

## Consultation on our decision document recording our decision-making process

The Permit Number is: **EPR/QP3835YS**

The Applicant is: **Richland Foods Limited**

The Installation is located at: **Pengwedna Poultry Farm  
Nancegollan  
Helston  
Cornwall  
TR13 0AZ**

Application consultation commenced on: **04/10/17**  
Application consultation ended on: **01/11/17**

Draft decision consultation commenced on: **DD/MM/YY**  
Draft decision consultation ended on: **DD/MM/YY**

## Environment Agency permitting decisions

### What this document is about

This is a draft decision document, which accompanies a draft permit.

It explains how we have considered the Applicant's application, and why we have included the specific conditions in the permit we are proposing to grant. 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.

The document is in draft at this stage, because we have yet to make our final decision. Before we make this decision we want to explain our thinking to the public and other interested parties, to give them a chance to understand that thinking and, if they wish, to make relevant representations to us. We will make our final decision only after carefully taking into account any relevant matter raised in the responses we received. Our mind remains open at this stage: although we believe we have covered all the relevant issues and reached a reasonable conclusion, our ultimate decision could yet be affected by any information that is relevant to the issues we have to consider. However, unless we receive information that leads us to alter the conditions in the draft Permit, or to reject the Application altogether, we will issue the Permit in its current form.

In this document we frequently say "we have decided". That gives the impression that our mind is already made up; but as we have explained above, we have not yet done so. The language we use enables this document to become the final decision document in due course with no more re-drafting than is absolutely necessary.

## Preliminary information and use of terms

We gave the application the reference number EPR/QP3835YS/A001. We refer to the application as “the **Application**” in this document in order to be consistent.

The number we propose to give to the permit is EPR/QP3835YS. We refer to the proposed permit as “the **Permit**” in this document.

The Application was duly made on 15 September 2017.

The Applicant is Richland Foods Limited. We refer to Richland Foods Limited as “the **Applicant**” in this document. Where we are talking about what would happen after the Permit is granted (if that is our final decision), we call Richland Foods Limited “the **Operator**”.

The proposed facility is located at Pengwedna Poultry Farm, Nancegollan, Helston, Cornwall TR13 0AZ. We refer to this as “the **Installation**” in this document.

We are minded to grant the Permit for the Installation operated by the Applicant. We consider 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 for the environment and human health 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.

## Structure of this document

1. Our proposed decision and legal framework
2. How we reached our draft decision
3. The Installation
4. Key issues
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  - 4.2 Ammonia Emissions – Human Receptors
  - 4.3 Odour
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Annex 1: Consultation process

## 1. Our proposed decision & legal framework

We are minded to grant a Permit to the Applicant. This will allow the Applicant 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 will be granted, under Regulation 13 of the Environmental Permitting (England and Wales) Regulations 2016 (the “Permitting Regulations”). The Permitting Regulations deliver most of the relevant legal requirements for activities falling within its scope and implement relevant EU law. In particular, the regulated facility is an Installation and an intensive poultry farm as described by the Permitting Regulations and the Industrial Emissions Directive (IED). The Permit implements the requirements of IED in respect of the Installation.

It is also subject to aspects of other relevant legislation, beyond the Permitting Regulations, which also have to be addressed.

We explain how we have addressed specific statutory requirements more fully in the rest of this document. Where not covered elsewhere we set out how we have addressed relevant legal requirements in section 5.2 of this document.

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 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.

## 2. How we reached our draft decision

### 2.1 Receipt of Application

The Application was received on 22 May 2017; however we required further information from the Applicant in order for us to consider the Application duly made. This information was requested on 4 August 2017. The Applicant submitted additional information in response to the request on 1 September 2017. We sent a further request for information on 11 September 2017, and the response received on 15 September 2017 was deemed sufficient to enable us to duly make the Application.

The Application was duly made on 15 September 2017. 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.

Although we were able to consider the Application duly made, we did in fact need more information in order to determine it, therefore we issued requests for further information. A full list of all the information requested (including before the Application was duly made) is set out in table 1 below.

<b>Table 1 Summary of requests for further information</b>		
<b>Description</b>	<b>Date</b>	<b>Comments</b>
1st Not Duly Made Request for Further Information sent 04/08/17	03/09/17	<p>Responses received relating to site layout and drainage, installation name, address and boundary, ammonia and odour modelling and Best Available Techniques (BAT) Conclusions compliance, heating, odour and noise management, technical standards, chemical storage and manure management, and including receipt of the following documents:</p> <ul style="list-style-type: none"> <li>Revised introductory summary</li> <li>Revised summary of environmental management system</li> <li>Revised Technical Standards (reference 02a)</li> <li>Revised OMP (reference 02b– Aug 17)</li> <li>Revised NMP (reference 02c– Aug 17)</li> <li>Revised Site Condition Report</li> <li>Revised Non-Technical Summary</li> <li>Revised Environmental Risk Assessment</li> <li>Revised Location and Ranging Plan (reference 200.01)</li> <li>Drainage Plan Units 1 and 2 (reference 200.05)</li> <li>Drainage Plan Units 3 and 4 (reference 200.04)</li> <li>Chemical Store specification (reference pdf2972)</li> <li>Ammonia Modelling Report (dated 02 September 2017)</li> </ul>

