Permitting Decisions- Variation

We have decided to grant the variation for Great Ryburgh Maltings operated by Crisp Malting Group Limited.

The variation number is EPR/FP3037PA/V012

We have also carried out an Environment Agency initiated variation to the permit, referenced as EPR/FP3037PA/V010. We have updated some of the permit conditions following a statutory review of the permits in the Food, Drink & Milk industry sector.

Changes introduced by this variation made by the operator (V012)

The permit has been varied to allow the following change on site:

The replacement of the existing combined heat and power (CHP) plant with one of a similar size. The previous CHP plant had a thermal input of 3.4 MWth whereas the new CHP plant has a thermal input of 3.56 MWth. The new CHP will utilise the same emission points (A3/A4) and operate on natural gas. Whilst compared to the previous CHP plant the new CHP plant offers increased efficiency of 87.9% compared to 84.6% as well as being 20% hydrogen ready, which will allow for some future decarbonisation of the site. The CHP plant meets the requirements of the medium combustion directive and the associated limits will be applicable from the date of permit issue.

Changes introduced by this variation notice/statutory review (V010)

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 2030 for the existing back-up boiler the main boiler is already subject to the requirements of the Medium Combustion Plant directive

We consider in reaching that decision we have taken into account all relevant considerations and legal requirements and that the permit will ensure that the appropriate level of environmental protection is provided.

Purpose of this document

This decision document provides a record of the decision-making process. It

1) highlights key issues in the determination

2) summarises the decision making process in the decision considerations section to show how the main relevant factors have been taken into account

Points 1 and 2 relate to those aspects of the variation which have been applied for by the Operator (EPR/ FP3037PA /V012), and are contained within Part 1 of this decision document

3) explains why we have also made an Environment Agency initiated variation

Point 3 relates to our statutory Food, Drink and Milk review of the permit (EPR/ FP3037PA /V010) and is described in Part 2 of this decision document

Unless the decision document specifies otherwise, we have accepted the applicant's proposals.

Read the permitting decisions in conjunction with the environmental permit and the variation notice.

Key issues of the decision

Combined Heat and Power Plant (CHP) Replacement

The variation applied for by the Operator is to replace the existing CHP plant with a newer more efficient CHP plant. The replaced CHP will utilise the existing emission points and will exhaust to atmosphere via emission points A3 and A4. The replacement CHP is of a similar, albeit of a slighter larger size with a rated thermal input of 3.54 MWth, whereas the existing CHP has a rated thermal input of 3.4 MWth. The new CHP offers increased efficiency as well as being 20% hydrogen ready, which will allow for some future decarbonisation of the site. The CHP plant meets the requirements of the medium combustion directive and the associated limits will be applicable from the date of permit issue.

The Operator provided a comparison of the performance of the old and new CHP plant, which was supplied by the manufacturer:

- The efficiency of the new CHP plant is 87.9% (compared with 84.6% for the old CHP plant), based on the net calorific value.

- Using natural gas, emissions of oxides of nitrogen (NOx) from the new boiler will be <95 mg/m3 (compared with <190 mg/m3 for the old boiler) at the relevant reference conditions (15% O2)

- The emission of nitrogen oxide from the new CHP plant have been calculated at 11.5 tonnes/year (compared to 21.7 tonnes/year from the existing CHP plant) based on an assumption of 100% load and 8000 hours of operation.

We consider that the outcomes of the previous H1 assessment, submitted with the variation (V009) are valid for the replacement of the CHP. The H1 was completed when the existing CHP plant was installed on site, replacing a previous CHP plant with a higher thermal input.

The results from the previous H1 assessment indicated that for human health:

- short-term emissions of NO2 screen out as insignificant at stage 1 of the assessment – the short-term process contribution (PCST) < 10% of the relevant environmental standard (ES) (8.17%).

- long-term emissions of NO2 do not screen out at stage 1, but when background concentrations are taken into account in stage 2 of the screening, the long-term predicted environmental concentration (PECLT) is < 70% of the ES (23.3%). Long-term emissions are therefore unlikely to give rise to significant pollution and no further assessment is required.

The results from the previous H1 assessment indicated that for habitats:

The River Wensum Special Area of Conservation (SAC) and Site of Special Scientific Interest (SSSI) is approximately 370 metres to the north east of the site at its closest point. There are also five local wildlife sites and an ancient woodland within relevant screening distances, the closest being land adjacent to Pensthorpe approximately 300 metres north east of the site. For ecological receptors:

- short-term emissions of NO2 did not screen out at either stage 1 or stage 2 of the assessment – at stage 1, PCST > 10% of the ES (21.8%) and at stage 2, PCST > 20% of the ES minus twice the long-term background concentration (28.3%). It is our view that, given the CHP was installed at the site in 2014, these emissions are already represented within the background NO2 concentration. The background NO2 concentration is stated by the operator to be 8.6 µg/m3. This is 11% of the ES and would indicate that the emissions are unlikely to give rise to significant pollution and no further assessment is required.

- the operator's H1 did not compare the long-term PC of NO2 to the relevant ES. However, at stage 1 of the screening, PCLT >1% of the ES (2.33%) and therefore do not screen out. At stage 2, PECLT is < 70% of the ES (31%). Long-term impacts of NO2 on ecological receptors are therefore not likely to be significant and no further assessment is required.

