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/BN3138IGThe Operator is:Heineken UK LimitedThe Installation is:Bulmers Cider MillsThis Variation Notice number is:EPR/BN3138IG/V009

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 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 10/10/2022.

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 <u>Review of our own information in respect to the capability of the Installation to meet revised</u> 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 BAT6 Conclusions other than for those techniques and requirements described in BAT Conclusion BAT 6. The operator does not currently comply with the requirements of BATc6. In relation to this BAT Conclusion, 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 Condition IC12 in the Consolidated Variation Notice to ensure that the requirements of the BAT Conclusions are delivered within 2 months of the variation being issued.

2.3 <u>Requests for further information during determination</u>

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 a further information request on 31/07/2023 relating to BAT3, BAT6, BAT7, BAT11, BAT12, BAT14, Containment, Production Capacity, Energy EPL, RHS Baseline, Site Plan, WT-AD BAT 15, and WT-AD BAT38. 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-AELs):

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
GENE	RAL 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.	CC	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. The operator has an EMS externally accredited to the ISO14001 standard.
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.	СС	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. The operator has an EMS externally accredited to the ISO14001 standard.
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).	CC	The operator has provided information to support compliance with BATc 3. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BATc 3. Operator caries out monitoring such as; - Continuously monitor wastewater flow at various locations around site e.g. cider production. - Influent / effluent measured from balance tank on Waste Water Treatment Plant (WWTP). - Flow proportional sampling. - Samples shared with Welsh Water who regulate site effluent discharge. - Daily consents monitored: Flow, Suspended Solids, pH, COD, Ammonium and Phosphates.
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	NA	We are satisfied that BATc 4 is 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
	are not available, BAT is to use ISO, national or other international standards that ensure the provision of data of an equivalent scientific quality.		Treated water is an indirect emission (via the Welsh Water sewer) to a receiving water body.
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 is not applicable to this Installation. The site does not handle nor process malt and adjuncts.
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 does not have energy efficiency plan in place and unable to demonstrate what combination of techniques from BAT6b the site employs. We have included improvement condition IC12 to ensure the operator meets compliance. The operator is required to complete the improvement conditions and demonstrate compliance with BAT6 within 2 months of the variation being issued.
7	Water and wastewater minimisation 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	CC	The operator has provided information to support compliance with BATc 7. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BATc 7. There is limited opportunity for water recycling due to food safety risk. Recovery of rain water is not possible due to influx of gulls, the gulls defecate everywhere. However, Operator employs techniques such; (c) Optimisation of water nozzles and hoses - all hoses have water nozzles and flow restrictors fitted. (h) Optimisation of chemical dosing and water use in cleaning-in-place (CIP) - we work with chemical suppliers to optimise and minimise the chemical dosing. Due to the nature of the process - all the process pipework is cleaned using various CIP distribution systems. We optimise the production runs to minimise changeovers required which therefore reduces the

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
			cleans required in between runs meaning less chemicals used.
			(k) Cleaning of equipment as soon as possible - Cleaning, Inspection, Lubrication, Training and active housekeeping programme in place. Also certified to ISO 22000 and surveillance visits take place by external auditor to ensure standards are met.
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.	СС	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.
	(a) Proper selection of cleaning chemicals and/or disinfectants (b) Reuse of cleaning chemicals in cleaning-in-place (CIP)		a) We work with cleaning suppliers to select the least
	(c) Dry cleaning		harmful chemicals whilst ensuring they are effective.
	(d) Optimised design and construction of equipment and process areas		 We optimise the production runs to minimise changeovers required which therefore reduces the cleans required in between runs meaning less chemicals used. b) There is only one use of cleaning chemicals. CIP chemicals are recovered based on the concentration. Conductivity probes are used to monitor this. c) Dry cleaning is not undertaken. d) Equipment and process areas are designed and constructed in a way that facilities cleaning.
9	Refrigerants	CC	The operator has provided information to support
	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.		information provided and we are satisfied that the operator has demonstrated compliance with BATc 9.
			The use of R22 Refrigerant ceased in 2013. Ammonia is currently used as a refrigerant in the chilling plant.
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	СС	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.

