



Environment
Agency

Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

Molson Coors Brewing Company (UK) Limited

Burton Brewery
PO Box 217
Station Street
Burton upon Trent
Staffordshire
DE14 1BG

Variation application number

EPR/BN1437IT/V007

Permit number

EPR/BN1437IT

Burton Brewery

Permit number EPR/BN1437IT

Introductory note

This introductory note does not form a part of the notice

Under the Environmental Permitting (England & Wales) Regulations 2016 (schedule 5, part 1, paragraph 19) a variation may comprise a consolidated permit reflecting the variations and a notice specifying the variations included in that consolidated permit.

Schedule 1 of the notice specifies the conditions that have been varied and schedule 2 comprises a consolidated permit which reflects the variations being made. All the conditions of the permit have been varied and are subject to the right of appeal.

This consolidated permit has been issued following a full review against the best available techniques (BAT) conclusions for the Food, Drink and Milk Industries published on 4th December 2019 in the official journal of the European Union.

We have implemented the requirements of the Medium Combustion Plant directive, and incorporated post-dated requirements for 2025.

The schedules specify the changes made to the permit.

The main features of the permit are as follows.

Molson Coors operates the Burton Brewery, located in Burton upon Trent at National Grid Reference SK2468823263, for the manufacture of lagers, ales, and flavoured alcoholic beverages. The installation has a production capacity of approximately 6.2 million hectolitres per annum, operating 24 hours per day, 365 days per year.

The main activity at the site is subject to Environmental Permitting Regulations:

Section 6.8 Part A(1) (d)(ii) – Treating and processing for the production of food from only vegetable raw materials with a finished product production capacity greater than 300 tonnes per day.

The site operates a main brewhouse, with subsequent beer processing leading to finished product that can be sent to canning, bottling or kegging departments for packing into finished product. There is also the ability to tanker product in for packing on site, or for tankering product out for packing elsewhere. A blending and processing areas is also available to allow for the production of fruit flavoured alcoholic beverages.

Spent grains and yeast are generated as by-products of the brewing activity, both of which are removed from site for use as ingredients by third parties. Assorted other waste streams generated are captured around the site and consolidated within the waste storage area for recovery or disposal off site through a third-party.

A central energy centre operates three steam raising boilers of 42.3 MWth combined capacity, fired on natural gas, which provide heat across the site and a significant proportion of refrigeration needs through operation of an ammonia refrigeration plant. Additional refrigeration is available around site through a mix of other ammonia refrigeration plants and F gas refrigeration plants.

The majority of water used on site is abstracted from different boreholes or wells around Burton, and supply of town mains water is also available. Abstracted water is treated via reverse osmosis (RO) and chlorine dioxide dosing as required to ensure the consistency and quality required for brewing.

The majority of cleaning on site is via automated cleaning in place (CIP) systems utilising caustic or acid dosing of cleaning chemicals. Additional manual cleaning is completed as required.

All effluent generated is discharged to sewer for treatment at the Severn Trent operated Clay mills treatment works. There is one discharge to surface water which consists of uncontaminated rainwater and reject water from the site RO water treatment system.

Carbon dioxide and nitrogen may both be used on site as a process gas. A carbon dioxide recovery system is in operation which reduces sites reliance on a CO₂ supply as well as reducing emissions to air.

There is a Special Area of Conservation (SAC) site within 10mk from the site, River Mease, as well as two Local Nature Reserves, Scalpcliffe Hill and Kingfisher Trail, six Local Wildlife Reserve sites, and two Ancient Woodlands. Human receptors are located at less approximately 50m from the site's boundaries.

The status log of a permit sets out the permitting history, including any changes to the permit reference number.

