Natural Resources Wales permitting decisions

Variation and Consolidation of a bespoke Permit – Glanbia Cheese Limited

We have decided to issue a Natural Resources Wales initiated variation and consolidated permit for Llangefni Dairy in Llangefni, Anglesey operated by Glanbia Cheese Limited.

The permit number is EPR/BV8024IW.

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

The permit has been varied following the publication of the revised Best Available Techniques (BAT) Reference Documents (BREF) for Food, Drink and Milk Industries. The associated BAT conclusions to this document were published on 4 December 2019 in the Official Journal of the European Union.

This variation incorporates the changes required by the Industrial Emissions Directive following a statutory review of permits in the Food, Drink and Milk sector. These include the amendment of the wording of several permit conditions relating to notifications, changes to emissions limits and monitoring requirements.

We are satisfied that the operator will be compliant with the published BAT conclusions which will apply from 4 December 2023.

Purpose of this document

This decision document:

- explains how we have carried out our statutory review of the Operator's Permit;
- why we have decided to vary the Permit as a result of that review; and
- why we have included the specific conditions in the revised Permit through the variation notice we are issuing.

It is our record of our decision-making process, to show how we have taken into account all relevant factors in reaching our position.

Structure of this document

- Assessment of Llangefni Dairy against the published BAT conclusions for Food, Drink and Milk Industries.
- Annex 1 – Decision Checklist regarding relevant BAT Conclusions for Food, Drink and Milk Industries

Assessment of Llangefni Dairy against the published BAT conclusions for Food, Drink and Milk Industries

1. Our decision

We have issued a variation, which will allow the Operator to operate the installation, subject to the conditions in the varied permit.

The variation does three things:

- it consolidates the original permit to reflect changes made through earlier variations;
- it brings the permit into line with our modern regulatory template; and
- it varies the permit where appropriate to reflect the outcome of our statutory review and incorporate Best Available Techniques (BAT) and Associated Emission Limit Values (BAT-AELs).

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

The original permit, issued on 26/10/2005 ensured that the installation, employed BAT and ensured a high level of protection for human health and the environment. We have altered the permit as a result of the statutory review, and we are confident that the new requirements will deliver a higher level of protection to that which was previously achieved. Where a site is not currently compliant with BAT, Improvement Conditions have been included to bring the site up standard by 4 December 2023.

2. The legal framework

The variation and consolidation Notice (which includes the consolidated permit as Schedule 2) will be issued under Regulation 20 of the Environmental Permitting (England and Wales) Regulations 2016 (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 Industrial Emissions Directive (IED);
- subject to aspects of other relevant legislation which also have to be addressed.

We consider that, in issuing the Variation and Consolidated Permit, 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.

3. How we reached our decision

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 on 27/04/2020 requiring the operator to provide information to demonstrate how the operation of their installation currently meets, or will subsequently meet, the revised standards described in the relevant BAT Conclusions document.

The Regulation 61(1) Notice required the operator to:

- Describe the techniques that will be implemented before 4 December 2023, which will then ensure that operations meet the revised standard, or
- Justify 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 standard is not applicable to those processes, or

- Justify why an alternative technique will achieve the same level of environmental protection equivalent to the revised standard described in the BAT Conclusions.
- Where their permitted activity involves the use, production or release of a hazardous substance, as defined in Article 3(18) of the Industrial Emissions Directive, the Operator was required to carry out a risk assessment considering the possibility of soil and groundwater contamination at the permitted installation with such substances. Where risk of such contamination is established prepare a baseline report containing information necessary to determine the state of soil and groundwater contamination so as to make a quantified comparison with the state upon definite cessation of the activity.
- Where their permitted activity involves the use, production, storage or release of priority hazardous substances and any other relevant substances., as defined by the Water Framework Directive, the Operator was required to carry out a risk screening assessment considering the presence of priority hazardous substances at the permitted installation. Where a risk of these substances is established the operator is to sample the effluent and screen for the priority hazardous substances. If these substances are found to be present in the effluent stream, then assessment using the H1 tool and potential detailed modelling will be required to demonstrate that the effluent discharge will not have a significant impact to the receiving water.

