

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/YP3633WP
The Operator is: Muller UK & Ireland Group LLP
The Installation is: Market Drayton
This Variation Notice number is: EPR/YP3633WP/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. It also provides a justification for the inclusion of any specific conditions in the permit that are in addition to those included in our generic permit template.

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 26/07/2022.

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 2, 4, 6, and AELs to water. The operator does not currently comply with the requirements of BATc 2, 4, 6, and AELs to water. In relation to this/these BAT Conclusion(s), the operator has committed compliance by 4 December 2023. We have therefore included Improvement Conditions 11 and 12 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 10/02/2023 regarding BATcs 6, 9, 10, 11, 12, 14, capacity, AELs, EPL, updated site plan, and MCPs capacity. A copy of the further information request was placed on our public register.

In addition to the response to our further information request, we received additional information during the determination from Market Drayton concerning BATcs 6, 11, EPL, air emission points and sewer discharge on 21/03/2023. We made a copy of this information available to the public in the same way as the response to our information request.

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 a EMS externally accredited to the ISO14001 standard.</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>	FC	<p>The operator has provided information to support compliance with BATc 2. We have assessed the information provided and we are not satisfied that the operator has demonstrated compliance with BATc 2.</p> <p>The Operator has not provided supporting evidence and declared future compliance in relation to BATc 2 (II), flow diagrams and water mass balances.</p> <p>We consider that the operator will be future compliant with BATc 2(II) Improvement Condition 11 has been included in the permit to achieve compliance (see Annex 3).</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 Operator is continuously monitoring at ETP outlet daily values for:</p> <ul style="list-style-type: none"> • Temperature • Volume • pH • P • N, ammonia and ammonium • SS

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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 compliance with BATc 4. We have assessed the information provided and we are not satisfied that the operator has demonstrated compliance with BATc 4.</p> <p>The Operator is monitoring, at MCERTS standards, the following parameters for effluent discharge to River Tern:</p> <p>Daily</p> <ul style="list-style-type: none"> • COD • TSS • TP <p>Monthly</p> <ul style="list-style-type: none"> • BOD <p>However, the operator has not reported monitoring of total nitrogen (TN).</p> <p>We consider that the operator will be future compliant with BATc 4. Improvement Condition 11 has been included in the permit to achieve compliance (see Annex 3).</p>
5	<p>Monitoring channelled emissions to air to the required frequencies and standards.</p> <p>BAT is to monitor channelled emissions to air with at least the frequency given and in accordance with EN standards.</p>	NA	<p>We are satisfied that BATc 5 is not applicable to this Installation.</p> <p>Drying processes are not used in this installation.</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 compliance with BATc 6. We have assessed the information provided and we are not satisfied that the operator has demonstrated compliance with BATc 6.</p> <p>The Operator is using the following techniques:</p> <ul style="list-style-type: none"> • LED Lighting • Energy efficient motors • Variable speed drives • Process control systems

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			<p>However, the Operator could not provide an energy efficiency plan as per this BATc 6(a) request.</p> <p>We consider that the operator will be future compliant with BATc 6(a). Improvement Condition 11 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.</p> <p>(a) water recycling and/or reuse (b) Optimisation of water flow (c) Optimisation of water nozzles and hoses (d) Segregation of water streams</p> <p>Techniques related to cleaning operations:</p> <p>(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</p>	CC	<p>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.</p> <p>The Operator is using:</p> <ul style="list-style-type: none"> • Water recycling and/or reuse • Segregation of water streams • High pressure cleaning • CIP • Cleaning of equipment as soon as possible
8	<p>Prevent or reduce the use of harmful substances</p> <p>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.</p> <p>(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</p>	CC	<p>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.</p> <p>The Operator is using:</p> <ul style="list-style-type: none"> • Proper selection of cleaning chemicals and/or disinfectants • Reuse of cleaning chemicals in CIP • Optimised design and construction of equipment and process areas