Status log of the permit		
Description	Date	Comments
Application received EPR/BN1437IT/A001	25/02/2005	Application received for the production of lagers, ales, and flavoured alcoholic beverages.
Response to request for information	10/06/2005	--
Permit determined EPR/BN1437IT/A001	08/11/2005	Permit issued to Coors Brewers Limited.
Variation application EPR/BN1437IT/V002	02/10/2006	Variation applied for to burn light fuel oils in preference to natural gas in the MCPs, and administrative corrections to existing air and water emission points.
Variation application EPR/BN1437IT/V002	Duly made 11/01/2007	--
Variation application EPR/BN1437IT/V002	19/02/2007	Variation determined.
Variation notice issued EPR/BN1437IT/V003	17/12/2007	Implementation of the National Emission Reduction Plan requirements, and update ELVs and reporting requirements for air emissions of PM, SO ₂ , and NO _x .
Variation application EPR/BN1437IT/V004	Duly made 10/11/2009	Addition of a reverse osmosis plant, installation of carbon monoxide recovery plant, company name changed to Molson Coors Brewing Company (UK) Limited, and removal of air emission points A276 and A282.
Request for further information (dated 10/03/2010)	01/04/2010	Document submitted BB H1 water data Final, Water Emissions Inventory Base Option, Water Impact Modelling Base Option, Water Impact Screening Base Option, Water Impacts Base Option, Water Release Points Base Option, Water Discharge Locations.
Additional information received	22/04/2010	--
Variation application EPR/BN1437IT/V004	27/05/2010	Variation determined
Variation application EPR/BN1437IT/V005	Duly made 22/07/2013	Development of the energy centre including one standby and two boilers of 14.1 MWth input each, three air compressors, ammonia and glycol refrigeration plant, and storage facility of 4000kg storage of ammonia and 75m ³ glycol.
Request for information (dated 05/09/2013)	10/09/2013	Clarifications regarding the North and South Breweries, ammonia odour release mitigation measures, multi-flue stack height, SO ₂ and PM benchmark used in H1 assessment, description of emission points A30, A31 and A32.
Request for information (dated 12/09/2013)	19/09/2013	Clarifications regarding the added boilers, decommissioning of five boilers of 91.5 MWth combined capacity and background levels used for the H1

		assessment, fuel usage information since 2008, boilers operating hours, confirmation that data for one boiler is shown in Table 3.1 of the ADM report, and sensitive receptors location.
Variation notice issued EPR/BN1437IT/V005	14/10/2013	Variation determined.
Application EPR/BN1437IT/S006 (partial surrender)	Duly made 22/03/2021	Application to surrender the South Site and the operations associated with this area.
Partial surrender determined EPR/BN1437IT	14/05/2021	Varied and consolidated permit issued in modern format.
Application EPR/BN1437IT/V007 (variation and consolidation)	Regulation 61 Notice response received 04/10/2022	Environment Agency initiated variation and consolidation following the Food, Drink & Milk Industries sector permit review.
Request for further information (dated 17/10/2023)	27/10/2023	Information provided in relation to FDM BAT conclusions 1, 4, 5, 6, 7, 9, 11, 14, MCPs, cooling towers, CO ₂ recovery, non-technical description, updated site plan.
Variation determined and consolidation issued EPR/BN1437IT (Billing ref. JP3923PG).	08/12/2023	Varied and consolidated permit issued in modern format.

End of introductory note.

Notice of variation and consolidation

The Environmental Permitting (England and Wales) Regulations 2016

The Environment Agency in exercise of its powers under regulation 20 of the Environmental Permitting (England and Wales) Regulations 2016 varies

Permit number

EPR/BN1437IT

Issued to

Molson Coors Brewing Company (UK) Limited (“the operator”)

whose registered office is

**137 High Street
Burton Upon Trent
Staffordshire
DE14 1JZ**

company registration number 00026018

to operate a regulated facility at

**Burton Brewery
PO Box 217
Station Street
Burton upon Trent
Staffordshire
DE14 1BG**

to the extent set out in the schedules.

The notice shall take effect from 08/12/2023.

Name	Date
Marcus Woodward	08/12/2023

Authorised on behalf of the Environment Agency

Schedule 1

All conditions have been varied by the consolidated permit as a result of an Environment Agency initiated variation.

Schedule 2 – consolidated permit

Consolidated permit issued as a separate document.

Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number

EPR/BN1437IT

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/BN1437IT/V007 authorising,

Molson Coors Brewing Company (UK) Limited (“the operator”),

whose registered office is

**137 High Street
Burton Upon Trent
Staffordshire
DE14 1JZ**

company registration number 00026018

to operate an installation at

**Burton Brewery
PO Box 217
Station Street
Burton upon Trent
Staffordshire
DE14 1BG**

to the extent authorised by and subject to the conditions of this permit.

Name	Date
Marcus Woodward	08/12/2023

Authorised on behalf of the Environment Agency

Conditions

1 Management

1.1 General management

1.1.1 The operator shall manage and operate the activities:

- (a) in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints; and
- (b) using sufficient competent persons and resources.

1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.

1.1.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.

1.2 Energy efficiency

1.2.1 The operator shall:

- (a) take appropriate measures to ensure that energy is used efficiently in the activities;
- (b) review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and
- (c) take any further appropriate measures identified by a review.

1.3 Efficient use of raw materials

1.3.1 The operator shall:

- (a) take appropriate measures to ensure that raw materials and water are used efficiently in the activities;
- (b) maintain records of raw materials and water used in the activities;
- (c) review and record at least every four years whether there are suitable alternative materials that could reduce environmental impact or opportunities to improve the efficiency of raw material and water use; and
- (d) take any further appropriate measures identified by a review.

