

Permitting decisions

Variation

We are minded to issue the variation for 'Whitwell Quarry Lime works' operated by Steetley Dolomite Limited.

The variation number is: **EPR-BL3269IH-V009**

We consider in reaching that draft decision we have taken into account all relevant considerations and legal requirements and that the permit will ensure that the appropriate level of environmental protection is provided.

Purpose of this document

This decision document provides a record of the decision making process. It summarises the decision making process in the decision checklist to show how all relevant factors have been taken into account.

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How this document is structured

1. Our decision
2. How we reached our decision
3. The legal framework
4. Key Issues - Highlights key issues in the determination
5. Decision checklist - summarises the decision making process in the decision checklist to show how all relevant factors have been taken into account
6. Annex 1 – Decision checklist regarding relevant BAT Conclusions.
7. Annex 2 – Review and assessment of derogation request(s) made by the operator in relation to BAT Conclusions which include an Associated Emission Level (AEL) value.
8. Annex 3 – shows how we have considered the consultation responses

Unless the decision document specifies otherwise we have accepted the applicant's proposals.

Read the permitting decisions in conjunction with the environmental permit and the variation notice. The introductory note summarises what the variation covers.

Glossary of acronyms used in this document

ARMs	Alternative Raw Materials (for this decision relating to alternatives to that of Hope Shale)
AQS	Air Quality Standards
BAT	Best Available Technique(s)
BAT-AEL	BAT Associated Emission Level
BATc	Best Available Technique conclusion For this decision the relevant BATcs are contained within :- <ul style="list-style-type: none">• 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 for the production of cement, lime and magnesium oxide. Publication date 9 April 2013
BATc47	To reduce emissions of SO _x from the flue-gases of kiln firing processes
BATc51	To reduce emissions of HCl (and the emissions of HF) from the flue-gas of kiln firing processes, when using waste,
BATc53	To minimise emissions of metals from the flue-gases of kiln firing processes
BREF	BAT Reference Note: For this decision the following BREF is relevant :- <ul style="list-style-type: none">• Best Available Techniques (BAT) Reference Document for the Production of Cement, Lime & Magnesium Oxide.
DAA	Directly associated activity – Additional activities necessary to be carried out to allow the principal activity to be carried out
DD	Decision document
EAL	Environmental assessment level
ELV	Emission limit value
EPR	Environmental Permitting (England and Wales) Regulations 2016 (SI 2016 No. 1154) as amended
EWC	European waste catalogue
FSA	Food Standards Agency
HPA	Health Protection Agency (now PHE – Public Health England)
IED	Industrial Emissions Directive (2010/75/EU)
LADPH	Local Authority Director(s) of Public Health
PFA	Pulverised Fuel Ash: a waste (ash) from coal-fired power stations.
PPS	Public participation statement
PR	Public register
SDF	Solvent Derived Fuel (waste liquid fuel)
TDF	Tyre Derived Fuel (Rubber Crumb)
WID	Waste Incineration Directive (2000/76/EC) – now superseded by IED

1 Our decision

We are minded to issue the Variation Notice to the Operator. This will allow it to continue to operate the Installation, subject to the conditions in the Consolidated Variation Notice.

As part of our draft decision we have decided to grant the Operator's request for a derogation from the requirements of BAT conclusion's (BATc) 47, 51 and 53, as identified in the production of cement, lime and magnesium oxide BAT conclusions document. The way we assessed the Operator's request for derogation and how we subsequently arrived at our conclusion is recorded in Annex 2 to this document.

We consider that, in reaching our draft decision, we have taken into account all relevant considerations and legal requirements and that the varied permit will ensure that a high level of protection is provided for the environment and human health.

The Consolidated Variation Notice contains many conditions taken from our standard Environmental Permit template including the relevant annexes. We developed these conditions in consultation with industry, having regard to the legal requirements of the Environmental Permitting Regulations and other relevant legislation. This document does not therefore include an explanation for these standard conditions. Where they are included in the Notice, we have considered the techniques identified by the operator for the operation of their installation, and have accepted that the details are sufficient and satisfactory to make those standard conditions appropriate. This document does, however, provide an explanation of our use of "tailor-made" or installation-specific conditions, or where our Permit template provides two or more options.

2 How we reached our draft decision

2.1 Receipt of Application

The Application was duly made on 28/02/2020. This means we considered it was in the correct form and contained sufficient information for us to begin our determination.

The Applicant did not claim confidentiality within Form F of application. We checked this with the applicant as section 1.1 of the application states: "the only part of our request that we believe to be commercially sensitive is the details within the CBA assessment". The applicant confirmed by email (dated 13/03/2020) that no request for confidentiality was required – ["nothing confidential within the application or CBA"].