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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>	CC	<p>The operator has provided information to support compliance with BATc 9. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BATc 9.</p> <p>The Operator declared that only ammonia is used for refrigeration processes.</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> <p>(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</p>	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 declared that is using:</p> <ul style="list-style-type: none"> • Off-site anaerobic digestion
11	<p>Waste water buffer storage</p> <p>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>The Operator declared that:</p> <ul style="list-style-type: none"> • slum-shut valves • storage capacity of 1500 m³
12	<p>Emissions to water – treatment</p> <p>In order to reduce emissions to water, BAT is to use an appropriate combination of the techniques given below.</p> <p>Preliminary, primary and general treatment</p> <p>(a) Equalisation (b) Neutralisation (c) Physical separate (eg screens, sieves, primary settlement tanks etc)</p> <p>Aerobic and/or anaerobic treatment (secondary treatment)</p> <p>(d) Aerobic and/or anaerobic treatment (eg activated sludge, aerobic lagoon etc) (e) Nitrification and/or denitrification (f) Partial nitrification - anaerobic ammonium oxidation</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 is using:</p> <ul style="list-style-type: none"> • Equalisation • Neutralisation • Physical separation • Aerobic treatment • Denitrification • Partial nitrification

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	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		<ul style="list-style-type: none"> • Flocculation • Membrane bioreactor • Flotation 										
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="282 767 1211 967"> <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> <p>Note: 125mg/l COD for dairy sites Note: 4mg/l TP for dairy sites</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 (°)	FC	<p>The operator has provided information to support compliance with BAT AELs. We have assessed the information provided and we are not satisfied that the operator has demonstrated compliance with BATc AELs.</p> <p>The Operator has reported:</p> <ul style="list-style-type: none"> • COD – 28.8 mg/l • TSS – 10.8 mg/l • TP – 2.2 mg/l <p>TN is not currently monitored and it's been addressed in IC11.</p> <p>However, emission limits set in the current permit do not reflect present BAT AELs, therefore the following upper limits for COD and TN will be introduced in the consolidate permit while keeping the current SS limit for measuring TSS. TP limits will be carried forward from the current permit variation.</p> <ul style="list-style-type: none"> • COD: 125 mg/l • TSS: 25 mg/l • TN: 20 mg/l • TP: 0.7 mg/l <p>We consider that the operator will be future compliant with BAT-AELs. Improvement</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 (°) (°)												
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			Condition 12 have been included in the permit to achieve compliance with BAT AELs (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. 	NA	<p>We are satisfied that BATc 13 is not applicable to this Installation.</p> <p>A noise management plan is only required where noise nuisance at sensitive receptors is expected or has been substantiated. There have been no substantiated noise nuisance from the site therefore an NMP is not a requirement for this site.</p> <p>Nevertheless, the site is voluntarily using a noise management plan, not assessed or approved by the Environment Agency, that is part of the EMS.</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 Operator is using the following techniques:</p> <ul style="list-style-type: none"> • Appropriate location of equipment and buildings • Operational measures • Low-noise equipment
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; 	NA	<p>We are satisfied that BATc 15 is not applicable to this Installation.</p> <p>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 nuisance from the site therefore an OMP is not a requirement for this site.</p> <p>Nevertheless, the site is voluntarily using an odour management plan that has not been</p>

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	- 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.		assessed or approved by the Environment Agency, and is not part of the EMS.																
	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="293 528 1122 1054"> <thead> <tr> <th data-bbox="293 528 528 560">Technique</th> <th data-bbox="528 528 1122 560">Description</th> </tr> </thead> <tbody> <tr> <td data-bbox="293 560 528 624">(a) Partial milk homogenisation</td> <td data-bbox="528 560 1122 624">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="293 624 528 679">(b) Energy-efficient homogeniser</td> <td data-bbox="528 624 1122 679">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="293 679 528 735">(c) Use of continuous pasteurisers</td> <td data-bbox="528 679 1122 735">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="293 735 528 815">(d) Regenerative heat exchange in pasteurisation</td> <td data-bbox="528 735 1122 815">The incoming milk is preheated by the hot milk leaving the pasteurisation section.</td> </tr> <tr> <td data-bbox="293 815 528 919">(e) Ultra-high-temperature (UHT) processing of milk without intermediate pasteurisation</td> <td data-bbox="528 815 1122 919">UHT milk is produced in one step from raw milk, thus avoiding the energy needed for pasteurisation.</td> </tr> <tr> <td data-bbox="293 919 528 975">(f) Multi-stage drying in powder production</td> <td data-bbox="528 919 1122 975">A spray-drying process is used in combination with a downstream dryer, e.g. fluidised bed dryer.</td> </tr> <tr> <td data-bbox="293 975 528 1054">(g) Precooling of ice-water</td> <td data-bbox="528 975 1122 1054">When ice-water is used, the returning ice-water is precooled (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 precooled (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 Operator is using:</p> <ul style="list-style-type: none"> • Use of continuous pasteurisers when required by production process • Regenerative heat exchange in pasteurisation • Precooling of ice-water
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(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.																		
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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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Technique	Description	Applicability																					
(a) Bag filter	See Section 14.2 Page 34 of the Bref	May not be applicable to the abatement of sticky dust.																					
(b) Cyclone		Generally applicable.																					
(c) Wet scrubber																							

