

# **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/BP3635EF  
The Operator is:                         Muller UK & Ireland Group LLP  
The Installation is:                     Bridgwater Dairy  
This Variation Notice number is:   EPR/ BP3635EF/V004

### **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 4<sup>th</sup> 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 24/03/2022 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 22/07/2022

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 have no reason to consider that the Operator will not be able to comply with the techniques and standards described in the BAT Conclusions.

### 2.3 Requests for further information during determination

Although we were able to consider the Regulation 61 Notice response generally satisfactory at receipt, we did in fact need more information in order to complete our permit review assessment, and issued a further information request on 23/03/2023. The request for further information requested clarification on the capacity of the site. A response to the request for further information was received on 29/03/2023. A copy of the further information request 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
<b>GENERAL BAT CONCLUSIONS (BAT 1-15)</b>			
1	<p><b>Environmental Management System - Improve overall environmental performance.</b></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><b>EMS Inventory of inputs &amp; outputs. Increase resource efficiency and reduce emissions.</b></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 externally accredited EMS to the ISO14001 standard. The site tracks environmental KPIs (energy, water, product use and wastage). The site uses Carbon Desktop to monitor gas, electric, water and effluent daily but up to every 15 minutes were applicable.</p>
3	<p><b>Monitoring key process parameters at key locations for emissions to water.</b></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 undertakes continuous monitoring of the following parameters: flow rate, ammoniacal nitrogen, total phosphorus, TOC, pH and turbidity for effluent prior to discharge to the Huntworth Rhyne ( via private sewer and offsite settlement pond).</p>
4	<p><b>Monitoring emissions to water to the required frequencies and standards.</b></p>	CC	<p>The operator has provided information to support compliance with BATc 4. We have</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
	<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>		<p>assessed the information provided and we are satisfied that the operator has demonstrated compliance with BATc 4.</p> <p>The Operator undertakes continuous monitoring of the following parameters: flow rate, ammoniacal nitrogen, total phosphorus, TOC, pH and turbidity for effluent prior to discharge to the Huntworth Rhyne ( via private sewer and offsite settlement pond). The monitoring system has MCERTS inspection certificate confirming compliance with Agency standard: 'Minimum Requirements for the Self-Monitoring of FlowVersion 4.0 August 2014'</p>
5	<p><b>Monitoring channelled emissions to air to the required frequencies and standards.</b>            BAT is to monitor channelled emissions to air with at least the frequency given and in accordance with EN standards.</p>	NA	<p>The site only processes liquid milk products, no drying is undertaken at the site, as such the 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><b>Energy Efficiency</b>            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>	CC	<p>The operator has provided information to support compliance with BATc 6. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BATc 6.</p> <p>The site has an energy efficiency plan in place. Key KPIs for gas and electricity are monitored through the Operator's performance management system and annual improvement targets are set.</p> <p>The site has implemented the following energy efficiency techniques:</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
			<ul style="list-style-type: none"> <li>-burner regulation and control; latest Autoflame burner and EGA controllers fitted</li> <li>-purchasing of energy-efficient motors, whenever possible VSDs are used to maximise efficiency</li> <li>-lighting; ongoing projects to upgrade to LED lighting, roughly 90% of site now running on LED light</li> <li>-minimising blowdown from the boiler; - calibrate TDS readings on a weekly basis</li> <li>-optimising steam distribution systems; 6 monthly steam trap survey done</li> <li>-preheating feed water (including the use of economisers)</li> <li>-increasing efficiency of compressed air system; have added VSD air compressors and optimised running to promote energy efficiency</li> <li>-reducing heat losses by insulation all pipework insulated and annually inspected</li> <li>-variable speed drives installed in nearly all areas where they can increase efficiency.</li> </ul>
7	<p><b>Water and wastewater minimisation</b></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> <ul style="list-style-type: none"> <li>(a) water recycling and/or reuse</li> <li>(b) Optimisation of water flow</li> <li>(c) Optimisation of water nozzles and hoses</li> <li>(d) Segregation of water streams</li> </ul> <p>Techniques related to cleaning operations:</p> <ul style="list-style-type: none"> <li>(e) Dry cleaning</li> <li>(f) Pigging system for pipes</li> <li>(g) High-pressure cleaning</li> <li>(h) Optimisation of chemical dosing and water use in cleaning-in-place (CIP)</li> </ul>	<b>CC</b>	<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> <p>The site has implemented a number of water minimisation techniques across the site including:</p> <ul style="list-style-type: none"> <li>(a) water recycling and/or reuse</li> <li>(b) Optimisation of water flow</li> <li>(c) Optimisation of water nozzles and hoses</li> <li>(d) Segregation of water streams</li> </ul>