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 Food, Drink and Milk BAT Conclusions Document, the Regulation 61(1) Notice requested that the operator make a formal request for derogation from compliance with that 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(1) Notice response from the operator was received on 17/01/2021 and additional information received on 06/09/2021.

We considered that the response contained sufficient information for us to commence determination of the permit review. The operator made no claim for commercial confidentiality. We have not received any information in relation to the Regulation 61(1) Notice response that appears to be confidential in relation to any part.

4. Key issues/Regulation 61 response

BAT Conclusions for the Food, Drink and Milk Industries were published as Commission Implementing Decision EU 2019/2031 in the Official Journal of the EU on 4 December 2019. There are 37 BAT Conclusions. Annex 1 provides a record of decisions made in relation to each relevant BAT Conclusion applicable to the installation. This should be read in conjunction with the permit/variation notice issued.

A detailed response was received from the Operator. Following assessment of the Regulation 61(1) response, further information was received from the Operator via E-mail. Where the operator has concluded that they have achieved BAT, and we are in agreement, no further information or justification has been sought by Natural Resources Wales.

Baseline site condition report

Where their permitted activity involves the use, production or release of a hazardous substance, as defined in Article 3(18) of the Industrial Emissions Directive, the Operator was required to carry out a risk assessment considering the possibility of soil and groundwater contamination at the permitted installation with such substances. Where risk of such contamination is established prepare a baseline report containing information necessary to determine the state of soil and groundwater contamination so as to make a quantified comparison with the state upon definite cessation of the activity.

The Operator has provided a copy of the Site Condition Report (SCR) submitted as part of the original permit application. The Operator also provided a statement that the original SCR remains valid and accurate for current operations, although there has been an expansion at the site the core operations of cheese-making have remained the same nor have there been any onsite pollution incidents that would require an update to the SCR.

5. Changes we have made

Improvement Conditions

Based on the information provided in the Regulation 61(1) response and further information provided by the Operator, we consider that we do not need to set any

improvement conditions relating to the BAT assessment. The Operator has sufficiently demonstrated they are either currently compliant with BAT now or have detailed how they will be compliant by the compliance deadline. We are satisfied they will be compliant with BAT by the compliance deadline.

Capacity creep

We have included an improvement condition (IC1) in order to establish the current maximum capacity at the installation and to determine if there has been a change since the last risk assessment submitted to NRW. If there has been an increase in the maximum capacity, what we call capacity creep, we have asked the Operator to review and update their risk assessment and submit to us for review. We have also implemented a maximum capacity limit into Table S1.1 of the permit in line with the IC response to prevent any further capacity creep at the installation.

IC1	(a) The Operator shall submit to NRW the maximum capacity of the installation that was used in the most recent risk assessment submitted to NRW. (b) The Operator shall submit to NRW for approval the maximum capacity of the installation at the current time. (c) If the maximum capacity of the installation has increased from the time of the last submitted risk assessment and the current time, the Operator shall review and update the risk assessment to account for the current maximum capacity. The risk assessment shall be submitted to NRW for review. Notes: The capacity is to be taken and presented using the same units from the relevant sub-section of Section 6.8, Part 2, Schedule 1 of the Environmental Permitting Regulations 2016 (as from time to time amended). Capacity is to be taken as the maximum possible capacity of the installation, not the maximum actual production. The risk assessment should follow the methodology set out in The Environmental Risk Assessment (EPR-H1). You may use a methodology other than EPR-H1 however the methodology must address the same issues as in EPR-H1 to an equivalent level of detail.	(a) and (b) Within 6 months of permit variation issue (c) Within 9 months of permit variation issue (if applicable)

Other changes

No other changes have been made to the permit as part of the variation.

Operational Changes

No operational changes have occurred as part of the variation.

