

**Natural Resources Wales Permitting Decisions**

**The First Milk Cheese Company  
Limited  
(Haverfordwest Creamery)**

**Decision Document**

## Application for a Substantial Variation

**The application number is: PAN-027140**

**The permit variation number is: EPR/XP3830UR/V007**

**The operator is: The First Milk Cheese Company Limited**

**The Installation is located at: Haverfordwest Creamery, Pembroke Road, Merlins Bridge, Haverfordwest, Pembrokeshire, SA61 1JN**

### Purpose of this document

This decision document:

- explains how the application has been determined
- provides a record of the decision-making process
- shows how all relevant factors have been taken into account
- justifies the specific conditions in the permit other than those in our generic permit template.

Unless the decision document specifies otherwise, we have accepted the applicant's proposals.

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## Glossary of acronyms, terms and definitions used in this document

BAT	Best Available Techniques
BRef	BAT Reference document
CIP	Cleaning in place
EPR	Environmental Permitting Regulations (England and Wales) 2016
ETP	Effluent treatment plant
IED	Industrial Emissions Directive 2010/75/EU
NDT	Non-destructive testing
NRW	Natural Resources Wales
PAC	Poly-aluminium chloride
RGN	Regulatory Guidance Note
SAC	Special Area of Conservation
SSSI	Site of Special Scientific Interest

# 1. Executive summary

## 1.1. Application summary

The First Milk Cheese Company Limited applied for a variation to their environmental permit for Haverfordwest Creamery (permit number EPR/XP3830UR).

This variation was to:

1. Increase the maximum production capacity of the creamery by 227 tonnes per day – raising the allowed production from 1260 tonnes per day to 1487 tonnes per day.

This included the installation of new equipment, as well as the expansion of some existing equipment:

- 2 new cheese vats (each with 30,000 litre capacity), taking the total to 10
- 1 additional milk intake bay
- 1 additional milk storage silo (increasing volume by 300,000 litres (total volume on site will increase to 1,678,000 litres))
- Increased size of outgoing whey concentrate silo (larger silo replacing an older, smaller silo and increasing the storage capacity by 40,000 litres to 90,000 litres in total. Overall the 6 whey silos/tanks will then hold a total site volume of 500,900 litres)
- New cream tank holding 100,000 litres
- Expansion of existing milk pasteurisers & separators
- Increased pipework size for various product routes
- Replacement of the older whey clarifier
- Expansion of the membrane plants and modifications to the whey evaporator to increase capacity for whey processing in line with the increase in milk processing and cheese production
- Expansion of cleaning in place (CIP) set and removal of 2 others.

This would result in the total volume of milk, whey and cream held in silos and tanks to increase from 1,730,900 litres to 2,278,900 litres.

There was no existing secondary containment surrounding the external silos/tanks and the applicant proposed the installation of a site containment system meeting CIRIA C736<sup>1</sup> requirements.

2. Install a new chemical precipitation process using Polyaluminium Chloride (PAC) at the Effluent Treatment Plant with the aim of reducing the amount of phosphorus in the wastewater discharge.

The applicant proposed a containment system at the Effluent Treatment Plant meeting CIRIA C736<sup>1</sup> requirements.

The applicant did not propose any change to emission points or limits as a result of the capacity increase (1) or addition of the chemical precipitation process (2).

3. Change the three existing 8 megawatt net rated thermal input (MW<sub>th</sub>) site boilers to existing Medium Combustion Plant (MCP) within the permit, due to legislation changes. (One on-site 2.7MW<sub>th</sub> Combined Heat and Power engine is already captured as an MCP.)

Under the Medium Combustion Plant Directive (MCPD), which is incorporated into EPR 2016 via Schedule 25A, the three boilers are classed as existing Medium Combustion Plant (MCP) as they were first put into operation before 20<sup>th</sup> December 2018. They also fall into the definition of 'Phase II' existing MCPs, as the net rated thermal input in MW is between 5 and 50. For these boilers, we have therefore included the relevant MCPD emission limits, conditions and monitoring requirements.

Key considerations for the determination were:

- Containment

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<sup>1</sup> [CIRIA Containment systems for the prevention of pollution \(C736\)](#)

- The applicant stated that a site containment system would be put in place at both the main site (to capture any milk product release from silos/tanks) and the effluent treatment plant, and be compliant with CIRIA C736<sup>1</sup>. This is detailed in Section 9.3 Site Protection. A pre-operational condition (POC4) and two improvement conditions (IC12 and IC13) have been placed in the permit to ensure containment arrangements are adequate before operating at an increased capacity. These are detailed in Sections 12.6 and 12.7.
- Discharge to Water
  - The applicant stated that the installation would still be able to meet the existing permitted limits for the daily discharge volume, rate of discharge and the Best Available Techniques Associated Emission Levels (BAT-AELs) detailed in the BAT Conclusions for Food, Drink and Milk<sup>2</sup> for permitted substances, and that the variation would not change the (worst case) impact from the installation. This is detailed in Section 10.2 Assessment of impact to surface and ground water.

## 1.2. Our decision

We are minded to issue the variation for Haverfordwest Creamery operated by The First Milk Cheese Company.

A pre-operational condition and improvement conditions have been included in the varied permit to ensure the increased risk of pollution from an increase in capacity is mitigated. These stipulate that the site will not be allowed to operate at an increased capacity until the containment system is built and confirmed to be in line with best practice containment measures, as detailed in the proposed design. In addition, all the necessary management system processes need to be in place before operation, such as how the containment system will be operated and the associated personnel training.

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<sup>2</sup> [BAT Conclusions for Food, Drink and Milk Industries in the Official Journal of the EU on 12<sup>th</sup> November 2019](#)

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.

## **2. Receipt of the application**

The application was received on 07/10/2024. In order for us to be able to consider the application duly made, we needed more information. We requested the following:

- Confirmation of the proposed production and storage capacities
- An assessment of the site drainage system's integrity and ability to cope with the proposed changes
- An updated Best Available Techniques (BAT) assessment to account for the proposed changes.
- An updated site plan showing the required changes and all the emission points
- An updated Environmental Risk Assessment to account for the proposed changes, and updated Noise and Odour Management plans dependant on the risks identified.
- A water impact assessment
- Further details on PAC dosing system containment

A letter requesting this information was sent to the applicant on 03/12/2025. Upon receipt of this information, on 27/01/2026, we were able to consider the application duly made. This means we considered it was in the correct form and contained sufficient information for us to begin our determination, but not that it necessarily contained all the information we would need to complete that determination.

## **3. Confidential information**

The applicant made a claim for no claim for commercial confidentiality, and we have not received information in relation to the application that appears to be confidential in relation to any party.

## 4. Legislation

The variation will be issued, under Regulation 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;
- is subject to aspects of the Well-Being of Future Generations (Wales) Act 2015 and the Environment (Wales) Act 2016 which also have to be addressed; and
- has plant as described by Schedule 25A covering the Medium Combustion Plant Directive (MCPD) regulations

We address the legal requirements directly where relevant in the body of this document. NRW is satisfied that the decision on this application is consistent with its general purpose of pursuing the sustainable management of natural resources (SMNR) in relation to Wales and applying the principles of SMNR. In particular, NRW acknowledges that it is a principle of sustainable management to take action to prevent significant damage to ecosystems. We consider that, in issuing the variation a high level of protection will be delivered for the environment and human health through the operation of the Installation in accordance with the permit conditions. NRW is satisfied that this decision is compatible with its general purpose of pursuing the sustainable management of natural resources in relation to Wales and applying the principles of sustainable management of natural resources.

As the EPR regulator for Part A1 installations in Wales, NRW are required to determine any duly made Part A1 permit applications. This means that we must decide either to grant, or to refuse the variation based upon an objective assessment of the proposals against the detailed legal requirements of EPR. Our public participation statement<sup>3</sup> gives more information on what can, and cannot, be taken into account when making our permitting decision.

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<sup>3</sup> [Natural Resources Wales / Public participation: how you can take part in our permit and licence consultations](#)

The application, and this decision document, only considers the permitting of the facility under EPR as described throughout the document. We only assess the installation and its impacts and cannot take into consideration indirect impacts which are not as a direct result of activity within the installation boundary.

Any proposed development and wider associated activities will be required to be compliant with all relevant and applicable law, for example, environmental law, health and safety law, planning law. This other legislation acts largely independently of EPR (although they may be inter-related). Such other matters are beyond both the scope of this document, and of our regulatory remit and expertise and are not relevant to our EPR permitting decision. Ensuring compliance with all other regulation and obtaining any required consents (such as planning permission) is the responsibility of those undertaking the development and is regulated by the relevant appropriate authority for each.

## **5. Consultation**

### **5.1. Consultation on the Application**

We have carried out consultation on the application in accordance with the Environment Permitting Regulations (EPR), our statutory Public Participation Statement (PPS) and our Regulatory Guidance.

