

# Permitting decisions

## Variation

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We have decided to grant the variation for Dawn Cardington operated by Dawn Meats (UK).

The variation number is EPR/BX2086IB/V003

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 provides a record of the decision making process. It:

- highlights key issues in the determination
- summarises the decision making process in the [decision checklist](#) to show how all relevant factors have been taken into account
- shows how we have considered the [consultation responses](#)

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

Read the permitting decisions in conjunction with the environmental permit and the variation notice. The introductory note summarises what the variation covers.

# Key issues of the decision

## Organic Fertiliser and Soil Improver (OFSI) Production Facility

### *Animal By-product processing*

The OFSI facility is a novel technology that the operator is proposing to use on site. The facility will treat and process animal by-products (ABP's) into a high grade fertiliser granule. This will include bones, hooves, horns, and gut content. The novel feature of the process is taking the ABP's directly as they are produced by the abattoir. The ABPs immediately enter a sealed and automated sterilisation and solubilisation process, outlined in the steps below. This reduces the storage and transportation of Category 2 and 3 ABPs to other sites and therefore reduces the likelihood of odour emissions arising from the process. It is also designed to eliminate the need to hold ABP in trailers at site. This kind of combined system of the abattoir and stock/fat/fertiliser production has yet to be used in the industry.

All bins of ABP travelling to the process area will be covered. The processing area is fully enclosed and the ABP waste will be immediately processed. Condensate gases from the animal by-product processing, including from the dryers, are captured in a fully enclosed system for cooling purposes and returned to water for reuse.

Initially, the animal by-products are reduced in size by a grinder in the raw intake building. This building will be fully sealed. The reduced materials are then blended with a mix containing minerals of nutrient value for soil enrichment including water, urea, rock-salt, potash salts, phosphates and/or nitrates of potassium and calcium, charcoal (biochar), clay, sand, mineral salts containing trace nutrients.

The mixture is treated by a high temperature and pressure according to the Animal By-Products (ABP) Regulations. The sterilized and acidified product is neutralised using chalk, to form a stable, inert, pH neutral slow release granule that will prevent volatilisation and surface run-off. The product is dried before being bagged to await distribution.

### *Acidification Tank and Sulphuric Acid scrubber*

In the fertiliser production process, emissions from the acidification tanks and the dryer will be controlled by the installation of a wet scrubber system. Once the process is operational two scrubbers will be continuously monitored by SCADA software with threshold values set for process monitoring.

Acidic liquid stored in tanks contain a mixture of sulphuric and phosphoric acid for use in the fertiliser production facility. Tanks storing sulphuric acid will be fully enclosed, bunded and built to appropriate standards.

The filling of tanks will be completed following the relevant procedure and head space gases will be scrubbed for the removal of any acidic odour components. The evaporation of water vapour from the acidification storage tank will carry small quantities of these acids via steam. This water vapour is condensed using a plate heat exchanger where all odorous compounds are removed and the liquid fraction is neutralised to form a dilute solution of sodium sulphate and sodium phosphate (concentration of 0.014%) before being discharged to drain via Emission to Sewer point S1.

This gas/liquid type exchange will utilise a closed loop Heat Exchanger. Steam with dissolved traces of acid will be condensed through a Condensing Heat Exchanger to produce water.

The sulphuric acid storage tank will be equipped with a vertical flow wet scrubber to remove any residual sulphuric acid in the tank headspace that may be displaced in the twice weekly filling procedure. The vapour in the sulphuric acid storage tank headspace will be displaced and discharged via the scrubber, where it will be scrubbed out using water and the non-condensable inert odourless air will be discharged to the atmosphere. Trace quantities of sulphuric acid will then be neutralised with sodium hydroxide to form a very dilute concentration of sodium sulphate before being reused within the process.

### *Drying Process*

The dryer will be steam jacketed to raise the content temperature to a maximum of 100 °C to drive off water and dry the product. Minimal amounts of dust may be produced however this is unlikely as the product will not have dried completely and the water spray within a new scrubber will ensure dust is captured. As the steam

removed is pH 7, neutral and with no ammonia, sulphates, phosphates, nitrates there is no requirement to scrub the water emissions but in the unlikely event that any of these compounds are present, the scrubber system will remove these compounds as all products are soluble in water, minimising odour potential. Water removed from this scrubber can be discharged to drain or will be reused within the animal by-product processing.

We have assessed the best available techniques proposed for the Organic Fertiliser and Soil Improver Production Facility and are satisfied that it will comply with Best Available Techniques and the operating techniques are in line with the relevant BREFs and BAT Conclusions for the Slaughterhouses and Animals By-products Industries. The operator has demonstrated that appropriate monitoring is in place to control the effectiveness of the scrubbers.

