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/BU0591IAThe Operator is:Arla Foods LimitedThe Installation is:Stourton DairyThis Variation Notice number is:EPR/BU0591IA/V007

What this document is about

Article 21(3) of the Industrial Emissions Directive (IED) requires the Environment Agency to review conditions in permits that it has issued and to ensure that the permit delivers compliance with relevant standards, within four years of the publication by the European Commission of updated decisions on best available techniques (BAT) Conclusions.

We have reviewed the permit for this installation against the BAT Conclusions for the Food, Drink and Milk Industries published on 4th December 2019 in the Official Journal of the European Union. In this decision document, we set out the reasoning for the consolidated variation notice that we have issued.

It explains how we have reviewed and considered the techniques used by the Operator in the operation and control of the plant and activities of the installation. It is our record of our decision-making process and shows how we have taken into account all relevant factors in reaching our position

As well as considering the review of the operating techniques used by the Operator for the operation of the plant and activities of the installation, the consolidated variation notice takes into account and brings together in a single document all previous variations that relate to the original permit issue. Where this has not already been done, it also modernises the entire permit to reflect the conditions contained in our current generic permit template.

The introduction of new template conditions makes the Permit consistent with our current general approach and with other permits issued to Installations in this sector. Although the wording of some conditions has changed, while others have been deleted because of the new regulatory approach, it does not reduce the level of environmental protection achieved by the Permit in any way. In this document, we therefore address only our determination of substantive issues relating to the new BAT Conclusions.

We try to explain our decision as accurately, comprehensively and plainly as possible. Achieving all three objectives is not always easy, and we would welcome any feedback as to how we might improve our decision documents in future.

How this document is structured

- 1. Our decision
- 2. How we reached our decision
- 3. The legal framework
- 4. Annex 1 Review of operating techniques within the Installation against BAT Conclusions.
- 5. Annex 2 Review and assessment of changes that are not part of the BAT Conclusions derived permit review
- 6. Annex 3 Improvement Conditions

1 Our decision

We have decided to issue the Variation Notice to the Operator. This will allow the Operator to continue to operate the Installation, subject to the conditions in the Consolidated Variation Notice that updates the whole permit.

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

The Consolidated Variation Notice contains many conditions taken from our standard Environmental Permit template including the relevant annexes. We developed these conditions in consultation with industry, having regard to the legal requirements of the Environmental Permitting Regulations and other relevant legislation. This document does not therefore include an explanation for these standard conditions. Where they are included in the Notice, we have considered the techniques identified by the operator for the operation of their installation, and have accepted that the details are sufficient and satisfactory to make those standard conditions appropriate. This document does, however, provide an explanation of our use of "tailor-made" or installation-specific conditions, or where our Permit template provides two or more options.

2 How we reached our decision

2.1 Requesting information to demonstrate compliance with BAT Conclusion techniques

We issued a Notice under Regulation 61(1) of the Environmental Permitting (England and Wales) Regulations 2016 (a Regulation 61 Notice) on 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 <u>Review of our own information in respect to the capability of the Installation to meet revised</u> 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 <u>Requests for further information during determination</u>

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 04/01/2023 regarding BATc 1, 6, 9, EPL – Energy Consumption, EPL – Wastewater Discharge, and updated site plan. 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-AELs):

BAT 16 & 17 BAT 18 – 20	BAT Conclusions for Animal Feed BAT Conclusions for Brewing
BAT 21 – 23 BAT 24	BAT Conclusions for Dairies 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
GEN	IERAL BAT CONCLUSIONS (BAT 1-15)		
1	Environmental Management System - Improve overall environmental performance. Implement an EMS that incorporates all the features as described within BATc 1.	CC	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. The operator has a EMS externally accredited to the ISO14001 standard.
2	EMS Inventory of inputs & outputs. Increase resource efficiency and reduce emissions. 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.	CC	 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. The Operator is using: Process flow Integrated, automated control and monitoring of waste streams and resources used Detailed water usage that is monitored against KPIs Monitoring of flow, pH, temperature, COD, N, P, and conductivity Monitoring of waste gas streams Detailed energy consumption, raw materials used and waste generation monitoring and planned improvements based on KPIs
3	Monitoring key process parameters at key locations for emissions to water. 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).	сс	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. The Operator is:

