

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/EP3334KC
The Operator is: Premier Foods Group Limited
The Installation is: Ambrosia Creamery
This Variation Notice number is: EPR/EP3334KC/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 25/03/2022 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 09/08/2022.

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 4, 6, 9 & 12. The operator does not currently comply with the requirements of BATc 4, 6, 9 & 12. In relation to these BAT Conclusion(s), the operator has committed compliance by 4 December 2023. We have therefore included Improvement Condition(s) (IC) IC3 to achieve compliance with BATc 4 & 6, IC 4 to achieve compliance with BATc 12 and IC5 to achieve compliance with BATc 9 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 on 23/01/2023. We requested further information on the following BATc 6, 9, 11, 12, 14, 21, 22 & 23 a response was received on 09/02/2023. A copy of the further information request and 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	<p>Environmental Management System - Improve overall environmental performance.</p> <p>Implement an EMS that incorporates all the features as described within BATc 1.</p>	CC	<p>The operator has provided information to support compliance with BATc 1. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BATc 1.</p> <p>The operator has an existing EMS which meets the criteria of BATc 1.</p>
2	<p>EMS Inventory of inputs & outputs. Increase resource efficiency and reduce emissions.</p> <p>Establish, maintain and regularly review (including when a significant change occurs) an inventory of water, energy and raw materials consumption as well as of waste water and waste gas streams, as part of the environmental management system (see BAT 1), that incorporates all of the features as detailed within the BATCs.</p>	CC	<p>The operator has provided information to support compliance with BATc 2. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BATc 2.</p> <p>The operator has an existing EMS. The site monitors the quality and characteristics of the effluent at the end of the treatment process and boiler emissions are monitored. In addition the site tracks and reports monthly on the following information; consumption of raw materials used, and the residues (waste) generated. Continuous improvements of resource efficiency are logged.</p>
3	<p>Monitoring key process parameters at key locations for emissions to water.</p> <p>For relevant emissions to water as identified by the inventory of waste water streams (see BAT 2), BAT is to monitor key process parameters (e.g. continuous monitoring of waste water flow, pH and temperature) at key locations (e.g. at the inlet and/or outlet of the pre-treatment, at the inlet to the final treatment, at the point where the emission leaves the installation).</p>	CC	<p>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.</p> <p>The following parameters for emissions to water are monitored at emission point W2 (cooling water outflow); flow, BOD, suspended solids, Ammoniacal N, pH, temperature, residual chloride, dissolved oxygen and Phosphate. At emission point W3 (effluent</p>

BATC No.	Summary of BAT Conclusion requirement for Food, Drink and Milk Industries	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the operator to demonstrate compliance with the BAT Conclusion requirement
			treatment plant) the Operator currently monitors the following parameters; flow, instantaneous rate of discharge, BOD, suspended solids, Ammoniacal N, pH, temperature and Phosphate.
4	<p>Monitoring emissions to water to the required frequencies and standards.</p> <p>BAT is to monitor emissions to water with at least the frequency given [refer to BAT 4 table in BATc] and in accordance with EN standards. If EN standards are not available, BAT is to use ISO, national or other international standards that ensure the provision of data of an equivalent scientific quality.</p>	FC	<p>The operator has provided information to support part compliance with BATc 4. We have assessed the information provided and we are not fully satisfied that the operator has demonstrated compliance with BATc 4.</p> <p>The Operator is currently monitoring the following parameters from the effluent treatment plant discharge</p> <ul style="list-style-type: none"> • Flow rate • Volume • Biochemical Oxygen Demand (BOD) • Suspended Solids • Ammoniacal Nitrogen • pH • Phosphate <p>The permit doesn't currently require the Operator to monitor the following parameters from the effluent treatment plant discharge</p> <ul style="list-style-type: none"> • Chemical oxygen demand (COD) • Total Nitrogen (TN) • Total Phosphorus (TP) <p>Improvement condition (IC3) has been included in the variation for the Operator to undertake the monitoring requirements as set out in BATc 4 for the parameters listed in BATc 12</p>
5	<p>Monitoring channelled emissions to air to the required frequencies and standards.</p>	NA	The site only processes liquid milk products, no drying is undertaken at the site, as such 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
	BAT is to monitor channelled emissions to air with at least the frequency given and in accordance with EN standards.		<p>relevant BAT monitoring requirements for the dairy sector do not apply.</p> <p>We are therefore satisfied that BATc 5 is not applicable for this site</p>
6	<p>Energy Efficiency</p> <p>In order to increase energy efficiency, BAT is to use an energy efficiency plan (BAT 6a) and an appropriate combination of the common techniques listed in technique 6b within the table in the BATc.</p>	FC	<p>The operator has provided information to support part compliance with BATc 6. We have assessed the information provided and we are not fully satisfied that the operator has demonstrated compliance with BATc 6.</p> <p>The site does not have an energy efficiency plan. However, the site has implemented the following energy efficiency techniques including;</p> <ul style="list-style-type: none"> • Burner control • Heat recovery • Installation of LED lighting in production areas within the past 5 years • Pre-heat the boiler feed water • Process control via computer system • Air leak checks/repairs carried out periodically. • Insulation fitted on certain equipment (ongoing improvements) • Processes controlled using Variable Speed Drives (VSDs) <p>We consider that the operator will be future compliant with BATc 6. Improvement condition (IC3) has been included in the permit to achieve compliance (see Annex 3).</p>
7	<p>Water and wastewater minimisation</p> <p>In order to reduce water consumption and the volume of waste water discharged, BAT is to use BAT 7a and one or a combination of the techniques b to k given below for detail of each technique, refer BAT 7 table in BATc.</p>	CC	<p>The operator has provided information to support part compliance with BATc 7. We have assessed the information provided and we are not satisfied that the operator has demonstrated compliance with BATc 7.</p>

