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/BX2043IE
The Operator is:	Pilgrim's Pride Ltd
The Installation is:	Beveridge Way Food Manufacturing Installation
This Variation Notice number is:	EPR/BX2043IE/V005

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 02/12/2022.

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

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

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

Based on our records and previous experience in the regulation of the installation we consider that the Operator will be able to comply with the techniques and standards described in the BAT Conclusions other than for those techniques and requirements described in BAT Conclusion, BATc 9. The operator does not currently comply with the requirements of 9. In relation to this BAT Conclusion, the operator has committed compliance by 4 December 2023. We have therefore included Improvement Condition IC 3 in the Consolidated Variation Notice to ensure that the requirements of the BAT Conclusions are delivered before 4 December 2023.

2.3 Requests for further information during determination

Although we were able to consider the Regulation 61 Notice response generally satisfactory at receipt, we did in fact need more information in order to complete our permit review assessment, and issued a further information request for information on 27/09/2023. The request for further information covered clarification on the following BATc's 2, 3, 5, 6, 9 11 and 29. A response was received on 20/10/2023. A copy of the further information request and the response 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 EMS externally accredited to the ISO14001 standard.
2	**EMS Inventory of inputs & outputs. Increase resource efficiency and reduce emissions.** Establish, maintain and regularly review (including when a significant change occurs) an inventory of water, energy and raw materials consumption as well as of waste water and waste gas streams, as part of the environmental management system (see BAT 1), that incorporates all of the features as detailed within the BATCs.	**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 has demonstrated compliance through the following: • Providing a summary of the description of processes and techniques that identify emissions points. • Monitoring of water inputs and outputs and the use of submetering across the site. • Effluent is characterised and quality monitored prior to discharge to the sewer. • The monitoring of onsite combustion process through the inspection of the burner controls. • The tracking and monitoring of energy consumption, resource used, and waste generation • Monitoring of inputs and outputs based on company's agreed KPIs and environmental targets.

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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. All sources of process effluent have been identified, quantified and characterised within a monitoring programme. Daily volumes are trended and reported at the site. Additionally, a periodic analysis of composite samples by Anglian Water from the outfall is undertaken. The Operator monitors for pH, COD, suspended solids, sulphate. sulphide and Fats, oils & grease.
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.	**NA**	We are satisfied that BATc 4 is not applicable to this installation. The site has no direct discharges of treated process effluent to surface water. Process effluent is treated within the sites treatment plant before being discharged to the foul sewer under a trade effluent consent.
5	**Monitoring channelled emissions to air to the required frequencies and standards.** BAT is to monitor channelled emissions to air with at least the frequency given and in accordance with EN standards.	**FC**	The operator has provided information to support future compliance with BATc 5, where they are not current compliant. We have assessed the information provided and we are satisfied that the operator has demonstrated future compliance with BATc 5, where they are not currently compliant. **The current permit doesn't require the Operator to undertake any monitoring of the emissions (TVOCs) from the onsite smokers (A9). In addition the emissions of**

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			TVOCs haven't previously been monitored. As the site uses a Thermal Oxider to abate the emission, there is an additional requirement to monitor NO_2 and CO. The Operator has provide sufficient information to demonstrate that the site will be able to meet the annual monitoring requirements and to the appropriate standard (EN 12619) from date the variation is issued.
6	**Energy Efficiency** In order to increase energy efficiency, BAT is to use an energy efficiency plan (BAT 6a) and an appropriate combination of the common techniques listed in technique 6b within the table in the BATc.	**CC**	The operator has provided information to support compliance with BATc 6. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BATc 6. The Operator has an energy efficiency plan (Kings Lynn Bureau) in place which is owned by the senior leadership team and delivered by the engineering group. The energy efficient plan forms part of the sites EMS; a third party utility specialist provides a 'Bureau' report monthly on utilities data to help with the site review The following energy efficiency techniques are currently used at this installation: • All combustion plant operations are optimised through burner control, • Heat recovery with heat exchangers • Energy efficient LED lighting • Optimised steam distribution system • Pre-heated feed water • Reducing compressed air leaks • Insulation to reduce heat loss • Variable speed drives