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
			 Continuous monitoring of flow, pH, and temperature of the final outfall to sewer Daily mean COD, nitrogen species, phosphorous and conductivity measurements Monitoring of influent parameters prior to entering the ETP that is Periodic analysis of the outflow by the Yorkshire Water
4	Monitoring emissions to water to the required frequencies and standards. 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.	NA	We are satisfied that BATc 4 is not applicable to this Installation. There are no direct discharges of effluent to water All process effluent is treated by the onsite effluent treatment plant prior to discharge to the foul sewer for further treatment. The only parameter relevant for discharges to sewer is chloride but this is not a parameter of concern for this particular process (milk production) so is not applicable. For information. the effluent is monitored on an hourly basis to ensure the limits of the trade effluent consent are achieved
5	Monitoring channelled emissions to air to the required frequencies and standards. BAT is to monitor channelled emissions to air with at least the frequency given and in accordance with EN standards.	NA	We are satisfied that BATc 5 is not applicable to this Installation. Drying processes are not used in this installation.
6	Energy Efficiency 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.	CC	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. The operator is using: • Energy efficiency plan
			 Burner regulation and control Cogeneration by two CHP units

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
			 Upgrade of motors where applicable Heat recovery LED lighting Blowdown minimisation Optimisation of steam distribution planned Economisers Process control systems Compressed air system monitored by a third party contractor Rockwool/ insulated panels are used; planned further insulation upgrades Variable speed drives
7	Water and wastewater minimisation 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. (a) water recycling and/or reuse (b) Optimisation of water flow (c) Optimisation of water nozzles and hoses (d) Segregation of water streams Techniques related to cleaning operations: (e) Dry cleaning (f) Pigging system for pipes (g) High-pressure cleaning (h) Optimisation of chemical dosing and water use in cleaning-in-place (CIP) (i) Low-pressure foam and/or gel cleaning (j) Optimised design and construction of equipment and process areas (k) Cleaning of equipment as soon as possible	CC	 The operator has provided information to support compliance with BATc 7. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BATc 7. The Operator is: Recycling water through reverse osmosis that is later used for cleaning purposes Real-time flow optimisation Real-time optimisation of nozzles and hoses pressure Segregation of process and run-off waters Use of dry-cleaning where appropriate Pressure cleaning Automated CIP reviewed by a third party contractor Low-pressure foam is used and expansion of the system is planned Equipment optimisation

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
8	 Prevent or reduce the use of harmful substances In order to prevent or reduce the use of harmful substances, e.g. in cleaning and disinfection, BAT is to use one or a combination of the techniques given below. (a) Proper selection of cleaning chemicals and/or disinfectants (b) Reuse of cleaning chemicals in cleaning-in-place (CIP) (c) Dry cleaning (d) Optimised design and construction of equipment and process areas 	CC	 The operator has provided information to support compliance with BATc 8. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BATc 8. The Operator is using: Proper selection of chemicals used at the advice of the products provider Reuse of solutions where food safety allows this methodology Dry-cleaning used where appropriate Optimisation and opportunities are identified periodically
9	Refrigerants 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.	CC	The operator has provided information to support compliance with BATc 9. We have assessed the information provided and we are not satisfied that the operator has demonstrated compliance with BATc 9. The Operator declared that F-gas is used in a colling system, Olympic Carrier Chiller, servicing the HVAC unit used in this installation. Replacing this gas with HFC-32 to be done based on run-to-fail plan.
10	Resource efficiency In order to increase resource efficiency, BAT is to use one or a combination of the techniques given below: (a) Anaerobic digestion (b) Use of residues (c) Separation of residues (d) Recovery and reuse of residues from the pasteuriser (e) Phosphorus recovery as struvite (f) Use of waste water for land spreading	CC	 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. The Operator is: Using a third party for off-site treatment and recovery of sludge and other segregated residues Use of residues where possible Segregating waste streams with a view to recover materials where possible

