

Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2010

Lhoist UK Limited
Brierlow Lime Works
Buxton Road
Hindlow
Buxton
Derbyshire
SK17 0EL

Variation number

EPR/BK9571IU/V006

Permit number

EPR/BK9571IU

Brierlow Lime Works

Permit number EPR/BK9571IU

Introductory note

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

Under the Environmental Permitting (England & Wales) Regulations 2010 (schedule 5, part 1, paragraph 19) a variation may comprise a consolidated permit reflecting the variations and a notice specifying the variations included in that consolidated permit.

Schedule 1 of the notice specifies the conditions that have been varied and schedule 2 comprises a consolidated permit which reflects the variations being made. All the conditions of the permit have been varied and are subject to the right of appeal.

Brief description of the changes introduced by this variation notice:

This is an Environment Agency initiated variation and consolidation notice – consolidating previous variations of environmental permit EPR/BK9571IU. This variation incorporates a number of changes as a result of:

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

Brief description of the process:

Brierlow Lime Works (the installation) is operated by Lhoist UK Limited and is located at Brierlow, around 5km south-east of Buxton, Derbyshire; at grid reference SK08736911. The installation is close to the Peak District National Park, the boundary of which passes within 200m to the south of the installation and within 250m to the north.

The main activity taking place at the Installation is the production of lime, which is a listed activity in ‘The Environmental Permitting (England and Wales) Regulations 2010’:

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.

The purpose of the operations carried out at Brierlow Lime Works is to produce calcium oxide (quicklime), calcium hydroxide (hydrate) and Milk of Lime (hydrated quicklime). The quicklime is produced by the heating of limestone (calcium carbonate) in two pairs of parallel flow regenerative kilns (PFRK), known as Maerz kilns.

Production capacity of the kilns is around 250,000 tonnes of quicklime per annum.

The installation includes:

- The quarry and all limestone handling, crushing and screening operations (except blasting)
- All associated lime manufacturing, handling, grinding and storage activities
- Production of hydrated lime and milk of lime
- Surface water drainage and treatment, and discharge to groundwater

Raw Materials Preparation and Handling

Limestone rock is extracted from the quarry face using explosives (an activity which is regulated by the local planning authority and not by this permit) and transported by dump truck to the primary crusher. The limestone is crushed and washed before being sized and sorted into stockpiles. Limestone less than 30mm is segregated for sale as aggregate, while limestone of 30 – 125mm fraction is stored for use as kiln feed material. Washing of limestone is necessary to remove clay material which is subsequently used for site restoration and landscaping.

Lime production

Correctly sized limestone is fed into one of two pairs of Maerz kilns. The kilns are fuelled by natural gas to heat the limestone to around 1000°C and drive off carbon dioxide to produce quicklime (the process of calcination). Kerosene is available for use as a standby fuel.

Each pair of Maerz kilns vent to a dedicated stack via a bag filter which filters out any particulates from the exhaust gases. Quicklime is then processed to produce various grade sizes or ground to produce a fine powder before being stored within silos ready for dispatch off site by road.

Hydrated lime is manufactured using finer fractions of quicklime. There are currently three hydrating plants in operation within the Installation, one of which is designed to produce the patented hydrated lime known as Sorbacal®. Hydrated lime (as finished product) is a dry fine powder. It is stored within silos prior to dispatch offsite, which may either be in various packaged bag sizes or in bulk by road tanker.

Milk of lime is also produced at the site using quicklime which is hydrated then mixed with water and additive. It is despatched in bulk by road tanker.

Emissions

Emissions to Air: the main emissions produced are oxides of nitrogen (NO_x), sulphur dioxide (SO₂), carbon monoxide (CO) and particulate matter (PM) from the kilns. Particulate matter is also emitted from various conveyors, silos, and mills. Abatement of particulate matter is by bag filters which are fitted to each of the two kiln emission points, the Lopulco Mill and grinding plant, hydrators and various other handling plants.

