

# **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/QP3334VF  
The Operator is:                         Aston Manor Limited  
The Installation is:                     Aston Manor Brewery  
This Variation Notice number is:   EPR/QP3334VF/V003

### **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 4<sup>th</sup> 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 07/06/2022 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 06/10/2022.

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 Conclusions: BATc 3; BATc 7; BATc 9; BATc 11; BATc 19 and Environmental Performance Level (EPL) – Energy consumption for the soft drinks and nectar/juice made from processed fruit and vegetable sector.

The operator does not currently comply with the requirements of: BATc 3; BATc 7; BATc 9; BATc 11; BATc 19 and EPL – Energy consumption for the soft drinks and nectar/juice made from processed fruit and vegetable sector.

In relation to this/these BAT Conclusion(s), the operator has committed to compliance by 4 December 2023. We have therefore included Improvement Condition(s): IP12; IP15 and IP16 in the Consolidated Variation Notice to ensure that the requirements of the BAT Conclusions are delivered before 4 December 2023.

### 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 requests on 17/10/2023 regarding: daily finished product production capacity, a site specific summary of the Environment Management System, a summary of EMS input and outputs, providing a copy of the Trade Effluent Discharge consent, providing an energy efficiency plan and list of measures already implemented, confirmation of water efficiency measures in place, providing a list of refrigerants on site, measures in place to achieve resource efficiency, waste water buffer storage on site, confirmation of operation of an effluent treatment plant on site, providing a response to BATc 14, confirming if yeast is re-used, confirming the figure provided for energy consumption is for this site, supplying evidence for the figure submitted for specific waste water discharge, providing a response to BATc 33 and providing a response to EPL – Energy consumption for the soft drinks and nectar/juice made from processed fruit and vegetables sector. A copy of the further information requests was placed on our public register.

In addition to the response to our further information request, we received additional information during the determination from the Operator on 10/11/2023 regarding questions about providing an updated site plan, CO<sub>2</sub> recovery feasibility, Trade Effluent Discharge consent; justification for BATc 3 compliance, boiler installation date, RHS Baseline and climate change adaptation plan. We made a copy of this information available to the public in the same way as the response to our information request.

## 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.

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
<b>GENERAL BAT CONCLUSIONS (BAT 1-15)</b>			
1	<p><b>Environmental Management System - Improve overall environmental performance.</b></p> <p>Implement an EMS that incorporates all the features as described within BATc 1.</p>	CC	<p>The operator has provided information to support compliance with BATc 1. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BATc 1.</p> <p>The operator has an EMS which incorporates the features as listed within BATc1. The operator has a gap assessment and action plan in place with the aim of having an EMS fully aligned to ISO14001 by the end of 2024. The EMS is not externally-accredited to the ISO 14001 standard.</p>
2	<p><b>EMS Inventory of inputs &amp; outputs. Increase resource efficiency and reduce emissions.</b></p> <p>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.</p>	CC	<p>The operator has provided information to support compliance with BATc 2. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BATc 2.</p> <p>The Operator declared that it is using:</p> <ul style="list-style-type: none"> <li>• An inventory of water, energy and raw material consumption</li> <li>• Simplified process flow and a description of process integrated techniques</li> <li>• Energy consumption monitoring</li> </ul> <p>Identification of waste generation, resource use and monitoring of waste reduction opportunities. The site holds inventories for water, energy, waste control and raw material consumption. The EMS is under regular review.</p>
3	<p><b>Monitoring key process parameters at key locations for emissions to water.</b></p> <p>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</p>	FC	<p>We consider that the operator will be future compliant with BATc 3. Improvement Programme 12 has been included in the permit to achieve compliance (see Annex 3).</p>