Apart from the issues and information just described, we have not received any information in relation to the Application that appears to be confidential in relation to any party.

2.2 Consultation on the Application

We carried out consultation on the Application in accordance with the EPR, our statutory PPS and our own internal guidance RGS Note 6 for Determinations involving applications where we propose to accept less strict emission limits than those associated with BAT following an application for derogation. We consider that this process satisfies, and frequently goes beyond the requirements of the Aarhus Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, which are directly incorporated into the IED, which applies to the Installation and the Application.

We have also taken into account our obligations under the Local Democracy, Economic Development and Construction Act 2009 (particularly Section 23). This requires us, where we consider it appropriate, to take

such steps as we consider appropriate to secure the involvement of representatives of interested persons in the exercise of our functions, by providing them with information, consulting them or involving them in any other way. In this case, our consultation already satisfies the Act's requirements.

We advertised the Application by a notice placed on our website [<https://www.gov.uk/government/publications/s80-3lj-steetley-dolomite-limited-environmental-permit-application-advertisement-eprbl3269ihv009>] which contained all the information required by the IED, including telling people where and when they could see a copy of the Application on 26th March 2020.

We made a copy of the Application and all other documents relevant to our determination (see below) available to view on our consultation hub (Citizen Space) as linked in the advert.

We sent copies of the Application to the following bodies, which includes those with whom we have "Working Together Agreements":

- Public Health England's (PHE)
- Director of Public Health
- Health and Safety Executive (HSE)
- Food Standards Agency (FSA)
- Environmental Health (High Peak)
- Local Authority (Peak District)
- Planning Authority (Peak District)

These are bodies whose expertise, democratic accountability and/or local knowledge make it appropriate for us to seek their views directly.

Having carefully considered the Application and all other relevant information, we are now putting our draft decision before the public and other interested parties in the form of a draft Permit, together with this explanatory document. As a result of this stage in the process, the public has been provided with all the information that is relevant to our determination, including the original Application and additional information obtained subsequently, and we have given the public two separate opportunities (including this one) to comment on the Application and its determination. Once again, we will consider all relevant representations we receive in response to this final consultation and will amend this explanatory document as appropriate to explain how we have done this, when we publish our final decision.

3 The legal framework

The Consolidated Variation Notice will be issued under Regulation 20 of the EPR. The Environmental Permitting regime is a legal vehicle which delivers most of the relevant legal requirements for activities falling within its scope. In particular, the regulated facility is:

- an *installation* as described by the IED;
- subject to aspects of other relevant legislation which also have to be addressed.

We consider that the Consolidated Variation Notice will ensure that the operation of the Installation continues to comply with all relevant legal requirements and that a high level of protection will be delivered for the environment and human health.

We explain how we have addressed specific statutory requirements more fully in the rest of this document.

4 Key issues of the decision

This variation notice has been determined following an application by the operator requesting a substantial variation to their existing permit for the purpose of a new derogation from:-

- 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]

This derogation will expire on 31st December 2024 a period of 7.5 years after the BATc compliance date

The operator was previously granted a derogation (until 31/12/2019) from BATc 47, 51 and 53 by variation and consolidation notice number EPR/BL3269IH/V007. This application seeks an additional 5 years to achieve compliance with BAT.

Background (previous derogation)

The previous derogation was granted by variation reference EPR/BL3269IH/V007 an Environment Agency led sector review of permits in accordance with Article 21(3) of the Industrial Emissions Directive (IED).

During this review, the operator applied for a derogation and the decision was to grant this derogation for the following BAT-AELs:-

- BATc47 – Sulphur dioxide BAT-AEL 400 mg/Nm³ : Propose reduced ELV of 1200 mg/Nm³ (with waste fuels) / 1530 mg/Nm³ (without waste fuels) – *reduction from previous ELV of 2500mg/Nm³*
- BATc51 – HCl BAT-AEL 10 mg/Nm³ : Propose to retain ELV of 200 mg/Nm³ (with waste fuels)
- BATc53 – Group III Metals BAT-AEL 0.5mg/Nm³ : Propose to retain ELV of 2.6 mg/Nm³ (with waste fuels).

This derogation was granted with justification addressing the criteria set out in Article 15(4) [*that meeting the BAT AEL would lead to disproportionately higher costs compared to the environmental benefits*] due to the technical characteristics of the installation and its current configuration meant it was not possible to comply with the relevant BAT-AELs.

