

First Milk Haverfordwest Creamery

Odour Management Plan

Contents

1. Purpose
2. Scope
3. Definitions
4. Responsibilities
5. Requirements

1 Purpose

- 1.1 To outline the methods by which First Milk and its effluent treatment partners will manage odour including sources, control measures, monitoring and response.

The odour management plan is a working document with the aim of ensuring that:

- Odour impact is considered as part of routine operations.
- Odour is primarily controlled at source by good operational practices.
- Appropriate measures are taken to prevent or, where that is not reasonably practicable, to reduce odorous emissions to air from the operation to nearby receptors.

2 Scope

- 2.1 This document applies to the Haverfordwest Creamery and Haverfordwest Creamery Effluent Treatment Plant.

Note: for the purpose of clarity this document is split into two sections. This is done as the two areas of the site have distinct characteristics and are managed in slightly different ways.

- A. Haverfordwest Creamery
- B. Haverfordwest Creamery Effluent Treatment Plant

3 Definitions

ETP – Effluent Treatment Plant

4 Responsibilities

Part A – The Haverfordwest Creamery

- 4.A.1 The responsibility overall for odour at the Creamery lies with the Site Director
The responsibility for maintaining this procedures and reporting odour issues to NRW lie with the SHE Manager
The responsibility for odour response lies with the Creamery Site Management Team (SMT)

Doc Ref	Revision No	Revision date	Issued by	Site
SHE-POL-15	3	17/05/2023	Neil Shawcross	Haverfordwest

Part B – The Haverfordwest Creamery Effluent Treatment Plant

- 4.B.1 The responsibility overall for odour at the Creamery ETP lies with the Site Director
The responsibility for maintaining this procedures and reporting odour issues to NRW lie with the SHE Manager
The control of odour shall be managed by the ETP manager.

5 Requirements

Part A – The Haverfordwest Creamery

1. Sources, releases, and impacts

- 5.A.1.1 There are no significantly odorous processes at the creamery.
- 5.A.1.2 Milk is delivered in tankers and transferred through a closed pipe system to silos located at the site. The silos are chilled and therefore no odour is produced. Any small-scale spillages that may occur at milk intake are promptly cleaned up by either the 3rd party hauliers or the Operations team with any liquid washed to effluent drains in the locality.
- 5.A.1.3 The plant is regularly walked with observations made on any leaks to:
- a) prevent loss of product and
 - b) prevent any pooling of milk or whey products that could cause an odour issue.
- 5.A.1.4 The milk pasteurisation process is all carried out within enclosed plate heat exchangers that are themselves located within the building.
- 5.A.1.5 The cheese manufacture process itself is not an odorous one with milk moved to enclosed vats, cultures added and the milk put through a defined recipe process. The remainder of the cheese process is a draining conveyor to remove whey, a cheddaring tower, a salting conveyor where salt is added to the curd and then a block forming process whereby the curd is compacted into 20kg blocks ready to be shrink wrapped.
- 5.A.1.6 In the event that the site generates waste cheese, this is bagged and stored in dolavs before it is removed from site by a waste contractor. The volume of such waste is typically limited to 6 dolavs of waste given the capacity of the waste haulier's vehicle and as such the amount of this waste that is stored at the site at any time is limited.
- 5.A.1.7 The site has an ammonia plant as part of its refrigeration process. Leaks from this plant are very rare and in the event that there was a leak the system would draw out any released ammonia and vent it at high level meaning that dispersal minimizes the potential effect on neighbours.

2. Odour control measures

- 5.A.2.1 As a result of the lack of significant odour sources at the Creamery, the site does not have any odour abatement installed to deal with emissions from the cheese and whey making process.

Doc Ref	Revision No	Revision date	Issued by	Site
SHE-POL-15	3	17/05/2023	Neil Shawcross	Haverfordwest

5.A.2.2 As noted in section 5.A.1 the plat is designed in such a way as to minimize the risk of odour emanating from its operations. Controls measures include:

- Milk delivery in closed tankers.
- Closed pipe system to transfer milk to silos and then onto the processing plant.
- Spillages cleared away.
- Regular walks of the plant by Engineering and Operations identifying leaks.
- Pasteurization carried out within enclosed heat exchangers.
- Milk processing takes place within buildings.
- Limited odour from the cheese making process itself.
- Prompt removal of waste from the process.
- The ammonia plant having automated fans which vent any leaks that may occur to a high level reducing the impact on neighbours.