Emissions to Water: there are two soakaway emissions to groundwater. Site surface water drainage and water from the washing plant collects in two settlement lagoons which are designed to allow infiltration to the underlying strata. The lagoons accumulate silt which is periodically removed.

Solid wastes from the lime production process are lime and, from limestone washing, clay cake. Spilled lime and bag filter dust are blended back into the process where possible. Clay cake is mixed with any lime which can't be recovered to stabilise it prior to its use for restoration on site; this activity is covered by a Mining Waste permit (also regulated by the Environment Agency).

There are a number of sensitive ecological receptors close to the installation, with two Special Areas of Conservation (SAC) and one Special Protection Area (SPA), within 10km and 4 Local Wildlife Sites (LWS) and one Site of Special Scientific Interest (SSSIs) within 2km. The installation overlies a principal aquifer.

All activities and operations at Brierlow Lime Works are covered by an Environmental Management System (EMS) which has been certified as conforming to ISO14001.

With this variation, we have removed permission for burning Recovered Fuel Oil (RFO), a waste derived fuel, on Kiln 2 as this fuel is no longer required by the Operator.

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 BK9571IU (EPR/BK9571IU/A001)	Duly made 29/08/01	Application for PPC permit submitted 15/08/01
Response to Schedule 4 request for information	Received 30/06/02	RFI request dated 18 January 2002
Permit determined EPR/BK9571	Effective 31/01/03	
Application for variation EPR/BK9571IU/V002	Received 25/05/06	
Variation EPR/BK9571IU/V002 determined	Effective 09/01/07	Permit the trial burning of Recovered Fuel Oil as a fuel
Application for variation EPR/BK9571IU/V003	Received 30/01/07	
Variation EPR/BK9571IU/V003 determined	Effective 05/02/07	Increase CO emission limits
Application for variation EPR/BK9571IU/V004	Duly made 20/06/07	Application received 25/05/07
Variation EPR/BK9571IU/V004 determined	Effective 15/10/07	New lime hydration plant
Environment Agency variation EPR/BK9571IU/V005	Effective 29/07/10	Environment Agency initiated variation following the Cement and Lime Sector permit review 2010.
Regulation 60 Notice	Issued 30/04/14	
Response to Regulation 60 Notice	Received 09/01/15	Additional information received on 03/07/15, 23/09/16 and 17/12/16; regarding revised site boundary: on 11/10/16 and 06/01/17
Environment Agency variation and Consolidation EPR/BK9571IU/V006 determined (PAS billing reference RP3437WY)	Effective 06/04/17	Environment Agency initiated variation and consolidation following the Cement and Lime Sector permit review.

Other Part A installation permits relating to this installation		
Operator	Permit number	Date of issue
Lhoist UK Ltd (Mining waste permit)	EAWML 102729 (EPR/XP3491EL)	20/02/12

End of introductory note

Notice of variation and consolidation

The Environmental Permitting (England and Wales) Regulations 2010

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

Permit number

EPR/BK9571IU

Issued to

Lhoist UK Limited (“the operator”)

whose registered office is

Buxton Road

Hindlow

Buxton

Derbyshire

SK17 0EL

company registration number **04056154**

to operate a regulated facility at

Brierlow Lime Works

Buxton Road

Hindlow

Buxton

Derbyshire

SK17 0EL

to the extent set out in the schedules.

The notice shall take effect from 06/04/2017

Name	Date
Rebecca Warren	06/04/2017

Authorised on behalf of the Environment Agency

Schedule 1

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

Schedule 2 – consolidated permit

Consolidated permit issued as a separate document.