There are no available techniques that could achieve BAT-AEL compliance immediately. Fitting a wet scrubbing system could guarantee compliance but would require ceasing production in the interim while the plant was designed, constructed and commissioned.

The terms of the derogation allowed the operator to i) undertake trials using absorption techniques (such as fine Dolime spray, injection of Hydrated lime or Sorbical) ii) move to lower sulphur fuels, and iii) cost and establish sulphur dioxide reduction efficiencies.

About this Variation

The Operator has requested a further derogation by application for substantial variation to their permit. The original request was for a time limited Derogation until the end of 31st December 2025. This was revised to the end of 31st December 2024 as a result of the updates and changes to this application.

The derogation is from BATc47, BATc51 and BATc53 (as per the previous derogation).

The application proposes the following ELVs for this Derogation period

- BATc47 – Retain sulphur dioxide ELV of 1200 mg/Nm³ (with waste fuels) / 1530 mg/Nm³ (without waste fuels)
- BATc51 – Retain hydrogen chloride ELV of 200 mg/Nm³ (with waste fuels)
- BATc53 – Retain group III metals ELV of 2.6 mg/Nm³ (with waste fuels).

Technical characteristics of the Installation

- Kiln W1 produces three products;
 - i. Ultra Low Carbon Dolime ULCD (called Dolomet),
 - ii. Sintered Dolime (called Dolofrit) and
 - iii. Hard-burnt Sintered Dolime or 'Dead Burnt Dolime' (called Dolopel).

The Dolofrit and Dolopel products require higher sintering temperatures and residence time within the kiln. For production of Dolofrit the temperature reaches excess of 1600°C and for Dolopel 2100°C. To achieve these temperatures a range of fuels (coal, petcoke, SDF and TDF) are used. These fuels contain sulphur. Natural gas cannot be utilised for the reasons stated under geographical location.

- Adsorbent injection: Interaction of flue-gas and absorbent materials within the long rotary kiln system are less favourable. Further modification of the kiln process is required to achieve maximum absorption rates. The production of Sintered Dolime is not suited to vertical kiln designs (typically used by lime producers) and instead utilise long rotary kilns (akin to cement production) – unique within the UK lime industry. The rotary kilns ensure a controlled movement of product throughout the kiln temperature profile. Currently, all other Sintered Dolime production within Europe is produced on rotary kilns.
- Bag filtration technology – providing further emission capture (within particulates) cannot be utilised owing to kiln exit gas temperatures consequently less efficient ESP technology is utilised.
- Gas cooling / the inclusion of a cooling tower (to address the above) is further restricted by available space on site / current layout. The would be required prior to employing bag filtration technology.

Geographical location

- An industrial supply of Natural Gas is not available for these kilns at this location (the closest supply line being over 4km from the Installation). In addition, natural gas is a less suitable fuel option due to temperature requirements.

Trial Progress

Since granting the first derogation, absorbent injection techniques have been trialled on kiln W1 over several years. The data has shown varying results, with the main issue relating to a reduced efficiency of flu gas interaction (with particulates) owing to conditions within the long rotary kiln system. In addition the exit gas temperature of the kiln of >370 °C is not suitable for a bag filtration system, and therefore reliance is on Electrostatic Precipitation (EP) technology to capture particulates.

As a result of this, further work during the trial (at significant time and investment) focused on injection points for the adsorbent:-

- Review nozzle design in order to provide the correct spray pattern (covering the gas stream) whilst avoiding blockages and ability to perform at high temperatures for long periods.
- Injection location. *Initially injection was performed upstream of the EP (within the ducting).*

The trials focused on HCl reduction, as abatement provides positive impacts for SO₂ reduction.

At the time of applying for the second Derogation (this application – which was effectively an extension of the first derogation) the basis was to continue with previously agreed criteria, although it was clear that further updates on progress and clarity would be required as part of the trials.

Update to application

As a result of updated trial information during the time of application determination, the applicant sought to amend / update the application on 5th December 2022.

This outlined the key points and change in strategy:

- a) Conclusion that abatement and fuel trials were unsuccessful to achieve BAT-AELs with current plant configuration
- b) Need for certainty regarding the quarry reserves (extension) which would enable the business to make a capital investment decision (including the installation of equipment such as wet scrubber), or
- c) Where unsuccessful, define its exit strategy and stop the production of Sintered Dolime by December 2025

It was clear that further updates on progress on quarry reserves (extension project) would be required in order to secure future operations at the site and allow a final decision on capital investment.

Further update to application

The applicant confirmed by email dated 25/05/2023 that the extension project had not proved successful in final decision, and therefore confirmed that the decision was for exit strategy proposal. This involves ceasing production of sintered dolime at the Installation by 31st December 2024 (bringing the original request for derogation [until 31/12/2025] forward by 12 months.