## **Odour**

There are three areas of the new fertiliser production facility which have the potential for fugitive emissions of odour. These are the acidification tanks (Emission to Air A4), the sulphuric acid storage tank (from displacement of vapours during filling) (Emission to Air A5) and the drying process (Emission to Air A6).

To minimise the potential for odour pollution beyond the site boundary, a wet scrubber will be installed within the fertiliser production facility to minimise odour emissions, as detailed above. A second scrubber will reduce dust emissions from the dryer process. These will abate emissions from these areas prior to release to atmosphere.

The site has updated their Odour Risk Assessment and provided a revised Odour Management Plan (OMP) to consider the impacts of the new fertiliser production facility (reference: *Dawn Cardington – A division of Dawn Meats. Odour Management Plan. July 2017*).

The following are some of the key appropriate measures that have been put in place for the site:

- The fertiliser production will take place in an enclosed loop system and will have no direct vents to atmosphere.
- The stock and fat production process will use fresh raw materials that have a low odour potential.
- The filling of the sulphuric acid tank will only take place on an infrequent basis (twice a week).
- In the fertiliser process, emissions from tanks and the dryer will be controlled by the installation of two scrubber systems. Once operational, the scrubbers will be continuously monitored by SCADA software with threshold values set. If threshold values have been exceeded, alarms will be triggered. There are primary, secondary and tertiary monitoring controls for all trigger thresholds. The SCADA system will be monitored on a 24-hour basis.
- The bins of ABP travelling to the fertiliser process area will be fully covered. The edible processing area is fully enclosed and all ABP waste will now be immediately processed. This change in the process eliminates the need to hold ABP in trailers at site and should significantly reduce the likelihood of potential odour emissions from site.
- Waste removal contingency plans are in place if the processing facility cannot accept the ABP waste for any reason. Material will be removed from site on the day of origin via a fully enclosed trailer in the event of an interruption to the process.
- Planned preventative maintenance regimes are in place on site for both preventative and reactive maintenance.
- In the event of any failure, the systems will be shut down and will not be restarted until the odour abatement is fully functioning.
- An odour complaints procedure is in place for the site, with a standard operating procedure in place for environmental incidents following any complaint.
- Emergency procedures and contingency measures have been considered in the odour management plan. A number of standard operating procedures are in place to support the emergency response and reduce the environmental impact of incidents on site.

We are satisfied that the measures outlined in the OMP should be sufficient to minimise the potential for odour emissions from the facility so that there will be no odour nuisance beyond the installation boundary. The

Operator is required to operate in accordance with the OMP, at all times, to prevent pollution arising from odours and implement all mitigation measures in line with the plan.

We have reviewed and approved the OMP and consider it complies with the requirement of our H4 Odour Management guidance note. We agree with the scope and suitability of the key measures but this should not be taken as confirmation that the details of equipment specification design, operation and maintenance are suitable and sufficient. That remains the responsibility of the Operator.

## Decision checklist

Aspect considered	Decision
<b>Receipt of application</b>	
Confidential information	<p>A claim for commercial or industrial confidentiality has been made by the operator.</p> <p>We have accepted the claim for confidentiality. We have excluded the layout of the new facilities, and the processes involved in their fertiliser, stock, and fat production. We have also removed mention of the firm constructing the facilities from the application. We consider that the inclusion of the relevant information on the public register would prejudice the applicant's interests to an unreasonable degree. The reasons for this are given in the notice of determination for the claim.</p> <p>The decision was taken in accordance with our guidance on confidentiality.</p>
<b>Consultation/Engagement</b>	
Consultation	<p>The consultation requirements were identified in accordance with the Environmental Permitting Regulations and our public participation statement.</p> <p>The application was publicised on the GOV.UK website.</p> <p>We consulted the following organisations:</p> <ul style="list-style-type: none"> <li>• Food Standards Agency</li> <li>• Public Health England &amp; Director of Public Health</li> <li>• Health and Safety Executive</li> <li>• Local Authority Environmental Protection Department</li> </ul> <p>The comments and our responses are summarised in the <a href="#">consultation section</a>.</p>
<b>The facility</b>	
The regulated facility	<p>We considered the extent and nature of the facility at the site in accordance with RGN2 'Understanding the meaning of regulated facility', Appendix 2 of RGN 2 'Defining the scope of the installation', Appendix 1 of RGN 2 'Interpretation of Schedule 1', guidance on waste recovery plans and permits.</p> <p>The extent of the facility is defined in the site plan and in the permit. The activities are defined in table S1.1 of the permit.</p>
<b>The site</b>	
Extent of the site of the facility	<p>The operator has provided a plan which we consider is satisfactory, showing the extent of the site of the facility. The plan is included in the permit.</p>
Biodiversity, heritage, landscape and nature conservation	<p>The application is not within the relevant distance criteria of a site of heritage, landscape or nature conservation, and/or protected species or habitat.</p>