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
			Recovering and reusing the residues from pasteurisers
11	Waste water buffer storage In order to prevent uncontrolled emissions to water, BAT is to provide an appropriate buffer storage capacity for waste water.	СС	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. The operator declared that it has the capacity and declared:
			 Action slam-shut valves are used Retain and redirect spillage to ETP Future increase of ETP capacity to 624 m³ Use third party tanker for offsite treatment of wastewater Construction of a wall between River Ribble and site boundary Appropriate drainage infrastructure to contain accidental leakages
12	Emissions to water – treatment In order to reduce emissions to water, BAT is to use an appropriate combination of the techniques given below. Preliminary, primary and general treatment (a) Equalisation (b) Neutralisation (c) Physical separate (eg screens, sieves, primary settlement tanks etc) Aerobic and/or anaerobic treatment (secondary treatment) (d) Aerobic and/or anaerobic treatment (eg activated sludge, aerobic lagoon etc) (e) Nitification and/or denitrification (f) Partial nitration - anaerobic ammonium oxidation Phosphorus recovery and/or removal (g) Phosphorus recovery as struvite (h) Precipitation (i) Enhanced biological phosphorus removal	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 Operator is using: Equalisation and neutralisation Physical separation Indirect P removal as part of sludge removal Coagulation and flocculation Sedimentation Flotation

BATC No.	Summary of BAT Conclusion requirer Industries	nent for Food, Drink and Milk	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		
	Final solids removal					
	(j) Coagulation and flocculation					
	(k) Sedimentation					
	(I) Filtration (eg sand filtration, microfiltra	tion, ultrafiltration)				
	(m) Flotation					
12	Emissions to water – treatment		NA	We are satisfied that BATc AELs are not		
	BAT-associated emission levels (BAT receiving water body	-AELs) for direct emissions to a		applicable to this Installation. There are no discharges to surface water. The site discharges treated effluent to the foul sewer; as such the relevant BAT-AELs for the		
	Parameter	BAT-AEL (1) (2) (daily average)		diary sector do not apply.		
	Chemical oxygen demand (COD) (3) (4)	25-100 mg/l (⁵)				
	Total suspended solids (TSS)	4-50 mg/l (°)				
	Total nitrogen (TN)	2-20 mg/l (7) (8)				
	Total phosphorus (TP)	0,2-2 mg/l (⁹)				
13	Note: 125mg/I COD for dairy sites Note: 4mg/I TP for dairy sites Noise management plan		NA	We are satisfied that BATc 13 is not applicable		
	In order to prevent or, where that is not p	practicable, to reduce noise emissions,		to this Installation.		
	BAT is to set up, implement and regular part of the environmental management s the following elements:			A noise management plan is only required where noise nuisance at sensitive receptors is expected or has been substantiated. There		
	- a protocol containing actions and timel	nes;		have been no substantiated noise nuisance from the site therefore an NMP is not a		
	- a protocol for conducting noise emission	ns monitoring;		requirement for this site.		
	- a protocol for response to identified no	.				
	 a noise reduction programme designed measure/estimate noise and vibration ex of the sources and to implement prevent 	posure, to characterise the contributions				
14	Noise management		СС	The operator has provided information to		
	In order to prevent or, where that is not p BAT is to use one or a combination of th			support compliance with BATc 14. We have assessed the information provided and we are		

