

Our Ref: EPR/WP3231NB

Mr John Potter
Dairy Partners (Cymru Wales) Ltd.
The Creamery
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Carmarthenshire
SA38 9DQ

Date: 17th November 2023

Dear Mr Potter

EPR- WP3231NB Dairy Partners (The Creamery, Newcastle Emlyn) Improvement Conditions Review

Thank you for submitting Dairy Partners' response to discharge the requirements of Improvements Condition (IC) 20 of the environmental permit EPR-WP3231NB.

- Email received on 04/10/2023 from John Potter (Dairy Partners) with response to IC20.

Documents received from Dairy Partners:

- IC20 - EHS-MISC-001 Dairy Partners Odour Management Plan – Issue 3
04.10.2023

As you are aware, ICs were included as part of a recent permit variation (application made to include the upgraded Effluent Treatment Plant (ETP)) which was issued by NRW in March 2023. The permit also underwent a review and was varied (May 2023) following the publication of the revised Best Available Techniques (BAT) Reference Documents (BREF) for Food, Drink and Milk Industries. Some additional Improvement Conditions have been included to bring the site up to the necessary standard.

During the permit variation V005, it was determined that given the numerous ongoing odour complaints for the site, NRW was not satisfied that the current odour management plan was appropriate and IC20 was included (see over). To date, there are still ongoing and frequent odour complaints received from the public regarding the site.

IC20 - The Operator shall review and update (where required) their Odour Management Plan to ensure all the requirements as stated in:

- **BAT Conclusion 15 of the Food, Drink and Milk Industries BRef Document (EU 2019)**
– **In order to prevent or, where that is not practicable, to reduce odour emissions, BAT is to set up, implement and regularly review an odour management plan, as part of the environmental management system, that includes all of the following elements:**
 - **a protocol containing actions and timelines**
 - **a protocol for conducting odour monitoring. It may be complemented by measurement/estimation of odour exposure or estimation of odour impact.**
 - **a protocol for response to identified odour incidents e.g. complaints**
 - **an odour reduction programme designed to identify the source(s), to measure/estimate odour exposure, to characterise the contributions of the sources and to implement prevention and/or reduction measures.**

The reviewed and revised (if applicable) Odour Management Plan will be submitted to Natural Resources Wales by the date specified for approval. Natural Resources Wales will review the Odour Management Plan to determine if the BAT requirements have been achieved.

We have reviewed the response provide in relation to IC20 with assistance from NRW's Air Quality and Noise Team (AQNT).

Our review has been undertaken using relevant guidance including: the Best Available Techniques Reference Document for the Food, Drink and Milk Industries (2019); Best Available Techniques Reference Document for Waste Treatment (2018); JRC Reference Report on Monitoring of Emissions to Air and Water from IED Installations; H4 Odour Management How to comply with your environmental permit (H4), Guidance on the assessment of odour for planning - Institute of Air Quality Management Version 1.1 (July 2018) and the Environment Agency's Odour Management Plan Template Final V2 05/05/21.

The OMP (EHS-MISC-001 Dairy Partners Odour Management Plan – Issue 3 04.10.2023) contains insufficient detail to discharge IC20. Please see the following comments for your consideration:

Site and receptors

- The OMP has identified three receptors on the east and south-east boundary of the site. We agree that these are the properties closest to the Wastewater Treatment Plant (WWTP) (also referred to Effluent Treatment Plant (ETP) as per the environmental permit), but the OMP states that historical complaints have been received from adjacent properties to the south-west of the site. NRW have received odour complaints from properties located on all sides of the factory, therefore the OMP should reflect that there are properties/receptors located on all

sides. Description of the complaints received from the residents of these properties must also be included in the OMP.

- Properties to the west, south-west and any others that are likely to be impacted by operations at the Dairy Partners site would need to be assessed, not specifically the receptors which are likely to be impacted by odours from the WWTP.
- The three receptors identified are not categorised in terms of land use (residential, commercial etc), distance to site boundary or their sensitivity to odour (commercial, housing, place of worship, pub etc) as required by H4.
- A wind rose chart showing the distribution of wind speed and wind direction around the site over a period of time is recommended. This information is important to assessing risk at the receptor locations. We would also recommend Dairy Partner acquires a weather station as weather conditions onsite can vary to forecasts provided by third party sources.

Sources

The OMP is focused on the potentially odorous emissions from the WWTP with other sources potentially being overlooked. The OMP must identify all odour sources on site (including potential odour sources from other on-site activities/processes/cleaning undertaken at the site etc) and how odour is prevented/reduced. The OMP should also consider all odorous materials entering and leaving the site. Clear description of each odour source must be included.