Aspect considered	Decision
<b>Environmental risk assessment</b>	
Environmental risk	<p>We have reviewed the operator's assessment of the environmental risk from the facility.</p> <p>The operator's risk assessment is satisfactory.</p> <p>The assessment shows that, applying the conservative criteria in our guidance on environmental risk assessment all emissions may be categorised as environmentally insignificant.</p> <p>Refer to Key Issues: Odour for further details.</p>
<b>Operating techniques</b>	
Operating techniques	<p>We have reviewed the techniques proposed by the operator and compared these with the relevant technical guidance and we consider them to represent appropriate techniques for the facility.</p> <ul style="list-style-type: none"> <li>EPR 6.10 Additional guidance for the food and drink sector</li> <li>EPR 6.12 Additional guidance for the red meat processing (cattle, sheep and pigs)</li> </ul> <p>The operating techniques that the applicant must use are specified in table S1.2 in the environmental permit.</p> <p>The permit conditions ensure compliance with relevant BREFs and BAT Conclusions.</p> <ul style="list-style-type: none"> <li>Slaughterhouses and Animals By-products Industries</li> </ul>
General operating techniques	<p>We have reviewed the techniques used by the operator and compared these with the relevant guidance notes and we consider them to represent appropriate techniques for the facility.</p> <p>The operating techniques that the applicant must use are specified in table S1.2 in the environmental permit.</p>
<b>Permit conditions</b>	
Updating permit conditions during consolidation	We have updated permit conditions to those in the current generic permit template as part of permit consolidation. The conditions will provide the same level of protection as those in the previous permits.
Emission limits	Emission limits for the discharge to sewer have been removed, as limits to trade effluent are regulated by Anglian Water.
Monitoring	Process monitoring requirements have been added for the two scrubbers on site as a result of this variation.
<b>Operator competence</b>	
Management system	There is no known reason to consider that the operator will not have the management system to enable it to comply with the permit conditions.

Aspect considered	Decision
<b>Growth Duty</b>	
Section 108 Deregulation Act 2015 – Growth duty	<p>We have considered our duty to have regard to the desirability of promoting economic growth set out in section 108(1) of the Deregulation Act 2015 and the guidance issued under section 110 of that Act in deciding whether to vary this permit.</p> <p>Paragraph 1.3 of the guidance says:</p> <p>“The primary role of regulators, in delivering regulation, is to achieve the regulatory outcomes for which they are responsible. For a number of regulators, these regulatory outcomes include an explicit reference to development or growth. The growth duty establishes economic growth as a factor that all specified regulators should have regard to, alongside the delivery of the protections set out in the relevant legislation.”</p> <p>We have addressed the legislative requirements and environmental standards to be set for this operation in the body of the decision document above. The guidance is clear at paragraph 1.5 that the growth duty does not legitimise non-compliance and its purpose is not to achieve or pursue economic growth at the expense of necessary protections.</p> <p>We consider the requirements and standards we have set in this permit are reasonable and necessary to avoid a risk of an unacceptable level of pollution. This also promotes growth amongst legitimate operators because the standards applied to the operator are consistent across businesses in this sector and have been set to achieve the required legislative standards.</p>

# Consultation

The following summarises the responses to consultation with other organisations, our notice on GOV.UK for the public, and the way in which we have considered these in the determination process.

## Responses from organisations listed in the consultation section

<b>Response received from</b>
Public Health England (PHE) – 12/05/2017
<b>Brief summary of issues raised</b>
<p>PHE noted that their response was based on the assumption that the installation will comply in all respects with the requirements of all relevant domestic and European legislation and that the permit holder uses Best Available Techniques (BAT).</p> <p>PHE recommend that any Environmental Permit issued for this site should contain conditions to ensure that potential odour emissions do not impact upon public health.</p> <p>It was further noted that compliance with the legislation, together with good management and regulation, should ensure that emissions present a low risk to human health.</p> <p>It was recommended that the Environment Agency also consult the following relevant organisations:</p> <ul style="list-style-type: none"><li>• the local authority for matters relating to impact upon human health of contaminated land; noise, odour, dust and other nuisance emissions;</li><li>• the Food Standards Agency (FSA), where there is the potential for deposition on land used for the growing of food crops or animal rearing;</li><li>• the Director of Public Health for matters relating to wider public health impacts.</li></ul>
<b>Summary of actions taken or show how this has been covered</b>
<p>Conditions 3.1.1, 3.2.1, 3.3.1, and 3.4.1., concerning noise, odour and fugitive emissions have been included in the permit.</p> <p>The Food Standards Agency and Director of Public Health were consulted as part of the standard consultation process.</p> <p>The Local Authority was consulted with although no response was received</p>

No consultation response was received from:

- Food Standards Agency
- The Director of Public Health
- Health and Safety Executive
- Local Authority Environmental Protection Department

In addition, the application was advertised on our website between 08/03/2017 and 05/04/2017. No responses were received.