BATC No.	Summary of BAT Conclusion requirement for Food, Drink and Milk Industries	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the operator to demonstrate compliance with the BAT Conclusion requirement
	 (a) Appropriate location of equipment and buildings (b) Operational measures (c) Low-noise equipment (d) Noise control equipment (e) Noise abatement 		 satisfied that the operator has demonstrated compliance with BATc 14. The Operator employees: All noise generating machinery is located indoors or enclosed Regular inspections, closed doors policy, planned maintenance Low noise equipment is considered for temporary and new equipment
15	 Odour Management 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: a protocol containing actions and timelines; a protocol for conducting odour monitoring. a protocol for response to identified odour incidents eg complaints; an odour prevention and reduction programme designed to identify the source(s); to measure/estimate odour exposure: to characterise the contributions of the sources; and to implement prevention and/or reduction measures. 	CC	We are satisfied that BATc 15 is not applicable to this Installation. An odour management plan is only required where odour nuisance at sensitive receptors is expected or has been substantiated. There have been no substantiated odour nuisance from the site therefore an OMP is not a requirement for this site.
21	DAIRY SECTOR BAT CONCLUSIONS (BAT 21-23) Energy efficiency – Dairy Sector	CC	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. The techniques used are: Complete homogenisation Energy-efficient homogeniser Continuous pasteurisers Regenerative heat exchangers UHT without pasteurisation Precooling of cold water

	imary of BAT Co Istries	onclusion requirement for Food, Drink and Milk	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the operator to demonstrate complianc with the BAT Conclusion requirement
		energy efficiency, BAT is to use an appropriate combination ecified in BAT 6 and of the techniques given below.		
Techn	nique	Description		
(a)	Partial milk homoge- nisation	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 ex- change in pasteurisa- tion	The incoming milk is preheated by the hot milk leaving the pasteurisation section.		
(e)	Ultra-high-tempera- ture (UHT) processing of milk without inter- mediate pasteurisation	UHT milk is produced in one step from raw milk, thus avoiding the energy needed for pasteurisation.		
(f)	Multi-stage drying in powder production	A spray-drying process is used in combination with a downstream dryer, e.g. fluidised bed dryer.		
(g)	Precooling of ice-water	When ice-water is used, the returning ice-water is precooled (e.g. with a plate heat exchanger), prior to final cooling in an accumulating ice-water tank with a coil evaporator.		

	ustries		rement for Food, Drink and Milk	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
		the quantity of wast techniques given b	e sent for disposal, BAT is to use one or a elow.	СС	The operator has provided information to support compliance with BATc 22. We have assessed the information provided and we are
	Technique		Description		satisfied that the operator has demonstrated compliance with BATc 22.
Techr	iques related to the use	of centrifuges			The operator is using:
(a)	Optimised operation of centrifuges	on Operation of centrifug of product.	es according to their specifications to minimise the rejection		 Optimised operation of centrifuges Cream heaters rinsed with water
Techr	iques related to butter p	production			 Minimisation of the generation of acid
(b)	Rinsing of the creater with skimm milk or water		eater with skimmed milk or water which is then recovered cleaning operations.		whey
Techr	iques related to ice crea	m production			
(c)	Continuous freezi ice cream	ng of Continuous freezing o loops that reduce the f	f ice cream using optimised start-up procedures and control requency of stoppages.		
Techr	iques related to cheese I	production			
(d)	Minimisation of the generation of acid whey	whey from the manuf mozzarella) is processe acid.	acture of acid-type cheeses (e.g. cottage cheese, quark and ed as quickly as possible to reduce the formation of lactic		
(e)	Recovery and use whey	of filtration) and used, e.g	ecessary using techniques such as evaporation or membrane g. to produce whey powder, demineralised whey powder, rates or lactose. Whey and whey concentrates can also be as a carbon source in a biogas plant.		
		channelled dust em	issions to air from drying, BAT is to use s given below.	NA	We are satisfied that BATc 23 is not applicab to this Installation.
Те	chnique	Description	Applicability		There are no drying processes used in this installation.
(a)	Bag filter	See Section 14.2	May not be applicable to the abatement of sticky dust.		
(b)	Cyclone	Page 34 of the	Generally applicable.		
(c)	Wet scrubber	Bref			

