

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") **8th March 2005-
Haverfordwest Cheese**

Permit number (the "Permit") **BV7788ID**

Applicant (the "Applicant") **Haverfordwest Cheese Ltd.**

Address/location of installation (the "Installation")]
**Haverfordwest Cheese Ltd.
Pembroke Road
Merlins Bridge
Haverfordwest
Pembrokeshire
SA61 1JN**

Name of Authorising Officer **Rebecca Holland**

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.

Summary of the decision

A Permit for the Operator to operate the Installation has been granted by the Agency, subject to the conditions set out in the Permit. The Agency considers that in its decision to issue the Permit and in the conditions imposed, it has taken into account all relevant considerations and legal requirements and that the permit will ensure that all appropriate measures will be taken against pollution and that no significant pollution will be caused.

Description of the Permitted Installation

A non-technical description of the Permitted Installation is given in the Application, but the main features of the Permitted Installation are as follows. The installation is located at Merlins Bridge, at the southernmost limits of the town of Haverfordwest in Wales. The Installation covers approximately six acres and employs about 80 people. The installation comprises one main building with several smaller ones. The key operations regulated by IPPC are the processing of milk to produce chesses and whey.

The main activities of cheese production include: receipt and storage of milk, which is then pasteurised; producing curds and whey by adding bacteria and rennet which coagulates the milk. The curds are then separated, cooked, compressed and cut to form cheese chips. These are then salted, compressed to form large blocks of cheese under vacuum and then cut into 20kg blocks. The cheese is then packed, stored and dispatched.

The separated whey is used to produce skimmed whey and whey cream. The Whey cream is further treated by pasteurisation, and ageing. There is some packing of butter and pasteurisation of skimmed whey. This can be concentrated to 32 to 35% suspended solids by evaporation.

The plant is capable of producing per year approx:

22,273 tonnes hard pressed cheese

1490 tonnes whey cream butter

65 tonnes sweet cream butter

35,726 tonnes concentrated whey

Some refrigeration activity is carried out within the installation to preserve food materials, for this purpose R22 is used. The site also uses ammonia as a water coolant.

Foul water from the installation includes all production effluent, dirty water, domestic wastewaters and detergents from cleaning activities and surface water discharged at milk intake and whey distribution areas. Storm wastewater contains surface waters from areas of the site where milk and whey are not transferred between vehicles and storage. The stormwater contains blow down from the site's compressors and vacuum pump room. Foul water, process condensate effluent and contaminated surface water are discharged via a dedicated effluent treatment plant operated by United Utilities Industries Ltd (UUI). The effluent is treated at UUI ETP and then sent on to Welsh Water's Merlins Bridge STW for further treatment prior to release to Merlins Brook. There is one emission point of uncontaminated surface water run-off to Merlins Brook and one soakaway for uncontaminated water from two land drains.

There are three boilers on site with a combined capacity of 24MW. These are the three point sources of air emissions identified within the application.

The nearest human receptors are a shop, post office and a few houses within 50 m to the west of the site and the site is bordered on one side by the railway with open spaces on the other two sides.

There are several designated sites within the vicinity of the installation:

- Daugleddau SSSI 1081m (by radial search)
- Afonydd Cleddau/ Ceddau Rivers SAC 1118 m (by radial search)
- Pembrokeshire Marine/ Sir Benfro Forol SAC 1254m (by radial search)
- Gas works land section SSSI 1268m (by radial search)
- Hook Wood SSSI 3527m (by radial search)
- Pembrokeshire Bat Sites and Bosherton Lakes SAC 8252m (by radial search)

The site participates in a climate change agreement for the dairy sector (ref: PP3.02). The site operates an Environmental Management System that is externally certified to ISO 14001 by the accreditation organisation LRQA (Certificate number: LRQ 0772775). There is one abstraction borehole located on the site but it is not used by the Operator.

PART A – THE OPERATOR AND THE DECISION MAKING PROCESS

The Agency's determination procedure

A1 "Duly made" check on Application received

The Application was not duly made as submitted on 1st march 2005 for the following reasons:

1. Annual mass emissions to air and sewer differ between the application form and the EPOPRA
2. Reference needs to be made to on how aqueous effluent is attenuated before final discharge.
3. Question B2.7 needs to contain energy breakdown figures
4. Copies are needed of the following documents: ISO 14001 certificate, any trade effluent consents or agreements relating to aqueous discharges.
5. Table D2 is missing from the Application Site Report

Upon receipt of requested information the Application was determined to be duly made on 8th March 2005.

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 April 2005 and 4th April 2005 in the Western Telegraph, and 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:

- Pembrokeshire Local Health Board;
- Pembrokeshire County Council
- Food Standards Agency;
- Countryside Council for Wales;
- Welsh water, Dwr Cymru;
- Secretary of State for Wales.

A3 Consideration of consultation responses

Responses were received from the following statutory and non-statutory consultees:

- Pembrokeshire Local health Board indicated that they would respond but no response has been entered on file.
- Pembrokeshire County Council indicated that they would respond but no response has been entered on file.
- Food Standards Agency

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 Applicant 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. Further information was requested from the Applicant by notice/letter as follows:

1. The chemical behaviour and environmental fate for several key potential polluting substances were not included in the application. This information was requested for the following substances identified in appendix D1 of the Application Site Report: Dairybrite / blend D, Diverted product or CIP chemicals, Sodium Hypo chloride, HD141, Oxidising agents (hydrogen peroxide), Glide, Acifoam Renate, Aquatreat319 and Aquatreat 320.
2. Provision of a revised site boundary map to include the pipe from the site to the STW.

Responses were received from the Applicant on 25 August 2005 and 12 September 2005. These were placed on the public register, and have been taken into consideration by the Agency in making its determination.

The operator provided a list of key polluting substances, which has been used in the assessment. The operator also provided the revised installation boundary plan as has been used as the site plan in Schedule 5 of the Permit.

A6 Regulation 10(3) (operator competence)

The Agency is satisfied that 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 site has provided a well-presented application showing evidence of high standards of management and control in particular the operation of an independently audited EMS to ISO 14001. The other responses given in section B2.3 reinforce this view.

A7 Regulation 10(4) (requirements for SWMAs)

The Operator has replied to application question [B7.1] stating that the installation does not contain an SWMA and the Agency agrees with this assessment.

A8 EPOPRA profile

The Agency is satisfied that the EPOPRA profile submitted with the Application remains accurate following the determination of the Application, and it will 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 EPOPRA Scheme however, the Operator's EPOPRA 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 Agency has determined that the Installation comprises the following activities listed in Part 1 of Schedule 1 to the PPC Regulations and the following directly associated activities.

- Section 6.8 A(1)(e) - "Treating and processing milk, the quantity of milk received being more than 200 tonnes per day (average value on an annual basis)".

Directly associated activities:

- Waste storage and handling
- Steam generation
- Refrigeration
- Surface water discharge

The activities comprise a single installation because they comprise the necessary steps involved in the production of dairy products.

B2 Permit Section 1.2 - Site plan

The Operator has provided a plan which the Agency considers is satisfactory for showing the site of the Installation and its extent. A plan is included in the Permit at Schedule 5, and the Operator is required to carry on the Permitted activities within the site boundary.

B3 Permit section 1.5 - Minor operational changes; (Changes allowed within the scope of this Permit)

The Permit constrains the Operator to operate the activities 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.

B4 Site Report and Protection of the site,

The Applicant has provided a Site Report as required by paragraph 1 of Part 1 of Schedule 4 to the Regulations, the main elements of which are: The installation is underlain by a sequence anticipated to comprise Blacktop, sub-base, Made ground A, Made ground B, Weathered Shale and at least 20 meters of densely fissured Shale (Haverford Beds).

There are shops and a few houses within 50 metres of the western boundary of the site, a railway line runs along the southern boundary and the installation has open spaces on the other two sides.

