

Natural Resources Wales permitting decision document - recording our decision-making process

Review of an Environmental Permit under the Environmental Permitting (England & Wales) Regulations 2010 (“EPR”)

We have decided to vary the Permit for Pont – Y – Felin operated by Knauf Insulation Limited, as a result of a Natural Resources Wales review of the Permit.

The Permit number is EPR/BR8212IK

The Variation notice number is EPR/BR8212IK/V004

This is a decision document, which accompanies a variation notice, it explains:

- **How** we have carried out our statutory review¹ of the Operator's Permit; and
- **Why** we have decided to vary the Permit as a result of that review including why we have included the specific conditions in the revised Permit through the variation notice we have issued.

It is our record of our decision-making process, to show how we have taken into account all relevant factors in reaching our position.

Article 21(3) of the Industrial Emissions Directive (IED) requires Natural Resources Wales to review conditions in permits that it has issued and to ensure that the permit delivers compliance with relevant standards, within four years of the publication of updated decisions on BAT conclusions.

We have reviewed the permit for this installation against the revised BAT Conclusions for the Glass industry sector published on 8th March 2014. This is our decision document, which explains the reasoning for the consolidated variation notice that we are issuing.

It explains how we have reviewed and considered the techniques used by the Operator in the operation and control of the plant and activities of the installation. This review has been undertaken with reference to the decision made by the European Commission establishing best available techniques (BAT) conclusions ('BAT Conclusions') for manufacture of Glass as detailed in document reference 2012/134/EU. It is our record of our decision-making process and shows how we have taken into account all relevant factors in reaching our position. It

¹ Explained further below: see section 2 *The legal framework*.

also provides a justification for the inclusion of any specific conditions in the permit that are in addition to those included in our generic permit template.

As well as considering the review of the operating techniques used by the Operator for the operation of the plant and activities of the installation, the consolidated variation notice takes into account and brings together in a single document all previous variations that relate to the original permit. It also modernises the entire permit to reflect the conditions contained in our current permit template.

The introduction of the new Permit format makes the Permit consistent with other permits issued to installations in this sector. Although the wording of some conditions has changed and others have disappeared because of the new regulatory approach, it does not reduce the level of environmental protection achieved by the Permit in any way. In this document we address only our determination of substantive issues relating to the new BAT Conclusions.

This Variation is considered to be a normal variation because along with the administrative changes i.e. consolidating previous variations and moving to the new template, detailed technical evaluation is required of the Regulation 60 response. As the Variation will not have any negative effects on the environment it is not a substantial variation and so does not require consulting on. An OPRA based charge of £ 3,933 will be invoiced to the Operator.

How this document is structured

- Summary of our decision
- The legal framework
- How we took our decision
- The changes we have made
- Conclusion

1 Our decision

We have issued a Variation, which will allow the Operator to operate the Installation, subject to the conditions in the varied Permit.

The Variation does three things:

- it consolidates the original Permit to reflect changes made through earlier variations;
- it brings the Permit into line with our modern regulatory template; and
- it varies the Permit where appropriate to reflect the outcome of our statutory review and incorporate Best Available Techniques (BAT) and associated Emission Limit Values (ELV's).

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

The original Permit, issued on 30/05/2003 ensured that the Installation employed Best Available Techniques (BAT) and ensured a high level of protection for human health and the environment. We have altered the Permit as a result of the statutory review, and we are confident that the new requirements will deliver a superior level of protection to that which was previously achieved.

2 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, in issuing the Consolidated Variation Notice, it will ensure that the operation of the Installation complies 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.

3 How we reached our decision

Requesting information to demonstrate compliance with BAT Conclusion techniques

We issued a Notice under Regulation 60(1) of the Environmental Permitting (England and Wales) Regulations 2010 (a Regulation 60 Notice) on 31st May 2014 requiring the Operator to provide information to demonstrate how the operation of their installation currently meets, or will subsequently meet, the revised standards described in the relevant BAT Conclusions document.

The Notice also required that where the revised standards are not currently met, the operator should provide information that

- Describes the techniques that will be implemented before 08/03/2016, which will then ensure that operations meet the revised standard, or
- Justifies why standards will not be met by 08/03/16, and confirmation of the date when the operation of those processes will cease within the installation or an explanation of why the revised BAT standard is not applicable to those processes, or
- Justifies why an alternative technique will achieve the same level of environmental protection equivalent to the revised standard described in the BAT Conclusions.

