Review of an Environmental Permit for an Installation subject to Chapter II of the Industrial Emissions Directive under the Environmental Permitting (England & Wales) Regulations 2016 (as amended)

Decision document recording our decision-making process following review of a permit

The Permit number is:	EPR/CP3130AC
The Operator is:	Aston Manor Limited
The Installation is:	Stourport Cider Mill
This Variation Notice number is:	EPR/CP3130AC/V006

What this document is about

Article 21(3) of the Industrial Emissions Directive (IED) requires the Environment Agency 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 by the European Commission of updated decisions on best available techniques (BAT) Conclusions.

We have reviewed the permit for this installation against the BAT Conclusions for the Food, Drink and Milk Industries published on 4th December 2019 in the Official Journal of the European Union. In this decision document, we set out the reasoning for the consolidated variation notice that we have issued.

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

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 issue. Where this has not already been done, it also modernises the entire permit to reflect the conditions contained in our current generic permit template.

The introduction of new template conditions makes the Permit consistent with our current general approach and with other permits issued to Installations in this sector. Although the wording of some conditions has changed, while others have been deleted 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 therefore address only our determination of substantive issues relating to the new BAT Conclusions.

We try to explain our decision as accurately, comprehensively and plainly as possible. Achieving all three objectives is not always easy, and we would welcome any feedback as to how we might improve our decision documents in future.

How this document is structured

1. Our decision
2. How we reached our decision
3. The legal framework
4. Annex 1 – Review of operating techniques within the Installation against BAT Conclusions.
5. Annex 2 – Review and assessment of changes that are not part of the BAT Conclusions derived permit review
6. Annex 3 – Improvement Conditions

1 Our decision

We have decided to issue the Variation Notice to the Operator. This will allow the Operator to continue to operate the Installation, subject to the conditions in the Consolidated Variation Notice that updates the whole permit.

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.

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 decision

2.1 Requesting information to demonstrate compliance with BAT Conclusion techniques

We issued a Notice under Regulation 61(1) of the Environmental Permitting (England and Wales) Regulations 2016 (a Regulation 61 Notice) on 09/11/2021 requiring the Operator to provide information to demonstrate where the operation of their installation currently meets, or how it will subsequently meet, the revised standards described in the relevant BAT Conclusions document.

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

- describes the techniques that will be implemented before 4 December 2023, which will then ensure that operations meet the revised standards, or
- justifies why standards will not be met by 4 December 2023, and confirmation of the date when the operation of those processes will cease within the Installation or an explanation of why the revised BAT standards are not applicable to those processes, or
- justifies why an alternative technique will achieve the same level of environmental protection equivalent to the revised BAT standards 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 61 Notice required that the Operator make a formal request for derogation from compliance with that BAT-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 61 Notice response from the Operator was received on 11/03/2022.

We considered it was in the correct form and contained sufficient information for us to begin our determination of the permit review but not that it necessarily contained all the information we would need to complete that determination.

The Operator made no claim for commercial confidentiality. We have not received any information in relation to the Regulation 61 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 other than for those techniques and requirements described in BAT Conclusion 1, 2, 3, 6, 9, 11, 14, 18, 19, BAT-EPL for energy consumption, and BAT-EPL for wastewater discharge. The Operator does not currently comply with the requirements of these BAT Conclusions. In relation to these BAT Conclusions, we do not fully agree with the Operator in respect of their current stated capability as recorded in their response to the Regulation 61 Notice. We have therefore included Improvement Conditions IC4, IC5, IC6, IC7, IC8, IC9, IC10 and IC11 in the Consolidated Variation Notice to ensure that the requirements of the BAT Conclusions are delivered within 3 months of the variation being issued.

2.3 Requests for further information during determination

Although we were able to consider the Regulation 61 Notice response generally satisfactory at receipt, we did in fact need more information in order to complete our permit review assessment, and issued further information request on 08/02/2024 concerning BATcs 1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 33, water emissions, MCPs capacity, RHS, CCA, CO_2 generation, air emission points. A copy of the further information request was placed on our public register.

3 The legal framework

The Consolidated Variation Notice will be issued under Regulations 18 and 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.

Annex 1: decision checklist regarding relevant BAT Conclusions

BAT Conclusions for the Food, Drink and Milk Industries, were published by the European Commission on 4 December 2019.

There are 37 BAT Conclusions.

BAT 1 – 15 are General BAT Conclusions (Narrative BAT) applicable to all relevant Food, Drink and Milk Installations in scope.

BAT 16 – 37 are sector-specific BAT Conclusions, including Best Available Techniques Associated Emissions Levels (BAT-AELs) and Associated Environmental Performance Levels (BAT-AEPLs):

BAT 16 & 17	BAT Conclusions for Animal Feed
BAT 18 – 20	BAT Conclusions for Brewing
BAT 21 – 23	BAT Conclusions for Dairies
BAT 24	BAT Conclusions for Ethanol Production
BAT 25 & 26	BAT Conclusions for Fish and Shellfish Processing
BAT 27	BAT Conclusions for Fruit and Vegetable Processing
BAT 28	BAT Conclusions for Grain Milling
BAT 29	BAT Conclusions for Meat Processing
BAT 30 – 32	BAT Conclusions for Oilseed Processing and Vegetable Oil Refining
BAT 33	BAT Conclusions for Soft Drinks and Nectar/Fruit Juice Processed from Fruit and Vegetables
BAT 34	BAT Conclusions for Starch Production
BAT 35 – 37	BAT Conclusions for Sugar Manufacturing

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.