BATC No.	Summary of BAT Conclusion requirement for Food, Drink and Milk Industries	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the operator to demonstrate compliance with the BAT Conclusion requirement
	(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		The site has implemented a number of water minimisation techniques across the site including; <ul style="list-style-type: none"> • Water recycling and / or reused. • Segregation of water streams. Water for on-site usage is obtained either through the main water supply or via abstraction from the River Lyd. • Optimisation of chemical dosing and water use in cleaning-in-place. • Optimised design and construction of equipment and process areas. • Cleaning of equipment as soon as possible - this is a requirement of antiseptic processing.
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, for detail of each technique, refer BAT 8 table in BATc. (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 site has implemented the following techniques across the site to reduce the use of harmful substances. <ul style="list-style-type: none"> • The uses a selection of cleaning chemicals suitable for the process. The site utilises two suppliers for the bulk of their chemical usage; advise as to the selection and of appropriate usage of chemicals is sought from each supplier. • Reuse of cleaning chemicals in cleaning-in-place. Caustic is reused in the factory CIP sets.

BATC No.	Summary of BAT Conclusion requirement for Food, Drink and Milk Industries	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the operator to demonstrate compliance with the BAT Conclusion requirement
			<ul style="list-style-type: none"> The design and construction of equipment in process areas is carried out by competent equipment supplier.
9	<p>Refrigerants</p> <p>In order to prevent emissions of ozone-depleting substances and of substances with a high global warming potential from cooling and freezing, BAT is to use refrigerants without ozone depletion potential and with a low global warming potential.</p>	FC	<p>The operator has provided information to support part compliance with BATc 9. We have assessed the information provided and we are not fully satisfied that the operator has demonstrated compliance with BATc 9.</p> <p>The site has a number of chiller units which currently operate on refrigerants that have a higher global warming potential (GWP). We have requested that the site provide a replacement plan for the refrigerant systems at the installation</p> <p>We consider that the operator will be future compliant with BATc 9. Improvement condition (IC5) has been included in the permit to achieve compliance (see Annex 3).</p>
10	<p>Resource efficiency</p> <p>In order to increase resource efficiency, BAT is to use one or a combination of the techniques given below:</p> <ul style="list-style-type: none"> (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	<p>The operator has provided information to support compliance with BATc 10. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BATc 10.</p> <p>The Operator has demonstrated that minimal waste is produced. Residues from the processing of raw milk for the production of packaged deserts are separated with wastes products sent off site for processing at an anaerobic digestion plant. The use of residues as animal feed is under consideration, pending compliance with Animal By-product regulation and relevant statutory animal health bodies. In addition the site sends waste Liquid water/ sludge from the ETP for landspreading</p>