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
	inlet and/or outlet of the pre-treatment, at the inlet to the final treatment, at the point where the emission leaves the installation).		The Operator is monitoring flow, however the operator has not designed or implemented an effluent monitoring programme or provided a justification or narrative for such a monitoring programme.
4	<p><b>Monitoring emissions to water to the required frequencies and standards.</b></p> <p>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 not available, BAT is to use ISO, national or other international standards that ensure the provision of data of an equivalent scientific quality.</p>	CC	<p>The operator has provided information to support compliance with BATc 4. We have assessed the information provided and we are satisfied that the operator demonstrated compliance with BATc4.</p> <p>All discharges of trade effluent are to the foul sewer under consent from Severn Trent Limited.</p>
5	<p><b>Monitoring channelled emissions to air to the required frequencies and standards.</b></p> <p>BAT is to monitor channelled emissions to air with at least the frequency given and in accordance with EN standards.</p>	NA	<p>We are satisfied that BATc 5 is not applicable to this Installation.</p> <p>BATc 5 is only applicable to sites that have dust emissions from the process. The site does not operate relevant processing which would give rise to these emissions.</p>
6	<p><b>Energy Efficiency</b></p> <p>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.</p>	CC	<p>The operator has provided information to support compliance with BATc 6. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BATc 6.</p> <p>The operator is using:</p> <ul style="list-style-type: none"> <li>- Burner regulation and control</li> <li>- Upgrade of motors to VSD where applicable</li> <li>- Heat recovery through heat exchangers on some plant at site</li> <li>- Energy efficient lighting</li> <li>- Process control systems (for fermentation)</li> </ul>

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
			<ul style="list-style-type: none"> <li>- Insulation panels are used; planned further insulation upgrades</li> </ul>
7	<p><b>Water and wastewater minimisation</b></p> <p>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.</p> <ul style="list-style-type: none"> <li>(a) water recycling and/or reuse</li> <li>(b) Optimisation of water flow</li> <li>(c) Optimisation of water nozzles and hoses</li> <li>(d) Segregation of water streams</li> </ul> <p>Techniques related to cleaning operations:</p> <ul style="list-style-type: none"> <li>(e) Dry cleaning</li> <li>(f) Pigging system for pipes</li> <li>(g) High-pressure cleaning</li> <li>(h) Optimisation of chemical dosing and water use in cleaning-in-place (CIP)</li> <li>(i) Low-pressure foam and/or gel cleaning</li> <li>(j) Optimised design and construction of equipment and process areas</li> <li>(k) Cleaning of equipment as soon as possible</li> </ul>	FC	<p>We consider that the operator will be future compliant with BATc 7. Improvement Programme 12 has been included in the permit to achieve compliance (see Annex 3).</p> <p>The operator is using CIP but not identified what the measures /techniques specifically are.</p>
8	<p><b>Prevent or reduce the use of harmful substances</b></p> <p>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.</p> <ul style="list-style-type: none"> <li>(a) Proper selection of cleaning chemicals and/or disinfectants</li> <li>(b) Reuse of cleaning chemicals in cleaning-in-place (CIP)</li> <li>(c) Dry cleaning</li> <li>(d) Optimised design and construction of equipment and process areas</li> </ul>	CC	<p>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.</p> <p>The Operator is using:</p> <ul style="list-style-type: none"> <li>a) Proper selection of chemicals used at the advice of the products provider (via additional COSHH training)</li> <li>b) Chemical usage minimisation in CIP where appropriate.</li> <li>c) Optimised design and construction of equipment.</li> </ul>
9	<b>Refrigerants</b>	FC	We consider that the operator will be future compliant with BATc 9. Improvement



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 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.		<p>Programme 14 has been included in the permit to achieve compliance (see Annex 3).</p> <p>The operator states R-134a refrigerant is used in chiller equipment on site. An end of life system replacement is required, utilising lower GWP alternatives.</p>
10	<p><b>Resource efficiency</b></p> <p>In order to increase resource efficiency, BAT is to use one or a combination of the techniques given below:</p> <p>(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</p>	CC	<p>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.</p> <p>The operator declared:</p> <ul style="list-style-type: none"> <li>- Separation of residues</li> <li>- Secondary reclamation embedded energy</li> </ul>
11	<p><b>Waste water buffer storage</b></p> <p>In order to prevent uncontrolled emissions to water, BAT is to provide an appropriate buffer storage capacity for waste water.</p>	FC	<p>The operator has limited buffer storage capacity. Currently this is in the form of existing drainage runs/pipes located on site, used for waste water transportation on site. We have included an Improvement Programme (IP15) to ensure consideration is given to the prevention of uncontrolled emissions to water.</p> <p>We consider that the operator will be future compliant with BATc 11. Improvement Programme IP15 has been included in the permit to achieve compliance (see Annex 3).</p>
12	<p><b>Emissions to water – treatment</b></p> <p>In order to reduce emissions to water, BAT is to use an appropriate combination of the techniques given below.</p> <p>Preliminary, primary and general treatment</p> <p>(a) Equalisation</p>	NA	<p>We are satisfied that BATc 12 is not applicable to this installation.</p> <p>BATc 12 is only applicable to sites that have a direct discharge to a receiving water body.</p>