The overall status of compliance with the BAT conclusion is indicated in the table as:

NA – Not Applicable
CC – Currently Compliant
FC – Compliant in the future (within 4 years of publication of BAT Conclusions)
NC – Not Compliant

BATC No.	Summary of BAT Conclusion requirement for Food, Drink and Milk Industries	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the Operator to demonstrate compliance with the BAT Conclusion requirement
GENERAL BAT CONCLUSIONS (BAT 1-15)			
1	**Environmental Management System - Improve overall environmental performance.** Implement an EMS that incorporates all the features as described within BATc 1.	**FC**	The Operator has provided information to support compliance with BATc 1. We have assessed the information provided and we are not satisfied that the Operator has demonstrated compliance with BATc 1. **Studying the Reg.61 and RFI responses, we could not determine if the Operator is compliant with this BATc, and how compliance is achieved.** **The Operator stated that it has a BRC accreditation (British Retail Consortium) which goes beyond the requirements of BATc 1. However, we do not agree that a BRC accreditation can replace an environmental management system (EMS) therefore, we consider that compliance with BATc 1 is not achieved.** We consider that the Operator will be future compliant with BATc 1. Improvement condition IC4 has been included in the permit to achieve compliance (see Annex 3).
2	**EMS Inventory of inputs & outputs. Increase resource efficiency and reduce emissions.** Establish, maintain and regularly review (including when a significant change occurs) an inventory of water, energy and raw materials consumption as well as of waste water and waste gas streams, as part of the environmental management system (see BAT 1), that incorporates all of the features as detailed within the BATCs.	**FC**	The Operator has provided information to support compliance with BATc 2. We have assessed the information provided and we are not satisfied that the Operator has demonstrated compliance with BATc 2. **Studying the Reg.61 and RFI responses, we could not determine if the Operator is compliant with this BATc, and how compliance is achieved.**

BATC No.	Summary of BAT Conclusion requirement for Food, Drink and Milk Industries	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the Operator to demonstrate compliance with the BAT Conclusion requirement
			The Operator stated that it has a BRC accreditation (British Retail Consortium) which goes beyond the requirements of BATc 2. However, we do not agree that a BRC accreditation can replace an environmental management system (EMS) therefore, we consider that compliance with BATc 2 is not achieved. We consider that the Operator will be future compliant with BATc 2. Improvement condition IC4 has been included in the permit to achieve compliance (see Annex 3).
3	**Monitoring key process parameters at key locations for emissions to water.** For relevant emissions to water as identified by the inventory of waste water streams (see BAT 2), BAT is to monitor key process parameters (e.g. continuous monitoring of waste water flow, pH and temperature) at key locations (e.g. at the inlet and/or outlet of the pre-treatment, at the inlet to the final treatment, at the point where the emission leaves the installation).	**FC**	The Operator has provided information to support compliance with BATc 3. We have assessed the information provided and we are not satisfied that the Operator has demonstrated compliance with BATc 3. **The Operator declared that this BATc is not applicable because they do not have discharges to water. However, BATc 3 is considering also indirect discharges to water via sewer emissions. The Operator must monitor the effluent before this leaves the site therefore, BATc 3 is applicable.** We consider that the Operator will be future compliant with BATc 3. Improvement condition IC4 has been included in the permit to achieve compliance (see Annex 3).
4	**Monitoring emissions to water to the required frequencies and standards.** BAT is to monitor emissions to water with at least the frequency given [refer to BAT 4 table in BATc] and in accordance with EN standards. If EN standards are	**NA**	We are satisfied that BATc 4 in not applicable to this installation.

BATC No.	Summary of BAT Conclusion requirement for Food, Drink and Milk Industries	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the Operator to demonstrate compliance with the BAT Conclusion requirement
	not available, BAT is to use ISO, national or other international standards that ensure the provision of data of an equivalent scientific quality.		This BATc is concerned with discharged of process effluent to surface waters, and this installation discharges only to sewer therefore, BATc 4 is not applicable.
5	**Monitoring channelled emissions to air to the required frequencies and standards.** BAT is to monitor channelled emissions to air with at least the frequency given and in accordance with EN standards.	**NA**	We are satisfied that BATc 5 in not applicable to this installation. This BATc is concerned with monitoring of dust emissions to air from processes such as drying, cooling, or grinding. This installation does not have emissions of particulates and, the Operator declared that none of these processes are used therefore, BATc 5 is not applicable.
6	**Energy Efficiency** In order to increase energy efficiency, BAT is to use an energy efficiency plan (BAT 6a) and an appropriate combination of the common techniques listed in technique 6b within the table in the BATc.	**FC**	The Operator did not provide any information to support compliance with BATc 6 in response to the Regulation 61 Notice dated 09/11/2021. In addition, the RFI email returned with no clear answer, the explanation provided being ' info awaited', while the Reg.61 Response states that compliance will be achieved by 04/12/2023. **As such, we cannot assess if the Operator is compliant or how compliance is achieved in respect to BATc 6(a) and (b).** We consider that the Operator will be future compliant with BATc 6. Improvement condition IC4 has been included in the permit to achieve compliance (see Annex 3).
7	**Water and wastewater minimisation**	**CC**	The Operator has provided information to support compliance with BATc 7. We have assessed the information provided and we are

