Cyfoeth Naturiol Cymru
Natural Resources Wales

Natural Resources Wales permitting decisions

Volac International Limited (Volac Felinfach)

Decision Document

Contents

Variation

The variation number is: EPR/BV4177IS/V011

The operator is: Volac International Limited

The Installation is located at: Volac Felinfach, The Old Creamery, Felinfach, Lampeter, Ceredigion, SA48 8AG

We have decided to issue the variation for Volac Felinfach operated by Volac International Limited.

We consider in reaching that decision we have taken into account all relevant considerations and legal requirements and that the permit will ensure that the appropriate level of environmental protection is provided.

Purpose of this document

This decision document:

- explains how the application has been determined
- provides a record of the decision-making process
- shows how all relevant factors have been taken into account
- justifies the specific conditions in the permit other than those in our generic permit template.

Unless the decision document specifies otherwise we have accepted the operator's proposals.

Overview of proposal

The existing installation produces about 55,000 tonnes per year of animal feed and human food ingredients from whey, a by-product of cheese production. Incoming whey is pasteurised, then the components are separated and concentrated using membrane technology prior to evaporation in a multi-effect evaporator. Recovered materials are crystallised and/or dried to produce solids which, in the case of animal feeds, are blended with other purchased ingredients to generate finished products.

Volac International Limited have applied for a variation to their environmental permit for Volac Felinfach (permit number EPR/BV4177IS) to increase the production capacity from 55,000 tonnes per year to 71,500 tonnes per year. The existing permit prior to this variation does not have an annual limit. An Improvement Condition was added to the permit in 2022 following the Food and Drink BREF review to confirm maximum capacity in order to control capacity creep. This permit variation sets the limit of 240 tonnes/day where the previous permit had a limit referencing Improvement Condition 22. During this determination the operator confirmed that the existing capacity is 240 tonnes/day as limited by the dryers. This permit variation also sets a limit of 71,500 tonnes per year, where the previous permit set no limit.

The proposed variation includes the installation of five new membrane plants, new tanks and silos to facilitate increase in production, relocation of tanks, and the installation of a new pasteuriser.

The new storage tanks and vessels proposed in this application are:

- 2 pasteurised whey silos, each with a 150m^3 capacity
- 1 raw unpasteurised whey silo, with a capacity of 150m^3
- 1 Utility WPC storage silo, with a capacity of 150m^3
- 1 pasteuriser
- 1 whey protein concentrate silo, with a capacity of 75m^3
- 2 powder storage silos, each with a capacity of 50m^3
- 1 whey protein isolate silo, with a capacity of 75m^3

The storage tanks and vessels to be relocated are:

- 3 x buffalo utility liquid silos with capacities of 115m^3,75m^3, and 75m^3 (combined capacity of 265m^3).
- 1 x nitric acid tank with an increase in capacity from 28m^3 to 45m^3

The silos and tanks will be constructed of stainless steel. Effluent from the installation is released to an effluent treatment plant (ETP) operated off site and under a separate permit. The volume of effluent released to the effluent treatment plant will increase, however this is offset by the water efficiency savings programme in place on-site. The operator has stated that the capacity of the ETP will not be exceeded as a result of the increase in production capacity associated with this variation.

The proposal includes two additional point source emissions to air. The vents on the new silos are fitted with filters to minimise emissions during filling and to protect the product. Also, the proposal does not include any additional point source emissions to water or land.

Key issues of the decision

Receipt of application

The application was received on the 31/03/23. In order for us to consider the application duly made, we needed more information from the operator. We requested further information on 06/06/2023 relating to the site plan, location of the relocated and new tanks and silos and the fugitive emissions plan. The application fee paid was also deemed incorrect and so an additional fee was requested. The Application was accepted as duly made on 05/07/2023. This means we considered it was in the correct form and contained sufficient information for us to begin our determination, but not that it necessarily contained all the information we would need to complete that determination.

Confidential information

No claim for commercial or industrial confidentiality has been made.

Identifying confidential information

We have not identified information provided as part of the application that we consider to be confidential. The decision was taken in accordance with our guidance on commercial confidentiality.

Consultation

Consultation is not required for this type of application. The decision was taken in accordance with RGN 6 High Profile Sites, our Public Participation Statement and our Working Together Agreements.

