

Determination of an Application for a PPC Permit under the Pollution Prevention and Control (England and Wales) Regulations 2000 (SI 2000 No.1973)

Decision Document recording the decision-making process

Note: all references to the "PPC Regulations" are to the Pollution Prevention and Control (England and Wales) Regulations 2000 (SI 2000 No.1973), as amended.

Administrative details

Application date and Agency reference ("the Permit Application") 9th October 2002

6.8(a)1(e)

Permit number (the "Permit") **BL9941**

Applicant (the "Applicant") **South Caernarfon Creameries Ltd**

Address/location of installation (the "Installation")]
**Rhydygwystl
Chwilog
Pwllheli
Gwynedd LL53 65B**

Name of Account Officer **Iwan Thomas**

Signature of Account Officer:

Signature of Authorising Officer:

All relevant documents have been sent to the IPPC Public Registers

Purpose of this document

The Decision Document ("DD") explains how the Applicant's Permit Application has been determined and why the specific conditions in the Permit have been imposed. It is a record of the decision-making process to show how all relevant factors and legislative requirements have been taken into account.

It should be noted that the Permit contains many conditions taken from the Agency's standard PPC Permit template. These standard conditions were developed by the Agency having regard to the legal requirements of the PPC Regulations and other relevant legislation. This Decision Document does not include an explanation for these standard conditions, but does provide an explanation and justification for the emission limit values (ELVs), the choices made between optional standard conditions and for additional conditions which have been imposed in order to take installation-specific factors into account.

Summary of the decision

A Permit for the Applicant to operate the Installation has been granted by the Agency, subject to the conditions set out in the Permit. Where the Permit includes standard Agency Permit conditions (see above), these have been considered to be appropriate for the Installation, in particular in ensuring that all appropriate measures will be taken against pollution and that no significant pollution will be caused. The Agency considers that in its decision to issue the Permit and in the conditions included therein, it has taken into account all relevant considerations and legal requirements.

- The creamery is considered to be a "new installation" because it was operating below the input threshold at the advent of the PPC Regulations, but proposed to exceed the threshold soon afterwards. It was therefore required to be permitted prior to the application window for this sector.
- Although the application is for a new installation, the site has been in existence for some 70 years and it would be unrealistic to require the same BAT criteria as for a brand new site. Thus, pragmatically, the application was treated as an "existing installation" for the purpose of determining the permit. Thus, the guidance (Draft version 1, Dec 2001 – Page2) states that "for an existing activity, a less strict proposal (or an extended timescale) may, for example, be acceptable where the activity operates to a standard that is very close to an indicative requirement".
- The guidance also states that..."The amount of detail needed to support the application should be sufficient to support the applicant's contention that either the conditions of the guidance have been met or an alternative measure has been justified. The level of detail should be commensurate with the scale of the operation and its ability to cause pollution. An applicant is not required to supply detail that could not reasonably be expected to contribute to a decision to issue a permit."... this was borne in mind when assessing the detail of the application.

Description of the Permitted Installation

A non-technical summary of the activities covered by the Permit is contained within the Application. There is also a description of the Installation included in the Introductory Note to the Permit.

The company was established in 1938 as a farmers co-operative and has some 200 members. The company employs 150 people.

The installation is designed for a throughput of some 315,000 litres of milk per day

Production rates are approximately 6000 tonnes of cheese per year and 10.5 million litres of liquid milk per annum.

Cheese is produced in the cheese hall, while in the dairy milk can be made into the following products:- Whole Milk; Semi Skimmed milk; Skimmed Milk; Cream; Buttermilk; Butter

With the exception of cream and buttermilk the raw milk is pasteurised and homogenised prior to temporary storage in finished product tanks, prior to packaging in either glass bottles, polybottles or cartons. For cream and buttermilk manufacture the milk is separated prior to pasteurisation.

Cheese is manufactured by using a starter to separate the curds and whey in raw milk. A curd saver recovers curds prior to the whey being pasteurised and separated to recover cream, which is churned into butter. The whey is then treated in a reverse osmosis plant to concentrate the solids.

The curds then are cooled and salted and passed to a blockformer via an auger that produces the blocks of cheese. The blocks of cheese are then vacuum-sealed and stored for maturing.

The process for pasteurisation and cheese production requires heat that is delivered to the production plant as steam. The steam is generated by oil fired boilers.

The effluent from the process is treated at a dedicated effluent treatment plant. Treated effluent is discharged into the River Erch.

Glossary of terms used in this Decision Document

"*Application*" means the application for this Permit, together with any response to Notices served under Schedule 4 to the PPC Regulations on 20/1/03, 24/4/03 & 5/4/04, and any other written information provided by the Operator for consideration in the determination of the Permit.

PART A – ADMINISTRATIVE INFORMATION RELATING TO THE APPLICATION AND INFORMATION ABOUT THE APPLICANT

The Agency's determination procedure

A1 "Duly made" check on Application received

The Application was not duly made as submitted on 19th Sept 2002 for the following reasons:

- The operator had not answered question B1.1 on the application form.
- The operator's answers to questions A1.4, A3.5, B1.3, B6.7, B6.8, F3 & F6 were inadequate to provide a reasonable basis for consultation on, and determination of the application
- the fee provided was insufficient.

Upon receipt of the appropriate information and fee, the Application was deemed to be duly made on 9th October 2002

A2 Consultation on the Application

The Application was advertised by the Applicant according to the requirements of Part 1 of Schedule 4 to the PPC Regulations on 13th November 2002 in the Caernarfon & Denbigh Herald, and on 14th November 2002 in the London Gazette.

The Agency sent copies of the Application to the following statutory consultees in accordance with Part 2 of Schedule 4 to the PPC Regulations:

- North Wales Health Authority
- Gwynedd Council
- Food Standards Agency;
- Pwllheli Harbour Authority (Gwynedd Council Maritime Division)
- North West and North Wales Sea Fisheries Committee
- Welsh assembly Government.

The Countryside Council for Wales was consulted because of the proximity of the Pen Llyn a'r Sarnau SAC

A3 Consideration of consultation responses

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A response was received from Gwynedd Council Maritime Division to say that they did not intend to comment.