BATC No.	Summary of BAT Conclusion requirement for Food, Drink and Milk Industries	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the Operator to demonstrate compliance with the BAT Conclusion requirement
	In order to reduce water consumption and the volume of waste water discharged, BAT is to use BAT 7a and one or a combination of the techniques b to k given below. (a) water recycling and/or reuse (b) Optimisation of water flow (c) Optimisation of water nozzles and hoses (d) Segregation of water streams Techniques related to cleaning operations: (e) Dry cleaning (f) Pigging system for pipes (g) High-pressure cleaning (h) Optimisation of chemical dosing and water use in cleaning-in-place (CIP) (i) Low-pressure foam and/or gel cleaning (j) Optimised design and construction of equipment and process areas (k) Cleaning of equipment as soon as possible		satisfied that the Operator has demonstrated compliance with BATc 7. The Operator declared that uncontaminated cooling water or uncontaminated run-off water are segregated from process effluent and reused for cleaning activities. The cleaning-in-place (CIP) system is fully automated, optimising the chemical dosage where needed.
8	**Prevent or reduce the use of harmful substances** In order to prevent or reduce the use of harmful substances, e.g. in cleaning and disinfection, BAT is to use one or a combination of the techniques given below. (a) Proper selection of cleaning chemicals and/or disinfectants (b) Reuse of cleaning chemicals in cleaning-in-place (CIP) (c) Dry cleaning (d) Optimised design and construction of equipment and process areas	**CC**	The Operator has provided information to support compliance with BATc 8. We have assessed the information provided and we are satisfied that the Operator has demonstrated compliance with BATc 8. The Operator declared that the reuse of chemicals in cleaning in place (CIP) is the employed technique used to reduce the use of harmful substances where hygiene and food safety requirements allow.
9	**Refrigerants** In order to prevent emissions of ozone-depleting substances and of substances with a high global warming potential from cooling and freezing, BAT is to use refrigerants without ozone depletion potential and with a low global warming potential.	**FC**	The Operator has provided information to support compliance with BATc 9. We have assessed the information provided and we are not satisfied that the Operator has demonstrated compliance with BATc 9. **The Operator has not provided any information in the Reg.61 Response.**

BATC No.	Summary of BAT Conclusion requirement for Food, Drink and Milk Industries	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the Operator to demonstrate compliance with the BAT Conclusion requirement
			Following the RFI email, the Operator declared that 'F-gas is not used on site'. However, we have asked to see how compliance is achieved, expecting to see a list of refrigerants and associated assets using them – this information has not been provided. Therefore, we do not agree with the Operator's compliance statement having received no information in support of this statement. **Subsequently, site has suffered a refrigerant leak (21 June 2024) of R410a which is an HFC with a GWP of 2088. The report from site (Schedule 5 Notification) can be found on DMS.** We consider that the Operator will be future compliant with BATc 9. Improvement condition IC5 has been included in the permit to achieve compliance (see Annex 3).
10	**Resource efficiency** In order to increase resource efficiency, BAT is to use one or a combination of the techniques given below: (a) Anaerobic digestion (b) Use of residues (c) Separation of residues (d) Recovery and reuse of residues from the pasteuriser (e) Phosphorus recovery as struvite (f) Use of waste water for land spreading	**CC**	The Operator has provided information to support compliance with BATc 10. We have assessed the information provided and we are satisfied that the Operator has demonstrated compliance with BATc 10. The Operator declared that only use of residue technique is used at this installation, either as animal feed or sent to an anaerobic digestion plant.
11	**Waste water buffer storage** In order to prevent uncontrolled emissions to water, BAT is to provide an appropriate buffer storage capacity for waste water.	**FC**	The Operator has provided information to support compliance with BATc 11. We have assessed the information provided and we are not satisfied that the Operator has demonstrated compliance with BATc 11.

BATC No.	Summary of BAT Conclusion requirement for Food, Drink and Milk Industries	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the Operator to demonstrate compliance with the BAT Conclusion requirement
			The Operator declared that it has sufficient buffer capacity but has not provided the volume therefore, we do not know what the buffer holding capacity is. BATc 11 is applicable and is intended to ensure measures are in place to detect uncontrolled releases into drainage systems (from spills, etc.) and to prevent their discharge off site. We consider that the Operator will be future compliant with BATc 11. Improvement condition IC4 has been included in the permit to achieve compliance (see Annex 3).
12	**Emissions to water – treatment** In order to reduce emissions to water, BAT is to use an appropriate combination of the techniques given below. Preliminary, primary and general treatment (a) Equalisation (b) Neutralisation (c) Physical separate (eg screens, sieves, primary settlement tanks etc) Aerobic and/or anaerobic treatment (secondary treatment) (d) Aerobic and/or anaerobic treatment (eg activated sludge, aerobic lagoon etc) (e) Nitification and/or denitrification (f) Partial nitration - anaerobic ammonium oxidation Phosphorus recovery and/or removal (g) Phosphorus recovery as struvite (h) Precipitation (i) Enhanced biological phosphorus removal Final solids removal (j) Coagulation and flocculation (k) Sedimentation (l) Filtration (eg sand filtration, microfiltration, ultrafiltration)	**FC**	The Operator has provided information to support compliance with BATc 12. We have assessed the information provided and we are not satisfied that the Operator has demonstrated compliance with BATc 12. **The Operator declared that wash waters are stored prior to dispatch to anaerobic digestion plant or sewer.** **However, this does not satisfy the BATc 12 requirement of using an appropriate combination of techniques for the treatment of wastewaters.** We consider that the Operator will be future compliant with BATc 12. Improvement condition IC6 has been included in the permit to achieve compliance (see Annex 3).