The previous assessment showed that there is sufficient headroom between the emissions from the site and the environmental standard. As such we are confident that whilst the new CHP plant is of a slightly larger size there is likely to be no significant impact on the surrounding air quality.

Decision considerations

Confidential information

A claim for commercial or industrial confidentiality has not been made.

The decision was taken in accordance with our guidance on confidentiality.

Identifying confidential information

We have not identified information provided as part of the application that we consider to be confidential.

The decision was taken in accordance with our guidance on confidentiality.

The regulated facility

We considered the extent and nature of the facility at the site in accordance with RGN2 ‘Understanding the meaning of regulated facility’, Appendix 2 of RGN2 ‘Defining the scope of the installation’, and Appendix 1 of RGN 2 ‘Interpretation of Schedule 1

The extent of the facility is defined in the site plan and in the permit. The activities are defined in table S1.1 of the permit.

The site

The operator has provided a plan which we consider to be satisfactory.
The plan is included in the permit.

Nature conservation, landscape, heritage and protected species and habitat designations

We have checked the location of the application to assess if it is within the screening distances we consider relevant for impacts on nature conservation, landscape, heritage and protected species and habitat designations. The application is within our screening distances for these designations.

- River Wensum SAC (Special Areas of Conservation)
- River Wensum SSSI (Sites of Special Scientific Interest)

We have assessed the application and its potential to affect sites of nature conservation, landscape, heritage and protected species and habitat designations

identified in the nature conservation screening report as part of the permitting process.

We consider that the application will not affect any site of nature conservation, landscape and heritage, and/or protected species or habitats identified.

We have not consulted Natural England.

The decision was taken in accordance with our guidance.

Environmental risk

We have reviewed the operator's assessment of the environmental risk from the facility.

The operator’s risk assessment is satisfactory.

General operating techniques

We have reviewed the techniques used by the operator and compared these with the relevant guidance notes and we consider them to represent appropriate techniques for the facility.

The operating techniques that the applicant must use are specified in table S1.2 in the environmental permit.

Operating techniques for emissions that screen out as insignificant

Emissions of nitrogen oxide have been screened out as insignificant, and so we agree that the applicant’s proposed techniques are Best Available Techniques (BAT) for the installation.

We consider that the emission limits included in the installation permit reflect the BAT for the sector.

National Air Pollution Control Programme

We have considered the National Air Pollution Control Programme as required by the National Emissions Ceilings Regulations 2018. By setting emission limit values in line with technical guidance we are minimising emissions to air. This will aid the delivery of national air quality targets. We do not consider that we need to include any additional conditions in this permit.

Changes to the permit conditions due to an Environment Agency initiated variation

We have varied the permit as part of the Food, Drink & Milk Permit Review.

Improvement programme

Based on the information on the application, we consider that we need to include an improvement programme.

As part of the Food, Drink & Milk Permit review we have included an improvement programme for the Operator to undertake a review of the efficiency and suitability of the onsite dust abatement from the Barley Drying Plant (A17), against a benchmark figure of 20mg/m^3. In addition, improvement conditions have been included to determine the size distribution of particulate matter (PM_{10} & PM $_{2.5}$) in exhaust gas emissions from the dryer. Improvement conditions have also been included for the review of onsite containment against the CIRIA 736 Standard and to produce a climate change adaptation plan.

See Annex 3 below for further details.

Emission limits

We have implemented MCPD limits for emissions of Oxides of nitrogen (NO and NO_2 expressed as NO_2) of 95mg/Nm^3 for the new CHP plant (emission point A3/A4). In addition, we have included the MCPD limits for emissions of Oxides of nitrogen (NO and NO_2 expressed as NO_2) of 250 mg/Nm^3 for the existing boilers (Boilers 1 & 2, emission point A5). The limits shall come into effect from 01/01/2025 unless the boilers are replaced. We have also included the MCPD limits for emissions of Oxides of nitrogen for the thermal fluid boiler (Boiler 3, emission point A8) when operating on gas oil, the ELV shall only apply if operating for more than 500 hours a year.

Monitoring

We have decided that monitoring should be added for the emissions of Oxides of nitrogen (NO and NO_2 expressed as NO_2) from the new CHP plant as per the MCPD. In addition, we have included monitoring requirements for emissions of Oxides of nitrogen (NO and NO_2 expressed as NO_2) for the existing boilers (Boilers 1 & 2, A5). The monitoring requirements shall come into effect from 01/01/2025 unless the boilers are replaced.

These monitoring requirements have been imposed in order for the operator to demonstrate compliance with the emission limits specified in the permit. The

operator will carry out monitoring in accordance with the relevant methods specified in our guidance M5.

We made these decisions in accordance with MCP and SG technical guidance: Medium Combustion Plant guidance: https://www.gov.uk//guidance/medium-combustion-plant-and-specified-generator-permits-how-to-comply

Based on the information in the application we are satisfied that the operator's techniques, personnel and equipment have either MCERTS certification or MCERTS accreditation as appropriate.

Reporting

We have added reporting in the permit for emissions of Oxides of nitrogen (NO and NO_2 expressed as NO_2 from the new CHP plant as per the MCPD. In addition, we have included reporting requirements for emissions of Oxides of nitrogen (NO and NO_2 expressed as NO_2) for the existing boilers (Boilers 1 & 2, A5).