No response was received from any of the consultees by the due date, other than an e-mail from the FSA on 5th Nov stating that they would endeavour to submit a response within the following two weeks. Consequently a reminder was sent on 6th Nov to all the consultees, providing them with a further 28 days (i.e. until 2nd Dec 2002) in which to respond. All consultees responded within that deadline (see Appendix)

CCW's response to our record of assessment of likely significant effect on the Eurpean Site (Pen Llyn a'r Sarnau SAC) indicated that they had no concerns about significant impacts on the features of the SAC.

No responses were received from members of the public during the determination period.

All responses have been considered by the Agency in determining the Application. The ways in which material responses have been taken into account are summarised in the appendix to this document

A4 Matters of commercial confidentiality or national security

The Operator has made no claim for commercial confidentiality and the Agency has not received any information in relation to this Application which appears to be confidential in relation to any party. There are no matters involving national security.

A5 Further information requirements

The Application was deemed duly made by the Agency, but further information was required in order for the Agency to be able to determine the Application. A Schedule 4 Notice for Further Information was issued to the operator on 20th January 2003 requesting a response within 42 days (i.e. by 3rd March 2003). A slight extension to the deadline was agreed to 6th March 2003 due to a delay in the operator receiving a consultant's report. The response was received on 6th March 2003 and copies sent to the consultees listed above. All consultees responded within the required period, except Cyngor Gwynedd who responded on 16th April following a reminder

All responses (see Appendix) have been taken into consideration by the Agency in making its determination. The ways in which material responses have been taken into account are summarised in the appendix to this document

After examining the response, taking into consideration comments from the consultees, a further Schedule 4 Notice for Further Information was issued to the operator on 24th April 2003 requesting a response within 42 days (i.e. by 5th June 2003).

The operator experienced some difficulty in obtaining information on air emissions and employed a consultant (ENVIROS) to carry out this work, however they were unable to produce a report until the end of August 2003. We therefore agreed an extension to the deadline for the Sch 4 response to 31st August 2003. As the extended deadline approached it became clear that the response would not be ready in time due to organisational and management changes at the installation, and a further extension was agreed to the 22nd Sept 2003. A response was received on that date, however this did not include those items (mainly relating to air emissions) being addressed by ENVIROS. Copies of the partial response were sent to the consultees on 22nd Sept 2003. Responses were received from the FSA, WAG and Gwynedd Local Health Board. (see Appendix).

The ENVIROS report was received on 6th January 2004, and copies sent to the consultee list. A response was received from WAG only. (See Appendix).

A third Schedule 4 Notice for Further Information was issued to the operator on 5th April 2004 requesting a response within 28 days (i.e. by 3rd May 2004). This was received on time, however, there was a need for further detail on their H1 spreadsheet which was

addressed by 12th May. The full response was sent out to consultation to WAG, Gwynedd Local Health Board and Gwynedd Council requesting a prompt reply

A6 The Applicant

The Agency is satisfied that the Applicant (now the Operator) is the person who will have control over the operation of the Installation after the grant of the Permit, and that the Operator will be able to operate the Installation so as to comply with the conditions that have been included in the Permit

The operator commissioned a new Effluent Treatment Plant at the site in 2002 and are in the process of applying for a "Green Dragon Award", an EMS accreditation scheme similar to ISO14001

A6.1 EP_OPRA profile

The Agency considers that the EP_OPRA profile submitted with the Application should be amended as a result of its detailed consideration of the Application, and in light of the conditions included in the Permit. The revised EP_OPRA score of 111 will therefore be used as the basis for subsistence and other charging and for all other relevant purposes at the commencement of the Permit. In accordance with the Agency's EP_OPRA Scheme, however, the Operator's EP_OPRA profile for the installation may change over time.

PART B – THE INSTALLATION AND ITS MANAGEMENT

B1 Permit Section 1.1.1 - The permitted activities

The principal listed activity at the Installation falls within the activity description in Section 6.8 Part A(1)[e] of Part 1 of Schedule 1 of the Pollution Prevention and Control Regulations, 2000:- Treating and processing milk, the quantity of milk received being more than 200 tonnes per day (average value on an annual basis) . The Agency considers that this constitutes the “stationary technical unit”.

The Agency considers that the following activities are directly associated with the stationary technical unit and therefore form part of the Installation:

- Storage and handling of raw materials
- Storage and handling of waste
- Storage and Handling of Product
- Effluent treatment plant

The stationary technical unit and its directly-associated activities described above, together constitute the Installation.

B2 Permit Condition 1.1.2 – Identification of exempt waste activities

This is a standard condition of all Permits but it is understood that it is not the Operator's intention to undertake any waste activities which are exempt from Waste Management Licensing (ie. activities listed in Schedule 3 of the Waste Management Licensing Regulations 1994) on the same site, which are not part of the Installation.

In response to question 12 of the first schedule 4 the Operator stated that a number of exempt activities take place on site. However, the quantities are below the relevant exemption thresholds. The Agency believes that there are no activities exempt from waste management licensing carried out at the installation.

B3 Permit Section 1.2 - Site plan

The Applicant has provided a plan which the Agency considers is satisfactory for showing the site of the Installation and its extent. This plan is included in the Permit as Schedule 5.

B4 Permit section 1.5 - Minor operational changes; (Changes allowed within the scope of this Permit)

The Permit constrains the Operator to operate the installation subject to the limits and conditions in the Permit. However the Operator may make minor changes as defined within the Application by notifying the Agency in writing under Conditions 1.5.1 -1.5.4.

B5 Permit section 2.11 - Closure and decommissioning; (Prevention of deterioration of the site)

The Applicant has provided a Site Report as required by paragraph 1 of Part 1 of Schedule 4 to the Regulations.

South Caernarfon Creameries Ltd has operated on the current site since 1938. The site is divided by the River Erch, which separates the production areas from the offices and storage facilities. Originally the area to the south of the river, currently occupied by the production area, engineering area and effluent treatment plant, was a moderately steep hillside. This was regraded by blasting and compacting the blasted materials to form a bench landform in 1978. Most of this area is surfaced with concrete. To the North of the river the topography is more gentle, forming the floodplain of the river.