A copy of the application is available on the public register for anyone to view. We advertised the application to the public by a notice placed on our website directing people to the public register, advising them of how they could arrange for copies to be made if required and how they can provide comments.

We also consulted with the following bodies, which includes those with whom we have “Working Together Agreements”:

- Food Standards Agency
- Health and Safety Executive
- Pembrokeshire Local Authority – Environmental Health

- Pembrokeshire Local Authority – Planning
- Public Health Wales

These are bodies whose expertise, democratic accountability and/or local knowledge make it appropriate for us to seek their views directly.

The consultation started 04/02/2026 and ended on 06/03/2026.

A summary of consultation comments and our response to the representations we received can be found in Annex 3. We have taken all relevant representations into consideration in reaching our decision.

## **5.2. Draft Permit Consultation**

We are now carrying out consultation on our draft decision. This consultation will begin on 19/06/2026 and end on 17/07/2026.

## **6. Requests for information**

Further information was requested during determination by way of a Schedule 5 Notice requiring the applicant to provide further information relating to the:

1. Surface water risk assessment
2. Storage capacity of milk products
3. Containment solution
4. OPRA spreadsheet

The Schedule 5 Notice was sent on 17/02/2026 with a deadline for response of 16/03/2026. The applicant's initial response to the Schedule 5 Notice was provided on 03/03/2026. The additional information supplied did not satisfy the requirements of the Schedule 5 notice.

A site visit was undertaken on 10/03/2026 and a follow up email on 11/03/2026 to confirm the remaining Schedule 5 information required, agree to an extension to the Schedule 5 Notice until 23/03/2026 and informal information requests regarding noise management and EMS compliance. The applicant provided further information in

emails on 13/03/2026, 18/03/2026, 19/03/2026 and 23/03/2026. This additional information did not fully satisfy the requirements of the Schedule 5 Notice and so the Notice was re-issued on 24/03/2026 with additional information explaining what further information was still required. The deadline for response date was extended to 20/04/2026.

A further email was received from the applicant on 31/03/2026, however, one remaining piece of information was still outstanding, and an additional extension was agreed on 17/04/2026 via email. The response date was extended to 27/04/2026. Further information in relation to the Schedule 5 Notice and informal requests were received via email on 20/04/2026 and 24/04/2026 which we considered satisfied the request of the Schedule 5 Notice.

A copy of the information notice(s) and e-mails requesting further information were placed on our public register as were the responses when received.

## 7. The Installation

### 7.1. The permitted activities

The regulated facility is currently an installation which comprises the following activities listed in Part 2 of Schedule 1 to the Environmental Permitting Regulations:

- Primary activity: S6.8 A(1)(e) – Treating and processing milk, the quantity of milk received being more than 200 tonnes per day (average value on an annual basis). – Processing of milk to produce cheese and butter products.
- S5.4 A(1)(a)(i) – Disposal of non-hazardous waste with a capacity exceeding 50 tonnes per day involving one or more of the following activities – (i) biological treatment. – Treatment of process effluent at the effluent treatment plant.

An installation may also comprise “directly associated activities”, which at this Installation included:

- Steam and electrical power supply – combustion of natural gas in three boilers with an aggregated thermal input of 24 MW<sub>th</sub> (Medium Combustion plants commissioned before 20/12/2018).

- Storage and handling of wastes.
- Refrigeration of raw materials and finished products.
- Operation of passive carbon filters for odour abatement.
- Medium Combustion plant: 1 x commissioned after 20/12/2018: 2.7 MW<sub>th</sub> input Combined Heat and Power Engine fuelled on natural gas.

Together, the listed and directly associated activities comprise the Installation.

## 7.2. Changes to the installation

The variation application was to allow the applicant to increase production capacity for their primary activity (processing of milk to produce cheese and butter products). The capacity was to increase from the current maximum production capacity of 1260 tonnes per day to 1487 tonnes per day.

The application also involved a change to the effluent treatment plant processes, another EPR listed activity (treatment of process effluent at the effluent treatment plant) at the site. This was to incorporate a chemical precipitation process to remove a greater amount of phosphorus from the wastewater discharge.

In addition, due to changes in legislation, the three existing 8 megawatt thermal (MW<sub>th</sub>) site boilers have also been updated to Medium Combustion Plant (MCP) with associated emission limits, coming under this activity.

The storage of materials (raw and finished products) which occur on the site are considered directly associated activities (DAA) and relevant to the variation due to changing quantities associated with the capacity increase. However, they were not separately listed as DAAs in the permit so have been added as part of this variation. The existing DAA relating to refrigeration has also been updated to reflect the refrigeration activities undertaken on site (rather than the storage of materials), and to reflect that raw materials are not refrigerated but are instead stored in insulated silos. The changed and new DAAs are detailed below, and in the permit Schedule 1 Table S1.1.

DAA related to refrigeration in past permit version (EPR/XP3830UR/V006):

Description of specified activity	Limits of specified activity
Refrigeration of raw materials and finished products.	From receipt and storage of raw materials to despatch of finished product from the installation.

Changed and new DAAs covering storage of materials and refrigeration in new version (EPR/XP3830UR/V007):

Description of specified activity	Limits of specified activity
Operation of refrigeration systems.	<p>The whole of the refrigeration systems including storage, handling and use of refrigerants.</p> <p>Preference shall be given to lower global warming potential alternatives where technically and economically feasible.</p> <p>Ammonia is stored in one 2000-litre tank.</p>
Raw materials storage.	From receipt of raw materials to input to process.
Finished products storage and packaging.	From receipt of finished products to despatch from the permitted installation.

## 8. Operation of the installation

### 8.1. Operator competence

The applicant is the sole operator of the Installation. We are satisfied that the applicant is the person who will have control over the operation of the Installation after the variation is issued; and that they will be able to operate the Installation so as to comply with the conditions included in the permit, if issued. The decision was taken in accordance with EPR RGN 1 Understanding the meaning of operator<sup>4</sup>.

<sup>4</sup> [RGN 1 Understanding the meaning of 'operator' \(naturalresources.wales\)](https://www.naturalresources.wales/guidance/rgn1)

### Relevant Convictions

The applicant has declared they have no relevant convictions.

### Financial Provision

The applicant has declared they have no current or past bankruptcy or insolvency proceeding against them.

There is no known reason to consider that the operator will not be financially able to comply with the permit. The decision was taken in accordance with RGN 5 on Operator Competence.

## 8.2. Environmental Management System

The applicant has stated in the application that they implement an Environmental Management System (EMS) that meets the requirements for an EMS in our “How to comply with your environmental permit” guidance<sup>5</sup>.

The applicant has submitted a summary of the EMS with their application. This details the EMS to be based on ISO14001 requirements with regular third-party independent audits started in 2024, as well as elements added to the EMS including:

- Odour Management Plan
- Noise Management Plan
- Effluent Treatment Plant operations
- Frequent containment and drainage inspection and maintenance
- Action tracker

The applicant stated the environmental risk assessment provided takes account of the proposed changes.

Through further information requested, the applicant stated that the next external audit after the 2024 audit is not planned until 2027. However, they have planned internal audits during the 2026/27 financial year as well as aiming to achieve ISO14001 certification.

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<sup>5</sup> [Natural Resources Wales / Guidance to help you comply with your environmental permit](#)

The operator employs a contractor to carry out the operations and maintenance at their Effluent Treatment Plant. In December 2022, Aqua Operations Ltd took on the plant management. An ISO14001:2015 certificate that covers Aqua Operations activities was provided (expiry date 03/12/26). In 2023 and 2024, the operator also commissioned an external consultant (Nigel C A Stevens BSc, C.Biol, C.Env, C.WEM, FCIWEM, MRSB, MWEF) to undertake reviews of the ETP activities, including the impact of the proposed capacity increase.

We have reviewed the application and are satisfied that appropriate management systems and management structures will be in place for this Installation, and that sufficient resources are available to the Operator to ensure compliance with all the Permit conditions.

Elements of the Environmental Management System will require update to account for the new containment system and ensure it is managed appropriately. These will include the environmental risk assessment, operational and accident management procedures, as well as associated training. An improvement condition (IC13) has been placed on the Operator as part of the variation, see Annex 2 for further details.

### Accident management

The EMS includes an Accident Management Plan and the applicant provided an updated version to NRW (Industry Regulation team) in 2025; Environmental Accident / Emergency Management Plan, H-SOP-ENV-016, Issue date: 25/06/2025. We have reviewed this in relation to the proposed changes; the document requires update to reflect both the current effluent drainage set up and once installed the new containment solution. We are satisfied that if these changes are made then the appropriate controls will be in place to help reduce the occurrence and impact of any accident. Improvement Condition 13 (IC13) has been placed on the Operator as part of the variation and covers the update of the accident management procedure, see Annex 2 for further details.

In order to ensure that the management system proposed by the applicant sufficiently manages the residual risk of accidents, permit condition 1.1.1a requires the implementation of a written management system which addresses the pollution risks associated with, amongst other things, accidents.