BATC No.	Industries		ision requiremer		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	BAT-associated from drying	d emission	level (BAT-AEL) f	or channe	elled dust emissions to air	NA	We are satisfied that BATc 23 AEL is not applicable to this Installation.
	Parameter	Descrip		-AEL (av pling peri	erage over the od)		The production processes used in this installation does not emit PMs associated with drying processes.
	Dust	Mg/Nm	ו ³ <2-´	10 (1)			
	(1) The upper end casein and lactose	-	is 20 mg/Nm ³ for dryiı	ng of demine	eralised whey powder,		
Dair	y Sector Enviror	nmental Pe	erformance Leve	els			
	Environmental sector	Environmental Performance Level – Energy consumption for the dairy sector				СС	The operator has provided information to support compliance with BATc EPL. We have assessed the information provided and we are
	Main product (at least 80 Ur % of the production)		Unit	t Specific energy consumption (yearly average)			satisfied that the operator has demonstrated compliance with BATc EPL. The Operator has reported a value of 0.1986
EPL	Market milk				0.1-0.6		MWh usage per tonne of raw milk input which
I	Cheese	Cheese M'		w	0.10-0.22 (1)		is within the EPL range for Market Milk.
	Powder		materials	0.2-0.5			
	Fermented milk		1		0.2-1.6		
	(1) The specific energy consumption level may not apply when raw materials other than milk are used.]	
	Environmental Performance Level – Specific waste water discharge for the dairy sector					СС	The operator has provided information to support compliance with BATc EPL. We have
_		Main product (at least 80 Unit % of the production)			Specific waste water discharge (yearly average)		assessed the information provided and we are satisfied that the operator has demonstrated compliance with BATc EPL.
EPL	Market milk				0.3 - 3.0		The Operator has reported a value of 1.173 m ³
Г	Cheese		m ³ /tonne of raw r	materials	0.75 - 2.5		wastewater discharge per tonne of raw materials which is within the EPL range for Market Milk.

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

Updating permit during permit review consolidation

- Introductory note updated
- 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.

We have included a permitted production level (capacity) within table S1.1 of the permit for the section 6.8 listed activity and we need to be confident that the level of emissions associated with this production level have been demonstrated to be acceptable.

The existing H1 assessment of emissions of process effluent to sewer remains valid for the revised capacity threshold now placed within table S1.1 of the permit.

Emissions to Air

We asked the operator to list all emission points to air from the installation in the Regulation 61 notice. And to provide a site plan indicating the locations of all air emission points.

The operator has provided an up to date air emission plan.

Implementing the requirements of the Medium Combustion Plant Directive

Existing Medium Combustion Plant (1MW-50MW)

We asked the Operator to provide information on all combustion plant on site in the Regulation 61 Notice as follows:

• Number of combustion plant (CHP engines, back-up generators, boilers);

- Size of combustion plant rated thermal input (MWth)
- Date each combustion plant came into operation

The Operator provided the information in the table(s) below:

Combined heat and power (CHP) engines

1. Rated thermal input (MW) of the medium combustion plant.	CHP 1 – 5.965 MWth CHP 2 – 5.965 MWth
2. Type of the medium combustion plant (diesel engine, gas turbine, dual fuel engine, other engine or other medium combustion plant).	Combined heat and power
3. Type and share of fuels used according to the fuel categories laid down in Annex II.	CHP 1 – Natural gas 100% CHP 2 – Natural gas 100%
4. Date of the start of the operation of the medium combustion plant or, where the exact date of the start of the operation is unknown, proof of the fact that the operation started before 20 December 2018.	CHP 1 – July 2019 CHP 2 – July 2019

Boilers

1. Rated thermal input (MW) of the medium combustion plant.	Boiler 1 – 4 MWth Boiler 2 – 4 MWth Boiler 3 – 2.995 MWth
2. Type of the medium combustion plant (diesel engine, gas turbine, dual fuel engine, other engine or other medium combustion plant).	Boiler
3. Type and share of fuels used according to the fuel categories laid down in Annex II.	Boiler 1 – Natural gas 100% Boiler 2 – Natural gas 100% Boiler 3 – Natural gas 100%
4. Date of the start of the operation of the medium combustion plant or, where the exact date of the start of the operation is unknown, proof of the fact that the operation started before 20 December 2018.	Boiler 1 – January 2001 Boiler 2 – January 2001 Boiler 3 – January 2001

We have reviewed the information provided and we consider that the declared combustion plant comprising of Boilers 1, 2 and 3 qualify as "existing" medium combustion plant. The limits and monitoring requirements for the CHPs remain as per the previous variation V006, issued 05/07/2019.

