

Natural Resources Wales permitting decisions

South Caernarfon Creamery Decision Document

Application for a Variation

The application number is: EPR/BL9941IC/V004

The Operator is: South Caernarfon Creameries Ltd

The Installation is located at: South Caernarfon Creamery, Rhyd-y-Gwystl, Pwllheli, Gwynedd, LL53 6SB

We have decided to issue the variation for South Caernarfon Creamery operated by South Caernarfon Creameries Ltd. The variation number is EPR/BL9441IC/V004.

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.

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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Key issues of the decision

The key issues in this determination included:

- Emissions to water
- Best Available Techniques

Compliance with Best Available Techniques Associated Emission Levels (BAT-AELs) for direct emissions to a receiving water body published with the BAT Reference Document for Food, Drink and Milk Industries (2019).

1 Outline of application

This variation is to upgrade the effluent treatment plant (ETP) and increase the discharge from the effluent treatment plant from 700 cubic metres per day (m³/day) to 1000m³/day (and the instantaneous rate be increased from 9.72 litres per second (l/s) to 13.92l/s). It is not sought to change the maximum concentrations of parameters in the discharge, only total volume. Additionally, it was requested that production-capacity volume is increased from 315,000l/day to 585,000l/day and that 'Whey Processing' is added as a new Directly Associated Activity.

The original variation application also included a new cheese store, weigh bridge and generators to the north area of the site. However, following discussions with the applicant (email dated 16/06 and also 27/08/2021) it was agreed to reduce the scope of the application to that outlined above.

The ETP will be upgraded to a full activated sludge plant built in accordance with best available techniques (BAT). The operator is proposing two new aeration tanks to improve biological digestion with associated anoxic zones and lamella filtration systems. The current BAFF tank and other obsolete equipment will also be removed.

The increase in production volume capacity has been applied for in line with the gradual increase in production over time. Whey is already being processed at the site (as a bi-product of the cheese production) and is being added for completeness. This variation also removed all reference to butter and buttermilk production from the permit as these products are no longer produced at the site.

2 Our decision

We have decided to issue the variation for South Caernarfon Creamery operated by South Caernarfon Creameries Ltd. We consider that, in reaching this decision, we have taken into account all relevant considerations and legal requirements and that the permit will ensure that a high level of protection is provided for the environment and human health.

This Application is to operate an installation which is subject principally to the Environmental Permitting Regulations 2016 (EPR) and is subject to the requirements of the Industrial Emissions Directive (IED).

The permit 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 permit, we have considered the Application and accepted the details are sufficient and satisfactory to make the standard conditions appropriate. This document should be read in conjunction with the application and supporting information and permit.

3 How we reached our decision

3.1 Receipt of Application

The Application was accepted as duly made on 01/07/2020. 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.

The Applicant made no claim for commercial confidentiality. We have not received information in relation to the Application that appears to be confidential in relation to any party.

3.2 Consultation on the Application

We have not carried out consultation on the Application in accordance with the Environment Permitting Regulations (EPR), our statutory Public Participation Statement (PPS) and our Regulatory Guidance.

3.3 Requests for further information

Further information was requested by way of a Schedule 5 Notice requiring the applicant to provide a Best Available Techniques (BAT) assessment on the upgraded Effluent Treatment Plant in line with the BAT Reference Document for Waste Treatment (2018). The Schedule 5 Notice was sent on 01/03/2021 with a response date of 22/03/21. The Applicants final response to the Schedule 5 Notice was provided on 19/03/21. The additional information supplied did not satisfy the requirements of the Schedule 5 notice as the applicant submitted a further BAT Assessment using the Food and Drink BAT Reference Document, rather than assessing the upgraded ETP against the Waste Treatment BAT Reference Document (BREF). As a result it was initially decided that the permit will contain a improvement condition requiring the Operator to complete this assessment. However, following discussions that occurred within the Food, Drink and Milk sector review project team it was decided by NRW Policy and Regulatory Approaches colleagues that the Waste Treatment BREF should not be applied to listed waste activities on Food, Drink and Milk sites, where the waste activity is an ETP that treats only the effluent from the Food, Drink and Milk activity. Therefore, following this decision we removed the Improvement Condition from the permit as it is no longer necessary for the Operator to complete a BAT assessment against the Waste Treatment BREF.