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										
	(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) Nitrification and/or denitrification (f) Partial nitrification - 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) (m) Flotation												
12	<p><b>Emissions to water – treatment</b>  <b>BAT-associated emission levels (BAT-AELs) for direct emissions to a receiving water body</b></p> <table border="1" data-bbox="280 991 1086 1310"> <thead> <tr> <th>Parameter</th> <th>BAT-AEL <sup>(15)</sup> <sup>(16)</sup> (daily average)</th> </tr> </thead> <tbody> <tr> <td>Chemical oxygen demand (COD) <sup>(17)</sup> <sup>(18)</sup></td> <td>25-100 mg/l <sup>(19)</sup></td> </tr> <tr> <td>Total suspended solids (TSS)</td> <td>4-50 mg/l <sup>(20)</sup></td> </tr> <tr> <td>Total nitrogen (TN)</td> <td>2-20 mg/l <sup>(21)</sup> <sup>(22)</sup></td> </tr> <tr> <td>Total phosphorus (TP)</td> <td>0,2-2 mg/l <sup>(23)</sup></td> </tr> </tbody> </table> <p>(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.</p>	Parameter	BAT-AEL <sup>(15)</sup> <sup>(16)</sup> (daily average)	Chemical oxygen demand (COD) <sup>(17)</sup> <sup>(18)</sup>	25-100 mg/l <sup>(19)</sup>	Total suspended solids (TSS)	4-50 mg/l <sup>(20)</sup>	Total nitrogen (TN)	2-20 mg/l <sup>(21)</sup> <sup>(22)</sup>	Total phosphorus (TP)	0,2-2 mg/l <sup>(23)</sup>	NA	<p>We are satisfied that BATc 12 is not applicable to this installation.</p> <p>BATc 12 is only applicable to sites that have a direct discharge to a receiving water body.</p>
Parameter	BAT-AEL <sup>(15)</sup> <sup>(16)</sup> (daily average)												
Chemical oxygen demand (COD) <sup>(17)</sup> <sup>(18)</sup>	25-100 mg/l <sup>(19)</sup>												
Total suspended solids (TSS)	4-50 mg/l <sup>(20)</sup>												
Total nitrogen (TN)	2-20 mg/l <sup>(21)</sup> <sup>(22)</sup>												
Total phosphorus (TP)	0,2-2 mg/l <sup>(23)</sup>												

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
	<p>(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.</p> <p>(21) The upper end of the range is 30 mg/l as a daily average only if the abatement efficiency is <math>\geq 80\%</math> as a yearly average or as an average over the production period.</p> <p>(22) The BAT-AEL may not apply when the temperature of the waste water is low (e.g. below 12 °C) for prolonged periods.</p>		
13	<p><b>Noise management plan</b></p> <p>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:</p> <ul style="list-style-type: none"> <li>- a protocol containing actions and timelines;</li> <li>- a protocol for conducting noise emissions monitoring;</li> <li>- a protocol for response to identified noise events, eg complaints;</li> <li>- 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.</li> </ul>	NA	<p>We are satisfied that BATc 13 is not applicable to this Installation.</p> <p>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.</p>
14	<p><b>Noise management</b></p> <p>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.</p> <ul style="list-style-type: none"> <li>(a) Appropriate location of equipment and buildings</li> <li>(b) Operational measures</li> <li>(c) Low-noise equipment</li> <li>(d) Noise control equipment</li> <li>(e) Noise abatement</li> </ul>	CC	<p>The operator has provided information to support compliance with BATc 14. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BATc 14.</p> <p>The operator is using:</p> <ul style="list-style-type: none"> <li>- Appropriate location of equipment and buildings</li> <li>- Sound proofing and sound suppression</li> </ul>
15	<p><b>Odour Management</b></p> <p>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:</p> <ul style="list-style-type: none"> <li>- a protocol containing actions and timelines;</li> <li>- a protocol for conducting odour monitoring.</li> </ul>	NA	<p>We are satisfied that BATc 15 is not applicable to this Installation.</p> <p>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</p>