BATC No.	Summary of BAT Conclusion requirement for Food, Drink and Milk Industries	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the operator to demonstrate compliance with the BAT Conclusion requirement
11	<p>Waste water buffer storage In order to prevent uncontrolled emissions to water, BAT is to provide an appropriate buffer storage capacity for waste water.</p>	CC	<p>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.</p> <p>Under normal operations surface water is discharge to the River Lyd. The site has a dedicated emergency procedure that sets out how spillages are managed. An emergency shut off valve prevents contaminated water from entering the surface water system. In this circumstance captured surface water is direct to the site's ETP or to a separate storage tank. In addition spill kits are located around the site to clear up minor spills.</p>
12	<p>Emissions to water – treatment In order to reduce emissions to water, BAT is to use an appropriate combination of the techniques given below. Preliminary, primary and general treatment (a) Equalisation (b) Neutralisation (c) Physical separate (eg screens, sieves, primary settlement tanks etc) Aerobic and/or anaerobic treatment (secondary treatment) (d) Aerobic and/or anaerobic treatment (eg activated sludge, aerobic lagoon etc) (e) Nitrification and/or denitrification (f) Partial nitrification - anaerobic ammonium oxidation Phosphorus recovery and/or removal (g) Phosphorus recovery as struvite (h) Precipitation (i) Enhanced biological phosphorus removal Final solids removal (j) Coagulation and flocculation (k) Sedimentation</p>	CC	<p>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.</p> <p>The Operator treats all process effluent via the onsite ETP which uses biological treatment processes prior to discharging to the River Lyd. The following techniques are used</p> <ul style="list-style-type: none"> • Screening to remove gross materials • Aeration and balancing to homogenises the effluent and balance the effluent • Dissolved Air Flotation (DAF) to sperate solids • Anoxic treatment to prevent filamentous bacterial growth • Sludge removal and sludge press, sludge is removed and treated off site, waste water from the press is directed to 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										
	(l) Filtration (eg sand filtration, microfiltration, ultrafiltration) (m) Flotation		<p>start of the treatment process, activate sludge is circulated to the anoxic tank</p> <ul style="list-style-type: none"> • Biological treatment via the use of a percolating filter bed • Addition of a coagulant to remove any further solids 										
12	<p>Emissions to water – treatment BAT-associated emission levels (BAT-AELs) for direct emissions to a receiving water body</p> <table border="1" data-bbox="282 651 1211 850"> <thead> <tr> <th>Parameter</th> <th>BAT-AEL (°) (°) (daily average)</th> </tr> </thead> <tbody> <tr> <td>Chemical oxygen demand (COD) (°) (°)</td> <td>25-100 mg/l (°)</td> </tr> <tr> <td>Total suspended solids (TSS)</td> <td>4-50 mg/l (°)</td> </tr> <tr> <td>Total nitrogen (TN)</td> <td>2-20 mg/l (°) (°)</td> </tr> <tr> <td>Total phosphorus (TP)</td> <td>0,2-2 mg/l (°)</td> </tr> </tbody> </table>	Parameter	BAT-AEL (°) (°) (daily average)	Chemical oxygen demand (COD) (°) (°)	25-100 mg/l (°)	Total suspended solids (TSS)	4-50 mg/l (°)	Total nitrogen (TN)	2-20 mg/l (°) (°)	Total phosphorus (TP)	0,2-2 mg/l (°)	FC	<p>The operator has provided information to support compliance with BATc 12. We have assessed the information provided. We are not satisfied that the operator has demonstrated compliance with BATc 12.</p> <p>The current permit currently has the following parameters and ELVs listed in their permit</p> <ul style="list-style-type: none"> • BOD – 21 mg/l • Suspended solids 40 mg/l • Ammoniacal nitrogen, 7 mg/l • pH <5 & >9 <p>and monitoring requirements for phosphate.</p> <p>As the current permit has no monitoring requirement or limits associated with the BAT AELs other than for suspended solids, the following parameters will be added to the permit with the ELVs set at the upper range in addition to those parameters already listed.</p> <ul style="list-style-type: none"> • Chemical oxygen demand – 125 mg/l • Total nitrogen – 20 mg/l • Total phosphorus – 2 mg/l <p>The parameter for Suspended Solids is changed to Total Suspended Solids as per the Bref the limit of 40mg/l will remain the same.</p>
Parameter	BAT-AEL (°) (°) (daily average)												
Chemical oxygen demand (COD) (°) (°)	25-100 mg/l (°)												
Total suspended solids (TSS)	4-50 mg/l (°)												
Total nitrogen (TN)	2-20 mg/l (°) (°)												
Total phosphorus (TP)	0,2-2 mg/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
			We consider that the operator will be future compliant with BATc 12. Improvement condition (IC4) has been included in the permit to achieve compliance (see Annex 3).
13	<p>Noise management plan</p> <p>In order to prevent or, where that is not practicable, to reduce noise emissions, BAT is to set up, implement and regularly review a noise management plan, as part of the environmental management system (see BAT 1), that includes all of the following elements:</p> <ul style="list-style-type: none"> - 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. <p>Note: BAT13 is only applicable where a noise nuisance at sensitive receptors is expected and/or has been substantiated.</p>	FC	<p>A NMP is only required where a noise nuisance at sensitive receptors is expected or has been substantiated. The site has undertaken a number of improvements and corrective measures at the site. In order to establish whether the improvements have had the desired effect we have requested that the Operator undertakes a noise impact assessment.</p> <p>We consider that the operator will be future compliant with BATc 14. Improvement condition (IC8) has been included in the permit to achieve compliance (see Annex 3).</p>
14	<p>Noise management</p> <p>In order to prevent or, where that is not practicable, to reduce noise emissions, BAT is to use one or a combination of the techniques given below.</p> <ul style="list-style-type: none"> (a) Appropriate location of equipment and buildings (b) Operational measures (c) Low-noise equipment (d) Noise control equipment (e) Noise abatement 	CC	<p>The operator has provided information to support compliance with BATc 14. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BATc 14.</p> <p>The site uses a number of appropriate techniques to reduce noise emissions on site, including</p> <ul style="list-style-type: none"> • The moving equipment (freezers) • Installation of noise control equipment (silencers and sound reduction boards) • The use of white noise on rather than reversing beacons • The use of dampening boxes on equipment • No deliveries allowed out of hours