Medium Combustion Plant (MCP) / Specified Generator (SG)

The installation has two existing MCPs already listed in Table S1.1 as a Directly Associated Activity and with emission point A1 in Table S3.1. The existing MCPs are

natural gas boilers, with a combined thermal input of 12.9 MW, one is main use the other is back-up. Emission Limit Values (ELVs) and monitoring for existing MCPs is not required until 1st January 2025 at the earliest. As this is some way off, we decided to maintain any existing ELVs and monitoring requirements in the permit and not to impose new stricter ELVs ahead of time.

Emissions to Water

As part of our delivery of the Water Framework Directive requirements, we need to identify and assess the impact for all discharges to surface waters and/or sewer from the site for priority hazardous substances and any other relevant substances. The emissions monitoring for these substances should be carried out using the methods and standards described in the M18 guidance on "Monitoring of discharges to water and sewer".

With reference to the risk assessment guidance on the gov.uk website entitled "Surface water pollution risk assessment for your environmental permit" (accessible via: https://www.gov.uk/guidance/surface-water-pollution-risk-assessment-for-your-environmental-permit) the company carried out the following assessments:

- Screening tests for priority hazardous pollutants and any other relevant priority hazardous substances.
- For any substance which is not screened out by the screening tests further modelling, as described in the risk assessment guidance "Surface water pollution risk assessment for your environmental permit".

The Operator has a total of three discharges to surface water (river) of uncontaminated stormwater from roofs and site surface drainage. The Operator also has a discharge to sewer of partially treated process effluent. There are no priority hazardous substances in any of these discharges therefore the Operator does not need to completed the screening tests.

The specific BAT Conclusions on water emissions were also reviewed based on the Food, Drink and Milk BREF and the following changes are made to the ELVs for emissions to water taking into account BAT Conclusion 12 from the BREF.

BAT-AELs only apply to direct discharges to surface water of process effluent, the Operator discharges process effluent to sewer which undergoes further treatment by the sewerage undertaker, therefore no BAT-AELs within BAT Conclusion 12 are

applicable. The monitoring of the discharge of process effluent to sewer has been reviewed and monitoring of Chloride (Cl^-) has been added to the permit as per BAT Conclusion 4 of the Food, Drink and Milk Industries BREF. Monitoring of all the other parameters within BAT Conclusion 4 do not apply as it is not a direct discharge to a receiving water body as per Note 2 in BAT Conclusion 4.

Emissions to Water – Article 15(4) Derogations

No derogations.

Emissions to Air

This installation is a dairy and there are no channelled emissions to air from drying therefore the BAT-AEL in BAT Conclusion 23 nor any monitoring within BAT Conclusion 5 apply.

Emissions to Air – Article 15(4) Derogations

No derogations.

Other IED BREFs relevant to the permit review

There is a Section 5.4 activity listed within Table S1.1 of the permit relating to the Effluent Treatment Process of process effluent from the main activity. We consider this activity to be covered by the BAT conclusions with the Food, Drink and Milk BREF and therefore no additional assessment has been completed against the Waste Treatment BREF.

6. Conclusion

We consider that the installation already employed what used to be BAT, and that the operator has achieved significant improvements in performance since the permit was originally granted. The revised BREF provide the opportunity to consider further environmental improvements.

Coupled with the consolidation and modernisation of the permit, we believe this variation provides a sound basis for ongoing regulation of the installation and we are satisfied that the operator is currently achieving or will be achieving all relevant BAT by 4 December 2023.

We believe that we have ensured compliance with all relevant legal requirements in carrying out this review and making our determination on the variation.

Annex 1: Decision checklist regarding relevant BAT Conclusions for Food, Drink and Milk Industries

BAT Conclusions for the Food, Drink and Milk Industries were published as Commission Implementing Decision EU 2019/2031 in the Official Journal of the EU on 4 December 2019. There are 37 BAT Conclusions. This checklist 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 permit. The permitted installation is classed a dairy.