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
	(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		Techniques related to cleaning operations: (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
8	<p><b>Prevent or reduce the use of harmful substances</b></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> (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	<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 avoids the use of chemicals harmful to environment where possible. Necessary chemicals are sourced from approved supplier complete with MSDS sheets. In addition, chemicals are recycled in CIP process through process design, and the design and construction of equipment and process areas are optimised to reduce use where possible.</p>
9	<p><b>Refrigerants</b></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 has stated that the site uses ammonia for refrigeration processes, this is a non-ozone depleting substance. F-gases are used in air conditioning units but these do not form part of the production process and are therefore excluded from the BATc requirements (and will be regulated under F-gas Regulations).</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
10	<p><b>Resource efficiency</b>            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"> <li>(a) Anaerobic digestion</li> <li>(b) Use of residues</li> <li>(c) Separation of residues</li> <li>(d) Recovery and reuse of residues from the pasteuriser</li> <li>(e) Phosphorus recovery as struvite</li> <li>(f) Use of waste water for land spreading</li> </ul>	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 from the processing of raw milk, measures include the sending of off spec products to animal feed where possible, in line with appropriate regulation, and the recovery and re-blending of residues from the pasteurisers. The Operator also has the ability to use land spreading for the spreading of sludge from the ETP when permitted (in appropriate weather conditions)</p>
11	<p><b>Waste water buffer storage</b>            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>Uncontaminated surface water arising from yard areas is collected via underground drainage system and sent to the onsite Effluent Treatment Plant. The ETP has a final divert tank with 800m<sup>3</sup> capacity, if the continuous monitoring system detects any deviation of measured parameters from permit specifications the plant will auto-divert to this tank and not discharge via the private sewer to the Huntworth Rhyne.</p>
12	<p><b>Emissions to water – treatment</b>            In order to reduce emissions to water, BAT is to use an appropriate combination of the techniques given below.</p>	CC	<p>The operator has provided information to support compliance with BATc 12. We have assessed the information provided and we are</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										
	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 (l) Filtration (eg sand filtration, microfiltration, ultrafiltration) (m) Flotation		satisfied that the operator has demonstrated compliance with BATc 12.  The Operator treats all process effluent on site within the permitted effluent treatment plant prior to discharging the treated effluent to the foul sewer under agreement from the sewage undertaker. The effluent treatment plant incorporates the following processes: <ul style="list-style-type: none"> <li>- equalisation via the balancing of strong and weak effluent,</li> <li>- neutralisation by pH,</li> <li>- physical separation by straining on inlet to divert/transfer,</li> <li>- the use of a DAF plant,</li> <li>- the reduction of nitrogen,</li> <li>- the removal of sludge from site, and</li> <li>- the use of MBRs</li> </ul>										
12	<b>Emissions to water – treatment</b> <b>BAT-associated emission levels (BAT-AELs) for direct emissions to a receiving water body</b>  <table border="1" data-bbox="282 1075 1211 1278"> <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><b>Note: 125mg/l COD for dairy sites</b>  <b>Note: 4mg/l TP for dairy sites</b></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 (°)	CC	The operator has provided information to support compliance with BATc 12. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BATc 12.  The existing permit contains discharge emission limits for BOD, Suspended Solids, Ammoniacal nitrogen as N, pH, Temp and effluent flow. The existing limit for AN (ammoniacal nitrogen) is more stringent than the BAT-AEL for TN, so we have retained the AN limit and included the TN limit at the higher end (20mg/l). The existing limit for Suspended Solids of 15mg/l has also been retained.
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
			<p>The Operator has stated in their response that they do not currently comply with the BAT AEL for Total Phosphorus. However they have compared emission data with the maximum of the standard range (2mg/l) and not that applicable for dairy sites (4mg/l) to which they do comply. Average and maximum values for COD fall with the applied BAT AEL of 125 mg/l. We are therefore satisfied that the operator has demonstrated compliance.</p> <p>A previous variation of the original permit (EP3538MSV002) allowed a temporary limit of 15mg/l for ammoniacal nitrogen to be applied for one period up to a maximum of 96hrs at a frequency of once per year to accommodate for an annual spring time event whereby nitrifying bacteria and activated sludge is added to the ETP to reduce a sudden spike in ammoniacal nitrogen levels. Area have responded to category 2 incidents of fish kills in the downstream settlement pond when this temporary limit has been utilised. The spikes in ammoniacal nitrogen are associated with sudden increases in ambient temperature. We have assessed the information and do not think that the current management of the ETP in this way represents BAT and have therefore added IC7 to address this.</p>
