

# Natural Resources Wales ('NRW') permitting decisions

## Bespoke permit

We have decided to grant the permit for Dolau Jenkin Farm Poultry Unit operated by Mr Martin Lawrence and Mrs Nicola Lawrence.

The permit number is EPR/AB3098HT

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 Applicant's proposals.

## What this document is about

This document explains how we have considered the Applicant's Application, and why we have included the specific conditions in the permit we have issued to the Applicant. It is our record of our decision-making process, to show how we have taken into account all relevant factors in reaching our position. Unless the document explains otherwise, we have accepted the Applicant's proposals.

## Preliminary information and use of terms

We gave the application the reference number EPR/DP3435VS/A001. We refer to the application as "the Application" in this document in order to be consistent.

The number we have given the permit is EPR/AB3098HT.

The Application was duly made on 03/12/2014.

The Applicants are Mr Martin Lawrence and Mrs Nicola Lawrence (Applicant) and the facility is located on land at Dolau Jenkin Farm, Penybont, Llandrindod Wells, Powys.

## **Our decision**

We have decided to grant the Permit to the Applicant. This will allow the permit holder to operate the installation, subject to the conditions in the Permit.

We consider that, in reaching that decision, we have taken into account all relevant considerations and legal requirements and that the Permit will ensure that a high level of protection is provided for the environment and human health.

The Permit contains many conditions taken from our standard Environmental Permit template including the relevant Annexes. We developed these conditions in consultation with industry, having regard to the legal requirements of the Environmental Permitting Regulations and other relevant legislation. This document does not therefore include an explanation for these standard conditions. Where they are included in the Permit, we have considered the Application and accepted the details are sufficient and satisfactory to make the standard condition appropriate. This document does, however, provide an explanation of our use of “tailor-made” or installation-specific conditions.

## **How we reached our decision**

The Application was duly made on 3 December 2014. 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.

The Applicant made no claim for commercial confidentiality. We have not received any information in relation to the Application that appears to be confidential in relation to any party.

We carried out consultation on the Application in accordance with the Environmental Permitting Regulations (EPR) and our statutory Public Participation Statement (PPS).

We advertised the Application by a notice placed on our website, which contained all the information required by the Industrial Emissions Directive (IED), including telling people where and when they could see a copy of the Application.

We sent copies of the Application to the following bodies:

- Powys County Council Local Planning Department
- Powys County Council Environment Protection Department
- Health Protection Agency
- Health and Safety Executive
- Public Health Wales

These are bodies whose expertise, democratic accountability and/or local knowledge make it appropriate for us to seek their views directly.

## **What the Regulated Facility Does**

The installation will comprise two poultry houses, accommodating a maximum of 64,000 laying chickens. The birds will be brought to the site as they start to lay eggs and will be depopulated after approximately one year. The birds will be delivered and removed on an “all in, all out” basis, which means that the entire flock will be removed from both houses before a new flock cycle begins. As a result, there will be no overlap between different flocks of birds.

The birds will be housed in two buildings each of which will be constructed to the best environmental standards. The buildings will be equipped with high velocity roof vents.

## **Structure of this document**

- Key issues, including responses to website consultation on application
- Annex 1 the decision checklist
- Annex 2 the application consultation responses
- Annex 3 Consultation on draft permit and draft decision document

## Key issues of the decision

This section describes the key aspects of our assessment of the application which includes addressing the public concerns raised in response to the application.

### Biodiversity, Heritage, Landscape and Nature Conservation

#### *Ammonia, Nitrogen and Acid Deposition*

The Applicant has submitted a report on the modelling of the dispersion and deposition of ammonia from the proposed units at the site.

NRW have reviewed this report and are satisfied with the findings. We have considered the potential impacts of those findings and do not consider that the emissions represent a hazard to the nearby sensitive habitats. The only source of ammonia emission from the permitted site is via aerial emission. The impacts from dust emissions directly onto habitats such as streams and rivers is miniscule and is not considered further.

Specifically we considered potential impacts on the River Wye SAC, the seven SSSIs, a series of ancient woodlands and a local wildlife site.

The River Wye SAC has screened out due to the aquatic and non-vulnerable condition of the elements of the SAC that lie within 9.8km from the proposed installation.

The SSSI's all saw results that would not be expected to represent a risk..

The ancient woodlands and local wildlife site all saw results that would not be expected to represent a risk.

We have reviewed EPR 6.09 and the European Commission Draft BAT conclusions for the sector to ensure that the installation will be operated in accordance with BAT for minimising ammonia emissions from animal housing, as well as feed and feeding cycles. We are satisfied that the following measures, which will be in place at the installation, represent BAT::

#### Animal Housing

- Aviary housing system, concrete floor, forced ventilation litter is belt removed twice weekly, housing system equipped with a non-leaking drinking system;
- The housing is well insulated and the houses have a damp proof course;
- The houses are fully insulated with a U-Value of approximately 0.4 W/m<sup>2</sup>/°C to reduce condensation and heat lost;
- Litter is kept dry.

### Feed and Feeding Cycles

- Protein is reduced over the laying cycle by providing different feeds;
- Phosphorous levels in feed are reduced over the production cycle;
- Feed storage bins are specifically designed to accommodate the required feeding regime.

The above measures are described in the Applicant's Technical Standards. These have been incorporated into Table S1.2 of the permit as operating techniques and are therefore enforceable. Based on the above, we consider that ammonia monitoring is not required and the installation will be operated in accordance with BAT.

The proximity of the minor stream to the sheds has been considered, however as no discharges are proposed, this is not significant. The use of sealed tanks for the temporary storage of wash waters is good practice, and does not connect to surface water drainage.

With regard to the requirement to prevent deterioration of water bodies under the Water Framework Directive, it is re-iterated that the only emissions of ammonia from the installation are aerial emissions from the roof mounted ventilation fans and that rivers and streams are not sensitive to aerial emissions of ammonia and nitrogen deposition. This is because any deposition will be washed away by the river itself and therefore cannot accumulate or cause adverse effects. For this reason, no Critical Levels or Loads are set for rivers and therefore no assessment is required because there is no mechanism for effect.