3. Monitoring

5.A.3.1 First Milk recognizes that it is important to assess any odorous emissions so that we can work out how effective our control measures are.

5.A.3.2 With respect to the Creamery the following has been designed to reflect the limited potential impact on the local community as expressed in sections 5.A.1 and 5.A.2.

5.A.3.3 It has been determined that the most effective way to monitor the limited potential impact of odour from the Creamery is to carry out fence line monitoring of the site on a periodic basis.

Such monitoring shall be done using sniff testing of the ambient air.

Sniff testing has been chosen as it is recognized that emissions are often greatly diluted from their point of release and are often below the detection limits of instruments but can still be detected by people.

To this end a “SHE – Inspection” has been created which constitutes a site wide external walk of the plant checking for odour at key locations around the site perimeter.

5.A.3.4 For “complaints monitoring” please refer to section 5.A.4 below.

4. Odour contingency measures

5.A.4.1 In the event of a complaint being made to the site, the site shall make endeavours to explore the cause of the complaint. This typically will be in the form of a site walk to establish if there is any noticeable odour emanating from the site operations.

5.A.4.3 In the event that there is a noticeable odour from the Creamery, this shall be discussed in the next appropriate management meeting and any potential actions to minimise the odour discussed and agreed.

Doc Ref	Revision No	Revision date	Issued by	Site
SHE-POL-15	3	17/05/2023	Neil Shawcross	Haverfordwest

5. Emergency Plans

General

5.A.5.1 This section considers the potential for accidents (or incidents) which would result in the loss of control of odorous substances and could have an unacceptable short-term impact on the local community.

5.A.5.2 The Creamery operates 24/7 and as such an emergency is not anticipated to occur when there is not attendance on site.

Breakdown of Process Equipment and Plant

5.B.5.6 The breakdown of the creamery process equipment may cause increased levels of waste from the site. In order to combat the risk of potential increased odour, increased waste collections shall be arranged to ensure the build up of any waste is minimized.

Part B – The Haverfordwest Creamery Effluent Treatment Plant

1. Sources, releases and impacts

5.B.1.1 Odour may be released during the following activities:

- Treating influent from the creamery in the DAF unit
- Settling of influent within the aeration lanes
- Operation of sludge thickener
- During transfer of sludge from sludge tank to road tanker

5.B.1.2 Once released into the atmosphere, the pathway for odour will be through the air. Sensitive receptors will include the site's neighbours, in particular residential properties in Merlin's Bridge to the south of the site.

5.B.1.3 All potential odour emitters have been assessed, with those areas considered to generate excess odour being viewed for engineering solutions. This includes covers being added to the DAF Unit, the use of charcoal filters on the sludge tank outlet valve and filters on the sludge thickener.

5.B.1.4 The Balance Tank has been substantially reviewed. A cost benefit analysis was undertaken and submitted to NRW in March 2016. The conclusion of this analysis was to conclude that the covering of the Balance tank did not meet with BATNEEC principles. Furthermore, the impact on odour was calculated to be minimal at best.

2. Odour control measures

5.B.2.1 Physical and management measures have been included to control odour at the ETP. These are discussed below.

Doc Ref	Revision No	Revision date	Issued by	Site
SHE-POL-15	3	17/05/2023	Neil Shawcross	Haverfordwest

Site Management Responsibility

5.B.2.2 AOL (or designated responsible person) will have responsibility for ensuring that nuisances and hazards arising from the facility due to odour are minimised. Regular meetings are held to discuss current and planned site operations, during the assessment of operations odour management is discussed where it is expected to have an impact.

Physical Control Measures

5.B.2.3 A comprehensive range of physical control measures have been implemented at the ETP. These control measures are as follows:

- Enclosed DAF unit, moveable cover to allow for maintenance.
- The use of charcoal filters on sludge tank outlet valves
- Filter on sludge thickener drum.

Technical Note: The DAF unit is fitted with a removable cover specifically designed to reduce odour emissions. The cover always remains in place except for maintenance.

Management Control Measures

5.B.2.4 A comprehensive range of management control measures have been implemented at the ETP.