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15	<p>Odour Management</p> <p>In order to prevent or, where that is not practicable, to reduce odour emissions, BAT is to set up, implement and regularly review an odour management plan, as part of the environmental management system (see BAT 1), that includes all of the following elements:</p> <ul style="list-style-type: none"> - 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. <p>Note: BAT 15 is only applicable to cases where an odour nuisance at sensitive receptors is expected and/or has been substantiated.</p>	NA	<p>An OMP is only required where odour nuisance at sensitive receptors is expected or has been substantiated. There is no history of odour complaints at the site.</p> <p>We are therefore satisfied that BATc15 is not applicable for this site.</p>																
DAIRY SECTOR BAT CONCLUSIONS (BAT 21-23)																			
21	<p>Energy efficiency – Dairy Sector</p> <p>In order to increase energy efficiency, BAT is to use an appropriate combination of the techniques specified in BAT 6 and of the techniques given below.</p> <table border="1" data-bbox="293 890 1122 1417"> <thead> <tr> <th data-bbox="293 890 528 922">Technique</th> <th data-bbox="528 890 1122 922">Description</th> </tr> </thead> <tbody> <tr> <td data-bbox="293 922 528 986">(a) Partial milk homogenisation</td> <td data-bbox="528 922 1122 986">The cream is homogenised together with a small proportion of skimmed milk. The size of the homogeniser can be significantly reduced, leading to energy savings.</td> </tr> <tr> <td data-bbox="293 986 528 1050">(b) Energy-efficient homogeniser</td> <td data-bbox="528 986 1122 1050">The homogeniser's working pressure is reduced through optimised design and thus the associated electrical energy needed to drive the system is also reduced.</td> </tr> <tr> <td data-bbox="293 1050 528 1114">(c) Use of continuous pasteurisers</td> <td data-bbox="528 1050 1122 1114">Flow-through heat exchangers are used (e.g. tubular, plate and frame). The pasteurisation time is much shorter than that of batch systems.</td> </tr> <tr> <td data-bbox="293 1114 528 1177">(d) Regenerative heat exchange in pasteurisation</td> <td data-bbox="528 1114 1122 1177">The incoming milk is preheated by the hot milk leaving the pasteurisation section.</td> </tr> <tr> <td data-bbox="293 1177 528 1281">(e) Ultra-high-temperature (UHT) processing of milk without intermediate pasteurisation</td> <td data-bbox="528 1177 1122 1281">UHT milk is produced in one step from raw milk, thus avoiding the energy needed for pasteurisation.</td> </tr> <tr> <td data-bbox="293 1281 528 1345">(f) Multi-stage drying in powder production</td> <td data-bbox="528 1281 1122 1345">A spray-drying process is used in combination with a downstream dryer, e.g. fluidised bed dryer.</td> </tr> <tr> <td data-bbox="293 1345 528 1417">(g) Precooling of ice-water</td> <td data-bbox="528 1345 1122 1417">When ice-water is used, the returning ice-water is pre-cooled (e.g. with a plate heat exchanger), prior to final cooling in an accumulating ice-water tank with a coil evaporator.</td> </tr> </tbody> </table>	Technique	Description	(a) Partial milk homogenisation	The cream is homogenised together with a small proportion of skimmed milk. The size of the homogeniser can be significantly reduced, leading to energy savings.	(b) Energy-efficient homogeniser	The homogeniser's working pressure is reduced through optimised design and thus the associated electrical energy needed to drive the system is also reduced.	(c) Use of continuous pasteurisers	Flow-through heat exchangers are used (e.g. tubular, plate and frame). The pasteurisation time is much shorter than that of batch systems.	(d) Regenerative heat exchange in pasteurisation	The incoming milk is preheated by the hot milk leaving the pasteurisation section.	(e) Ultra-high-temperature (UHT) processing of milk without intermediate pasteurisation	UHT milk is produced in one step from raw milk, thus avoiding the energy needed for pasteurisation.	(f) Multi-stage drying in powder production	A spray-drying process is used in combination with a downstream dryer, e.g. fluidised bed dryer.	(g) Precooling of ice-water	When ice-water is used, the returning ice-water is pre-cooled (e.g. with a plate heat exchanger), prior to final cooling in an accumulating ice-water tank with a coil evaporator.	CC	<p>The operator has provided information to support compliance with BATc 21. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BATc 21.</p> <p>The site undertakes the following techniques at the site</p> <ul style="list-style-type: none"> (a) Partial milk homogenisation (c) Use of continuous pasteurisers (d) Regenerative heat exchange in pasteurisation (e) Ultra-high-temperature (UHT) processing of milk without intermediate pasteurisation
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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																				
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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															
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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.