We made these decisions in accordance with the requirements of the Medium Combustion Plant Directive for medium combustion plants with a rated thermal input equal to or greater than 1MW and less than or equal to 20MW, we have specified 3 yearly monitoring.

We made these decisions in accordance with the MCP and SG technical guidance: Medium Combustion Plant Guidance: https://www.gov.uk//guidance/medium-combustion-plant-and-specified-generator-permits-how-to-comply.

Management system

We are not aware of any reason to consider that the operator will not have the management system to enable it to comply with the permit conditions.
The decision was taken in accordance with the guidance on operator competence and how to develop a management system for environmental permits.

Growth duty

We have considered our duty to have regard to the desirability of promoting economic growth set out in section 108(1) of the Deregulation Act 2015 and the guidance issued under section 110 of that Act in deciding whether to grant this permit variation.

Paragraph 1.3 of the guidance says:

"The primary role of regulators, in delivering regulation, is to achieve the regulatory outcomes for which they are responsible. For a number of regulators, these

regulatory outcomes include an explicit reference to development or growth. The growth duty establishes economic growth as a factor that all specified regulators should have regard to, alongside the delivery of the protections set out in the relevant legislation."

We have addressed the legislative requirements and environmental standards to be set for this operation in the body of the decision document above. The guidance is clear at paragraph 1.5 that the growth duty does not legitimise non-compliance and its purpose is not to achieve or pursue economic growth at the expense of necessary protections.

We consider the requirements and standards we have set in this permit are reasonable and necessary to avoid a risk of an unacceptable level of pollution. This also promotes growth amongst legitimate operators because the standards applied to the operator are consistent across businesses in this sector and have been set to achieve the required legislative standards.

Part 2

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/FP3037PA
The Operator is:	Crisp Malting Group Limited
The Installation is:	Great Ryburgh Maltings
This Variation Notice number is:	EPR/FP3037PA/V010

What this document is about

Article 21(3) of the Industrial Emissions Directive (IED) requires the Environment Agency to review conditions in permits that it has issued and to ensure that the permit delivers compliance with relevant standards, within four years of the publication by the European Commission of updated decisions on best available techniques (BAT) Conclusions.

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

It explains how we have reviewed and considered the techniques used by the Operator in the operation and control of the plant and activities of the installation. It is our record of our decision-making process and shows how we have taken into account all relevant factors in reaching our position.

As well as considering the review of the operating techniques used by the Operator for the operation of the plant and activities of the installation, the consolidated variation notice takes into account and brings together in a single document all previous variations that relate to the original permit issue. Where this has not already been done, it also modernises the entire permit to reflect the conditions contained in our current generic permit template.

The introduction of new template conditions makes the Permit consistent with our current general approach and with other permits issued to Installations in this sector. Although the wording of some conditions has changed, while others have

been deleted because of the new regulatory approach, it does not reduce the level of environmental protection achieved by the Permit in any way. In this document, we therefore address only our determination of substantive issues relating to the new BAT Conclusions.

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

How this document is structured

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

1 Our decision

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

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

The Consolidated Variation Notice contains many conditions taken from our standard Environmental Permit template including the relevant annexes. We developed these conditions in consultation with industry, having regard to the legal requirements of the Environmental Permitting Regulations and other relevant legislation. This document does not therefore include an explanation for these standard conditions. Where they are included in the Notice, we have considered the techniques identified by the operator for the operation of their installation, and have accepted that the details are sufficient and satisfactory to make those standard conditions appropriate. This document does, however, provide an explanation of our use of “tailor-made” or installation-specific conditions, or where our Permit template provides two or more options.

2 How we reached our decision

2.1 Requesting information to demonstrate compliance with BAT Conclusion techniques.

We issued a Notice under Regulation 61(1) of the Environmental Permitting (England and Wales) Regulations 2016 (a Regulation 61 Notice) on 09/06/2022 requiring the Operator to provide information to demonstrate where the operation of their installation currently meets, or how it will subsequently meet, the revised standards described in the relevant BAT Conclusions document.

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

- describes the techniques that will be implemented before 4 December 2023, which will then ensure that operations meet the revised standards, or
- justifies why standards will not be met by 4 December 2023, and confirmation of the date when the operation of those processes will cease within the Installation or an explanation of why the revised BAT standards are not applicable to those processes, or
- justifies why an alternative technique will achieve the same level of environmental protection equivalent to the revised BAT standards described in the BAT Conclusions.

Where the Operator proposed that they were not intending to meet a BAT standard that also included a BAT Associated Emission Level (BAT-AEL) described in the BAT Conclusions Document, the Regulation 61 Notice required that the Operator make a formal request for derogation from compliance with that BAT-AEL (as provisioned by Article 15(4) of IED). In this circumstance, the Notice identified that any such request for derogation must be supported and justified by sufficient technical and commercial information that would enable us to determine acceptability of the derogation request.

The Regulation 61 Notice response from the Operator was received on 06/01/2203.

We considered it was in the correct form and contained sufficient information for us to begin our determination of the permit review.

The Operator made no claim for commercial confidentiality. We have not received any information in relation to the Regulation 61 Notice response that appears to be confidential in relation to any party.