Permit

The Environmental Permitting (England and Wales) Regulations 2010

Permit number

EPR/BK9571IU

This is the consolidated permit referred to in the variation and consolidation notice for Environment Agency led variation EPR/BK9571IU/V006 authorising,

Lhoist UK Limited ("the operator"),

whose registered office is

**Buxton Road
Hindlow
Buxton
Derbyshire
SK17 0EL**

company registration number **04056154**

to operate an installation

**Brierlow Lime Works
Buxton Road
Hindlow
Buxton
Derbyshire
SK17 0EL**

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

Name	Date
Rebecca Warren	06/04/2017

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 used efficiently in the activities;
 - (b) review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and
 - (c) take any further appropriate measures identified by a review.

1.3 Efficient use of raw materials

- 1.3.1 The operator shall:
- (a) take appropriate measures to ensure that raw materials and water are used efficiently in the activities;
 - (b) maintain records of raw materials and water used in the activities;
 - (c) review and record at least every four years whether there are suitable alternative materials that could reduce environmental impact or opportunities to improve the efficiency of raw material and water use; and
 - (d) take any further appropriate measures identified by a review.

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

- 1.4.1 The operator shall take appropriate measures to ensure that:
- (a) the waste hierarchy referred to in Article 4 of the Waste Framework Directive is applied to the generation of waste by the activities; and
 - (b) any waste generated by the activities is treated in accordance with the waste hierarchy referred to in Article 4 of the Waste Framework Directive; and
 - (c) where disposal is necessary, this is undertaken in a manner which minimises its impact on the environment.
- 1.4.2 The operator shall review and record at least every four years whether changes to those measures should be made and take any further appropriate measures identified by a review.

2 Operations

2.1 Permitted activities

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

2.2 The site

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

2.3 Operating techniques

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

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

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

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

- (a) the nature of the process producing the waste;
- (b) the composition of the waste;
- (c) the handling requirements of the waste;
- (d) the hazardous property associated with the waste, if applicable; and
- (e) the waste code of the waste.

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

2.4 Improvement programme

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

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

3 Emissions and monitoring

3.1 Emissions to water, air or land

- 3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 tables S3.1, S3.2 and S3.3.
- 3.1.2 The limits given in schedule 3 shall not be exceeded.
- 3.1.3 Where a substance is specified in schedule 3 table S3.3 but no limit is set for it, the concentration of such substance in emissions to water from the relevant emission point shall be no greater than the background concentration.
- 3.1.4 Total annual emissions from the emission points set out in schedule 3 tables S3.1, S3.2 and S3.3 of a substance listed in schedule 3 table S3.4 shall not exceed the relevant limit in table S3.4.
- 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;
 - (b) implement the approved odour management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.4 Noise and vibration

- 3.4.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the

operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan to prevent or where that is not practicable to minimise the noise and vibration.

3.4.2 The operator shall:

- (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to noise and vibration, submit to the Environment Agency for approval within the period specified, a noise and vibration management plan which identifies and minimises the risks of pollution from noise and vibration;
- (b) implement the approved noise and vibration management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.5 Monitoring

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

- (a) point source emissions specified in tables S3.1, S3.2, and S3.3;
- (b) process monitoring specified in table S3.5;

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

3.5.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.3.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate), where available, unless otherwise agreed in writing by the Environment Agency.

3.5.4 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in schedule 3 tables S3.1, S3.2 and S3.3 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.
- 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.

4.3 Notifications

- 4.3.1 In the event:
- (a) that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately—
 - (i) inform the Environment Agency,
 - (ii) take the measures necessary to limit the environmental consequences of such an incident or accident, and
 - (iii) take the measures necessary to prevent further possible incidents or accidents;
 - (b) of a breach of any permit condition the operator must immediately—
 - (i) inform the Environment Agency, and
 - (ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;
 - (c) of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.
- 4.3.2 Any information provided under condition 4.3.1(a)(i), or 4.3.1 (b)(i) where the information relates to the breach of a limit specified in the permit, shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.

