

Natural Resources Wales permitting decisions

Variation and Consolidation of a bespoke Permit – South Caernarfon Creameries Limited

We have decided to issue a Natural Resources Wales initiated variation and consolidated permit for South Caernarfon Creamery in Pwllheli operated by South Caernarfon Creameries Limited.

The permit number is EPR/BL9941IC.

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 the installation 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 South Caernarfon Creamery 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 the 28/05/2004 ensured that the installation, employed Best Available Techniques (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 superior 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 24/04/2020 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 15/10/2020.

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. 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 stated that the site has a comprehensive Site Condition Report in place which establishes baseline conditions at the site, this was submitted to NRW in the initial permit application in 2004. The Operator also stated that this initial report remains valid and reflects the current ground conditions at the site. The Operator also intends to submit a variation in the near future to increase the installation boundary and during this permit variation investigation and updated site condition report will be submitted to NRW for review.

5. Changes we have made

Improvement Conditions

Based on the information provided in the Regulation 61(1) response, we consider that we need to set improvement conditions. These conditions are set out below. We are using these conditions to require the operator to provide Natural Resources Wales with details that need to be established or confirmed during operations. The improvement conditions ensure compliance by 2023.

26	The Operator shall submit to Natural Resources Wales an updated written procedure following additional investigatory work describing how they intend to meet the following BAT requirements in accordance with the requirements specified within: - BAT Conclusion 9 of the Food, Drink and Milk Industries BRef Document (EU 2019) – 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 The report should include but not limited to - a review of the use of the current refrigerant(s) as to whether it meets the BAT requirements as specified above and; - a feasibility study regarding the replacement of the current refrigerant(s) with one with a lower global warming potential and no ozone depletion potential. Suitable alternatives include but not limited to ammonia, water and carbon dioxide. The report shall be submitted to Natural Resources Wales by the date specified for review. Natural Resources Wales will review the report to determine if the above BAT requirements have been achieved.	4 June 2023 or otherwise agreed in writing with Natural Resources Wales
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IC26 has been included in the permit to ensure BAT requirements are achieved for the use of refrigerants. See annex 1 for more detail.

Operational Changes

No operational changes have been made to the permit during this variation.

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

The installation has three existing MCPs, a 2.5 MWth input boiler and 2x 3.2 MWth input boilers, all fuelled on oil. None of these units are currently listed in Table S1.1 as a Directly Associated Activity, however they are listed in with emission points [A1 (2.5 MWth input unit) and A2 (2x 3.2 MWth input units)] in Table S3.1. Therefore the three boilers have been added to Table S1.1 as a directly associated activity. Emission Limit Values (ELVs) and monitoring for the existing MCP is not required until 1st January 2025 at the earliest. As this is some way off, we have decided to maintain any existing ELVs and monitoring requirements in the permit and not to impose new stricter ELVs ahead of time. The Operator has indicated they plan to replace these three existing

units with two new LPG fuelled 5 MWth input boilers, the two new units will be MCPD compliant.

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 recently submitted a variation application (December 2020) to upgrade the Effluent Treatment Plant activity including increase the volume of trade effluent discharged. The screening tests and modelling (where necessary) were completed as part of this application therefore we do not consider it necessary for the Operator to complete this again.

As the variation was to substantially upgrade the Effluent Treatment Plant, the BAT-AELs from BAT Conclusion 12 of the Food, Drink and Milk Industries BREF have already been implemented. During this variation it was confirmed the current ELVs in the permit are in line with the BAT-AELs, therefore there have been no changes to the ELVs in the permit for the direct discharge to surface water.

Emissions to Water – Article 15(4) Derogations

No derogations.

Emissions to Air

There are point source emission to air from the installation from combustion sources only. There are no channelled emissions to air from drying processes therefore the BAT-AEL within BAT conclusion 23 for Dairies is not applicable.