There were informal requests to the Operator made via E-mail including on 27/07/2021 where we asked for:

- Confirmation of size of the aeration tanks
- Confirmation of the buffer storage capacity
- Confirmation of the secondary and tertiary containment arrangements, We also asked the Operator to confirm compliance with CIRIA C736

The Operator answered the two points adequately, however the final point the Operator did not confirm the secondary and tertiary containment arrangements were

in line with CIRIA C736. The Operator stated that they are currently exploring options for containment system and would welcome NRW input. As further design work is needed, at this stage we cannot confirm whether the secondary and tertiary containment arrangements are in line with CIRIA C736 therefore, we have included this requirement as an improvement condition in the permit.

4 The Legal Framework

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;
- 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.

We address the legal requirements directly where relevant in the body of this document. NRW is satisfied that this decision 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 Permit 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.

4.1 Environment Wales Act 2016 – Biodiversity and resilience of ecosystems duty

Section 6 of the Environment Wales Act 2016 requires that we seek to maintain and enhance biodiversity in the exercise of our functions, and in so doing promote the resilience of ecosystems, in a manner that is consistent with the proper exercise of our functions. NRW is satisfied that in this case, we have taken into account and had due regard to this duty in so far as it is consistent with the function of determining an application for an Installation under the EPR Regs 2016.

5 The Installation

5.1 Description of the Installation and related issues

5.1.1 The permitted activities

The Installation is subject to the EPR because it carries out an activity listed in Part 1 of Schedule 1 of the EPR:

- S6.8 A(1)(e) – Treating and processing milk
- S5.4 A(1)(a)(i) – Disposal, recovery or a mix of disposal and recovery of non-hazardous waste.
-

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

- Storage and handling raw materials
- Storage and handling of waste
- Storage and handling of product
- Effluent Treatment Plant
- Whey Processing

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

5.1.2 The Site

A plan is included in the permit and the Applicant is required to carry on the permitted activities within the site boundary. The site boundary is not changing as a result of this variation.

5.1.3 What the Installation does

South Caernarfon Creameries Ltd is located in Rhydygwystl and comprises of a significant site housing a number of processing areas located in their respective buildings. These include milk reception, cheese and whey production, processing and packaging, cold stores areas, offices, canteen, laboratory and maintenance areas and other support accommodation areas.

The site has the River Afon Erch running centrally through it with buildings located on either side of the river. The original cheese processing plant and all associated support accommodation was located on the West side of River Afon Erch. Subsequent

development at the facility over the years has resulted in buildings being constructed on the East side of River Afon Erch.

5.2 The site and its protection

5.2.1 Proposed site design: 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. BAT Conclusion 19 of the Waste Treatment BRef Document (EU 2018) deals largely with site design and prevention measures in order to reduce emissions to soil and water. The Operator has stated that preventative and reactive maintenance programmes are in place to ensure the condition of equipment and infrastructure to prevent uncontrolled releases to surface water and ground. Minimal handling of raw materials and other hazardous substances takes place in external areas. All waste generated are stored in dedicated storage areas, provided within suitable containment.

Any connection areas for tankers are within bunds to reduce the risk of ground contamination. Any spills can be directed to the existing below ground sludge sumps which can then be pumped to the sludge tanks or back into the balance tank. There is a spillage emergency response procedure in place which is part of the Operator's EMS. Any spillages on the site that enter the drainage system will be directed to the ETP via an integrated drainage system.

As explained above in Section 3.3 we have not been able to confirm whether the secondary and tertiary arrangements meet the requirements set out our guidance (how to comply) or CIRIA C736. The Operator is currently exploring options for the secondary and tertiary containment design and welcomed NRW input therefore we consider it appropriate to set an improvement condition in order for the Operator to complete a 'secondary and tertiary containment plan' for the upgraded ETP. The plan will include a risk assessment in line with CIRIA C736 and dates for any improvements (as required), if improvements are required to adhere to the standards then the Operator must agree this with NRW approval.

The Operator has stated in their non technical summary that the upgraded ETP will be built in accordance with Best Available Techniques (BAT), BAT includes adhering to CIRIA C736 (2014) standards and NRW how to comply with your environmental permit (2014) guidance for secondary and tertiary containment measures.