All applicable BAT Conclusions are listed by number in order below;

BATc number		Summary of BAT Conclusion requirement	**Status/comment** **One of the following:** Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
OVERALL ENVIRONMENTAL PERFORMANCE			
1	**Environment Management System (EMS) – <u>ALL</u> of the following:**		
	I.	Commitment, leadership and accountability of the management, including senior management for the implementation of an effective EMS	Currently Compliant The Operator has stated their EMS contains all these elements. The Operator has an EMS certified to ISO14001:2015 standard which we consider to be appropriate in achieving all aspects of this BAT conclusion.
	II.	An analysis that includes the determination of the organisation's context, the identification of the needs and expectations of interested parties, the identification of characteristics of the installation that are associated with possible risks for the environment (or human health) as well as of the applicable legal requirements relating to the environment.	
	III.	Development of an environmental policy that includes the continuous improvement of the environmental performance of the installation	
	IV.	establishing objectives and performance indicators in relation to significant environmental aspects, including safeguarding compliance with applicable legal requirements;	

BATc number		Summary of BAT Conclusion requirement	**Status/comment** **One of the following:** Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
	V.	Planning and implementing the necessary procedures and actions (including corrective and preventive actions where needed), to achieve the environmental objectives and avoid environmental risks;	
	VI.	Determination of structures, roles and responsibilities in relation to environmental aspects and objectives and provision of the financial and human resources needed;	
	VII.	Ensuring the necessary competence and awareness of staff whose work may affect the environmental performance of the installation (e.g. by providing information and training);	
	VIII.	Internal and external communication	
	IX.	Fostering employee involvement in good environmental management practices;	
	X.	Establishing and maintaining a management manual and written procedures to control activities with significant environmental impact as well as relevant records;	
	XI.	Effective operational planning and process control;	
	XII.	Implementation of appropriate maintenance programmes;	
	XIII.	Emergency preparedness and response protocols, including the prevention and/or mitigation of the adverse (environmental) impacts of emergency situations;	
	XIV.	When (re)designing a (new) installation or a part thereof, consideration of its environmental impacts throughout its life, which includes construction, maintenance, operation and decommissioning;	
	XV.	Implementation of a monitoring and measurement programme, if necessary, information can be found in the Reference Report on Monitoring of Emissions to Air and Water from IED Installations;	
	XVI.	Application of sectoral benchmarking on a regular basis;	
	XVII.	Periodic independent (as far as practicable) internal auditing and periodic independent external auditing in order to assess the environmental performance and to determine whether or not the EMS conforms to planned arrangements and has been properly implemented and maintained;	

BATc number		Summary of BAT Conclusion requirement	**Status/comment** **One of the following:** Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
	XVIII.	Evaluation of causes of nonconformities, implementation of corrective actions in response to nonconformities, review of the effectiveness of corrective actions, and determination of whether similar nonconformities exist or could potentially occur;	
	XIX.	Periodic review, by senior management, of the EMS and its continuing suitability, adequacy and effectiveness;	
	XX.	Following and taking into account the development of cleaner techniques.	
	(i)	Noise Management Plan (BAT 13)	See BAT 13
	(ii)	Odour Management Plan (BAT 15)	See BAT 15
	(iii)	Inventory of water, energy and raw materials consumption as well as of waste water and waste gas streams (BAT 2)	See BAT 2
	(iv)	Energy Efficiency Plan (BAT 6a)	See BAT 6a
2	**Establish and maintain a waste water and waste gas inventory as part of the EMS - <u>ALL</u> of the following:**		
	Information about the food, drink and milk production processes, including;		
	I.(a)	simplified process flow sheets that show the origin of the emissions	Currently Compliant As per interpretation guidance, this is expected to be part of ISO14001:2015 certified EMS.
	I.(b)	descriptions of process-integrated techniques and waste water/waste gas treatment techniques to prevent or reduce emissions, including their performance	
	II.	Information about water consumption and usage and identification of actions to reduce water consumption and waste water volume (BAT 7)	See BAT 7
	Information on quantity and characteristics of the waste water streams, such as:		
	III.(a)	Average values and variability of flow, pH and temperature	Currently Compliant See BAT 3
	III.(b)	Average concentration and load values of relevant pollutants/parameters (e.g. TOC/COD, nitrogen species, phosphorus, chloride, conductivity) and their variability	
	Information on characteristics of waste gas streams, such as:		