<table>
<tr><th>BATC No.</th><th>Summary of BAT Conclusion requirement for Food, Drink and Milk Industries</th><th>Status
NA/ CC / FC / NC</th><th>Assessment of the installation capability and any alternative techniques proposed by the Operator to demonstrate compliance with the BAT Conclusion requirement</th></tr>
<tr><td></td><td>(m) Flotation</td><td></td><td></td></tr>
<tr><td>12</td><td>Emissions to water – treatment
BAT-associated emission levels (BAT-AELs) for direct emissions to a receiving water body

<table><tr><th>Parameter</th><th>BAT-AEL ([15]) ([16]) (daily average)</th></tr><tr><td>Chemical oxygen demand (COD) ([17]) ([18])</td><td>25-100 mg/l ([19])</td></tr><tr><td>Total suspended solids (TSS)</td><td>4-50 mg/l ([20])</td></tr><tr><td>Total nitrogen (TN)</td><td>2-20 mg/l ([21]) ([22])</td></tr><tr><td>Total phosphorus (TP)</td><td>0,2-2 mg/l ([23])</td></tr></table>(16) The BAT-AELs may not apply to the production of citric acid or yeast
(17) No BAT-AEL applies for biochemical oxygen demand (BOD). As an indication, the yearly average BOD5 level in the effluent from a biological waste water treatment plant will generally be ≤ 20 mg/l.
(18) The BAT-AEL for COD may be replaced by a BAT-AEL for TOC. The correlation between COD and TOC is determined on a case-by-case basis. The BAT-AEL for TOC is the preferred option because TOC monitoring does not rely on the use of very toxic compounds.
(20) The lower end of the range is typically achieved when using filtration (e.g. sand filtration, microfiltration, membrane bioreactor), while the upper end of the range is typically achieved when using sedimentation only.
(21) The upper end of the range is 30 mg/l as a daily average only if the abatement efficiency is ≥ 80 % as a yearly average or as an average over the production period.
(22) The BAT-AEL may not apply when the temperature of the waste water is low (e.g. below 12 °C) for prolonged periods.</td><td>NA</td><td>We are satisfied that BAT-AELs are not applicable to this installation.

Thid BATc is concerned with emission limits applicable to process effluent discharges to controlled waters, and this site does not have such discharges, all effluent being discharged to sewer.</td></tr>
<tr><td>13</td><td>Noise management plan
In order to prevent or, where that is not practicable, to reduce noise emissions, BAT is to set up, implement and regularly review a noise management plan, as part of the environmental management system (see BAT 1), that includes all of the following elements:
- a protocol containing actions and timelines;
- a protocol for conducting noise emissions monitoring;
- a protocol for response to identified noise events, eg complaints;</td><td>NA</td><td>We are satisfied that BATc 13 is not applicable to this Installation.
A noise management plan is only required where noise nuisance at sensitive receptors is expected or has been substantiated. There have been no substantiated noise nuisance from the site therefore an NMP is not a requirement for this site.</td></tr>
</table>

BATC No.	Summary of BAT Conclusion requirement for Food, Drink and Milk Industries	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the Operator to demonstrate compliance with the BAT Conclusion requirement
	- a noise reduction programme designed to identify the source(s), to measure/estimate noise and vibration exposure, to characterise the contributions of the sources and to implement prevention and/or reduction measures.		
14	**Noise management** In order to prevent or, where that is not practicable, to reduce noise emissions, BAT is to use one or a combination of the techniques given below. (a) Appropriate location of equipment and buildings (b) Operational measures (c) Low-noise equipment (d) Noise control equipment (e) Noise abatement	**FC**	The Operator has provided information to support compliance with BATc 14. We have assessed the information provided and we are not satisfied that the Operator has demonstrated compliance with BATc 14. **The Operator declare in the Reg.61 Response that BATc 14 is not applicable, and that 'all processing is carried out within the building' in the RFI reply. However, the RFI answer does not satisfy this BATc requirements as it is expected that most/all processes to take place indoors already.** We consider that the Operator will be future compliant with BATc 14. Improvement condition IC4 has been included in the permit to achieve compliance (see Annex 3).
15	**Odour Management** In order to prevent or, where that is not practicable, to reduce odour emissions, BAT is to set up, implement and regularly review an odour management plan, as part of the environmental management system (see BAT 1), that includes all of the following elements: - a protocol containing actions and timelines; - a protocol for conducting odour monitoring. - a protocol for response to identified odour incidents eg complaints; - an odour prevention and reduction programme designed to identify the source(s); to measure/estimate odour exposure: to characterise the contributions of the sources; and to implement prevention and/or reduction measures.	**NA**	We are satisfied that BATc 15 is not applicable to this Installation. An odour management plan is only required where odour nuisance at sensitive receptors is expected or has been substantiated. There have been no substantiated odour nuisance from the site recently, therefore BATc 15 is not applicable.
BREWING BAT CONCLUSIONS (BAT 18 – 20)			
18	**Energy efficiency – Brewing Sector (applicable to cider installations)**	**FC**	The Operator did not provide any information to support compliance with BATc 18 in

<table>
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<tr><td></td><td>In order to increase energy efficiency, BAT is to use an appropriate combination of the techniques specified in BAT 6 and of the techniques given below.