Requests for Additional Information

Further information was requested during determination by way of a Schedule 5 Notice requiring the operator to provide further information relating to the measures in place for the secondary containment of the liquids in the event of a catastrophic failure of one or more of the tanks or silos. The Schedule 5 Notice was issued on 28/07/23 with a response date of 11/08/23. The operator requested an extended response date of 18/08/23 to which we agreed. The operator's response to the Schedule 5 Notice was provided on 15/08/23. The additional information supplied did not satisfy the requirements of the Schedule 5 notice issued on 28/07/23. A further response was received on 31/08/23 and this did satisfy the requirements of the Schedule 5 Notice. A copy of the information notice and e-mails requesting further information were placed on our public register as were the responses when received. We requested the maximum capacity of the installation on 11/10/23. The final response was received on 02/11/23 where the operator confirmed this to be 240 tonnes per day.

The Facility

The existing regulated facility is an installation which comprises the following activities listed in Part 2 of Schedule 1 to the Environmental Permitting Regulations (EPR) and the following directly associated activities

- Section 6.8 Part A(1)(d)(i): Production of food products from animal raw materials with a finished product production capacity greater than 75 tonnes per day.
- Section 1.1 Part B(a)(ii) - The combustion of wood in a combined heat and power (CHP) plant

The limit of the Section 6.8 activity has been changed on the permit as a result of this variation whereby the maximum capacity will be increased to 240 tonnes per day. Capacity is to be taken as the maximum possible capacity of the installation, not the maximum actual production. The maximum finished product production capacity of the installation is stated in Table S1.1 of the permit.

Directly associated activities include:

- Raw material storage
- Intermediate storage of partly processed materials
- Intermediate storage of recovered nitric acid
- Storage and handling of kerosene
- Storage and handling of solid and liquid wastes
- Finished products storage and packaging
- Heat generation plant
- Steam generation
- Storage and handling of Liquefied Natural Gas
- Ammonia refrigeration plant
- Storage and chipping of wood
- Storage of bottom ash and fly ash
- Water heating circuit
- Storage of gas oil
- Drying of wood

No new listed Schedule 1 installation activities or directly associated activities have been added as a result of this variation.

Environment management system

The Operator has an externally accredited EMS certified to ISO14001:2015 standard. There is no known reason to consider that the operator will not have the management systems to enable it to comply with the permit conditions following this variation. The decision was taken in accordance with RGN 5 on Operator Competence.

Legislation

The variation will be issued under Regulation 20 of the EPR. The Environmental Permitting regime is a legal vehicle which delivers most of the relevant legal requirements for activities falling within its scope. In particular, the regulated facility is an installation as described by the IED and subject to aspects of the Well-Being of Future Generations (Wales) Act 2015, and the Environment (Wales) Act 2016, which also have to be addressed.

NRW is satisfied that our decision is compatible with its general purpose of pursuing the sustainable management of natural resources in relation to Wales and applying the principles of sustainable management of natural resources.

All applicable European directives have been considered in the determination of the application.

The site

The operator has provided a plan which we consider to be satisfactory, showing the extent of the site of the facility. The plan clearly shows all existing and new emission points. There are no changes to the site boundary as a result of the variation. The plan is included in Schedule 7 of the permit and the operator is required to carry out the permitted activities within the site boundary.

Site condition report

The site boundary will not change as a result of the variation. As such a site condition report was not required as part of the variation.

Impact on National Site Network, SSSIs, non-statutory conservation sites

The installation is within the relevant distance criteria of a site of heritage, landscape or nature conservation, and/or protected species or habitat. The screening distance is 10km.

National Site Network

The following National Site Network Sites were identified during screening:

- Rhos Talgas SAC (Special Area of Conservation)
- Cardigan Bay SAC
- West Wales Marine SAC
- River Teifi SAC

A Habitats Regulations Assessment (HRA) is not required because there is no conceivable impact pathway by virtue of the scale, location and nature of the project to any of these National Site Network Sites identified.

Sites of Special Scientific Interest (SSSI)

No SSSIs were identified during screening, therefore no further assessment is required.

Non-statutory conservation sites

Various non-statutory sites were identified during screening, but no further assessment is required as there is no anticipated impact pathway to these sites for reasons already discussed above.