- 4.3.3 Where the Environment Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Environment Agency when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to the Environment Agency at least 14 days before the date the monitoring is to be undertaken.
- 4.3.4 The Environment Agency shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:
- Where the operator is a registered company:
- (a) any change in the operator's trading name, registered name or registered office address; and
 - (b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.
- Where the operator is a corporate body other than a registered company:
- (a) any change in the operator's name or address; and
 - (b) any steps taken with a view to the dissolution of the operator.
- 4.3.5 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:
- (a) the Environment Agency shall be notified at least 14 days before making the change; and
 - (b) the notification shall contain a description of the proposed change in operation.
- 4.3.6 The Environment Agency shall be given at least 14 days notice before implementation of any part of the site closure plan.
- 4.3.7 Where the operator has entered into a climate change agreement with the Government, the Environment Agency shall be notified within one month of:
- (a) a decision by the Secretary of State not to re-certify the agreement;
 - (b) a decision by either the operator or the Secretary of State to terminate the agreement; and
 - (c) any subsequent decision by the Secretary of State to re-certify such an agreement.

4.4 Interpretation

- 4.4.1 In this permit the expressions listed in schedule 6 shall have the meaning given in that schedule.
- 4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made "immediately", in which case it may be provided by telephone.

Schedule 1 – Operations

Table S1.1 activities			
Activity reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
AR1, AR2	Section 3.1 Part A(1)(b)	Producing lime in parallel flow regenerative kilns ("PFRK") no. 1 and no. 2, each with a production capacity of >50 tonnes per day.	From kiln feed stockpile through screening and feed of limestone into kilns along with fuel, through to intermediate storage of quicklime product prior to further processing or despatch by road, and associated releases to air from stacks and process vents.
AR3	Section 3.1 Part B (c)	Slaking lime for the purpose of making calcium hydroxide.	From the receipt of quicklime to the production of calcium hydroxide by hydration (including the addition of any additives), the associated releases to air from the stacks and other process vents, and product storage.
Directly Associated Activity			
AR4	Raw materials storage and handling	Raw materials receipt, preparation and bulk storage.	From the recovery of raw materials from the quarry floors through transport, storage, crushing, washing and screening to bulk storage in kiln feed stockpile.
AR5	Fuel storage and handling	Delivery and bulk storage of standby fuel.	Offloading of kerosene and bulk storage for use as standby fuel.
AR6	Quicklime processing and grinding	Crushing and grinding of calcium oxide and calcium hydroxide.	Crushing and grinding of lime products, including associated air releases.
AR7	Lime product storage, bagging and bulk loading for despatch	Storing, bagging and loading from designated plant.	Storage of quicklime and hydrated lime products in silos, bagging and bulk loading into tipper trucks and road tankers for despatch offsite.
AR8	Water discharges to controlled water	Discharge of site drainage water from settlement lagoons.	Collection and treatment of site surface water and washing plant drainage through to discharge to groundwater by infiltration from settlement lagoons.
AR9	Milk of lime production	Blending and suspension of hydrated lime in water.	Blending and suspension of hydrated lime in water, including releases to air, through to product storage and despatch.
AR10	Waste handling	Thickening of clay waste from limestone washing plant.	Processing of wash water using settlement, flocculent dosing and filter presses through to storage of clay cake.

Description	Parts	Date Received
Application	The response to questions 2.3, 2.5 and 2.6 given in Sections B3.2, B2.5 and B2.6 of the application.	15/08/01
Response to Schedule 4 Part 1 Notice	Response Section 2.3 and Section 2.4 of the schedule 4 answers 20 to 34. Also the response to questions 75 to 83 and 101.	30/06/02
Application for variation EPR/BK9571IU/V004	The response to questions given in sections C2.1, C2.3, C2.5 and C2.6 of the application for this variation.	25/05/07
Response to Regulation 60(1) Notice dated 30/04/14, requiring information	In relation to the IED Best Available techniques, the details submitted against CLM BAT conclusion numbers 1, 2, 30 – 54 [excluding responses to BATCs 37, 38, 39, 51].	09/01/15
	In relation to the IED Best Available techniques, the details submitted against CLM BAT conclusion numbers 32, 33, 41, 42, 50, 52, 53.	03/07/15
	In relation to the IED Best Available techniques, the details submitted against CLM BAT conclusion numbers 36-39, 42, 43.	23/09/16
	List of low volume LEV emission points, document ref LH_01.	17/12/16