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												
23	<p>BAT-associated emission level (BAT-AEL) for channelled dust emissions to air from drying</p> <table border="1" data-bbox="275 336 1171 560"> <thead> <tr> <th>Parameter</th> <th>Description</th> <th>BAT-AEL (average over the sampling period)</th> </tr> </thead> <tbody> <tr> <td>Dust</td> <td>Mg/Nm³</td> <td><2-10 ⁽¹⁾</td> </tr> </tbody> </table> <p>(1) The upper end of the range is 20 mg/Nm³ for drying of demineralised whey powder, casein and lactose.</p>	Parameter	Description	BAT-AEL (average over the sampling period)	Dust	Mg/Nm ³	<2-10 ⁽¹⁾	NA	We are satisfied that BAT-AEL is not applicable to this Installation, as no drying is undertaken at the site, as such there are no channelled emissions to air associated with this installation.						
Parameter	Description	BAT-AEL (average over the sampling period)													
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EPL	<p>Environmental Performance Level – Energy consumption for the dairy sector</p> <table border="1" data-bbox="275 738 1232 1066"> <thead> <tr> <th>Main product (at least 80 % of the production)</th> <th>Unit</th> <th>Specific energy consumption (yearly average)</th> </tr> </thead> <tbody> <tr> <td>Market milk</td> <td rowspan="4">MWh/tonne of raw materials</td> <td>0.1-0.6</td> </tr> <tr> <td>Cheese</td> <td>0.10-0.22 ⁽¹⁾</td> </tr> <tr> <td>Powder</td> <td>0.2-0.5</td> </tr> <tr> <td>Fermented milk</td> <td>0.2-1.6</td> </tr> </tbody> </table> <p>(1) The specific energy consumption level may not apply when raw materials other than milk are used.</p>	Main product (at least 80 % of the production)	Unit	Specific energy consumption (yearly average)	Market milk	MWh/tonne of raw materials	0.1-0.6	Cheese	0.10-0.22 ⁽¹⁾	Powder	0.2-0.5	Fermented milk	0.2-1.6	NA	We are satisfied this BAT-EPL is not applicable to this Installation. The proportion of any raw materials listed in this table does not reach the 80% threshold.
Main product (at least 80 % of the production)	Unit	Specific energy consumption (yearly average)													
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EPL	<p>Environmental Performance Level – Specific waste water discharge for the dairy sector</p> <table border="1" data-bbox="275 1161 1232 1369"> <thead> <tr> <th>Main product (at least 80 % of the production)</th> <th>Unit</th> <th>Specific waste water discharge (yearly average)</th> </tr> </thead> <tbody> <tr> <td>Market milk</td> <td rowspan="3">m³/tonne of raw materials</td> <td>0.3 - 3.0</td> </tr> <tr> <td>Cheese</td> <td>0.75 - 2.5</td> </tr> <tr> <td>Powder</td> <td>1.2 – 2.7</td> </tr> </tbody> </table>	Main product (at least 80 % of the production)	Unit	Specific waste water discharge (yearly average)	Market milk	m ³ /tonne of raw materials	0.3 - 3.0	Cheese	0.75 - 2.5	Powder	1.2 – 2.7	NA	We are satisfied that BAT-EPL Specific Wastewater Discharge is not applicable to this Installation, as none of the main products represent minimum of 80% of production.		
Main product (at least 80 % of the production)	Unit	Specific waste water discharge (yearly average)													
Market milk	m ³ /tonne of raw materials	0.3 - 3.0													
Cheese		0.75 - 2.5													
Powder		1.2 – 2.7													

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

Updating permit during permit review consolidation

- Activity name
- Introductory note updated
- Site plan
- Table S1.1 overhaul
 - Activity Reference (AR) renumbering
 - Updated listed activities
 - Addition of production capacity
 - Directly associated activities (DAAs) standardisation

We have updated permit conditions to those in the current generic permit template as a part of permit consolidation. The conditions will provide the same level of protection as those in the previous permit.