The nearest surface water course is Merlin's Brook which runs east to west 25 metres north of the northern boundary. The site lies just outside the Brook's fluvial flood plane. The water quality of the Brook is classified by the Agency as being 'fairly good'. Merlin's Brook flows into the Afonydd Cleddau (an SAC), which is the nearest river to the site and lies approximately 1118 metres east of the main operating facility.

Buildings and hardstanding cover the majority of the site and these are reported to be largely in good condition. There are eighty-nine above ground bulk storage vessels on site some of which (notably tanks 2, 3, 4, 13, 14, 15, 22, 23, 24, 25, 26, 27 through to 32) contain large amounts of

high BOD material and appear to have marginal secondary/tertiary containment capability. These vessels appear to have the potential either to discharge to Merlins Brook and ultimately to Western Cleddau SAC or to overload the STW should any accidental release occur. There is some evidence of historical contamination in ground and some indication that current operations may give rise to pollution of the land via leaks from the site drainage system.

The site produces the following wastewaters: Production effluent, dirty water and detergents from cleaning, effluent associated with occasional accidental releases of chemicals and products, rainwater, domestic and sanitary wastewater. Wastewaters produced on site are classified storm and foul. Storm wastewater includes surface water from areas of the site where milk and whey are not transferred between vehicles and storage. It also includes compressor and vacuum pump blow down. All other sources are regarded as foul water and are sent to a nearby STW operated jointly by Haverfordwest Cheese and United Utilities. Storm wastewaters are discharged to this STW but can be diverted to Merlins Brook in periods of heavy rain. The site drainage system was surveyed in June 2003 and this showed a number of defects to the sites drains. These repairs were due for completion by December 2004. The site drains represent a potential historic source of pollution and due to its age and history of faults it represents an ongoing risk for future pollution.

The Agency considers that this report adequately describes the condition of the site and in particular identifies any substance in, on or under the land that may constitute a pollution risk. A detailed assessment of the Site Report has been carried out using the Agency's standard "ASR Checklist".

The Application indicates that there is a "reasonable possibility" of future pollution of the land in several areas and therefore reference conditions must be established. Collection of reference data is required (Conditions 2.10.10 - 2.10.10.2) and the data must be reported to the Agency within six months from the date of permit issue.

The items identified in the ASR as posing a reasonable possibility of pollution are as follows:

Main manufacturing building and associated storage (Zone A): Failure of containment of stored substances leading to land contamination; and mishandling of substances in process areas causing spillage to land.

Heavy fuel oil tank farm (Zone B): The off loading of heavy fuel oil to tanks; the storage of this oil in transformers and tanks; the transport of heavy fuel oil to boilers; and the transport of contaminated water to transport vehicle.

Location of previous site investigation (Zone D): Historic contamination likely. No current activities taking place here.

All zones: effluent drainage integrity may be compromised due to corrosion, pressure or earth movements.

To ensure the continued effectiveness of pollution prevention measures to protect the land the Operator is required to implement and operate under a Site Protection and Monitoring Programme, (Conditions 2.1.2 and 2.10.9), the design of which must be reported to the Agency within two months from the date of permit issue, Condition 4.1.7. The SPMP should address the following:

1. Leaks from the drainage system trigger a SPMP to establish reference data. In addition there is a requirement to confirm that the necessary repairs have been taken following the drainage system survey. The SPMP should involve a repeat survey to confirm that all repairs have been made and to provide the basis for identifying where future investigations are required.

2. Some previous potential pollution has been reported in the ASR. The extent of this may need to be assessed if it overlaps areas of current operations.
3. Cracks were found in oil stained hardstanding near the bulk oil tank. It is important to establish whether any oil leaks have reached the ground to provide reference data for the installation.
4. The applicant has not provided a complete report of the condition of all hardstanding. This should be further assessed and reported as part of the SPMP.

Several improvement conditions have been included in the Permit to address inadequacies identified in the ASR, as follows:

- Assessment of subsurface structures i.e. the drainage system, and their potential to cause fugitive emissions to surface water and ground water. Provision of an action plan detailing timescales for implementation of any improvements (IC2).
- An audit, followed by provision of an action plan, of all storage areas to address any inadequacies and then instigate a programme of regular testing and inspection of all storage areas. (IC4).
- Carry out repairs to the hardstanding near the bulk oil tank (incorporated in to IC4).
- To address concerns over the adequacy of hardstanding and other containment measures on site: an assessment of the surfacing and containment measures on site. Provision of an action plan detailing the timescale for implementation of any improvements (IC4).
- Implementation of an inspection regime for all tanks, bunds, surfacing (including hardstanding) and subsurface structures (including drainage) (IC4).

B5 Permit Section 2.12 - Multiple Operator installations

This is not a multi-Operator installation.

Management

Management techniques are one of the available techniques for emission prevention and control and are therefore part of the determination of BAT [see also Part C ahead] for the installation. The permit contains standard conditions at 1.3 and 2.3, which are designed to deliver the requirements in most cases.

B6 Permit Section 1.3 - Overarching Management Condition

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. Standard condition 1.3.1 will ensure that the Operator maintains this position.

The Operator's Environmental Management System is externally certified to ISO 14001 by the accreditation organisation LRQA (Certificate number: LRQ 0772775). This is an internationally recognised standard of environmental management.

B7 Permit Section 2.3 - Management

B7.1 Permit Section 2.3.2-4 Staffing and Training

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

supervised. Appropriate written operating instructions are available, and a system is in place for the recording of staff training. Standard conditions 2.3.1 to 2.3.4 will ensure that the operator maintains this position. A management organogram is provided in the Application (FD02). Training is documented under procedure HW/QPCED/QST/05.

B7.2 Permit Section 2.3.5-6 Operation and Maintenance

The information provided in response to Questions in Section 2.3 of the Application indicates that the installation is operated and maintained in compliance with the Conditions in the Permit. Standard conditions 2.3.5 and 2.3.6 will ensure that the operator maintains this position.

The Operator has a formal paper-based maintenance system, which includes maintenance planning, programmed preventative maintenance, breakdown history and recording of all maintenance done. This is documented under procedures HW/WKIN/EMS/01 HW/WKIN/EMS/06 and HW/WKIN/ENG/03. Preventative maintenance is under HW/WKIN/EMS/02.

B7.3 Permit Section 2.3.7-8 Incidents and Complaints

The information provided in response to Questions in Section 2.3 of the Application indicates that there is a suitable incident/complaint logging and response system in place. Standard conditions 2.3.7 and 2.3.8 will ensure that the operator maintains this position. An accident plan is in place, which logs incidents (ref: HW/EMSPCED/EMS/09 Risk Assessments). Consequence mitigation is via procedure HW/STIN/EMS/02. Complaints are reported and investigated via procedures HW/STIN/EMS/01 and HW/STIN/EMS/02.

B7.4 Permit Section 2.3.9 Fit and Proper

This is not applicable to this installation.

PART C: DETERMINATION OF PERMIT CONDITIONS

C1. The legal requirements relating to permit conditions.

Regulation 11 of the PPC Regulations requires that certain general principles are taken into account in the determination of permit conditions for PPC installations. These include that installations should be operated so as to ensure that (a) all appropriate preventative measures are taken against pollution, in particular through the application of BAT, and (b) no significant pollution is caused. Additional general principles include pursuance of the waste strategy objectives of the Waste Framework Directive, using energy efficiently, preventing accidents and returning sites to a satisfactory state on definitive cessation.

Regulation 12 requires the permit to include such conditions as the regulator considers appropriate to comply with a range of requirements including the following:

- ensuring a high level of protection of the environment;
- setting emission limit values (ELVs) for pollutants likely to be emitted from the installation in significant quantities, having regard to their nature and potential to transfer pollution from one environmental medium to another;
- that these ELVs shall be based on BAT for the description of installation but shall take account of its technical characteristics, geographical location and the local environmental conditions;
- that the ELVs may, where appropriate, be supplemented or replaced by equivalent parameters or technical measures;
- that, where an EQS requires stricter ELVs, these shall be set;
- that conditions should aim to minimise long distance and transboundary pollution; ensure protection of the soil and groundwater and management of waste generated; relate to periods of abnormal operation, start up, stoppages etc; set steps to be taken prior to and after definitive cessation of operations; and set suitable emission monitoring, reporting and notification requirements.