The Agency concludes that site reference data need to be established at the outset of the Permit. This will be collected through standard conditions 2.10.10 and 4.1.7. The data provided by the application may form part of this

B6 Permit Section 2.12 - Multiple Operator installations

This is not a multi-Operator installation

Management

B7 Permit Section 1.3 - Overarching Management Condition

Condition 1.3.1 in the Permit is a standard condition but, based upon the information submitted in the Application the Agency is satisfied that appropriate management systems and management structures are in place for this Installation, and that sufficient financial, technical and manpower resource is available to the Operator to ensure compliance with all the Permit conditions.

The Operator is currently working towards the Green Dragon Awards 3 and 4 (1 and 2 have already been achieved). This is considered to be the equivalent of ISO 14001 (Improvement Plan Ref 22)

B8 Permit Section 2.3 - Management

B8.1 Staffing and Training

The information provided in response to Questions in Section 2.3 of the Application indicates that the installation will be operated by an adequate number of staff, who are suitably trained and supervised.

Addition of environmental awareness training to the induction training program and the development of appropriate environmental training for staff in each department will be included in the improvement plan (Improvement Plan Ref 12).

B8.2 Operation and Maintenance

The information provided in response to Questions in Section 2.3 of the Application indicates that the installation will be operated and maintained in compliance with the Conditions in the Permit.

The Operator has a formal paper-based maintenance system which includes maintenance planning, programmed preventative maintenance, breakdown history and recording of all maintenance done.

A monitoring & maintenance programme will be required in the improvement plan whereby records will be kept of all works undertaken on plant, checks etc. to be available to the Agency (Improvement Plan Ref 7)

B8.3 Incidents and Complaints

The information provided in response to Questions in Section 2.3 of the Application states that there is a suitable incident/complaint logging and response system in place.

PART C: DETERMINATION OF PERMIT CONDITIONS

C1. Operating conditions and BAT determination

C1.1 Permit Section 2.1 In-Process controls – the Applicant's proposed techniques

Description	Parts	Justification
Application	The response to questions 2.1 and 2.2 given in section 2.1 and 2.2 of the application	The whole process is considered to have a potential impact on the environment. BAT justifications have been considered and accepted or incorporated into the improvement plan.
Response to schedule 4 Notice dated 24/04/2003	Response to questions 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25	
Response to schedule 4 Notice dated 05/04/2004	Response to questions 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25	

C1.2 General summary of the aspects considered in determining BAT for the installation

Some ground rules were set at the pre-application stage, namely:

- Although the application is for a new installation, the site has been in existence for over 60 years and it would prove unrealistic to require the same BAT criteria as for a brand new site. Thus, pragmatically, we should treat the application as an “existing installation” for the purpose of determining the permit, but continue to view it as a “new installation” for the purpose of work planning. Thus, the guidance (Draft version 1, Dec 2001 – Page2) states that “for an existing activity, a less strict proposal (or an extended timescale) may, for example, be acceptable where the activity operates to a standard that is very close to an indicative requirement”.
- A note on Page 3 of the guidance states that...”The amount of detail needed to support the application should be sufficient to support the applicant's contention that either the conditions of the guidance have been met or an alternative measure has

been justified. The level of detail should be commensurate with the scale of the operation and its ability to cause pollution. An applicant is not required to supply detail that could not reasonably be expected to contribute to a decision to issue a permit.”... we should bear this in mind when assessing the detail of the application.

The general guidance for the Dairy and Milk Processing Sector has been used to assess BAT. The conclusion of this assessment is that the activities of the installation are BAT provided the permit conditions are met and the improvement plan is successfully implemented.

C2. Justification for ELVs or equivalent technical parameters set for specific emissions

The following emission limit values (or “equivalent measures” or “technical parameters”) have been included in the Permit for the reasons described:

C2.1 Permit section 2.2.1 - Emissions to air

There are a large number of emission points to air listed in the Application. These are detailed within the Enviro Report submitted in response to the second schedule 4. Three of these points have been included within table 2.2.1 as they have not been highlighted as insignificant in the H1 screening tool.

Table 2.2.1 : Emission points to air

Emission point reference or description	Source	Location of emission point
A1	Boiler 1	Point 54 on site plan
A2	Boilers 2 + 3	Point 55 on site plan
A3	Aeration Tank	Point 78 on site plan

The H1 screening tool highlights the fact that the process contributions from the installation for nitrogen dioxide, sulphur dioxide and particulates are greater than 1% of the long term EAL and 10 % of the short term EAL. Releases below these percentages can be deemed as being insignificant. (Long term: Nitrogen dioxide- human receptors 6.1%, nitrogen dioxide- habitat receptors 8.1%, sulphur dioxide- human receptors 18%, sulphur dioxide- habitat receptors 44%. Short term: Nitrogen dioxide- human receptors 46%, sulphur dioxide- human receptors 123%, PM10 11%).

The predicted environmental concentrations have then been calculated as a percentage of the EAL. Guidance states that for long term effects if the PEC is greater than 70% of the long term EAL or for short term effect if the PC is greater than 20% of the difference between the long term background concentration and the short term EAL, further modelling may be required. This was found to be the case for sulphur dioxide. (Long term PEC: sulphur dioxide- habitat receptors 88%, Short term PC: sulphur dioxide- human receptors 21%, sulphur dioxide- habitat receptors 79%). Detailed dispersion modelling was carried out by Enviro using ADMS version 3.1.

The modelling assumed that all three boilers were running continuously, this is unlikely to occur, but is considered to be worst case. A number of other "worst case" assumptions were made (as listed in the Enviro Report). The environmental effects of the releases at a number of sensitive receptors were considered. The conclusion of the modelling was that the emissions from the site are not predicted to result in any EAL being exceeded and therefore not result in a significant detrimental impact upon sensitive receptors.