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) 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 		The operation of the WWTP includes biological treatment (anaerobic digestion). The biogas generated will be mixed with natural gas for use within the site's existing gas-fired boilers.
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.	CC	The operator has provided information to support compliance with BATc 11. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BATc 11. Effluent from the Facility is directed to a balance tank (1 500m ³ to ensure that a consistent composition of effluent is fed to the WWTP and prevent any shock loadings entering the sewer. Retention time of the balance tank = (800m ³ / 80m ³ /hr Discharge) 10 hours maximum Retention time of divert tanks = (200m3 / 40m3/hr
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	CC	The operator has provided information to support compliance with BATc 12. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BATc 12. All wastewater is directed through the onsite WWTP prior to discharge to sewer via emission point S5. Primary Treatment: a) - flow equalisation and balancing by means of a 1 500 m ³ balance tank designed to give 12 hours retention time. The balance tank will include diffused aeration system and externally mounted jet mixer which will reduce effluent COD levels. b) - Neutralisation for alkaline wastewater using a CO ₂ management system to pH correct post balance tank as

BATC No.	Summary of BAT Conclusion Industries	on requirement for Food, Drink and Milk	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
	(i) Enhanced biological phosp	horus removal		c) - initial screening of waste stream solids via in-
	Final solids removal			process mers.
	(j) Coaguiation and nocculation			Secondary treatment: Anaerobic Treatment:
	(I) Filtration (eg sand filtration)	, microfiltration, ultrafiltration)		d) - Biological treatment by anaerobic digestion.
	(m) Flotation	· · · · · · · · · · · · · · · · · · ·		
				Tertiary Treatment:
				Film filter to act as a polisher and with reduced generation of sludge by up to 90% compared to alternative aerobic technologies.
12	Emissions to water – treatm BAT-associated emission le receiving water body	nent evels (BAT-AELs) for direct emissions to	o a NA	We are satisfied that BAT 12 - AELs is not applicable to this Installation. Treated water is an indirect emission (via the Welsh Water sewer) to a receiving water body.
	Parameter	BAT-AEL (¹⁵) (¹⁶) (daily average)		
	Chemical oxygen demand (COD) (¹⁷) (¹⁸)	25-100 mg/1 (¹⁹)		
	Total suspended solids (TSS)	4-50 mg/1 (²⁰)		
	Total nitrogen (TN)	2-20 mg/1 (²¹) (²²)		
	Total phosphorus (TP)	0,2-2 mg/1 (²³)		
13	Noise management plan In order to prevent or, where to BAT is to set up, implement a part of the environmental mar the following elements:	that is not practicable, to reduce noise emi nd regularly review a noise management p nagement system (see BAT 1), that include	Ssions, plan, as es all of	The operator has provided information to support compliance with BATc 13. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BATc 13.
	- a protocol containing actions	s and timelines;		A Noise Management Plan undertaken in 2021 (Revision Number 5) was submitted to the Environment
	 a protocol for conducting not a protocol for response to id 	ise emissions monitoring; entified noise events, eg complaints;		Agency in response to Improvement Condition IC3 of the Permit. The plan is subject to regular review and amended as necessary.

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.		The Noise Management Plan is listed as a procedure on Achiever (HFD-SITE-ENV-1201).
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	CC	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. Section 10 of the Noise Management Plan (2021 - revision number 5) details the priorities for the control of noise emissions from the following activities: - Noise Emissions from Keg Racking and Keg Warehousing; - Noise Emissions from Vehicle Movements. Measures employed at site to reduce noise emission are, operational measures, low noise equipment, noise abatement, machinery inside of buildings. In addition, any incidents involving noise are reviewed using the site's incident investigation system.
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. Odour emissions at sensitive receptors are not an issue at the stie. The need to undertake an odour assessment has therefore not been substantiated. An Odour Management Plan is not required and has not been requested by the EA.