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	<ul style="list-style-type: none"> <li>- a protocol for response to identified odour incidents eg complaints;</li> <li>- 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.</li> </ul>		<p>from the site therefore an OMP is not a requirement for this site.</p> <p>However, the operator has developed voluntarily an odour management plan that has not been assessed by the Agency. This OMP will form part of the EMS and Operational Techniques for the site.</p>												
<b>BREWING BAT CONCLUSIONS (BAT 18 – 20)</b>															
18	<p><b>Energy efficiency – Brewing Sector</b></p> <p>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.</p> <table border="1" data-bbox="282 711 1227 1098"> <thead> <tr> <th data-bbox="282 711 454 759">Technique</th> <th data-bbox="454 711 680 759">Description</th> <th data-bbox="680 711 1227 759">Applicability</th> </tr> </thead> <tbody> <tr> <td data-bbox="282 759 454 874">(a)</td> <td data-bbox="454 759 680 874">Mashing-in at higher temperatures</td> <td data-bbox="680 759 1227 874">The mashing-in of the grain is carried out at temperatures of approximately 60 °C, which reduces the use of cold water.</td> </tr> <tr> <td data-bbox="282 874 454 1007">(b)</td> <td data-bbox="454 874 680 1007">Decrease of the evaporation rate during wort boiling</td> <td data-bbox="680 874 1227 1007">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 data-bbox="282 1007 454 1098">(c)</td> <td data-bbox="454 1007 680 1098">Increase of the degree of high-gravity brewing</td> <td data-bbox="680 1007 1227 1098">Production of concentrated wort, which reduces its volume and thereby saves energy.</td> </tr> </tbody> </table> <p>Applicable in addition to BAT6</p>	Technique	Description	Applicability	(a)	Mashing-in at higher temperatures	The mashing-in of the grain is carried out at temperatures of approximately 60 °C, which reduces the use of cold water.	(b)	Decrease of the evaporation rate during wort boiling	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).	(c)	Increase of the degree of high-gravity brewing	Production of concentrated wort, which reduces its volume and thereby saves energy.	<b>NA</b>	<p>We are satisfied that BATc 18 is not applicable to this installation.</p> <p>BATc 18 is only applicable to sites that have mashing, wort boiling and high gravity brewing processes. The site does not operate relevant processing which would give rise to these efficiencies.</p>
Technique	Description	Applicability													
(a)	Mashing-in at higher temperatures	The mashing-in of the grain is carried out at temperatures of approximately 60 °C, which reduces the use of cold water.													
(b)	Decrease of the evaporation rate during wort boiling	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).													
(c)	Increase of the degree of high-gravity brewing	Production of concentrated wort, which reduces its volume and thereby saves energy.													
19	<p>In order to reduce the quantity of waste sent for disposal, BAT is to use one or a combination of the techniques given below.</p>	<b>FC</b>	<p>We consider that the operator will be future compliant with BATc 19. Improvement programme 12 has been included in the permit to achieve compliance (see Annex 3).</p> <p>The operator states there is no yeast reclamation on site.</p>												

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										
	<table border="1"> <thead> <tr> <th data-bbox="277 252 524 300">Technique</th> <th data-bbox="524 252 1236 300">Description</th> </tr> </thead> <tbody> <tr> <td data-bbox="277 300 524 456">(a)</td> <td data-bbox="524 300 1236 456">Recovery and (re)use of yeast after fermentation  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 data-bbox="277 456 524 585">(b)</td> <td data-bbox="524 456 1236 585">Recovery and (re)use of natural filter material  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> </tbody> </table>	Technique	Description	(a)	Recovery and (re)use of yeast after fermentation  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.	(b)	Recovery and (re)use of natural filter material  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.						
Technique	Description												
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(b)	Recovery and (re)use of natural filter material  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.												
20	In order to reduce channelled dust emissions to air, BAT is to use a bag filter or both a cyclone and a bag filter.	<b>NA</b>	<p>We are satisfied that BATc 20 is not applicable to this installation.</p> <p>BATc 20 is only applicable to sites that have channelled dust emissions. The site does not operate relevant processing which would give rise to these emissions.</p>										
20	<p>BAT-associated emission level (BAT-AEL) for channelled dust emissions to air from handling and processing of malt and adjuncts</p> <table border="1"> <thead> <tr> <th data-bbox="277 932 456 1086" rowspan="2">Parameter</th> <th data-bbox="456 932 645 1086" rowspan="2">Description</th> <th colspan="2" data-bbox="645 932 1196 1019">BAT-AEL (average over the sampling period)</th> </tr> <tr> <th data-bbox="645 1019 893 1086">New plants</th> <th data-bbox="893 1019 1196 1086">Existing plants</th> </tr> </thead> <tbody> <tr> <td data-bbox="277 1086 456 1150">Dust</td> <td data-bbox="456 1086 645 1150">mg/Nm<sup>3</sup></td> <td data-bbox="645 1086 893 1150">&lt;2 – 5</td> <td data-bbox="893 1086 1196 1150">&lt;2 – 10</td> </tr> </tbody> </table> <p>The associated monitoring is given in BAT 5.</p>	Parameter	Description	BAT-AEL (average over the sampling period)		New plants	Existing plants	Dust	mg/Nm <sup>3</sup>	<2 – 5	<2 – 10	<b>NA</b>	<p>We are satisfied that BATc 20 is not applicable to this installation.</p> <p>BATc 20 is only applicable to sites that have channelled dust emissions. The site does not operate relevant processing which would give rise to these emissions.</p>
Parameter	Description			BAT-AEL (average over the sampling period)									
		New plants	Existing plants										
Dust	mg/Nm <sup>3</sup>	<2 – 5	<2 – 10										
<b>Brewing Sector Environmental Performance Levels</b>													