5.2.2 Closure and decommissioning

Permit condition 1.1.1 requires the Operator to have a written management system in place which identifies and minimises risks of pollution including those arising from closure.

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 apply to us for surrender, which we will not grant unless and until we are satisfied that these requirements have been met.

5.3 Operation of the Installation – general issues

5.3.1 Administrative issues

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 if the Variation were to be issued.

OPRA

We are satisfied that the Applicant's submitted OPRA profile is accurate. The OPRA score will be used as the basis for subsistence and other charging, in accordance with our Charging Scheme. OPRA is Natural Resources Wales method of ensuring application and subsistence fees are appropriate and proportionate for the level of regulation required. The OPRA score at the installation remains unchanged.

Relevant Convictions

NRW's COLINS Database has been checked to ensure that all relevant convictions have been declared. No relevant convictions were found.

Financial Provision

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.

5.3.2 Management

The operator has in place an Environmental Management System (EMS) that was produced in line with the requirements set out in *“How to comply with your environmental permit guidance”*. The applicant has an EMS which is certified to Green Dragon level 2, the applicant is currently seeking level 3 (delayed due to Covid).

We 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.

5.3.4 Accident management

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. The Operator has submitted a copy of their Accident Management Plan. The plan includes contingencies for events such as fire, flooding and spills. The Operator confirmed that due to the increase in production capacity and the addition of whey processing there is no change to the risks associated with accidents. The accident management plan has been incorporated into the permit as an operating technique.

5.3.5 Operating techniques

We have reviewed the techniques used by the operator and compared these with the relevant guidance notes. The relevant guidance notes for this installation are:

- How to comply with your environmental permit (October 2014)
- Reference document on Best Available Techniques for the Food, Drink and Milk Industries (2019) Technical Guidance Note M18: Monitoring of discharges to water and sewer

The main activity is referenced in the Food, Drink and Milk Industries BAT reference document (BRef). BAT Conclusions for the Food, Drink and Milk Industries were published as Commission Implementing Decision EU 2018/1447 in the Official Journal of the EU on 5 December 2019.

The Operator has stated in their non technical summary that the upgraded ETP will be built in accordance with BAT.

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

5.3.6 Efficient use of raw materials, water and energy

Water and energy usage at the installation is monitored monthly and informs the annual consumption, energy efficiency is measured using a MWh/tonne of finished product metric.

The Operator is required to report water and energy usage under condition 4.2 and Schedule 4. The following parameters are required to be reported: Mains water, Borehole/Well water, electricity and fuel oil. This will enable Natural Resources Wales to monitor energy recovery efficiency at the Installation.

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

This requirement addresses wastes produced at the facility. In line with BAT any sludge produced by the ETP will be thickened and dispatched for Anaerobic Digestion for offsite disposal.

Having considered the information submitted in the Application, we are satisfied that the waste hierarchy referred to in Article 4 of the Waste Framework Directive (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 will ensure that this position is maintained.

6 Minimising the Installation's environmental impact

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. These factors are discussed further in the following sections of this document.

6.1 Assessment of impact to surface water and groundwater

There are no discharges to ground from this installation. There are 4 surface water discharges to the Afon Erch from the installation. W1 is from the onsite ETP and W2 – W4 is uncontaminated site runoff. The site currently has a discharge limit of 700 l per day, as part of the permit variation the operator proposed an increase to 1000 m³/day.

All process effluent from the cheese production process and uncontaminated surface water drainage is treated in the Effluent Treatment Plant (ETP) prior to travelling through a pipe to the discharge point: into the Afon Erch (NGR SH40630 38900). The existing balance tank and divert tank will remain.

Although the composition of the discharge is not changing, a Water Framework Directive (WFD) compliance assessment was required to ensure any current limits were fit for purpose and ensure the additional limit for total Nitrogen (as N) is appropriate.

The surface water risk assessment provided by the applicant required additional assessment by NRW. The assessment undertaken by NRW was completed to determine and review the impact of the proposed increased discharge on the receiving water and ensure the existing limits and any additional proposed limits are appropriate.