<table><tr><th colspan="2">Technique</th><th>Description</th><th>Applicability</th></tr><tr><td>(a)</td><td>Mashing-in at higher temperatures</td><td>The mashing-in of the grain is carried out at temperatures of approximately 60 °C, which reduces the use of cold water.</td><td rowspan="3">May not be applicable due to the product specifications.</td></tr><tr><td>(b)</td><td>Decrease of the evaporation rate during wort boiling</td><td>The evaporation rate can be reduced from 10 % down to approximately 4 % per hour (e.g. by two-phase boiling systems, dynamic low-pressure boiling).</td></tr><tr><td>(c)</td><td>Increase of the degree of high-gravity brewing</td><td>Production of concentrated wort, which reduces its volume and thereby saves energy.</td></tr></table>
Applicable in addition to BAT6</td><td></td><td>response to the Regulation 61 Notice dated 09/11/2021.

The Operator declared that this BATc is not applicable because this is not a brewing installation. However, the UK Sector Specific Interpretation Guidance on the Food Drink and Milk Industries (FDM) Best Available Techniques (BAT) Conclusions document shows that BATc 18 is applicable to cider production also therefore, BATc 18 is applicable to this installation.

We consider that the Operator will be future compliant with BATc 18. Improvement condition IC4 has been included in the permit to achieve compliance (see Annex 3).</td></tr>
<tr><td>19</td><td>In order to reduce the quantity of waste sent for disposal, BAT is to use one or a combination of the techniques given below.

<table><tr><th colspan="2">Technique</th><th>Description</th></tr><tr><td>(a)</td><td>Recovery and (re)use of yeast after fermentation</td><td>After fermentation, yeast is collected and can be partially reused in the fermentation process and/or may be further used for multiple purposes, e.g. as animal feed, in the pharmaceutical industry, as a food ingredient, in an anaerobic waste water treatment plant for biogas production.</td></tr><tr><td>(b)</td><td>Recovery and (re)use of natural filter material</td><td>After chemical, enzymatic or thermal treatment, natural filter material (e.g. diatomaceous earth) may be partially reused in the filtration process. Natural filter material can also be used, e.g. as a soil improver.</td></tr></table></td><td>FC</td><td>The Operator did not provide any information to support compliance with BATc 18 in response to the Regulation 61 Notice dated 09/11/2021.

The Operator declared that BATc 19 is not applicable because this is not a brewing installation. However, the UK Sector Specific Interpretation Guidance on the Food Drink and Milk Industries (FDM) Best Available Techniques (BAT) Conclusions document shows that BATc 19 is applicable to cider production also therefore, BATc 19 is applicable to this installation.

We consider that the Operator will be future compliant with BATc 19. Improvement</td></tr>
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<table>
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NA/ CC / FC / NC</th><th>Assessment of the installation capability and any alternative techniques proposed by the Operator to demonstrate compliance with the BAT Conclusion requirement</th></tr>
<tr><td></td><td></td><td></td><td>condition IC4 has been included in the permit to achieve compliance (see Annex 3).</td></tr>
<tr><td>20</td><td>In order to reduce channelled dust emissions to air, BAT is to use a bag filter or both a cyclone and a bag filter.</td><td>NA</td><td>We are satisfied that BATc 20 is not applicable to this installation.
This BATc is concerned with abatement methods for emissions of dust, and this site does not have any such emissions therefore, BATc 20 is not applicable.</td></tr>
<tr><td>20</td><td>BAT-associated emission level (BAT-AEL) for channelled dust emissions to air from handling and processing of malt and adjuncts
<table>
<tr><td rowspan="2">Parameter</td><td rowspan="2">Description</td><td colspan="2">BAT-AEL (average over the sampling period)</td></tr>
<tr><td>New plants</td><td>Existing plants</td></tr>
<tr><td>Dust</td><td>mg/Nm^3</td><td><2 – 5</td><td><2 – 10</td></tr>
</table>
The associated monitoring is given in BAT 5.</td><td>NA</td><td>We are satisfied that BATc 20 AEL for channelled dust emissions to air is not applicable to this installation.

This BAT-AEL is applicable to installations where there are emissions of dust from processes, and this site does not have such emissions therefore, this BAT-AEL is not applicable.</td></tr>
<tr><td colspan="2">Brewing Sector Environmental Performance Levels</td><td></td><td></td></tr>
</table>

<table>
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<tr><td>EPL</td><td>Environmental Performance Level – Energy consumption for the brewing sector
<table><tr><td>Unit</td><td>Specific energy consumption (yearly average)</td></tr><tr><td>MWh/hl of products</td><td>0.02 – 0.05</td></tr></table></td><td>FC</td><td>The Operator did not provide any information to support compliance with BATc 20EPL for energy consumption in response to the Regulation 61 Notice dated 09/11/2021.

The Operator declared that this BAT-EPL for energy consumption is not applicable because this is not a brewing installation. However, the UK Sector Specific Interpretation Guidance on the Food Drink and Milk Industries (FDM) Best Available Techniques (BAT) Conclusions document shows BATc 20 EPL for energy consumption is applicable to cider production also therefore, BAT-EPL for energy is applicable to this installation.

We consider that the Operator will be future compliant with BATc 20 EPL for energy consumption. Improvement condition IC7 has been included in the permit to achieve compliance (see Annex 3).</td></tr>
</table>

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<tr><th>BATC No.</th><th>Summary of BAT Conclusion requirement for Food, Drink and Milk Industries</th><th>Status
NA/ CC / FC / NC</th><th>Assessment of the installation capability and any alternative techniques proposed by the Operator to demonstrate compliance with the BAT Conclusion requirement</th></tr>
<tr><td>EPL</td><td>Environmental Performance Level – Specific waste water discharge for the brewing sector
<table><tr><td>Unit</td><td>Specific waste water discharge (yearly average)</td></tr><tr><td>m^3/hl of products</td><td>0.15 – 0.50</td></tr></table></td><td>FC</td><td>The Operator did not provide any information to support compliance with BATc 20 EPL for wastewater discharge in response to the Regulation 61 Notice dated 09/11/2021.