### 8.3. Operating techniques

#### Installation activities and assessment of Best Available Techniques

The applicant has described the proposed equipment and operating techniques and compared these against the relevant Best Available Techniques conclusions (BATc) which for an installation of this type is BAT Conclusions for Food, Drink and Milk Industries - [eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019D2031](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019D2031). See Annex 4 for a full assessment of operating techniques against the BATc.

We have reviewed the techniques proposed and consider them to represent BAT at this installation with the exception of (BAT1 on Environmental Management) techniques related to addressing the risk from the release of milk products from external containers (silos and tanks). However, the applicant has proposed a site containment system is built in compliance with CIRIA C736<sup>1</sup>, which would make the site compliant once this is in place. We have detailed this in Section 9.3 Site Protection and made this decision with reference to [How to comply with your environmental permit](#).

We have specified that the applicant must operate the permit in accordance with descriptions in the application. See Section 12 of this document for more information on how we have incorporated the variation into the permit and how emission limit values have been set.

#### Efficient use of raw materials, water and energy

Having considered the information submitted in the application, we are satisfied that the applicant will ensure that raw materials, water and energy is used as efficiently as possible.

As part of the variation to increase production capacity, the operator has made a change to optimise the cleaning-in-place (CIP) process; the frequency of the CIP cycle will be reduced from seven to six cycles per week. Although this will reduce overall water consumption and effluent discharge, the savings will be marginally offset by an increased cleaning requirement for milk tankers and silos.

The operator is required to report energy usage under condition 4.2 and Schedule 4 of the permit. This will enable us to monitor energy recovery efficiency at the Installation.

### Avoidance, recovery or disposal of wastes produced by the activities

The primary waste stream is the wastewater that goes to the ETP. At the ETP, sludge is also generated and removed from the site for processing at an anaerobic digestion facility.

Other wastes produced in much smaller quantities include product (cheese/whey), general waste, cardboard, scrap metal and mixed construction as detailed in the applicant's H1 risk assessment.

The applicant has detailed measures on waste minimisation such as:

- Process automation
- Routine water flushes to recover milk and other liquid products into process prior to cleaning
- Cleaning-in-place optimisation to reduce water and chemicals use, and minimise wastewater generated
- Crack testing of storage vessels to ensure integrity, and planned maintenance and inspection to prevent losses from leaking valves or pipework
- Optimisation of the use of other substances; salt, starter cultures, rennet, colouring
- Plastic wrap and cardboard packaging thickness optimisation (as thin as possible whilst retaining product protection)
- Cheese sold as weighed with no trimming to meet specific pack weights

- Whey concentrate sold as produced with no packaging

Having considered the information submitted in the application, we are satisfied that the waste hierarchy referred to in Article 4 of the WFD will be applied to the generation of waste and that any waste generated will be treated in accordance with this Article.

We are satisfied that waste from the Installation that cannot be recovered will be disposed of offsite using a method that minimises any impact on the environment. Permit condition 1.4.1 of the permit will ensure that this position is maintained.

## 9. The site

### 9.1. Site Plan

The applicant did not propose any changes to the extent of the site boundary as part of their variation, apart from a correction; the site plan in the previous version of the permit included a residential area in error and removal of this area was requested.

NRW requested all emission points to be consolidated (from past site plans) into the updated plan.

The applicant has provided an updated plan which we consider is satisfactory, showing the extent of the site of the facility and its emission points.

The updated plan will be included in the permit and the operator will be required to carry on the permitted activities within the site boundary.

The location of the proposed changes are detailed below in Figure 1 and Figure 2 provided by the operator.

Figure 1 - Site plan for permit variation showing summary of changes Sept 2024

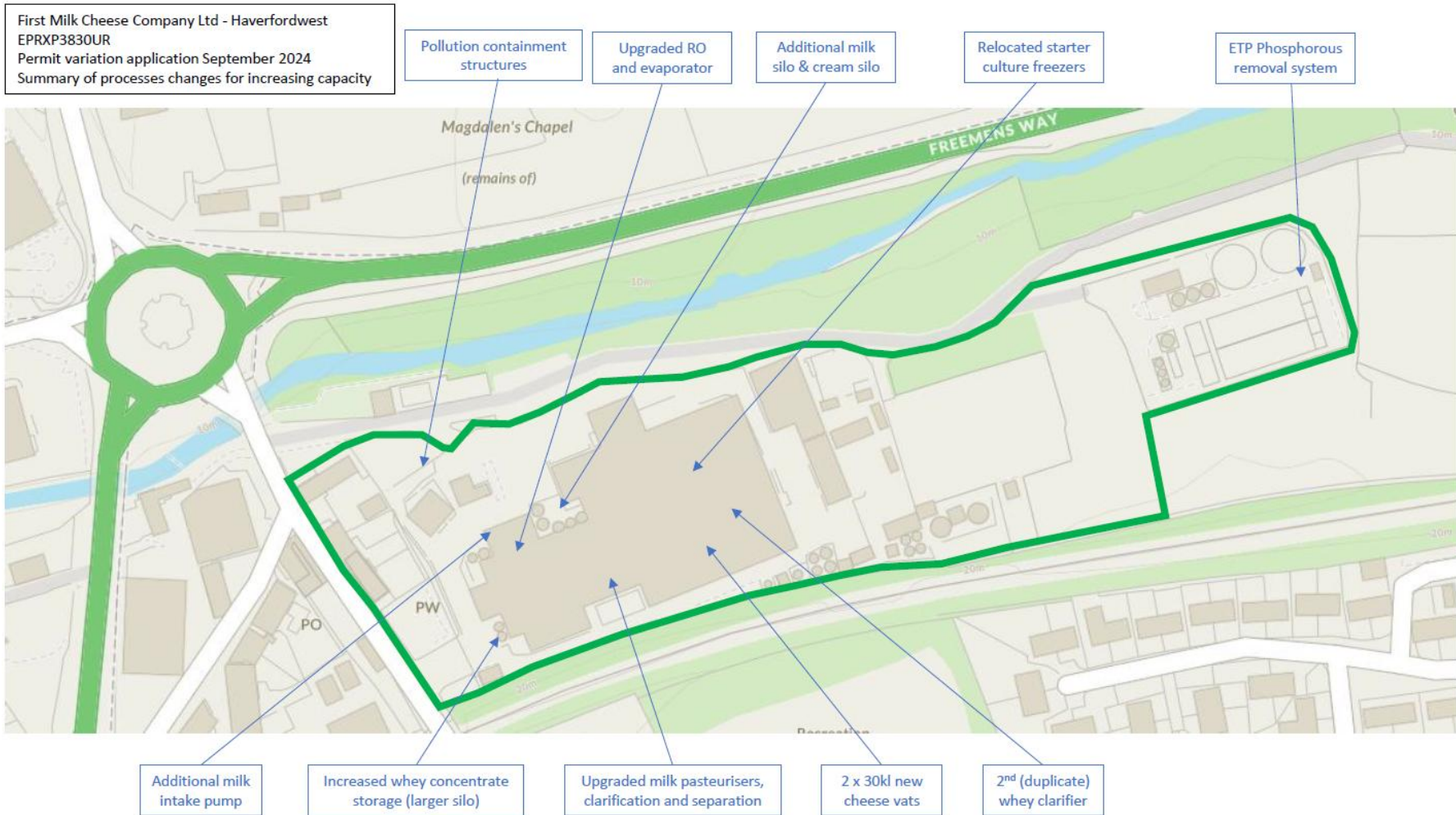
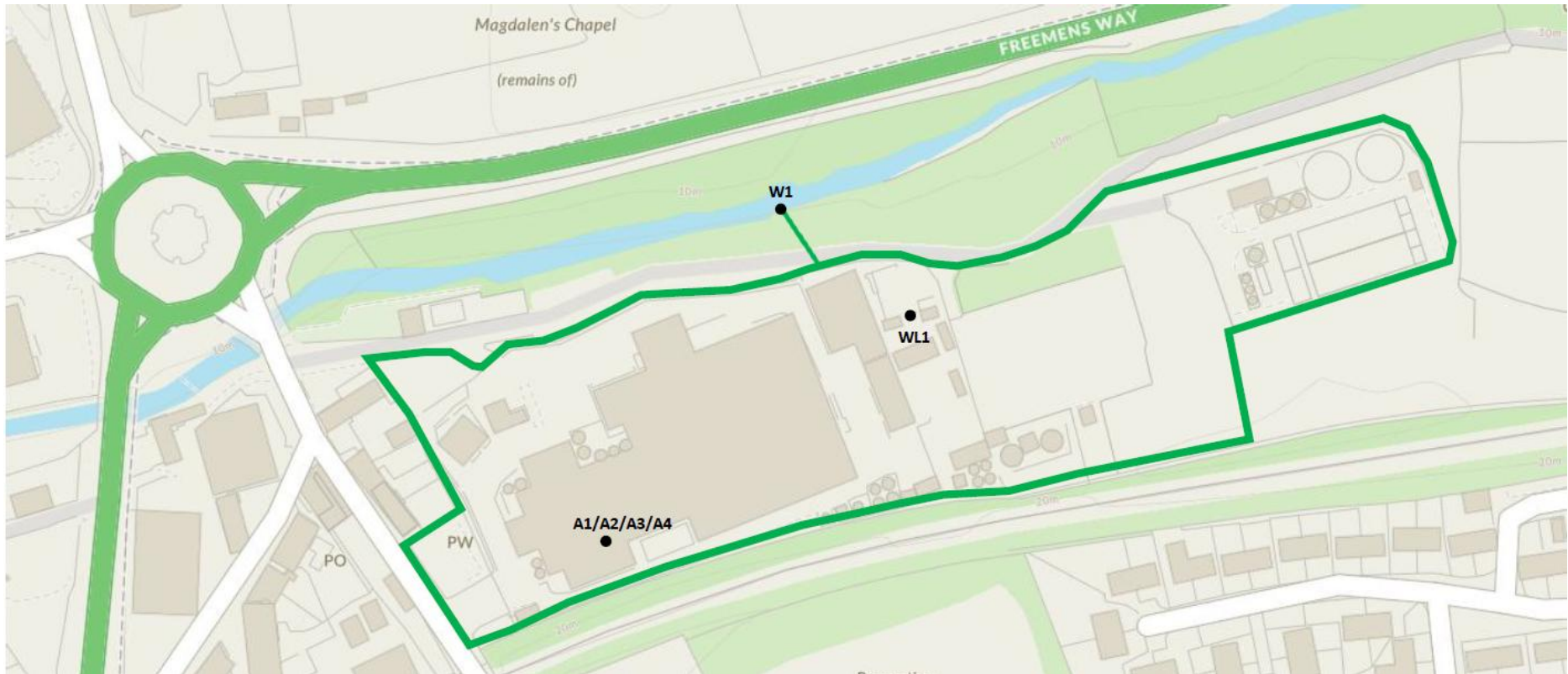