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 existing volume of raw milk permitted at the site has not increased since the previous variation and therefore the assessment for emissions to water/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(s) below:

Combined heat and power (CHP) engines

1. Rated thermal input (MW) of the medium combustion plant.	Combined capacity of 15.46 MWth
2. Type of the medium combustion plant (diesel engine, gas turbine, dual fuel engine, other engine or other medium combustion plant).	CHP 1 (Engine 2990): 4.75 MWth CHP 2 (Engine 2991): 4.75 MWth CHP 3 (Engine 3339): 5.96 MWth
3. Type and share of fuels used according to the fuel categories laid down in Annex II.	Natural Gas 100%
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.	CHP 1: May 2019 CHP 2: May 2019 CHP 3: October 2021

Boilers

1. Rated thermal input (MW) of the medium combustion plant.	Combined capacity of 16.2 MWth
2. Type of the medium combustion plant (diesel engine, gas turbine, dual fuel engine, other engine or other medium combustion plant).	Boiler 1: 6.94 MWth Boiler 2: 9.26 MWth
3. Type and share of fuels used according to the fuel categories laid down in Annex II.	Natural Gas 100%
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.	Boiler 1: December 1991 Boiler 2: December 1999

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

We have reviewed the information provided and we consider that the declared combustion plants Boilers 1 and 2 qualify as “existing” medium combustion plant. CHPs 1, 2 and 3 are considered to be “new” combustion plants.

For existing medium combustion plant with a rated thermal input greater than 5 MW, Boilers 1 and 2, the emission limit values set out in tables 2 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.

We have retained the previous emission limits values and monitoring requirements for MCPs, CHP1, CHP 2, and CHP3, as per variation (V004)

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 [Ref:410.00396.00020 submitted 26/06/2017] during the application variation EPR/YP3633WP/V002 received on 03/03/2017. 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 declared that a short risk assessment on the hazardous substances stored and used at the installation is yet to be carried out. The risk assessment is a stage 1-3 assessment as detailed within EC Commission Guidance 2014/C 136/03.

The stage 1 assessment identifies the hazardous substances used / stored on site. The stage 2 assessment identifies 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 identifies if pollution prevention measures are fit for purpose in areas where hazardous substances are used / stored. This includes drains as well.

The Operator has request for more time to complete a stage 1-3 risk assessment. We have included Improvement Condition 14 requiring the Operator to submit to the Environment Agency for approval a risk assessment considering the possibility of soil and groundwater contamination at the installation and, where RHS are identified, to submit a monitoring plan for the Agency's approval detailing how the substance(s) will be monitored.

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 vis the Regulation 61 Notice to provide details of the each above ground tanks which contain potentially polluting liquids at the site, including tanks associated with the effluent treatment process where 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 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. We are satisfied that the existing tanks and containment measures on site meet the standards set out in CIRIA C736.

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 propose options to improve the efficiency of the effluent treatment plant prior to discharge via W1. The proposal shall also take into account options for improving cleaning and water efficiency measures and the impact these options have on the resulting process effluent. The report shall have regard to Sections 2.2.2, 2.4 and 2.6 respectively of the Agency Guidance Note IPPC S6.13, October 2003. A written report summarising the proposed improvements shall be submitted to the Agency with a timetable for implementation.
IC2	The Operator shall develop effluent treatment operational procedures, having regard to Section 2.2.2 of the Agency technical guidance note IPPC S6.13, October 2003 including but not limited to: <ul style="list-style-type: none"> · Preventative maintenance · Training procedures · Monitoring The procedures shall be submitted to the Agency in writing with improvements identified and a timetable for implementation.
IC3	The Operator shall develop a written accident management plan having regard to the requirements set out in Section 2.8 of the Agency technical guidance note IPPC S6.13, October 2003, and shall submit the plan in writing to the Agency.
IC4	The Operator shall submit an odour management plan in writing to the Agency, covering all odour emissions from the installation, having regard to the Agency Guidance Note IPPC H4 (Part 1), Appendix 7. The plan shall also have regard to the requirements set out in Section 2.2.2 of the Agency technical guidance note IPPC S6.13, October 2003 and shall consider: - Activities and materials that may have a potential for odour Conditions under which an odour release will occur and Prevention of release of odorous material. Upon completion of the plan, a summary shall be submitted to the Agency in writing with a timetable to implement any improvements identified. Improvements shall be agreed in writing with the Agency.
IC5	The Operator shall assess the current method for effluent and cooling water flow with the requirements given in the MCERTS standard 'Minimum requirements for the self-monitoring of effluent flow' version 2, Aug 2004. A written report shall be provided to the Agency detailing how this standard is to be achieved and shall include time scales for implementation.