Regulation 3 contains the definition of BAT and this is supplemented by a number of other considerations set out in Schedule 2.

There are also a number of other regulatory requirements beyond those in the PPC Regulations described above, which may affect the operating conditions that are required to be included in the permit. These are generally dealt with in Part C5 ahead.

C2. The Agency's general approach to the determination / condition setting.

The Agency has produced technical guidance for most sectors subject to PPC. Together with cross-sectoral technical guidance, these include indicative standards that the Agency considers likely to deliver the various requirements set out above, having regard to any corresponding BREF Note. The indicative standards are divided into sections that correspond to each of the relevant requirements described in Section C1 above. The operator's application should include information about how it is proposed to operate the installation so as to meet these indicative standards or justify why other standards should apply instead. The Agency will assess the operator's proposals and if it is satisfied will apply specific as well as standard permit conditions designed to ensure the approved standards of operation of the installation will be maintained.

Where there is no specific technical guidance for the activities that make up the installation there will be other related technical guidance that can be used to identify the technologies and techniques employed and the standards that can be obtained. There is also other technical literature that the Agency may use to support its analysis of the installation.

C3. Conditions relating to point source emissions

The indicative BAT techniques relevant to this installation are set out in Technical Guidance Note TGN, Food and Drink Sector Guidance Note IPPC S6.10, that has been developed having regard to the related BREF Note. The Agency has assessed the operator's BAT proposals as set out in Chapter 4 (B2.2) of the Application and compared them against the indicative standards applying to this sector as described in the TGN. It is considered that the Installation meets BAT requirements for dairy products production.

The Agency has also reviewed the operator's assessment of the environmental impact of emissions from the installation. The assessment shows that, applying the conservative criteria in H1, all emissions may be categorised as environmentally insignificant with the exception of nickel and BOD emissions to sewer. Emissions to air have been assessed based on limited monitoring data supplied by the Operator and the boiler suppliers. Although this data screens as not significant, further investigation is considered to be necessary. In reviewing the discharges to water the Agency has concluded that Direct Toxicity Assessment is not an appropriate method to be utilised for assessing the impacts to water. The Agency accepts the operator's proposals for BAT relating to the environmentally insignificant emissions but has reviewed the proposals relating to emissions identified as priorities for control.

The proposed techniques / emission levels for priorities for control are in line with the benchmark levels contained in the TGN and the Agency therefore considers them to represent BAT for the installation. Only emission levels to sewer as reported under H1 depart from the benchmark levels contained in the TGN. The Agency has considered the operators departure from the guidance and has imposed additional monitoring requirements as explained in detail in the following sections.

It is considered that the ELVs/ equivalent parameters or technical measures described below will ensure that significant pollution of the environment is prevented and a high level of protection for the environment secured. The improvement conditions contained in condition 1.4 of the Permit and the monitoring requirements in Table 2.10.1 secure that the approved position based on BAT and the other requirements of the Regulations for point source emission control described above will be maintained by the operator.

Emissions to air

The site has 3 boilers (Danks, 800, 600), with a combined thermal input of 24MW. They are powered using heavy fuel oil. There is no continuous monitoring of boiler emissions on site, hence no admissible data for short term effects has been supplied by the operator. The data for long term has been applied to represent short term releases. The operator has therefore supplied average concentration data for the fuel type used, i.e. Heavy fuel oil. The Operator collected data from the two different boiler burners manufacturers, Hamworthy and Saacke. Hamworthy provided approx. flue gas flow rates for the boiler types used by the Operator for burning residual fuel oil (medium/ heavy), as follows:

AWO.25 on 25000 PPH boiler (Danks) 5.2 m³/s
AWO.20 on 20000 PPH boiler (800) 4.16 m³/s
Saacke on 18000 PPH boiler (600) 3.75 m³/s

CO concentrations were stated to only be a trace from AWO burners and should not exceed 100mg/m³ at peak.

NOx concentration is estimated to be around 800mg/Nm³ at 3% O₂ from AWO burners and likely to be in that order from Saacke burner (based on fuel nitrogen content of 0.2%wt.)

SOx concentration is totally dependent on the fuel sulphur content – for a fuel sulphur content of 1%wt. SOx is 1700mg/Nm³.

Particulate concentration is estimated to be around 280mg/Nm³.

The data provided by Hamworthy were stated to be approximations based on historical emissions data from their burners.

The data provided by Saacke (assuming the boiler would be run on class G heavy fuel oil), was as follows:

CO 100mg/m³
NOx 700mg/m³ (dependent on % nitrogen in fuel)
SOx 5250mg/m³ (based on 3.2% sulphur in fuel)
Particulates 250mg/m³

The data sets from each supplier compare well with each other.

In addition to this data, the operator has included results of boiler tests carried out by Hanworthy Combustion Engineering Ltd., on 13 July 2005. The conclusions were that the NOx levels were higher than the anticipated levels of 700mg/m³ (within the range 809mg/m³ to 956mg/m³). This was considered to be due to a high level of nitrogen in the fuel. The report states on page 2 that the Operator uses low sulphur heavy fuel oil (<1%wt. Sulphur), and that this would give rise to levels of SOx below 1700mg/m³.

In addition, the Operator has applied a conservative efficiency level for the operation of their boilers, at 33-40%. The release rates data provided by the operator have been calculated in line with the estimated operation times for the boilers, to give the average annual g/s of each substance released. A stack height of 3m was applied based on the actual stack height of 22m, minus the tallest building within 5 stack heights, 20m, multiplied by 1.66, according to H1 guidance.

Air emission data provided in H1 are presented below:

Substance	Long term							Short term			
	EAL, µg/m ³	PC, µg/m ³	Background	PC/EAL, %	% PC of headroom (EAL - Bkgnd)	PEC, µg/m ³	PEC/EAL, %	EAL, µg/m ³	PC, µg/m ³	PC/EAL, %	% PC of headroom (EAL - Bkgnd)
Sulphur dioxide (human receptor)	50	0.701	2.28	1.41	1.47	2.99	5.97	267	18	6.74	6.86
Sulphur dioxide (ecological receptor)	20	0.701	2.28	3.51	3.96	2.99	15		18		
Nitrogen dioxide (human receptor)	40	0.260		0.648				200	6.65	3.33	
Nitrogen dioxide (ecological receptor)	30	0.260		0.864					6.65		
Carbon monoxide	350	0.0413		0.0118				10000	1.06	0.01	
Particulates	40	0.112		0.280				50	2.88	5.75	

The long term PC for sulphur dioxide is greater than 1% of the EAL for both human and ecological receptors. All other parameters and short term levels can be screened as insignificant.

The operator did not supply background levels for atmospheric concentrations of SOx. For this purpose, data has been obtained from the Local Air Quality Management (LAQM) website. Using this data, and with further assessment, the long and short term PEC for sulphur dioxide is below 70% of the EAL and can be screened as not significant.

Further assessment is not required, as acid and N deposition can be assumed to be insignificant given the results detailed above.