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

Based on our records and previous experience in the regulation of the installation we have no reason to consider that the Operator will not be able to comply with the techniques and standards described in the BAT Conclusions.

2.3 Requests for further information during determination

Although we were able to consider the Regulation 61 Notice response generally satisfactory at receipt, we did in fact need more information in order to complete our permit review assessment and issued a further information request on 19/05/2023. The request sought clarity over the following BATc 4, 5, 7, 9, 11 & 12. A copy of the further information request was placed on our public register. A response was received on the 02/06/2023, the additional information was placed on our public register.

3 The legal framework

The Consolidated Variation Notice will be issued under Regulations 18 and 20 of the EPR. The Environmental Permitting regime is a legal vehicle which delivers most of the relevant legal requirements for activities falling within its scope. In particular, the regulated facility is:

- an installation as described by the IED;

- subject to aspects of other relevant legislation which also have to be addressed.

We consider that, in issuing the Consolidated Variation Notice, it will ensure that the operation of the Installation complies with all relevant legal requirements and that a high level of protection will be delivered for the environment and human health.

We explain how we have addressed specific statutory requirements more fully in the rest of this document.

Annex 1: decision checklist regarding relevant BAT Conclusions

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

There are 37 BAT Conclusions.

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

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

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

This annex provides a record of decisions made in relation to each relevant BAT Conclusion applicable to the installation. This annex should be read in conjunction with the Consolidated Variation Notice.

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

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

BATC No.	Summary of BAT Conclusion requirement for Food, Drink and Milk Industries	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the operator to demonstrate compliance with the BAT Conclusion requirement
GENERAL BAT CONCLUSIONS (BAT 1-15)			
1	**Environmental Management System - Improve overall environmental performance.** Implement an EMS that incorporates all the features as described within BATc 1.	**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 a developed EMS that has been created and maintained in line with 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.	**CC**	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 submitted: • An overview of the site processes • Information in support of water usage on site. • Detailed characterisation of the waste water stream • Information regarding the quantity and characteristics of waste gas streams from the CHP and boiler including

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
			relevant pollutants (NO_x) velocity and temperature • Information on energy consumption (gas & electricity usages) and raw materials usage along with wastes from the processes. • Identification of monitoring strategy aimed at reducing resources used.
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. Process effluent from the site processes is treated onsite within the effluent treatment plant. The Operator has a SCADA system in place that measures the daily volume of discharge, tank levels, DO levels, TSS levels, chemical usage and process trends.
4	**Monitoring emissions to water to the required frequencies and standards.** BAT is to monitor emissions to water with at least the frequency given [refer to BAT 4 table in BATc] and in accordance with EN standards. If EN standards are not available, BAT is to use ISO, national or other international standards that ensure the provision of data of an equivalent scientific quality.	**CC**	The operator has provided information to support compliance with BATc 4. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BATc 4.

BATC No.	Summary of BAT Conclusion requirement for Food, Drink and Milk Industries	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the operator to demonstrate compliance with the BAT Conclusion requirement
			The Operator is currently required to undertake monitoring of the following parameters as per their current permit. • BOD, SS, Ammonia, TP **Currently there is no permit requirement for the Operator to monitor for COD & TN as per the BAT requirements. However, the operator has added COD and Total Nitrogen to the current analysis being carried out at the site and provided preliminary data for COD and TN. The preliminary data shows that the majority of samples taken are within the acceptable range for each of the new parameters (COD and TN) which have been added as part of the consolidate variation.** **Under BATc 4 the Operator has provided sufficient narrative to demonstrate that the use of 24-hour flow proportional composite sampling is not required. The Operator has demonstrated that the sampling they undertake represents a time-proportional sample based on the discharge arrangements, the effluent is retained and stabilised over a 20-hour period prior to**

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
			release effluent is suitably mixed and stable. In line with our hierarchy for final effluent sampling we have allowed the Operator to use weekly spot samples. The operator uses a MCERTS accredited laboratory to analyse their samples and has a programme in place to undertake the required sampling.
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 refer to BAT5 table in BATc and in accordance with EN standards.	**NA**	We are satisfied that BATc 5 is not applicable to this Installation. Monitoring of the emissions from the CHP and fluid boiler along with the Speciality Malting Plant are undertaken annually to MCERTS standard. The emissions from the onsite dryers are not required to be monitored under the BATc. We have taken this opportunity to review this approach, we have now included a monitoring requirement for the emissions from the Barley Dryer (A17). In addition, an improvement condition (IC 11) has been included to review the efficiency and suitability of the abatement, with a view of reducing the emissions to the benchmark of 20mg/m^3.
6	**Energy Efficiency**	**CC**	The operator has provided information to support compliance with BATc 6. We have

BATC No.	Summary of BAT Conclusion requirement for Food, Drink and Milk Industries	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the operator to demonstrate compliance with the BAT Conclusion requirement
	In order to 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.		assessed the information provided and we are satisfied that the operator has demonstrated compliance with BATc 6. The Operator has implanted the following techniques on site to increase energy efficiency: • LED lighting • New economiser for the boiler • Variable speed drivers being introduced. • Burner regulation & controls • Heat recovery • Reducing leaks In addition, the Operator has provided an energy efficiency review which compares the finished batches against the specific energy budget targets. The plan lists the initiatives carried out and the further initiatives to reduce energy consumption in the future.
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	**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.