13	<p><b>Noise management plan</b></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"> <li>- a protocol containing actions and timelines;</li> <li>- a protocol for conducting noise emissions monitoring;</li> <li>- a protocol for response to identified noise events, eg complaints;</li> </ul>	NA	<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 complaints from the site therefore an NMP is not a requirement for this site.</p> <p>We are therefore satisfied that BATc 13 is not applicable for this site.</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
	<p>- 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>		
14	<p><b>Noise management</b></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> <p>(a) Appropriate location of equipment and buildings  (b) Operational measures  (c) Low-noise equipment  (d) Noise control equipment  (e) Noise abatement</p>	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 has implemented several procedures to reduce noise emissions from the site including;</p> <ul style="list-style-type: none"> <li>- housing most equipment inside buildings</li> <li>- all equipment is on Planned Preventative Maintenance Program and well maintained.</li> <li>- Low noise equipment is used where possible.</li> <li>- Sire perimeter is planted with vegetation.</li> </ul>
15	<p><b>Odour Management</b></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"> <li>- a protocol containing actions and timelines;</li> <li>- a protocol for conducting odour monitoring.</li> <li>- a protocol for response to identified odour incidents eg complaints;</li> <li>- 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.</li> </ul>	CC	<p>The operator has provided information to support compliance with BATc 15. We have assessed the information provided and reviewed the site compliance information. We are satisfied that the operator has demonstrated compliance with BAT15.</p> <p>The Area Officer has highlighted ongoing odour complaints thought to be associated with the ETP. Complaints are sporadic and associated with a limited number of sensitive receptors. The Area Officer confirms that an Odour Management Plan is already in place, and we have received this as part of the Operator's response, but this plan has not</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																
			<p>been formally approved by The Agency. The plan does contain the 4 elements listed but full technical review of the plan is beyond the scope of this review process. We have therefore not included it within the Table S1.2 Operating Techniques, and have retained condition 3.3.2 of the permit to allow for submission of OMP for full technical assessment at a future date if required.</p>																
<b>DAIRY SECTOR BAT CONCLUSIONS (BAT 21-23)</b>																			
21	<p><b>Energy efficiency – Dairy Sector</b></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="293 751 1122 1278"> <thead> <tr> <th data-bbox="293 751 528 783">Technique</th> <th data-bbox="528 751 1122 783">Description</th> </tr> </thead> <tbody> <tr> <td data-bbox="293 783 528 847">(a) Partial milk homogenisation</td> <td data-bbox="528 783 1122 847">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="293 847 528 903">(b) Energy-efficient homogeniser</td> <td data-bbox="528 847 1122 903">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="293 903 528 959">(c) Use of continuous pasteurisers</td> <td data-bbox="528 903 1122 959">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="293 959 528 1038">(d) Regenerative heat exchange in pasteurisation</td> <td data-bbox="528 959 1122 1038">The incoming milk is preheated by the hot milk leaving the pasteurisation section.</td> </tr> <tr> <td data-bbox="293 1038 528 1142">(e) Ultra-high-temperature (UHT) processing of milk without intermediate pasteurisation</td> <td data-bbox="528 1038 1122 1142">UHT milk is produced in one step from raw milk, thus avoiding the energy needed for pasteurisation.</td> </tr> <tr> <td data-bbox="293 1142 528 1198">(f) Multi-stage drying in powder production</td> <td data-bbox="528 1142 1122 1198">A spray-drying process is used in combination with a downstream dryer, e.g. fluidised bed dryer.</td> </tr> <tr> <td data-bbox="293 1198 528 1278">(g) Precooling of ice-water</td> <td data-bbox="528 1198 1122 1278">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> <p>Applicable in addition to BAT6</p>	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>In order to increase energy efficiency the Operator has stated that</p> <ul style="list-style-type: none"> <li>• They homogenise the cream with small quantities of milk before recombination to minimise the size and energy of the homogeniser plant.</li> <li>• The homogeniser is run at a reduce pressure.</li> <li>• The pasteurisers are continuously run 24/7</li> <li>• Regenerative heat recovery is utilised from pasteuriser to plate pack</li> </ul>
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.																		