A table summarising the results of the detailed modelling is included within the Enviro report. (Sulphur dioxide long term effect 38% PEC / EAL, short term effect 39% PEC / EAL). The Agency accepts the findings of the report. They were based on a number of worst case scenarios and so the results are on the conservative side and still show that the EAL will not be exceeded at the sensitive receptors. The sulphur dioxide emissions for the boilers will be lower now that ultra light fuel oil is being used.

The boilers are fuelled by ultra light fuel oil. Condition 2.2.8 requires the content of the maximum sulphur in the oil be in accordance with the current Regulations. It is therefore not considered necessary to set limits for sulphur dioxide on the emissions to air.

South Caernarfon Creameries Ltd have stated that they plan to replace their boilers. Improvement condition 18 has been included within the permit requiring them to do this. The first part of the condition requires them to agree the design of the replacement boilers with the Agency. A report is required detailing the releases from the boilers, environmental impact, BAT justification for the new boilers and commissioning issues by 31st October 2004. The boilers are then required to be installed by the 31st December 2005.

The Operator has been asked to provide details of the monitoring points on the boilers and to ensure that they comply with the standards set out in Agency guidance M1. This is included as improvement condition 11. The condition also asks for timescales for the installation of appropriate sample points. It is expected that representative sample points will be installed at the same time as the new boilers.

Condition 2.2.1.3 requires annual monitoring of oxides of nitrogen from emission points A1 and A2. At this stage limits have not been set but following the completion of the above improvement conditions limits may then be set.

The operation of the existing boilers and their proposed replacement represent BAT for the installation. It is therefore expected that once these have been installed and once representative sample points are in place, the emissions from the boilers will reduce. It is expected that the impact shown in the original H1 screening tool will be shown to decrease.

Table 2.2.2 requires the Operator to carry out annual monitoring of the boiler emissions.

Table 2.2.2 : Emission limits to air and monitoring				
Emission point reference	Parameter	Limit (including Reference Period) ¹	Monitoring frequency	Monitoring method
A1	Oxides of Nitrogen	²	annual	As agreed in writing with the Agency
A2	Oxides of Nitrogen	²	annual	As agreed in writing with the Agency

As part of the Application the Operator has stated that maintenance of the boilers is carried out on an annual basis. Whilst this is likely to be in line with the suppliers requirements

improvement condition 17 has been included requiring the Operator to investigate the feasibility of more frequent monitoring and maintenance. The reasoning behind this is to ensure operational and combustion efficiency of the boilers at all times.

Emission point A3 in the permit is the Aeration tank at the effluent treatment plant. Results of the emissions monitoring carried out by Enviro show levels of VOCs from the vent of 43 mg/m³. Thus the emission point is included in table 2.2.1 and there is an improvement condition associated with it. Improvement condition 20 requires the Operator to detail how the VOCs from the aeration tank will be monitored to assess any potential off site odour impacts.

Comment [j1]: Are these ELVs BAT?

C2.2 Permit Conditions 2.2.2.3 - 2.2.2.6 - Emissions to water (other than sewer)

The main impact on the water environment is from the effluent treatment plant, which treats all the site's foul water before discharging to the River Erch. After consideration of the nature of the effluent, the Agency instigated a monitoring programme to identify the concentrations of key constituents both in the discharge and in the river upstream and downstream of the discharge.

These were BOD, ammonia, total suspended solids, orthophosphate and pH. Aluminium and chloride were also modelled, as the Operator is dosing with polyaluminium chloride. Iron was identified by chemical analysis in the final effluent and consequently came under the Dangerous Substances policy. Originally this was monitored for as the operator was dosing with an iron-based flocculent. After changing to polyaluminium hydroxide, iron was still monitored for and found in the effluent. The operator claimed that this was as a direct result of them abstracting iron rich borehole water, rather than adding iron as part of the process. This will require an objective assessment and is included in the Improvement Plan (Ref 19)

Proposed Limits

Substance	Limit	Substance	Limit
BOD	20 mg/l	Aluminium	2.5 mg/l
Ammonia	6 mg/l	Iron	DS policy – desc conditions
Total Suspended Solids	30 mg/l	Chloride	520 mg/l
Ortho-phosphate	1.5 mg/l		

BOD	BAT guidance is for 10 – 20 mg/l. Original indicative limit provided was 20 mg/l.
Ammonia	No BAT guidance available however the plant has in theory been designed to achieve BAT and was designed to achieve 6 mg/l. This was agreed as the limit during initial pre-application modelling.
Orthophosphate	Based on 10% deterioration in the receiving watercourse, the limit would be 0.8 mg/l. Agency 'No Deterioration' policy does permit further deterioration if appropriate. 15% deterioration would give a limit of 1.48 mg/l. The original Indicative limit given was 1.5 mg/l and this is deemed BAT.
Aluminium	Modelled on 'No Deterioration' policy. No deterioration in the mean was unachievable but 0% deterioration in the 90%ile gave a limit of 2.45 mg/l.

Chloride	The limit of 2.5 mg/l is also twice the current 95%ile and therefore this is deemed to be BAT Modelled on the 'No Deterioration' policy. No Deterioration gave a limit of 19mg/l, however this is not currently achievable. 10% deterioration gave a limit of 527 mg/l that is permissible under policy therefore deemed to be BAT, and would not risk the EQS. The current 95%ile is 330 mg/l so compliance should not be an issue.
Iron	Although iron is present in the discharge, under the Dangerous Substances policy there is no risk of significant deterioration or a risk to the EQS. Consequently descriptive conditions are put in the permit.

Other conditions

pH 6 – 9	This is standard default conditions for discharges to freshwater. Normally it is only put on for discharges to fisheries stretches, which the Erch is not officially. However there are salmonid species in the river, and there is pH correction in the treatment plant. Consequently it is felt necessary to monitor for this. This is deemed to be BAT
Temperature	This is a standard condition imposed on discharges from establishments such as creameries where there could be concerns about the impact of effluent upon aquatic ecosystems, where the effluent is not of ambient temperature. This is deemed to be BAT
Dissolved Oxygen	Indicative BAT guidance is that this should be monitored for continuously. Requested daily maximum, minimum and average concentrations.