NRW will continue, in association with other authorities, to work with land owners and farmers to encourage best practice and, in the event that a pollution event occurs, we will take the appropriate action.

### **Odour**

We received a number of concerns regarding odour and potential odour emissions from the site, as well as concerns regarding the information provided by the Applicant.

The 98<sup>th</sup> percentile threshold is taken from the Environment Agency's H4 Odour Management Guidance, which is widely accepted and used in the regulatory odour impact assessment. NRW have adopted this guidance.

The spreading of chicken manure outside the boundary of a permitted installation does not require a permit. On this basis, manure spreading is outside the regulatory scope of the Environmental Permitting (England and Wales) Regulations 2010 (as amended) and is not controlled by the environmental permit.

The Applicant has described the following measures which will be in place to minimise odour emissions during house de-littering:

- Litter will be placed carefully into trailers positioned under covered apron close to house doors;
- Trailers containing spent litter will be sheeted before leaving the fill position;
- Clean out will be carried out as soon as possible following destocking;
- Litter from belt removal (twice weekly) will be stored in sealed containers for a maximum of 4 days;
- Following the end of each crop litter will be removed from the houses immediately;

These measures are described in the odour management plan which has been incorporated into Table S1.2 of the permit as an operating technique and is therefore enforceable. It is not possible to delay clean-out until the wind is blowing in a favourable direction because this would adversely impact the business and integrator schedules with regard to placing the next batch of chickens.

The emission factors used to assess odour associated with intensive poultry facilities are based on independent published data, (including Hayes et al (2006)). The purpose of these independent studies was to measure emissions associated with different types of poultry units. Therefore we are satisfied that the use of this data is appropriate.

We are satisfied with the met data used in the modelling report, as the conclusions drawn by using Met office data supports the conclusions of the Applicant's modelling.

The H4 Odour Management guidance explains that the odour benchmarks are based on the 98<sup>th</sup> percentile of hourly average concentrations of odour modelled over a year at the site/installation boundary. The benchmarks are:

- 1.5 odour units for most offensive odours
- 3 odour units for moderately offensive odours
- 6 odour units for less offensive odours

The H4 Odour Management guidance describes odours associated with intensive livestock rearing as being moderately offensive, which is why the benchmark of 3 odour units has been used for non-farm owned receptors. Receptors owned by the farm have been assessed as being less sensitive to these odours as they are primarily occupied by people involved in the operation of the farm, the rationale being that people directly associated with farm operations are less likely to find the odour offensive.

Odour is controlled at intensive agriculture sites in several ways, from the design of the building to the handling of manure. Permit condition 3.3.1 requires that emissions from the activities are free from odour at levels likely to cause

pollution outside the site. We are satisfied that this condition will be sufficiently protective in conjunction with the measures described by the Applicant for minimising odour production at the installation.

The Applicant has submitted an odour management plan for the installation as required by EPR 6.09 “How to Comply with your Permit for Intensive Farming” because there are sensitive receptors within 400 metres of the installation. The Odour Management Plan describes the measures and controls in place to minimise odour and includes twice daily olfactory checks. We have compared the measures proposed for the site to the BAT standards in EPR 6.09 and are satisfied that the techniques represent appropriate measures for the installation. The techniques described in the documents submitted in support of the application have been incorporated into table S1.2 of the permit as operating techniques. Permit condition 2.3.1 requires the operator to operate the installation in accordance with the techniques listed in Table S1.2 of the permit.

We have reviewed the modelling report to assess whether the predicted outputs are accurate. We are satisfied with the quality of the modelling.

We have also reviewed the predicted odour concentrations.

We are satisfied that the risk from the permitted facility of odour pollution at nearby receptors is not significant. We are satisfied that levels of odour at all receptors not owned by the farm are significantly below the 3 OUE/m<sup>3</sup> benchmark level for acceptability with the highest non-farm owned receptor being 1.5 OUE/m<sup>3</sup>. The highest predicted odour level at a farm owned receptor is 2.63 OUE/m<sup>3</sup>.

NRW has assessed the modelling in detail and is satisfied that it accurately represents the predicted odours. It is recognised that this modelling does only represent the expected odour concentrations for 98% of the time and that odours may be higher for the remaining 2% of the time. NRW is not able to ensure that odour impacts on nearby receptors are reduced to zero, but is determined to ensure that they are minimised.

The operator was asked to give more details of the measures that would be in place to reduce impacts during clean out. These details were submitted and included avoiding more sensitive times, such as weekends. They also included measures to minimise impacts such as minimising ventilation at these times and loading the litter into trailers under the covered apron of the building and then covering these trailers.

## **Noise**

### *Noise Assessment*

We have reviewed the Matrix noise impact assessment dated 12 August 2015, as part of the permit determination process.

The noise impact assessment is based on the operation of the 16 roof mounted ventilation fans on each of the two sheds. It also considers transport noise. There are other sources of operational noise within the installation boundary however these have not been included, because we consider that these other sources of noise are:

- (a) sufficiently restricted, so that they do not take place during the night time period of 23:00hrs – 07:00hrs when noise pollution is more likely to occur, (e.g. feed deliveries). These restrictions are explained in more detail in the *Application of Best Available Techniques (BAT)* subsection below; or,
- (b) Not significant based on frequency of use; or,
- (c) Subject to appropriate control as described by the noise management plan for the installation.

For EPR noise impact assessment, BS4142 is used to assess the impact on sensitive receptors. BS4142 assesses the likelihood of complaints by subtracting the measured background noise level (outdoor) from the measured /calculated rating level (outdoor). A difference of around +10dB or more indicates complaints are likely. A difference of around +5dB is of marginal significance and complaints are possible. Thus the lower the difference between the background noise level and the rating level, the less likelihood there is of complaints. The Matrix Noise Impact Assessment was completed in July 2014 and uses the methodology in the BS4142:2014 standard, which is acceptable.