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																				
22	<p>In order to reduce the quantity of waste sent for disposal, BAT is to use one or a combination of the techniques given below.</p> <table border="1" data-bbox="286 360 1189 995"> <thead> <tr> <th data-bbox="286 360 539 403">Technique</th> <th data-bbox="539 360 1189 403">Description</th> </tr> </thead> <tbody> <tr> <td colspan="2" data-bbox="286 403 1189 443"><i>Techniques related to the use of centrifuges</i></td> </tr> <tr> <td data-bbox="286 443 539 515">(a) Optimised operation of centrifuges</td> <td data-bbox="539 443 1189 515">Operation of centrifuges according to their specifications to minimise the rejection of product.</td> </tr> <tr> <td colspan="2" data-bbox="286 515 1189 555"><i>Techniques related to butter production</i></td> </tr> <tr> <td data-bbox="286 555 539 643">(b) Rinsing of the cream heater with skimmed milk or water</td> <td data-bbox="539 555 1189 643">Rinsing of the cream heater with skimmed milk or water which is then recovered and reused, before the cleaning operations.</td> </tr> <tr> <td colspan="2" data-bbox="286 643 1189 683"><i>Techniques related to ice cream production</i></td> </tr> <tr> <td data-bbox="286 683 539 754">(c) Continuous freezing of ice cream</td> <td data-bbox="539 683 1189 754">Continuous freezing of ice cream using optimised start-up procedures and control loops that reduce the frequency of stoppages.</td> </tr> <tr> <td colspan="2" data-bbox="286 754 1189 794"><i>Techniques related to cheese production</i></td> </tr> <tr> <td data-bbox="286 794 539 882">(d) Minimisation of the generation of acid whey</td> <td data-bbox="539 794 1189 882">Whey from the manufacture of acid-type cheeses (e.g. cottage cheese, quark and mozzarella) is processed as quickly as possible to reduce the formation of lactic acid.</td> </tr> <tr> <td data-bbox="286 882 539 995">(e) Recovery and use of whey</td> <td data-bbox="539 882 1189 995">Whey is recovered (if necessary using techniques such as evaporation or membrane filtration) and used, e.g. to produce whey powder, demineralised whey powder, whey protein concentrates or lactose. Whey and whey concentrates can also be used as animal feed or as a carbon source in a biogas plant.</td> </tr> </tbody> </table>	Technique	Description	<i>Techniques related to the use of centrifuges</i>		(a) Optimised operation of centrifuges	Operation of centrifuges according to their specifications to minimise the rejection of product.	<i>Techniques related to butter production</i>		(b) Rinsing of the cream heater with skimmed milk or water	Rinsing of the cream heater with skimmed milk or water which is then recovered and reused, before the cleaning operations.	<i>Techniques related to ice cream production</i>		(c) Continuous freezing of ice cream	Continuous freezing of ice cream using optimised start-up procedures and control loops that reduce the frequency of stoppages.	<i>Techniques related to cheese production</i>		(d) Minimisation of the generation of acid whey	Whey from the manufacture of acid-type cheeses (e.g. cottage cheese, quark and mozzarella) is processed as quickly as possible to reduce the formation of lactic acid.	(e) Recovery and use of whey	Whey is recovered (if necessary using techniques such as evaporation or membrane filtration) and used, e.g. to produce whey powder, demineralised whey powder, whey protein concentrates or lactose. Whey and whey concentrates can also be used as animal feed or as a carbon source in a biogas plant.	NA	<p>The site doesn't undertake any of the processes relevant to the techniques listed under BAT 22</p> <p>We are therefore satisfied that techniques associated with BATc 22 are not applicable for this site.</p>
Technique	Description																						
<i>Techniques related to the use of centrifuges</i>																							
(a) Optimised operation of centrifuges	Operation of centrifuges according to their specifications to minimise the rejection of product.																						
<i>Techniques related to butter production</i>																							
(b) Rinsing of the cream heater with skimmed milk or water	Rinsing of the cream heater with skimmed milk or water which is then recovered and reused, before the cleaning operations.																						
<i>Techniques related to ice cream production</i>																							
(c) Continuous freezing of ice cream	Continuous freezing of ice cream using optimised start-up procedures and control loops that reduce the frequency of stoppages.																						