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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 for detail of each technique, refer BAT 7 table in BATc. (a) water recycling and/or reuse (b) Optimisation of water flow (c) Optimisation of water nozzles and hoses (d) Segregation of water streams Techniques related to cleaning operations: (e) Dry cleaning (f) Pigging system for pipes (g) High-pressure cleaning (h) Optimisation of chemical dosing and water use in cleaning-in-place (CIP) (i) Low-pressure foam and/or gel cleaning (j) Optimised design and construction of equipment and process areas (k) Cleaning of equipment as soon as possible	**CC**	The operator has provided information to support compliance with BATc 7. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BATc 7. The Operator has demonstrated compliance through the use of the following techniques: • Water is reused on site through the boiler condensate, which returns to the hot well, reducing water consumption and discharge. Further opportunities to recover rinse water within the process are reviewed regularly. • Optimisation of water flow, with planned installation of sub meters across the site • Hose guns and trigger controls are employed, and the pressure of the delivery systems regulated for the needs of the operator in the area. • Process wastewater is directed to the on-site effluent drains for treatment. Uncontaminated rainwater and site run off is directed to surface water drains which outfalls to King's Lynn Internal Drainage Board. • The site operates a "Clean As You Go" policy and where possible SOPs (standard Operating Procedures) prescribe dry cleaning techniques which is subject to process confirmation within each area • Pressurised cleaning systems are regulated with its application is determined by food safety risks. • Foaming systems are employed to allow more controlled dosing of

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
			chemicals and a reduction in rinse water. Their use is incorporated and expanded as part of the planned cleaning regimes. • Cleaning equipment as soon as possible is carried out to prevent product hardening through hygiene operations for specific equipment and as part of the "Clean As You Go" policy.
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 For detail of each technique, refer BAT 8 table in BATc.	**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 demonstrated compliance through the use of the following techniques • The Operator is in partnership with specialist third party advisors (Holchem), the site has identified the range and application of cleaning chemicals that are appropriate to the site, plus other chemicals that are used for hygiene, water and effluent treatment. • The operation of CIP is in line with BAT requirements where prescriptive food hygiene standards allow the employment of the relevant techniques within a high-risk environment. Where reuse and/or recovery of chemicals is possible from a food safety perspective these have been implemented, such as recovery of the final rinse for use in pre-rinse. • Cleaning procedures are in place to apply a "Clean As You Go" policy.

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			• Where possible dry-cleaning techniques are used. Cleaning procedures specify removal of solid debris prior to washing. • The equipment and process have taken into account the hygiene requirements of the process and ensures efficient cleaning. New equipment installations go through assessment and HACCP (Hazard analysis and critical control points) processes to identify any potential issues and opportunities. Existing optimisation opportunities are identified periodically in partnership with the operators and hygiene chemical supplier.
9	**Refrigerants** In order to prevent emissions of ozone-depleting substances and of substances with a high global warming potential from cooling and freezing, BAT is to use refrigerants without ozone depletion potential and with a low global warming potential.	**FC**	The operator has provided information to support compliance with BATc 9. We have assessed the information provided we are not satisfied that the operator has demonstrated compliance with BATc 9. The site uses a mix of refrigerants, including ammonia filled systems and systems with refrigerants that have a low Global Warming Potential (GWP). There is one system (a blast chiller) that uses a refrigerant (R404a) that is considered to have a high GWP. We have added an improvement condition for the Operator to provide a replacement plan for the refrigerant system at the installation which use high GWP refrigerants. The plan shall include where possible the retro filling systems containing high GWP with lower GWP alternatives and an action log with timescales