The criteria therefore changed from technical characteristics of the installation and its geographical location, to the intended remaining operational lifetime of the part of the installation that gives rise to the emission of the pollutant(s), where the operator is prepared to commit to a timetable for closure by 31/12/2024 in order to comply with the relevant BAT-AEL.

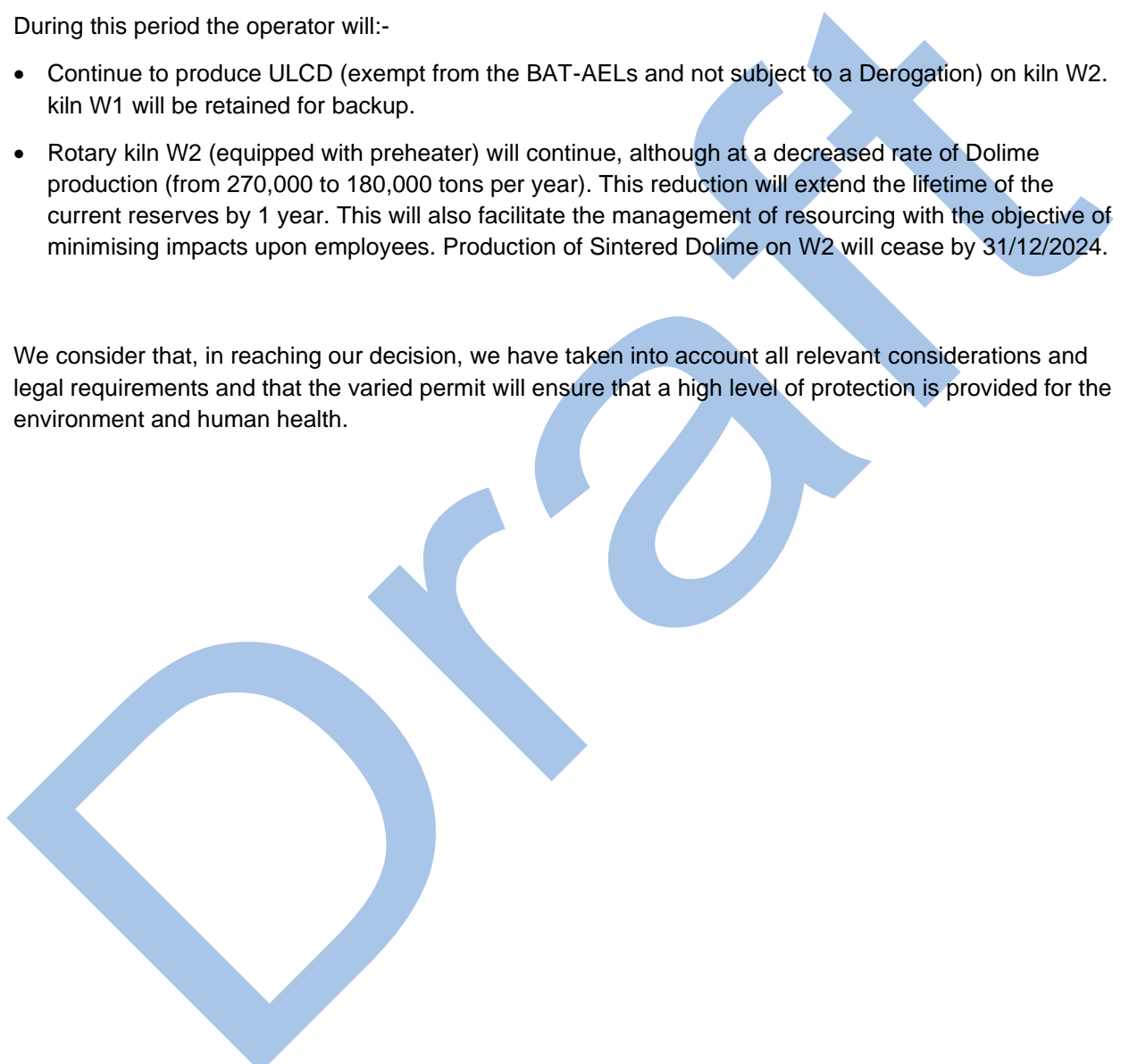
- The Environment Agency has accepted that a valid derogation against BATc47, 51 and 53 has been made based on the intended remaining operational lifetime of the part of the installation giving rise to the emission.