The Matrix Noise Impact Assessment is based on an operating scenario in which 100% of the roof mounted ventilation fans are operational during the day and 50% are operating at any one time during the night (20:00hrs – 07:00hrs). We are satisfied that this represents a worst case scenario, because in practice, the number of thermostatically controlled roof mounted ventilation fans operating at any one time depends on the ambient temperature.

The Noise impact assessment concludes that the rating level can be controlled so that it is below the typical background day and night provided that attenuators are fitted to the south west cluster of eight fans on the proposed new shed. A pre-operational condition has been included in the draft permit to ensure that this will be done.

#### *Noise Management Plan and Assessment*

The potential for noise pollution is controlled through the noise management plan. The noise management plan describes the controls in place to minimise



noise. A number of these controls are also described in the subsection below on **Application of Best Available Techniques (BAT)**. In addition, the noise management plan states that the alarm systems on site use pagers or mobile phones. The Noise Management Plan has been incorporated into Table S1.2 of the permit as an operating technique and is therefore enforceable.

We are satisfied that vibration is unlikely to be an issue at the installation. The nature of the intensive farming operation means that there are no significant sources of vibration on site. Therefore vibration does not need to be included in the noise management plan.

The noise management plan states that roof mounted ventilation fans will be subject to regular, end of cycle maintenance by qualified electricians and that noisy roof mounted ventilation fans will be isolated and an electrician notified. Good maintenance and cleaning procedures will ensure additional noise from out of balance or worn roof mounted ventilation fans is unlikely to occur. Effective inspection and maintenance forms a key part of compliance with permit condition 1.1.1 on environmental management systems and condition 1.1.2 on associated record keeping. We will check this during our routine inspection visits and we will take appropriate action if required.

The noise management plan states that silencers will be fitted to feed delivery lorries.

Movement of vehicles outside the installation boundary is outside the regulatory scope of the Environmental Permitting (England and Wales) Regulations 2010 and is a matter for the local planning authority.

We received a number of concerns regarding noise and potential noise emissions from the site.

The noise management plan and noise risk assessment have both been updated and re-submitted. NRW has scrutinised these documents and is satisfied with their content, the proposals providing sufficient detail.

Permit condition 3.4.1 requires that emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site. This will be checked during NRW site inspections and if this is not the case, we will take appropriate action. The Environment Agency guidance EPR 6.09 Appendix 5 provides guidance on noise management for farms. NRW have adopted this guidance. An effective noise management plan and use of appropriate measures is required for EPR intensive farming applications with sensitive receptors located within 400m of the proposed installation, which is the case for Dolau Jenkin Poultry Unit. EPR 6.09 also explains that "The appropriate measures for this sector prevent and where that is not possible minimise these noise emissions. We are satisfied that appropriate control measures are in place as part of the noise management plan for Dolau Jenkin Poultry Unit. See **Application of Best Available Techniques (BAT) for noise** subsection below.

We are satisfied that the controls described in the noise management plan for bird catching and clean-out are sufficient for the purposes of preventing noise pollution. Finally the noise management plan states daily walk around inspections will be conducted twice per day at (07:00 – 10:00hrs, 16:00hrs – 18:00hrs). It also explains the mechanism by which any noise complaints will be recorded and investigated.

### **Application of Best Available Techniques (BAT) for noise**

Noise is not generally a source of complaints for the intensive farming sector in Wales. This conclusion is supported by information on noise complaints from NRW's own databases. In addition, we have consulted Powys Country Council on the issue (telephone call to Environmental Health Department on 15<sup>th</sup> July 2015) and they have confirmed that although some noise complaints have been received for the sector in the past, these were regarding feed deliveries at night which were addressed by ensuring that feed is only delivered to sites during waking hours. They have not received any complaints about roof mounted ventilation fan noise from intensive farms. On the basis that noise is not generally an identifiable issue at intensive farming installations in Wales, NRW can reasonably expect that the operator will be able to comply with permit condition 3.4.1 on noise by operating in accordance with the noise management plan for the installation which has been incorporated into the operating techniques table of the permit and is therefore enforceable. We also require the operator to operate the installation in compliance with Best Available Techniques (BAT).

We have reviewed the application against the European Commission draft BAT conclusions for the Intensive Farming sector which represent future best practice. We are satisfied that the installation will be BAT compliant for reducing noise emissions (BAT 8) because the following techniques will be employed:

- Equipment operation by experienced staff: Permit condition 1.1.1(b) requires the operator to use sufficient competent persons and resources to manage and operate the activities;
- Avoidance of noisy activities at night and during weekends: The operator's noise management plan states that the following activities can only take place between 08:00hrs and 17:00hrs – feed deliveries, egg collection, fuel deliveries, removal of litter, washing of the houses, maintenance / repair, set up / placement and standby generator test runs. The only exceptions to this are emergency conditions which may necessitate an emergency food or fuel delivery, emergency maintenance / repair following plant breakdown and running of the standby generator, all of which would be necessary to safeguard bird welfare. However, effective management of the site should ensure that such occurrences are rare;
- Feed bin stocks will also be checked twice per day between 07:00hrs and 10:00hrs and 16:00hrs and 18:00hrs to prevent augers running empty;
- Use of low-noise equipment including high efficiency roof mounted ventilation fans, when natural ventilation is not possible or sufficient: The

noise management plan states that large capacity roof mounted ventilation fans will be used which will reduce the overall number of fans required.; and any noisy fans will be isolated.

In summary, we are satisfied that pollution due to noise will be managed to acceptable levels. This is based on the fact that predicted noise is based on a worst case scenario that will occur at the lower levels of noise pollution, infrequently and for short periods of time. It has therefore been assessed as not being a significant enough reason to refuse the application.