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
			for replacing end of life equipment using the lowest particle GWP. We consider that the operator will be future compliant with BATc 9. Improvement condition IC3 has been included in the permit to achieve compliance (see Annex 3).
10	**Resource efficiency** In order to increase resource efficiency, BAT is to use one or a combination of the techniques given below: (a) Anaerobic digestion (b) Use of residues (c) Separation of residues (d) Recovery and reuse of residues from the pasteuriser (e) Phosphorus recovery as struvite (f) Use of waste water for land spreading	**CC**	The operator has provided information to support compliance with BATc 10. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BATc 10. The Operator has demonstrated compliance through the use of the following techniques • Sludge from the effluent treatment plant is removed from site by a 3rd party contractor for energy recovery via anaerobic digestion. • Non-conforming products (misshaped) are sent for human consumption, where possible and in adherence to food standards requirements. • Residues are separated at the point of generation. The site continuously reviews the re-use of residues
11	**Waste water buffer storage** In order to prevent uncontrolled emissions to water, BAT is to provide an appropriate buffer storage capacity for waste water.	**CC**	The operator has provided information to support compliance with BATc 11. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BATc 11. The Operator has confirmed that the site has adequate buffer storage on site through the use of a balance tank. Effluent is fed into the DAF plant at a constant flow to maintain headroom within the system and to minimise against potential shock to the system. The

BATC No.	Summary of BAT Conclusion requirement for Food, Drink and Milk Industries	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the operator to demonstrate compliance with the BAT Conclusion requirement
			DAF plant operates when the level within the tank reaches 35% of the volume and will continue to operate until the level reaches 10%. The site normally has between 93 and 140m^3 of buffer capacity. In order to minimise uncontrolled releases off site, the surface water system is served by a drain detector system, when potential pollutants are detected the drains are sealed with a bladder inflation device, preventing pollutants passing though.
12	**Emissions to water – treatment** In order to reduce emissions to water, BAT is to use an appropriate combination of the techniques given below, for detail of each technique, refer BAT 12 table 1. Preliminary, primary and general treatment (a) Equalisation (b) Neutralisation (c) Physical separate (eg screens, sieves, primary settlement tanks etc) Aerobic and/or anaerobic treatment (secondary treatment) (d) Aerobic and/or anaerobic treatment (eg activated sludge, aerobic lagoon etc) (e) Nitification and/or denitrification (f) Partial nitration - anaerobic ammonium oxidation Phosphorus recovery and/or removal (g) Phosphorus recovery as struvite (h) Precipitation (i) Enhanced biological phosphorus removal Final solids removal (j) Coagulation and flocculation (k) Sedimentation (l) Filtration (eg sand filtration, microfiltration, ultrafiltration) (m) Flotation	**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. The Operator has demonstrated compliance through the use of the following techniques in the treatment of their process effluent • Equalisation of effluent through the use of balance tank to ensure the balancing of flows and pollutant loads. • Neutralisation of effluent through pH adjustment • Physical separation, through the use of fat trap interceptors, in addition physical screens are used at the treatment plant to remove gross debris. • Sludge is removed from the DAF plant and stored in dedicated storage facilities prior to off site recovery. Water from the sludge is channelled back into the treatment process.

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

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

The site has no direct discharges of treated process effluent to surface water. Process effluent is treated within the sites treatment plant before being discharged to the foul sewer under a trade effluent consent.</td></tr>
<tr><td>13</td><td>Noise management plan
In order to prevent or, where that is not practicable, to reduce noise emissions, BAT is to set up, implement and regularly review a noise management plan, as part of the environmental management system (see BAT 1), that includes all of the following elements:
- a protocol containing actions and timelines;
- a protocol for conducting noise emissions monitoring;
- a protocol for response to identified noise events, eg complaints;
- 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.</td><td>NA</td><td>We are satisfied that BATc 13 is not applicable to this Installation.