Because the operator has used average data for the fuel type, heavy fuel oil, the data is not providing a conservative view of the emission levels. The emissions levels may be higher than

those quoted in H1. The following special sites are within the 2km SSSI and 10km European Sites distance criteria (by radial search):

- Daugleddau SSSI 1081m
- Afonydd Cleddau/ Ceddu Rivers SAC 1118 m
- Pembrokeshire Marine/ Sir Benfro Forol SAC 1254m
- Gas works land section SSSI 1268m
- Hook Wood SSSI 3527m
- Pembrokeshire Bat Sites and Bosherton Lakes SAC 8252m

The Agency considers it necessary, therefore, to assess more closely the air emissions from the heavy fuel oil powered boilers and has included an improvement condition (IC3) for the operator to provide the Agency with written proposals for a programme of monitoring for NOx and particulate releases from emissions points A1, A2 and A3, to be carried out to an appropriate recognised standard. Further, an improvement condition has been included (IC5) for the Operator to undertake an environmental assessment of emissions to air for points A1, A2 and A3, having regard to the Agency Guidance Note IPPC H1 or equivalent standard using the monitoring data obtained in IC3. IC5 then requires the Operator to use this data to consider options to reduce overall emissions to air as necessary and plan out a timetable for improvements.

The Agency considers that limiting the sulphur content in the fuel is an appropriate method of maintaining the AQS as SO₂ is dependant on this figure. A limit of 1% sulphur content in fuel oil has been included in Table 2.2.11 in line with the Sulphur Content of Liquid Fuels (SCOLF) Regulations.

Soot/ smog

Historically, there have been three complaints from local residents about soot and smut in the local vicinity of the site (dated March 2001, July 2001 and August 2002). There have not been any subsequent complaints and it is considered that the operator has dealt with the issues, which it describes to have been mainly due to cold start up.

Emissions to Sewer

Foul water from the installation includes all production effluent, dirty water (from cleaning), domestic wastewaters and detergents from cleaning activities and surface water discharged at milk intake and whey distribution areas. Storm wastewater contains surface waters from areas of the site where milk and whey are not transferred between vehicles and storage. The stormwater contains blow down from the site's compressors and vacuum pump room.

Both foul and storm waters are discharged to an effluent treatment plant operated by United Utilities Industries Limited, via emission points S1 and S2 (Grid ref: SM94931452). The effluent has an average flow rate of 1,156m³/day, and a maximum flow rate of 1,546m³/day.

The data provided within H1 is as follows:

Substance	Long term			Short term		
	EAL, µg/m ³	PC, µg/l	PC/EAL, %	EAL, µg/m ³	PC, µg/l	PC/EAL, %
Ammonia (total)(as N) (Merlins Brook)	31	3.67	11.9	-	3.67	-
BOD5 (Merlins Brook)	3000	549	18.4	-	549	-
Nitrite (as N) (Merlins Brook)	3.00	17.0	566	-	17.0	-
Suspended solids (Merlins Brook)	25000	258	1.04	-	258	-

The data above shows that all the parameters PC long term levels exceed 1% of their respective EALs. Background concentrations were not provided within the application, so the local Area data and monitoring team provided data for a PEC comparison to be made. In addition, the original Application H1 provided by the operator did not include a STW factor. The above data has been generated using a STW factor of 0.6. The table below shows that the long term PEC level for BOD exceeds 70% of the EAL and cannot be screened out. The long term

PEC levels for ammonia and suspended solids is below 70% EAL and can be screened as not having a significant impact.

Substance	Background conc.	Long term			Short term		
	µg/l	PC, µg/l	PEC, µg/l	% PEC of EAL, %	PC, µg/l	PEC, µg/l	% PEC of EAL, %
Ammonia (total)(as N) (Merlins Brook)	2800	3.67	2804	9.044	3.67	-	-
BOD5 (Merlins Brook)	4639	549	5188	173	549	-	-
Nitrite (as N) Merlins Brook)	No data available	17.0	-	-	17.0	-	-
Suspended solids	11579	258	11837	47.4	258	-	-

The effluent released is done so under an agreement with UUI, a copy of which is provided within the Application as an Appendix. Before the Application could be duly made, the Operator was requested and provided details of the UUI plant treatment, which consists of conditioning with ferric chloride and polyelectrolyte, removal of solids by Dissolved Air Flotation (DAF), pH correction, biological treatment and high rate filtration. The final effluent then passes to the UU Operational Services sewage treatment works for further treatment. The settled sludge is drawn off for drying and disposal. The agreement, dated 2004, places limits on a variety of parameters including BOD, COD, suspended solids, flow, sulphate, pH, temperature, ammonia, copper, lead, nickel, zinc and chromium as follows:

Jan-Jul 2004 data	Average	Consent
S1		
Daily COD effluent loading (kg)	1950	4250
Concentration of COD (mg/l)	5720	9350
BOD loading (kg)	-	2800
BOD conc. (mg/l)	-	6200
Daily effluent flow (m ³)	618	1546
Daily suspended solids (kg)	368	711
Suspended solids conc. (mg/l)	1081	900
Ammonia (mg/l)	-	40
Sulphate (mg/l)	119	250
Ammoniacal nitrogen (mg/l)	3.84	
Copper (mg/l)	-	0.4
Lead (mg/l)	0.012	0.4
Nickel (mg/l)	1.027	0.4
Zinc (mg/l)	0.0006	0.4
Chromium (mg/l)	0.009	0.4
S2		
COD (mg/l)	32	-
Daily COD (kg)	10	-
Daily suspended solids (kg)	1	-
Suspended solids (mg/l)	4	-

It is assumed that since the effluent undergoes 2 stages of treatment, namely via United Utilities Industrial Limited's (UUI) St Ivel Effluent Treatment Plant (ETP) and Welsh Water's Merlins Bridge STW, the levels of BOD and Nickel will be reduced down to within acceptable levels prior to release to the environment at Merlins Brook. No ELVs, therefore, have been set although the Permit includes requirements for the operator to provide monitoring data to the Agency. Monitoring has not been required for Nitrite because it is not required to be monitored by the

UUI Agreement and the Agency does not consider this of concern. Not all parameters have been assessed in H1, however, the Agency does not consider it necessary since the effluent is being treated by UUI ETP and Welsh Water's Merlins Bridge STW.

Of the total maximum flow to the UUI ETP 88% is from the installation whilst 12% is tankered in by road from a nearby landfill. The UUI ETP is currently regulated via a Waste Management Licence, and appears to fall under the PPC Regs 2000 Schedule 1 Section 5.3 Part A(1)(c)(i)(ii).

Of the total maximum flow to the Merlins Brook STW, 92% is from the Haverfordwest town sewerage system and 8% is from UUI ETP. The Merlins Brook STW is a UWWTD works regulated via a discharge consent under the Water Resources Act 1991.

Emissions to water

There is one point of discharge at W1 for uncontaminated water to be discharged to Merlins Brook. It is described in section 2.2.22 of the main application and shown on drawings SP 04 and SP05 (GR SM94651454).

Emissions to land

There are two land drains which have been included in the Permit to discharge uncontaminated water to a single soakaway. The soakaway emission point is shown on drawing SP05 in the Application and is referenced as WL1 in the Permit.

BAT assessment of the operations

The Application describes the processes used at the installation to be as follow:

Raw milk: Reception milk from farms is delivered daily to site, offloaded, chilled (if necessary) and stored in insulated silos.

Milk Processing: Milk is pasteurised and standardised (when feasible) and transferred to vats for use in the manufacture of hard pressed cheeses.

Cheese Manufacture: Rennet and bacterial starter organisms are added to milk in vats. Acid is allowed to develop and the milk sets to form curds and whey. The curd is further processed to make the cheese. The whey is separated off and transferred for manufacture of whey butter and powder. The cheese curd has salt added to it and at the end of the process is pressed into blocks of approximately 20kg.

Butter manufacture: The fat remaining in the whey is separated and churned to make butter and formed into blocks of approximately 25kg.

Whey Concentration: The liquid whey is concentrated by removal of water by evaporation.

Whey Powder Plant: Plant is decommissioned with no plans of reinstating and does not have any impact on emissions to air, water or land.

Packing: The cheese blocks are packed in air tight polythene bags and cardboard outers then transferred to stores for maturation. The butter blocks are packed in polythene bags and cardboard outers then transferred to a cold store for sale.

Cleaning: All process plant and filling equipment is cleaned and sterilised at appropriate intervals. Some milk tankers are washed and sterilised internally by the use of automated cleaning systems. Other tankers that are not washed on site are washed daily at the transport depot.