5.B.2.5 All waste unloading, loading, treatment and storage will be undertaken in accordance with AOL operating procedures.

5.B.2.6 The Weather Station installed on site will be utilised to understand wind direction and speed before any operational or maintenance activities are undertaken that could give rise to an increase in odour levels around the site. This information will allow the operators to minimise the impact on any sensitive receptors and undertake work when conditions are most favourable.

5.B.2.7 If at any time it is necessary to undertake temporary actions that are likely to cause elevated levels of odour, AOL or the FM SHE Manager will contact the NRW and any other interested parties before such actions are taken to inform them of the operations being undertaken and that elevated levels of odour may be encountered. Where practical such tasks will be completed when the prevailing wind direction is away from sensitive receptors.

5.B.2.8 Cleaning schedules are in place to ensure potential odour points such as the DAF Unit are kept free from any build-up, cleaning schedule will take into consideration weather conditions and seasonal changes.

Technical Note: Supporting documents provided including:

AOL – BOF-004 – Tankering Register

AOL – BOF-002 – Daily Operations Log

3. Monitoring

5.B.3.1 Weather conditions (including wind direction) are recorded at the ETP Daily. This will enable potential odour issues to be predicted and necessary remedial actions implemented. It will also allow staff to plan activities which could have an adverse impact on the odour levels to limit the impact on the surrounding area.

5.B.3.2 All AOL and operational staff will be responsible for reporting any odour problems immediately to the AOL Regional Operations and Maintenance Manager or the FM SHE Manager.

Doc Ref	Revision No	Revision date	Issued by	Site
SHE-POL-15	3	17/05/2023	Neil Shawcross	Haverfordwest

5.B.3.3 During normal operation of the ETP, Odour levels are recorded on the BOF-002 – Daily operations log – this is completed twice daily by the operations staff by means of a sniff test.

4. Odour contingency measures

Introduction

5.B.4.1 Elevated levels of odour may be identified either by:

- receipt of an odour complaint from a third party suggesting that there is an odour from the ETP.
- detection of odour at the site boundary because of the monitoring procedures detailed in Section 3; or
- malfunction of the odour abatement system

Odour complaint investigation

5.B.4.2 AOL will use forms as designated within their Environmental Management System to record complaints, which will be completed by the AOL Operations team.

5.B.4.3 As part of the Management System, a customer care and complaints procedure will be implemented. The customer care and complaints procedure apply to all complaints, feedback and requests made by third parties regarding AOL operational activities, environmental, health and safety performance or quality of service/product.

5.B.4.4 All complaints from third parties including Customer (FM), statutory authorities, members of the public, and internal clients will be forwarded to the AOL Operations team to action as below and recorded onto an online incident reports database (CAT TOOL) within 72 hours.

AOL will ensure that:

- The complaint is investigated to identify the cause, if necessary, this may involve direct communication with the complainant.
- In the event of elevated levels of odour being detected, the presence of 'abnormal' on-site activity is assessed and if necessary, preventative action is taken that will prevent a reoccurrence of the same problem. These actions must be documented.
- The Complainant will be contacted and given information on the investigations conducted and actions taken as appropriate.
- Where a complaint or query is likely to involve a statutory authority, the emergency services, an insurance company, or the media, The AOL Director will be informed.
- Complaints involving a location with Local Authority Contracts will be reported in line with specific Contract requirements and timescales. Local procedures may need to be in place to ensure these are adhered to.
- All complaints are reported to FM and discussed at site meetings.
- If the investigation indicates that the complaint has not been justified this will be clearly recorded on the Incident Report. All complaints will be logged.
- AOL 24/7 Response line: 07398 427105

Doc Ref	Revision No	Revision date	Issued by	Site
SHE-POL-15	3	17/05/2023	Neil Shawcross	Haverfordwest

Elevated Odour Levels

5.B.4.5 Any elevated levels of odour identified by the monitoring programme detailed in Section 3 and the customer care and complaints procedure identified in Section 4 will be mitigated as follows:

5.B.4.6 AOL will carry out a range of checks to identify the source of the odour to ensure that the plant is operational and is operating within normal parameters.

5.B.4.7 AOL will also review the equipment at the source of the odour to ensure the plant is being operated to the manufacturer's specifications.