A noise management plan is only required where noise nuisance at sensitive receptors is expected or has been substantiated. There have been no substantiated noise nuisances from the site therefore an NMP is not a requirement for this site.</td></tr>
</table>

BATC No.	Summary of BAT Conclusion requirement for Food, Drink and Milk Industries	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the operator to demonstrate compliance with the BAT Conclusion requirement
	Note: BAT13 is only applicable where a noise nuisance at sensitive receptors is expected and/or has been substantiated.		
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 Operator has demonstrated compliance by using the following techniques to prevent or, where not possible, to minimise noise emissions: • The location of the main building provides a shield from onsite vehicle movements to the nearest residential receptors • The site operates a closed-door policy with respect to all areas of production • Plant and equipment are subject to PPM (Planned preventative Maintenance) and condition-based inspection that would detect abnormalities in operation that could lead to excessive noise • When replacing equipment, consideration is given to noise, which would identify opportunities to include the requirement for low noise equipment such as fans, pumps and compressors. • The design of any new plant will include features to reduce plant noise leakage, sound suppression to external equipment and inherently quiet fan assemblies to ensure no increase on the current background noise

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
15	**Odour Management** In order to prevent or, where that is not practicable, to reduce odour emissions, BAT is to set up, implement and regularly review an odour management plan, as part of the environmental management system (see BAT 1), that includes all of the following elements: - a protocol containing actions and timelines; - a protocol for conducting odour monitoring. - a protocol for response to identified odour incidents eg complaints; - an odour prevention and reduction programme designed to identify the source(s); to measure/estimate odour exposure: to characterise the contributions of the sources; and to implement prevention and/or reduction measures. **NOTE:**BAT 15 is only applicable to cases where an odour nuisance at sensitive receptors is expected and/or has been substantiated.	**NA**	We are satisfied that BATc 15 is not applicable to this Installation. An odour management plan is only required where odour nuisance at sensitive receptors is expected or has been substantiated. There have been no substantiated odour nuisances from the site therefore an OMP is not a requirement for this site.
MEAT PROCESSING BAT CONCLUSIONS (BAT 29)			
29	In order to reduce channelled emissions of organic compounds to air from meat smoking, BAT is to use one or a combination of the techniques given below. (a) Adsorption (b) Thermal oxidation (c) Wet scrubber (d) Use of purified smoke	**CC**	The operator has provided information to support compliance with BATc 29. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BATc 29. The Operator uses a Thermal oxidiser to reduce organic compounds in the air emitted from the smoke chamber.
29	BAT-associated emission level (BAT-AEL) for channelled TVOC emissions to air from a smoke chamber	**FC**	The operator has provided information to support compliance with BATc 29. We have assessed the information provided we are not satisfied that the operator has demonstrated compliance with BATc 29. The Operator carries out smoking on site, these activities give rise to emissions of TVOCs. There is no current requirement to monitor releases as part of the existing permit. The BAT-AELs for BATc 29 is applicable to this installation for emission point A9.

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 15 **BAT-associated emission level (BAT-AEL) for channelled TVOC emissions to air from a smoke chamber** Parameter / Unit / BAT-AEL (average over the sampling period) TVOC / mg/Nm³ / 3-50 (1) (2) (1) The lower end of the range is typically achieved when using adsorption or thermal oxidation. (2) The BAT-AEL does not apply when the TVOC emission load is below 500 g/h. The associated monitoring is given in BAT 5.		**The Operator is currently not required to monitor TVOC's emission to air from the onsite smokers (A9). As part of the variation the higher end of the BAT-AEL range, 50mg/m^3 has been included within the variation and will be applicable from the date of permit issue. In addition, annual monitoring of the emissions from the onsite smoke chambers will be included, in line with BATc 4. Due to the impending deadline the BAT-AEL will apply from the date the variation is issued.**
Meat Processing Sector Environmental Performance Levels			
EPL	**Environmental Performance Level – Energy consumption for the meat processing sector** *Table 16* **Indicative environmental performance level for specific energy consumption** Unit / Specific energy consumption (yearly average) MWh/tonne of raw materials / 0.25-2.6 (1) (2) (1) The specific energy consumption level does not apply to the production of ready meals and soups. (2) The upper end of the range may not apply in the case of a high percentage of cooked products.	**CC**	The operator has provided information to support compliance with BAT EPL for energy consumption. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BAT EPL. The Operator recorded an energy consumption of 0.97 MWh/t, which is within the rage of 0.25 – 2.6 MWh per tonne range.