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
	(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		Currently the site is not equipped to recycle or re-use (BATc 7a), water from the steeping process represents the biggest use of water on site. The steeping water is unable to be reused in future steeps due to the presence of an enzyme that is released from the grain during the steeping process. The reuse of the steep water would inhibit the germination process in future steeps. The use of reverse osmosis is a common way to 'cleanse' the steeped water for reuse, however the permeate from the reverse osmosis tends to be loaded with a high COD concentrate. As the site discharges to surface water the BAT-AEL of 100 mg/m^3 for COD applies, the use of reverse osmosis on site would potentially jeopardise the site meeting the BAT-AEL. There is currently limited technology that would reduce the COD emissions to below 100mg/m^3. We therefore consider that BATc 7a is not feasible for this malting site due to issues with recycling and reusing water on site. The site uses a number of other techniques as listed below to reduce water consumption. Water is drawn from two boreholes for the processes on site, after use the water is

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
			discharged via the effluent treatment plant to the River Wensum. The Operator uses a number of techniques to reduce water use on site, these include. • The use of spray bars and spray nozzles • Dry cleaning, including hoovering, brooms and shovels • Pigging systems on the Speciality Malt Plant (SMP) • High pressure cleaning used in all plants • Measuring and use of chemicals appropriate to the requirement • Cleaning tools and equipment at the end of each process.
8	**Prevent or reduce the use of harmful substances** In order to prevent or reduce the use of harmful substances, e.g. in cleaning and disinfection, BAT is to use one or a combination of the techniques given below. (a) Proper selection of cleaning chemicals and/or disinfectants (b) Reuse of cleaning chemicals in cleaning-in-place (CIP) (c) Dry cleaning (d) Optimised design and construction of equipment and process areas	**CC**	The operator has provided information to support compliance with BATc 8. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BATc 8. The Operator has confirmed that there are no priority hazardous substances used at the site. All chemicals used on site are assessed for

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
			their suitability. Dry cleaning is used where possible.
9	**Refrigerants** In order to prevent emissions of ozone-depleting substances and of substances with a high global warming potential from cooling and freezing, BAT is to use refrigerants without ozone depletion potential and with a low global warming potential.	**CC**	The operator has provided information to support compliance with BATc 9. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BATc 9. The Operator has confirmed that food safe ethylene glycol used within floor malting cooler. Other refrigerants used across the site are compliant with BATc 9.
10	**Resource efficiency** In order to increase resource efficiency, BAT is to use one or a combination of the techniques given below: (a) Anaerobic digestion (b) Use of residues (c) Separation of residues (d) Recovery and reuse of residues from the pasteuriser (e) Phosphorus recovery as struvite (f) Use of waste water for land spreading	**CC**	The operator has provided information to support compliance with BATc 10. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BATc 10. Residues from the process (dust & culm) are used to make animal feed pellets. Waste water collected in the lagoon is sent for landspreading.
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

BATC No.	Summary of BAT Conclusion requirement for Food, Drink and Milk Industries	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the operator to demonstrate compliance with the BAT Conclusion requirement
			not satisfied that the operator has demonstrated compliance with BATc 11 The site has 2 x1200m^3 treatment tanks, 1 holding tank with a capacity of 1000m^3 and a buffer tank with a capacity of 400m^3. All tanks are monitored by the SCADA system and have alarms for high level, high treatment parameters and failures of the blowers. The ETP is equipped with sensors that if the TSS is too high the effluent is circulated back to the treatment plant before being passed forward to the weir for discharge. In addition, penstock valves are positioned by W1 and W2 and can be operated in the event of the risk of any uncontrolled discharges from site.
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)	**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 Process effluent produced during the process is treated by biological means at the sites effluent treatment plant prior to discharge to

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
	(d) Aerobic and/or anaerobic treatment (eg activated sludge, aerobic lagoon etc) (e) Nitification and/or denitrification (f) Partial nitration - anaerobic ammonium oxidation Phosphorus recovery and/or removal (g) Phosphorus recovery as struvite (h) Precipitation (i) Enhanced biological phosphorus removal Final solids removal (j) Coagulation and flocculation (k) Sedimentation (l) Filtration (eg sand filtration, microfiltration, ultrafiltration) (m) Flotation [for detail of each technique, refer BAT 12 table 1]		the River Wensum. The treatment process involves • Screening and primary settlement, • Activated sludge, and • Coagulation
12	**Emissions to water – treatment** **BAT-associated emission levels (BAT-AELs) for direct emissions to a receiving water body**	**CC**	The operator has provided information to support compliance with BATc 12 (BAT AELs) We have assessed the information provided and we are not satisfied that the operator has demonstrated compliance with BATc 12 (BAT AELs). The Operator currently has the following ELVs within their permit for the discharge of treated effluent • BOD 20 mg/l • Suspended Solids 25mg/l