The Operator declared that this BAT-EPL for wastewater discharge is not applicable because this is not a brewing installation. However, the UK Sector Specific Interpretation Guidance on the Food Drink and Milk Industries (FDM) Best Available Techniques (BAT) Conclusions document shows that BAT-EPL for wastewater discharge is applicable to cider production also therefore, BATc 20 EPL for wastewater discharge is applicable to this installation.

We consider that the Operator will be future compliant with BATc 20 EPL for wastewater discharge. Improvement condition IC8 has been included in the permit to achieve compliance (see Annex 3).</td></tr>
</table>

Annex 2: Review and assessment of changes that are not part of the BAT Conclusions derived permit review

Updating permit during permit review consolidation

- Table S1.1 overhaul
    - Activity Reference (AR) renumbering
    - Updated listed activities
    - Addition of production capacity
    - Directly associated activities (DAAs) standardisation

We have updated permit conditions to those in the current generic permit template as a part of permit consolidation. The conditions will provide the same level of protection as those in the previous permit.

Capacity Threshold

The Environment Agency is looking to draw a “line in the sand” for permitted production capacity; a common understanding between the Operator and regulator for the emissions associated with a (maximum) level of production, whereby the maximum emissions have been demonstrated as causing no significant environmental impact.

We have included a permitted production level (capacity) within table S1.1 of the permit for the section 6.8 listed activity and we need to be confident that the level of emissions associated with this production level have been demonstrated to be acceptable.

The Operator has completed a H1 assessment of emissions for typical figures of production at the time of permitting.

The existing H1 assessment of emissions to water remains valid for the capacity threshold now placed within table S1.1 of the permit.

Emissions to Air

We asked the Operator to list all emission points to air from the installation in the Regulation 61 notice. And to provide a site plan indicating the locations of all air emission points.

The Operator has not provided an up to date air emission plan. As such, we have used in the consolidated permit the site plan shown in the original permit.

Implementing the requirements of the Medium Combustion Plant Directive
Existing small combustion plant (<1MW)

For the existing combustion plant with a rated thermal input less than 1 MW we will not be including any emission limit values or monitoring requirements within the permit, unless any site specific conditions require us to do this.

We asked the Operator to provide information on all combustion plant on site in the Regulation 61 Notice as follows:

- Number of combustion plant (CHP engines, back-up generators, boilers);
- Size of combustion plant – rated thermal input (MWth)
- Date each combustion plant came into operation

Boilers

1. Rated thermal input (MW) of the medium combustion plant.	5.6MWth
2. Type of the medium combustion plant (diesel engine, gas turbine, dual fuel engine, other engine or other medium combustion plant).	Boiler 1 – 0.6 MWth Boiler 2 – 5.0MWth
3. Type and share of fuels used according to the fuel categories laid down in Annex II.	LPG
4. Date of the start of the operation of the medium combustion plant or, where the exact date of the start of the operation is unknown, proof of the fact that the operation started before 20 December 2018.	2016

The Operator has not provided us with the input value for any of the two boilers in the Reg.61 Response or in their reply to our Request for Further Information. As such, we have retained the aggregated capacity showed in the original permit issued on 05/10/2017.

We have reviewed the information provided and we consider that the declared combustion plant, Boiler 2, qualify as “existing” medium combustion plant.

For existing MCP with a rated thermal input of less than or equal to 5 MW, the emission limit values set out in table 1 of Part 1 of Annex II MCPD shall apply from 1 January 2030.

We have included the appropriate emission limit values for existing medium combustion plant as part of this permit review. See Table S3.1 in the permit. We have also included a new condition 3.1.4 within the permit which specifies the monitoring requirements for the combustion plant in accordance with the MCPD.

Emissions to Water and implementing the requirements of the Water Framework Directive

We asked the Operator to provide information on all emissions to water at the installation in the Regulation 61 Notice as follows;

- Identify any effluents which discharge directly to surface or groundwater;
- Provide an assessment of volume and quality, including results of any monitoring data available;
- and for any discharges to water / soakaway whether a recent assessment of the feasibility of connection to sewer has been carried out.

The Operator has previously provided assessments for all emissions to water at the installation. The Operator declares there has been no change to activities and subsequent effluents generated at the installation since this risk assessment was

taken. Consequently, we agree that the original risk assessments remain valid at this time.

Soil & groundwater risk assessment (baseline report)

The IED requires that the Operator of any IED installation using, producing or releasing "relevant hazardous substances" (RHS) shall, having regarded the possibility that they might cause pollution of soil and groundwater, submit a "baseline report" with its permit application. The baseline report is an important reference document in the assessment of contamination that might arise during the operational lifetime of the regulated facility and at cessation of activities. It must enable a quantified comparison to be made between the baseline and the state of the site at surrender.

At the definitive cessation of activities, the Operator has to satisfy us that the necessary measures have been taken so that the site ceases to pose a risk to soil or groundwater, taking into account both the baseline conditions and the site's current or approved future use. To do this, the Operator has to submit a surrender application to us, which we will not grant unless and until we are satisfied that these requirements have been met.

The Operator submitted a site condition report [Report on Ground Investigation No. 131215 dated April 2013] during the original application duly made on 01/06/2015. The site condition report included a report on the baseline conditions as required by Article 22. We reviewed that report and considered that it adequately described the condition of the soil and groundwater at that time.