We consider the permit conditions and operating techniques to be sufficiently protective and are satisfied that the operational measures taken to minimise noise are compliant with future BAT standards.

### **Supporting documents**

A number of concerns were raised about inaccuracies in many of the supporting documents which accompanied the application to vary the permit.

NRW requested that several supporting documents be re-submitted with corrections being made.

The re-submitted documents consisted of:

- Non Technical Summary;
- Water minimisation;
- Routine maintenance schedule;
- Emergency Plan;
- Environmental Management System Summary;
- Fugitive Emissions Assessment;
- Site Plan;
- Noise and Vibration Assessment;
- Noise Management Plan;
- Odour Assessment;
- Odour Management Plan; and
- Technical Standards.

The re-submitted documents were reviewed by NRW and considered satisfactory.

We received some comments regarding the assessment of light pollution from the windows in the installation at night. Light pollution is not within the regulatory scope of the Environmental Permitting (England and Wales) Regulations 2010 (as amended) and is therefore outside the scope of the environmental permitting process.

We received a comment requesting calculations to compare the heat loss through the windows with the energy saved by extinguishing the lights. This type of assessment is not included in our determination of the permit and we

therefore haven't requested this information from the Applicant. However, permit condition 1.2.1 (a) requires that the operator takes appropriate measures to ensure that energy is used efficiently in the activities. In addition, opportunities to improve energy efficiency are required to be reviewed and implemented on a four yearly basis by permit conditions 1.2.1(b) and (c).

We received comment that the site layout plan was inadequate. This has been updated and re-submitted and is now satisfactory.

## **Dust**

A series of concerns have been raised about the potential emissions of dust from the site and about the potential impacts resulting from such emissions.

### *PM<sub>10</sub> and PM<sub>2.5</sub>*

When an application is made, NRW assess all of the information and require the operator to comply with our guidance documents (EPR 6.09). These documents detail what the operator must do to ensure their emissions are controlled. There are no requirements for the operator to monitor emissions as these are controlled throughout the operation by adherence to the guidance.

There are a national network of air quality monitors throughout the UK and details of these including the results can be found on the Welsh Air Quality Website <http://www.welshairquality.co.uk>. NRW will react to any reports of air pollution from a regulated installation. Monitoring may be undertaken by the operator or NRW if problems are identified or suspected.

On the basis that there are no sensitive receptors within 100m of the nearest air emission point, we have not required the operator to undertake dust modelling and we are satisfied that the permit conditions, operating techniques and application of BAT will be sufficient to minimise dust emissions from the installation.

All operators of intensive farming installations are required to operate at Best Available Techniques (BAT). Controls on the production of dust and the use of high velocity roof mounted ventilation fans ensures dust formation is reduced and where emitted is done at high velocity to ensure adequate dispersion. NRW are of the opinion that the implementation of Best Available Techniques and the current control on dust emissions imposed on intensive farming is adequate to prevent adverse health effects.

On this basis, we consider that further investigation of PM<sub>10</sub> and PM<sub>2.5</sub> levels is not required.

### *Dust release associated with Use of Roof Mounted Ventilation Fans*

There are a number of ventilation systems available for use at intensive poultry installation, however, the most efficient at achieving high rates of dispersal are

high velocity roof mounted ventilation fans. These are defined by sector guidance note EPR 6.09 as having an efflux velocity of above 5 metres per second (m/s). This is standard within the industry and the roof mounted ventilation fans used at Dolau Jenkin Poultry Unit have been confirmed as having an efflux velocity of 10.5 m/s, so are BAT compliant.

Modern extraction systems help ensure that dispersion rates are achieved resulting in reduction to background levels normally no greater than 100m from a unit and therefore unlikely to pose a risk to nearby receptors as described in the Defra Research paper referenced below. The Defra paper demonstrates, dust emissions from similar sites has been shown to reduce to acceptable levels beyond 100m and often much shorter distances from the units.

The nearest receptor to Dolau Jenkin Poultry Unit is approximately 175 metres away from the nearest air emission point. On this basis, dust modelling and a specific impact assessment of dust on receptors has not been required, as we are satisfied that the permit conditions, operating techniques and application of BAT will be sufficient to minimise dust emissions from the installation.

We expect that the frequency of cleaning around roof mounted ventilation fan exhausts to be incorporated into the operator's routine maintenance regime. Routine maintenance forms part of the environmental management system for the installation and it is the Operator's responsibility to ensure that routine maintenance activities are sufficient to deliver compliance with conditions 1.1.1 and 1.1.2 of the permit. NRW can audit this during site inspection visits and take appropriate action where necessary if any problems are identified.

#### *Dust Management Plan*

The current sector guidance note for intensive farming (EPR 6.09) and draft European Commission BAT conclusions document which (sets out future BAT standards) do not require operators to have a dust management plan, as dust generation can be minimised through the application of Best Available Techniques. However the operator has submitted a fugitive emissions assessment as part of the application which describes the measures in place to control dust. We are satisfied the measures set out in this plan and other operating techniques documents represent BAT for the installation. The fugitive emissions assessment has been incorporated into Table S1.2 of the permit as an operating technique and is therefore enforceable.

Sector guidance note EPR 6.09 states that "Roof Water from systems with high efflux velocity roof fans (i.e. above 5 m/s) does not require interception and treatment provided roofs remain clean with no visible signs of dust". The sector guidance also explains that grass cover around the installation may be sufficient to collect dust and impede run-off to surface water systems. On this basis, we do not consider dispersed dust landing on fields outside the proposed installation boundary and being transported into watercourses as a significant environmental risk, as the measures described in this paragraph will ensure that dust is adequately dispersed.

The transmission of disease from a non-permitted source is a public health protection matter for which NRW does not have regulatory powers (See **Transmission of Pathogens** section and **Public Health Wales** response table above for further information). A manure management plan is not required by the permit. (See **Manure Management** section for further information).