<i>Techniques related to cheese production</i>																							
(d) Minimisation of the generation of acid whey	Whey from the manufacture of acid-type cheeses (e.g. cottage cheese, quark and mozzarella) is processed as quickly as possible to reduce the formation of lactic acid.																						
(e) Recovery and use of whey	Whey is recovered (if necessary using techniques such as evaporation or membrane filtration) and used, e.g. to produce whey powder, demineralised whey powder, whey protein concentrates or lactose. Whey and whey concentrates can also be used as animal feed or as a carbon source in a biogas plant.																						
23	<p>In order to reduce channelled dust emissions to air from drying, BAT is to use one or a combination of the techniques given below.</p> <table border="1" data-bbox="277 1106 1173 1398"> <thead> <tr> <th data-bbox="277 1106 495 1161">Technique</th> <th data-bbox="495 1106 730 1161">Description</th> <th data-bbox="730 1106 1173 1161">Applicability</th> </tr> </thead> <tbody> <tr> <td data-bbox="277 1161 495 1249">(a) Bag filter</td> <td data-bbox="495 1161 730 1398" rowspan="3">See Section 14.2 Page 34 of the Bref</td> <td data-bbox="730 1161 1173 1249">May not be applicable to the abatement of sticky dust.</td> </tr> <tr> <td data-bbox="277 1249 495 1305">(b) Cyclone</td> <td data-bbox="730 1249 1173 1398" rowspan="2">Generally applicable.</td> </tr> <tr> <td data-bbox="277 1305 495 1398">(c) Wet scrubber</td> </tr> </tbody> </table> <p>The associated monitoring is given in BAT 5.</p>	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	NA	<p>The site doesn't undertake any drying processes on site as such the relevant BAT requirements for the abatement of emissions to air from drying processes do not apply.</p> <p>We are therefore satisfied that techniques associated with BATc 23 are not applicable for this site.</p>											
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="277 336 1173 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/Nm<sup>3</sup></td> <td>&lt;2-10 <sup>(1)</sup></td> </tr> <tr> <td colspan="3">(1) The upper end of the range is 20 mg/Nm<sup>3</sup> for drying of demineralised whey powder, casein and lactose.</td> </tr> </tbody> </table>	Parameter	Description	BAT-AEL (average over the sampling period)	Dust	Mg/Nm <sup>3</sup>	<2-10 <sup>(1)</sup>	(1) The upper end of the range is 20 mg/Nm <sup>3</sup> for drying of demineralised whey powder, casein and lactose.			NA	<p>The site doesn't undertake any drying processes on site as such the relevant BAT requirements for the abatement of emissions to air from drying processes do not apply.</p> <p>We are therefore satisfied that techniques associated with BATc 23 are not applicable for this site.</p>						
Parameter	Description	BAT-AEL (average over the sampling period)																
Dust	Mg/Nm <sup>3</sup>	<2-10 <sup>(1)</sup>																
(1) The upper end of the range is 20 mg/Nm <sup>3</sup> for drying of demineralised whey powder, casein and lactose.																		
<b>Dairy Sector Environmental Performance Levels</b>																		
EPL	<p><b>Environmental Performance Level – Energy consumption for the dairy sector</b></p> <table border="1" data-bbox="277 737 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 <sup>(1)</sup></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> <tr> <td colspan="3">(1) The specific energy consumption level may not apply when raw materials other than milk are used.</td> </tr> </tbody> </table>	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 <sup>(1)</sup>	Powder	0.2-0.5	Fermented milk	0.2-1.6	(1) The specific energy consumption level may not apply when raw materials other than milk are used.			CC	<p>The operator has provided information to support compliance with the energy EPL. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with the energy consumption for market milk.</p> <p>The market milk figure of 0.1 – 0.6 MWh/tonne is appropriate for this installation. The Operator has states that the site achieved a specific energy consumption of 0.1MWh/tonne as an average over the three years (2019-2021) which is well within the target, reflecting good energy management in place at this installation.</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 <sup>(1)</sup>																
Powder		0.2-0.5																
Fermented milk		0.2-1.6																
(1) The specific energy consumption level may not apply when raw materials other than milk are used.																		