Where the Operator proposed that they were not intending to meet a BAT standard that also included a BAT Associated Emission Level (BAT AEL) described in the BAT Conclusions Document, the Regulation 60 Notice requested that the Operator make a formal request for derogation from compliance with that AEL (as provisioned by Article 15(4) of IED). In this circumstance, the Notice identified that any such request for derogation must be supported and justified by sufficient technical and commercial information that would enable us to determine acceptability of the derogation request.

The Regulation 60 Notice response from the Operator was received on 5th September 2014.

We considered that the response contained sufficient information for us to commence determination of the permit review. The Operator made no claim for commercial confidentiality. We have not received any information in relation to the Regulation 60 Notice response that appears to be confidential in relation to any party.

2.2 Review of our own information in respect to the capability of the installation to meet revised standards included in the BAT Conclusions document

Based on our records and previous experience in the regulation of the installation we consider that the operator will be able to comply with the techniques and standards described in the BAT Conclusions. However, we have included Improvement Conditions IC1-IC4 in the

Consolidated Variation Notice, which requires them to upgrade their operational techniques so that the requirements of the BAT Conclusion are fully delivered.

4 Decision checklist regarding relevant BAT Conclusions

BAT Conclusions for the Manufacturing of Glass, were published by the European Commission on 8th March 2012. There are 76 BAT Conclusions. This annex provides a record of decisions made in relation to each relevant BAT Conclusion applicable to the installation. This annex should be read in conjunction with the Consolidated Variation Notice.

All BAT Conclusions arising are listed by number in order below.

BAT Conclusion No	Summary of BAT Conclusion requirement	Page number in Operators Regulation 60 Response	Status One of the following: Not Applicable Currently Compliant Compliant in the future (within 4 years of publication of BAT conclusions) Not Compliant
	General BAT		
1	BAT is to implement and adhere to an environmental management system (EMS).		Currently Compliant
2	BAT is to reduce the specific energy consumption by using one or a combination of techniques		Currently Compliant for all with exception of: • 2(iii) – Optimisation of the furnace design and the selection of the melting technique, which will be compliant in the future (within 4 years of publication of BAT conclusions). • 2(vi) Use of a waste heat boiler for energy recovery, where technically and economically viable. Not Applicable. • 2(vii) Use of batch and cullet preheating, where technically and economically viable. Not applicable
3	BAT is to prevent, or where that is not practicable, to reduce diffuse dust emissions from the storage and handling of solid materials by using one or a combination techniques:		Currently Compliant for all with exception of: • 3(i) handling of raw materials technique for materials which are transported by above ground, use enclosed conveyers to prevent material loss. Not Applicable as not used on site. • 3(iii) handling of raw materials technique for moistening of the batch. Not Applicable as not used on site. • 3(iv) handling of raw materials technique for application of a slightly negative pressure within the furnace. Not Applicable as not used on site.

BAT Conclusion No	Summary of BAT Conclusion requirement	Page number in Operators Regulation 60 Response	Status One of the following: Not Applicable Currently Compliant Compliant in the future (within 4 years of publication of BAT conclusions) Not Compliant
			3(viii) handling of raw materials technique for enclosure of feed pockets. Not Applicable as not used on site.
4	BAT is to prevent, or where that is not practicable, to reduce diffuse gaseous emissions from the storage and handling of volatile raw materials by using one or a combination of techniques:		Currently Compliant for all with exception of: 4(ii) Control of temperature in the storage of volatile raw materials. Not Applicable due to small storage volumes on site. 4 (iii) Tank insulation in the storage of volatile raw materials. Not Applicable due to small storage volumes on site. 4 (v) Use of floating roof tanks in the storage of large quantities of volatile petroleum products. Not Applicable on site. 4(vi) Use of vapour return transfer systems in the transfer of volatile fluids (e.g. from tank trucks to storage tank). Not Applicable on site. 4(vii) Use of bladder roof tanks in the storage of liquid raw materials. Not Applicable on site. 4(viii) Use of pressure/vacuum valves in tanks designed to withstand pressure fluctuations. Not Applicable on site. 4 (x) Application of subsurface filling in the storage of liquids that tend to foam. Not Applicable on site.
5	BAT is to reduce energy consumption and emissions		Currently Compliant