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
BREW	WING BAT CONCLUSIONS (BAT 18 – 20)						
18	 Energy efficiency – Brewing Sector 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. 			NA	We are satisfied that BATc 18 is not applicable to this Installation as this is a cider production manufacturer, the techniques discussed in BATc 18 are beer production specific.		
	1	Technique	Description		Applicability		
	(a)	Mashing-in at higher temperatures	The mashing-in of the g carried out at temperatur approximately 60 °C, wh the use of cold water.	rain is res of hich reduces	May not be applicable due to the product specifications.		
	(b)	Decrease of the evaporation rate during wort boiling	tion rate 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). fhigh- Production of concentrated wort, which reduces its volume and thereby saves energy.				
	(c)	Increase of the degree of high- gravity brewing					
19	In order to red a combination	duce the quantity of of the techniques (waste sent for given below.	r dispos	sal, BAT is to use one or	CC	The operator has provided information to support compliance with BATc 19. We have assessed the information provided and we are satisfied that the
		Technique			Description		operator has demonstrated compliance with BATc 19.
	(a) Recovery and (re)use or fermentation		of yeast after	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.			The operator make use of technique (a) recovery and reuse of yeast after fermentation.
	(b)	Recovery and (re)use	of natural filter material	After chem filter mater partially reu material can	ical, enzymatic or thermal treatment, natural ial (e.g. diatomaceous earth) may be used in the filtration process. Natural filter n 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.				NA	We are satisfied that BATc 20 is not applicable to this Installation.	

BATC No.	Summary of Industries	BAT Conclusio	n requirement for F	ood, Drink and Milk	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
20	BAT-associate from handling	ed emission leve and processing	el (BAT-AEL) for char of malt and adjuncts	nnelled dust emissions to air	NA	We are satisfied that BATc 20 – BAT- AEL is not applicable to this Installation.
	Parameter	Description	BAT-AEL (average period)	e over the sampling		Site does not process nor handle malt and adjuncts.
			New plants	Existing plants		
	Dust	mg/Nm ³	<2 - 5	<2 - 10		
Brewin	ng Sector Envi	ronmental Perf	ormance Levels			
	Environmental Performance Level – Energy consumption for the brewing sector					The operator has provided information to support relating to the energy EPL. We have assessed the information provided and we are satisfied with the
	Unit Specific energy consumption (yearly average)					information the operator has provided.
PL	MWh/hl of pro	ducts	0.02 – 0.05			The Operator has indicated the sites apositic operator
						consumption was 0.016MWh/hl /products for 2021 which is within the target range level of 0.02 – 0.05 MWh/hl.
	Environmental Performance Level – Specific waste water discharge for the brewing sector					The operator has provided information to support relating to the energy EPL. We have assessed the information provided and we are satisfied with the
	Unit		Specific waste water	discharge (yearly average)		information the operator has provided.
PL	m ³ /hl of produ	cts	0.15 – 0.50			The Operator has indicated the sites specific energy
						consumption was 0.19 m ³ /hl of products for 2021 which is within the target range level of $0.15 - 0.50$ m ³ /hl of products.

BATC No.	Sum	mary of BAT Concl	usion requirement Waste Trea	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the operator to demonstrate compliance with the WT-AD-BAT Conclusion requirement			
15		Technique	Description	Applicability	CC	The operator has provided information to support		
	a.	Correct plant design	This includes the provision of a gas recov- ery system with sufficient capacity and the use of high-integrity relief valves.	Generally applicable to new plants. A gas recovery system may be retrofitted in existing plants.		compliance with WI-AD-BATC 15. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with WT-AD- BATC 15.		
	b.	Plant management	This includes balancing the gas system and using advanced process control.	Generally applicable.		The operator has stated the flare includes a gas recovery system with sufficient capacity and the use of high-integrity relief valves. The equipment is designed with all the necessary safety		
	BAT cond belov	is to use flaring only itions (e.g. start-ups, <i>N</i> .	for safety reasons or for non-rou , shutdowns) by using both of the	itine operating techniques given		features for the safe handling and combustion of bioga The system is constructed according to the requirements of EN 60079 (explosion protection).		
						They also stated in order to minimise the use of the flare they:		
						 monitor the feed stock of the reactor to ensure the CH4 (methane) quality is above 70% to allow forward feed to the boiler house. H2S levels are kept to a minimum using the H2S scrubber. Automated controls are in place to ensure that whenever possible the biogas produced by the reactor is routed to and blended with the mains natural gas supplying the steam boilers. 		