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				
EPL	<p><b>Environmental Performance Level – Energy consumption for the brewing sector</b></p> <table border="1" data-bbox="275 336 1182 427"> <tr> <td data-bbox="275 336 633 379">Unit</td> <td data-bbox="633 336 1182 379">Specific energy consumption (yearly average)</td> </tr> <tr> <td data-bbox="275 379 633 427">MWh/hl of products</td> <td data-bbox="633 379 1182 427">0.02 – 0.05</td> </tr> </table>	Unit	Specific energy consumption (yearly average)	MWh/hl of products	0.02 – 0.05	CC	<p>Although we consider this Environmental Performance Level not to be directly applicable to this fermentation activity, the operator has provided information in the form of a narrative to support compliance with Environmental Performance Level (EPL) – Energy consumption for the brewing sector .</p> <p>We have assessed the narrative information provided and we are satisfied that the operator has demonstrated compliance with this EPL .</p> <p>The Operators narrative confirms specific energy consumption at 0.02MWh/hl. of products.</p>
	Unit	Specific energy consumption (yearly average)					
MWh/hl of products	0.02 – 0.05						
EPL	<p><b>Environmental Performance Level – Specific waste water discharge for the brewing sector</b></p> <table border="1" data-bbox="275 772 1182 863"> <tr> <td data-bbox="275 772 633 815">Unit</td> <td data-bbox="633 772 1182 815">Specific waste water discharge (yearly average)</td> </tr> <tr> <td data-bbox="275 815 633 863">m<sup>3</sup>/hl of products</td> <td data-bbox="633 815 1182 863">0.15 – 0.50</td> </tr> </table>	Unit	Specific waste water discharge (yearly average)	m <sup>3</sup> /hl of products	0.15 – 0.50	CC	<p>Although we consider this Environmental Performance Level not to be directly applicable to this fermentation activity, the operator has provided information to support compliance with Environmental Performance Level (EPL) – Specific waste water discharge for the brewing sector .</p> <p>We have assessed the narrative information provided and we are satisfied that the operator has demonstrated compliance with this EPL.</p> <p>The Operators narrative confirms reference figures for specific waste water discharge of products to be 0.13m<sup>3</sup>/hl.</p>
	Unit	Specific waste water discharge (yearly average)					
m <sup>3</sup> /hl of products	0.15 – 0.50						
<p><b>SOFT DRINKS AND NECTAR/ JUICE MADE FROM PROCESSED FRUIT AND VEGETABLES BAT CONCLUSIONS (BAT 33)</b></p>							
33	<p><b>Energy efficiency – Soft drinks and nectar/ juice made from processed fruit and vegetables</b></p> <p>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.</p>	NA	<p>Although we consider this Environmental Performance Level not to be directly applicable to all operations on site, as these largely consist of repacking operations, we are satisfied that BATc 33 are not directly applicable to this Installation.</p> <p>BATc 33 cannot be implemented at this site for the following reasons:</p>				