Environmental Risk Assessment

Air

The operator has carried out a risk assessment to confirm that there are two additional point source emissions to air from the Installation as a result of the proposed changes. The two new powder silos will be constructed of stainless steel and will be located on sealed concrete hardstanding. The powder storage silos will be fitted with a breathing system using a reverse jet filter to capture emissions when emptying and filling. The filter captures any powder entrained in air leaving the silo; the reverse jet then blows (at intervals) the powder back into the silo. There will be no limits or monitoring requirements associated with these vents. These vents will be added as emission points on the permit (Table S3.1) and have been given a reference of A27 and A28. The operator reviewed the best available techniques (BAT) for air emissions within the Food and Drink sector and confirmed that there are no additional routine emissions to the air. The resultant risk for emissions to air is determined as low. We agree with this assessment.

Water

There are no new point source emissions to water. The volume of effluent released to the effluent treatment plant (operated under a separate permit) will increase, however, this is offset by the water efficiency savings programme in place on-site. This will ensure that the existing effluent treatment plant capacity will not be exceeded.

A Water Framework Directive (WFD) compliance assessment was not completed for this application. The proposal had no potential to cause deterioration of any water body or prevent a water body or WFD Protected Area from meeting its objectives.

We are satisfied that the appropriate measures will also be in place to prevent pollution of ground and surface water in the event of failure of the primary containment for liquids – see below.

Fugitive emissions to surface water, ground water and land

The operator has proposed the following new liquid tanks:

- 2 pasteurised whey silos, each with a 150m^3 capacity
- 1 raw unpasteurised whey silo, with a capacity of 150m^3
- 1 Utility WPC storage silo, with a capacity of 150m^3
- 1 pasteuriser
- 1 whey protein concentrate silo, with a capacity of 75m^3

The operator has also applied to relocate:

- 3 x buffalo utility liquid silos with capacities of 115m^3, 75m^3, and 75m^3 (combined capacity of 265m^3).
- 1 x nitric acid tank with an increase in capacity from 28m^3 to 45m^3

A risk to the environment associated with this proposal is in the event of a catastrophic failure of the primary containment of tanks and silos containing liquids.

Secondary containment is separate to the primary containment and its purpose is to contain the contents of the primary containment in the event of an escape of the contained liquid. We requested further information from the operator by way of Schedule 5 Notice to help us determine if appropriate secondary containment measures were in place. See below for a summary of our assessment of the information in the application and response to Schedule 5 Notice.

The operator has confirmed that the relocated nitric acid tank (45m^3) will be located in a dedicated bund and on sealed concrete hardstanding. The dedicated bund will be at least 110% of the capacity of the tank. This is in accordance with the '110 percent rule' within the CIRIA C736 document which states:
"where a single bulk liquid tank is bunded, the recommended minimum bund capacity is 110 per cent of the capacity of the tank"

The operator has proposed the following new liquid tanks to be located within an existing common bunded area which drains to a 1000m^3 collection tank which will act as the secondary containment:

- 2 x pasteurised whey silos (each with a capacity of 150m^3)
- 1 x raw unpasteurised whey silos (with a capacity of 150m^3)
- 1 x utility storage silos (with a capacity of 150m^3)
- 1 x whey protein isolate silo (with a capacity of 75m^3)

3 x existing buffalo utility liquid silos (with a combined capacity of 265m^3) will also be relocated to this area.

The operator has confirmed that the combined capacity of the tanks proposed to be contained within the area draining to the collection tank is 3,408.3m^3 and 25% of this is 852m^3. The largest tank within the bund will be 150m^3 and 110% of this is 165m^3.

The recognised industry standard CIRIA C736 guidelines 'Containment Systems for the Prevention of Pollution' states:
"where there are two or more tanks, the recommended capacity of the bund is the greater of either:

- 110 % of the capacity of the largest tank within the bund or;
- 25 % of the total capacity of all the tanks within the bund"

Therefore, the capacity of the collection tank providing secondary containment is sufficient. The tanks and silos will be located on curbed sealed hardstanding. The liquid silos will be fitted with devices such as a level transmitter and low/high level switches for early detection of possible spills.

The operator confirmed that sealed drainage systems are in place around the silos. In the event of a failure of the primary containment, the bunds will divert spillages into the drainage system and into the site waste water collection and storage system. This means that any significant spillage can be collected and either stored for controlled bleed into the waste water treatment tank feed so that the site can remain within consent, or it can be taken off site by a waste tanker.

A new whey protein concentrate silo (with a capacity of 75m^3) is then proposed to be located within an existing separate bund along with other existing liquid tanks. This silo will be located on sealed concrete hard standing. The liquid silo will be fitted with

devices such as a level transmitter and low/ high level switches for early detection of possible spills.