IC6	The Operator shall either install a pH meter to continuously measure pH at W1 and W2 that has an MCERTS conformance certification, or whose performance can be shown to be equivalent to the performance of equipment that can achieve the criteria given in the MCERTS standard 'Continuous water monitoring equipment part 2: Performance Standards for on-line analysers, Turbidity and pH meters; ammonia, COD, TOC, dissolved O2, total phosphorous, nitrate and total oxidised nitrogen analysis version 1, February 2003'. The Operator shall submit to the Agency, either the MCERTS certificate or a report to giving a comparison of the pH meter with the performance criteria given in the above MCERTS document.
IC7	The Operator shall carry out an assessment of the options available for reducing oxides of nitrogen (NOx) and carbon monoxide from the boilers / ovens. A summary of the assessment shall be sent to the Agency in writing with a timetable to implement any necessary changes identified.
IC8	The Operator shall undertake an investigation into opportunities for recycling of packaging waste from the auger and shall summarise the findings in writing with a timetable for implementation.
IC9	Retained and renumbered as IC13
IC10	The Operator shall undertake an assessment of the containment measures and associated surfacing for the clean and waste oil storage tanks (as referenced in application EPR/YP3633WP/V003). The assessment will take into account the requirements of web guidance 'Control and monitor emissions for your environmental permit' (published 01/02/16, last updated 08/11/18) and CIRIA guidance 'Containment systems for the prevention of pollution (C736)' (2014). A written report summarising the findings shall be submitted to the Environment Agency, including a timescale for implementation to be agreed in writing with the Environment Agency.

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
IC11	<p>The operator shall submit, for approval by Environment Agency, a report setting out progress to achieving the 'Narrative' BAT where BATc 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 2, 4, 6, and AELs. Refer to BAT Conclusions for a full description of the BAT requirement.</p>	04/12/2023
IC12	<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) 	04/12/2023

IC13	<p>Submit a written plan for the control/management of phosphorus emissions released to Water to the Environment Agency for approval. The plan must contain options for the removal/minimisation of total phosphorus to a mean concentration of 0.7 mg/l or better from the effluent treatment plant wastewaters prior to discharge via point source W1. As part of these investigations the operator shall review techniques for reducing product losses to wastewaters and the impact these techniques have on the resulting phosphorus content in the effluent. The plan must contain dates for the implementation of individual measures. The notification requirements of condition 1.4.1 will be deemed to have been complied on submission of the plan. The plan shall be implemented as approved, and from the date stipulated by the Environment Agency.</p>	31/12/2023
IC14	<p>The operator shall submit to the Environment Agency for approval a risk assessment considering the possibility of soil and groundwater contamination at the installation where the activity involves the use, production or release of a hazardous substances (as defined in Article 3 of Regulation (EC) No. 1272/2008 on classification, labelling and packaging of substances and mixtures).</p> <p>A stage 1-3 assessment should be completed (as detailed within the EC Commission Guidance 2014/C 136/-3) as follows;</p> <p>Stage 1 – Identify hazardous substance(s) used / stored on site.</p> <p>Stage 2 – Identify if the hazardous substance(s) are capable of causing pollution. If they are capable of causing pollution, they are then termed Relevant Hazardous Substances (RHS).</p> <p>Stage 3 – Identify if pollution prevention measures & drains are fit for purpose in areas where hazardous substances are used / stored.</p> <p>If the outcomes of Stage 3 identifies that pollution of soil / ground water to be possible. The operator shall produce and submit a monitoring plan to the Environment Agency for approval detailing how the substance(s) will be monitored to demonstrate no pollution. The operator shall commence monitoring of the RHS within a timescale as agreed by the Environment Agency.</p>	6 months from date of permit issue: DD/MM/2023