### *Permit Conditions*

Dust generation is also controlled through permit condition 3.2.1. This condition requires that emissions of substances not controlled by emission limits (excluding odour) shall not cause pollution. We will check compliance with this condition during our site inspections to ensure that dust production is kept to a minimum. If this is not the case, we will take the appropriate action.

### *Best Available Techniques*

De-littering of the poultry houses cannot take place without using the roof mounted ventilation fans to provide ventilation. Similarly, this activity cannot be performed with the trucks inside the house and the doors closed, because sufficient ventilation must be maintained during this operation to safeguard the health and safety of the personnel undertaking the task.

As already described, we require the operator to operate the installation in compliance with Best Available Techniques (BAT). However we cannot require the operator to install measures that would mean going beyond BAT. We have reviewed the application against EPR 6.09 Appendix 11 and the European Commission Draft BAT conclusion document which represents the likely future BAT standards for the industry. We are satisfied that the installation will be BAT compliant for reducing dust emissions because the following techniques will be employed:

- Use of suitable bedding materials;
- Use of pelleted feed delivered in sealed systems;
- Belt removed litter into sealed covered trailers;
- Cyclone dust extraction fitted to feed bins.

The documents that describe these control measures have been incorporated into Table S1.2 of the permit as operating techniques and are therefore enforceable.

In summary, we are satisfied that the risk of pollution due to dust is not significant. This is based on the evidence from Defra contained in Defra Research project final report (2009) "Characterising Poultry Dust Properties, assessing the human health implications, quantifying emission levels and assessing the potential for abatement". We also consider that the permit conditions and operating techniques will be sufficiently protective and are satisfied that the measures taken to minimise dust are compliant with future BAT standards. As such we do not require additional monitoring or controls to manage dust.

## Manure Management

A series of concerns have been raised about the management of manures produced on the site.

Spreading of chicken manure outside of the boundary of a permitted site does not require a permit. It is therefore outside the regulatory scope of the Environmental Permitting (England and Wales) Regulations 2010 (as amended). NRW also does not have regulatory powers to control the storage and application of manure to land through the Environmental Permitting (England and Wales) Regulations 2010 (as amended) unless this takes place within the green installation boundary shown on the site plan in Schedule 7 of the permit. In the case of Dolau Jenkin Unit, manure storage and spreading does not take place within the installation boundary. Although manure may be stored and spread on operator-controlled land at Dolau Jenkin farm, this is land beyond the installation boundary shown in Schedule 7 of the permit. Because the storage and spreading of manure is outside the scope of the environmental permitting process, this has not been included in our decision making process.

The Code of Good Agricultural Practice applies to all farms in England and Wales and provides guidance on nutrient management (including landspreading of manure). This is a guidance document and not enforceable by law.

Water quality and fish populations are affected by a wide range of activities including land use over a wide area. NRW will continue, in association with other authorities, to work with land owners and farmers to help ensure the nutrients in manures are applied following best practice and where it is clear this is not the case and results in detriment to the environment, we will take the appropriate action.

With regard to NRW's interface with the local authority planning process in respect of manure management plans, the potential for pollution through the land use of a proposal is assessed through the planning application. The local planning authority is responsible for considering whether the location of the development is appropriate. This process is also an opportunity for NRW to raise any concerns in respect of manure management that may adversely impact on the quality of local water courses in line with our duties under the Water Framework Directive.

NRW are responsible for ensuring that pests and other emissions from any permitted poultry facility are controlled to ensure that they do not cause pollution of the surrounding environment. For pests (defined in Schedule 6 of the permit as birds, vermin and insects), this responsibility also includes ensuring that pests which are likely to cause hazard or annoyance outside the boundary of the site are not present. Permit conditions 3.6.1 and 3.6.2 have been set to address the pest aspect of this responsibility. However, NRW do not have any regulatory control over the land-spreading of chicken manure unless pollution is caused. Diseases and bio-hazard risks are assessed by Public Health Wales

who were consulted on the permit application (See **Public Health Wales Response** in Annex 2 and **Transmission of Pathogens** section for more information).

Whilst a manure management plan is not required by the permit, we have set condition 2.3.4 which requires the operator to maintain and implement a system to record the quantities of solid manure or slurry exported from the installation. The record must include the date of export from the site, quantity exported and details of the receiving site. This condition will enable us to establish if there is any relationship between manure export and any reported pollution incident. It will also enable us to discuss best practice with the receiving farm owner to minimise the risk to local water courses.

The management plans submitted by the Applicant have described the controls in place for manure management within the installation boundary. These include: use of sheeted trailers to transport manure loads and no storage of manure within the installation boundary at any time. The control measures are described in the “Odour Management Plan” and “Fugitive Emissions at Dolau Jenkin Free Range Unit”. These documents have been incorporated into Table S1.2 of the permit as operating techniques and are therefore enforceable.

### **Transmission of Pathogens**

NRW have regulatory powers in connection with ensuring that potential water borne pollutants are controlled within the boundary of the permitted process to ensure that they do not cause pollution of the surrounding environment. However, land-spreading of chicken manure outside of a permit boundary for agricultural purposes does not require a permit and so is outside NRW’s regulatory role. Diseases and bio-hazard risks are assessed by Public Health Wales who were consulted on the permit application.

### **Water Pollution as a result of Dust**

Atmospheric dust releases from modern intensive farming units are minimal. This is supported by Defra Research project final report (2009) “Characterising Poultry Dust Properties, assessing the human health implications, quantifying emission levels and assessing the potential for abatement”, which states that PM<sub>10</sub> particulate levels were reduced to background levels by 100m downwind of even the highest emitting poultry houses, therefore are unlikely to pose a risk to those living in the vicinity of poultry operations. On this basis, we have not required the operator to undertake dust modelling and we are satisfied that the permit conditions, operating techniques and application of BAT will be sufficient to minimise dust emissions from the installation. (See **Dust** section above).