- Additional options, have previously been considered and trialled. Further options, such as secondary abatement [via wet scrubber] have been discounted as not available due to investment capital decisions relating to stone supplies. The applicant amended their CBA and this was audited and confirmed as acceptable.
- Until completion of the remaining operational lifetime (of 31/12/2024), the existing ELVs will remain effective:-
 - 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)
 - Group III metals ELV of 2.6 mg/Nm³ (with waste fuels).

During this period the operator will:-

- Continue to produce ULCD (exempt from the BAT-AELs and not subject to a Derogation) on kiln W2. kiln W1 will be retained for backup.
- Rotary kiln W2 (equipped with preheater) will continue, although at a decreased rate of Dolime production (from 270,000 to 180,000 tons per year). This reduction will extend the lifetime of the current reserves by 1 year. This will also facilitate the management of resourcing with the objective of minimising impacts upon employees. Production of Sintered Dolime on W2 will cease by 31/12/2024.

We consider that, in reaching our decision, we have taken into account all relevant considerations and legal requirements and that the varied permit will ensure that a high level of protection is provided for the environment and human health.



Decision checklist

Aspect considered	Decision
Receipt of application	
Confidential information	<p>We have not received a claim for commercial confidentiality.</p> <p>Application form F states no request for confidentiality, but section 1.1 of the application states: “the only part of our request that we believe to be commercially sensitive is the details within the CBA assessment”.</p> <p><i>We sought clarification with the applicant regarding this – the applicant confirmed (email dated 13/03/2020) that a request for commercial confidentiality was not required for the application nor CBA.</i></p>
Consultation	
Consultation	<p>The consultation requirements were identified in accordance with the Environmental Permitting Regulations and our public participation statement.</p> <p>We advertised the application in the Derbyshire Times newspaper on 31st January 2019. The application was also publicised on the GOV.UK website.</p> <p>We consulted the following organisations:</p> <ul style="list-style-type: none"> • Food Standards Agency (FSA) • Environmental Health (High Peak) • Local Authority (Peak District) • Planning Authority (Peak District) • Health and Safety Executive (HSE) • Public Health England (PHE) • Director for Public Health <p>The comments and our responses are summarised in the consultation section (Annex 3).</p>
Site condition report	<p>There are no changes to the site condition report as a result of this variation.</p> <p>The Derogation proposal relates to infrastructure within the existing Installation boundary, and material storage buildings (subject of this variation) will be fully enclosed.</p>

Aspect considered	Decision
Biodiversity, heritage, landscape and nature conservation	<p>We have assessed the application and its potential to affect all known sites of nature conservation, landscape and heritage and/or protected species or habitats identified in the nature conservation screening report as part of the permitting process.</p> <p>We consider that the application will not affect any sites of nature conservation, landscape and heritage, and/or protected species or habitats identified.</p> <p>The application does not request any change (increase) to emission limit values (as per the existing permit) and therefore no changes to site impacts. <i>The purpose of the Derogation was to effectively grant further time to allow a target reduction to be achieved. Instead the operator has confirmed to cease production as the target reduction was not successful.</i></p> <p>We have not consulted Natural England on the application. The decision was taken in accordance with our guidance.</p>
Environmental risk assessment	
Environmental risk	<p>The application does not request any change to emission limit values (as per the existing permit) and therefore no changes to impacts. <i>The Derogation effectively grants further time to allow a target reduction to be achieved.</i></p> <p>Emissions for the term of the Derogation were assessed as part of the decision on the Derogation – as granted by national derogation panel.</p>
Operating techniques	
Odour management	<p>There are no changes to existing odour management requirements as a result of this variation.</p> <p>There are no changes to permit conditions 3.3.1 and 3.3.2.</p>
Noise management	<p>There are no changes to existing noise management requirements as a result of this variation.</p> <p>There are no changes to permit conditions 3.4.1 and 3.4.2.</p>
Permit conditions	
Permitted activity	<p>We have updated table S1.1 of the permit (activity AR1) – kiln W1, within the limits of specified activity. We have added the following limitation: -</p> <ul style="list-style-type: none"> • 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>This relates to the Derogation and provides limitation to cease production of Sintered Dolime by 31/12/2024. Should a future stone reserve be secured, the operator can resume production upon agreed completion of pre-operational measure for future development ref1 (see below) – thus insuring that future production is in compliance with BAT-AELs.</p>
Raw materials	<p>Proposed raw materials and fuels already covered within schedule 2 of the permit.</p> <p>There are no further changes required to raw materials (Schedule 2) as a result of this variation.</p>