BAT Conclusion No	Summary of BAT Conclusion requirement	Page number in Operators Regulation 60 Response	Status One of the following: Not Applicable Currently Compliant Compliant in the future (within 4 years of publication of BAT conclusions) Not Compliant
	to air by carrying out a constant monitoring of the operational parameters and a programmed maintenance of the melting furnace.		
6	BAT is to carry out a careful selection and control of all substances and raw materials entering the melting furnace in order to reduce or prevent emissions to air by using one or a combination of techniques.		Currently Compliant
7	BAT is to carry out monitoring of emissions and/or other relevant process parameters on a regular basis.		Currently Compliant for all with exception of: (iv) Continuous or regular periodic measurements of NH₃ emissions, when selective catalytic reduction (SCR) or selective non-catalytic reduction (SNCR) techniques are applied. Not Applicable on site.
8	BAT is to operate the waste gas treatment systems during normal operating conditions at optimal capacity and availability in order to prevent or reduce emissions		Currently Compliant for all. Improvement Condition 2 further re-enforces this by requiring the operator to submit a written report defining the parameters of normal operating conditions for each plant item for which BAT AEL's apply, for approval by Natural Resources Wales.
9	BAT is to limit carbon monoxide (CO) emissions from the melting furnace, when applying primary techniques or chemical reduction by fuel, for the reduction of NOX emissions		Currently Compliant. Table 3 BAT-AELs for carbon monoxide emissions from melting furnaces – Not Applicable to Oxy/fuel furnaces, therefore BAT AEL of < 100 mg/Nm ³ does not apply.
10	BAT is to limit ammonia (NH ₃) emissions, when applying		Not Applicable on site.

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	selective catalytic reduction (SCR) or selective non-catalytic reduction (SNCR) techniques for a high efficiency NOX emissions reduction		
11	BAT is to reduce boron emissions from the melting furnace, when boron compounds are used in the batch formulation, by using one or a combination of techniques		Currently Compliant for all with exception of: - Monitoring - The monitoring of boron emissions should be carried out according to a specific methodology which allows measurement of both solid and gaseous forms and to determine the effective removal of these species from the flue gases. The site will be compliant in the future (within 4 years of publication of BAT conclusions). - Technique (1) (1) A description of the techniques is given in Sections 1.10.1, 1.10.4 and 1.10.6. (iii) Use of wet scrubbing – Not Applicable at the site.
12	BAT is to reduce water consumption by using one or a combination of techniques		Currently Compliant
13	BAT is to reduce the emission load of pollutants in the waste water discharges by using one or a combination of waste water treatment systems		Currently Compliant for all with exception of: 13(ii) Biological treatment systems, such as activated sludge, bio filtration to remove/degrade the organic compounds. Not applicable at the site. 13(iv) External reuse of waste waters. Not applicable at site as no re-use of external waters.

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			Table 5 BAT-AELs for waste water discharges to surface waters from the manufacture of glass. Not applicable at the site as there is no discharge of waste water to surface water.
14	BAT is to reduce the production of solid waste to be disposed of by using one or a combination of techniques		Currently Compliant for all with exception of: 14 (v) Valorisation of solid waste and/or sludge through appropriate use on-site (e.g. sludge from water treatment) or in other industries. Not Applicable, however some of the reject final product waste is sent as a by-product for the manufacture of ceiling tiles. Other waste fibre contaminated with plastic is sent to a third part for reprocessing and reuse. 14(vii) Applying cement bonded briquetting of waste for recycling into hot blast cupola furnaces where quality requirements allow for it. Not applicable on site.
15	BAT is to reduce noise emissions by using one or a combination of techniques		Currently Compliant
	BAT Conclusions for container glass manufacturing – not applicable (16-23)		
	BAT Conclusions for flat glass manufacturing – not applicable (24 – 31)		
	BAT Conclusions for continuous filament glass manufacturing – not applicable (32 – 37)		
	BAT Conclusions for domestic glass manufacturing – not applicable (38 – 47)		
	BAT Conclusions for special glass manufacturing – not applicable (48 – 55)		
	BAT Conclusions for mineral wool manufacturing		