Dust may accumulate around the roof mounted ventilation fan mechanisms which are internal and will need to be cleaned occasionally for maintenance purposes. However as the air extraction is performed by high velocity roof



mounted ventilation fans, dust will be sufficiently dispersed into the atmosphere and not deposited on the roof. There may be some very small organic dust particles reaching fields and vegetation within a close proximity of the units however the levels and effect of this is not significant and no adverse impact is expected. In addition the impact of the dust on flood water given the dilution will also be negligible. Furthermore any emitted dust will naturally decompose on the surface of the land it settles on.

Areas of roof and yard draining to surface waters will receive very minimal quantities of dust from atmospheric deposition.

The sector guidance also explains that grass cover around the installation may be sufficient to collect dust and impede run-off to surface water systems. On this basis, we do not consider dispersed dust landing on fields outside the proposed installation boundary and being transported into watercourses as a significant environmental risk, as the measures described in this paragraph will ensure that dust is adequately dispersed, to background levels within 100m of the installation.

We also do not consider dispersed dust landing on fields outside the proposed installation boundary and being transported into watercourses by flood water as a significant environmental risk.

The clean roof water and yard water will not need to be treated. Lightly contaminated wash water from the yard is segregated by using a diverter valve and contained in a dedicated tank, prior to its removal from site.

### **Water Pollution as a result of Phosphate**

Phosphorus is excreted by poultry and is therefore incorporated into the manure that is removed from the installation. NRW are responsible for ensuring that potential water borne pollutants are controlled within the confines of the permitted process to ensure that they do not cause pollution of the surrounding environment. However the land-spreading of chicken manure outside the boundary of a permitted facility does not require a permit and so is outside the scope of EPR and the permitting process. (See section on **Manure Management** above for further information).

Phosphate excretion can be minimized at source through the use of BAT for feeding and nutrition. We have reviewed EPR 6.09 and the European Draft BAT conclusions for the sector and we are satisfied that the installation will employ the following techniques which are BAT:

- Reduction of phosphorus levels in poultry rations over the production cycle; and

NRW are continuing to work with Powys County Council to consider this issue on a more strategic level. Where NRW have been notified of specific pollution incidents, these are assessed and investigated where required. NRW

recognises the potential risk of pollution through poor practice or inadequate infrastructure at non-permitted sites and will investigate specific pollution incidents. There are a number of potential sources of phosphate affecting watercourses in the area and NRW works to reduce these. The risk of pollution from a permitted site (that is, sites with greater than 40,000 bird places) is reduced, as the units are built to industry standard to ensure emissions are minimised and risks managed to prevent pollution. The wider cumulative impact from the growth of the poultry sector in a given area is primarily a consideration for the Local Authority and NRW will contribute to any strategic approach.

### **Permit conditions and application of BAT**

Permit condition 3.1.1 states that “there shall be no point source emissions to water, air or land except from the sources and emission points listed in Schedule 3, Tables S3.1 and S3.2. Also, Permit condition 3.2.1 requires that “emissions of substances not controlled by emission limits (excluding odour) shall not cause pollution”. We are satisfied that these conditions are sufficiently protective to ensure that releases from the installation are properly controlled. We are also satisfied that the controls described in the operator’s management plans (addressed under the individual topic headings elsewhere in this document) represent the appropriate measures for preventing water pollution and therefore water pollution will not be caused by the regulated installation.

### **Traffic**

NRW is not able to consider the issue of traffic on local roads as it is a matter for the local authority.

### **Loss of Amenity**

Issues associated with the siting of the development are a matter for the local planning authority.

## Annex 1: decision checklist

This document should be read in conjunction with the application and supporting information and permit / notice.

Aspect considered	Justification / Detail
<b>Consultation</b>	
Scope of consultation	The consultation requirements were identified and implemented. The decision was taken in accordance with NRW guidance, our Public Participation Statement and our Working Together Agreements.
Responses to consultation, web publicising and newspaper advertising	The web publicising, consultation and newspaper advertising responses were taken into account in the decision.  The decision was taken in accordance with our guidance.
<b>European Directives</b>	
Applicable directives	All applicable European directives have been considered in the determination of the application.
<b>The site</b>	
Extent of the site of the facility	The operator has provided a plan which we consider is satisfactory, showing the extent of the site of the facility  A plan is included in the permit and the operator is required to carry on the permitted activities within the site boundary.
Site condition report	The operator has provided a description of the condition of the site.  We consider this description is satisfactory. The decision was taken in accordance with NRW guidance on site condition reports – guidance and templates (H5).
Biodiversity, Heritage, Landscape and Nature Conservation	The application is within the relevant distance criteria of a number of nature conservation sites.  More specifically:  There are several ancient woodlands and two local wildlife sites within 2km of the site.

Aspect considered	Justification / Detail
	<p>There are 7 SSSIs within 5km of the site. These being:</p> <p>Far Hall Meadow SSSI is located approximately 4.2km from the installation.</p> <p>Cae Llwyn SSSI is located approximately 2km from the installation.</p> <p>River Ithon SSSI is located approximately 329 metres from the installation.</p> <p>Cae Cwm-Rhocas SSSI is located approximately 1.1km from the installation.</p> <p>Ithon Valley Woodlands SSSI is located approximately 600 metres from the installation.</p> <p>Twenty Five Acre Wood SSSI is located approximately 4.3km from the installation.</p> <p>Coed Aberdulas SSSI is located approximately 4.6km from the installation.</p> <p>There is one SAC within 10 km of the site. This being the River Wye SAC, the nearest part of which is approximately 329 metres from the site.</p> <p>A full assessment of the application and its potential to affect these sites has been carried out as part of the permitting process. We consider that the application will not affect the features of the SAC, SSSIs, Local Wildlife Site and Ancient Woodlands described above.</p>
Environmental Risk Assessment and operating techniques	
Environmental risk	<p>We have reviewed the operator's assessment of the environmental risk from the facility.</p> <p>The point source emissions to air specified in the permit are:</p> <ul style="list-style-type: none"> <li>• high velocity roof mounted ventilation fan outlets, which will draw air from within the buildings and propel it upwards into the atmosphere;</li> <li>• a vent from the Diesel tank; and</li> <li>• the exhaust from the back up diesel generator.</li> </ul>