BATC No.	Summary of BAT Conclusion requirement for Food, Drink and Milk Industries	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the operator to demonstrate compliance with the BAT Conclusion requirement
	<table><tr><th>Parameter</th><th>BAT-AEL ([15]) ([16]) (daily average)</th></tr><tr><td>Chemical oxygen demand (COD) ([17]) ([18])</td><td>25-100 mg/l ([19])</td></tr><tr><td>Total suspended solids (TSS)</td><td>4-50 mg/l ([20])</td></tr><tr><td>Total nitrogen (TN)</td><td>2-20 mg/l ([21]) ([22])</td></tr><tr><td>Total phosphorus (TP)</td><td>0,2-2 mg/l ([23])</td></tr></table> (16) The BAT-AELs may not apply to the production of citric acid or yeast (17) No BAT-AEL applies for biochemical oxygen demand (BOD). As an indication, the yearly average BOD5 level in the effluent from a biological waste water treatment plant will generally be ≤ 20 mg/l. (18) The BAT-AEL for COD may be replaced by a BAT-AEL for TOC. The correlation between COD and TOC is determined on a case-by-case basis. The BAT-AEL for TOC is the preferred option because TOC monitoring does not rely on the use of very toxic compounds. (20) The lower end of the range is typically achieved when using filtration (e.g. sand filtration, microfiltration, membrane bioreactor), while the upper end of the range is typically achieved when using sedimentation only. (21) The upper end of the range is 30 mg/l as a daily average only if the abatement efficiency is ≥ 80 % as a yearly average or as an average over the production period. (22) The BAT-AEL may not apply when the temperature of the waste water is low (e.g. below 12 °C) for prolonged periods.		• Ammonia 5 mg/l • Total Phosphorus 1mg/l **The permit currently does not have ELVs for COD or Total Nitrogen. The following parameters and limits will be applied in the consolidated permit at the upper end of the range.** • **Chemical Oxygen Demand – 100mg/l** • **Total Nitrogen – 20mg/l** The Operator has undertaken monitoring of these parameters and submitted the results. The Operator has demonstrated they are able to meet the BAT-AELs. As such BAT-AELs for COD and TN are included in the variation notice at the higher end and are appliable from date of permit issue.
13	**Noise management plan** In order to prevent or, where that is not practicable, to reduce noise emissions, BAT is to set up, implement and regularly review a noise management plan, as part of the environmental management system (see BAT 1), that includes all of the following elements: - a protocol containing actions and timelines; - a protocol for conducting noise emissions monitoring;	**NA**	We are satisfied that BATc 13 is not applicable to this Installation. A noise management plan is only required where noise nuisance at sensitive receptors is expected or has been substantiated. There have been no substantiated noise nuisance

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 protocol for response to identified noise events, eg complaints; - 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. Note: BAT13 is only applicable where a noise nuisance at sensitive receptors is expected and/or has been substantiated.		from the site therefore an NMP is not a requirement for this site. The Operator has development a noise management plan, however this hasn't been approved by the Environment Agency and forms parts of the sites EMS.
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 [for detail of each technique, refer BAT 14 table in BATCs]	**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. The techniques used by the Operator include: • Limited the movement of trucks and vehicles after 6pm • Operating a closed-door policy to reduce noise • Scoping of low noise blowers • The use of acoustic enclosers around tank 2 blowers • Monitoring of noise levels on site and carrying out noise abatement where needed or applicable
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	**NA**	We are satisfied that BATc 15 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
	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. Note: BAT 15 is only applicable to cases where an odour nuisance at sensitive receptors is expected and/or has been substantiated.		An odour management plan is only required where odour nuisance at sensitive receptors is expected or has been substantiated. There have been no substantiated odour nuisances from the site therefore an OMP is not a requirement for this site. The Operator has development an odour management plan, however this hasn't been approved by the Environment Agency and forms parts of the sites EMS.

<table>
<tr><th colspan="2">BREWING BAT CONCLUSIONS (BAT 18 – 20)</th><th></th><th></th></tr>
<tr><td>18</td><td>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.

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

Applicable in addition to BAT6

See Tables below for the EPL figures</td><td>NA</td><td>We are satisfied that BATc 18 is not applicable to this Installation.

The Operator has confirmed that none of the techniques listed in the able are undertaken at the site.</td></tr>
<tr><td>19</td><td>In order to reduce the quantity of waste sent for disposal, BAT is to use one or a combination of the techniques given below.</td><td>NA</td><td>We are satisfied that BATc 19 is not applicable to this Installation.

The Operator has confirmed that none of the techniques listed in the able are undertaken at the site.</td></tr>
</table>

	<table><tr><th colspan="2">Technique</th><th>Description</th></tr><tr><td>(a)</td><td>Recovery and (re)use of yeast after fermentation</td><td>After fermentation, yeast is collected and can be partially reused in the fermentation process and/or may be further used for multiple purposes, e.g. as animal feed, in the pharmaceutical industry, as a food ingredient, in an anaerobic waste water treatment plant for biogas production.</td></tr><tr><td>(b)</td><td>Recovery and (re)use of natural filter material</td><td>After chemical, enzymatic or thermal treatment, natural filter material (e.g. diatomaceous earth) may be partially reused in the filtration process. Natural filter material can also be used, e.g. as a soil improver.</td></tr></table>		
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. BAT-associated emission level (BAT-AEL) for channelled dust emissions to air from handling and processing of malt and adjuncts <table><tr><td rowspan="2">Parameter</td><td rowspan="2">Description</td><td colspan="2">BAT-AEL (average over the sampling period)</td></tr><tr><td>New plants</td><td>Existing plants</td></tr><tr><td>Dust</td><td>mg/Nm^3</td><td><2 – 5</td><td><2 – 10</td></tr></table> The associated monitoring is given in BAT 5.	**NA**	We are satisfied that BATc 20 is not applicable to this Installation. The site undertakes the drying of barley for the production of malt. The emissions from A17 & A18 are abated by a cyclone and bag filter respectively, which is considered BAT. **The Operator is not currently required to monitor the emissions from the drying plant (A17).** We have taken this opportunity to review this approach, we have now included a monitoring requirement for the emissions from the Barley Dryer (A17). In addition, an improvement condition (IC 11) has been included to review the efficiency and suitability of the abatement, with a view of reducing the emissions to the benchmark of 20mg/m^3.
Brewing Sector Environmental Performance Levels			