Production 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.

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

	Boiler 1	Boiler 2	Boiler 3
1. Rated thermal input (MW) of the medium combustion plant.	8.68 MWth	8.73 MWth	8.73 MWth
2. Type of the medium combustion plant (diesel engine, gas turbine, dual fuel engine, other engine or other medium combustion plant).	Boiler	Dual-fuel boiler	Dual-fuel boiler
3. Type and share of fuels used according to the fuel categories laid down in Annex II.	Gas oil (kerosene)	Natural gas with gas oil (as a back-up fuel – limited to 500 hours/year)	Natural gas with gas oil (as a back-up fuel – limited to 500 hours/year)
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 1985	December 1989	December 1978

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

We have retained the current permit emission limit values, reference period and monitoring frequencies for each of the boilers as these provide better protection to the environment compared to the limits and monitoring frequencies as set out in the Medium Combustion Plant Directive. We have included additional emission limit values (ELVs) and monitoring requirements when boilers 2 and 3 are fired on gas oil (kerosene), the boilers are limited to 500 hours a year when operating on gas oil.

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 [Environmental Permit, Site condition Report Premier Foods – Ambrosia Creamery Dated August 2009] during the original application received on 14/09/2009. 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 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 identified the installation as likely to be or has been affected by flooding/unavailability of land for land spreading of waste/ prolonged dry weather/ drought, which we consider to be a severe weather event.

We do not consider the operator to have submitted a suitable climate change adaptation plan for the installation. We have included an improvement condition into the permit (IC6) to request a climate change adaptation plan is submitted by the operator for approval from the Environment Agency.