Figure 2 – Site boundary updates and emission points 2026.06



## 9.2. Site Condition Report

The proposal does not include the addition of any land and so a Site Condition Report was not required to support this application.

## 9.3. Site protection: potentially polluting substances and prevention measures

The operator has a duty to ensure that soil and groundwater are protected in order to meet the requirements of Articles 14 (1)(b), 14(1)(e) and 16(2) of the IED.

As part of the variation to increase production capacity, larger volumes of milk products will be stored on the site. The two new cheese vats will be located indoors next to the existing cheese vats, which are on hard standing ground and with drainage to the effluent treatment plant.

The new silos (milk, whey and cream) will be located outdoors next to the existing silos, as shown in figure 1. These will consist of:

- 1 additional milk storage silo with a 300,000 litre capacity
- An increased size whey concentrate silo holding 90,000 litres, which replaces an older smaller silo holding 50,000 litres
- 1 new cream silo with a 100,000 litre capacity

A summary of all the external storage associated changes is detailed in the figure below, provided as part of the Schedule 5 notice (received on 03/03/26).

*Figure 3 – extract from “2026.02 Permit application NRW Sch5 Qs v1”<sup>6</sup>*

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<sup>6</sup> [PAN-027140 Schedule 5\\_030326 InitialResponse](#) (with attachment 2026.02 Permit application NRW Sch5 Qs v1)

Haverfordwest - storage capacity external (milk, cream, whey)

Silo		Current			Additional	Future state			Notes
		litres	specific density	tonnes		litres	specific density	tonnes	
Milk	Silo 1	234,000	1.032	241,441		234,000	1.032	241,441	
Milk	Silo 2	180,000	1.032	185,724		180,000	1.032	185,724	
Milk	Silo 3	180,000	1.032	185,724		180,000	1.032	185,724	
Milk	Silo 4	250,000	1.032	257,950		250,000	1.032	257,950	
Milk	Silo 5	234,000	1.032	241,441		234,000	1.032	241,441	
Milk	Silo 6	300,000	1.032	309,540		300,000	1.032	309,540	
Milk	Silo 7	0	1.032	0	300,000	300,000	1.032	309,540	new
Whey	Whey silo 1 (12%)	90,900	1.025	93,173		90,900	1.025	93,173	
Whey	Whey silo 2 (12%)	120,000	1.025	123,000		120,000	1.025	123,000	
Whey	Whey conc (30%) silo 1	40,000	1.025	41,000		40,000	1.025	41,000	
Whey	Whey conc (30%) silo 2	50,000	1.025	51,250	40,000	90,000	1.025	92,250	increased size
Whey	Whey tank 1 (6%)	80,000	1.025	82,000		80,000	1.025	82,000	
Whey	Whey tank 2 (6%)	80,000	1.025	82,000		80,000	1.025	82,000	
Cream		0	0.993	0	100,000	100,000	0.993	99,300	new
<b>Total</b>		<b>1,838,900</b>		<b>1,894,243</b>	<b>440,000</b>	<b>2,278,900</b>		<b>2,344,083</b>	

There is currently no secondary containment on the primary containment vessels consisting of silos and tanks. In the event of primary containment failure there is a risk that milk product could flow out of the site boundary. In order to mitigate this a containment solution has been proposed by the applicant.

The applicant provided the following information, either as part of the original documentation or in response to Not Duly Made and Schedule 5 Information Requests:

- “Advice note - secondary containment bunding” – which concluded it was not reasonably practicable to retrofit secondary containment to the primary containment and recommended consideration of a “site wide” containment solution.
- “RAB - First Milk Haverfordwest Water Pollution Management” risk assessment – assessed against CIRIA C736<sup>1</sup> ‘Containment systems for the prevention of pollution’ and included hydraulic spill modelling. It demonstrated how a primary containment failure would result in a spill reaching the nearby watercourse and proposed a concept containment design to mitigate this.
- Not Duly Made information response (dated 14/01/26) provided further details of the containment solution including details of the sump (/ attenuation pit) and the management of spilled material in the event a spill did occur:
  - the material captured within it would remain in there until one of two options is enacted:
    - The material is pumped out into tankers and disposed of.

- In close communication with the site ETP, the material may be pumped across to and effectively drip fed in a controlled way into the drainage system to be subsequently treated at the ETP.
- “Effluent Attenuation Design” – provided a detailed design drawing, including an attenuation pit for spills to drain to, raised site walls and a pneumatic barrier at the north site entrance.
- Schedule 5 email response dated 20/02/26 confirmed the impermeability and material of the attenuation pit and the plans for the management of rainwater that accumulates under normal conditions:
  - The base of the attenuation area will be impermeable. Will be laid concrete and will form an impermeable area when linked with the new retaining walls.
  - As the area will be an impermeable area as described above, there will be a need to direct rainwater out from this area. This will be achieved by having a pump system in the south-west corner of the area that will pump across into the drainage system nearby.
  - The addition in rainwater catchment area at the site will be the attenuation area, which is currently gravel and so currently runs to ground. The area is limited in size in comparison to the whole site footprint and is not anticipated to have any significant affect.
- “RAB - First Milk Haverfordwest Water Pollution Management Technical Note” – which updates the hydraulic modelling based on the detailed design. It identifies that detailed design still does not achieve full containment under a worst-case scenario when considering primary tank breach, design rainfall and firewater volumes. It recommends further minor design alterations; increased height of the containment wall in some areas and a wider attenuation pit opening. The modelling of this revised design showed full containment. The technical note stated “the revised detailed design can therefore be considered to provide effective tertiary containment in line with the principles set out in CIRIA C736”. First Milk detailed in email (dated: 24/04/26) “I can confirm the two recommendations in the report shall form part of the installation and are already communicated to the FM Projects team” in relation to updating the containment design.

The integrity of the current site drainage system was not tested as part of this variation. As part of the Not Duly Made information request (dated 24/12/25), the applicant detailed “with regards to the drainage systems ability to cope with the changes we do not anticipate any issues with this given the changes that are to occur” referring to the production cycle changes not significantly increasing overall peak loading.

The applicant confirmed the containment for the PAC dosing system during the Not Duly Made information response (dated: 24/12/25):

- An IBC with PAC held within it which would be bunded.
- Short piping to an adjacent silt-buster mixing / dosing unit.
- That mixing / dosing unit to be situated on hardstanding that in the event of a leak runs to the site drainage system which is self-contained and circulated back to the ETP process.
- Short piping to a Mecanna unit (filter).
- The Mecanna unit to be situated on hardstanding that in the event of a leak runs to the site drainage system which is self-contained and circulated back to the ETP process.
- Piped then to the existing treated sump for onward discharge.

There is the risk that if the effluent drainage system is not of sufficient integrity then a leak from this system could go to ground/groundwater. NRW site officers have already requested further evidence that the drainage systems and containment at the ETP are of sufficient integrity through actions raised in the IC9 Compliance Assessment Report (CAR\_NRW0045561)<sup>7</sup>. No further assessment of the drainage integrity is deemed required as part of this variation.