The Operator submitted a summary report which referenced the site condition report and baseline report as part of the Reg.61 Response submitted on 11/03/2022. We have reviewed the information and we consider that it adequately describes the current condition of the soil and groundwater. Consequently, we are satisfied that the baseline conditions have not changed.

Hazardous Substances

Hazardous substances are those defined in Article 3 of Regulation (EC) No. 1272/2008 on classification, labelling and packaging of substances and mixtures

The Operator has not provided an appropriate risk assessment on the hazardous substances stored and used at the installation.

The Operator is required to submit a risk assessment for the relevant hazardous substances for review to the Environment Agency via improvement condition IC9.

Climate Change Adaptation

The Operator has considered if the site is at risk of impacts from adverse weather (flooding, unavailability of land for land spreading, prolonged dry weather / drought) .

The Operator has identified the installation as likely to be or has been affected by flooding, which we consider to be a severe weather event.

We do not consider the Operator to have submitted a suitable climate change adaptation plan for the installation. We have included an improvement condition into the permit (IC10) to request a climate change adaptation plan is submitted by the Operator for approval from the Environment Agency.

Containment

We asked the Operator via the Regulation 61 Notice to provide details of the each above ground tanks which contain potentially polluting liquids at the site, including tanks associated with the effluent treatment process where appliable.

The Operator provided details of all tanks;

- Tank reference/name
- Contents
- Capacity (litres)
- Location
- Construction material(s) of each tank
- The bunding specification including
    - Whether the tank is bunded
    - If the bund is shared with other tanks
    - The capacity of the bund
    - The bund capacity as % of tank capacity
    - Construction material of the bund
    - Whether the bund has a drain point
    - Whether any pipes penetrate the bund wall
- Details of overfill prevention
- Drainage arrangements outside of bunded areas
- Tank filling/emptying mitigation measures (drips/splashes)
- Leak detection measures
- Details of when last bund integrity test was carried out
- Maintenance measures in place for tank and bund (inspections)
- How the bund is emptied
- Details of tertiary containment

and whether the onsite tanks currently meet the relevant standard in the Ciria "Containment systems for the prevention of pollution (C736)" report.

We reviewed the information provided by the Operator. We are satisfied that the existing tanks and containment measures on site meet the standards set out in CIRIA C736.

Carbon Dioxide Recovery

We asked the Operator as part of the Regulation 61 Notice to confirm whether carbon dioxide (CO_2) is recovered from the fermentation stage of the process. Where this recovery is not currently in place, we asked them to provide a summary of any feasibility study carried out.

CO_2 recovery is a recognised technique to be considered in the determination of BAT as described in Chapter 4.4.4.3 of the FDM BREF. The stated environmental benefits include reduced carbon emissions from the permitted installation.

The economics of on-site recovery at the time of the BREF review was a relevant factor in determining whether CO_2 recovery was included as a specific BAT Conclusion. It was noted at the time that industrial gas suppliers were able to provide CO_2 obtained as a co-product from other sectors, such as during ammonia production, at low cost and as readily available resource.

This situation has now changed in the UK over the last two years, primarily due to energy prices. Ammonia is no longer produced in the UK and the CO_2 supply chain is fragile and dependent on imports. Defra and Department for Business and Trade are keen on diversification of CO_2 supply to increase supply resilience.

The Operator has not provided us with this information.

It is therefore appropriate to include an improvement condition IC11 for breweries and cider mills which have not yet investigated the feasibility of carbon dioxide recovery, to ensure a report of a feasibility study is submitted by the Operator for approval from the Environment Agency.

Techniques are readily available on the commercial market aimed at varying size of breweries from craft to large scale. Several permitted sites already carry out CO_2 recovery and the EA is aware that other breweries are actively considering this.

Annex 3: Improvement Conditions

Based on the information in the Operator's Regulation 61 Notice response and our own records of the capability and performance of the installation at this site, we consider that we need to set improvement conditions so that the outcome of the techniques detailed in the BAT Conclusions are achieved by the installation. These improvement conditions are set out below - justifications for them is provided at the relevant section of the decision document (Annex 1 or Annex 2).

Previous improvement conditions marked as complete in the previous permit.

Superseded Improvement Conditions – Removed from permit as marked as "complete"	
Reference	**Improvement Condition**
IC1	A site closure plan for the installation shall be submitted to the Environment Agency for written approval. The plan should take into account and detail all appropriate management, process recording, reporting and monitoring measures for the satisfactory decommissioning, demolition and remediation of the site (where required) for the satisfactory closure and surrender of the site.
IC2	A report shall be submitted to the Environment Agency for written approval, demonstrating and detailing the assessment of Best Available Techniques (BAT) for dealing with process effluent and which methodology the site will take forward and timescales for implementation. The assessment should take into account water efficiency measures and options for dealing with the resulting process effluent having regard to Sections 2.2 and 2.4 respectively of the Food and Drink Sector Guidance Note IPPC S6.10 and include a timetable for any improvements to the current system. The notification requirements of condition 2.4.2 shall be deemed to have been complied with on submission of the assessment report.
IC3	The Operator shall review the Accident Management Plan for the installation, having regard to Section 2.8 Food and Drink Sector Guidance Note IPPC S6.10. The Accident Management Plan shall include a procedure for the containment and management of firewater and contaminated surface water, detailing the measures taken to ensure the prevention of environmental impacts resulting from the release of contaminated water from the installation to surface water, sewer or groundwater. The Operator shall submit the Accident Management Plan to the Environment Agency for written approval. The notification requirements of condition 2.4.2 shall be deemed to have been complied with on submission of the plan.