Other IED BREFs relevant to the permit review

There is also a listed 5.4 activity within Table S1.1 of the permit which is within scope of the BAT Conclusions for Waste Treatment. This activity relates to the on-site Effluent Treatment Plant activity for the disposal of non-hazardous waste, solely the process derived effluent. 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 and its BAT-AELs 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.

All BAT Conclusions arising 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
	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;
	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;
Currently Compliant Operator has stated their EMS is currently Green Dragon Level 2 certified and they are currently awaiting their verification of Green Dragon Level 3 certification. We consider this appropriate certification of achieving all the elements within the BAT conclusion.		

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
	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;	
	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;	

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
	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 The Operator has stated there is an annual monitoring of fuel, water and energy use and this is reviewed against production quantities and review of cleaning products every two years.
	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)	
	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 The Operator has stated the wastewater stream has continuous monitoring for flow, pH, turbidity and temperature with additional effluent monitoring as it moves through the ETP. The Operator conducts monitoring of the wastewater stream in line with the permit requirements.
	III.(b)	Average concentration and load values of relevant pollutants/parameters (e.g. TOC/COD, nitrogen species, phosphorus, chloride, conductivity) and their variability	

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
	Information on characteristics of waste gas streams, such as:		
	IV.(a)	Mean and variability of:	Currently Compliant Waste gas steams only from combustion units on site, no waste gas streams from dairy processes. Combustion unit emissions not monitored as per the permit requirements however Operator plans to replace current units with MCPD compliant units which will require monitoring with implementation of MCPD to existing units in the near future. There are no waste gas treatment systems in place, no abatement on point sources.
		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 BAT 6 and BAT 10
	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).	

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
MONITORING		
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 has stated the wastewater stream has continuous monitoring for flow, pH, turbidity and temperature with additional effluent monitoring as it moves through the ETP. The Operator conducts monitoring of the wastewater stream in line with the permit requirements with a number of additional parameters.
	pH	
	Temperature	
	Key monitoring locations	
	Pre-treatment inlet and/or outlet	Currently Compliant The Operator currently monitors as per the permit requirements prior to the discharge point and at other points during the ETP 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	Currently Compliant The current permit has recently been varied to upgrade the ETP and increase the volume of trade effluent discharged direct to surface water. During this variation the new monitoring requirements within BAT4 of the BREF have been implemented. The current permit stipulates weekly monitoring as we consider this appropriate as the effluent parameters will remain sufficiently stable.
5	Refer to monitoring emissions to air table in BRef document	Not applicable

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
	Monitoring parameters depend on sector	Site is a dairy and no drying processes on site.
6	Energy Efficiency: BAT is to use 6a and appropriate combination of common techniques	
	a.	Energy Efficiency Plan Currently Compliant The Operator has stated the use of annual review and recording of energy consumption against key performance indicators as part of their Green Dragon certified EMS.
	b.	Use of common techniques Currently Compliant The Operator has detailed the following techniques are in place: • Burner regulation and control • Cogeneration • Energy efficient motors • Heat recovery from vac pumps and compressors • Replacement of lighting with LED lighting • Minimising boiler blowdowns • Full steam survey completed across the site • Preheating of CIP feed water • Process control systems • Insulation of pipework • Reducing compressed air leaks • Variable speed drives • Use of solar energy – feasibility study ongoing
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

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
			The Operator has stated through CIP final rinse water is reused as first rinse for new cycle. Whey is also recovered via reverse osmosis/membrane filter.
	b.	Optimisation of water flow	Currently Compliant The Operator has stated the following techniques are in place: • Segregation of process effluent and uncontaminated surface water • CIP system in place • Optimised chemical dosing • New plant area has been designed to easily be able to clean with less wastage • Cleaning carried out as soon as possible
	c.	Optimisation of water nozzles and hoses	
	d.	Segregation of water streams	
	e.	Dry cleaning	
	f.	Pigging system for pipes	
	g.	High-pressure cleaning	
	h.	Optimisation of chemical dosing and water use in cleaning-in-place (CIP)	
	i.	Low-pressure foam and/or gel cleaning	
	j.	Optimised design and construction of equipment and process areas	
	k.	Cleaning of equipment as soon as possible	
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 See above and the Operator has stated that review of cleaning chemicals carried out every two years.
	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		Compliant in the future The Operator has stated that they use a refrigerant that is compliant with Ozone Depleting Substances regulations however has not stated the refrigerant nor have they stated the global warming potential. The Operator has indicated that they are currently