Aspect considered	Decision
Pre-operational conditions	<p>We have added permit condition 2.5.1 (relating to ‘Pre-operational measures for future development’) to the consolidated permit as a result of this variation.</p> <p>Linked to this condition, we have also added table S1.4b ‘pre-operational measures for future development - and a requirement (reference 1) within this table. <i>This relates to the Derogation, and limitation with table S1.1.</i></p> <p>This condition becomes effective in the event that the operator wishes to resume production of Sintered Dolime beyond 31/12/2024 (for example where future stone reserves and abatement becomes available).</p> <p>In order to resume production the operator is required to submit a report demonstrating compliance to all relevant BAT-AELs and BATc’s. Written approval is required and prior to resuming production.</p>
Improvement programme	<p>Based on the information in the application, we consider that we need to amend existing improvement condition table. We have superseded improvement condition IC16 that related to this original Derogation and is no longer needed following confirmation of trial completion.</p> <p>We have updated existing improvements that have been confirmed as complete.</p>
Emission limits	<p>There are no changes to ELVs as a result of this variation / derogation.</p> <p>There are changes to the timescales / dates for compliance that relate to the agreed Derogation period.</p> <ul style="list-style-type: none"> • Retain sulphur dioxide ELV of 1200 mg/Nm³ (with waste fuels) / 1530 mg/Nm³ (without waste fuels) • Retain hydrogen chloride ELV of 200 mg/Nm³ (with waste fuels) • Retain group III metals ELV of 2.6 mg/Nm³ (with waste fuels). <p>The BAT-AELs for the above substances will be stated for compliance at the end of the Derogation period.</p> <ul style="list-style-type: none"> • Sulphur dioxide BAT-AEL 400 mg/Nm³ • HCl BAT-AEL 10 mg/Nm³ • Group III Metals BAT-AEL 0.5mg/Nm³ <p>Details about the derogation are presented in Annex 2 of this document.</p>
Monitoring	Existing monitoring requirements have not changed as a result of this variation.
Reporting	Existing reporting requirements have not changed as a result of this variation.
Growth Duty	
Section 108 Deregulation Act 2015 – Growth duty	<p>We have considered our duty to have regard to the desirability of promoting economic growth set out in section 108(1) of the Deregulation Act 2015 and the guidance issued under section 110 of that Act in deciding whether to grant this permit.</p> <p>Paragraph 1.3 of the guidance says:</p> <p>“The primary role of regulators, in delivering regulation, is to achieve the regulatory outcomes for which they are responsible. For a number of regulators, these regulatory outcomes include an explicit reference to development or growth. The growth duty establishes economic growth as a factor that all specified regulators should have regard to, alongside the delivery of the protections set out in the relevant legislation.”</p>

Aspect considered	Decision
	<p>We have addressed the legislative requirements and environmental standards to be set for this operation in the body of the decision document above. The guidance is clear at paragraph 1.5 that the growth duty does not legitimise non-compliance and its purpose is not to achieve or pursue economic growth at the expense of necessary protections.</p> <p>We consider the requirements and standards we have set in this permit are reasonable and necessary to avoid a risk of an unacceptable level of pollution. This also promotes growth amongst legitimate operators because the standards applied to the operator are consistent across businesses in this sector and have been set to achieve the required legislative standards.</p>

Annex 1: Decision checklist regarding relevant BAT Conclusions

BAT Conclusions for the production of cement, lime and magnesium oxide, were published by the European Commission on 9 April 2013.

BATc No	Summary of BAT Conclusion requirement for production of cement, lime and magnesium oxide	Status	Assessment of the installation capability and any alternative techniques proposed by the operator to demonstrate compliance with the BAT Conclusion requirement
47	<p>In order to reduce the emissions of SO_x from the flue-gases of kiln firing processes, BAT is to use one or a combination of the following techniques:</p> <ul style="list-style-type: none"> Process optimisation to ensure efficient absorption of sulphur dioxide Selecting fuels with a low sulphur content Using absorbent additional technique (<i>absorbent addition, dry flue-gas cleaning with a filter, wet scrubber, or activated carbon injection</i>) <p>BAT-AEL is 400 mg/Nm³</p>	Not Compliant	<p>Emissions of SO_x from the kilns are above the BAT-AEL of <50-400 mg/Nm³ due to the production of Sintered Dolime, for which:-</p> <ul style="list-style-type: none"> Sintering cannot take place within a vertical kiln (typical lime kiln type) and instead utilises a long rotary kiln (akin to cement production). Sintering temperatures required (and kiln residence time) are significantly higher than that of normal lime production. For production of Dolofrit the temperature reaches excess of 1600°C and for Dolopel 2100°C. To achieve these temperatures a range of fuels (coal, petcoke, SDF and TDF) are used. These fuels contain sulphur. Low sulphur natural gas cannot be utilised Trials (during the initial derogation period) have investigated <i>absorbent addition techniques, and alternative fuels</i>. This decision recognises that the trials have proved unsuccessful and amends the scope to “the intended remaining operational lifetime of the part of the installation giving rise to the emission’ ceasing by 31/12/2024. <p>The derogation request has been considered in detail by the EA and accepted.</p> <ul style="list-style-type: none"> The current ELV of 1200 mg/Nm³ (with waste fuels) / 1530 mg/Nm³ (without waste fuels) will be retained until then end of the Derogation period, and following this date, the BAT-AEL will apply. <p>For details, refer Annex 2: Assessment, determination and decision where an application for Derogation from BAT Conclusions with achievable emission levels (AEL) has been requested.</p>
51	In order to reduce the emissions of HCl (and the emissions of HF) from the flue-gas of kiln		The reduction in HCl is closely linked to the reduction in SO ₂ - the end method to be adopted by the business would be aimed at reducing both emissions simultaneously.