Based upon the information in the application we are satisfied appropriate measures will be in place to protect the site and its surroundings from polluting substances, provided the proposed containment systems are implemented. Improvement Condition (IC12) has been put in place to provide confirmation that the containment system when built is in line with best practice (CIRIA C736<sup>1</sup>) and the documents

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<sup>7</sup> [Compliance Assessment Report CAR\\_NRW0045561](#)

provided in the application: RAB - 24-07-02 First Milk WPM Report Issue 01, RAB WPM Technical Note v1, 24-139-208 Effluent Attenuation Design.

## **10. Environmental Risk Assessment**

Regulated activities can present different types of risk to the environment, these include odour, noise and vibration; accidents, fugitive emissions to air and water; as well as point source releases to air, water, sewer and discharges to ground or groundwater, global warming potential and generation of waste. All these factors have been considered during our determination and the relevant risks from this proposal are discussed in this and other sections of this document.

The next sections of this document explain how we have approached the critical issue of assessing the likely impact of emissions from the Installation on human health and the environment and what measures we are requiring ensuring a high level of protection.

In line with our guidance, the applicant has provided an environmental risk assessment with the application which identifies and the sources of key risks from the variation, possible pathways and receptors. This risk assessment and further assessments provided by the applicant and/or completed by NRW will be discussed in further detail below.

### **10.1. Assessment of impact on air quality**

There are no proposed changes to emissions to air as a part of this variation apart from bringing into regulation the three steam boilers. The Combined Heat and Power (CHP) plant is already included in the permit as Medium Combustion Plant (MCP) and the existing three 8MW<sub>th</sub> input steam boilers will be added as MCP part of this variation with associated limits.

#### **Emission limits**

We have decided that emission limits should be set for the parameters listed in the permit.

Emission Limit Values (ELVs) and monitoring requirements are in line with those set out in the MCP Directive and the listed monitoring standard<sup>8</sup>.

Parameter	Limit	Reference Period	Monitoring Frequency	Monitoring Standard
Oxides of Nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	200 mg/m <sup>3</sup>	In line with web guide: Monitoring stack emissions: low risk MCPs and specified generators	Every 3 years	In line with web guide: Monitoring stack emissions: low risk MCPs and specified generators
Carbon monoxide	No limit set		From date of acceptance of first monitoring measurements under condition 3.5.5	

See Section 12.4 Monitoring for further details on the monitoring requirements.

Based upon the information in the application and the measures that will be imposed by the permit we are satisfied that the appropriate measures will be in place to protect air quality for the environment and human health.

## 10.2. Assessment of impact to surface and ground water

The proposal includes a direct discharge to surface water. The site’s effluent drainage goes to the on-site Effluent Treatment Plant and after treatment is discharged to the Western Cleddau river at emission point W2 on the site plan.

The applicant has stated that the current emission limits for water discharge (Table S3.2) listed in the permit will still be met despite the increase in production capacity. The applicant submitted a report “Expert Witness Statement on the Capacity of the Existing Wastewater Treatment Plant to Effectively Treat the Increased Effluent Volumes and Loadings from the Increase in Milk to Manufacture” dated 29<sup>th</sup> February 2024, in which a competent third party evaluated the Wastewater/Effluent Treatment Plant (ETP) to be able to cope with the increased production if the tertiary treatment was changed back from Dissolved Air Flotation (DAF) to new Membrane modules. It

<sup>8</sup> [Monitoring stack emissions: low risk MCPs and specified generators - GOV.UK](https://www.gov.uk/guidance/monitoring-stack-emissions-low-risk-mcps-and-specified-generators)

was noted that the ETP used to have this membrane stage before it was replaced with a secondary DAF.

The applicant also submitted “A technical note on the re-implementation of the MBR Systems to mitigate Biofilm formation in the Final Effluent Pipeline” dated July 2024, which was produced following biofilm related incidents in 2023 and installation of the new MBR cells in 2024, and concluded the installation has shown positive results evidence in the downward trend of biofilm material detected at the outfall.

The applicant has completed a H1 screening and surface water pollution risk assessment in line with the relevant guidance<sup>9</sup>. It concluded that emissions of Iron, Cadmium, Mercury and EDTA can be screened out as insignificant. Chloride was the only substance that did not screen out due to being 10.5% of the EQS, marginally over the insignificance threshold of 10%. It concluded that other hazardous substances in the discharge from cleaning and treatment stages, are all likely to be removed to a degree that emissions are negligible.

For Chloride, there is no set limit in the BAT Conclusions for Food, Drink and Milk Industries, only monitoring requirements as already listed in the permit in Table S3.2. Therefore, the current emission limits and monitoring requirements are appropriate.

In the applicant’s risk assessment, Polyaluminium Chloride 18% (PAC-18) was screened out as “irritant, but no environmental risk posed by product”. However, there is a risk that elevated levels of residual aluminium from using PAC-18 could enter the watercourse or be contained in waste sludge if the process is not managed appropriately. Aluminium is toxic to fish and other aquatic life.

The applicant also submitted “ETP Final effluent phosphorus reduction proposal” with the application documents which describes the measures proposed to control dose rates. This includes a dedicated flow meter along with control features to allow PAC dose rates to be automated, as well as analysis regimes.

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<sup>9</sup> [Surface water pollution risk assessment for your environmental permit - GOV.UK](https://www.gov.uk/guidance/surface-water-pollution-risk-assessment-for-your-environmental-permit)

Aluminium and Phosphorus limits already in the permit align with BAT Conclusions for Food, Drink and Milk Industries, and will not be changing as part of this variation.

A Water Framework Directive Compliance Assessment has been completed and it has been concluded that the activity is considered as having no risk of causing deterioration or preventing any water body or WFD Protected Area from reaching its objectives.

As there are no proposed changes to emission limits, no further assessment was required passed the screening stage. There is no conceivable impact pathway if all the proposed measures are put in place.

This assessment is available on the public register to view, see here: [OGN 72 Appendix 2 WFD CA PAN-027140 First Milk](#).

### Emission Limits

There is no change to the emission limits.

Based upon the information in the application we are satisfied that the appropriate measures will be in place to prevent pollution of ground and surface water.

### 10.4. Fugitive emissions

The applicant has identified the following potential fugitive emissions in their environmental risk assessment:

- Leaks from milk and whey silos, and pipework getting into the surface or groundwater
- Leaks from effluent drainage systems getting into the surface or groundwater
- Leaks from incoming and outgoing milk tankers (milk and fuel / oil)
- Fuel/oil leaks from other vehicles
- Air pollution from tankers
- Spills from oil, diesel and chemicals from tanks/containers/storage areas
- Leaks from the tanker Cleaning-In-Place system
- Ammonia leak

The application details measures which will be in place for preventing and minimising fugitive emissions.

Section 9.3 Site Protection provides more details of the containment solution to avoid pollution as the result of primary containment failure of the milk product silos.

Based upon the information in the application we are satisfied that the appropriate measures will be in place to prevent or where that is not practicable to minimise fugitive emissions and to prevent pollution from fugitive emissions.

Permit condition 3.2.1 requires that emissions of substances not controlled by emission limits (i.e. fugitive emissions) shall not cause pollution. Condition 3.2.2 requires that a management plan shall be developed if pollution is subsequently identified.

#### **10.5. Assessment of odour impact**

The site is located in a suburban area and is in close proximity to sensitive receptors. The operator has identified potential receptors with the nearest 35-50m away, shown in Figure 4 (used by the applicant in SHE-POL-015 Odour Management Plan and SHE-POL-016 Noise Management Plan).

Figure 4 – Receptor locations map



In the site Environmental Risk Assessment the operator has identified the following activities as an odour risk:

- Cheese production
- Effluent plant (DAF, DAF sludge storage, ETP sludge removal)

The applicant has not proposed any additional monitoring or abatement as part of the variation, they stated:

- The increase in capacity would not impact on the odour risk given the milk processing takes place within enclosed buildings and the process itself would not change. Waste cheese would be removed from the site in the same way as currently, to the same timescales to minimise odour risk.
- External odour monitoring specialist (OCCHNET) were engaged to advise if an odour survey would be of benefit to the site. Advice received that given the close proximity of the Dwr Cymru wastewater works to the site, any survey done would not be able to differentiate between the sources, rendering the exercise not useful.

In the document “ETP final effluent phosphorus reduction proposal” the operator stated: There will be no additional off site odour impacts generated as a result of the install.

The applicant has submitted an Odour Management Plan (OMP) which details various measures to minimise and mitigate odour issues.

We have compared the measures proposed to minimise odour at for the site to BAT Conclusion 15 of the Food, Drink and Milk Industries BRef Document and are satisfied the techniques represent appropriate measures for the installation related to the increase in capacity and addition of PAC dosing to the ETP. The OMP (detailed in the IC7 submission) will be incorporated into the operating techniques section of the permit.