The existing river quality data utilised within the assessment has been taken from the WFD Phys-Chem data spreadsheet for the waterbody: GB110065053570 – Erch Lower. The river flow data has been confirmed as accurate by the internal NRW Hydrology team. The following determinands have been assessed in the assessment:

- pH
- Temperature
- Ammonia
- Biological oxygen demand (BOD)
- Total phosphorus (as P)
- Total suspended solids (TSS)
- Total aluminium (as Al)
- Chloride

Temperature and pH

The limits (Temp 25°C and pH >6 and <9*) on the permit currently are in line with the WFD requirements. Historical sample data demonstrates there are no existing concerns relating to these parameters so the limits can remain unchanged.

*note that this variation corrected an existing administrative error on the permit changing the upper limit of the pH limit from >9 to <9.

Ammonia

There is currently a limit of 6mg/L (absolute maximum) for ammonia within the current discharge consent. As per the WFD Phys-Chem spreadsheet, the typology for this river regarding ammonia standards is 'Type 2'. The receiving watercourse 'GB110065053570 – Erch Lower' is currently classed as 'High'. In order to maintain its class, the 90%ile concentration downstream should remain below 0.2 mg/l as per the Type 2 WFD 'High' Status class boundary for Ammonia. The 90%ile concentration downstream of the discharge point is 0.025 mg/l which demonstrates the watercourse at the point of discharge is 'high' class for ammonia, meaning the proposed discharge of 1000 m³/day will not adversely affect the watercourse. It is therefore acceptable that the current maximum limit of 6mg/l is maintained and will ensure all river quality targets are met.

Biological oxygen demand (BOD)

No downstream or upstream data is available for BOD in the Afon Erch. However, there is available data for % saturation of dissolved oxygen within the receiving watercourse. The average % saturation of dissolved oxygen within the Lower Erch from the 12 samples taken over the past 6 years is 99.22%. As there is currently 700m³/day of effluent entering the watercourse and the % saturation is comfortably within WFD 'High' class with enormous headroom remaining. The limit of 20 mg/l will remain as per the current discharge consent and be retained in the permit. This limit ensures the WFD targets are met in the receiving watercourse and in line with 'No deterioration' policy, therefore it is an acceptable limit.

Total phosphorus (as P)

WFD targets and classifications for phosphorus are site specific and based on the altitude and alkalinity. The receiving watercourse at the discharge point is currently classified as 'good'. In order to maintain its class, the mean concentration of phosphorus downstream should remain below 0.032 mg/l as per the 'UKTAG River Phosphorus Calculator 2021'. At full permitted load the concentration downstream of the discharge point is 0.030 mg/l which demonstrates the watercourse at the point of discharge maintains 'good' class for phosphorus, meaning the proposed discharge of 1000 m³/day will not adversely affect the watercourse. It is therefore acceptable that a new limit of 4mg/l is implemented.

Total suspended solids (TSS)

Following a review of the historical reporting data for the effluent provided by the applicant, the discharge consent maximum limit of 30 mg/l will be maintained. We are satisfied that the appropriate measures will be in place to prevent pollution of groundwater and surface water.

Total Aluminium

Aluminium is acutely toxic to fish. Technical Guidance Note 7.01 (Water Discharge and Groundwater (from point source) Activity Permits) suggests an Environmental Quality Standard (EQS) of 1 mg/l Maximum Allowable Concentration (MAC) should be applied for waters complying with the national pH EQS where upper and lower 95 percentile pH values lie between 6.0 and 9.0 (as per the Lower Erch).

The H1 screening tests have been completed in line with those contained within guidance: Surface water pollution risk assessment for your environmental permit. Screening test 1 failed as the Release Concentration (RC) of the pollutant exceeds 10 % of the EQS. Screening test 2 failed as the process contribution (PC) was >4 % of the EQS. Screening test 3 passed as the difference between the Background Concentration (BC) and Predicted Environmental Concentration (PEC) is less than 10% of the EQS. Therefore, no further assessment is required, and the limit will be reduced from 2.5mg/l to 1 mg/l in the permit.

Chloride

The applicant is proposing that the limit of 520mg/l remains in the permit. To ensure this is acceptable, H1 screening tests have been undertaken below.

Screening test 1 failed as the Release Concentration (RC) of the pollutant exceeds 10 % of the EQS. Screening test 2 failed as the process contribution (PC) was >4 % of the EQS. Screening test 3 passed as the difference between the Background Concentration (BC) and Predicted Environmental Concentration (PEC) is less than 10% of the EQS. Therefore, no further assessment is required, and the limit of 520mg/L will be maintained in the permit.