BATc No	Summary of BAT Conclusion requirement for production of cement, lime and magnesium oxide	Status	Assessment of the installation capability and any alternative techniques proposed by the operator to demonstrate compliance with the BAT Conclusion requirement
	<p>firing processes, when using waste, BAT is to use the following primary techniques:</p> <ul style="list-style-type: none"> • Use conventional fuels with a low chlorine and fluorine content • Limit the amount of chlorine and fluorine content for any waste that is to be used as fuel in a lime kiln <p>BAT-AEL is 10 mg/Nm</p>		<p>The dolomitic limestone feed stone has a natural level of chlorides and when burning coal only gives an HCl emission greater than 10mg/Nm³.</p> <p>Due to the chloride within the feed stone it is not technically possible for the kilns to achieve the HCl BAT emission limit and due to the geographical location of the plant there is currently no other feed stone option available.</p> <p>In 2019 the average level of Chloride within the feed stone was 335 mg/kg. The Lhoist process at Whitwell is limited geographically to the supply of feed stone from the current Whitwell quarry.</p> <p>The injection trials have concentrated on the HCl reduction, as the abatement of HCl has a positive impact on the SO₂ emissions.</p>
53	<p>In order to minimise the emissions of metals from the flue-gases of kiln firing processes, BAT is to use one or a combination of the following techniques:</p> <ul style="list-style-type: none"> • Fuel with low content of metals • Using a quality assurance system to guarantee the characteristics of the waste fuels used • Limiting the content of relevant metals in materials, especially mercury • Using one or a combination of dust removal techniques as set out in BATc43 <p>BAT-AEL 0.5mg/Nm³</p>		<p>The Group III metals mainly come from the dolomite feed stone and therefore are part of the natural level of metals within this product. (GrpIII metals content of the feed stone is consistently between 600 – 1200 mg/kg).</p> <p>The dolomite deposit is high in Group III metals and there is no other current source of raw Dolomite feed stone available within the UK.</p>

Annex 2: Assessment, determination and decision where an application(s) for Derogation from BAT Conclusions with associated emission levels (AEL) has been requested.

Industrial Emissions Directive: Article 15(4)

The IED enables a competent authority to allow derogations from BAT AELs stated in BAT Conclusions under specific circumstances as detailed under Article 15(4):

'By way of derogation from paragraph 3, and without prejudice to Article 18, the competent authority may, in specific cases, set less strict emission limit values. Such a derogation may apply only where an assessment shows that the achievement of emission levels associated with the best available techniques (BAT) as described in BAT Conclusions would lead to disproportionately higher costs compared to the environmental benefits due to:

- (a) the geographical location or the local environmental conditions of the installation concerned; or
- (b) the technical characteristics of the installation concerned.

Cost Benefit Analysis

If a derogation is applicable under Article 15(4) of the IED, then Cost Benefit Analysis (CBA) is undertaken. The CBA allows calculation to indicate whether the costs of compliance are greater or less than the environmental benefits.

It essentially groups all the costs on one side, with all the benefits, as far as possible, on the other side. It then includes the effect of time on the value of those costs and benefits in order to produce a Net Present Value (NPV).

This gives an indication of whether those costs are disproportionate or not, but there are many sensitivities in the analysis and many aspects of the environment that cannot yet be monetised.

Where the NPV is positive, this indicates that the cost of compliance with the BAT AEL(s) does not outweigh the environmental benefits.

Where the NPV is negative, this indicates that the costs of compliance with the BAT AEL(s) outweigh the environmental benefits.