BATc number		Summary of BAT Conclusion requirement	**Status/comment** **One of the following:** Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
	IV.(a)	*Mean and variability of:*	Currently Compliant As per interpretation guidance, this is expected to be part of ISO14001:2015 certified EMS. Existing combustion units will be subject to MCP Directive in near future where monitoring and ELVs will be implemented through the permit requirements.
		Flow	
		temperature	
	IV.(b)	*Mean concentration, load and variability of relevant substances:*	
		Dust	
		TVOC	
		CO	
		NOx	
		SOx	
	IV.(c)	*Presence of other substances that may affect the waste gas treatment system or plant safety:*	
		O2	
		Water vapour	
		Dust	
	V.	Information about energy consumption and usage, the quantity of raw materials used, as well as the quantity and characteristics of residues generated, and identification of actions for continuous improvement of resource efficiency (BAT 6 and BAT 10)	See BAT6 and BAT10
	VI.	Identification and implementation of an appropriate monitoring strategy with the aim of increasing resource efficiency, taking into account energy, water and raw materials consumption. Monitoring can include direct measurements, calculations or recording with an appropriate frequency. The monitoring is broken down at the most appropriate level (e.g. at process or plant/installation level).	Currently Compliant Annual monitoring in place for energy, water usage, raw materials as per the current permit requirements.
MONITORING			

BATc number	Summary of BAT Conclusion requirement	**Status/comment** **One of the following:** Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
3	**For relevant emissions to water as identified by the inventory of waste water streams (BAT 2): monitor key process parameters at key locations**	
	Key process parameters	
	Waste water flow	Currently Compliant The Operator monitors as per their Trade Effluent Consent requirements which is considered appropriate. pH and TOC are monitoring continually on the inlet and outlet of their pre-treatment process. They monitor flow as per their Trade effluent consent and EPR permit requirements.
	pH	
	Temperature	
	Key monitoring locations	
	Pre-treatment inlet and/or outlet	Currently Compliant The Operator monitors prior to the sewer discharge point as part of their Trade Effluent Consent, The Operator also monitors at the inlet and outlet of their pre-treatment process.
	Final treatment inlet	
	Discharge point (to the environment)	
	Other location	
4	*Monitoring of water emissions: monitor emissions to water with at least the frequency given below and in accordance with EN standards:*	
	Refer to monitoring emissions to water table in BRef document	Compliant in the future Chloride monitoring will be implemented on the discharge of process effluent to sewer through the permit requirements. No other parameters relevant a per Note 2 of the BAT Conclusion. Process effluent is only discharged to sewer which undergoes further treatment and therefore not considered a 'direct' discharge.
5	Refer to monitoring emissions to air table in BRef document Monitoring parameters depend on sector	Not Applicable Site is a dairy and has not channelled emissions to air from drying processes.
6	**Energy Efficiency: BAT is to use 6a and appropriate combination of common techniques**	

BATc number		Summary of BAT Conclusion requirement	**Status/comment** **One of the following:** Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
	a.	Energy Efficiency Plan	Currently Compliant The Operator has stated there is annual departmental improvement targets, energy use and efficiency is reported to NRW on an annual basis.
	b.	Use of common techniques	Currently Compliant The Operator has stated the following techniques are in place: - Boiler fitted with burner management control system - Replacement of efficiency motors at all opportunities - A heating/cooling mapping system was conducted in 2018 and installed heat recovery systems on heat exchangers - Minimise blowdowns from boiler - Preheat boiler feedwater using a flue gas heat exchanger - Use of variable speed drives on all major motors where demand profile is appropriate
7	**Water consumption and waste water discharge** **BAT is to use 7a and one or a combination of techniques in b to k**		
	a.	Water recycling and/or reuse	Currently Compliant The Operator has stated that where Food safety standards allow then water reuse is employed. Including through the recovery of evaporator whey condensate for use as the boiler feedwater. The Operator is further investigating the reuse or reverse osmosis permeate as cooling water.
	b.	Optimisation of water flow	Currently Compliant The Operator has stated the following techniques are in use: - Dry cleaning in some areas of production
	c.	Optimisation of water nozzles and hoses	
	d.	Segregation of water streams	