Reference	Requirement	Date
IC4	<p>The operator shall submit an updated site condition report to the Environment Agency, which provides a baseline report in line with the requirements of IED article 22(2).</p> <p>The revised report should:</p> <ul style="list-style-type: none"> • Include an updated Conceptual Site Model and Source Pathway Receptor assessment, to that of the version provided within the PPC application site report, and an updated Report on Potential Contamination of Ground and Surface Water from the Lime Waste Tops at Hindlow Quarry (from the version dated October 2002) including an assessment of all hazardous substances present on site; • Include the area added to the installation boundary through variation V006; • Ensure intrusive investigation and sampling includes all potential hazardous substances at the site; • Include information on the concentrations in soil and groundwater of the hazardous substances used, produced or released by the installation. <p>The updated site condition report shall be submitted for written approval by the Environment Agency.</p>	06/10/17
IC5	<p>The Operator shall undertake a geochemical assessment of the impacts from lagoon water infiltration (at emission points W1 and W2) as it infiltrates through the unsaturated zone, and any impacts / potential impacts upon the quality of on-site borehole water (groundwater abstraction) and underlying groundwater. The assessment shall include, but not be limited to, either of the following:</p> <ul style="list-style-type: none"> • groundwater quality sampling with analysis for pH, conductivity, major ions, hardness, alkalinity and nitrate, OR • review equivalent data (not older than 2010) with a minimum of 6 samples taken over a 12 month period and including samples from each season of the calendar year, for the parameters listed above. <p>A report detailing the findings of the assessment shall be submitted to the Environment Agency. If the assessment indicates that an impact on groundwater may occur, then the report shall propose further improvement works (such as hydrogeological risk assessments and/or a scheme to treat lagoon water) to be implemented within 12 months (or other timescale as proposed within the report), and shall seek written approval from the Environment Agency.</p>	06/10/18

Schedule 2 – Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels	
Raw materials and fuel description	Specification
None specified	-

Schedule 3 – Emissions and monitoring

Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method ^{note1}
A1, A2	Maerz kilns numbers 1 and 2, via bag filters	Particulate Matter	20 mg/m ³ ^{Note 2}	Daily average	Continuous measurement	BS EN 15267-3
			From 9 April 2017 10 mg/Nm ³	Averaged over the sampling period (at least one hour)	Quarterly	BS EN 13284-1
		Sulphur Dioxide	50 mg/Nm ³	Averaged over the sampling period (at least one hour)	Six Monthly	BS EN 14791
		Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	150 mg/Nm ³		Six Monthly	BS EN 14792
		Carbon Monoxide	325 mg/Nm ³		Six Monthly	BS EN 15058
		Total Organic Carbon (TOC)	From 9 April 2017 30 mg/Nm ³		Annual ^{note 3}	BS EN 12619
		Dioxins and Furans PCDD/F I-TEQ/Nm ³	From 9 April 2017 0.1 ng PCDD/F I-TEQ/Nm ³	Average value over sampling period of 6-8 hours	Annual ^{note 3}	BS EN 1948 Parts 1, 2 & 3 or as agreed in writing with the EA

Note 1: certification to the MCERTS performance standards indicates compliance with BS EN 15267-3