BATC No.	Summary of BAT Conclusion requirement for Food, Drink and Milk Industries	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the operator to demonstrate compliance with the BAT Conclusion requirement										
EPL	<b>Environmental Performance Level – Specific waste water discharge for the dairy sector</b>	CC	<p>The operator has provided information to support compliance with the waste water EPL. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with the energy consumption for waste water discharge for the dairy sector.</p> <p>The market milk figure of 0.3 – 3.0 m<sup>3</sup>/tonne of specific waste water discharge of raw materials is appropriate for this installation. The Operator has states that the site achieved a specific waste water discharge of 0.4 m<sup>3</sup>/tonne of raw material as an average over the three years (2019-2021) which is well within the target, reflecting good management at this installation.</p>										
	<table border="1"> <thead> <tr> <th data-bbox="277 328 595 392">Main product (at least 80 % of the production)</th> <th data-bbox="595 328 913 392">Unit</th> <th data-bbox="913 328 1232 392">Specific waste water discharge (yearly average)</th> </tr> </thead> <tbody> <tr> <td data-bbox="277 399 595 443">Market milk</td> <td data-bbox="595 399 913 533" rowspan="3">m<sup>3</sup>/tonne of raw materials</td> <td data-bbox="913 399 1232 443">0.3 - 3.0</td> </tr> <tr> <td data-bbox="277 443 595 488">Cheese</td> <td data-bbox="913 443 1232 488">0.75 - 2.5</td> </tr> <tr> <td data-bbox="277 488 595 533">Powder</td> <td data-bbox="913 488 1232 533">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 <sup>3</sup> /tonne of raw materials	0.3 - 3.0	Cheese	0.75 - 2.5	Powder	1.2 – 2.7
	Main product (at least 80 % of the production)			Unit	Specific waste water discharge (yearly average)								
	Market milk			m <sup>3</sup> /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/Capacity Threshold**