1.4 Avoidance, recovery and disposal of wastes produced by the activities

1.4.1 The operator shall take appropriate measures to ensure that:

- (a) the waste hierarchy referred to in Article 4 of the Waste Framework Directive is applied to the generation of waste by the activities; and
- (b) any waste generated by the activities is treated in accordance with the waste hierarchy referred to in Article 4 of the Waste Framework Directive; and
- (c) where disposal is necessary, this is undertaken in a manner which minimises its impact on the environment.

1.4.2 The operator shall review and record at least every four years whether changes to those measures should be made and take any further appropriate measures identified by a review.

2 Operations

2.1 Permitted activities

2.1.1 The operator is only authorised to carry out the activities specified in schedule 1 table S1.1 (the “activities”).

2.2 The site

2.2.1 The activities shall not extend beyond the site, being the land shown edged in green on the site plan at schedule 7 to this permit.

2.3 Operating techniques

2.3.1 The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by the Environment Agency.

2.3.2 If notified by the Environment Agency that the activities are giving rise to pollution, the operator shall submit to the Environment Agency for approval within the period specified, a revision of any plan or other documentation (“plan”) specified in schedule 1, table S1.2 or otherwise required under this permit which identifies and minimises the risks of pollution relevant to that plan, and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by the Environment Agency.

2.3.3 The operator shall ensure that where waste produced by the activities is sent to a relevant waste operation, that operation is provided with the following information, prior to the receipt of the waste:

- (a) the nature of the process producing the waste;
- (b) the composition of the waste;
- (c) the handling requirements of the waste;
- (d) the hazardous property associated with the waste, if applicable; and
- (e) the waste code of the waste.

2.3.4 The operator shall ensure that where waste produced by the activities is sent to a landfill site, it meets the waste acceptance criteria for that landfill.

2.4 Improvement programme

2.4.1 The operator shall complete the improvements specified in schedule 1 table S1.3 by the date specified in that table unless otherwise agreed in writing by the Environment Agency.

2.4.2 Except in the case of an improvement which consists only of a submission to the Environment Agency, the operator shall notify the Environment Agency within 14 days of completion of each improvement.

3 Emissions and monitoring

3.1 Emissions to water, air or land

- 3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 tables S3.1, S3.2 and S3.3.
- 3.1.2 The limits given in schedule 3 shall not be exceeded.
- 3.1.3 Periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil, unless such monitoring is based on a systematic appraisal of the risk of contamination.

3.2 Emissions of substances not controlled by emission limits

- 3.2.1 Emissions of substances not controlled by emission limits (excluding odour) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved emissions management plan, have been taken to prevent or where that is not practicable, to minimise, those emissions.
- 3.2.2 The operator shall:
 - (a) if notified by the Environment Agency that the activities are giving rise to pollution, submit to the Environment Agency for approval within the period specified, an emissions management plan which identifies and minimises the risks of pollution from emissions of substances not controlled by emission limits;
 - (b) implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.
- 3.2.3 All liquids in containers, whose emission to water or land could cause pollution, shall be provided with secondary containment, unless the operator has used other appropriate measures to prevent or where that is not practicable, to minimise, leakage and spillage from the primary container.

3.3 Odour

- 3.3.1 Emissions from the activities shall be free from odour at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved odour management plan, to prevent or where that is not practicable to minimise the odour.
- 3.3.2 The operator shall:
 - (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to odour, submit to the Environment Agency for approval within the period specified, an odour management plan which identifies and minimises the risks of pollution from odour;
 - (b) implement the approved odour management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.4 Noise and vibration

- 3.4.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan to prevent or where that is not practicable to minimise the noise and vibration.
- 3.4.2 The operator shall:

- (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to noise and vibration, submit to the Environment Agency for approval within the period specified, a noise and vibration management plan which identifies and minimises the risks of pollution from noise and vibration;
- (b) implement the approved noise and vibration management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.5 Monitoring

- 3.5.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring specified in the following tables in schedule 3 to this permit:
 - (a) point source emissions specified in tables S3.1, S3.2 and S3.3.
- 3.5.2 The operator shall maintain records of all monitoring required by this permit including records of the taking and analysis of samples, instrument measurements (periodic and continual), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data.
- 3.5.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.5.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate), where available, unless otherwise agreed in writing by the Environment Agency.
- 3.5.4 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in schedule 3 tables S3.1, S3.2 and S3.3 unless otherwise agreed in writing by the Environment Agency.