Note 2: emission limit in place until 8 April 2017

Note 3: frequency of sampling is subject to review

Emission point ref. & location	Source	Parameter	Limit (incl. unit)	Reference Period	Monitoring frequency	Monitoring standard or method		
A3	Lime Handling Plant bag filter	Particulate Matter	40 mg/m ³ ^{note 1}	Averaged over the sampling period (at least 30 minutes)	Six Monthly	BS EN 13284-1		
A5	C Battery Lime Screening bag filter		From 9 April 2017 10 mg/Nm ³					
			40 mg/m ³ ^{note 1}					
A6	LGP Lopulco Mill bag filter		From 9 April 2017 10 mg/Nm ³					
			40 mg/m ³ ^{note 1}					
A7	Hydrate tailings grinding plant bag filter		40 mg/m ³ ^{note 1}		-		Annually	BS EN 13284-1
			From 9 April 2017 10 mg/Nm ³				In accordance with a maintenance management system	Permanent sampling access not required

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	
A8	Hydrate plant bag filter	Particulate Matter	40 mg/m ³ note 1	Averaged over the sampling period (at least 30 minutes)	Six Monthly	BS EN 13284-1	
			From 9 April 2017 10 mg/Nm ³				
A9	Number 1 Hydrator bag filter		100 mg/m ³ note 1	From 9 April 2017 10 mg/Nm ³	-	Annually	BS EN 13284-1
			In accordance with a maintenance management system			Permanent sampling access not required	
A10	Number 2 Hydrator bag filter		40 mg/m ³ note 1	From 9 April 2017 10 mg/Nm ³	-	Annually	BS EN 13284-1
			Averaged over the sampling period (at least 30 minutes)			In accordance with a maintenance management system	Permanent sampling access not required
A11	Bag shed bag filter		40 mg/m ³ note 1	From 9 April 2017 10 mg/Nm ³	Averaged over the sampling period (at least 30 minutes)	Annually	BS EN 13284-1
			From 9 April 2017 10 mg/Nm ³				
A12	Hydrate Plant bag filter		30 mg/m ³ note 1	From 9 April 2017 10 mg/Nm ³	Averaged over the sampling period (at least 30 minutes)	Annually	BS EN 13284-1
			From 9 April 2017 10 mg/Nm ³				
A13	Sorbacal Hydrator bag filter		40 mg/m ³ note 1	From 9 April 2017 10 mg/Nm ³	-	Annually	BS EN 13284-1
			Averaged over the sampling period (at least 30 minutes)			In accordance with a maintenance management system	Permanent sampling access not required
A14	Sorbacal Mill Separator bag filter		30 mg/m ³ note 1	From 9 April 2017 10 mg/Nm ³	Averaged over the sampling period (at least 30 minutes)	Annually	BS EN 13284-1
			From 9 April 2017 10 mg/Nm ³				
A15	Sorbacal Drier flue	No Limit Set	-	-	-	-	
All other channelled dust emissions abated by filters	Dusty operations including silos and loading filters		From 9 April 2017 10 mg/Nm ³	-	In accordance with a maintenance management system	Permanent sampling access not required	

Note 1: emission limit in place until 8 April 2017

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
W1 Soakaway in middle of site at NGR SK0870669068	Site drainage from rainwater runoff lagoon	pH	No Limit set Note 1	Spot sample	Weekly	To be agreed in writing with the Environment Agency
		Visible oil and grease	None visible			
W2 Soakaway next to railway line at NGR SK0873969154	Site drainage from yard	pH	No Limit set Note 1			
		Visible oil and grease	None visible			

Note 1: a limit may be set upon completion of IC5

Table S3.4 Annual limits

Substance	Medium	Limit (including unit)
None	-	-

Table S3.5 Process monitoring requirements

Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
A1, A2	Particulates	continuous	indicative	From 9 April 2017

Schedule 4 – Reporting

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

Table S4.1 Reporting of monitoring data			
Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Emissions to air Parameters as required by condition 3.5.1.	A1, A2, A3, A5, A6, A8, A11, A12, A14	Quarterly extractive monitoring reported every 6 months	1 January, 1 July
		6 monthly extractive monitoring reported every 6 months	
		Annual extractive monitoring reported every 12 months	1 January
Emissions to water Parameters as required by condition 3.5.1	W1, W2	Every 6 months	1 January, 1 July