Flow Monitoring

Included as an improvement condition (Ref 01), and is required in order to provide baseline data for decisions on future monitoring

C2.3 Permit section 2.2.2.7 - 2.2.2.10 - Emissions to sewer

There are no emissions to sewer from the permitted installation.

C2.4 Permit section 2.2.3 - Emissions to groundwater

There are no emissions to groundwater from the permitted installation.

C2.5 Permit section 2.2.6 - Odour

On consideration of the Application [and further information provided by the Applicant] [and from its previous knowledge of the operation of the installation], the Agency considers that the activities carried out at the installation have the potential to cause odour, but that such odour is not likely to cause annoyance. Agency therefore considers that the standard Condition 2.2.6.1 is appropriate.

Comment [j2]: Why add improvement condition?

Improvement conditions 15 & 20 have been included in the permit, see section C2. 1 of the decision document for an explanation.

C2.6 Permit section 2.2.7 - Emissions to land

There are no emissions to land from the permitted installation.

C2.7 Permit section 2.9 - Noise (and vibration)

Noise is defined as an emission within the Regulations and therefore BAT should be used to prevent or reduce noise and vibration.

On consideration of the Application and further information provided by the Applicant and from previous knowledge of the operation of the installation, the Agency considers that the activities to be carried out have the potential to cause intermittent noise at the installation boundary, but is unlikely to cause annoyance. This noise can be controlled through changes in working practices and improvement conditions within the permit.

The Agency received comments from the Local Authority and Planning Authority on assessing noise impacts from the Installation on the surrounding areas, using appropriate methods. The comments made have since been addressed with Schedule 4 Notices.

A noise study has been carried out by a consultant on behalf of the Applicant to establish noise levels at appropriate, sensitive locations in the residential areas around the Installation. Noise data was obtained from significant sources at the installation, as well as background levels during the day and night. The details provided by the Applicant indicated that the noise at the nearest receptors during the day and night exceed the indicative H3 IPPC BAT requirements. The report highlighted no recommendations for improvements, but stated improvements that have been made in the past. It is intended that these improvements made (as part of the installation noise management strategy) are adhered to and maintained as a minimum.

Noise from transport on roads beyond the installation boundary cannot be considered as part of this permit.

The Practical Guide considers that the measures that an Operator should take should be broadly similar to those expected when applying BPM (best practicable means) to prevent statutory nuisance (as defined in Part III of the Environmental Protection Act 1990). Few noise related complaints were received in the past.

A noise management plan is to be carried out as an improvement condition to identify any further improvements that may be required to achieve indicative BAT standards. (Improvement Plan Ref 10).

Vibration

Vibration is not an issue requiring any regulatory action at this installation. There are no vibration causing activities at the installation. Vibration is not considered a significant emission from the installation according to the consultants noise report.

C2.8 Permit section 2.13 - Transfer to effluent treatment plant

The transfers to the effluent treatment plant are not controlled under the permit. The discharge from the effluent treatment plant is controlled under section 2.2.2 of the permit.

C3. Other BAT considerations – (where not covered in general section above)

C3.1 Permit section 2.4 - Efficient use of raw materials

The Agency has assessed the proposals set out in the Application section 2.2, and that they are BAT and the standard Conditions 2.4.1.1-3 are sufficient and appropriate.

C3.2 Permit section 2.5 - Waste storage and handling

The Agency considers that the Applicant has BAT measures in place for the storage and handling of waste to prevent releases during normal operations and to minimise the potential for accidental releases. The standard Permit Conditions 2.5.1 is considered to be appropriate and sufficient for the Permit to be issued.

C3.3 Permit section 2.6 - Waste recovery or disposal

The Agency has considered the proposals in the Application for the avoidance of waste production and in respect of such waste as is produced, its potential recovery. (See section 2.6 of the Application and response to questions 32 of the second schedule 4). The Agency is satisfied that the proposals show that waste production will be avoided as far as possible, and where produced will be recovered insofar as that is technically and economically possible. The Agency is further satisfied that the proposals show that the installation will be operated in such a way that waste which is unable to be recovered can be disposed of so as to avoid or reduce impact on the environment. Standard Conditions 2.6.1 – 2.6.3 are considered to be appropriate and sufficient for the Permit to be issued.

C3.4 Permit section 2.7 - Energy efficiency

The Agency has considered the information in the Application in respect of energy efficiency, including that for the Applicant's energy management system. (See Section 2.7 of the Application and responses to Question 10 of the first schedule 4, Questions 33, 34, 35 and 36 of second schedule 4, and Questions 5 and 23 of third schedule 4).

The Agency considers that it is appropriate to include requirements in Improvement Condition 17 in addition to the Standard Conditions 2.7.1-2.7.3.

The Agency has noted that this installation is subject to a Climate Change Agreement.

In respect of Condition 2.7.1, the Operator is required to report energy consumed at the installation on an annual basis, as required by condition 4.1.2. (Table S3, form E1).

Improvement condition 17 has been included in the permit in order to ensure compliance with BAT, see section C2. 1 of the decision document for an explanation.

C3.5 Permit section 2.8 - Accident prevention and control

The Agency has considered the accident management plan submitted under Section 2.8 of the Application and considers that in addition to the standard requirements of Condition 2.8.1, in order to achieve BAT, the Applicant should be required to make improvements to bunding of the milk and whey silos by producing a detailed design of containment and splash system described in section 2.8 and installing it. Also design and install an alarm system to detect

when high strength liquid is being diverted to the holding tank, and design and install barriers to prevent accidental damage to the silos. by an Improvement Condition (see Condition 5).

C4. Other legal requirements relevant to the determination of the Application and to the setting of ELVs and other conditions of the Permit

C4.1 Waste Management Licensing Regulations 1994

Not relevant.

C4.2 The Conservation (Natural Habitats etc) Regulations 1994

The continued use of BAT by the Applicant in operating the installation will meet the requirements of these Regulations

The Countryside Council for Wales was consulted because of the proximity of the Pen Llyn a'r Sarnau SAC, using an Appendix 11 . CCW's response to our record of assessment of likely significant effect on the European Site (Pen Llyn a'r Sarnau SAC) indicated that they had no concerns about significant impacts on the features of the SAC.