The operator refers to this bund as “Tank Farm 2”. This dedicated shared bund does not rely on the common sump. The capacity of Tank Farm 2 bund is 180m^3

The operator has confirmed that the combined capacity of the tanks proposed to be contained within the area draining to the collection tank is 315m^3 and 25% of this 78.8m^3. The largest tank within the bund will be 75m^3 and 110% of this is 82.5m^3. Therefore, the containment measures in Tank Farm 2 also meet the CIRIA C736 guidelines.

The Installation has procedures for the management of large-volume spills in the event of a major failure of one of the silos: Procedure for Discharging Compliant Effluent (WI.TE.10). A procedure is in place for reporting spillages, along with process and plant failures: Procedure FFENF- F.EN.03. These procedures will be reviewed and updated where required to include the additional plant and equipment. As per current arrangements, plant and equipment are subject to preventative protective maintenance and routine inspections which would identify and prevent the potential release of aqueous emissions.

Odour

The operator has carried out a risk assessment and has confirmed that there are no additional sources of odour as a result of the proposed changes other than vents on the new tanks and silos which are fitted with filters to minimise releases and the liquid silos will be fitted with HEPA filters to protect the contents of the vessel. There are no significant point source odour emissions associated with this application. We agree with the operator’s assessment that the risk from additional odours will be low.

Noise

The operator has carried out a risk assessment and has confirmed that there are no additional sources of noise as a result of the proposed changes. No new noise generating plant will be installed. We agree with the operator's assessment that the risk from additional noise will be low.

Fugitive emissions

The operator has carried out a risk assessment for fugitive emissions. By applying the proposed control measures, the risk of release of fugitive emissions to air, land and water is low as a result of the proposed changes when considering the control measures in place. The two new powder storage silos will be fitted with a breathing system using a reverse jet filter to capture emissions when emptying and filling. The whey and utility silos are situated on curbed hardstanding with sealed construction joints. They will be located in bunds where the containment measures meet the recognised industry standard CIRIA C736 guidelines 'Containment Systems for the Prevention of Pollution' Based upon the information in the application we are satisfied that the appropriate measures will be in place to prevent or where that is not practicable to minimise fugitive emissions and to prevent pollution from fugitive emissions.

Permit Conditions

Emission Points

The two new powder silos will be fitted with a breathing system using a reverse jet filter to capture emissions when emptying and filling. There will be no limits or monitoring requirements associated with these vents. These vents will be added as emission points on the permit (Table S3.1) and have been given references of A27 and A28.

Improvement Condition

The previous variation, V010 included an Improvement Condition (IC22) requiring the operator to confirm the maximum capacity of the installation. This was in the form of a Natural Resources Wales initiated review and variation to vary the permit following the publication of the revised Best Available Techniques (BAT) Reference Document (BRef) for the Food, Drink and Milk Industries. As part of the current application, the operator has applied to increase the production capacity from 55,000 tonnes per year to 71,500 tonnes per year. The existing permit prior to this variation does not have an annual limit. An Improvement Condition was added to the permit in 2022 following the Food and Drink BREF review to confirm maximum capacity in order to control capacity creep. This permit variation sets the limit of 240 tonnes/day where the previous permit had a limit referencing Improvement Condition 22. During this determination the operator confirmed that the existing capacity is 240 tonnes/day as limited by the dryers. This permit variation also sets a limit of 71,500 tonnes per year, where the previous permit set no limit. Part (b) of IC22 has been completed. Part (a) and (c) remain.

Monitoring

There are no changed or additional monitoring requirements as a result of the proposed changes.

Reporting

There are no changed or additional reporting requirements as a result of the proposed changes.

Operating techniques

The operator has reviewed the proposed changes against the Best Available Techniques (BAT) conclusions outlined in the reference document for BAT in the Food Drink and Milk industries dated May 2019. We agree that the proposed changes are in line with the current best available techniques required for this sector.

We have specified that the operator must operate the permit in accordance with descriptions in the application, including all additional information received as part of the determination process.

These descriptions are specified in the Operating Techniques (Table S1.2) table in the permit and will include the following reports received with the variation application:

- The procedure for the management of large-volume spills - Procedure for Discharging Compliant Effluent (WI.TE.10)
- The procedure for reporting spillages and process and plant failures - Procedure FFENF- F.EN.03).
- All procedures for preventative protective maintenance and routine inspections which would identify and prevent the release of aqueous emissions
- Environment Incident Response Plan
- Emergency Response Plan
- Application Document CRM.586.001.PE.R.001A

OPRA

The OPRA score is 70.