The following improvement conditions have added to the permit as a result of the variation.

Improvement programme requirements		
Reference	**Reason for inclusion**	**Justification of deadline**
IC4	The Operator shall submit, for approval by the Environment Agency, a report demonstrating achievement of the 'Narrative' BAT conclusions as identified in the Food, Drink and Milk Bref published on 4 December 2019 where BAT is currently not demonstrated or achieved. The report shall include, but not be limited to, the following: • Methodology applied for achieving BAT • Demonstrating that BAT has been achieved. The report shall address the BAT Conclusions for Food, Drink and Milk Industries with respect to BATc 1, 2, 3, 6, 11, 14, 18, and 19. Refer to BAT Conclusions for a full description of the BAT requirement.	3 months from permit issue
IC5	The Operator shall use refrigerants without ozone depletion potential and with a low global warming potential (GWP) in accordance with BAT 9 from the Food, Drink and Milk Industries BATCs. To demonstrate compliance against BAT 9, the Operator shall produce a plan for the onsite refrigerant system(s) at the installation. The plan is to be assessed by the Environment Agency and shall be incorporated within the existing environmental management system. The plan should include, but not be limited to, the following: • Where practicable, retro filling systems containing high GWP refrigerants e.g. R-404A with lower GWP alternatives as soon as possible. • An action log with timescales, for replacement of end-of-life equipment using refrigerants with the lowest practicable GWP. • Replacement of systems containing HCFCs as soon as possible.	3 months from permit issue
IC6	The Operator shall submit a written report to the Environment Agency for technical assessment and approval on the feasibility of installing effluent treatment and include a review of treatment options available along with their associated benefits.	12 months from the date of permit issue

	Justification is required where no on-site treatment is provided, taking into account the nature of the wastewater and any subsequent off-site treatment. In addition the report needs to consider the appropriate on-site monitoring of the effluent stream prior to disposal. (BAT 3, 4 and 12 Best Available Techniques Reference Document and BAT Conclusions document for the food, drink and milk industry dated December 2019).	
IC7	The Operator shall submit, for approval by the Environment Agency, a report setting out progress to achieving the Environmental Performance Levels (EPLs) for specific energy consumption, where the EPL is not currently achieved. The report shall include, but not be limited to, the following: 1) Methodology for achieving EPL in accordance with general techniques given in section 1.3 of the BAT conclusions 2) Associated targets /timelines for reaching compliance within three months from permit issue, or any other date as agreed in writing by the Environment Agency. The report shall address the BAT Conclusions for Food, Drink and Milk Industries with respect to sections 1.3 and 2.1 of the BAT conclusions. Refer to BAT Conclusions for a full description of the requirements.	3 months from permit issue
IC8	The Operator shall submit, for approval by the Environment Agency, a report setting out progress to achieving the Environmental Performance Levels (EPLs) for specific water consumption, where the EPL is not currently achieved. The report shall include, but not be limited to, the following: 1) Methodology for achieving EPL in accordance with general techniques given in section 1.4 of the BAT conclusions 2) Associated targets /timelines for reaching compliance within three months from permit issue, or any other date as agreed in writing by the Environment Agency. The report shall address the BAT Conclusions for Food, Drink and Milk Industries with respect to sections 1.4 and 2.2 of the BAT conclusions. Refer to BAT Conclusions for a full description of the requirements.	3 months from permit issue
IC9	The Operator shall submit to the Environment Agency for approval a risk assessment considering the possibility of soil and groundwater contamination at the installation where the activity involves the use,	12 months from permit issue or other date agreed in

	production or release of a hazardous substances (as defined in Article 3 of Regulation (EC) No. 1272/2008 on classification, labelling and packaging of substances and mixtures). A stage 1-3 assessment should be completed (as detailed within the EC Commission Guidance 2014/C 136/-3) as follows; Stage 1 – Identify hazardous substance(s) used / stored on site. Stage 2 – Identify if the hazardous substance(s) are capable of causing pollution. If they are capable of causing pollution, they are then termed Relevant Hazardous Substances (RHS). Stage 3 – Identify if pollution prevention measures & drains are fit for purpose in areas where hazardous substances are used / stored. If the outcomes of Stage 3 identifies that pollution of soil / ground water to be possible. The Operator shall produce and submit a monitoring plan to the Environment Agency for approval detailing how the substance(s) will be monitored to demonstrate no pollution. The Operator shall commence monitoring of the RHS within a timescale as agreed by the Environment Agency.	writing with the Environment Agency
IC10	The Operator shall produce a climate change adaptation plan, which will form part of the EMS. The plan shall include, but not be limited to: • Details of how the installation has or could be affected by severe weather; • The scale of the impact of severe weather on the operations within the installation; • An action plan and timetable for any improvements to be made to minimise the impact of severe weather at the installation. The Operator shall implement any necessary improvements to a timetable agreed in writing with the Environment Agency.	12 months from permit issue or other date agreed in writing with the Environment Agency
IC11	The Operator shall submit a report of a feasibility study into recovery of carbon dioxide generated during the fermentation stage. The report shall take into account information provided in Chapter 4.4.4.3 of the Food Drink and Milk Industries BREF and will quantify current emissions of carbon dioxide from the fermenters. Where recovery is feasible, the report shall include timescales for implementation.	18 months from the permit issue