Aspect considered	Justification / Detail
	<p>Uncontaminated rainwater run-off will drain to surface waters.</p> <p>The wash down water from the poultry houses is collected in two below ground storage tanks during the wash down process after each flock cycle and removed from the facility.</p> <p>We have reviewed the Applicant's risk assessment and are satisfied that the management techniques and infrastructure described within this document are in accordance with the Best Available Techniques (BAT). We are satisfied that with the use of BAT any risks will be adequately controlled.</p> <p>The pressure of vehicles on land is not a significant issue associated with the operation of intensive farms and is therefore not addressed by the sector guidance. The release of combustion gases is also not covered because the boilers at intensive farm installations are small and typically fall below the threshold at which a Permit would be required for their operation.</p>
Operating techniques	<p>We have reviewed the techniques used by the operator and compared these with the relevant NRW guidance notes, including EPR 6.09 "How to Comply with your Environmental Permit for Intensive Farming", 2014</p> <p>The proposed techniques are in line with the Technical Guidance Notes and we consider them to represent appropriate techniques for the facility.</p>
The permit conditions	
Use of conditions other than those from the template	<p>Based on the information in the application, we consider that we need to impose conditions other than those in our permit template, which was developed in consultation with industry having regard to the relevant legislation.</p> <p>Condition 2.3.3 has been included in order to ensure that adequate records are kept of manure or slurry exported from the installation, in terms of how much is being exported and to where. The Operator is required to record the date that manure and slurry is exported from the site, the quantity exported and details of the receiving site. This condition will enable us to establish if there is any relationship between manure export and any reported pollution incident. It will also enable us to discuss best practice with the receiving farm owner to minimise the risk to local water courses.</p>

Aspect considered	Justification / Detail
Emission Limits and Monitoring	<p>We have reviewed the risk assessment for this site against the relevant technical guidance, including the European Commission BAT Reference (BRef) document “Best Available Techniques for Intensive rearing of Poultry and Pigs” (July 2003). The BRef does not propose the setting of emission limits for this sector. The requirements of the BRef are incorporated into NRW technical guidance note EPR 6.09 “How to Comply with your Environmental Permit for Intensive Farming” (October 2014) which accordingly sets no BAT emission benchmarks for the sector.</p> <p>We are satisfied that compliance with the BAT standards at this site means that emission limits and associated monitoring are not required.</p>
Operator Competence	
Environment management system	<p>NRW is satisfied that the operator will have a management system that enables it to comply with the permit conditions. The decision was taken in accordance with NRW guidance EPR RGN 5 on Operator Competence.</p> <p>The Applicant has provided a summary of their proposed environmental management system, which includes maintenance, reference to the Emergency Plan, provision for staff training and logging of complaints and routine checks. Written odour and noise management plans have also been supplied and these have been incorporated into Table S1.2 of the permit as operating techniques.</p> <p>Permit condition 1.1.1 requires the operator to have a written management system in place.</p>

## Annex 2: Consultation, web publicising and newspaper advertising responses

Summary of responses to consultation, web publication and newspaper advertising and the way in which we have taken these into account in the determination process. (Newspaper advertising is only carried out for certain application types, in line with our guidance.)

Response received from
Powys County Council – Environmental Health
Brief summary of issues raised
none
Summary of actions taken or show how this has been covered
N/A

Response received from
Public Health Wales
Brief summary of issues raised
None
Summary of actions taken or show how this has been covered
N/A

No response received from
Health and Safety Executive
Brief summary of issues raised
None
Summary of actions taken or show how this has been covered
N/A

No response received from
Powys County Council – Planning
Brief summary of issues raised
None
Summary of actions taken or show how this has been covered
N/A

## Annex 3: Consultation on draft permit and draft decision document

1. *Concern was raised at discrepancies in fan diameters and Efflux velocities as referenced in modelling reports.*

The applicant has re-submitted the relevant documents.

The re-submitted report: A Report on the Modelling of the Dispersion and Deposition of Ammonia from the Proposed Free Range Egg Laying Unit at Dolau Jenkin Farm, Penybont, near Llandridod Wells in Powys

Prepared by Steve Smith

AS Modelling & Data Ltd.

Email: steve@asmodata.co.uk

Telephone: 01952 462500

5th August 2015

Now gives:

### 4.2 Emission sources

Emissions from the chimneys of the uncapped high speed ridge fans that are/would be used to ventilate the poultry houses, existing and proposed, are represented by three point sources per house within ADMS. Details of the point source parameters are shown in Table 3a. The positions of the point sources may be seen in Figure 3.

*Table 3a. Point source parameters*

Source ID	Height (m)	Diameter (m)	Efflux velocity (m/s)	Emission temperature (°C)	Emission rate per source (g-NH <sub>3</sub> /s)
EX1 a, b & c	5.8	0.9	10.5	22	0.009464
PR1 a, b & c	6.0	0.9	10.5	22	0.009464

Emissions from the ranging areas are represented by area sources within ADMS. N.B. The area sources cover the parts of the range most likely to be used frequently, not the whole ranging area. Details of the area source parameters are shown in Table 3b. The positions of the area sources may be seen in Figure 3.

And,

The re-submitted report: An Odour Dispersion Modelling Study of the Impact of the Proposed Free Range Egg Laying Units at Dolau Jenkin Farm, Penybont, near Llandridod Wells in Powys

Prepared by Steve Smith

AS Modelling & Data Ltd.

Email: steve@asmodata.co.uk

Telephone: 01952 462500



6th August 2015  
Now gives:

#### 4.2 Emission sources

Emissions from the chimneys of the uncapped high speed ridge fans that would be used to ventilate the poultry houses, existing and proposed, are represented by three point sources per house within ADMS. Details of the point source parameters are shown in Table 2a. The positions of the point sources may be seen in Figure 4 where they are marked by red star symbols.