The Environment Agency is looking to draw a “line in the sand” for permitted production capacity; a common understanding between the Operator and regulator for the emissions associated with a (maximum) level of production, whereby the maximum emissions have been demonstrated as causing no significant environmental impact.

For the dairy sector the threshold for the activity is based on the quantity of milk received at the site. 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.

Whilst the volume of raw milk permitted at the site has increased since the previous variation we are satisfied that the associated risks have not changed, due to the effluent treatment plant capacity being assessed when originally permitted and the current discharge volume (500m<sup>3</sup>/day) being significantly less than the original permitted discharge limit (850m<sup>3</sup>/day).

### **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

	CHP1	CHP2
1. Rated thermal input (MW) of the medium combustion plant.	3.6	3.6
2. Type of the medium combustion plant (diesel engine, gas turbine, dual fuel engine, other engine or other medium combustion plant).	CHP	CHP
3. Type and share of fuels used according to the fuel categories laid down in Annex II.	Natural Gas	Natural Gas
4. Date of the start of the operation of the medium combustion plant or, where the exact date of the start of the operation is unknown, proof of the fact that the operation started before 20 December 2018.	2020	2020

Boilers

	Boiler 1	Boiler 2
1. Rated thermal input (MW) of the medium combustion plant.	2.6	2.6
2. Type of the medium combustion plant (diesel engine, gas turbine, dual fuel engine, other engine or other medium combustion plant).	Boiler	Boiler
3. Type and share of fuels used according to the fuel categories laid down in Annex II.	Natural Gas	Natural Gas
4. Date of the start of the operation of the medium combustion plant or, where the exact date of the start of the operation is unknown, proof of the fact that the operation started before 20 December 2018.	2007	2007

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

For the existing MCP with a rated thermal input of less than or equal to 5 MW, the emission limit values set out in tables 1 and 3 of Part 1 of Annex II MCPD shall apply from 1 January 2030. For the MCP designated as new, the emission limit values set out in table 2 of Part 2 of Annex II MCPD already apply as set out in the previous variation V003.

The appropriate emission limit values for the medium combustion plant are contained within Table S3.1 in the permit.

### **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.

We agree with the operators justification and proposed route as the only option for the installation at the current time. The operator has repeatedly attempted to gain a licence to discharge from the effluent treatment plant to sewer, but have been unable to secure one due to the site volumes exceeding what local treatment plants can accommodate.

### **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 'Phase I and II Geo-environmental Site Assessment Report for the D6 Site M4 J24, 2007' during the original application duly made on 10/05/2007. The site condition report included a report on the baseline conditions as required by Article 22. We reviewed that report and considered that it adequately described the condition of the soil and groundwater at that time. The Operator has revisited this original report and in light of no pollution events since the assessment considers that the conclusions of the report remain relevant.

### **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 a significant user of water, therefore they are likely to be affected by prolonged dry weather/drought, which we consider to be a severe weather event.

The operator has identified that they require a climate change adaptation plan, which considers, as a minimum the impact of severe weather on the operations within the installation. Work on completing this is underway but it was not submitted as part of their response.

We have therefore included an improvement condition into the permit (IC5) 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 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 containment systems currently meet the relevant standard in the CIRIA “Containment systems for the prevention of pollution (C736)” report. Additional information relating to capacity of the bund that surrounds the ETP was gained from the Area Officer.