- Significant sources of odour have been previously identified by your consultants, Air Quality Consultants Ltd (AQC) in 'the latest specialist report (October 2022)' as:
 - Dissolved Air Flotation tanks 1 & 2 (DAF)
 - Transfer of sludge from tanks to road tankers
 - Decommissioned aeration tank
 - Open crude and sludge pits
 - Aeration tank
 - Spillages and plant breakdown

The AQC report is not referenced in the OMP and therefore no validation of these sources can be made by the AQNT assessor. Additionally, no assessment of the potential risk at receptors can be made.

- Dairy Partners must tabulate for each receptor - the land use, the direction from site, approximate distance to site boundary/odours

sources and sensitivity to odour. This will allow Dairy Partners to rank the sources and target resources when odour reports are received or potentially odorous processes are to be undertaken.

- The OMP presents an aerial photograph of the site and the receptors, but it does not highlight the location of the sources mentioned above, neither does the OMP highlight the maximum quantity stored/processed in tanks/vessels, timings of transfers etc. It also does not describe the odour from each of the sources (intensity, characteristics, hedonic score). This would help the investigation of offsite odours to quickly allocate resources to resolve as required in H4 guidance.
- The OMP has an annual review date. This is acceptable however, this may be reduced if there are changes to the operation of the site which may impact the odour at receptors and this should be added to the OMP.

Mitigation - Appropriate Measures/Best Available Techniques

- Dairy Partners has not provided an indication of the type of operation it is undertaking at the site (including clear site description summarising facility type, processing and operational activities undertaken, opening times etc). This is important when determining the measures applicable to odour control.
- The following paragraphs address each potential significant odour source/process, Dairy Partners mitigation and the assessor's comments on the suitability and recommendations.

Dissolved Air Flotation/ DAF

- Dairy Partners Mitigation - **Both tanks are enclosed with moveable covers and passive filters installed to reduce emissions released from the tanks' head space.**
- There is no indication in the OMP how the conditions of the effluent within the DAF are controlled e.g. the oxygen content (whether pure oxygen is used), acidity, temperature etc to avoid anaerobic conditions. It also excludes residence times. This may be included in the EMS for the WWTP but no reference to any documentation is provided.
- The aeration system will need to be maintained and therefore its failure should be included as an abnormal event.
- Trigger values or approach to trigger values for key parameters within the DAF would be a useful indicator for contingency measures rather than reliance on reactive measures.
- It is unclear how effective the carbon passive filters will be in the DAF process. The OMP lacks the information to support the effectiveness of the filters based on the capacity of the tank, how the head space is maintained within the tank to ensure the filters do not become overwhelmed. It would also be useful to have an indication of the

replacement period which will be associated with the odour removal efficiency from the polluted air.

- Dairy Partners states that the activated carbon has a shelf life and can become loaded with pollutants thus affecting its odour removal efficiency and this efficiency is observed via routine weekly odour sniff tests, investigations or routine site maintenance. As a significant odour source, we would recommend daily odour sniff tests at the DAF plant and for Dairy Partners to review data for the carbon filters to better understand their effectiveness and inevitably their shelf life based on the odour the filters are treating.
- It is unclear whether Dairy Partners are responsible for the replacement of the carbon filters and if so, do they keep a stock onsite or have access to spares within a designated period e.g. 12/24 hours etc.

Open crude and sludge pits

- Dairy Partners mitigation - **Regular cleaning of the sludge and crude pits and removal of sludge to an enclosed tank.**
- Open pits containing primary sludge, which in H4 is considered the most offensive odour criteria, are not considered an appropriate measure and we would recommend that sludge and crude pits are covered and potential odours managed to reduce fugitive emissions of odour leaving site.
- There is no indication of the size/capacity of the open pits, their location or their cleaning frequency.
- It is also unclear how the sludge is transferred from the pit to the enclosed tank and whether these are uncovered or covered drains or via pipework.

Aeration tank (Uncovered)

- Dairy Partners mitigation - **No physical odour control measures.**
- As with the DAF process no details are provided of how the aeration tank is operated including the control of oxygen levels (whether pure oxygen is used), pH, how excessive foam in this process is reduced and any process failure in this section of the WWTP is mitigated.
- Trigger values or approach to trigger values for key parameters within the Aeration process would be a useful indicator for contingency measures rather than reliance on reactive measures.
- The OMP states that the [open] aeration tank is not considered 'a significant source of odour by AQC'...when it is operated efficiently. It is recognised that odours from aeration tanks will be lower than primary treatment (DAF) however, we would recommend that Dairy Partners undertakes a cost benefit analysis for the covering of the aeration tank and any associated odour control measures.

Decommissioned aeration tank

- Dairy Partners mitigation - **No odour control measures identified by the author.**

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- Although outlined as a significant odour source, it is not clear whether any control measures are applied. No further information is provided in the report to exclude it as an odour source.