Based upon the information in the application we are satisfied that the appropriate measures will be in place to prevent or where not practicable to minimise the effects of odour.

Condition 3.3.1 in the permit will also require that emissions from the activities are free from odour at levels likely to cause pollution outside the site. We are satisfied that this will be sufficiently protective in conjunction with the measures described by the applicant for minimising odour at the installation.

## **10.6. Noise and vibration assessment**

The site is located in a suburban area and is in close proximity to sensitive receptors. The operator has identified potential receptors with the nearest 35-50m away, shown in Figure 4 (used by the applicant in SHE-POL-015 Odour Management Plan and SHE-POL-016 Noise Management Plan).

In the site Environmental Risk Assessment the operator has identified the following activities as a noise risk:

- Milk processing (cowells on top of building, water cooling tower, incoming and outgoing milk tankers)

- Boilers
- ETP general operation

When considering the noise impacts from the variation, the applicant stated:

- The increase in capacity does not have a significant impact upon the creamery's noise risk given the processing of milk takes place within enclosed buildings and the process itself would not change.
- The introduction of additional pumps at intake can be mitigated by noise attenuation enclosures.

It was noted that the noise attenuation enclosures were already in place at the site visit by NRW undertaken on 10/03/26.

In the document "ETP final effluent phosphorus reduction proposal" the operator stated: There will be no additional off site noise impact generated as a result of the install.

The applicant has submitted a Noise Management Plan (NMP) which details various measures to minimise and mitigate noise issues at both the main site and effluent treatment plant. A noise survey was undertaken in 2024 in support of this NMP. A noise reduction programme was proposed as part of the NMP and the site confirmed via email on 18/03/26 as part of the Schedule 5 notice response that all noise reduction measures have now been implemented.

We have compared the measures proposed to minimise noise at for the site to BAT Conclusion 13 and 14 of the Food, Drink and Milk Industries BRef Document and are satisfied the techniques represent appropriate measures for the installation. The NMP (detailed in the Response to Schedule 5 Notice) will be incorporated into the operating techniques section of the permit.

We are satisfied that vibration is unlikely to be an issue at the installation. The nature of the activity means that there are no significant sources of vibration on site. Therefore, vibration does not need to be included in the management plan.

Based upon the information in the application we are satisfied that the appropriate measures will be in place to prevent or where not practicable to minimise the effects of noise.

Conditions 3.4.1 of the permit requires noise from the activities to be below that which could cause pollution outside the site. We are satisfied that this will be sufficiently protective in conjunction with the measures described by the applicant for minimising noise at the installation.

## **11. Impact on European Site Network Sites, SSSIs and non-statutory sites**

A full assessment of the variation application and its potential to affect the identified sites identified has been carried out as part of the permit determination process. European Site Network sites, Sites of Special Scientific Interest (SSSI) and non-statutory conservation sites will be discussed separately below.

### **11.1. The European Site Network**

An initial 10 km screening distance was applied as a precautionary tool to identify European sites for consideration.

The following Special Areas of Conservation (SACs) are located within 10 km of the installation:

- Pembrokeshire Marine / Sir Benfro Forol (UK0013116) – SAC
- Afonydd Cleddau / Cleddau Rivers (UK0030074) – SAC
- Pembrokeshire Bat Sites and Bosherton Lakes / Safleoedd Ystlum Sir Benfro a Llynnoedd Bosherton (UK0014793) – SAC
- West Wales Marine / Gorllewin Cymru Forol (UK0030397) – SAC

There were no Special Protection Areas (SPAs) or Ramsar sites located with 10 km of the installation.

Relevant impact pathways were also considered, such as hydrologically connectivity, and only sites with a credible impact pathway taken forward for further assessment where required.

The application did not propose any changes to the point source emissions to air or water. The applicant stated that despite the proposed increase in production capacity, the site will still be able to meet the emission limits and maximum flow rates for water discharge as outlined in the existing permit.

However, there is a risk of substances leaving the site in the event of a failure of primary containment and because of the close proximity of the site to the Merlins Brook, we consider that there is a possible impact pathway to the protected sites. A change to the ETP operations with the addition of PAC dosing was also proposed that required assessment on any impacts to water.

A Habitat Regulations Assessment (HRA)<sup>10</sup> was completed to assess the potential to affect any of the sites identified. The addition of PAC dosing was screened out as having no Likely Significant Effect (LSE) due to the controls to mitigate any adverse impacts to water being part of proposed system design and no change to emission limits being proposed. The risk related to containment failure was considered further as part of an appropriate assessment.

In light of the conclusion of an appropriate assessment and taking account of the advice received from NRW's protected sites advisors, it has been established that the project will not adversely affect the integrity of any European site, taking into account any conditions or restrictions as applicable, either alone or in-combination with other plans and projects (as documented in section 4 of OGN 200 Form 1B). The full assessment is available to view on the public register, see here: [HRA OGN 200 Form 1B - PAN-027140 First Milk](#).

In the last permit variation application [PAN-019159](#) the HRA concluded there would be an impact from loss of containment and that containment measures were not

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<sup>10</sup> [Natural Resources Wales / Habitats regulations assessment for your environmental permit](#)

sufficient, resulting in the refusal of that application to increase throughput and storage capacity at the site. Containment measures proposed for this application as detailed in Section 9.3 Site Protection were deemed sufficient, resulting in the conclusion that for this variation the proposal will not have an adverse impact.

## **11.2. Sites of Special Scientific Interest (SSSI)**

An initial 2 km screening distance was applied as a precautionary tool to identify SSSI for consideration.

The following SSSIs are located within 2 km of the installation:

- Milford Haven Waterway
- Afon Cleddau Gorllewinol / West Cleddau River
- Gas Works Lane Section (Haverfordwest)

Relevant impact pathways were also considered, such as hydrologically connectivity, and only sites with a credible impact pathway taken forward for further assessment where required.

As a Section 28G Authority as defined in the Countryside Rights of Way Act 2000 permitting teams within NRW has a legal duty, under Section 28I of the Wildlife and Countryside Act 1981, to consult with NRW for formal advice when permitting an activity which has been determined to be likely to damage the features of a SSSI.

To determine if consultation was required, a SSSI Assessment was completed. The assessment concluded that the proposed permission is not likely to damage any of the flora, fauna or geological or physiological features which are of special interest because of conditions. Advice was sought from NRW's protected sites advisors who advised the operation should be allowed to proceed with certain conditions; providing the proposed mitigation is put in place.

A copy of the assessment is available to view on the public register, please see here: [OGN 231 Appendix 4 SSSI PAN-027140 First Milk.](#)

### **11.3. Non-statutory conservation sites**

There were no local wildlife sites, local nature reserves or natural nature reserves within 2 km of the installation or its discharge points. There are 15 ancient woodland designated areas with 2 km of the installation, and 23 within 2 km of the surface water discharge point into the Western Cleddau (W2, shown on the site plan in Section 9.2). 11 of the 23 ancient woodlands are located downstream of the discharge point.

The applicant completed a surface water risk assessment (see Section 10.2. Assessment of impact to surface and ground water). As this assessment screened out any likely impact on the Western Cleddau, there is no viable impact pathway to the identified ancient woodlands when considering the proposed surface water discharges.

Mitigation from the risks associated with the catastrophic release of milk products is addressed in Section 9.3 Site Protection with the applicant proposing a containment system which aims to prevent any releases to the nearby watercourses.

Based upon the information in the application we are satisfied that there will be no adverse impact to the non-statutory conservation sites identified.

## **12. The Permit Conditions**

### **12.1. Updating the permit conditions during consolidation**

We have added permit conditions for existing medium combustion plant as the three 8MW<sub>th</sub> input steam boilers are classified as existing MCP and therefore are subject to the emission limits and monitoring set out in MCPD.

The operator has agreed that the new conditions are acceptable.

### **12.2. Incorporating the variation**

We have specified that the applicant must operate the permit in accordance with descriptions in the application, including additional information received as part of the determination process.

These descriptions have been specified in the Operating Techniques table (Table S1.2) in the permit.

### 12.3. Emission Limits

There are no changes to point source emissions to air or water apart from to bring into regulation the three existing boilers now classed as MCP. Previously there was no limit set for Oxides of Nitrogen and this will now be 200mg/m<sup>3</sup>. Carbon Monoxide remains as no limit set. Further details on the emission limits set are provided in Section 10.1 Assessment of impact on air quality.

### 12.4. Monitoring

We have decided that monitoring should be carried out for the parameters listed in Schedule 3 of the permit using the methods and to the frequencies specified in those tables. These monitoring requirements have been imposed in order to demonstrate compliance with the emissions limits in the permit.

For emissions to water, there is no change to the monitoring requirements.

For emissions to air, the existing permit already had monitoring requirements for oxides of nitrogen (NO<sub>x</sub>) for the existing (MCP) steam boilers. This included a reference period of “periodic”, monitoring frequency of “annually” and monitoring standard of “MCERTS BS EN 14792”.