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												
	<table border="1" data-bbox="275 250 1229 595"> <thead> <tr> <th data-bbox="275 250 439 300">Technique</th> <th data-bbox="439 250 725 300">Description</th> <th data-bbox="725 250 1229 300">Applicability</th> </tr> </thead> <tbody> <tr> <td data-bbox="275 300 439 389">(a)</td> <td data-bbox="439 300 725 389">Single pasteuriser for nectar/juice production</td> <td data-bbox="725 300 1229 389">Use of one pasteuriser for both the juice and the pulp instead of using two separate pasteurisers.</td> </tr> <tr> <td data-bbox="275 389 439 523">(b)</td> <td data-bbox="439 389 725 523">Hydraulic sugar transportation</td> <td data-bbox="725 389 1229 523">Sugar is transported to the production process with water. As some of the sugar is already dissolved during the transportation, less energy is needed in the process for dissolving sugar.</td> </tr> <tr> <td data-bbox="275 523 439 595">(c)</td> <td data-bbox="439 523 725 595">Energy-efficient homogeniser for nectar/juice production</td> <td data-bbox="725 523 1229 595">See BAT 21b.</td> </tr> </tbody> </table> <p data-bbox="275 628 633 655">Applicable in addition to BAT6</p>	Technique	Description	Applicability	(a)	Single pasteuriser for nectar/juice production	Use of one pasteuriser for both the juice and the pulp instead of using two separate pasteurisers.	(b)	Hydraulic sugar transportation	Sugar is transported to the production process with water. As some of the sugar is already dissolved during the transportation, less energy is needed in the process for dissolving sugar.	(c)	Energy-efficient homogeniser for nectar/juice production	See BAT 21b.		<ul data-bbox="1570 250 2078 523" style="list-style-type: none"> <li>- Due to the operator's product variation, greater flexibility is required. Each production line has its own pasteuriser and pasteurisers only operate as and when required.</li> <li>- Hydraulic sugar transportation not applicable to operations on site.</li> <li>- Homogenisation not carried out on site.</li> </ul> <p data-bbox="1518 536 2083 655">Note: Operator should consider providing a narrative on how they intend to monitor current operations of plant to ensure the techniques employed are the most energy efficient.</p>
Technique	Description	Applicability													
(a)	Single pasteuriser for nectar/juice production	Use of one pasteuriser for both the juice and the pulp instead of using two separate pasteurisers.													
(b)	Hydraulic sugar transportation	Sugar is transported to the production process with water. As some of the sugar is already dissolved during the transportation, less energy is needed in the process for dissolving sugar.													
(c)	Energy-efficient homogeniser for nectar/juice production	See BAT 21b.													
	<b>Soft Drinks and Nectar/ Juice made from processed fruit and vegetables sector Environmental Performance Levels</b>														
EPL	<p data-bbox="275 780 1218 839"><b>Environmental Performance Level – Energy consumption for the Soft Drinks and Nectar/ Juice made from processed fruit and vegetables sector</b></p> <table border="1" data-bbox="275 860 1180 951"> <thead> <tr> <th data-bbox="275 860 633 906">Unit</th> <th data-bbox="633 860 1180 906">Specific energy consumption (yearly average)</th> </tr> </thead> <tbody> <tr> <td data-bbox="275 906 633 951">MWh/hl of products</td> <td data-bbox="633 906 1180 951">0.01 – 0.035</td> </tr> </tbody> </table>	Unit	Specific energy consumption (yearly average)	MWh/hl of products	0.01 – 0.035	FC	<p data-bbox="1518 780 2051 1158">Although we consider this Environmental Performance Level not to be directly applicable to all operations on site, as these largely consist of repacking operations, we consider that the operator will be future compliant with Environmental Performance Level – Energy consumption for the Soft Drinks and Nectar/ Juice made from processed fruit and vegetables sector. Improvement Programme 16 has been included in the permit to achieve compliance (see Annex 3).</p> <p data-bbox="1518 1206 2051 1294">The operator does not sub meter so it is not possible to distinguish energy use between processes.</p>								
Unit	Specific energy consumption (yearly average)														
MWh/hl of products	0.01 – 0.035														

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				
EPL	<p><b>Environmental Performance Level – Specific waste water discharge for the Soft Drinks and Nectar/ Juice made from processed fruit and vegetables sector</b></p> <table border="1" data-bbox="277 368 1182 459"> <thead> <tr> <th data-bbox="277 368 636 411">Unit</th> <th data-bbox="636 368 1182 411">Specific waste water discharge (yearly average)</th> </tr> </thead> <tbody> <tr> <td data-bbox="277 411 636 459">m<sup>3</sup>/hl of products</td> <td data-bbox="636 411 1182 459">0.08 – 0.20</td> </tr> </tbody> </table>	Unit	Specific waste water discharge (yearly average)	m <sup>3</sup> /hl of products	0.08 – 0.20	NA	<p>We are satisfied that Environmental Performance Level (EPL) figures for specific water discharge are not applicable to this installation.</p> <p>EPL figures are only applicable to sites that have direct discharges of process effluent. Emissions to water are comprised of surface water run-off and process effluent which are discharged straight to combined sewer under Trade Effluent Consent.</p>
Unit	Specific waste water discharge (yearly average)						
m <sup>3</sup> /hl of products	0.08 – 0.20						



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

### **Updating permit during permit review consolidation**

- Introductory note (updated)
- Site plan
- 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.