C4.3 CROW

The continued use of BAT by the Applicant in operating the installation will meet the requirements of these Regulations

C4.4 Dangerous Substances Directive

The following provisions have been included in the Permit to take account of requirements of this Directive:

2.2.2 Fortnightly monitoring of Iron, both at the discharge point and at the borehole abstraction, to be reviewed after six months. Iron is the only parameter defined under this Directive involved in this process. This monitoring is required in order to establish whether the presence of Iron in the discharge is due only to its presence in the groundwater abstracted via the installation's borehole.

C4.5 Solvent Emissions Directive

The continued use of BAT by the Applicant in operating the installation will meet the requirements of these Regulations

C4.6 Groundwater Regulations 1998

The continued use of BAT by the Applicant in operating the installation will meet the requirements of these Regulations

C4.7 Environment Act 1995 – Section 4 (Pursuit of Sustainable Development)

The continued use of BAT by the Applicant in operating the installation will meet the requirements of this Act

C4.8 Environment Act 1995 – Section 7 (Pursuit of Conservation Objectives)

The continued use of BAT by the Applicant in operating the installation will meet the requirements of this Act

C4.9 Human Rights Act 1998

From consideration of the application and consultations with the Local Health Board and with Food Standards Agency, the Agency has concluded that emissions from the installation do not pose a risk to human health (Article 2). The determination process has been carried out in accordance with the consultation requirements of the Regulations and all representations have been taken into account in determining the conditions (Article 6). The Agency also considers that the operation of the installation in accordance with the conditions will not compromise the respect of private and family life or the peaceful enjoyment of possessions of any person, the Local Authority has reported no complaints of noise or nuisance (Article 8 and Article 1 of First Protocol).

The continued use of BAT by the Applicant in operating the installation, and implementation of the improvement plan will meet the requirements of these Regulations

C4.10 Relevant Secretary of State Directions

There are no Secretary of State Directions made under the Pollution Prevention and Control (England and Wales) Regulations 2000, as amended, which are relevant to the determination of this application.

C4.11 Urban Wastewater Treatment Directive 1996

The requirements of the Directive have been considered when setting the emission limits from the effluent treatment plant. The discharge falls under the Directive as the effluent loading to the effluent treatment plant equates to an industrial discharge of > 4000 population equivalent to surface water. The treatment proposed is considered 'appropriate' under the Directive.

C5 Other conditions included in the Permit

C5.1 Permit section 1.4 - The Improvement Programme

The Improvement Conditions described below have been imposed on the Operator for the reasons given in the table below

Ref	Requirement	Due date	Justification
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1	The Operator shall submit details of proposed continuous temperature, pH, flow , rate and dissolved oxygen equipment is to be installed on emission point W1 for agreement with Agency. Details of the monitoring and sampling methodologies shall also be provided. The Operator shall install the equipment agreed as a result of the above submission to emission point W1.	30th June 2004 31st August 2004	See Section C2.2. of this document
2	The Operator shall assess ways to provide more effective management of the effluent treatment plant ensuring 24 hour control, compliance and that adequate expertise is available at all times. The scope for this assessment shall be agreed in writing with the Agency prior to being initiated. A report shall be produced detailing all the improvements identified with appropriate timescales. A copy of the findings shall be forwarded to the Agency.	30th June 2004 31st August 2004	Currently the ETP is manned for 8 hours per day, though the installation is operated for 24 hours per day. Results of the analysis of effluent quality indicate that the parameters measured fluctuate significantly, indicating that the performance of the ETP could be better managed.
3	The Operator shall produce and issue an Environmental Policy to all appropriate staff, as specified in section 2.1.2 of the Application.	31 st July 2004	In the application, the operator stated that this would occur at an early stage in the application process. This is linked to the need for an EMS See ref 22 below
4	The Operator shall produce a procedure for assessing milk wastage for all parts of the installation and to identify any possible improvements, as specified in section 2.2.2.1 of the Application. The effect on the influent to the effluent treatment plant shall also be assessed. A copy of the procedure shall be forwarded to the Agency.	31 st July 2004	This is required in order to conform with BAT.
5	The Operator shall install suitable bunding around the milk silos, whey silo and associated splash control system. Splash guards, crash barriers and a diversion system shall also be installed as deemed necessary (as specified in section 2.3.20 of the Application).	31 st August 2004	This is required in order to conform with BAT See Permit Condition 2.8 & Section C3.5 of this document
6	A suitable bund shall be installed around the oil storage tank, as specified in section 2.3.20 of the Application	31 st August 2004	This is required in order to conform with BAT
7	The Operator shall produce a maintenance schedule and appropriate recording system for all plant and equipment within the installation, as specified in section 2.1.3 of the Application. Details of the schedule shall be provided to the Agency for agreement.	31 st August 2004	See Section B8.2 of this document
8	The Operator shall prepare a scheme for monitoring and measuring performance at the installation, as specified in section 2.1.4 of the Application. Details of the scheme shall be provided to the Agency for agreement.	31 st August 2004	This is required in order to conform with BAT
9	The Works Instruction for reporting and recording accidents shall be updated by the Operator to include environmental issues, as specified in section 2.1.6 of the Application.	31 st August 2004	This is required in order to conform with BAT