BATc number		Summary of BAT Conclusion requirement	**Status/comment** **One of the following:** Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
	e.	Dry cleaning	- Cleaning in place - Segregated water streams of process effluent and uncontaminated surface water - Reverse osmosis permeate may be reused as cooling water or free cooling this is being explored by the Operator in 2021.
	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	
8	**Harmful substances. BAT is to use one or a combination of the techniques given below:**		
	a.	Proper selection of cleaning chemicals and/or disinfectants	Currently Compliant The Operator has stated that the following techniques are in place: - Cleaning in place, all CIP sets recover cleaning chemicals - Dry cleaning in place in some areas of production, with isolation of water supply until dry cleaning is completed
	b.	Reuse of cleaning chemicals in cleaning-in-place CIP	
	c.	Dry cleaning	
	d.	Optimised design and construction of equipment and process areas	
9	**BAT is to use refrigerants without ozone depletion potential and with a low global warming potential**		Currently Compliant The Operator has confirmed ammonia is in use as refrigerant.
10	**Increase resource efficiency, use one or a combination of the techniques given below**		
	a.	Anaerobic digestion	Currently Compliant The Operator has stated there is a combination of these techniques already employed on site including: - recovery of whey for further processing off-site - use of regenerative heat pasteurisers
	b.	Use of residues	
	c.	Separation of residues	
	d.	Recovery and reuse of residues from pasteuriser	

BATc number		Summary of BAT Conclusion requirement	**Status/comment** **One of the following:** Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
	e.	Phosphorus recovery as struvite	- use of continuous pasteurisers
	f.	Use of waste water for land spreading	
EMISSIONS TO WATER			
11	**Prevent uncontrolled emissions to water, provide an appropriate buffer storage capacity for waste water**		Currently Compliant The Operator has stated there is 600 m^3 volume of buffer storage available with further investment planned in 2021 to provide further waste water storage capacity.
12	**Reduce emissions to water, use an appropriate combination of the techniques given below**		
	a.	Equalisation	Currently Compliant The installation partially treats their process effluent prior to discharge to sewer which then undergoes further treatment by the sewerage undertaker. The site conducts primary physico-chemical treatment by pH balancing. No other treatment occurs on site.
	b.	Neutralisation	
	c.	Physical separation	
	d.	Aerobic and/or anaerobic treatment	
	e.	Nitrification and/or denitrification	
	f.	Partial nitrification	
	g.	Phosphorus recovery as struvite	
	h.	Precipitation	
	i.	Enhanced biological phosphorus removal	
	j.	Coagulation and flocculation	
	k.	Sedimentation	
	l.	Filtration	
	m.	Flotation	
	BAT-AELs for direct emissions to a receiving water body. Table 1 and associated notes. Associated monitoring given in BAT 4.		