BATC No.	Summary of BAT Conclusion requirement for Food, Drink and Milk Industries	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the operator to demonstrate compliance with the BAT Conclusion requirement
EPL	**Environmental Performance Level – Specific waste water discharge for the meat processing sector** *Table 17* **Indicative environmental performance level for specific waste water discharge** Unit: m³/tonne of raw materials Specific waste water discharge (yearly average): 1,5-8,0 (1) (1) The specific waste water discharge level does not apply to processes using direct water cooling and to the production of ready meals and soups.	**CC**	The operator has provided information to support compliance with BAT EPL for wastewater discharge. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BAT EPL. The Operator recorded a wastewater discharge volume of 1.34 m^3/t of raw material used, which is below the benchmark range of 1.5-8 m^3 per tonne range of waste water per tonne of raw material used.

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

There has been a slight increase in the capacity of the site since the permit for the site was previously permitted. The operational capacity of the site was initially noted as 300 tonnes/week (42 tonnes/day) when the permit was originally issued, this was increased under V002 to 700 tonnes/week (100 tonnes/day). The new capacity and that which is noted within table S1.1 is 120 tonnes/day. Given that there are no discharges of process effluent to surface water, we deem that by taking a risk based approach the previous risk assessment for emissions to air and sewer remain valid for 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 table below:

Boilers

	Steam Boiler 1	Steam Boiler 2
1. Rated thermal input (MW) of the medium combustion plant.	6.5 MWth	6.5 MWth
2. Type of the medium combustion plant (diesel engine, gas turbine, dual fuel engine, other engine or other medium combustion plant).	Boiler	Boiler
3. Type and share of fuels used according to the fuel categories laid down in Annex II.	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 the operation is unknown, proof of the fact that the operation started before 20 December 2018.	June 2004	June 2006

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

For existing MCP with a rated thermal input of greater than 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 2025.

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

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

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

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

The Operator provide an assessment of the treated discharge of process effluent from the site to the foul sewer. The aim of the assessment was to appraise the potential effect the emissions to water from the facility. The assessment considered the chemical characteristics of the effluent produced at the site and to evaluate the key potential pollutants within the effluent and whether they pose a potential risk to surface waters.

The site uses disinfectants that contain the substance EDTA, the Operator followed the Environment Agency’s screening guidance (Surface water pollution risk

assessment for your environmental permit). Whilst the screening couldn't screen out the substance in Test 1 (concentration <10% of the EQS [Environmental Quality Standard]) or Test 2 (concentration < 4% of the EQS, with available dilution in the receiving water course). The subsequent Tests 3, 4a & 4b all passed (use of a background concentration within the receiving water course is 50% of the EQS value) as the difference between the background concentration and the PEC (predicted environmental concentration) is less than 10%. It is therefore considered that the emissions will have no significant impact on the receiving water course.

For completeness, the Operator also looked at the other potential pollutants arising from other chemicals used on site to determine their potential effect on the emissions to water. The remaining chemicals constituents are not considered to be 'priority substances' or have a freshwater EQS. Following the Environment Agency's guidance and applying the sewage treatment factor where applicable, a quantitative risk assessment was undertaken. The assessment concluded that the food grade cleaning products (i.e. acids, alkali, amines) would be readily neutralised within the on-site effluent treatment process, and further removed at the WwTW via reaction with organic substances during filtration and sludge treatments.

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 [Tulip UK, Beveridge Way Kings Lynn, Phase 1a Site Condition Report, June 2004] during the original application received on 01/06/2004. The site condition report included a report on the baseline conditions as required by Article 22. We reviewed that report and considered that it adequately described the condition of the soil and groundwater at that time.

The Operator submitted a summary report which referenced the site condition report and baseline report. We have reviewed the information and we consider that it adequately describes the current condition of the soil and groundwater. Consequently, we are satisfied that the baseline conditions have not changed.

Hazardous Substances

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

The operator has provided a short risk assessment on the hazardous substances stored and used at the installation. The risk assessment was a stage 1-3 assessment as detailed within EC Commission Guidance 2014/C 136/03.