10	The Operator shall write and implement a Noise Management Plan to assess all of the fixed and mobile noise sources listed in the Enviro Noise Assessment report dated September 2003 and how their potential to cause noise will be reduced. A copy of the plan shall be provided to the Agency for agreement prior to implementation.	30 th September 2004	This is required in order to conform with BAT, and is a response to comments from Statutory consultees See Permit Condition 2.9. & Section C2.7. of this document
11	The Operator shall carry out an assessment of the monitoring points on the boiler stacks to ensure compliance with the relevant standards as set out in Agency guidance M1 (Sampling Requirements for monitoring stack emissions to air from industrial installations). A report shall be forwarded to the Agency detailing whether or not the relevant standard is currently being complied with. Timescales for the installation of appropriate sample points shall be included as necessary.	30 th September 2004	See Permit Condition 2.2.1 & 2.2.1.3 & Section C2.1 of this document
12	The Operator shall implement environmental awareness training to all staff, as specified in section 2.1.5 of the Application.	30 th September 2004	See Permit Condition 2.3 & Section B8 of this document
13	The Operator shall carry out a study into whether tertiary treatment at the effluent treatment plant is BAT. A copy of the study shall be submitted to the Agency including timescales for its installation (if appropriate).	30 th September 2004	This is required in order to conform with BAT
14	The Operator shall review the impact of the discharge from the effluent treatment plant on the Afon Erch. A copy of the findings shall be forwarded to the Agency.	30 th September 2004	This is required to provide a baseline of environmental impact on the river. It will assist in assessing future changes due to improvements at the installation.
15	The Operator shall number and colour code the drains on site to easily identify whether they are surface water only or go to the effluent treatment plant. (as specified in section 2.3.20 of the Application).	30 th September 2004	This is required in order to conform with BAT
16	A review of the cleaning procedures in the milk reception area shall be carried out by the Operator. The review shall consider improvements required to minimise odours from the area as specified in response to question 17 of the second schedule 4 response. A report shall be forwarded to the Agency detailing any improvements highlighted with timescales for their implementation.	30 th September 2004	This is required in order to conform with BAT
17	The Operator shall investigate the feasibility of more frequent monitoring and maintenance to ensure operational and combustion efficiency of the boilers. A report shall be submitted to the Agency detailing the findings and including timescales for implementation of any improvements identified.	31 st October 2004	See Section C2.1 of this document
18	Details of the proposed replacement boilers shall be forwarded to the Agency. Information on the emissions from these boilers and environmental impact of the change shall be included within the report. Justification on why these boilers represent BAT and details of commissioning shall also be included. The replacement boilers shall be installed.	31 st October 2004 ??	In the original application the operator included installation of new boilers as an action to be undertaken as part of their proposed improvement plan in the financial year 2004/05. Further information submitted later (letter dated 26/5/04) stated that this timescale should be extended, due to the need to consider further extensions to the process

		31 st Dec 2005	which had arisen since submission of the original application. See Permit condition 2.2.1 & section C2.1 of this document
19	The Operator shall undertake fortnightly monitoring of the borehole water for iron (dissolved and total) for the first six months following the issuing of this permit. The analysis shall be carried out by a suitably accredited lab using analytical methods as specified in the Dairy and Milk Processing guidance, section 2.10.4 and appendix 1. The results shall be submitted to the Agency.	30 th November 2004	See Permit condition 2.2.2 & section C2.2 of this document
20	The Operator shall provide a report detailing how the VOCs from the aeration tank will be monitored to assess the possible odour impact of the releases from this tank.	30 th November 2004	See Permit condition 2.2.1 & 2.2.6 & section C2.1 of this document
21	For the first six months following the issue of this permit the Operator shall carry out daily monitoring of the discharge from emission point W1. The determinands to be analysed for shall include BOD, ammonia, ortho phosphate, total phosphorus, total aluminium, chloride. The analysis shall be carried out by a suitably accredited lab using analytical methods as specified in the Dairy and Milk Processing guidance, section 2.10.4 and appendix 1. The results shall be submitted to the Agency monthly. Details of the lab and analytical methods used shall be included. Subject to the results of this investigation, appropriate monitoring frequencies will be set by the Agency.	30 th November 2004	This information will provide a basis for deciding monitoring frequency at W1 in the long term
22	The Operator shall implement an independently audited environmental management system equivalent to ISO14001.	30 th June 2005	This is required for Permit Condition 1.3, see section B7 of this document

C5.2 Permit section 1.6 - Pre-operational conditions

The Agency considers that the circumstances do not require the imposition of any pre-operational Conditions.

This is an existing installation.

C5.3 Permit section 1.7 - Off-site Conditions (including Off-site monitoring)

The Agency considers that it is not necessary to impose any off-site Conditions. Noise and odour were considered as possible factors for off-site monitoring, however the information provided in the application, and the response received from consultees, confirmed that these factors were not significant outside the site boundary.

As part of the Improvement Plan (Ref...) the operator is required to assess the quality of the river downstream of the installation, and some monitoring may be entailed in this activity.

C5.4 Permit section 2.10 - On-site monitoring

The Agency has decided that emissions monitoring should be carried out for the parameters listed in Tables 2.2.2 and 2.2.5, using the methods and to the frequencies it has specified in those Tables. (See Condition 2.10.1.) These monitoring requirements have been imposed in order to ensure the installation is operating in line with the permit and that any breach of the emission limits are adequately detected.

C5.5 Permit section 3. - Records

The Agency considers that the standard condition requirements are appropriate and sufficient for the Permit.

C5.6 Permit section 4. - Reporting

The Agency considers that the standard condition requirements are appropriate and sufficient for the Permit.

C5.7 Permit section 5. - Notifications

The Agency considers that the standard condition requirements are appropriate and sufficient for the Permit.

C6. Other principal considerations taken into account in the determination process

This installation has been considered to be an existing installation and conditions set accordingly. The installation is operating in accordance with BAT, when improvement conditions with appropriate timescales are included.