BAT Conclusion No	Summary of BAT Conclusion requirement	Page number in Operators Regulation 60 Response	Status One of the following: Not Applicable Currently Compliant Compliant in the future (within 4 years of publication of BAT conclusions) Not Compliant
56	BAT is to reduce dust emissions from the waste gases of the melting furnace by applying an electrostatic precipitator or a bag filter system		Currently Compliant.
57	BAT is to reduce NOX emissions from the melting furnace by using one or a combination of the following technique		Majority of this section is not applicable to the site as they use an oxy-fuel furnace. The following are applicable: • (f) Fuel choice • (ii) Electric melting • (iii) Oxy-fuel melting • Table 47 BAT-AELs for NO X emissions from the melting furnace in the mineral wool sector Parameter - NO X expressed as NO 2 The site is currently compliant for these applicable sections.
58	When nitrates are used in the batch formulation for glass wool production, BAT is to reduce NOX emissions by using one or a combination of techniques:		Not applicable as addition of nitrates is not used in batch formulations on site.
59	BAT is to reduce SOX emissions from the melting furnace by using one or a combination of techniques		Currently Compliant for all with exception of: • 59(iv) Use of wet scrubbing • Table 49 BAT-AELs for SOx emissions from the melting furnace in the mineral wool sector - Stone wool gas fired furnaces, cupola furnaces with/ without briquettes or slag recycling Both of the above are Not Applicable as they are not used at the site.

BAT Conclusion No	Summary of BAT Conclusion requirement	Page number in Operators Regulation 60 Response	Status One of the following: Not Applicable Currently Compliant Compliant in the future (within 4 years of publication of BAT conclusions) Not Compliant
60	BAT is to reduce HCl and HF emissions from the melting furnace by using one or a combination of techniques.		Currently Compliant for all with exception of: Table 50, Hydrogen Chloride expressed as HCl – Glass wool. This is Not Applicable to the site.
61	BAT is to reduce H ₂ S emissions from the melting furnace by applying a waste gas incineration system to oxidise hydrogen sulphide to SO ₂		Not applicable at the site.
62	BAT is to reduce metal emissions from the melting furnace by using one or a combination of the following techniques:		Currently Compliant for all with exception of: Table 52 BAT-AELs for metal emissions from the melting furnace in the mineral wool sector Parameter. The site will be compliant in the future (within 4 years of publication of BAT conclusions).
63	BAT is to reduce emissions from downstream processes by using one or a combination of techniques		Currently Compliant for all with exception of: 63 (ii) Wet scrubbers. Not applicable as not used on site. 63(iii) Wet electrostatic precipitators. Not applicable as not used on site. 63(iv) Stone wool filters it consists of a steel or concrete structure in which stone wool slabs are mounted and act as a filter medium. The filtering medium needs to be cleaned or exchanged periodically. This filter is suitable for waste gases with a high moisture content and particulate matter with an adhesive nature. Not

BAT Conclusion No	Summary of BAT Conclusion requirement	Page number in Operators Regulation 60 Response	Status One of the following: Not Applicable Currently Compliant Compliant in the future (within 4 years of publication of BAT conclusions) Not Compliant
			applicable as not used on site. 63(v) Waste gas. Incineration. Not applicable as not used on site. - Table 53 BAT-AELs for air emissions from downstream processes in the mineral wool sector, when treated separately Parameter - Amines <3 mg/Nm³. Not currently required to be monitored, however, the site will be compliant in the future (within 4 years of publication of BAT conclusions). - Curing oven emissions (1) (2) - No separate release point at Knauf Cwmbran therefore not applicable to the site.
	BAT Conclusions for high temperature insulation wool (HTIW) manufacturing – not applicable (64 – 70)		
	BAT Conclusions for Frits manufacturing – not applicable (71 – 76)		

5 Conclusion

The Sector Review provides the opportunity to consolidate and modernise the Permit. We believe this Variation provides a sound basis for ongoing regulation of the Installation and we are satisfied that the operator is currently achieving or will be achieving all relevant BAT by the 08 March 2016.

We believe that we have ensured compliance with all relevant legal requirements in carrying out this review and making our determination on the Variation.