The stage 1 assessment identified the hazardous substances used / stored on site.

The stage 2 assessment identified if hazardous substances are capable of causing pollution. If they are capable of causing pollution they are then termed Relevant Hazardous Substances (RHS). The Stage 3 assessment identified if pollution prevention measures are fit for purpose in areas where hazardous substances are used / stored. This includes drains as well.

The outcomes of the three stage assessment identified that pollution of soil and/or ground water to be unlikely.

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

Containment

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

The Operator provided details of all tanks;

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

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

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

The brine tank on site is listed as not being bunded. In addition, a number of the bunds on site don't meet the CIRIA C736 standards of 110% of the largest tank within the bund or 25% of the total capacity of all tanks within the bund.

We have set improvement conditions in the permit to address the deficiencies in the existing tanks and containment measures on site (IC4). See Improvement condition(s) 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 implement an environmental management system incorporating the new facilities associated with the nine new slicing lines. The operator shall have regard to the Agency Guidance IPPC S6.10, Section 2.3.
IC 2	A written surface water management plan shall be submitted to the Agency for approval. The plan shall detail how surface water from all areas of the site will be managed to prevent contaminated surface water from entering controlled waters. The surface water management plan shall include the identification of high risk areas such as water drains, interceptors, and process equipment and pipes capable of causing a contaminated release into the surface water drains, and the preventative measures taken to minimise such risks. These measures must include inspection, cleaning and maintenance of drains and interceptors. In addition to preventative measures, the surface water management plan must detail how contaminated surface water released to controlled waters is minimised in the event of process breakdown. This must include the consideration of detection and diversion systems capable of detecting a contaminated release and diverting or blocking the flow from entering controlled waters in a safe manner. The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the plan. The plan shall be implemented by the operator from the date of approval in writing by the Agency

Previous pre-operational measures for future development marked as complete in the previous permit.

Superseded pre-operational measures for future development – Removed from permit as marked as "complete"	
Reference	**Improvement Condition**
PO 1	The operator shall provide for agreement to the Agency at least 28 days before the proposed start of commissioning a detailed commissioning plan for the on site effluent treatment plant and factory extension, including details for the monitoring and reporting of releases during the commissioning phase. The commissioning plan must also clearly specify the capacity of the new on site treatment plant, and demonstrate that a 'Consent to discharge trade effluent' has been obtained from Anglian Water.

PO 2	The operator shall provide for agreement to the Agency at least 28 days before the proposed start of commissioning details of the planned maintenance schedule for the boiler plant on site effluent treatment plant.
PO 3	The operator shall have written procedures for the effective operation of the installation in compliance with the conditions of the permit. All relevant staff involved with the daily operation of the installation shall be trained in the procedures

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**
IC3	The operator shall use refrigerants without ozone depletion potential and with a low global warming potential (GWP) in accordance with BAT 9 from the Food, Drink and Milk Industries BATCs. To demonstrate compliance against BAT 9, the operator shall develop a replacement plan for the refrigerant system(s) at the installation. This shall be incorporated within the existing environmental management system by the specified date. The plan should include, but not be limited to, the following: • Where practicable, retro filling systems containing high GWP refrigerants e.g. R-404A with lower GWP alternatives as soon as possible. • An action log with timescales, for replacement of end-of-life equipment using refrigerants with the lowest practicable GWP.	1 month from permit issue
IC3	The operator shall use refrigerants without ozone depletion potential and with a low global warming potential (GWP) in accordance with BAT 9 from the Food, Drink and Milk Industries BATCs. To demonstrate compliance against BAT 9, the operator shall develop a replacement plan for the refrigerant system(s) at the installation. This shall be incorporated within the existing environmental management system by the specified date. The plan should include, but not be limited to, the following: • Where practicable, retro filling systems containing high GWP refrigerants e.g. R-404A with lower GWP alternatives as soon as possible. • An action log with timescales, for replacement of end-of-life equipment using refrigerants with the lowest practicable GWP.	04/12/2023

IC4	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 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.	12 months from date of permit issue or other date as agreed in writing with the Environment Agency