For 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 Boilers 1, 2 & 3 we have included the appropriate emission limit values for existing medium combustion plant as part of this permit review. See Table S3.1 in the permit. We have also included a new condition 3.1.4 within the permit which specifies the

monitoring requirements for the combustion plant in accordance with the MCPD. We have retained the limits and monitoring requirements for CHP 1 & CHP 2 as per the previous variation.

Emissions to Water and implementing the requirements of the Water Framework Directive

We asked the Operator to provide information on all emissions to water at the installation in the Regulation 61 Notice as follows;

- Identify any effluents which discharge directly to surface or groundwater;
- Provide an assessment of volume and quality, including results of any monitoring data available;
- and for any discharges to water / soakaway whether a recent assessment of the feasibility of connection to sewer has been carried out.

The operator has previously provided assessments for all emissions to water at the installation. The operator declares there has been no change to activities and subsequent effluents generated at the installation since this risk assessment was taken. Consequently, we agree that the original risk assessments remain valid at this time.

Soil & groundwater risk assessment (baseline report)

The IED requires that the operator of any IED installation using, producing or releasing "relevant hazardous substances" (RHS) shall, having regarded the possibility that they might cause pollution of soil and groundwater, submit a "baseline report" with its permit application. The baseline report is an important reference document in the assessment of contamination that might arise during the operational lifetime of the regulated facility and at cessation of activities. It must enable a quantified comparison to be made between the baseline and the state of the site at surrender.

At the definitive cessation of activities, the Operator has to satisfy us that the necessary measures have been taken so that the site ceases to pose a risk to soil or groundwater, taking into account both the baseline conditions and the site's current or approved future use. To do this, the Operator has to submit a surrender application to us, which we will not grant unless and until we are satisfied that these requirements have been met.

The Operator submitted a site condition report [Report of an Overview Contamination Survey of A Site at Stourton, Leeds 21/07/1997] during the original application received on 28/11/2003. A review of the SCR [Arla Stourton SCR Review 09/08/2022] has been submitted as part of the Reg.61 Notice. The site condition report included a report on the baseline conditions as required by Article 22. We reviewed that report and considered that it adequately described the condition of the soil and groundwater at that time.

Hazardous Substances

Hazardous substances are those defined in Article 3 of Regulation (EC) No. 1272/2008 on classification, labelling and packaging of substances and mixtures

The operator has provided a short risk assessment on the hazardous substances stored and used at the installation. The risk assessment was a stage 1-3 assessment as detailed within EC Commission Guidance 2014/C 136/03.

The stage 1 assessment identified the hazardous substances used / stored on site. The stage 2 assessment identified if hazardous substances are capable of causing pollution. If they are capable of causing pollution they are then termed Relevant Hazardous Substances (RHS). The Stage 3 assessment identified if pollution prevention measures are fit for purpose in areas where hazardous substances are used / stored. This includes drains as well.

The outcomes of the three stage assessment identified that pollution of soil and/or ground water to be unlikely.

Climate Change Adaptation

The operator has considered if the site is at risk of impacts from adverse weather (flooding, unavailability of land for land spreading, prolonged dry weather / drought).

The operator has stated that the installation is not likely to be or has previously not been affected by climate change.

Containment

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

The Operator provided details of all tanks;

- Tank reference/name
- Contents
- Capacity (litres)
- Location
- Construction material(s) of each tank
- The bunding specification including
 - Whether the tank is bunded
 - If the bund is shared with other tanks
 - The capacity of the bund
 - The bund capacity as % of tank capacity
 - Construction material of the bund
 - Whether the bund has a drain point
 - Whether any pipes penetrate the bund wall
- Details of overfill prevention
- Drainage arrangements outside of bunded areas
- Tank filling/emptying mitigation measures (drips/splashes)
- Leak detection measures
- Details of when last bund integrity test was carried out
- Maintenance measures in place for tank and bund (inspections)
- How the bund is emptied
- Details of tertiary containment

and whether the onsite tanks currently meet the relevant standard in the Ciria "Containment systems for the prevention of pollution (C736)" report.