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

We have set an improvement condition in the permit to address the deficiencies in the existing tanks and containment measures on site (IC6). 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.

<b>Superseded Improvement Conditions – Removed from permit as marked as “complete”</b>	
<b>Reference</b>	<b>Improvement Condition</b>
IC1	The Operator shall submit to the Agency for approval a written site closure plan in accordance with Section 2.11 of SGN IPPC S6.13, 26

	October 2003, "General Guidance for the Dairy and Milk Processing Sector".
IC2	A written procedure shall be submitted to the agency detailing the measures to be used so that monitoring equipment, personnel and organisations employed for the emissions monitoring programme shall have either MCERTS certification or accreditation in accordance with condition 3.6.3. The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the procedure. The procedure shall be implemented by the operator from the date of approval in writing by the Agency.
IC3	The operator shall review options for final effluent treatment at the installation, including reverse osmosis, with a view to recycling water within the process and, if appropriate, shall submit proposals in writing to the Agency for approval. The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the proposals. The proposals shall be implemented by the operator from the date of approval in writing by the Agency.
IC4	The operator shall assess the effects of discharges of BOD, ammoniacal nitrogen, nitrate and phosphorus from the installation on water quality and shall submit a written report to the Agency. If appropriate, the report shall include proposals, for approval by the Agency, for measures to reduce the amounts of these materials discharged. The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the proposals. The proposals shall be implemented by the operator from the date of approval in writing by the Agency.

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

<b>Improvement programme requirements</b>		
<b>Reference</b>	<b>Reason for inclusion</b>	<b>Justification of deadline</b>
IC5	The operator shall submit a climate change adaptation plan to the Environment Agency for approval. The plan shall include, but not be limited to: <ul style="list-style-type: none"> <li>• Details of how the installation has or could be affected by severe weather;</li> <li>• The scale of the impact of severe weather on the operations within the installation;</li> <li>• An action plan and timetable for any improvements to be made to minimise the impact of severe weather at the installation.</li> </ul> The Operator shall implement any necessary improvements to a timetable agreed in writing with	06/06/2024 or other date as agreed in writing with the Environment Agency

	the Environment Agency. The approved plan will form part of the EMS.	
IC6	<p>The Operator shall undertake a comprehensive review and assessment of the secondary and tertiary containment provisions onsite, by a suitably qualified person, against the relevant standards (such as CIRIA C736).</p> <p>The operator shall submit a written report to the Environment Agency for approval which outlines the results of the review and provides details of:</p> <ul style="list-style-type: none"> <li>• current secondary/tertiary containment measures</li> <li>• any deficiencies identified in comparison to relevant standards</li> <li>• improvements proposed</li> <li>• time scale for implementation of improvements.</li> </ul> <p>The operator shall implement the proposed improvements in line with the timescales agreed by the Environment Agency, and incorporate an ongoing routine inspection and maintenance programme as part the EMS.</p>	06/06/2024 or other date as agreed in writing with the Environment Agency
IC7	<p>The Operator shall undertake a comprehensive review and assessment of the management of the Effluent Treatment Plant (ETP) during elevated ammonia levels.</p> <p>The assessment shall include, but not be limited to:</p> <ul style="list-style-type: none"> <li>• An assessment of the impact of rapid ambient temperature variations.</li> <li>• Detail the specific arrangements for identifying the onset of a rise in ammonia and the proposed mitigation of any rises in order to achieve compliance with the year round emission limit for ammoniacal nitrogen.</li> <li>• An assessment of the impact of severe weather events associated with climate change.</li> <li>• An action plan and timetable for any improvements to be made to minimise the impact of rapid ambient temperature changes on the ETP at the installation.</li> </ul> <p>Following the assessment, the operator shall submit the report to the Environment Agency for approval and implement any necessary improvements to a timetable agreed in writing with the Environment Agency.</p>	06/12/2023 or other date as agreed in writing with the Environment Agency