### **Production/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.

Emissions to air have not altered since original determination.

### **Implementing the requirements of the Medium Combustion Plant Directive**

#### **Existing Medium Combustion Plant (1MW-50MW)**

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

The Operator provided the information in the table below:

**Boilers**

1. Rated thermal input (MW) of the medium combustion plant.	7.8MWth
2. Type of the medium combustion plant (diesel engine, gas turbine, dual fuel engine, other engine or other medium combustion plant).	Boiler 1: 7.8MWth
3. Type and share of fuels used according to the fuel categories laid down in Annex II.	Boiler 1: Natural Gas 100%
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.	Boiler 1: 1980's (exact date unknown)

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

For existing medium combustion plant with a rated thermal input greater than 5 MW, the emission limit values set out in tables 2 and 3 of Part 1 of Annex II MCPD shall apply from 1 January 2025.

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 [IED NPA Baseline Report 09/12/2016] during the original application received on 04/06/2015. 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. 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 identified any hazardous substances used / stored at the installation.

The operator is required to submit a relevant hazardous substances monitoring plan for review to the Environment Agency via improvement condition (IP11).

### **Climate Change Adaptation**

The operator has stated that the installation is not likely to be or has previously not been affected by climate change.

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 (IP13) 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 applicable.

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

We reviewed the information provided by the operator and their findings. We are not satisfied that the existing tanks and containment measures on site meet the standards set out in CIRIA C736.

There are improvement conditions in the permit to address the deficiencies in the existing tanks and containment measures on site (IP8 & IP9). See Improvement condition(s) in Annex 3 of this decision document.

## **Carbon Dioxide Recovery**

CO<sub>2</sub> 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<sub>2</sub> recovery was included as a specific BAT Conclusion. It was noted at the time that industrial gas suppliers were able to provide CO<sub>2</sub> 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<sub>2</sub> supply chain is

fragile and dependent on imports. Defra and Department for Business and Trade are keen on diversification of CO<sub>2</sub> supply to increase supply resilience.

We asked the Operator as part of the Regulation 61 Notice to confirm whether carbon dioxide (CO<sub>2</sub>) is recovered from the fermentation stage of the process. The operator stated no formal feasibility study had been undertaken, although preliminary calculations completed in 2019, identified implementation was not cost effective at that time.

The operator has indicated that it would be worthwhile to undertake a formal feasibility assessment. It is therefore appropriate to include an improvement condition (IP14) 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.

## 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.

<b>Superseded Improvement Conditions – Removed from permit as marked as “complete”</b>	
<b>Reference</b>	<b>Improvement Condition</b>
IP1	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.
IP2	A report shall be submitted to the Environment Agency for written approval, demonstrating and detailing an options appraisal assessment of Best Available Techniques (BAT) for dealing with process effluent, identifying 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, including monitoring, having regard to Sections 2.2 and 2.4 respectively of the Food and Drink Sector Guidance Note IPPC S6.10 (2003) 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.
IP3	A report shall be submitted to the Environment Agency for written approval summarising an assessment of the adequacy and suitability of the existing bund provision and unloading points in the installation. The assessment should include details of bunds, any deficiencies identified and the improvements proposed, having regard to 'CIRIA Containment systems for the prevention of pollution (C736) – Secondary, tertiary and other measures for industrial and commercial premises' and include a timetable for implementation. The notification requirements of condition 2.4.2 shall be deemed to have been complied with on submission of the assessment report.
IP4	A plan shall be submitted to the Environment Agency for written approval for the implementation of an inspection and maintenance procedure for the containment measures in the installation, including tanks and bunds, with the purpose of preventing fugitive releases to surface water, sewer or ground. The plan should include regular bund and tank integrity testing by a qualified engineer, and include a timetable for implementation. Having regard to 'CIRIA Containment systems for the prevention of pollution (C736) – Secondary, tertiary and other measures for industrial and commercial premises' for bunds, and 'Engineering Equipment Materials Users Association' (EEMUA) or equivalent standards for tanks. The notification