Annex to the variation notice/permit

The applicability of Article 15(4), results of our assessment and justification for permit conditions imposed are documented in an annex to the variation notice/permit in accordance with the requirement of IED Article 15(4) as described above.

<p>Derogation request by application EPR/BL3269IH/V008 (returned), replaced by EPR/BL3269IH/V009</p>	<p>Derogation request received by application for variation (not Reg 61 process):-</p> <ul style="list-style-type: none"> • EPR/BL3269IH/V008, submitted 12/07/2019: returned as 'not duly made' • EPR/BL3269IH/V009, submitted 23/12/2019 (duly made date 28 February 2020 (upon receipt of required information).
<p>Details of additional information requested by letter or e-mail:</p>	<ul style="list-style-type: none"> • 05/12/2022 application update as a result of trial progress update information • 25/05/2023 application update as a result of the decision on stone reserves. This has changed the Derogation criteria to the intended remaining operational lifetime of the part of the installation.

BREF:	Best Available Techniques (BAT) Reference Document for the Production of Cement, Lime and Magnesium Oxide
BAT conclusions reference number and date of publication:	2013/163/EU: 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 for the production of cement, lime and magnesium oxide
BAT conclusions compliance date:	Date of implementation: 09/04/2017

Derogation for:-

- i. BATc 47: SOx emissions. BAT-AEL value of < 50 - 400 mg/Nm³.
- ii. BATc 51: HCl emissions. BAT-AEL value of < 10 mg/Nm³
- iii. BATc 53: Group III metals. BAT-AEL value of < 0.5 mg/Nm³

To produce Sintered Dolime high operational temperatures are required resulting in an increased level of sulphur disassociation. This combined with the raw materials available and the current plant layout make it not possible to comply with the BAT-AELs.

As both HCl and group III metals emissions are linked to raw material content, (as is the SO₂) and the solutions proposed for SO₂ reduction will have a direct impact in reducing metals and HCl emissions, they have been considered together.

Since the application for a 2nd Derogation was made, the applicant has notified the Environment Agency that the proposed options (which were continued from the 1st Derogation that involved trials of alternative raw materials and fuels) had not proved successful in achieving consistent compliance with BAT-AELs.

In addition, the applicant stated that the scope for investment in abatement plant (the option proposed in the event that other options proved unsuccessful) was no longer available. This was due to a pending decision on future stone supplies for the Installation, essential to replace local supplies which were almost exhausted. The applicant has now confirmed that other supplies of stone have not been obtained.

As a result of the above, the operator needed to change their Derogation request.

The applicant has now committed to ceasing manufacture of the product subject to Derogation (Sintered Dolime) by 31st December 2024, which is 12 months earlier than the Derogation period for which they applied.

Revised Derogation criteria: The intended remaining operational lifetime of the part of the installation that gives rise to the emission of the pollutant(s), where the operator is prepared to commit to a timetable for closure. The applicant has now committed to ceasing manufacture of the product subject to Derogation (Sintered Dolime) by 31st December 2024.

Duration of derogation: Until 31st December 2024.

During this period production rates will be reduced in order to extend the lifetime of current reserves by 1 year and to also facilitate management of resourcing within the Installation. After 31st December 2024 the operator will cease the production of **Sintered Dolime (Dolofrit)** which is the product subject to Derogation.

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Annex 3: Consultation

The following summarises the responses to consultation with other organisations, our notice on GOV.UK for the public, newspaper advertising, and the way in which we have considered these in the determination process.

Responses from organisations listed in the consultation section

Response received from
Public Health England
Brief summary of issues raised
<p>The applicant has already been granted one derogation period in which to bring the process into compliance with CLMBREF/BAT. PHE considers that all permit holders should take all appropriate measures to prevent or control pollution, in accordance with the relevant sector guidance and industry best practice. We do not generally favour the routine extension of derogations without good cause.</p> <p>However, in this case it is clear that the applicant is attempting to bring the process into compliance but has a number of problems with the availability of fuels, temperature of the process and nature of the feed materials.</p> <p>The applicant has submitted an air quality impact assessment which includes an evaluation of the likely emissions and model's likely exposures of sensitive receptors. PHE has assessed this submission and notes that whilst the extended derogation will result in increased release of Group III metals, Sulphur Dioxide and Hydrogen Chloride over the levels specified in CLMBREF/BAT, these releases are not predicted to have any significant impact on either local air quality or on the likely exposure levels of local residents.</p> <p>On this basis PHE does not wish to raise any objection to the Environment Agency granting derogation</p>
Summary of actions taken or show how this has been covered
N/A

No further responses received from other consultees (as previously listed).