Table S4.2: Annual production/treatment	
Parameter	Units
No Parameters specified	-

Table S4.3 Performance parameters		
Parameter	Frequency of assessment	Units
No Parameters specified	-	-

Table S4.4 Reporting forms		
Media/parameter	Reporting format	Date of form
Air	Form air 1 or other form as agreed in writing by the Environment Agency	April17
Water/land	Form water 1 or other form as agreed in writing by the Environment Agency	April17

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/BK9571IU
Name of operator	Lhoist UK Limited
Location of Facility	Brierlow Lime 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.

“*annually*” means once every year.

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

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

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

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

“*CEM*” means Continuous Emission Monitor.

“*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.

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

“*ELV*” means emission limit value.

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

“*emissions to land*” includes emissions to groundwater.

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

“*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.

“*Industrial Emissions Directive*” or “*IED*” means DIRECTIVE 2010/75/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 November 2010 on industrial emissions

“*ISO*” means International Standards Organisation.

“*Lime*” also called “*quicklime*” or “*burned lime*” is calcium oxide (CaO) produced by the decarbonisation of limestone (CaCO₃).

“*Lime products*” is a term which covers quicklime and slaked lime.

“*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

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

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

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

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

“Slaked lime” is produced by reacting or ‘slaking’ quicklime with water and consists mainly of calcium hydroxide (Ca(OH)₂). Slaked lime includes hydrated lime (dry calcium hydroxide powder) and milk of lime (dispersion of calcium hydroxide particles in water).

“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.

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

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

“year” means calendar year ending 31 December.

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

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

- 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;
- in relation to emissions from combustion processes from other sources, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 3% dry for liquid and gaseous fuels; and
- in relation to emissions from non-combustion sources, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with no correction required for oxygen; and
- in relation to emissions from lime hydrating plants, no correction is required for temperature, pressure, oxygen or water vapour content.