We reviewed the information provided by the operator. We are satisfied that the existing tanks and containment measures on site meet the standards set out in CIRIA C736.

Annex 3: Improvement Conditions

Based on the information in the Operator's Regulation 61 Notice response and our own records of the capability and performance of the installation at this site, we consider that we need to set improvement conditions so that the outcome of the techniques detailed in the BAT Conclusions are achieved by the installation. These improvement conditions are set out below - justifications for them is provided at the relevant section of the decision document (Annex 1 or Annex 2).

Previous improvement conditions marked as complete in the previous permit.

Superseded Improvement Conditions – Removed from permit as marked as "complete"	
Reference	Improvement Condition
IC1	The Operator shall provide a written report to the Environment Agency which determines the fate in the environment of a release into the River Aire due to a failure of Stourton No1 and No3 pumping stations.
IC2	The Operator shall provide a written report to the Environment Agency on a study to identify the major noise sources from the installation and the techniques that are in place to minimise those noise emissions from the installation. The aim of the report is to confirm the assumptions in the Application.
IC3	The Operator shall provide a written report to the Environment Agency considering the feasibility of installing further on-site effluent treatment facilities, considering, but not exclusively: Reduction in chemical oxygen demand; Reduction in biological oxygen demand The report shall include, in addition to a consideration of physical site constraints, a detailed breakdown of projected capital and revenue costs associated with such techniques and, where a number of potential options exist, shall compare them. Financial and throughput analysis shall be used to supplement BAT arguments provided in your PPC application
IC4	The Operator shall provide a written report to the Environment Agency reviewing sources of fugitive atmospheric releases. The aim of the report is to confirm the assumptions in the Application. The report shall include, but not exclusively, releases from the balancing tanks, silos, accidental loss and buildings. The Operator shall consider the need to undertake an odour assessment based on the outcome of the report
IC5	The Operator shall provide a written report to the Environment Agency reviewing the options available for recovery of contaminated packaging
IC6	The Operator shall provide a written report to the Environment Agency detailing plans to optimise CIP programmes to ensure minimal losses and efficient cleaning

IC7	Confirm in writing to the Environment Agency, the generic EHS documented procedures have been updated, and where necessary site specific documented procedures produced, as a result of continual review during the commissioning phase of the installation and that these documents are available for inspection.
IC8	The Operator shall provide a written report to the Environment Agency on the outcome of the trial effluent treatment plant having regard to Sector Guidance S6.13 Section 2.2.2.
IC9	The Operator shall provide a written report to the Environment Agency in line with Sector Guidance S6.13 section 2.6, providing a full justification for the spreading to land of sludge generated by the effluent treatment plant.
IC10	On conclusion of the twelve month monitoring the Operator shall provide a written report to the Environment Agency on the outcome of the Hydrogen Sulphide monitoring. The report shall assess potential control measures which may be used to minimise Hydrogen Sulphide generation, in accordance with Best Available techniques as specified in technical guidance IPPC S6.13 Guidance for Dairy and Milk Processing Sector. This may include; reducing retention times in the balancing tanks, improved pH balancing and Nutriox dosing. This list is not exhaustive.
IC11	The Operator shall provide a written report to the Environment Agency on potential improvements to the current pH balancing system.
IC12	The Operator shall provide a written report to the Environment Agency on the outcome of the trial for installation of COD reduction technology.
IC13	The Operator shall provide a written report to the Environment Agency considering the options for secondary and tertiary on-site effluent treatment facilities in accordance with Sector Guidance note EPR6.13. The report shall include timescales for the implementation of the options identified for agreement with the Environment Agency.