3.6 Pests

- 3.6.1 The activities shall not give rise to the presence of pests which are likely to cause pollution, hazard or annoyance outside the boundary of the site. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved pests management plan, have been taken to prevent or where that is not practicable, to minimise the presence of pests on the site.
- 3.6.2 The operator shall:
 - (a) if notified by the Environment Agency, submit to the Environment Agency for approval within the period specified, a pests management plan which identifies and minimises risks of pollution from pests;
 - (b) implement the pests management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

4 Information

4.1 Records

- 4.1.1 All records required to be made by this permit shall:
 - (a) be legible;
 - (b) be made as soon as reasonably practicable;
 - (c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and

- (d) be retained, unless otherwise agreed in writing by the Environment Agency, for at least 6 years from the date when the records were made, or in the case of the following records until permit surrender:
 - (i) off-site environmental effects; and
 - (ii) matters which affect the condition of the land and groundwater.

4.1.2 The operator shall keep on site all records, plans and the management system required to be maintained by this permit, unless otherwise agreed in writing by the Environment Agency.

4.2 Reporting

4.2.1 The operator shall send all reports and notifications required by the permit to the Environment Agency using the contact details supplied in writing by the Environment Agency.

4.2.2 A report or reports on the performance of the activities over the previous year shall be submitted to the Environment Agency by 31 January (or other date agreed in writing by the Environment Agency) each year. The report(s) shall include as a minimum:

- (a) a review of the results of the monitoring and assessment carried out in accordance with the permit including an interpretive review of that data;
- (b) the annual production/treatment data set out in schedule 4 table S4.2; and
- (c) the performance parameters set out in schedule 4 table S4.3 using the forms specified in table S4.4 of that schedule.

4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by the Environment Agency, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:

- (a) in respect of the parameters and emission points specified in schedule 4 table S4.1;
- (b) for the reporting periods specified in schedule 4 table S4.1 and using the forms specified in schedule 4 table S4.4; and
- (c) giving the information from such results and assessments as may be required by the forms specified in those tables.

4.2.4 The operator shall, unless notice under this condition has been served within the preceding four years, submit to the Environment Agency, within six months of receipt of a written notice, a report assessing whether there are other appropriate measures that could be taken to prevent, or where that is not practicable, to minimise pollution.

4.3 Notifications

4.3.1 In the event:

- (a) that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately—
 - (i) inform the Environment Agency,
 - (ii) take the measures necessary to limit the environmental consequences of such an incident or accident, and
 - (iii) take the measures necessary to prevent further possible incidents or accidents;
- (b) of a breach of any permit condition the operator must immediately—
 - (i) inform the Environment Agency, and
 - (ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;

- (c) of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.

4.3.2 Any information provided under condition 4.3.1 shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.

4.3.3 Where the Environment Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Environment Agency when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to the Environment Agency at least 14 days before the date the monitoring is to be undertaken.

4.3.4 The Environment Agency shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:

Where the operator is a registered company:

- (a) any change in the operator's trading name, registered name or registered office address; and
- (b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.

Where the operator is a corporate body other than a registered company:

- (a) any change in the operator's name or address; and
- (b) any steps taken with a view to the dissolution of the operator.

In any other case:

- (a) the death of any of the named operators (where the operator consists of more than one named individual);
- (b) any change in the operator's name(s) or address(es); and
- (c) any steps taken with a view to the operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case of them being in a partnership, dissolving the partnership.

4.3.5 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:

- (a) the Environment Agency shall be notified at least 14 days before making the change; and
- (b) the notification shall contain a description of the proposed change in operation.

4.3.6 The Environment Agency shall be given at least 14 days' notice before implementation of any part of the site closure plan.

4.3.7 Where the operator has entered into a climate change agreement with the Government, the Environment Agency shall be notified within one month of:

- (a) a decision by the Secretary of State not to re-certify the agreement;
- (b) a decision by either the operator or the Secretary of State to terminate the agreement; and
- (c) any subsequent decision by the Secretary of State to re-certify such an agreement.

4.4 Interpretation

4.4.1 In this permit the expressions listed in schedule 6 shall have the meaning given in that schedule.

4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made “immediately”, in which case it may be provided by telephone.