BATC No.	Sum	imary of BAT Conc	lusion requirement Waste Tr	reatment	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the operator to demonstrate compliance with the WT-AD-BAT Conclusion requirement
16		Technique	Description	Applicability	СС	The operator has provided information to support
	a.	Correct design of flaring devices	Optimisation of height and pressure, assist- ance by steam, air or gas, type of flare tips, etc., to enable smokeless and reliable opera- tion and to ensure the efficient combustion of excess gases.	Generally applicable to new flares. In existing plants, ap- plicability may be restricted, e.g. due to maintenance time availability.	compliance with WT-AD-BATC 1 the information provided and we operator has demonstrated com BATc 16.	the information provided and we are satisfied that the operator has demonstrated compliance with WT-AD-BATc 16.
	b. In or is to	Monitoring and recording as part of flare manage- ment der to reduce emiss use both of the tech	This includes continuous monitoring of the quantity of gas sent to flaring. It may include estimations of other parameters (e.g. composition of gas flow, heat content, ratio of assistance, velocity, purge gas flow rate, pollutant emissions (e.g. NO_{xx} , CO, hydrocarbons), noise). The recording of flaring events usually includes the duration and number of events and allows for the quantification of emissions and the potential prevention of future flaring events.	Generally applicable.		 a) The flare stack consists of galvanised steel, ceramic fibre lined combustion chamber and a stainless steel upper shroud. Combustion is completely concealed within the flare combustion chamber, and temperature is automatically controlled by the precise regulation of combustion air. b) As per Table S3.1 of PR/BN3138IG/V007, monitoring is to be undertaken in the event the emergency flare has been operational for more than 10 per cent of a year (876 hours). Record of operating hours are submitted annually to the Environment Agency.

BATC No.	Sum	mary of BAT Concl	usion requirement Waste Treatment	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the operator to demonstrate compliance with the WT-AD-BAT Conclusion requirement
21	a. b. c. In or incid accid	Technique Protection measures Management of incidental/accidental emissions Incident/accident registration and assessment system rder to prevent or limit ents, BAT is to use a dent management plate	Description These include measures such as: — protection of the plant against malevolent acts; — fire and explosion protection system, containing equipment for prevention, detection, and extinction; — accessibility and operability of relevant control equipment in emergency situations. Procedures are established and technical provisions are in place to manage (in terms of possible containment) emissions from accidents and incidents such as emissions from spillages, firefighting water, or safety valves. This includes techniques such as: — a log/diary to record all accidents, incidents, changes to procedures and the findings of inspections; — procedures to identify, respond to and learn from such incidents and accidents. the environmental consequences of accidents and II of the techniques given below, as part of the an (see BAT 1).	CC	The operator has provided information to support compliance with WT-AD-BATc 21. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with WT-AD- BATc 21. a) There is an Emergencies and Emergency Planning procedure in the EMS (HFD-SITE-ENV-0501), Crisis Management Procedures and Emergency Procedures (safety and environmental). b)&c) There is an Accident and Abnormal Release Scenarios Register (HFD-SITE-ENV-0027 -revision 7 (Feb 2021)). The table gives: - a risk rating based on the significance of the environmental aspects; - the consequences of the occurence; - the controls in place to minimise the chances of the event occurring; - the actions planned if the event does occur.

BATC No.	Summary of BAT Conclusion requirement Waste Treatment	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the operator to demonstrate compliance with the WT-AD-BAT Conclusion requirement
38	 In order to reduce emissions to air and to improve the overall environmental performance, BAT is to monitor and/or control the key waste and process parameters. Implementation of a manual and/or automatic monitoring system to: ensure a stable digester operation; minimise operational difficulties, such as foaming, which may lead to odour emissions; provide sufficient early warning of system failures which may lead to a loss of containment and explosions. This includes monitoring and/or control of key waste and process parameters, e.g.: pH and alkalinity of the digester feed; digester operating temperature; hydraulic and organic loading rates of the digester feed; concentration of volatile fatty acids (VFA) and ammonia within the digester and digestate; biogas quantity, composition (e.g. H2S) and pressure; liquid and foam levels in the digester. 	cc	The operator has provided information to support compliance with WT-AD-BATc 38. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with WT-AD- BATc 38. The operator implements appropriate monitoring and controls on key waste and process parameters.