Spillages and plant breakdown

- Dairy partners mitigation - **Controlled with site management measures outlined in the odour contingency measures section of the OMP.**
- There is insufficient information related to the control of this significant odour source. The identification of likely spillage areas, kit available to clean up any spills, timeframe for action are recommended to be included in the OMP.
- Limited information is submitted around plant failure. As a significant source, there will need to be further information provided to indicate mitigation measures outlining how the operator will avoid the escape of odours off site. It would be useful if the operator listed all the possible failures including equipment breakdown, power failure, fire, flood and the possibility of staff shortage through illness etc and the recovery steps for each event. This information may be included in the WWTP EMS but this is not outlined in the OMP.
- Reducing the number of flanges and valves, the use of high integrity gaskets and mechanical seals (as described in BAT14 of the Waste Treatment BREF) are methods outlined to reduce diffuse odour emissions. Where these are not installed, these should be included in the odour reduction programme (discussed later).

Transfer of sludge from tanks to road tankers

- Dairy Partners mitigation - **Passive filtration when connected to the tanker.**
- Similar concerns are raised above (DAF) when considering the effectiveness of odour removal of the carbon filters.
- There is no indication within the OMP of the location of the transfer process, timings etc, neither is there a confirmation whether the transfer is undertaken in one location and associated with one process i.e. the transfer of sludge.

The OMP does not confirm when the odour control measures were put in place and if other control measures are being considered.

Odour Monitoring

- Daily, informal sniff testing is undertaken as part of the site walk around. These are undertaken by either the HSE lead or the engineering, production staff. This is a useful indication of how the plant is operating however, the sensitivity of smell of those working within the plant could be impacted. It is recommended that employees not working within the process areas are trained to undertake informal sniff tests to avoid this issue, or as H4 suggests, consider members of the community.
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- There is no indication within the OMP of a route that is followed during the daily sniff testing to consider all the odorous sources of the WWTP and any other sources which are currently excluded from the OMP.
 - H4 outlines that monitoring results will be improved if observers have been trained and understand their own sensitivities. The OMP doesn't describe the 'appropriate and adequate training' for staff involved in the daily/weekly sniff tests, nor does it identify whether staff are assessed to establish their sensitivity. The reliance on more experienced members of site management could be problematic if the experienced person has not undergone sensitivity testing such as the use of a formal 'sniff test' such as [Threshold Test with n-Butanol - Sniffin' Sticks | MediSense \(smelltest.eu\)](#).
 - A formal sniff test procedure is outlined in the OMP and the odour complaint reporting form is included in appendix 1. This reporting form is in line with H4 guidance.
 - Outside of normal working hours the engineering department is responsible for monitoring use of the WWTP and controlling nuisance sources. Relevant training for the engineering staff in the operation of the WWTP must be referenced in the OMP.
 - Sensitivity is applied to temporary odour processes that may impact local residents such as sludge pit cleaning and sludge transfer to tanker. We are satisfied with this action, however we do recognise the practicalities of such a statement.
 - The BREF states that the OMP must include an odour prevention and reduction programme which should highlight improvements to decrease the odour impact potential from the activities on site. The data from each three-year formal monitoring investigations (undertaken by a specialist independent odour consultant) may not be sufficient to determine continuous improvement, therefore we would recommend that this is reduced to a maximum of two years but preference would be annually.
 - Information on the odour reduction programme designed to identify the source(s), to measure/estimate odour exposure, to characterise the contributions of the sources and to implement prevention and/or reduction measures is lacking in detail.
 - The formal monitoring investigations shall monitor odour emissions using:
 - EN standards (e.g. dynamic olfactometry according to EN 13725 in order to determine the odour concentration or EN 16841-1 or -2 in order to determine the odour exposure);
 - when applying alternative methods for which no EN standards are available (e.g. estimation of odour impact), ISO, national or other international standards that ensure the provision of data of an equivalent scientific quality.

Odour Reporting

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- Complaints Reporting – Dairy Partners has not included timings for reporting, investigating complaints e.g. immediately investigate upon receipt of complaint, within 2 hours for reporting to NRW etc.
 - Community Engagement – It is not clear how Dairy Partners will communicate back any findings of its odour investigations to the local community. It is also unclear whether Dairy Partners hold any community engagement/liaison meetings where odour complaints and improvements to odour control can be discussed. This is a recommendation.

Maintenance and responsibilities

- The OMP is lacking details in relation to the maintenance and review of the OMP. Some examples of information the OMP must include are:
 - Who is responsible on site and what training do they receive to ensure competent.
 - Where is the OMP stored?
 - Who is trained to carry out odour checks?
 - What training have they received and how often is training carried out.
- Clear maintenance procedures for odour control equipment must be in place. There is insufficient detail in the OMP.

Please review the comments above and update the OMP as necessary. You will need to review and submit a response/updated document to NRW by the 29th of December 2023 (unless otherwise agreed in writing with NRW).

Yours sincerely



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Croesewir gohebiaeth yn Gymraeg a byddwn yn ymateb yn Gymraeg, heb i hynny arwain at oedi.

Correspondence in Welsh is welcomed, and we will respond in Welsh without it leading to a delay.