Schedule 1 – Operations

Table S1.1 activities			
Activity reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
AR1	Section 6.8 Part A(1) (d)(ii)	Treating and processing for the production of food from only vegetable raw materials with a finished product production capacity greater than 300 tonnes per day.	From receipt of raw materials to dispatch of finished products of lagers and ales from five brewing lines, bottled in three pasteurising lines, canned in three pasteurising lines, or kegged in two pasteurising lines. Production capacity is limited to 3,014 tonnes per day.
Directly Associated Activity			
AR2	Steam supply	Medium Combustion plants: 3 X 14.1 Boilers Natural gas fired	From receipt of fuel to release of products of combustion to air. Gas oil for back-up use is limited to operate for the purpose of testing for no more than 50 hours per year and no more than 500 hours operation in an emergency.
AR3	Raw material storage and handling	Storage and handling of raw materials at the installation	From receipt of raw materials to dispatch of final product.
AR4	Use of refrigerants	Use of refrigerants in cooling, chilling and/or freezing systems at the installation.	From receipt of raw materials to dispatch of final product.
AR5	Storage and use of chemicals and oils	Storage and use of chemicals and oils at the installation.	From receipt of chemicals and oils to disposal of wastes arising.
AR6	Waste storage and handling	Storage and handling of waste materials	From generation of waste to storage pending removal for disposal or recovery.
AR7	Process cooling waters	Operation of one cooling towers	From operation of cooling towers, including chemical dosing.
AR8	Surface water drainage	Collection of uncontaminated site surface waters	Handling and storage of site drainage until discharge to the site surface water system.
AR9	CO ₂ Recovery	Recovery of CO ₂ from the fermentation process	From generation of CO ₂ to recovery, management and use.

Table S1.1 activities			
Activity reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
AR10	Water treatment	Reverse osmosis and ion exchange treatment of water for use in production and cleaning, including chemical treatment.	Receipt of water from borehole or mains supply to forwarding for use in production or cleaning.

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application for Variation EPR/BN1437IT/V004	Response to question 5c in application form Part A and responses to questions 1b, 4a, 5 and 9 in application form Part C.	10/11/2009
Additional information	Further information received describing the carbon dioxide recovery plant.	01/04/2010
	Further information received describing the new reverse osmosis plant.	22/04/2010
Application for Variation EPR/BN1437IT/V005	Operating techniques described in the application and email.	22/07/2013 10/09/2013
Partial surrender application EPR/BN1437IT/S006	201218 R JER1741 LH Partial Surrender and Variation Report V2 R1, section 4, nature of the variation. Emission point plan: 500-2733.	15/01/2021
	Site layout plan: 500-2730A EPR Permit Site Layout Inc Middle Yard – Layout1.	22/03/2021
Regulation 61 (1) Notice – Responses to questions dated 07/06/2022	All parts	04/10/2022
Request for further information dates 17/10/2023	Information concerning BATcs 1, 4, 5, 6, 7(a), 9, 11, 14, MCPs, cooling towers, CO ₂ recovery, non-technical description of listed activity, updated site plan.	27/10/2023

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC11	The Operator shall submit a written report to the Environment Agency of monitoring carried out to determine the size distribution of particulate matter in the exhaust gas emissions to air from emission point [A34 to A43], identifying the fractions within the PM ₁₀ and PM _{2.5} ranges. The monitoring shall be carried out under representative operating conditions and shall be in accordance with EN ISO 23210 unless otherwise agreed with the Environment Agency.	12 months from permit issue or other date as agreed in writing with the Environment Agency
IC12	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:	12 months from permit issue or other date as agreed in

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
	<ul style="list-style-type: none"> • 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. <p>The Operator shall implement any necessary improvements to a timetable agreed in writing with the Environment Agency.</p>	writing with the Environment Agency
IC13	<p>The Operator shall undertake a survey of the primary, secondary and tertiary containment at the site and review measures against relevant standard including:</p> <ul style="list-style-type: none"> • CIRIA Containment systems for the prevention of pollution (C736) – Secondary, tertiary and other measures for industrial and commercial premises, • EEMUA 159 - Above ground flat bottomed storage tanks <p>The operator shall submit a written report to the Environment Agency approval which outlines the results of the survey and the review of standard and provide details of</p> <ul style="list-style-type: none"> • current containment measures • any deficiencies identified in comparison to relevant standards, • improvements proposed • time scale for implementation of improvements. <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
IC14	<p>The Operator shall submit a written report to the Environment Agency for technical assessment and approval on the feasibility of installing effluent treatment and include a review of treatment options available along with their associated benefits. Justification is required where no on-site treatment is provided, taking into account the nature of the wastewater and any subsequent off-site treatment. In addition the report needs to consider the appropriate on-site monitoring of the effluent stream prior to disposal. (BAT 3, 4 and 12 Best Available Techniques Reference Document and BAT Conclusions document for the food, drink and milk industry dated December 2019).</p>	12 months from permit issue

Schedule 2 – Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels	
Raw materials and fuel description	Specification
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Schedule 3 – Emissions and monitoring

Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
A1 [Point B1 to B13 on site plan in Schedule 7]	PRVs from multiple sources	NH ₃ , NO _x , CO, CO ₂	No limit included	--	--	--
A2 [Point B14 to B97 on site plan in Schedule 7]	PRVs from multiple sources	Welding fumes, CO ₂ , NO ₂	No limit included	--	--	--
A9 [Point A9 on site plan in Schedule 7]	North mash vessel 1	VOCs	No limit included	--	--	--
A10 [Point A10 on site plan in Schedule 7]	North mash vessel 2	VOCs	No limit included	--	--	--
A12 [Point A12 on site plan in Schedule 7]	North copper 1	VOCs	No limit included	--	--	--
A14 [Point A14 on site plan in Schedule 7]	North copper 2	VOCs	No limit included	--	--	--
A16 [Point A16 on site plan in Schedule 7]	North whirlpool 1	VOCs	No limit included	--	--	--
A18 [Point A18 on site plan in Schedule 7]	North whirlpool 2	VOCs	No limit included	--	--	--
A29 [Point A29 on site plan in Schedule 7]	Carbon dioxide recovery plant PRV	CO ₂	No limit included	--	--	--
A30 [Point A30 on site plan in Schedule 7]	Boiler 1 14.1MWth Natural gas (shared stack with	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	100 mg/m ³	Periodic	Annually	BS EN 14792
		Carbon monoxide	50 mg/m ³	Periodic	Annually	MCERTS BS EN15058
	Boiler 1	Oxides of Nitrogen	215 mg/m ³ [Note 1]	Periodic	Six monthly, when more than 15 days	BS EN 14792

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
	14.1MWth when fired on gas oil	(NO and NO ₂ expressed as NO ₂)	200 mg/m ³ [Note 2]		light fuel oil firing has taken place. [Note 1]	
					After 500 operating hours have elapsed [Note 2]	
		Particulate matter	20 mg/m ³	Average over sampling period	After 500 operating hours have elapsed	BS EN 13284-1
		Sulphur dioxide (SO ₂)	175 mg/m ³	Periodic	After 500 operating hours have elapsed	EN 14791
		Carbon monoxide (CO)	50 mg/m ³	Periodic	After 500 operating hours have elapsed	BS EN 15267-3
A31 [Point A31 on site plan in Schedule 7]	Boiler 2 14.1MWth Natural gas	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	100 mg/m ³	Periodic	Annually	BS EN 14792
		Carbon monoxide	50 mg/m ³	Periodic	Annually	MCERTS BS EN15058
	Boiler 2 14.1MWth when fired on gas oil	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	215 mg/m ³ [Note 1]	Periodic	Six monthly, when more than 15 days light fuel oil firing has taken place. [Note 1]	BS EN 14792
			200 mg/m ³ [Note 2]		After 500 operating hours have elapsed [Note 2]	
		Particulate matter	20 mg/m ³	Average over sampling period	After 500 operating hours have elapsed	BS EN 13284-1
		Sulphur dioxide (SO ₂)	175 mg/m ³	Periodic	After 500 operating hours have elapsed	EN 14791
	Carbon monoxide (CO)	50 mg/m ³	Periodic	After 500 operating hours have elapsed	BS EN 15267-3	
A32 [Point A32 on site plan in Schedule 7]	Boiler 3 14.1MWth Natural gas	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	100 mg/m ³	Periodic	Annually	BS EN 14792
		Carbon monoxide	50 mg/m ³	Periodic	Annually	MCERTS BS EN15058

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
	Boiler 3 14.1MWth when fired on gas oil	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	215 mg/m ³ [Note 1]	Periodic	Six monthly, when more than 15 days light fuel oil firing has taken place. [Note 1]	BS EN 14792
			200 mg/m ³ [Note 2]		After 500 operating hours have elapsed [Note 2]	
		Particulate matter	20 mg/m ³	Average over sampling period	After 500 operating hours have elapsed	BS EN 13284-1
		Sulphur dioxide (SO ₂)	175 mg/m ³	Periodic	After 500 operating hours have elapsed	EN 14791
		Carbon monoxide (CO)	50 mg/m ³	Periodic	After 500 operating hours have elapsed	BS EN 15267-3
A33 [Point A33 on site plan in Schedule 7]	Standby generators for the sprinkler system and hydrant fire pumps	No parameter set	No limit set	--	--	--
A34 [Point A34 on site plan in Schedule 7]	Air grain separator via cyclone	Particulate matter	10 mg/m ³	Average over sampling period	Annually	BS EN 13284-1
A35 [Point A35 on site plan in Schedule 7]	D3000 dust plant via bag filter	Particulate matter	10 mg/m ³	Average over sampling period	Annually	BS EN 13284-1
A36 [Point A36 on site plan in Schedule 7]	D5000 dust plant via bag filter	Particulate matter	10 mg/m ³	Average over sampling period	Annually	BS EN 13284-1
A37 [Point A37 on site plan in Schedule 7]	Dust filter NDF1 via bag filter	Particulate matter	10 mg/m ³	Average over sampling period	Annually	BS EN 13284-1
A38 [Point A38 on site plan in Schedule 7]	Dust filter NDF2 via bag filter	Particulate matter	10 mg/m ³	Average over sampling period	Annually	BS EN 13284-1
A39 [Point A39 on site plan in Schedule 7]	AGS1 Air grain separator	Particulate matter	10 mg/m ³	Average over sampling period	Annually	BS EN 13284-1