Evaporation is carried out using multiple effect evaporators. Dryers are not used. The multi-effect evaporators used by the installation work by fresh steam to boil off the water. The evaporated water still has sufficient energy to be the heat source for the next effect and so on. Vacuum is applied in a multiple-effect chain in order for the water to boil off. One unit of steam injected in the first evaporator might remove three to six units of water from the liquid. Energy consumption is reduced by this method. The installation holds a CCL Agreement, which should ensure that it works towards reducing its energy consumption. Water use and waste minimisation are discussed in sections C5 and C11 below and the Agency is satisfied that the operations are consistent with BAT.

C4. Conditions relating to fugitive emissions.

Various requirements in regulations 11 and 12 mean that control of fugitive emissions should be secured by permit conditions. The Agency has assessed the operator's proposals for control of fugitive emissions and considers that they will meet the regulatory requirements. Standard conditions 2.2.4 and 2.2.5 will ensure that the operator maintains this position.

The Application states that the site has two potential fugitive emissions, ammonia and R22. There are leak detection and venting of gas and oil systems in place to control fugitive emissions of ammonia (120kg installed in June 2001). Monitoring is in place for R22 emission (304kg consumption in 2004).

R717 Ammonia is non-ozone depleting. Refrigerant Freon R22 is identified in the 'The Categorisation of Volatile Organic Compounds' (1995 HMIP Research Report No DOE/HMIP/RR/95/009) document given in the Food, Drink and Milk Regulatory Package Version 3.3. The substance is an HCFC with an ODP of 0.04 and GWP₁₀₀ value of 1700. The substance is categorised as a 'medium' hazard (options being high, medium or low, with the majority of substances in the low category for reasons including a lack of data). On consideration of this information, the Agency is imposing an Improvement Condition for proposals for the substitution of current refrigerants (IC6).

Fugitive emissions from the storage and handling of potentially polluting substances are discussed in Section B4 of this decision document.

C5. Conditions relating to raw materials and water.

The use of raw materials and water are some of the available techniques for emission prevention and control and are therefore part of the determination of BAT for the installation. In addition "the consumption and nature of raw materials (including water) used in the process" is one of the factors to be considered in determining which of the other available techniques are BAT (see Schedule 2 of the PPC Regulations). The Agency has assessed the proposals set out in the Application in response to question B2.4. They are considered satisfactory and the standard Conditions 2.4.1.1-3 will ensure that the operator maintains this position.

The Haverfordwest site uses the materials listed in the table below:

Material	Annual Consumption	Units
Potable water	247,200	m ³ /year
Caustic	639	tonnes/year
Acids	274	tonnes/year
Sterilants	7.8	tonnes/year
Fuel Oils	5408	tonnes/year
Engineering oil	6.9	tonnes/year
Rennet, calcium chloride	84	tonnes/year
Ammonia	55	tonnes/year
R22	0.3	tonnes/year
Packaging-cardboard	561	tonnes/year
Packaging-plastic	77	tonnes/year

The site identified that the caustic used contains list 1 substances as a contaminant. The caustic contains cadmium and mercury. See further details of this in section C3 of this DD.

In addition to this the operator identifies that they use R22, which is a HCFC and can cause ozone depletion. As the Agency considers it unlikely there are currently no fugitive emissions

from refrigeration equipment, further consideration should be given to substitution of refrigerants. The substance is identified in the 'The Categorisation of Volatile Organic Compounds' (1995 HMIP Research Report No DOE/HMIP/RR/95/009) document given in the Food, Drink and Milk Regulatory Package Version 3.3. The substance is a HCFC with an ODP of 0.04 and GWP₁₀₀ value of 1700. The substance is categorised as a 'medium' hazard (options being high, medium or low, with the majority of substances in the low category for reasons including a lack of data). On consideration of this information, the Agency is imposing an Improvement Condition (IC6) in table 1.4.1 of the permit, for the Operator to provide a justification for the use of the current refrigerants at the Installation, with suggestions for substitution where alternatives with a lower environmental impact exist. A ban will be in place on the use of virgin HCFCs (such as R22) from 2010 and recycled HCFCs by 2015 so alternatives should be considered.

Water use is provided by the Application to be 1.23 litres/ litre of product. This compares well with the benchmark of 1litre/ litre of product. A breakdown of water use per activity is provided in section B2.4.13.

C6. Conditions relating to waste handling and storage.

Waste handling and storage techniques are some of the available techniques for emission prevention and control and are therefore part of determination of BAT for the installation. Regulation 12(9)(b) also requires consideration of appropriate measures for the management of waste generated by the installation. The Agency considers that the Applicant has appropriate 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 Condition 2.5.1 will ensure that the operator maintains this position.

Waste oil is collected and stored in a designated storage tank. Cheese waste and curds are collected and sold to specialist buyers. General waste is collected from around site and stored in a skip. Fluorescent lighting tubes collected and stored in a designated container. Empty chemical containers are collected and stored in a designated area. The operator declares that the waste oil tank is surrounded by a bund that can take 110% of the capacity of the tank.

C7. Conditions relating to Odour

On consideration of the Application and from its previous knowledge of the operation of the installation, the Agency considers that the activities carried out at the installation are inherently non-odorous and the Agency therefore considers that the standard Condition 2.2.6.1 is appropriate and sufficient. There is no evidence of a history of odour complaints and the site is not thought to have any odour issues.

C8. Conditions relating to Noise (and vibration)

On consideration of the Application 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 noise, but that such noise is unlikely to progress significantly beyond the installation boundary and that the Applicant's proposals in respect of noise and vibration control represent BAT. Agency therefore considers that the standard condition 2.9.1 is appropriate and sufficient.

The site does have the potential to cause noise nuisance. The operator has, however, provided evidence within its application in the form of a letter from Pembrokeshire County Council, dated 11 May 2004, which states that there have been no noise complaints within the last 3 years alleging a noise nuisance and that the site is not inherently noisy. Given the proximity of the

nearest SSSI/ SAC site, 1km, and the noise survey data provided in the application, it seems unlikely that the noise will cause a significant impact.

C9. Conditions relating to Pre-operation

Regulation 12(9)(d) allows the imposition of conditions in respect of "steps to be taken prior to the operation of the installation.

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

C10. Conditions relating to Off-site (including Off-site monitoring)

Regulation 12(12) allows the imposition of off-site conditions, subject to compensation in accordance with the Regulations.

The Agency considers that it is not necessary to impose any off-site Conditions.

C11. Conditions relating to Waste recovery or disposal

Regulation 11(3)(a) requires a consideration of appropriate conditions to ensure that "waste production is avoided in accordance with Council Directive 75/442/EEC on waste; and where waste is produced, it is recovered or, where that is technically and economically impossible, it is disposed of while avoiding or reducing any impact on the environment". 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 or subsequent disposal. (See section 2.6 of the main application). The Agency is satisfied that the proposals show that waste production will be avoided as far as possible, and where waste is produced it will be recovered unless technically and economically impossible. The Agency is further satisfied that the Operators justification for their proposed waste disposal option shows that such waste that does arise from the installation that can not be recovered will be disposed of using a disposal method that avoids or reduces any impact on the environment. Standard Conditions 2.6.1 will ensure that this position is maintained.

Whilst the site generates a small number of waste streams they do recover a number of these streams. General waste is disposed of to a contractor who sort and recycle waste streams such as plastic and cardboard. Waste oil is sent away for recycling as are waste paper, fluorescent tubes and empty chemical containers.

C12. Conditions relating to Energy Efficiency

Some aspects of energy efficiency form part of the consideration of BAT above. Regulation 11(3)(b) also requires appropriate conditions to be imposed in order to secure that "energy is used efficiently". 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 main application). The Agency is satisfied that at the commencement of the Permit, the installation should be operated in an energy efficient manner, and that Standard Conditions 2.7.1 – 2.7.3 are appropriate and sufficient.