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
			evaluating the installation of a new refrigeration plant using ammonia, however has not committed to its use. An improvement condition has been set in order for the Operator to review the refrigerant in use and consider the feasibility of installation a new refrigerant.
10	Increase resource efficiency, use one or a combination of the techniques given below		Currently Compliant The Operator has stated the following techniques are in place: - Sludge from ETP is sent for feedstock for Anaerobic Digestion - Use of whey for animal and health food products - Separating whey for animal and health food products - Reuse residues from pasteuriser recirculated
	a.	Anaerobic digestion	
	b.	Use of residues	
	c.	Separation of residues	
	d.	Recovery and reuse of residues from pasteuriser	
	e.	Phosphorus recovery as struvite	
	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 500 m³ volume of buffer storage in place and the new upgraded ETP there will be further buffer storage provided.
12	Reduce emissions to water, use an appropriate combination of the techniques given below		Currently Compliant The Operator has recently upgraded the ETP to include: - DAF – dissolved air flotation - Aeration tanks – activated sludge - Coagulation and flotation
	a.	Equalisation	
	b.	Neutralisation	
	c.	Physical separation	
	d.	Aerobic and/or anaerobic treatment	
	e.	Nitrification and/or denitrification	

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
	f.	Partial nitrification	- Anoxic tanks - Lamella filtration	
	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.			
	Chemical oxygen demand COD	25–100 mg/L	Currently Compliant The permit has recently been varied to upgrade the ETP and increase the volume of wastewater discharged. The new BAT-AELs were implemented as part of this recent variation (2021) as BAT applies straight away for substantial upgrades. The permit already incorporates the BAT-AELs and ELVs therefore no further changes as part of this review.	
	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 stated the risk assessment completed shows no requirement for noise management plan. Nuisance is not expected nor has been substantiated	
	II.	A protocol for conducting noise emissions monitoring		
	III.	A protocol for response to identified noise events, e.g. complaints		

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 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.	from the site. The Operator has stated there has been one compliant in twenty years oof operation and the source of noise was rectified immediately. The compliance site officer is in agreement with the statement.
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
	b.	Operational measures – see examples	The Operator has stated that all potential noise equipment is enclosed cowled. There has only been one noise compliant in twenty years due to a faulty blower on ETP system, this was rectified within 24 hours of the compliant.
	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:		
	I.	Protocol with actions and timelines	Currently Compliant
	II.	Odour monitoring protocol	The Operator has an odour management plan in place which was submitted as part of the response. There has been no complaints within the last ten years. The Operator last reviewed the OMP in line with BAT Conclusion in October 2020. The Odour Management Plan includes the following aspects: - Plans for action procedure - Emergency and contingency plans - Corrective actions - Review of the OMP - Odour monitoring procedures - Complaints procedure
	III.	Odour complaint response plan/protocol	
	IV.	Odour prevention and reduction programme	

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	
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
	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 Operator has stated performance level is 0.58 MWh/tonne of milk therefore within indicative range.
	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				
	Market milk	0.3-3.0 m³/tonne of raw materials			Indicative Operator has stated performance level is 1.589 m³/tonne of milk therefore within indicative range.
	Cheese	0.75-2.5 m³/tonne of raw materials			
	Powder	1.2-2.7 m³/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:				

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
	Techniques related to the use of centrifuges		Currently Compliant The Operator has stated they recovery whey using membrane filter/reverse osmosis system this is recovered off site for use in the health food and animal feed industries.
	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/Nm³	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