6.2 Fugitive emissions

A fugitive emissions risk assessment has been completed following the H1 risk assessment methodology by the operator and assessed by us. The operator has included fugitive emissions to surface water and land.

- Fugitive emissions to land and groundwater have been assessed to be low risk. Effluent tanks are designed to be maintenance free over long operating periods. The balance tank is bunded and daily checks are recorded. Yard maintenance include sealing of concrete joints and the movement of chemicals around the site follow strict procedures.

The operator has provided a drainage plan as part of the variation. None of the existing discharges to surface water (W1-W4) are moving due to this variation. 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.

The Operator has confirmed that there will be no change to the current risk assessment in regards to fugitive emissions as a result of the increase production capacity and addition of 'Whey Processing' as a directly associated activity. Production has been increasing gradually over time and Whey Processing has been occurring at the site for years (as a bi-product of cheesemaking). The Site Officer has confirmed that there has been no issues regarding fugitive emissions at the site.

6.3 Assessment of odour impact

The operator has an odour management plan in place which has been reviewed by us in line with Horizontal Guidance for Odour (H4) – Odour Management and the relevant sector guidance notes. The operator has identified the main sources of odour at the installation as:

- Reception of milk;
- Storage of milk;
- Process/treatment operations;
- Drains and sumps for effluent;
- Storage of effluent prior to treatment;
- Effluent treatment activities; and
- Storage of treated sludge prior to removal from the site.

In their odour management plan the operator has detailed a number of control measures that are employed including:

- Regular cleaning of operational areas
- Deliveries in enclosed tankers and unloaded to enclosed silos.
- Cleaning in place (CIP) and automated cleaning systems used on site
- Storage tanks are kept aerobic to prevent odours
- Sludge and whey concentrate removed by tanker.

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.

The Operator has confirmed that there will be no change to the current risk assessment in regards to odour emissions as a result of the increase production capacity and addition of 'Whey Processing' as a directly associated activity. Production has been increasing gradually over time and Whey Processing has been occurring at the site for years (as a bi-product of cheesemaking). The Site Officer has confirmed that there has been no issues regarding odour emissions at the site.

6.4 Noise Assessment

The changes proposed by this variation are unlikely to result in an increased exposure of noise, the operator has only received one noise complaint and that was rectified within 24 hours. Where possible, the operator has enclosed all potentially noisy equipment or has ensured they are quiet running. 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 the effects of noise.

The Operator has confirmed that there will be no change to the current risk assessment in regards to noise and vibration as a result of the increase production capacity and addition of 'Whey Processing' as a directly associated activity. Production has been increasing gradually over time and Whey Processing has been occurring at the site for years (as a bi-product of cheesemaking). The Site Officer has confirmed that there has been no issues regarding noise or vibration at the site.

6.5 Impact on National Site Network¹/Ramsar sites, SSSIs and non-statutory conservation sites

The installation is within the relevant screening distance criteria for protected conservation sites. A full assessment of the application and its potential to affect any of the sites has been carried out as part of the permit determination process. National Site Network¹/Ramsar sites, SSSIs and local nature sites will be discussed in detail separately below.

National Site Network¹/Ramsar sites

The following National Site Network¹/Ramsar sites are located within 10 km of the installation:

- SAC Pen Llyn a'r Sarnau / Llyn Peninsula and the Sarnau - UK0013117
- SAC - Corsydd Llyn / Llyn Fens - UK0030187
- SAC - Corsydd Eifionydd / Eifionydd Fens - UK0030121
- SAC - Clogwyni Pen Llyn / Seacliffs of Llyn - UK0030271
- SPA - Northern Cardigan Bay / Gogledd Bae Ceredigion – UK9020327
- Ramsar Site - Corsydd Môn a Llyn / Anglesey and Llyn Fens – UK14005