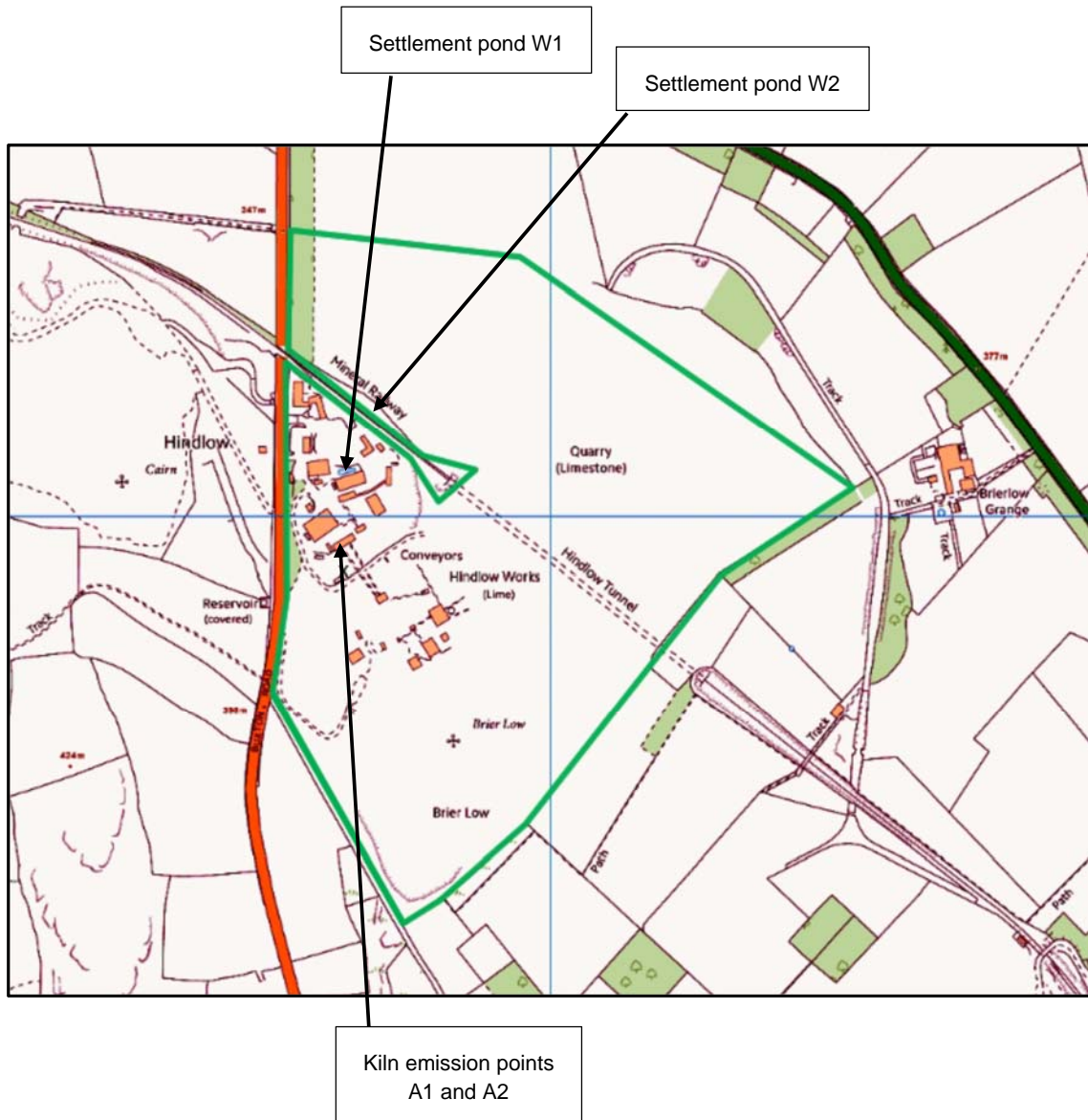
For dioxins/furans and dioxin-like PCBs the determination of the toxic equivalence concentration (I-TEQ, & WHO-TEQ for dioxins/furans, WHO-TEQ for dioxin-like PCBs) stated as a release limit and/ or reporting requirement, the mass concentrations of the following congeners have to be multiplied with their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

TEF schemes for dioxins and furans				
Congener	I-TEF	WHO-TEF		
	1990	2005	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	0.0003	-	-
Furans				
2,3,7,8-TCDF	0.1	0.1	0.05	1
1,2,3,7,8-PeCDF	0.05	0.03	0.05	0.1
2,3,4,7,8-PeCDF	0.5	0.3	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

TEF schemes for dioxins and furans				
Congener	I-TEF	WHO-TEF		
	1990	2005	1997/8	
1,2,3,4,7,8,9-HpCDF	0.01	0.01	0.01	0.01
OCDF	0.001	0.0003	0.0001	0.0001

TEF schemes for dioxin-like PCBs			
Congener	WHO-TEF		
	2005	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)	0.0003	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)	0.03	0.00005	0.001
Mono-ortho PCBs			
2,3,3',4,4'-PeCB (105)	0.00003	<0.000005	0.0001
2,3,4,4',5-PeCB (114)	0.00003	<0.000005	0.0001
2,3',4,4',5-PeCB (118)	0.00003	<0.000005	0.00001
2',3,4,4',5-PeCB (123)	0.00003	<0.000005	0.00001
2,3,3',4,4',5-HxCB (156)	0.00003	<0.000005	0.0001
2,3,3',4,4',5'-HxCB (157)	0.00003	<0.000005	0.0001
2,3',4,4',5,5'-HxCB (167)	0.00003	<0.000005	0.00001
2,3,3',4,4',5,5'-HpCB (189)	0.00003	<0.000005	0.00001

Schedule 7 – Site plan



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