We have changed the monitoring requirements for NO<sub>x</sub> to have a reference period and monitoring standard “in line with web guide: Monitoring stack emissions: low risk MCPs and specified generators”<sup>8</sup> and monitoring frequency of “every 3 years”. This is in line with the standard monitoring requirements for medium combustion plant under 20MW<sub>th</sub>. The annual emissions monitoring reports over the last three years demonstrate the NO<sub>x</sub> level from each of the boilers is well below the 200 mg/m<sup>3</sup> limit; between 80.5-141 mg/m<sup>3</sup>. The change to monitoring frequency will therefore not lead to any backsliding in standards or change in risk of impact.

The monitoring requirements for Carbon Monoxide of the three boilers has also been set to a reference period and monitoring standard “in line with web guide: Monitoring stack emissions: low risk MCPs and specified generators”<sup>8</sup> and monitoring frequency of “every 3 years” to align with Medium Combustion Plant standards.

### **12.5. Reporting**

We have specified the reporting requirements in Schedule 4 of the Permit to ensure data is reported to enable timely review by Natural Resources Wales to ensure compliance with permit conditions and to monitor the efficiency of material use and waste recovery at the installation.

For emissions to water, there is no change to reporting requirements as part of this variation.

For emissions to air from the three natural gas boilers (A1-A3 emission points), reporting requirements have been added to Table S4.1 Reporting of monitoring data, in line with MCPD.

Milk imported in tonnes has been added as a parameter in Table S4.2 Annual Production, to provide a better understanding of whether the production capacity is in line with permitted limits.

### **12.6. Raw Materials**

We have specified limits and controls on the use of raw materials and fuels. The quantity of raw milk in the permit Schedule 2 Table S2.1 has been updated from 1,000,000 litres to 1,678,000 litres to align with the new volume stored in silos/tanks post variation.

### **12.7. Pre-operational conditions**

Based on the information in the application, we consider that we need to impose a pre-operational condition. Details of the pre-operational condition (POC4) used can be found in Annex 1.

In line with the previous permit variation application (PAN-019159) refusal decision, the operator cannot be allowed to operate at an increased capacity until appropriate containment is in place to mitigate impacts from a potential catastrophic release of milk products.

### **12.8. Improvement conditions**

Based on the information on the application, we consider that we need to impose improvement conditions. Details of the improvement conditions (IC12 and IC13) used can be found at Annex 2.

In order to be confident that the containment system once built is fit for purpose, it we require confirmation in the form of a report from a qualified engineer or equivalent (IC12). The system needs to meet the design, which proposes the system to be in line with CIRIA C736<sup>1</sup> guidance and completely contain a spill in the event of a catastrophic release from a silo. We also require the operator to update the necessary management system processes to incorporate the containment system (IC13). For example considering how:

- Rain and storm water will be managed (e.g. via pumping out of the attenuation pit to the ETP) and if there would be a circumstance such as a heavy rainfall event that an uncontaminated discharge to W1 would be considered, how this would occur and be controlled.
- Milk product retained in the attenuation pit would be managed in the event of an incident i.e. pumped to tanker for off-site disposal or if considering a controlled discharge via the effluent drainage network to the ETP how this would be done whilst meeting permitted limits.
- The pneumatic barrier at the North Gate entrance will be managed under normal and abnormal conditions i.e. sealed shut normally but if a specific site project requires it to be open, how the risks will be assessed and managed, such as being manned when open and closed when not.
- The whole containment system (barrier, pit, walls, seals, drainage and pumping systems) will be maintained and/or inspected regularly to ensure its integrity.

As well as updating existing documentation and training on environmental risk and accident management.

## 13. OPRA

The operator submitted an OPRA spreadsheet with the score of 64. We are in agreement with this and it will form the basis for ongoing subsistence fees.

## ANNEX 1: Pre-Operational Conditions

The following pre-operational condition is replicated below, as detailed in the permit Schedule 1 Table S1.4.

<b>Reference</b>	<b>Operation</b>	<b>Pre-operational measures</b>
POC4	Production capacity increase to 1487 tonnes per day	The Operator shall not operate above a production capacity of 1260 tonnes (of milk imported) per day until Improvement Conditions IC12 and IC13 have been completed. Once IC12 and IC13 have been completed, the maximum allowed production capacity will be 1487 tonnes per day, as detailed in activity referenced A1 in Schedule 1 Table S1.1.

## ANNEX 2: Improvement Conditions

The following improvement conditions are replicated below, as detailed in the permit Schedule 1 Table S1.3.

Reference	Requirement	Date
IC12	The operator shall submit for written approval a report by a qualified engineer (or equivalent) confirming that the proposed containment system has been constructed to the standards and descriptions provided in the documents referenced: RAB - 24-07-02 First Milk WPM Report Issue 01, RAB WPM Technical Note v1, 24-139-208 Effluent Attenuation Design. The report should reference the CIRIA 736 guidance. The operator shall submit the report to Natural Resources Wales for approval by the date specified.	Within 3 months of construction of the containment system
IC13	The operator shall submit written confirmation to Natural Resources Wales that the necessary environmental management system elements have been updated to account for the new containment system. This includes the environmental risk assessment, operational and accident management procedures, and associated training.	Within 3 months of construction of the containment system

## ANNEX 3: Consultation Responses

### 1. Advertising and consultation on the Application

The application has been advertised and consulted upon in accordance with Natural Resources Wales Public Participation Statement. Responses to this consultation and how we have taken consultation responses into account in reaching our draft decision is summarised in this Annex.

#### Consultation Responses from Statutory and Non-Statutory Bodies

<b>Response Received from Public Health Wales</b>	
<b>Brief summary of issues raised:</b>	<b>Summary of action taken / how this has been covered</b>
BAT should be applied to control emissions and mitigate impacts to local human receptors. Emissions include air, land and water, odour, noise, and vibration. Process changes should consider opportunities to further reduce or mitigate impacts.	The proposal has been reviewed against the BAT Conclusions for the Food, Drink and Milk Industries and deemed to meet BAT. See Section 8.3 Operating Techniques.  The applicant has Noise and Odour Management Plans in place.

<b>Response Received from Pembrokeshire County Council</b>	
<b>Brief summary of issues raised:</b>	<b>Summary of action taken / how this has been covered</b>
NRW to satisfy ourselves that:	
The increase in throughput will not result in any increase in odour, noise or fugitive emissions that could impact nearby sensitive receptors, and that appropriate management measures remain in place and effective. <ul style="list-style-type: none"> <li>Suggest Noise Impact Assessment (BS 4142:214+A1:2019) is undertaken at the nearest sensitive receptor.</li> </ul>	See Section 10 Environmental Risk Assessment. <ul style="list-style-type: none"> <li>See Section 10.6 Noise and Vibration Assessment.</li> </ul>
The ETP has sufficient capacity and resilience to manage increased flows and organic loading.	See Section 10 Environmental Risk Assessment.

Appropriate pollution prevention and containment measures are in place for all bulk liquid storage vessels.	See Section 9.3 Site Protection.
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## ANNEX 4: BAT Assessment

BAT Conclusions for Food, Drink and Milk Industries in the Official Journal of the EU on 12<sup>th</sup> November 2019. There are 36 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. For definitions and acronyms see the BAT Conclusions Document: [eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019D2031](http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019D2031)

BATc number	Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Not Compliant
<b>OVERALL ENVIRONMENTAL PERFORMANCE</b>		
<b>1</b>	<b>Environment Management System (EMS) – <u>ALL</u> of the following:</b>	
	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;
		<p><b>Not Compliant</b></p> <p>The site is not certified to ISO14001 but operates an Environmental Management System in accordance with the standard. A legal compliance external audit was carried out in 2024 with the next planned in 2027.</p> <p>No internal or external EMS audits have occurred since 2024, however, the site plans to undertake internal audits over the next year and are also looking to become ISO14001 certified during financial year 2026/27.</p>

BATc number		Summary of BAT Conclusion requirement	Status/comment <b>One of the following:</b> Not Applicable, Currently Compliant, 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);	<p>The Noise and Odour Management plans have been reviewed with respect to the variation and are considered up to date.</p> <p>The site does not currently have appropriate mitigation in place to manage the risk of release of milk product from its silos/tanks and the resultant damage to the environment that would be caused. However, they have proposed that a site containment system is built, meeting CIRIA C736 guidance. This will need to be in place before any increase in storage capacity, which would in turn increase the risk to the environment.</p> <p>Some elements of the management system will require update to account for the containment system such as the Environmental Risk Assessment, operational and accident management procedures, as well as associated training.</p>
	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;	
	XX.	Following and taking into account the development of cleaner techniques.	
	(i)	Noise Management Plan (BAT 13)	