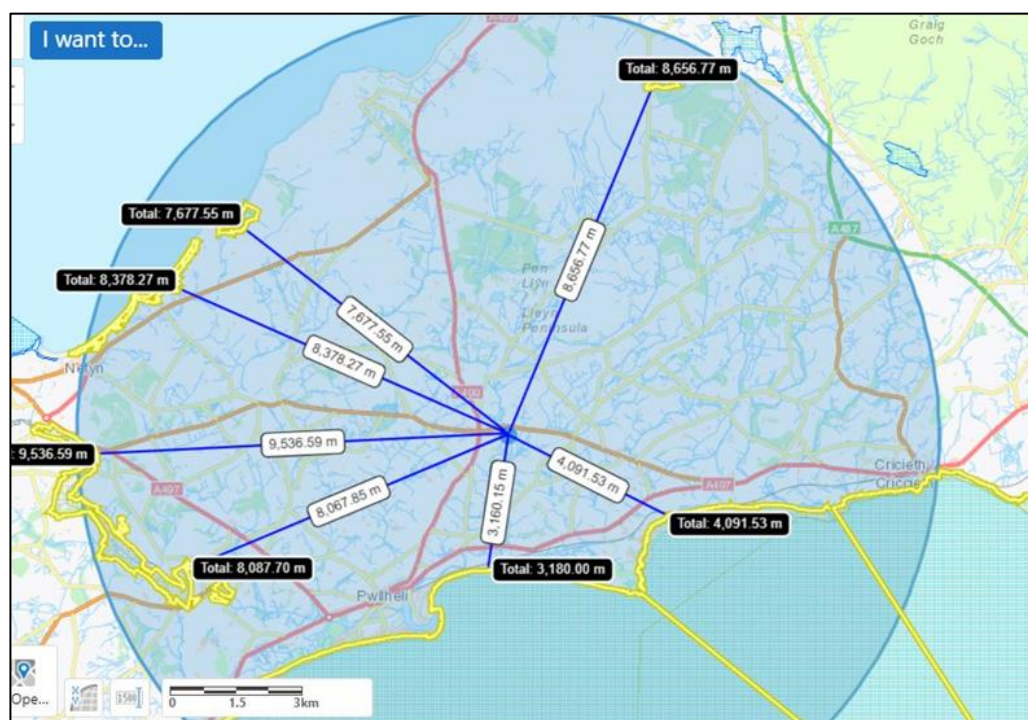


Figure 1: 10km screening from South Caernarfon Creamery and distances to National Site Network/Ramsar sites

An OGN 200 Form 1 (Habitats Regulation Assessment) was completed to assess the potential to affect the National Site Network¹ site, this is available on the public register

¹ As per the amendment to Regulation 3 of the Conservation of Habitats and Species Regulations 2017: The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (legislation.gov.uk). National Site Network means the network of sites in the United Kingdom's territory consisting of such sites as – (a) immediately before exit day formed part of Natura 2000; or (b) at any time on or after exit day are European sites, European marine sites and European offshore marine sites for the purposes of any of the retained transposing regulations.

and summarised below.

Emissions to surface water

The principal emissions associated with this variation are emissions to surface water of treated effluent from the effluent treatment plant.

Emissions to surface water of treated effluent from the effluent treatment plant has been assessed in the HRA in terms of: Indirect effects on habitats and species from emissions of aluminium; nutrient enrichment from emissions of phosphorus, BOD and ammonia. The receiving watercourse is not a riverine SAC.

Aluminium - Aluminium is currently present in the discharge. The applicant has completed a surface water risk assessment that has followed the recognised H1 methodology in line with .gov guidance. There are four initial screening tests and if the aluminium does not screen out further modelling is required. Screening test 1 failed as the Release Concentration (RC) of the pollutant exceeds 10 % of the EQS. Screening test 2 failed as the process contribution (PC) was >4 % of the EQS. Screening test 3 passed as the difference between the background concentration and predicted environmental concentration is <10% and therefore no further assessment is required, and a limit of 1000 µg/L will be set in the permit.

Ammonia - the 90 %ile total ammonia must be below the 0.2 stated target in Table 7 below. The background concentration of ammonia downstream of the discharge point is 90%ile of 0.021 mg/L. The limit of 6 mg/L will be retained on the permit for ammonia as there is no deterioration in water quality at the higher discharge volumes. This will ensure the WFD status of the waterbody remains high, therefore all river quality targets are met.