Emissions from the ranging areas are represented by area sources within ADMS. N.B The area sources cover the parts of the range most likely to be used frequently, not the whole ranging area. Details of the area source parameters are shown in Table 2b. The positions of the area sources may be seen in Figure 4.

Table 2a. Point source parameters

Source ID	Height (m)	Diameter (m)	Efflux velocity (m/s)	Emission temperature (°C)	Emission rate per source (ou <sub>E</sub> /s)
EX1 a, b & c	5.8	0.9	10.5	22.0	5,013.33
PR1 a, b & c	6.0	0.9	10.5	22.0	5,013.33

1. Dependent on ambient temperature

**These reports are consistent with each other and give the correct Diameter of 0.9m and the correct Efflux velocity of 10.5 m/s.**

2. *Concern was raised regarding aspects of the contents of the technical standards document: Two references to Broilers; the efflux velocity of 10.5m/s; methods for cleaning areas around poultry units; run off from the ranging areas; the siteing of feed silos.*

The technical standards document did refer once to “broiler houses” and once to “broiler shed”. However the same document (as well as the other application documents) made it very clear that this site is for free range layers. In order to correct the errors, the references to broilers have been removed from the technical standards document, which has been re-submitted (17 March 2016).

The improvement programme does state that “Ventilation will be changed to high velocity roof extraction fans (16 in total with efflux velocity of 10.5m/s).” and this is consistent with the documents above and with the site plan, there are to be 16 roof fans on each building.

The technical standards document does state that “Areas around buildings will be kept free from build-up of manure, slurry and spilt feed.” It is correct that this section does not describe how it will be done, however we do not consider that we need every detail. This technical standards document has been

incorporated into Table S1.2 of the permit as operating techniques and is therefore enforceable.

The outdoor ranging area forms part of the installation and as such would be controlled by the permit. The permit includes conditions which can be enforced to ensure that the site does not cause pollution, such as condition 3.2.1.

The operator has stated that the feed silos will be protected from collisions by guard rails. We are satisfied by this measure.

3. *Concern was raised regarding A Report of the modelling of the dispersion and deposition of ammonia, Dated 5th August, 2015, Prepared by Steve Smith, and the efflux velocity referenced therein.*

The report of 5 August 2015 is the updated report and is correct. It gives the efflux velocity as 10.5m/s.

4. *Concern was raised regarding aspects of the Noise Impact Assessment dated 12 August 2015: the absence of the new poultry house for the background noise survey and the existing noise; the correct number of fans proposed in total; the BS4142 standard and details as to the reliability of the modelling.*

Regarding item 4, the Background Noise survey. This survey is intended to show the noise levels at the time it was carried out, prior to the development taking place.

The report states on page 1 the correct details, that there are 16 fans per shed. However in section 5.1 it wrongly states that there will be 32 fans on each shed. This is a typing error, and to confirm this, the author of the report has subsequently (on 17 March 2016) confirmed that the details on page 1 are correct and that the calculations contained in the report and conclusions are correct for the fans as proposed.

The Noise Impact Assessment has been carried out to BS4142:2014, and we are satisfied with the findings. In addition the permit would contain condition 3.4.1 which can be enforced if necessary.

5. *Concern was raised regarding aspects of the site plan: provision of only one egg packing room; the number of feed silos; provision of staff facilities and the absence of an underground tank specifically for lightly contaminated yard washings*

The site plan does not show an egg room in the new building. The agent for the applicant has subsequently (17 March 2016) confirmed that there will be just one egg packing room, with egg conveyors linking both layer houses.

The provision of staff facilities is outside of the scope of an environmental permit.

Lightly contaminated yard water would be directed to the same underground tanks as for dirty water.

6. *Concern was raised regarding the lack of a statement to the effect that audible reversing alarms on all vehicles being switched off at night*

The vehicle movements on site at night would be expected to be minimal, the document “Noise and Vibration Assessment at Dolau Jenkin Free Range Unit” describes feed deliveries and egg collections being restricted to normal working days and to daytime hours. It also describes dirty water and litter removal being restricted to daytime hours.

In addition the permit would contain condition 3.4.1 which can be enforced if necessary.

7. *Concern was raised regarding lightly contaminated yard wash and temporary field heaps of poultry litter*

Lightly contaminated yard water would be directed to the same underground tanks as for dirty water, as stated above. Temporary field heaps are outside of the installation and not controlled by the permit.

8. *Concern was raised regarding the potential for noisy activities at the weekends and on Bank Holidays*

The document “Noise and Vibration Assessment at Dolau Jenkin Free Range Unit” describes feed deliveries and egg collections being restricted to normal working days and to daytime hours. It also describes dirty water and litter removal being restricted to daytime hours. A recent update to the Odour Assessment (17 March 2016) states that de-littering will take place on weekdays only and be removed from site avoiding weekends.

9. *Concern was raised regarding aspects of the site security fence.*

The site security fence statement has been raised with the agent. They have confirmed, in an updated Environmental Management System Summary (received on 17 March 2016), that there will not be a site security fence, but instead, the individual elements of the site will be separately secured. The permit would also contain condition 1.1.1, compliance with which, requires adequate site security.

10. *Concern was raised regarding wash water being spread on operator controlled land.*

The wash water spreading is again outside of the installation and not regulated by the permit. This is treated in a similar way to poultry litter.

11. *Concern was raised regarding de-littering not taking place during the weekends for the summer months only.*

The Odour Assessment document has been re-submitted (17 March 2016). It now states that de littering will be avoided at weekends (not only during the summer).

12. *Concern was raised regarding the efflux velocity*

As stated above, in reference to points 1,2 and 3, The efflux velocity was confirmed as being 10.5m/s in the updated reports of August 2015.