The site participates in a climate change agreement for the dairy sector (ref: PP3.02). The site's overall energy usage is summarised in the table below:

Energy Source	Energy Consumption		
	Delivered MWh	Primary MWh	% of total (primary)
Electricity from public supply ¹	10,031	26,081	29.8
Heavy Fuel Oil	61,437	61,437	70.2
Total	71,468	87,518	100.0

Note 1 A thermal efficiency of 38.5% has been assumed that equates to a factor of 2.6.

In respect of Condition 2.7.1, the Operator is required to report annually on energy efficiency. In addition to this the installation is also required to report on waste generation and water usage.

C13. Conditions relating to Accident prevention and control

Regulation 11(3)(c) requires the consideration of appropriate conditions to secure "the necessary measures are taken to prevent accidents and limit their consequences."

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, the Operator should be required to submit a revised accident management plan by an Improvement Condition (IC1).

C14. Conditions relating to Closure and decommissioning

Regulation 11(3) provides that "upon definitive cessation of activities the necessary measures are taken to avoid any pollution risk and to return the site of the installation to a satisfactory state". Regulation 12(9)(d) also requires that there be appropriate conditions in terms of steps to be taken after the definitive cessation of operations.

The Agency has considered the application response submitted by the operator and considers that the proposals for closure and decommissioning are satisfactory and that Standard conditions 2.11 will ensure that the operator maintains this position.

The operator has provided a copy of its site closure plan within the appendix to the Application (ref: HW/EMSPCED/EMS/11). The report was revised on 25 January 2005.

C15. Conditions relating to On-site monitoring

Regulation 12(9)(f) requires consideration of appropriate conditions to address "emission monitoring requirements specifying measurement methodology, frequency, and evaluation procedure". The Agency has decided that emissions monitoring should be carried out for the parameters listed in Table 2.2.8, using the methods and to the frequencies it has specified in those Tables. (See Condition 2.10.1.)

In addition, other monitoring requirements have been set by the Agency in Condition 2.10.2. Table 2.10.1 lists the air emission parameters to include nitrogen oxides, and particulates from the boiler emission points A1, A2 and A3. This is to enable the Agency to assess more closely the air emissions from the heavy fuel oil powered boilers. The improvement condition (IC3) requires the operator to monitor these emission levels and provide a report of the data to the Agency along with any improvements identified with timescales for implementation. The justification for this is explained further in Section C3 above.

Table 2.10.1 lists the sewer emission parameters to include BOD, COD, pH and suspended solids from S1. These parameters provide the Agency with a useful indicator of the operation of the plant, and will help to inform the regulation of UII ETP under PPC and Welsh Water's Merlin Bridge STW. The data is already collected by the operator.,

C16. Conditions relating to Records

Effective record keeping is considered to be one of the management techniques for emission prevention and control. It is considered that the standard condition requirements are appropriate for this Installation.

C17. Conditions relating to Reporting

Regulation 12(9)(f) requires consideration of appropriate conditions in respect of the reporting of monitoring results. It is considered that the standard condition requirements are appropriate for this installation

All the parameters that are listed in the Permit for monitoring, as explained in C15 above are to be reported on, incorporating the reporting of performance against ELVs. This includes: air emissions of Nox and particulates on an annual basis and emissions of BOD, COD, pH, flow and suspended solids from S1.

In respect of Condition 2.7.1, the Operator is required to report annually on water use, waste generation and energy use. To identify whether any changes in overall consumption are due to changes in efficiency and not just changes to the throughput of the Installation, the Agency has requested that the Operator submit an annual report on the consumption of water and energy, and the creation of waste, per tonne of product. The Agency has identified the Sector as an intensive user of energy; therefore reporting of such data on an annual basis will allow any changes in the efficiency of the system to be identified.

Waste minimisation is also a key issue for the Sector and the same reasoning applies to its inclusion in the list of reporting requirements. To complete the picture of resource efficiency water use has also been added to the reporting list. Reducing water consumption may also decrease effluent volume.

Performance indicators have been selected to include energy and water use, waste disposal/recovery, mass of ammonia released and mass of refrigerants released, all related to per tonne of food product produced. Forms A1, S1, E1, R1, WU1, and PI1 will be used to report with respect to Condition 4.1.2.

C18. Conditions relating to Notifications

Regulation 12(9)(f) requires consideration of appropriate conditions for notification of incidents or accidents which may cause significant pollution. It is considered that the standard condition requirements are appropriate for this installation.

C19. Other legal requirements relevant to the determination of the Application and to the setting of permit conditions

Industry Specific

C19.1 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.

C19.2 Regulation 12A – implementation of the Solvent Emissions Directive (SED) (1999/13/EC)

- The Installation does not include any activity listed in Annex I of the Directive or activity which, whilst listed in Annex I, is above the relevant threshold in Annex IIA. so no provisions of the SED apply.

Air

C19.3 Environment Act 1995 – Section 81 (National Air Quality Strategy)

In determining the conditions for this Permit, the Agency has had regard to the National Air Quality Strategy. The Agency considers that it has taken its decision in compliance with the NAQS, and that there are no additional conditions that should be included in this Permit.

Water

C19.4 Groundwater Regulations 1998

The installation does not permit the direct discharge of List 1 substances to groundwater.

The operation of the installation will not cause the disposal of a List 1 substance or other activity that might lead to an indirect discharge of such a substance but "prior investigation" within the meaning of the Regulations shows that indirect discharges would not occur and conditions have been imposed to prevent such discharges.

The operation of the installation will not cause the direct or indirect discharge of List II substances but "prior investigation" has been undertaken and conditions imposed which secure prevention of pollution of groundwater and the conditions at section 2.2.3 secure these and other requirements of the Groundwater Regulations.

C19.5 Water Framework Directive Regulations 2003

Consideration has been to whether any additional requirements should be imposed in terms of the Agency's duty under regulation 3 to secure the objectives of the Water Framework Directive through (inter alia) PPC permits, but it is felt that existing conditions are sufficient in this regard and no other appropriate requirements have been identified.

Waste

C19.6 Waste Management Licensing Regulations (WMLR 1994) - (pursuit of the relevant objectives where there is the disposal or recovery of waste)

The installation includes no activities for the disposal or recovery of waste.

C19.7 Waste Oils Directive

The installation does not contain waste disposal or recovery activities involving waste oils to which the Directive applies.

C19.8 Hazardous Waste Directive

The installation does not contain hazardous waste disposal or recovery activities to which the Directive applies.

Conservation

C19.9 The Conservation (Natural Habitats etc) Regulations 1994

The proposed installation has the potential to have "a significant effect on a European site" because there are designated European sites, Afonydd Cleddau/ Ceddau Rivers SAC, Pembrokeshire Marine/ Sir Benfro Forol SAC, Pembrokeshire Bat Sites and Bosherton Lakes SAC, within 10 km. The Environment Agency's assessment is that the application will not have a significant effect alone, or in combination, (Regulation 48) on these sites. Our assessment is detailed in the Appendix 11 Form HR01.

C19.10 Countryside and Rights of Way Act 2000 (CROW 2000)

Section 85 duty concerning Areas of Outstanding Natural Beauty (AONB)

There is no AONB which could be affected by the Installation.

Section 28G Wildlife and Countryside Act 1981 (WCA 1981) duty concerning SSSIs

The proposed installation is within 2km of a SSSI, the Daugleddau SSSI, Gas Works Land Section SSSI and Hook Wood SSSI. The assessment carried out for the Afonydd Cleddau/ Ceddau Rivers SAC, Pembrokeshire Marine/ Sir Benfro Forol SAC, Pembrokeshire Bat Sites and Bosherton Lakes SAC, has been considered sufficient for the purposes of the SSSI, as described above under Section C19.9.