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

Updating permit during permit review consolidation

- Activity name
- Introductory note
- Site plan
 - Table S1.1 overhaul
 - o 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 H1 assessment is not valid for the maximum capacity stated within the permit or if production is now higher. We have included an improvement condition within the permit (IC13) which requires the operator to revisit their H1 risk assessment for the capacity limit figure that is now stated within table S1.1 of the permit.

Waste treatment

The Operator uses anaerobic digestion (AD) to treat the process effluent from the production of Cider prior to discharge to the foul sewer. As a part of the permit review the Environment Agency has taken the opportunity to review the permit conditions for this activity. Where the permit doesn't already include the additional directly associate activities (DAAs) or processing monitoring requirements (Table S3.4) we have amended the permit to include them. The processing monitoring includes monitoring of biogas, leak detection, flare operation and onsite storage and containment of digester tanks and sludge tanks.

In addition we have assessed the waste treatment activity against the BAT Conclusions for Waste Treatment published 10 August 2018 in the Official Journal of the European Union See Annex 1.

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 provided an up to date air emission plan.

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(s) below:

Boilers

1. Rated thermal input (MW) of the medium combustion plant.	11 MWth	11 MWth	4 MWth
2. Type of the medium combustion plant (diesel engine, gas turbine, dual fuel engine, other engine or other medium combustion plant).	Boiler	Boiler	Boiler
3. Type and share of fuels used according to the fuel categories laid down in Annex II.	Natural gas and biogas	Natural gas and biogas	Natural gas and biogas
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.	24/04/2013	24/04/2013	24/04/2013

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.

For existing MCP with a rated thermal input of less than or equal to 5 MW, the emission limit values set out in tables 1 and 3 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.

Setting limits for co-firing MCP

The Operator confirmed the three MCP boilers onsite are fuelled in the majority by natural gas, however, they mix an additional fuel of biogas produced via onsite anaerobic digestion. This is classified as co-firing of natural gas and biogas we have calculates the ELVs in the permit in accordance with the MCPD and guidance.

The proportion of biogas which will be utilised in the boilers will fluctuate due to multiple factors, given this we asked the operator to confirm what they believe to be the maximum thermal input delivered by biogas as this has the highest ELVs set in Annex 2 of the MCPD. The Operator informed us the maximum proportion of biogas would be 7% with natural gas contributing 93%.

For the 4MWth Boiler we have included the following parameters and limits future dated in line with the MCPD when natural gas and biogas are co-fired:

- Oxides of Nitrogen 250 mg/m³
- Sulphur Dioxide 14 mg/m³
- Carbon Monoxide No limit set

For the two 11MWth Boilers we have included the following parameters and limits future dated in line with the MCPD when natural gas and biogas are co-fired:

- Oxides of Nitrogen 203.5 mg/m³
- Sulphur Dioxide 11.9 mg/m³
- Carbon Monoxide No limit set

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.

There is no direct discharge of process effluent to water from the site.

Monitoring requirements in table S3.2 for emission point W1 have been confirmed to be MCERTS, as previously agreed in IC1. However, W1 is not currently operational the operator would implement monitoring requirements if W1 was operated.

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 during the original application received on 06/01/2005. 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.

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 (IC14).

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/ prolonged dry weather/ drought, 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 (IC15) to request a climate change adaptation plan is submitted by the operator for approval from the Environment Agency.

Containment

We asked the Operator vis 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
 - o 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 did not provide a response to this question however, area has provided intel to confirm that the operator carries out carbon dioxide recovery on site.

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 to	Completed					
IC11						

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

Table S1.3 Improvement programme requirements					
Reference	Requirement	Date			
IC12	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 6 were in place on or before 4 December 2023. Refer to BAT Conclusions for a full description of the BAT requirement.	23/04/2024			
IC13	The operator shall review and update the H1 risk assessment at the capacity levels stated within table S1.1 of this permit. The H1 shall be submitted to the Environment Agency for review.	23/02/2025			
IC14	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, 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	23/02/2025			
	Guidance 2014/C 136/-3) as follows; Stage 1 – Identify hazardous substance(s) used / stored on site.				

Table S1.3 Improvement programme requirements				
Reference	Requirement	Date		
	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.			
IC15	 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 	23/02/2025		