	requirements of condition 2.4.2 shall be deemed to have been complied with on submission of the plan.
IP5	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 (2003). The Accident Management Plan shall include a procedure for the containment and management of firewater, detailing the measures taken to ensure the prevention of environmental impacts resulting from the release of contaminated firewater 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.
IP6	The operator shall submit for approval by the Environment Agency details for the storage, containment and acceptance and handling procedures for the use of Ethanol. The submission shall include the location of storage and maximum storage quantities.
IP7	The operator shall undertake detailed survey and design for the local bunding options and firewater containment measures as identified in Option 2 in "Aston Manor Cider Site Spill Protection – Deliverable 2" dated 22 May 2020. The final design shall be undertaken in consultation with the local Fire and Rescue Service. The operator shall provide details of the final design to the Environment Agency and identify any aspects that do not address the conclusions and recommendations of the report "Aston Manor Cider Site Spill Protection – Deliverable 2" dated 22 May 2020.
IP8	Retained and renumbered IC8
IP9	Retained and renumbered IC9
IP10	Retained and renumbered IC10

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

<b>Improvement programme requirements</b>		
<b>Reference</b>	<b>Reason for inclusion</b>	<b>Justification of deadline</b>
IP8	The operator shall complete the "substation" bunding identified in in "Aston Manor Cider Site Spill Protection – Deliverable 2" dated 22 May 2020. The operator shall notify the Environment Agency in accordance with Condition 2.4.2	31/12/2024
IP9	The operator shall complete the bunding for "transport yard" and firewater containment measures for "transport yard" and "top yard" identified in "Aston Manor Cider Site Spill Protection – Deliverable 2" dated 22 May 2020. The Operator shall notify the Environment Agency in accordance with Condition 2.4.2	31/12/2024

IP10	The operator shall review and update their accident management plan to include any changes resulting from the completion of IC8 and IC 9 The operator shall notify the Environment Agency in accordance with Condition 2.4.2	Within 3 months of completion of IC8  Within 3 months of completion of IC9
IP11	The operator shall produce a monitoring plan detailing how the management of relevant hazardous substances which did not screen out as low risk, based on the RHS baseline assessment, will be maintained and monitored to mitigate the risks of pollution. The plan shall be submitted for approval.  The plan shall be implemented in accordance with the Environment Agency's written approval, including timescales to undertake any infrastructure improvements.	3 months from permit issue or other date as agreed in writing with the Environment Agency.
IP12	The Operator shall confirm in writing to the Environment Agency that the Narrative BAT requirements for the BAT Conclusions for Food, Drink and Milk Industries with respect to BAT 3, 7, 9 and 19 were in place on or before 4 December 2023. Refer to BAT Conclusions for a full description of the BAT requirement.	1 month from the date of permit issue
IP13	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: <ul style="list-style-type: none"> <li>• Details of how the installation has or could be affected by severe weather;</li> <li>• The scale of the impact of severe weather on the operations within the installation;</li> <li>• An action plan and timetable for any improvements to be made to minimise the impact of severe weather at the installation.</li> </ul> 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 as agreed in writing with the Environment Agency
IP14	The Operator shall submit a report of a feasibility study into recovery of	18 months from permit issue



	<p>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</p>	
IP15	<p>The Operator shall undertake a survey of the waste water buffer storage at the site and review measures against relevant standard including:</p> <p>The operator shall submit a written report that meets the Narrative BAT requirements for the BAT Conclusions for Food, Drink and Milk Industries with respect to BAT 11, to the Environment Agency for approval, outlining the results of the survey and the review of feasibility of options and provide details of:</p> <ul style="list-style-type: none"> <li>• current containment measures</li> <li>• improvements proposed</li> <li>• time scale for implementation of improvements.</li> </ul> <p>The operator shall implement the proposed improvements in line with the timescales agreed by the Environment Agency.</p>	12 months from permit issue or other date as agreed in writing with the Environment Agency.
IP16	<p>The Operator shall confirm in writing to the Environment Agency, that the Narrative BAT requirements for the BAT Conclusions for Food, Drink and Milk Industries with respect to Environmental Performance Levels (EPLs) for specific energy consumption were in place on or before 4 December 2023. Refer to BAT Conclusions for a full description of the BAT requirement.</p> <p>The report shall include, but not be limited to, the following:</p> <ol style="list-style-type: none"> <li>1) Methodology for achieving EPL in accordance with general techniques given in section 1.3 of the BAT conclusions</li> <li>2) Associated targets /timelines for reaching compliance by 4 December</li> </ol>	1 month for the date of permit issue

	<p>2023, or any other date as agreed in writing by the Environment Agency.</p> <p>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.</p>	
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