Containment

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

The Operator provided details of all tanks;

- Tank reference/name
- Contents
- Capacity (litres)
- Location
- Construction material(s) of each tank
- The bunding specification including
 - Whether the tank is banded
 - 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 Operator has undertaken an assessment of the containment measures at the site and submitted the subsequent report (Ambrosia Creamery, Lifton Containment System Assessment dated March 2022). The report identified the following key points

- The existing containment system does not meet the requirements set-out in CIRIA C736.
- The primary containment tanks are reaching the end of their design life and there are no inspection or maintenance records available for the tanks;
- The secondary containment bunds on-site are not line with industry best practice guidance and does not provide the necessary containment volume, protecting against surge or jetting;
- The bunds themselves are in need of repair

We have set improvement conditions in the permit to address the deficiencies in the existing tanks and containment measures on site (IC7). 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	<p>The operator shall submit a written sulphur dioxide air quality management plan to the Environment Agency for approval. The plan shall identify appropriate measures to reduce sulphur dioxide levels to below the relevant short term Air Quality Standards together with timescales for implementation.</p> <p>The plan shall include, but need not restricted to, the following:</p> <ul style="list-style-type: none"> • a review of options for reducing the emission concentrations of sulphur dioxide, (for example scrubbing and/or reducing the sulphur content of the fuel); • a review of options for improving the atmospheric dispersion of sulphur dioxide, (for example varying the stack parameters such as height, diameter, location); • proposals for an emission limit value for sulphur dioxide, (any agreed emission limit value agreed under this improvement condition shall supersede those specified in Table S3.1; < 800mg/m3 should be achievable with PFO); • revised detailed air dispersion modelling to support the proposed option for reducing sulphur dioxide levels and proposed emission limit value; • proposals for monitoring stack emissions of sulphur dioxide; and • an implementation timetable for individual measures <p>Once approved in writing by the Agency, the plan shall be implemented in accordance with the timescales specified in that plan.</p> <p>The notification requirements of condition 2.4.2 will be deemed to have been complied with on submission of the plan.</p>
IC2	<p>The operator shall submit a written energy and water efficiency improvement plan to the Environment Agency for approval. The plan shall contain an investigation into the most appropriate options for improving energy and water efficiency at the site.</p> <p>The plan shall include, but need not be restricted, to the following:</p> <ul style="list-style-type: none"> • an investigation of either returning water to the bringing up area or local thermal recovery at the pasteuriser;

	<ul style="list-style-type: none"> • details of lagging to be installed in the boiler house and Hamba roof area; • steam trap and condensate recovery improvements; - moody systems watersaver unit; • CB3 Leak; • rice lines faulty drive; • waste water saving on D line condensate generator; • water recycling • refrigeration condensers; and • an implementation timetable for individual measures. <p>Once approved in writing by the Environment Agency, the plan shall be implemented in accordance with the timescales specified in that plan</p> <p>The notification requirements of condition 2.4.2 will be deemed to have been complied with on submission of the plan.</p>
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Previous pre-operational measures for future development conditions marked as complete in the previous permit.

Superseded Pre-operational Conditions – Removed from permit as marked as “complete”		
Reference	Operation	Pre-operational measures
PO1	Use of Processed Fuel Oil (PFO) in site boilers.	The operator shall submit a plan detailing the use of Processed Fuel Oil in the site boilers. The plan shall include as a minimum; storage details of the PFO, proposed emission limit values from its combustion and an H1 risk assessment for the exhaust gases. Detailed air dispersion modelling shall be required where this is indicated as being required by the H1 risk assessment. The combustion of PFO shall only commence when this plan has been agreed to in writing by the Environment Agency. Emission limit values agreed under this condition shall supersede those in Table S3.1.
PO2	Use of more than 2 boilers simultaneously	The operator shall submit a report which demonstrates that relevant Air Quality Standards / Objectives shall not be breached through the use of more than 2 boilers simultaneously. The report shall contain as a minimum; an H1 risk assessment for the exhaust gases. Detailed air dispersion modelling shall be required where this is indicated as being required by the H1 risk assessment. Emission limit values agreed under this condition shall supersede those in Table S3.1.