5.B.4.8 Any issues identified above will be rectified by the AOL Operations team immediately where possible. Where the solution may take longer to resolve e.g., failure of a piece of the plant that may take several days/weeks to refurbish/replace, temporary mitigation shall be used to minimise the impact of the odour immediately.

5.B.4.9 To further mitigate the elevated odour levels, the following actions shall also be considered:

- Once the improvements identified by AOL have been completed, the manager will commission a further odour assessment to ensure that the improvements have addressed the source of the elevated levels. If the elevated levels are still present, then the operator will repeat the request for improvements and subsequent assessments until the limits are met.
- If operational failings are identified, retraining of employees will take place to ensure that all employees operate to the required standards. If the failings are identified as part of the operating techniques, then the problem will be raised as part of the review of control measures.
- In the event of loss of power to the ETP causing temporary shutdown of the plant, AOL will follow the site Contingency Plan to ensure the plant is brought back online as soon as possible, and hence minimise the risk of potential odours as a result of the shut-down.
- In the event of a serious incident requiring the complete shutdown of the plant for an extended period, AOL will ensure that adequate waste removal plans are in place for sludge or diverted effluent.

5.B.4.10 AOL & HVC will ensure a close liaison with the NRW throughout all stages of the process following the emissions limit being exceeded.

Reporting Measures

5.B.4.11 In the event of elevated levels of odour being identified, the event will be reported to AOL Operations team.

5.B.4.12 All performance failures will be categorised as follows.

- Minor event: quick fix possible, locally resolved.
- Medium event: brief disruption to service, Management intervention required.
- Major event: significant disruption to service significant disruption to service.

5.B.4.13 Each non-conformance category has a given deadline for rectification.

5.B.4.14 The AOL Operations team will investigate the performance failure event within 2 working hours and, if necessary, will report the event to the NRW. Once the issue has been resolved, the corrective action taken will be entered onto the system (CAT TOOL) and the issue will be closed.

Doc Ref	Revision No	Revision date	Issued by	Site
SHE-POL-15	3	17/05/2023	Neil Shawcross	Haverfordwest

5. Emergency Plans

General

5.B.5.1 This section considers the potential for accidents (or incidents) which would result in the loss of control of odorous substances and could have an unacceptable short-term impact on the local community.

5.B.5.2 Should an emergency occur outside of normal operating hours; a nominated representative will be at the ETP within 1.5 hours of notification.

5.B.5.3 Should an emergency occur out of hours, the nominated representative will contact the operations and maintenance manager as appropriate, via mobile telephone.

Abnormal Meteorological Conditions

5.B.5.4 Abnormal meteorological conditions such as low wind strength, low pressure, high temperatures may promote elevated levels of odour either on the site or at nearby sensitive receptors. A wind direction towards sensitive receptors may increase odour levels. Conversely very low wind strength and temperature inversions may minimise dispersion and potentially create a build-up of odour. High temperatures may also increase emissions.

5.B.5.5 The mitigation measures to be undertaken in the event of abnormal meteorological conditions are the same as the contingency mitigation measures detailed in section 4.

Breakdown of Process Equipment and Plant

5.B.5.6 The breakdown of the Effluent Treatment process or abatement equipment may cause elevated levels of odour to be created due to the build-up of waste or the failure of control equipment.

5.B.5.7 The mitigation measures to be undertaken in the event of process breakdown are the same as the contingency mitigation measures detailed in Section 4.

Staffing Issues

5.B.5.8 Human error and accidents may cause elevated levels of odour to be created either through the stopping or breakdown of the process or the failure of control equipment.

5.B.5.9 The mitigation measures to be undertaken in the event of staffing issues are the same as the contingency mitigation measures detailed in Section 5.3. The Unit Emergency Plan for accident/injury will also provide further detail on the procedures to be undertaken in the case of an accident at the site.

Ver.No.	Page(s)	Section(s)	Amendment detail	Amended by	Date
1	n/a	n/a	Original document	n/a	n/a
2	10	Tech amendments	Addition of technical amendments section	Severn Trent Services	22.07.2016
3	All	All	Document fully reviewed and revised into a Creamery and ETP Odour Management Plan	Neil Shawcross	17.05.2023

Doc Ref	Revision No	Revision date	Issued by	Site
SHE-POL-15	3	17/05/2023	Neil Shawcross	Haverfordwest