<table>
<tr>
<td>EPL</td>
<td>Environmental Performance Level – Energy consumption for the brewing sector
<table><tr><td>Unit</td><td>Specific energy consumption (yearly average)</td></tr><tr><td>MWh/hl of products</td><td>0.02 – 0.05</td></tr></table></td>
<td>NA</td>
<td>We are satisfied that the EPL is not applicable to this Installation.

The Operator has confirmed that none of the techniques listed in the able are undertaken at the site.</td>
</tr>
<tr>
<td>EPL</td>
<td>Environmental Performance Level – Specific waste water discharge for the brewing sector
<table><tr><td>Unit</td><td>Specific waste water discharge (yearly average)</td></tr><tr><td>m^3/hl of products</td><td>0.15 – 0.50</td></tr></table></td>
<td>NA</td>
<td>We are satisfied that the EPL is not applicable to this Installation.

The Operator has confirmed that none of the techniques listed in the able are undertaken at the site.</td>
</tr>
</table>

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

Updating permit during permit review consolidation

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.

This included some other administrative changes to the permit to ensure cross-sector consistency, including:

- An updated introductory note
- Site plan
- Table S1.1 overhaul
    - Activity Reference (AR) renumbering
    - Updated listed activities
    - Addition of production capacity
    - Directly associated activities (DAAs) standardisation
- Standardisation of reporting parameters.

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 previously completed a H1 assessment of emissions for typical figures of production at the time of permitting.

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

Emissions to Air

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

The operator has provided an up to date air emission plan.

Implementing the requirements of the Medium Combustion Plant Directive

Existing Medium Combustion Plant (1MW-50MW)

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

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

The Operator provided the information in the tables below:

Combined heat and power (CHP) engines

1. Rated thermal input (MW) of the medium combustion plant.	3.5MWth
2. Type of the medium combustion plant (diesel engine, gas turbine, dual fuel engine, other engine or other medium combustion plant).	Combined heat & power plant
3. Type and share of fuels used according to the fuel categories laid down in Annex II.	Natural gas
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.	December 2014

Boilers

	Seeger Boiler 1	Seeger Boiler 2	Wanson Boiler 3
1. Rated thermal input (MW) of the medium combustion plant.	4.9 MWth	4.9 MWth	7.9 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	Natural gas	Natural gas
4. Date of the start of the operation of the medium combustion plant or, where the exact date of the start of	June 1996	June 1996	February 2019

the operation is unknown, proof of the fact that the operation started before 20 December 2018.			

We have reviewed the information provided and we consider that the Seeger Boiler 1 and Seeger Boiler 2 qualify as “existing” medium combustion plant.

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

We have retained the previous emission limits values and monitoring requirements for the Wanson Thermal boiler (boiler 3) and the CHP as per variation (V009, issued March 2021).

Particulate Emissions

The BAT-AELs for the brewing sector are in relation to the handling and processing of malt and adjuncts. As the Operator is producing malt the BAT-AELs for particulate emissions do not apply to the site. The Operator is not currently required to undertake any monitoring from the drying on site. We have taken this opportunity to review this approach, we have now included a monitoring requirement for the emissions from the Barley Dryer (A17). In addition, an improvement condition (IC 11) has been included to review the efficiency and suitability of the abatement, with a view of reducing the emissions to the benchmark of 20mg/m3.

We have added an improvement condition (IC10) for size fractionation of particulate emissions because a BAT-AEL applies for dust emissions to air. The justification for this IC is that there are a number of activities within the FDM sector which may result in release of particulates to air e.g. drying, milling and grinding. Overall, there is little available information on how much fine particulates are released. This IC is a one-off exercise requiring operators to monitor and report on the fractions of fine particulate (PM_{10} and $PM_{2.5}$) emissions and increase our understanding of potential health effects. Where BAT-AELS may apply to multiple emission points e.g. grain milling, we may accept limited representative monitoring rather than expecting them to monitor every single emission point.

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

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

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

The operator has previously provided assessments for all emissions to water at the installation. The operator declares there has been no change to activities and subsequent effluents generated at the installation since this risk assessment was taken. Consequently, we agree that the original risk assessments remain valid at this time.

Soil & groundwater risk assessment (baseline report)

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

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

The Operator submitted a site condition report [Application Site Report, dated 11th March 2005] during the original application received on 17th March 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 identified that hazardous substances are used and stored at the installation. The Operator hasn't provided a risk assessment on the hazardous substances stored and used at the installation.