Consideration has been given as to whether any additional requirements should be imposed in terms of the Agency's duty under section 28G WCA 1981 (as amended by Schedule 9 of CROW 2000) to take reasonable steps to further the conservation and enhancement of the SSSI but it is felt that existing requirements are sufficient in this regard and no other appropriate requirements have been identified.

Section 28 I WCA 1981 duty to consult English Nature/CCW

The advice received from CCW, following its consultation as required under s28 I WCA 1981 (as amended by Schedule 9 CROW 2000), has been taken into account when deciding to grant the Permit, and in determining its conditions and it is felt that existing requirements are sufficient in this regard and no other appropriate requirements have been identified.

C19.11 Environment Act 1995 – Section 7 (Pursuit of Conservation Objectives)

Consideration has been given to whether any additional requirements should be imposed in terms of the Agency's duty to have regard to the various conservation objectives set out in s 7 EA 1995, but it is felt that existing requirements are sufficient in this regard and no other appropriate requirements have been identified.

General

C19.12 Environment Act 1995 – Section 4 (Pursuit of Sustainable Development)

By section 4 of the EA 1995, the Agency has a duty to contribute towards achieving sustainable development as considered appropriate by Ministers and set out in guidance issued to it. The relevant statutory guidance issued to the Agency by the Secretary of State for Environment, Food and Rural Affairs is *The Environment Agency's Objectives and Contribution to Sustainable Development: Statutory Guidance (December 2002)*. It is noted that this document:

"provides guidance to the Agency on such matters as the formulation of approaches that the Agency should take to its work, decisions about priorities for the Agency and the allocation of resources. It is not directly applicable to individual regulatory decisions of the Agency".

In respect of regulation of industrial pollution through the PPC Regulations, the Guidance refers in particular to the objective of setting permit conditions *"in a consistent and proportionate fashion based on Best Available Techniques and taking into account all relevant matters..."*. The Agency considers that it has pursued the objectives set out in the Government's guidance, where relevant, and that there are no additional conditions that should be included in this Permit to take account of the section 4 EA 1995 duty.

C19.13 PPC Regulations - Schedule 4, Part 2. para 13 (EIA Directive information)

No information concerning any Environmental Impact Assessment for the installation was supplied by the Applicant in response to Question B5.1 in the PPC Application Form.

C19.14 Human Rights Act 1998 (HRA 1998)

The Agency has considered potential interference with Convention rights in reaching its decision and considers that its decision is compatible with its duties under the Human Rights Act 1998. In particular, it has considered the right to life (Article 2), the right to a fair trial (Article 6), the right to respect for private and family life (Article 8) and the right to protection of property (Article 1, First Protocol). The Agency does not accept that Convention rights are engaged in the present case.

APPENDIX – Consultee responses

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

Brief summary of issues raised	Response received from	Summary of actions taken or show how this has been covered
It was stated that it is important to ensure that any changes to processing made in order to reach benchmarks, for example in the case of water and energy usage, do not compromise the microbiological status (or the chemical safety) of products. The FSA state that as long as the Operator complies with Technical Guidance Note IPPC S6.10 (Guidance for the Food and Drink Sector), it is unlikely that there will be any unacceptable effects on the human food chain as a result of operations.	Food Standards Agency on 17/03/05	The Operator recognises in the Application the importance of water use in relation to quality and hygiene standards. The measures proposed in relation to energy and water minimisation are not considered as likely to compromise products. The permit will ensure compliance with the appropriate Technical Guidance Note.

APPLICATION SITE REPORT - EVALUATION CHECKLIST

Application Reference: BV7781ID	Applicant: Haverfordwest Cheese Ltd
Site Name/Identifier: Haverfordwest Cheese Ltd.	Report Date/Version. Final 24 th Dec 2004 Issue No 3.

Key Data Gaps in ASR for inclusion into Schedule 4 Notice or request for further information.

1. The following further information is required: The chemical behaviour and environmental fate for several key potential polluting substances do not appear to have been included in the application. Please supply this information for the following substances identified in appendix D1 of the Application Site Report: Dairybrite / blend D, Diverted product or CIP chemicals, Sodium Hypo chloride, HD141, Oxidising agents (hydrogen peroxide), Glide, Acifoam Renate, Aquatreat319 and Aquatreat 320.
2. Provide a revised site boundary map to include the pipe from the site to the STW.

Key issues in ASR to be addressed in the Site Protection and Monitoring Programme.

1. The leaks from the drainage system trigger a SPMP to establish reference data. In addition there is a requirement to confirm that the necessary repairs have been taken following the drainage system survey. The SPMP should involve a repeat survey to confirm that all repairs have been made and to provide the basis for identifying where future investigations are required.
2. Potential historic pollution has been reported in the ASR in zone D and comprises elevated levels of copper, diesel range organics, polyaromatic hydrocarbons naphthalene and potential presence of methane from degradation of organics. This needs to be assessed if it overlaps areas of current operations and is not fully covered with competent hardstanding.
3. Cracks were found in oil stained hardstanding near the bulk oil tank. It is important to establish whether any oil leaks have reached the ground to provide reference data for the installation
4. The applicant has not provided a complete report of the condition of all hardstanding. This should be further assessed and reported as part of the SPMP.
5. Improvement to secondary (e.g. provide bunds) and tertiary containment capability (notably tanks 2, 3, 4, 13, 14, 15, 22, 23, 24, 25, 26, 27 through to 32) which contain large amounts high BOD material (IC).

Step 1- Environmental Setting and Pollution History			
Relevant Sections in ASR Template:			
3.0 Site Setting and Sources of Desk Based Research Information		6.3 Results of Previous Investigations	
4.0 Site Reconnaissance		6.4 Other Receptors	
6.1 Geology and Hydrogeology		6.5 Pollution History	
6.2 Surface Water Feature		6.6 Site Zoning	
Has the following information been submitted and considered?			
Item – Key Information and Questions	Yes/No	Comments – missing information to be requested	
• Site Plans – General location, Site / Installation Boundary, Installation layout (location of key plant & storage areas), scale & key	Yes	Good maps etc provided	
• Site Setting – surrounding land use, topography	Yes		
• Geology – drift & solid maps, any on-site information	Yes	No BGS map provided but comprehensive geological information provided with good description of local geology and details of previous site investigations.	
• Hydrogeology - Aquifer status (minor / major/ non), water quality, depth to groundwater, Source protection zones (SPZ), water abstractions	Yes		
• Hydrology – location of surface water (river/ lakes etc), quality status, water abstractions	Yes		
• Hardstanding – location, condition, type (i.e. sulphate/solvent resistant concrete/ sealants used & maintenance), age, integrity	Yes	Cracks were found in oil stained hardstanding near the bulk oil tank. The leaks from the drainage system are sufficient to trigger a SPMP. The hardstanding can be assessed and reported as part of the SPMP.	
• Site Drainage – effluent / product transfer / surface water / sewer, open to ground/below ground, presence of culverts, interceptors/ soakaways / sumps (construction details)	Yes	A recent drainage survey identified that there may have been leaks in the sites drainage network and that repairs were required. These were planned to be completed by December 2004. The ASR table	

		D2 highlight this as an area of possible pollution. Therefore need SPMP to establish framework for reference data.
Environmental Consents, licenses, discharge consents, authorisations, permits and designations for the site & local area	Yes	
Proximity of sensitive habitats or species identified	Yes	
Site history – previous potential sources of land contamination	Yes	Previous potential pollution has been reported in the ASR in zone D and comprises elevated levels of copper, diesel range organics, polycyclic aromatic hydrocarbons naphthalene and potential presence of methane from degradation of organics.
Records of accidental releases or spills – location, products, volume, remedial measures undertaken	Yes	The EPOA shows no recent incidents. There have been no compliance enforcement actions. It is noted that in the information provided several creamery /dairy related pollution incidents were noted in close proximity to the site.
Site reconnaissance – visual or olfactory evidence of issues at the site- bunding, hardstanding condition etc	Yes	
Key Question: From the ASR, can a confident and quantified assessment be made of the adequately sets out the site's environmental setting and pollution history?	Yes	
Key Question: Are intrusive investigations required to ascertain the site's environmental setting? (E.g. Ambiguous geological conditions that could impact contaminant migration.)	No	
Key Question: Has a site plan(s) been submitted which clearly defines the site of the installation and the installation layout? Does it include an appropriate scale?	No	Map is not to scale nor does it include the pipe to the STW. Which is identified as part of the application.