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
	via cyclone					
A40 [Point A40 on site plan in Schedule 7]	AGS2 Air grain separator via cyclone	Particulate matter	10 mg/m ³	Average over sampling period	Annually	BS EN 13284-1
A41 [Point A41 on site plan in Schedule 7]	AGS3 Air grain separator via cyclone	Particulate matter	10 mg/m ³	Average over sampling period	Annually	BS EN 13284-1
A42 [Point A42 on site plan in Schedule 7]	Hammer mill 1 via bag filter	Particulate matter	5 mg/m ³	Average over sampling period	Annually	BS EN 13284-1
A43 [Point A43 on site plan in Schedule 7]	Hammer mill 3 via bag filter	Particulate matter	5 mg/m ³	Average over sampling period	Annually	BS EN 13284-1
<p>Note 1: This emission limit and monitoring requirement applies until 01 January 2025, unless otherwise advised by the Environment Agency.</p> <p>Note 2: This emission limit and monitoring requirement applies from 01 January 2025, unless otherwise advised by the Environment Agency.</p>						

Table S3.2 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (incl. unit)	Reference Period	Monitoring frequency [Note 2]	Monitoring standard or method
W1 on site plan in schedule 7 emission to River Trent	Uncontaminated surface run-off and RO excess water via interceptor	Chlorine (as HOCl),	1.0 mg/l	24-hour flow proportional sample	Weekly composite proportional flow	Note 1
		Chloroform	0.5 mg/l	24-hour flow proportional sample	Weekly composite proportional flow	Note 1
<p>Note 1: Method to be agreed in writing with the Environment Agency.</p> <p>Note 2: If the emission levels are proven to be sufficiently stable, a lower monitoring frequency can be adopted, but in any case at least every month.</p>						

**Table S3.3 Point source emissions to sewer, effluent treatment plant or other transfers off-site—
emission limits and monitoring requirements**

Emission point ref. & location	Source	Parameter	Limit (incl. Unit)	Reference period	Monitoring frequency	Monitoring standard or method
S1 [Point S1 to S7 on site plan in schedule 7] emission to Severn Trent Water sewer	Liquid discharge from beer brewing process	No parameters Set	No limit set	--	--	--

Schedule 4 – Reporting

Parameters, for which reports shall be made, in accordance with conditions of this permit, are listed below.

Table S4.1 Reporting of monitoring data			
Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Point source emissions to air Parameters as required by condition 3.5.1	A34 to A43	Every 12 months	1 January
	MCPs A30, A31, A32	Every 12 months	1 January
	MCPs A30, A31, A32 when gas oil is used	First monitoring undertaken in accordance with Condition 3.1.4 to be reported within 3 months, and then every 3 years thereafter.	
	W1	Quarterly	1 January, 1 April, 1 July & 1 October

Table S4.2: Annual production/treatment	
Parameter	Units
Production of beer	hectolitres
CO ₂ Recovered	tonnes

Table S4.3 Performance parameters		
Parameter	Frequency of assessment	Units
Water usage	Annually	m ³
Energy usage	Annually	MWh
Waste – recovery/disposal routes	Annually	tonnes
COD efficiency	Annually*	COD te/te product
Food waste	Annually	tonnes
BOD	Annually	BOD kg/tonne
Waste hazard score	Annually	--
Waste disposal score	Annually	--
Production of co-products	Annually	tonnes
Hours each boiler fuelled by oil	Annually	hours

*COD efficiency to be calculated on a weekly frequency, reported annually

Table S4.4 Reporting forms		
Parameter	Reporting form	Form version number and date
Point source emissions to air	Emissions to Air Reporting Form, or other form as agreed in writing by the Environment Agency	Version 1, 08/03/2021
Water usage	Water Usage Reporting Form, or other form as agreed in writing by the Environment Agency	Version 1, 08/03/2021
Energy usage	Energy Usage Reporting Form, or other form as agreed in writing by the Environment Agency	Version 1, 08/03/2021
Food Waste	Food waste Reporting Form, or other form as agreed in writing by the Environment Agency	Version 1 06/02/2023
Other performance parameters	Other Performance Parameters Reporting Form, or other form as agreed in writing by the Environment Agency	Version 1, 08/03/2021

Schedule 5 – Notification

These pages outline the information that the operator must provide.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

If any information is considered commercially confidential, it should be separated from non-confidential information, supplied on a separate sheet and accompanied by an application for commercial confidentiality under the provisions of the EP Regulations.