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	<p>The operator shall submit, for approval by Environment Agency, a report setting out progress to achieving the 'Narrative' BAT where BAT is currently not achieved, but will be achieved before 4 December 2023. The report shall include, but not be limited to, the following:</p> <ol style="list-style-type: none"> 1) Methodology for achieving BAT 2) Associated targets /timelines for reaching compliance by 4 December 2023 3) Any alterations to the initial plan (in progress reports). <p>The report shall address the BAT Conclusions for Food, Drink and Milk Industries with respect to BAT 4 & 6.</p> <p>Refer to BAT Conclusions for a full description of the BAT requirement.</p>	4/12/2023
IC4	<p>The operator shall submit, for approval by the Environment Agency, a report setting out progress to achieving the Best Available Techniques Conclusion Associated Emission Levels (BAT-AELs) where BAT is currently not achieved, but will be achieved before 4 December 2023. The report shall include, but not be limited to, the following:</p> <ol style="list-style-type: none"> 1) Current performance against the BAT-AELs. 2) Methodology for reaching the BAT-AELs. 3) Associated targets /timelines for reaching compliance by 4 December 2023. 4) Any alterations to the initial plan (in progress reports). <p>The report shall address the BAT Conclusions for Food, Drink and Milk industries with respect to the following:</p> <ul style="list-style-type: none"> • BAT 12 Table 1 (compliance with BAT-AELs for direct discharges to a receiving water body) <p>Refer to BAT Conclusions for a full description of the BAT requirement.</p>	4/12/2023
IC5	<p>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.</p> <p>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.</p> <p>The plan should include, but not be limited to, the following:</p>	4/12/2023

	<ul style="list-style-type: none"> • 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. • Replacement of systems containing HCFCs as soon as possible. Only to be included where operator has confirmed use of R22 in “legacy system” in their Reg 61 response 	
IC6	<p>The operator shall submit a climate change adaptation plan to the Environment Agency for approval. The plan shall include, but not be limited to:</p> <ul style="list-style-type: none"> • Details of how the installation has or could be affected by severe weather; • The scale of the impact of severe weather on the operations within the installation; • An action plan and timetable for any improvements to be made to minimise the impact of severe weather at the installation. <p>The Operator shall implement any necessary improvements to a timetable agreed in writing with the Environment Agency. The approved plan will form part of the EMS.</p>	11/09/2024 or other date as agreed by the Environment Agency
IC7	<p>The Operator shall submit a written report to the Environment Agency for technical assessment and approval detailing the works required to ensure all surface containment and bunding meets the required standards. The report shall cover all surface storage tanks. The report shall be completed with reference to</p> <ul style="list-style-type: none"> • CIRIA Containment systems for the prevention of pollution (C736) – Secondary, tertiary and other measures for industrial and commercial premises. • EEMUA 159 - Above ground flat bottomed storage tanks <p>The report as a minimum shall include the following</p> <ul style="list-style-type: none"> • current containment measures • any deficiencies identified in comparison to relevant standards, • improvements proposed • time scale for implementation of improvements. <p>The operator shall implement the proposed improvements in line with the timescales agreed by the Environment Agency.</p>	11/09/2024 or other date as agreed by the Environment Agency
IC8	<p>The Operator shall prepare and submit a comprehensive noise assessment report undertaken by an experienced and suitably qualified person in accordance with the procedures given in BS4142:2014 (Methods for rating and assessing industrial and commercial sound). The assessment shall include the identification and assessment of the impact of</p>	11/09/2024 or other date as agreed by the Environment Agency

	<p>noise emissions upon surrounding sensitive receptors arising from the operation of the installation</p> <p>In the event that the report shows that noise could have a significant impact, the report shall include proposals for attenuation and/or management of noise and shall include a timescale, to be agreed with the Environment Agency, for the implementation of the proposed measures.</p>	
IC9	The Operator shall submit to the Environment Agency for approval a written maintenance program for all containment measures on site.	11/09/2024 or other date as agreed by the Environment Agency
IC10	<p>The Operator shall prepare and submit a comprehensive noise assessment report undertaken by an experienced and suitably qualified person in accordance with the procedures given in BS4142:2014 (Methods for rating and assessing industrial and commercial sound). The assessment shall include the identification and assessment of the impact of noise emissions upon surrounding sensitive receptors arising from the operation of the installation</p> <p>In the event that the report shows that noise could have a significant impact, the report shall include proposals for attenuation and/or management of noise and shall include a timescale, to be agreed with the Environment Agency, for the implementation of the proposed measures.</p>	11/09/2024 or other date as agreed by the Environment Agency