0.01	0.01
1,2,3,7,8,9-HxCDD	0.1	0.1	0.01	0.1
1,2,3,4,6,7,8-HpCDD	0.01	0.01	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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Installation boundary



Location of EPR/BL3269IH permit boundary

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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

<p>Operating techniques</p>	<p>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 full reasoning is given in our decision document that accompanies the permit determination.</p>																												
<p>The operator has been granted three derogations; from BAT 47 which sets a BAT-AEL for lime kiln oxides of sulphur (SOx) emissions of <50 - 400mg/Nm³ (daily average for a Long Rotary Kiln or LRK); from BAT 51 which sets a BAT-AEL for lime kiln hydrogen chloride (HCl) emissions with waste derived fuels only of <10mg/Nm³; and from BAT 53 which sets a BAT-AEL for lime kiln group III metal emissions with waste derived fuels only of <0.5mg/Nm³. The derogation is time limited until 31st December 2024, 7.5 years beyond the compliance date.</p>																													
<table border="1"> <thead> <tr> <th>BATc</th> <th>Parameter</th> <th>Associated BAT-AEL</th> <th>Derogation until</th> <th>ELV during derogation period</th> <th>Previous ELV</th> </tr> </thead> <tbody> <tr> <td>47</td> <td>SOx</td> <td><50 – 400 mg/Nm³</td> <td>31 December 2024</td> <td>1200 mg/Nm³ (with waste fuels) 1530 mg/Nm³ (without waste fuels)</td> <td>2500 mg/Nm³ 3300 mg/Nm³</td> </tr> <tr> <td>51</td> <td>HCl</td> <td><10mg/Nm³</td> <td>31 December 2024</td> <td>200 mg/Nm³ (with waste fuels)</td> <td>200 mg/Nm³</td> </tr> <tr> <td>53</td> <td>Group III metals</td> <td><0.5mg/Nm³</td> <td>31 December 2024</td> <td>2.6 mg/Nm³ (with waste fuels)</td> <td>2.6 mg/Nm³</td> </tr> </tbody> </table>						BATc	Parameter	Associated BAT-AEL	Derogation until	ELV during derogation period	Previous ELV	47	SOx	<50 – 400 mg/Nm ³	31 December 2024	1200 mg/Nm ³ (with waste fuels) 1530 mg/Nm ³ (without waste fuels)	2500 mg/Nm ³ 3300 mg/Nm ³	51	HCl	<10mg/Nm ³	31 December 2024	200 mg/Nm ³ (with waste fuels)	200 mg/Nm ³	53	Group III metals	<0.5mg/Nm ³	31 December 2024	2.6 mg/Nm ³ (with waste fuels)	2.6 mg/Nm ³
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<p>The BAT-AELs apply to 2 of the 3 products that the Operator manufactures – Sintered Dolime and Dolopel, however Dolopel has exclusions and is not the subject of this derogation. The third, and main, product is Ultra Low Carbon Dolime or ULCD which is exempt from the BAT conclusions.</p> <p>The proposed techniques will result in emissions for which the appropriate emission limit is less stringent than that associated with the best available techniques as described in BAT conclusions. The achievement of BAT emission levels by April 2017 would lead to disproportionately higher costs compared to the environmental benefits due to the intended remaining operational lifetime of the part of the installation.</p> <p>The three derogations have been considered together because techniques to reduce SO₂ would also reduce HCl and group III metal emissions and decisions associated with SO₂ BAT-AEL compliance will therefore have a direct impact on HCl and group III metals compliance.</p> <p>The Operator's application considered 3 options for achieving compliance with the BAT-AELs. At the time of submission, the Derogation criteria was for technical characteristics (the configuration of the plant) and geographical location. This was later amended to 2 options, and the Derogation criteria changed to the intended remaining operational lifetime of the part of the installation, whereby the operator intended to cease production of Sintered Dolime by 31st December 2024 (phased closure) following unsuccessful trials aimed at achieving compliance.</p> <p>We have considered the operators justification for departure from the guidance and accept it in the following respects and for the following reasons;</p>																													

- 1) The operator has supplied a valid derogation request against the BATcs 47, 51 and 53. The derogation request is based on the intended remaining operational lifetime of the part of the installation that manufactures Sintered Dolime product at the Whitwell site. The Operator has been unable to produce Sintered Dolime whilst meeting BAT-AELs and is unable to install abatement to otherwise enable this.
- 2) The operator has described 2 remaining options for achieving the BAT-AEL. These options were taken forward for cost benefit analysis. The operator proposes to continue with current ELVs (agreed by the previous Derogation) until the end of the Derogation period, after which BAT-AELs will be in place.
- 3) The operator has demonstrated that the costs of achieving the BAT-AELs by April 2017 are disproportionate to the environmental benefits, and that these are linked to the technical characteristics of the plant (as originally applied). The costs of meeting the BAT-AELs on time are significantly higher than the environmental benefits of doing so in comparison to the proposed derogation option, influenced by the high energy costs (due to the high temperature process) and limited remaining quarry life, which has resulted in the intended remaining operational lifetime of the part of the installation that manufactures Sintered Dolime product.
- 4) The operator stated that all possible outcomes for compliance with the SO₂ BAT-AEL will have a material effect on the releases of HCl and Group III metals, hence by combining the 3 derogation assessments and timelines into one, a better overall outcome can be achieved rather than progressing these requests independently.
- 5) The derogation request is to delay compliance with the 3 BAT-AELs until 31 December 2024. During the period, the SO₂ ELV will be 1200 mg/m³ (burning waste derived fuels) and the ELVs for HCl and group III metals will remain the same as previous. The environmental impacts of allowing the derogation are assessed as not significant.
- 6) The operator has confirmed that they will be compliant with the BAT-AELs from 1/1/2025 by discontinuing to manufacture the product that has required a Derogation.

We have ensured that no significant pollution is caused by allowing this derogation, and that a high level of protection of the environment as a whole is achieved.