Part A

Permit Number	
Name of operator	
Location of Facility	
Time and date of the detection	

(a) Notification requirements for any malfunction, breakdown or failure of equipment or techniques, accident, or emission of a substance not controlled by an emission limit which has caused, is causing or may cause significant pollution	
To be notified within 24 hours of detection	
Date and time of the event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substances(s) potentially released	
Best estimate of the quantity or rate of release of substances	
Measures taken, or intended to be taken, to stop any emission	
Description of the failure or accident.	

(b) Notification requirements for the breach of a limit	
To be notified within 24 hours of detection unless otherwise specified below	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value and uncertainty	
Date and time of monitoring	

(b) Notification requirements for the breach of a limit	
To be notified within 24 hours of detection unless otherwise specified below	
Measures taken, or intended to be taken, to stop the emission	

Time periods for notification following detection of a breach of a limit	
Parameter	Notification period

(c) Notification requirements for the breach of permit conditions not related to limits	
To be notified within 24 hours of detection	
Condition breached	
Date, time and duration of breach	
Details of the permit breach i.e. what happened including impacts observed.	
Measures taken, or intended to be taken, to restore permit compliance.	

(d) Notification requirements for the detection of any significant adverse environmental effect	
To be notified within 24 hours of detection	
Description of where the effect on the environment was detected	
Substances(s) detected	
Concentrations of substances detected	
Date of monitoring/sampling	

Part B – to be submitted as soon as practicable

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident	

Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission	
The dates of any unauthorised emissions from the facility in the preceding 24 months.	

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of the operator

Schedule 6 – Interpretation

“accident” means an accident that may result in pollution.

“application” means the application for this permit, together with any additional information supplied by the operator as part of the application and any response to a notice served under Schedule 5 to the EP Regulations.

“authorised officer” means any person authorised by the Environment Agency under section 108(1) of The Environment Act 1995 to exercise, in accordance with the terms of any such authorisation, any power specified in section 108(4) of that Act.

“average over the sampling period” means the average value of three consecutive measurements of at least 30 minutes each, unless otherwise stated, as defined in the General Considerations section of the Food, Drink & Milk Industries BAT Conclusions.

“emissions to land” includes emissions to groundwater.

“EP Regulations” means The Environmental Permitting (England and Wales) Regulations SI 2016 No.1154 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

“emissions of substances not controlled by emission limits” means emissions of substances to air, water or land from the activities, either from the emission points specified in schedule 3 or from other localised or diffuse sources, which are not controlled by an emission limit.

“Food waste” reporting: Reporting of food waste to use a methodology such as the global Food Loss and Waste Accounting and Reporting Standard (FLW standard) , WRAP’s Target Measure Act initiative or similar.

“groundwater” means all water, which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

“Industrial Emissions Directive” means DIRECTIVE 2010/75/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 November 2010 on industrial emissions, as read in accordance with Schedule 1A to the Environmental Permitting (England and Wales) Regulations 2016.

“MCERTS” means the Environment Agency’s Monitoring Certification Scheme.

“Medium Combustion Plant” or “MCP” means a combustion plant with a rated thermal input equal to or greater than 1 MW but less than 50 MW. An “existing medium combustion plant” is combustion plant operating before 20 December 2018.

“Medium Combustion Plant Directive” or “MCPD” means Directive 2015/2193/EU of the European Parliament and of the Council on the limitation of emissions of certain pollutants into the air from medium combustion plants, as read in accordance with Schedule 1A to the Environmental Permitting (England and Wales) Regulations 2016.

“Pests” means Birds, Vermin and Insects.

Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit shall mean that the parameter shall not be less than that limit.

Unless otherwise stated, any references in this permit to concentrations of substances in emissions into air means:

- in relation to emissions from combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 3% dry for liquid and gaseous fuels other than gas engines or gas turbines, 6% dry for solid fuels; and/or
- in relation to emissions from gas engines or gas turbines, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 15% dry for liquid and gaseous fuels; and/or

- in relation to emissions from non-combustion sources, the concentration at a temperature of 273K and at a pressure of 101.3 kPa, with no correction for water vapour content

“year” means calendar year ending 31 December.

Schedule 7 – Site plan



END OF PERMIT

Permit number
 EPR/BN1437IT