BATc number		Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Not Compliant
	(ii)	Odour Management Plan (BAT 15)	
	(iii)	Inventory of water, energy and raw materials consumption as well as of waste water and waste gas streams (BAT 2)	
	(iv)	Energy Efficiency Plan (BAT 6a)	
<b>Establish and maintain a waste water and waste gas inventory as part of the EMS - <u>ALL</u> of the following:</b>			
<b>Information about the food, drink and milk production processes, including:</b>			
	I.(a)	simplified process flow sheets that show the origin of the emissions	<b>Currently Compliant</b> No change as part of the variation. See BAT 7.
	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)	
<b>Information on quantity and characteristics of the waste water streams, such as:</b>			
2	III.(a)	Average values and variability of flow, pH and temperature	<b>Currently Compliant</b> No change as part of the variation.
	III.(b)	Average concentration and load values of relevant pollutants/parameters (e.g. TOC/COD, nitrogen species, phosphorus, chloride, conductivity) and their variability	
<b>Information on characteristics of waste gas streams, such as:</b>			
IV.(a)	<i>Mean and variability of:</i>		<b>Currently Compliant</b> No change as part of the variation.
	Flow		
	temperature		
IV.(b)	<i>Mean concentration, load and variability of relevant substances:</i>		
	Dust		
	TVOC		
		CO	

BATc number		Summary of BAT Conclusion requirement		Status/comment One of the following: Not Applicable, Currently Compliant, Not Compliant	
		NOx			
		SOx			
	IV.(c)	<i>Presence of other substances that may affect the waste gas treatment system or plant safety:</i>			
		O2			
		Water vapour			
	VI.	Dust			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)
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).			
<b>MONITORING</b>					
3	<b>For relevant emissions to water as identified by the inventory of waste water streams (BAT 2): monitor key process parameters at key locations</b>				
	<b>Key process parameters</b>				
	Waste water flow	<b>Currently Compliant</b> No change as part of the variation.			
	pH				
	Temperature				
	<b>Key monitoring locations</b>				
	Pre-treatment inlet and/or outlet	<b>Currently Compliant</b> No change as part of the variation.			
	Final treatment inlet				
	Discharge point (to the environment)				
Other location					
4	<i>Monitoring of water emissions: monitor emissions to water with at least the frequency given below and in accordance with EN standards:</i>				

BATc number	Summary of BAT Conclusion requirement		<b>Status/comment</b> <b>One of the following:</b> Not Applicable, Currently Compliant, Not Compliant	
	Refer to monitoring emissions to water table in BRef document		<b>Currently Compliant</b> The Operator currently monitors: BOD, COD, total suspended solids, ammonia, total nitrogen, total phosphorus, iron, aluminium weekly and Temperature and pH continuously. Weekly (rather than daily) monitoring is undertaken due to the emission levels being sufficiently stable. Chloride is monitored monthly with no set limit in the permit.	
5	Refer to monitoring emissions to air table in BRef document Monitoring parameters depend on sector		Not Applicable Only point source emissions to air are from combustion processes therefore not in scope of this BAT conclusion.	
6	<b>Energy Efficiency: BAT is to use 6a and appropriate combination of common techniques</b>		<b>Currently Compliant</b> Operator has stated they are focussed on the adoption and use of an energy efficiency plan, and have provided a list of common techniques that are utilised.	
	a.	Energy Efficiency Plan		
b.	Use of common techniques			
7	<b>Water consumption and waste water discharge</b> <b>BAT is to use 7a and one or a combination of techniques in b to k</b>		<b>Currently Compliant</b> All techniques apart from 7f (pigging system for pipes) are employed. As part of the variation the frequency of the CIP cycle has been reduced from 7 to 6 cycles a week. This is marginally offset by an increased cleaning requirement for milk tankers and silos.	
	a.	Water recycling and/or reuse		
	b.	Optimisation of water flow		
	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			

BATc number		Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Not Compliant
	k.	Cleaning of equipment as soon as possible	
8	<b>Harmful substances. BAT is to use one or a combination of the techniques given below:</b>		<b>Currently Compliant</b> The operator has stated there is no change to the cleaning processes as part of the variation.
	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	
9	<b>BAT is to use refrigerants without ozone depletion potential and with a low global warming potential</b>		<b>Currently Compliant</b> The operator has replaced all refrigerants with GWP<2500 and there are none with an ODS rating. There is an improvement plan to move to using lower GWP refrigerants when feasible. There is no change to processes as part of the variation.
10	<b>Increase resource efficiency, use one or a combination of the techniques given below</b>		<b>Currently Compliant</b> The site utilises 3 of 5 practicable techniques. There is no change to the processes as part of this variation.
	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	
<b>EMISSIONS TO WATER</b>			
11	<b>Prevent uncontrolled emissions to water, provide an appropriate buffer storage capacity for waste water</b>		<b>Currently Compliant</b> There is a 1800m <sup>3</sup> divert tank to divert any out of specification effluent prior to discharge. There is no change to the divert tank as a result of the variation. The operator has deemed the current Effluent Treatment Plant set-up to have sufficient capacity to be able to cope with the increase.
12	<b>Reduce emissions to water, use an appropriate combination of the techniques given below</b>		<b>Currently Compliant</b>
	a.	Equalisation	

BATc number		Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Not Compliant
	b.	Neutralisation	The operator employs an appropriate combination of techniques. The variation includes Poly-aluminium Chloride (PAC) dosing for phosphorus removal.
	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	
	<b>BAT-AELs for direct emissions to a receiving water body.</b> Table 1 and associated notes. Associated monitoring given in BAT 4.		
	Chemical oxygen demand COD	25–100 mg/L	<b>Currently Compliant</b> The operator is compliant with the permitted limits which are in line with BAT-AELs. There was concern that meeting the phosphorus limit of 4mg/L could be a challenge, which is why a PAC dosing system to reduce P is proposed as part of this variation.
	Total suspended solids TSS	4–50 mg/L	
	Total nitrogen	2–20 mg/L	
	Total phosphorus	0.2–2.0 mg/L	
<b>NOISE</b>			
13	<b>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:</b>		<b>Currently Compliant</b> The site has a noise management plan and action plan for attenuation measures.
	I.	A protocol containing actions and timelines	
	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 <b>One of the following:</b> Not Applicable, Currently Compliant, 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.	The operator has assessed the variation to have no changes of note in relation to noise. The external silos emit no noise and the additional intake pump will be situated alongside the existing pumps with noise attenuation measures.
14	<b>Techniques to prevent, or where not practicable reduce noise and vibration emissions. Use one or a combination of the following:</b>		<b>Currently Compliant</b> See comments for BAT13.
	a.	Appropriate location of equipment and buildings	
	b.	Operational measures – see examples	
	c.	Low-noise equipment – see examples	
	d.	Noise control equipment – see examples	
	e.	Noise abatement – see examples	
<b>ODOUR</b>			
15	<b>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:</b>		<b>Currently Compliant</b> The site has an odour management plan. The operator has detailed there is no anticipated increase in waste, however, hygiene and site standards would mean prompt removal to avoid odour concerns.
	I.	Protocol with actions and timelines	
	II.	Odour monitoring protocol	
	III.	Odour complaint response plan/protocol	
	IV.	Odour prevention and reduction programme	
<b>BAT CONCLUSIONS FOR DAIRIES</b>			
21	<b>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:</b>		<b>Currently Compliant</b> The operator uses a combination of techniques to meet BAT 6, as well as 21, such as continuous pasteurisers, regenerative heat exchange and a heat recovery system. The variation will not change these techniques.
	a.	Partial milk homogenisation	
	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	

BATc number	Summary of BAT Conclusion requirement		Status/comment One of the following: Not Applicable, Currently Compliant, Not Compliant
Indicative	<b>Indicative environmental performance levels for specific energy consumption</b> Table 8 and footnotes		
	Market milk	0.1-0.6 MWh/tonne of raw materials	Indicative levels This figure is reported on an annual basis.
	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	<b>Indicative environmental performance levels for specific waste water discharge</b> Table 9		
	Market milk	0.3-3.0 m <sup>3</sup> /tonne of raw materials	Indicative levels The Operator has not indicated their level for specific wastewater discharge.
	Cheese	0.75-2.5 m <sup>3</sup> /tonne of raw materials	
	Powder	1.2-2.7 m <sup>3</sup> /tonne of raw materials	
22	<b>In order to reduce the quantity of waste sent for disposal, BAT is to use one or a combination of the techniques given below:</b>		
	Techniques related to the use of centrifuges		Currently Compliant The operator uses a combination of techniques.
	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	<b>In order to reduce channelled dust emissions to air from drying, BAT is to use one or a combination of the techniques given below:</b>		
	a.	Bag filter	Not Applicable No channelled dust emissions to air
	b.	Cyclone	
	c.	Wet scrubber	
<b>BAT-AELs for channelled dust emissions to air from drying</b> Table 10 and footnotes			

BATc number	Summary of BAT Conclusion requirement		<b>Status/comment</b> <b>One of the following:</b> Not Applicable, Currently Compliant, Not Compliant
	Dust	< 2-10 mg/Nm <sup>3</sup>	Not Applicable No channelled dust emissions to air