Step 2 – Identify Potentially Polluting Substances			
Relevant Sections in ASR Template:			
5.0 Assessment of Pollution Potential			
5.1 Polluting Substances and Relevant Activities			
Has the following information been submitted ?			
Item – Key Information and Questions	Yes/No	Comments – missing information to be requested	
Identification of possible polluting substances that could already be in the land – <i>site history including previous site uses and applicant operations no longer undertaken</i>	Yes	Evidence of historic contamination in zone D has been provided.	

• Identification of possible polluting substances – raw materials, interim products, end products, wastes. Identification of current substances used previously and new substances	Yes	Key ones listed in appendix D1 plus a very comprehensive inventory from the sites EMS
• Potential polluting substance characteristics – form (solid/liquid/gas), chemical behaviour, environmental fate, toxicology and potential degradation products (i.e. MSDS)	No	Not all information provided.. The site has listed major potential polluting substances in appendix D1. The chemical behaviour and environmental fate is described for some of these substances in B2.4 of the application. Those substances covered are Milk 213,511 tonnes, heavy fuel oil, 5,601,330 litres, Bulk caustic (sodium hydroxide) 639 tonnes and bulk acid nitric acid) 274 tonnes. The following key potential polluting substances have had their chemical behaviour and environmental fate included and this information is needed. Dairybrite / blend D, Diverted product or CIP chemicals, Sodium Hypo chloride, HD141, Oxidising agents (hydrogen peroxide), Glide, Acifoam Renate, Aquatreat319 and Aquatreat 320.
• Location of all potential pollutants (emission points)	Yes	
• Volumes stored and used	Yes	An exhaustive list is provided from the EMS report. This provides a clear indication of the maximum quantity stored on site but not the annual consumption but this information for key materials is provided in appendix D1
Key Question: Are you confident that the applicant has identified all substances in on or under the land that could have arisen from materials used or produced at the permitted site (or are likely to be used or produced in the future) ?	Yes	

Step 3 – Identify Pollution Prevention Measures			
Relevant sections in ASR Template			
5.0 Assessment of Pollution Potential			
5.2 Preventative Measures			
Has the following information been submitted ?			
Item – Key Information and Questions	Yes/No	Comments – missing information to be requested	
• For all the potential emission points what pollution prevention measures are in place?	Yes		
• Primary measures – tank, IBC, pipe etc containing substance. Are these above or below ground level?	Yes		
• Secondary Measures – bunding etc designed to retain the substance in the vent of the primary measure failing. Bunds must have adequate volume(i.e. 110%), construction materials for sides and base of bund(suitable and resistant to potential pollutants?)	No	There are eighty-nine above ground bulk storage vessels on site some of which (notably tanks 2, 3, 4, 13, 14, 15, 22, 23, 24, 25, 26, 27 through to 32) contain large amounts high BOD material and appear to have marginal secondary e.g. not bunded and marginal tertiary containment capability	
• Tertiary Measures – additional measures to contain spillage – i.e. interceptor, hard standing etc	Yes		
• Site zoning – have all relevant activities and associated zones been identified (based on locations & properties of potential pollutants emission points). Table 2a/b should indicate these.	Yes	NB site zoning may not be correctly applied but appears to be adequate basis to proceed on.	
Key Question: Has the applicant identified all the potential emission points ?	Yes		
Key Question: Has the applicant identified all the pollution prevention measures ?	Yes		

Step 4 – Assess the effectiveness of the Pollution Prevention Measures			
Relevant sections in ASR Template			
5.0 Assessment of Pollution Potential			
5.3 Assessment of the Likelihood of Pollution			
Has the following information been submitted ?			
<i>Item – Key Information and Questions</i>	Yes/No	<i>Comments – missing information to be requested</i>	
Assessment of the likelihood of pollution (Table 2a/b) (To be completed for each relevant activity)	Yes		
Is there bulk storage of liquid chemicals or and other potentially polluting substances or high volume through put of polluting substances ?	Yes		
a) Do preventative measures exist for each relevant activity ?	Yes	The bulk storage vessels identified earlier appear to have the potential either to discharge to Merlins Brook and ultimately to Western Cleddau SAC or to overload the STW should any accidental release occur.	
b) Are preventative measures adequate prevent the emission of substances to land? Do the preventative measures comply with the indicative requirements contained in Box 5 or other equally applicable site specific measures to control potential emissions to land?	No	Above information suggests that preventative measures are inadequate.	
c) Does the applicant have NO record of pollution incidents or spills from the relevant activities to be permitted? <i>This question can be ignored if the applicant can demonstrate that adequate remediation of any pollution incidents or spills has taken place. This will require the production of a full validation report of any remedial work undertaken.</i>	No	The application has some comments about minor oil staining and some concerns about leaks from site drains	
d) Are there proposals to conduct integrity testing of preventative	No	Recheck the drains (survey) and then set an Improvement condition.	

measures?			
e) Is there an adequate documented management system to demonstrate operator management and competence with the relevant activity?	Yes		
Use of Table 2 a/b to present the data?	Yes		
Key Question: Has the applicant made the case whether there is either: <i>little likelihood that pollution or leaks to ground will occur during the future life of the installation;</i> or there is: <i>a reasonable possibility that there is potential for current or future pollution of the land from the installation.</i> For each of the relevant activities at the installation.	Yes		
Key Question: Do you agree with this assessment for all relevant activities?	Yes		
Key question: Has the applicant provided on a site drawing zones of the site that represent a reasonable possibility pollution and will therefore require the collection of reference data by intrusive investigation?	Yes		

Step 5 – Conceptual Site Model (CSM)			
Relevant sections in ASR Template			
6.0 Conceptual site model			
6.7 Summary of Conceptual Site Model			
Has the following information been submitted ?			
Item – Key Information and Questions	Yes/No	Comments – missing information to be requested	
• Description of sources – to include information on potential pollutants and containment measures identified under steps 1, 2 & 3	Yes		
• Description of pathways – to include information on natural (geological setting) and artificial pathways (sumps, hardstanding, above or below ground drainage, bunding etc) described under steps 1, 3 & 4	Yes		
• Description of potential receptors – to include information on sensitive potential receptors identified under step1	Yes		
Key Question : Does the CSM identify all the potential site specific potential receptors including the underlying land ?	Yes		
Key Question : Is there an adequate conceptual site model as shown in Box 7 of the H7 that describes known facts and assumptions about potential pollutants in, on or under the land for each identified zone ?	Yes		

Summary - Application Site Report - Decision Sheet

Situation	Tick
Information supplied is inadequate, permit can not be determined without further information – please see comments above, and if necessary, attached memo detailing proposed contents of Schedule 4 Information Notice.	
Information is adequate Case made that there is little likelihood that pollution or leaks to ground will occur during the future life of the installation. No need to collect reference data in the post permit Site Protection and Monitoring Programme Determine permit Apply Conditions: 2.1.2, 2.10.9, 3.1.7, 4.1.7 (little likelihood), 5.1.4	
Information is adequate Case made that there is a reasonable possibility that there is potential for current or future pollution of the land from the installation. Reference data will need to be collected as part of the post permit Site Protection and Monitoring Programme Determine permit Apply conditions: 2.1.2, 2.10.9, 2.10.10, 2.10.10.1, 2.10.10.2, 3.1.7, 4.1.7 (reasonable possibility), 5.1.4 The activities of the installation present such a low risk of pollution of the land even if controls fail.	✓
Determine permit SPMP not required	
Name of review officer: Ian Titchell	Date of review 5/7/05