APPENDIX – Consultee responses

Summary of consultation responses received and the way in which they have been taken in to account in the determination process:

DATE	CONSULTEE	Comments in response to:	DETAILS	ACTION
19/11/02 (Received on 20/11/02)	FSA [Dr Giles Gaskell, Branch 2, Chemical Contaminants and Animal Feeds Division]	Application	Would like to be kept informed of any proposals for the introduction of gas fired boilers at the site Indicated that, provided the operator follows BAT guidance, there are unlikely to be any unacceptable effects on the human food chain.	Noted – there are no plans to supply the area with Natural gas in the foreseeable future
4/11/02 (Received on 11/11/02)	Welsh Assembly Government [Peter Samuel, Regional Planning Adviser]	Application	Numerous typing errors, most important of which is a missing word on Page 25 – section 2.3.19 Request for a plan showing site details including contours Request for further details on plan in Chapter 10 to include N arrow and direction of flow on all pipework and location of ETP No section 2.3.12, even though it is referred to in the application Data supplied by boiler manufacturer based on the use of heavy oil – not relevant since they plan to use light oil in future Page 26 – miscalculation in total volume of all storage silos Page 31 – dates for which energy consumption figures are given appear to be wrong Page 33 – it is possible for incompatible chemicals to mix due to major accident of vandalism – needs addressing	Query in Schedule 4 (3) Query in Schedule 4 (1) Done Query in Schedule 4 (1) Done Query in Schedule 4 (3) Query in Schedule 4 (3) asked to clarify Query in Schedule 4 (2) Done Query in Schedule 4 (1) Done Query in Schedule 4 (2) Inadequate response Query in Schedule 4 (3)

			Page 33 – reference to section 2.3.14 is not correct Effluent monitoring by the operator at SCC's labs need to be supplemented by independent la Page 41 – need predicted values for local ground-level concentrations of SOx & Nox from the 25m stacks Page 41 – need clarification on whether there could be an impact on the river in terms of the quality of drinking water for livestock Application refers to a zoning plan, and location of sampling points, which is not present Soil sampling depths not given Interpretation of heavy metals concentrations in the soil is queried Need for guidance on max NaCl concs, and rates applied of land-spread wastes	Query in Schedule 4 (3) This is accomplished by EA monitoring and will continue post permitting Query in Schedule 4 (2) Done Query in Schedule 4 (3) – ref H1 Query in Schedule 4 (1) Done Query in Schedule 4 (1) Done Query in Schedule 4 (1) Done ????
6/11/02 (Received on 7/11/02)	Cyngor Gwynedd – Housing & Public Protection Department (Euron Thomas)	Application	Section 18, Vol 2 – Noise survey – carried out under the requirements of the Noise at Work Regs – H&S at Work etc. Act 1074. Therefore it only takes into account the effect on SCC employees, and does not consider the impact on the surrounding area. Therefore it is not adequate for inclusion within the PPC application	Query in Schedule 4 (1) Partly addressed Query in Schedule 4 (3)
27/11/02 (Received on 28/11/02)	North Wales Health Authority (Dr R Roberts, Consultant in Public Health Medicine)	Application	An assessment of chimney height in accordance with Tech guidance Note D1 should be undertaken Environmental monitoring should be carried out outside the plant to determine the levels of pollution from the boiler plant A full noise survey of the external	Query in Schedule 4 (2) Done Query in Schedule 4 (2) Done Query in

			noise sources from the site should be carried out , including the levels at the nearest noise sensitive dwellings The operator should demonstrate BAT for noise control techniques	Schedule 4 (1) Partly addressed Query in Schedule 4 (3) Query in Schedule 4 (3)
11/3/03 (Received on 13/11/03)	North Wales Health Authority (Dr R Roberts, Consultant in Public Health Medicine)	Sch4(1)	The questions regarding noise nuisance to adjacent properties appear to have been addressed satisfactorily. Comments on chimney height and boiler emissions do not appear to have been included in Sch4(1) and have not been addressed by the applicant	Query in Schedule 4 (2) Done
19/3/03 (Received on 20/3/03)	FSA [Dr Giles Gaskell, Branch 2, Chemical Contaminants and Animal Feeds Division]	Sch4(1)	Confirmed that the additional information does not alter their original assessment that the operation is unlikely to have any unacceptable effects on the human food chain	
24/3/03 (Received on 25/3/03)	Welsh Assembly Government [Peter Samuel, Regional Planning Adviser]	Sch4(1)	Found that the majority of points which they raised in Nov 2002 concerning the original application are now answered	
16/4/03 (Received , by fax on 16/4/03)	Cyngor Gwynedd – Housing & Public Protection Department (Euron Thomas)	Sch4(1)	Recommended that we seek additional and relevant information from the operator so that true consideration of the noise from the installation can be made (Ref. IPPC Horizontal Guidance Note Part 1)	Query in Schedule 4 (3)
14/10/03 (Received on 15/10/03)	FSA [Dr Giles Gaskell, Branch 2, Chemical Contaminants and Animal Feeds Division]	Sch4(2) – not including ENVIROS report	Reiterated that they would like to be kept informed about any proposals on the conversion from oil-fired to gas-fired boilers. Also would be interested in obtaining tabulated details of significant emissions of substances to air from the installation as requested in item 40 of Sch4(2)	Addressed in the ENVIROS report

15/10/03 (Received on 16/10/03)	Welsh Assembly Government [Peter Samuel, Regional Planning Adviser]	Sch4(2) – not including ENVIROS report	In Table 1 “accidents & their cosequences” there is a suggestion that some of the pipework in the dairy is not connected to foul. Could a major spillage in the dairy find its way to surface waters? Fuel oil tank should be bunded adequately to prevent contamination of surface and ground waters following any spillage	Query in Schedule 4 (3) To be included in improvement plan
22/12/03 (Received on 23/12/03)	Gwynedd Local Health Board [Mrs Grace Lewis-parry, Chief Executive]	Sch4(2) – not including ENVIROS report	Details of chimney height in accordance with Technical Note D1 not provided The sampling points for particulates, Sox & Nox do not comply with BS6069, thus cannot be considered BAT. This should be included in any improvement programme The operator proposes to monitor for particulates rather than PM10. It is more relevant from a public health perspective that PM10 is monitored	To be addressed in the ENVIROS report Query in Schedule 4 (3) Inclusion in improvement plan Inclusion in improvement plan
15/1/04 (Received 19/1/04)	Welsh Assembly Government [Peter Samuel, Regional Planning Adviser]	ENVIROS Report	Request for information on the route of foul drainage waters not responded to. Ground level dispersion maps not clear – lack of labelling etc. Request for maps showing annual means for ground level concs. of Sox and NOx	Query in Schedule 4 (3) Query in Schedule 4 (3) Modelling has been assessed by the EA and found to be adequate. It was not considered necessary to ask for revised copies of these plans.