BATc number	Summary of BAT Conclusion requirement		**Status/comment** **One of the following:** Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
	Chemical oxygen demand COD	25–100 mg/L	Not Applicable No BAT-AELs applicable as no direct discharge to a revieing water body of process effluent. Partially treated effluent is discharged to sewer for further treatment.
	Total suspended solids TSS	4–50 mg/L	
	Total nitrogen	2–20 mg/L	
	Total phosphorus	0.2–2.0 mg/L	
NOISE			
13	**Set up, implement, and regularly review a Noise Management Plan (as part of the EMS) where nuisance is expected and/or has been substantiated. Include ALL of the following:**		
	I.	A protocol containing actions and timelines	Not Applicable The Operator has stated noise nuisance is not expected nor has been substantiated. The site regulatory compliance officer agrees with this statement.
	II.	A protocol for conducting noise emissions monitoring	
	III.	A protocol for response to identified noise events, e.g. complaints	
	IV.	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.	
14	**Techniques to prevent, or where not practicable reduce noise and vibration emissions. Use one or a combination of the following:**		
	a.	Appropriate location of equipment and buildings	Currently Compliant The Operator has stated external movements are limited at night to avoid unnecessary noises from arising.
	b.	Operational measures – see examples	
	c.	Low-noise equipment – see examples	
	d.	Noise control equipment – see examples	
	e.	Noise abatement – see examples	
ODOUR			
15	**Set up, implement, and regularly review an Odour Management Plan (as part of the EMS) where nuisance is expected and/or has been substantiated. Include ALL of the following:**		

BATc number		Summary of BAT Conclusion requirement	**Status/comment** **One of the following:** Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
	I.	Protocol with actions and timelines	Not Applicable The Operator has stated odour nuisance is not expected nor has been substantiated. The site regulatory compliance officer agrees with this statement.
	II.	Odour monitoring protocol	
	III.	Odour complaint response plan/protocol	
	IV.	Odour prevention and reduction programme	
BAT CONCLUSIONS FOR DAIRIES			
21	**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:**		
	a.	Partial milk homogenisation	Currently Compliant See BAT 6 and the following is in use: - use of continuous pasteurisers - use of regenerative heat exchange in pasteurisation
	b.	Energy-efficient homogeniser	
	c.	Use of continuous pasteurisers	
	d.	Regenerative heat exchange in pasteurisation	
	e.	Ultra-high-temperature (UHT) processing of milk without intermediate pasteurisation	
	f.	Multi-stage drying in powder production	
	g.	Precooling of ice-water	
Indicative	***Indicative environmental performance levels for specific energy consumption*** *Table 8 and footnotes*		
	Market milk	0.1-0.6 MWh/tonne of raw materials	Indicative The Operator has stated 2020 environmental performance level was 0.19 MWh/tonne of raw material therefore within range for cheese.
	Cheese	0.10-0.22 MWh/tonne of raw materials	
	Powder	0.2-0.5 MWh/tonne of raw materials	
	Fermented milk	0.2-1.6 MWh/tonne of raw materials	
Indicative	***Indicative environmental performance levels for specific waste water discharge*** *Table 9*		

BATc number	Summary of BAT Conclusion requirement		**Status/comment** **One of the following:** Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
	Market milk	0.3-3.0 m^3/tonne of raw materials	Indicative The Operator has stated 2020 environmental performance level was 1.71 m^3/tonne of raw material therefore within range for cheese.
	Cheese	0.75-2.5 m^3/tonne of raw materials	
	Powder	1.2-2.7 m^3/tonne of raw materials	
22	**In order to reduce the quantity of waste sent for disposal, BAT is to use one or a combination of the techniques given below:**		
	Techniques related to the use of centrifuges		Currently Compliant Whey is recovered by reverse osmosis and evaporation; whey is then dispatched for further processing within 24 hours.
	a.	Optimised operation of centrifuges	
	Techniques related to butter production		
	b.	Rinsing of the cream heater with skimmed milk or water	
	Techniques related to ice cream production		
	c.	Continuous freezing of ice cream	
	Techniques related to cheese production		
	d.	Minimisation of the generation of acid whey	
	e.	Recovery and use of whey	
23	**In order to reduce channelled dust emissions to air from drying, BAT is to use one or a combination of the techniques given below:**		
	a.	Bag filter	Not Applicable No channelled dust emissions to air from drying.
	b.	Cyclone	
	c.	Wet scrubber	
	BAT-AELs for channelled dust emissions to air from drying *Table 10*		
	Dust	< 2-10 mg/Nm^3	Not Applicable No channelled dust emissions to air from drying.

Annex 2: Consultation on the draft decision where an Article 15(4) derogation has been applied

Not Applicable