We have included an Improvement condition in the permit (IC7) which requires the Operator to provide a short risk assessment on the hazardous substances stored and used at the installation. The risk assessment is required to cover a stage 1-3 assessment as detailed within EC Commission Guidance 2014/C 136/03. See Improvement conditions in Annex 3 of this decision document.

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 is likely to be or has been affected by 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 (IC9) to request a climate change adaptation plan is submitted by the operator for approval from the Environment Agency. See Improvement Conditions in Annex 3 of this decision document.

Containment

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

The Operator provided details of all tanks;

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

- Details of tertiary containment

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

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

We have set improvement conditions in the permit to address the deficiencies in the existing tanks and containment measures on site (IC8). See Improvement conditions in Annex 3 of this decision document.

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	The operator shall undertake an assessment of the internal drainage, sub-surface structures, surfacing and containment measures on site. The assessment will take into account, but not be limited to, the bunding capacity, impermeability of the bunds to the stored materials, impermeability of the hardstanding / kerbing and the requirements of section 2.2.5 of the Agency Guidance Note IPPC S6.10, August 2003. A written report summarising the findings and timescales for improvements shall be submitted to the Agency. Following approval from the Agency, the improvements shall be implemented.
IC2	The operator shall undertake an assessment of the options for preventing off-specification effluent entering the effluent treatment plant. The assessment shall include the installation of a diversion tank. A written report summarising the findings and timescales for improvements shall be submitted to the Agency. Following approval from the Agency, the improvements shall be implemented.
IC3	The operator shall provide the Agency with written proposals for a programme of monitoring for particulate releases from emission points A17 to A26 inclusive. Monitoring shall be carried out to an appropriate recognised standard. The proposals shall include a justification for the frequency and method of monitoring and a justification for the exclusion of monitoring of any of the emission points
IC4	The operator shall carry out an assessment of the options to detect failures of the abatement equipment for release points A17 to A26 inclusive. A summary report shall be submitted to the Agency in writing, of this assessment and shall include timescales for any proposed improvements. Following approval from the Agency, the improvements shall be implemented.
IC5	The operator shall carry out an investigation of the options available to reduce the concentration of phosphate from the effluent treatment plant (discharge point W1) to 1mg/l by 01/03/2007. The investigation will take into account, but not be limited to, section 2.2.2 of the Agency Guidance Note IPPC S6.10, August 2003.
IC6	The operator shall develop a written Site Closure Plan with regard to the requirements set out in Section 2.11 of the Agency Guidance

	Note IPPC S6.10, August 2003. Upon completion a copy shall be submitted to the Agency in writing.

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

Improvement programme requirements		
Reference	**Reason for inclusion**	**Justification of deadline**
IC7	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 Guidance 2014/C 136/-3) as follows; • Stage 1 – Identify hazardous substance(s) used / stored on site. • Stage 2 – Identify if the hazardous substance(s) are capable of causing pollution. If they are capable of causing pollution, they are then termed Relevant Hazardous Substances (RHS). • Stage 3 – Identify if pollution prevention measures & drains are fit for purpose in areas where hazardous substances are used / stored. If the outcomes of Stage 3 identifies that pollution of soil / ground water to be possible. The operator shall produce and submit a monitoring plan to the Environment Agency for approval detailing how the substance(s) will be monitored to demonstrate no pollution. The operator shall commence monitoring of the RHS within a timescale as agreed by the Environment Agency.	18/12/2024 or other date as agreed in writing with the Environment Agency
IC8	The Operator shall undertake a survey of the primary, secondary and tertiary containment at the site and review measures against relevant standard including: • 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	18/12/2024 or other date as agreed in writing with the Environment Agency

	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 • current containment measures • any deficiencies identified in comparison to relevant standards, • improvements proposed • time scale for implementation of improvements. The operator shall implement the proposed improvements in line with the timescales agreed by the Environment Agency.	
IC9	The operator shall produce a climate change adaptation plan. The approved plan will form part of the EMS. The plan shall include, but not be limited to: • Details of how the installation has or could be affected by severe weather; • The scale of the impact of severe weather on the operations within the installation; • An action plan and timetable for any improvements to be made to minimise the impact of severe weather at the installation. The Operator shall implement any necessary improvements to a timetable agreed in writing with the Environment Agency.	18/12/2024 or other date as agreed in writing with the Environment Agency
IC10	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 [A17], 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.	18/12/2024 or other date as agreed in writing with the Environment Agency
IC11	The Operator shall submit a written report to the Environment Agency reviewing the efficiency and suitability of the onsite dust abatement from the Barley Drying Plant (A17). The report shall contain but not be limited to: • Confirmation of the current abatement efficiency, based on monitoring data, with an appraisal of the performance against Best Available Techniques (BAT). • Comparison of the dust emissions data against an indicative benchmark of 20mg/m3.	18/12/2024 or other date as agreed in writing with the Environment Agency

	• Identification of any improvements that could be made to the plant, such as maintenance and operating techniques, to maintain or improve the performance in line with BAT. • Where required, an appraisal on other suitable abatement techniques as listed with Chapter 2 of the Food, Drink and Milk Industries Bref (2019). The Operator shall implement any necessary improvements to a timetable agreed in writing with the Environment Agency.	