Table 7

Ammonia standards for rivers (rivers categorised by type in accordance with paragraph 1(1) of Schedule 2)				
<i>Total Ammonia as nitrogen (mg/l)</i>				
<i>(90 percentile)</i>				
Type	High	Good	Moderate	Poor
1, 2, 4 and 6	0.2	0.3	0.75	1.1
3, 5 and 7	0.3	0.6	1.1	2.5

BOD - The limit of 20 mg/L for BOD is remaining as per the current permit, at this concentration the WFD targets are met with the increase in discharge.

Phosphorus – The effluent treatment plant currently discharged at a concentration of 1.5mg/L and there is no evident adverse impact on the receiving watercourse in terms of WQ targets. This limit is currently compliant with the total phosphorus limit (4 mg/L) published in the BAT Reference Document for the Food, Drink and Milk Industries. Our assessment found that there would be no deterioration in water quality due to the increased discharge. Therefore, the current limit of 1.5mg/L will be maintained for total Phosphate.

In accordance with OGN200, an in-combination assessment was completed with other plans and projects and concluded there are no in-combination effects.

The assessment concluded the installation is not likely to have a significant effect on the site from emissions to surface water, either alone or in-combination with other plans and projects.

Assessment of Likely Significant Effect:

The project has been screened for likelihood of significant effects and, taking account of the advice received from protected sites advisors, is considered not likely to have a significant effect on any National Site Network/Ramsar site (As documented in section 3.2 and 5 of OGN 200 form 1).

SSSI Assessment

There are no Special Scientific Interest (SSSI) are located within 2 km of the installation. Therefore, no further assessment required.

7 Setting ELVs and other Permit conditions

Point source emissions to surface water

The following emission limits for point source emissions to surface water have been set effective from variation issue:

- pH – minimum 6, maximum 9
- Temperature – 25 °C (maximum)
- Aluminium – 1.0 mg/L (maximum)
- Biological Oxygen Demand (BOD) – 20 mg/L (maximum)
- Total Organic Carbon (TOC) – 125 mg/L (maximum)
- Orthophosphate – 1.5 mg/l
- Total Phosphorus – 4.0 mg/L (maximum)
- Ammonia – 6mg/L (maximum)
- Total Nitrogen – 20 mg/L (maximum)
- Total suspended solids – 30 mg/L
- Maximum daily discharge volume – 1000 m³/day
- Instantaneous rare – 13.92 l/s

These emission limit values have been set in line with the BAT-AELs contained within BATc12 of the Food, Drink and Milk Industries BRef Document (EU 2019). The limit for Total Aluminium has be lowered from 2.5mg/l to 1.0mg/l. This limit has been set in line with Technical Guidance Note 7.01. Limits for Total Nitrogen and Total Organic Carbon have also been added to the permit. The BAT-AELs contained within the secondary BRef: Waste Treatment BRef Document (EU 2018) are either the same or less stringent and there are no additional parameters required, therefore the BAT-AELs have been taken from the main activity BRef.

7.1 Translating BAT into Permit conditions

7.2 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 surface water, the methods for continuous and periodic monitoring are in accordance with M18: Monitoring of discharges to surface water and sewer. Monitoring frequencies have been set in line with BAT requirements. Monitoring frequencies have been imposed in line with BAT requirements.

Based on the information in the Application and the requirements set in the conditions of the permit we are satisfied that the monitoring techniques, personnel and equipment employed by the Operator will have either MCERTS certification or MCERTS accreditation as appropriate.

7.3 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.

OPRA

The OPRA score at permit issue is 48.

ANNEX 1: Improvement Conditions

25	The operator shall submit a written 'secondary and tertiary containment plan' for the upgraded Effluent Treatment Plant and shall obtain the Natural Resources Wales written approval to it. The plan shall contain the results of a review conducted, by a competent person, in accordance with the risk assessment methodology detailed within CIRIA C736 (2014) guidance, of the condition and extent of secondary and tertiary containment systems where all potentially polluting liquids and relevant solids are being stored, treated, and/or handled within the Effluent Treatment Plant. The review shall consider, but not limited to, the effluent storage and treatment vessels, chemical reagent storage vessels, bunds and transfer pipework/pumps. The plan must contain dates for the implementation of individual improvement measures necessary for the secondary and tertiary containment systems to adhere to the standards detailed/referenced within CIRIA C736 (2014) guidance and How to comply with your environmental permit (2014) guidance, or equivalent. The plan shall be implemented in accordance with the Natural Resources Wales written approval.	1 year from issue date of permit
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