<b>Table 1 Summary of requests for further information</b>		
<b>Description</b>	<b>Date</b>	<b>Comments</b>
2nd Not Duly Made Request for Further Information sent 11/09/17	15/09/17	<p>Responses received relating to the installation boundary, location of poultry houses, site drainage, compliance with the BAT Conclusions, odour and noise management and including receipt of the following documents:</p> <p>Revised Installation Boundary Plan (reference 200.02)  Revised OMP (reference 02b– Sep 17)  Revised NMP (reference 02c– Sep 17)  Revised Drainage Plan Units 1 and 2 (reference 200.05)  Revised Drainage Plan Units 3 and 4 (reference 200.04)  Flood Risk Assessment and Surface Water Management Plan</p>
Schedule 5 notice requesting further information issued 06/10/17	Information received 20/10/17	<p>Additional information received relating to the noise impact assessment and modelling; submission of data in a usable format, submission of a risk assessment including noise from bulk feed lorry deliveries, manure belt collection system, power washing and disinfecting, arrival and removal of birds at the start and end of the cycle and on-site vehicle movements for the collection of eggs, and submission of revised modelling where the risk assessment concludes a non-negligible impact.</p>
2 <sup>nd</sup> Schedule 5 notice requesting further information issued 19/01/18	07/02/18	<p>Clarification of installation boundary, site drainage, manure management, odour management, light pollution, fuel storage, raw materials, operating techniques, noise management and water supply, and receipt of the following documents:</p> <p>Revised Technical Standards (reference 02a – Feb 18)  Revised OMP (reference 02b– Feb 18)  Revised NMP (reference 02c– Feb 18)  Drainage Plan Houses 1 and 2 (reference 200.05)  Drainage Plan Houses 3 and 4 (reference 200.04)  Manure Management Option A  Manure Management Option A  Plan of NVZ additional land  Water Resources Plan A3  Water Resources Information email (reference PA17_04129)</p>
Additional request for clarification of the 2 <sup>nd</sup> Schedule 5 notice response sent 13/04/18	Responses received 02/05/18, 03/05/18 and 04/05/18	<p>Further clarification of installation boundary, site drainage, manure management and operating techniques, and receipt of the following documents:</p> <p>Revised Installation Boundary Plan  Sheds 1 &amp; 2 Manure Trailer position plan  Sheds 3 &amp; 4 Manure Trailer position plan  Landscape and Runoff Letter (reference L0060)</p>

<b>Table 1 Summary of requests for further information</b>		
<b>Description</b>	<b>Date</b>	<b>Comments</b>
3rd Schedule 5 Notice requesting further information issued 13/07/18	Response received 27/07/18	Clarification of installation boundary, manure management, odour management, noise management, site drainage, carcass collection, pest control, footbaths and wheel washes, clean out procedures and times, and dust and bioaerosol management, and receipt of the following documents:  Revised Installation Boundary Plan (reference 200.02B) Revised Technical Standards (reference 02a – July 18) Revised OMP (reference 02b– July 18) Revised NMP (reference 02c– July 18) Revised DMP (reference 02d – July 18) Block Plan Houses 1 and 2 (reference 200.05E) Block Plan Houses 3 and 4 (reference 200.04F) Revised Environmental Risk Assessment (reference 06 – July 18)
Additional request for further information as a result of the 3rd Schedule 5 notice response, sent 03/08/18	Responses received 24/08/18, 04/09/18 and 14/09/18	Further clarification of manure management, site drainage, and additional request for information about the operation of the woodchip/bark area. In addition, receipt of the following revised documents:  Revised Technical Standards (reference 02a – Sept 18) Revised OMP (reference 02b - Sept 18) Revised NMP (reference 02c– Sept 18) Revised DMP (reference 02d – Sept 18) Revised Environmental Risk Assessment (reference 06 – Sept 18)
Request for further information sent 14/11/18	Responses received 16/11/18 and 14/09/18	Further information clarifying poultry house ventilation and livestock destocking operations. In addition, receipt of the following revised document: Revised OMP (reference 02b – Dec 18)

Copies of the above requests and responses have been placed on our public register.

## **2.2 Consultation on the Application**

We carried out consultation on the Application in accordance with the Permitting Regulations, our statutory Public Participation Statement (PPS) and our own Regulatory Guidance Note (RGN) 6 for Determinations involving Sites of High Public Interest. We consider that this process satisfies, and frequently goes beyond, the requirements of the Aarhus Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters. These requirements are directly incorporated into the IED, which applies to the Installation and the Application. We have also taken into account our obligations under the Local Democracy, Economic Development and Construction Act 2009 (particularly Section 23). This requires us, where we consider it appropriate, to take such steps as we consider appropriate to secure the involvement of representatives of interested persons in the exercise of our functions, by providing them with information, consulting them or involving them in any other way. In this case, our consultation already satisfies the Act's requirements.

We advertised the Application by a notice placed on our website from 4 October 2017 – 1 November 2017, which contained all the information required by the IED, including telling people where and when they could see a copy of the Application. We also placed an advertisement in the Western Morning News newspaper on 4 October 2017 and also the Falmouth & Penryn Packet newspaper on 4 October 2017.

We placed a paper copy of the Application and all other documents relevant to our determination (see below) on our Public Register at the Environment Agency office, Sir John Moore House, Victoria Square, Bodmin PL31 1EB. Anyone wishing to see these documents could do so and arrange for copies to be made. We also published this Application on our webpages on GOV.UK and made available electronic copies of the Application on that webpage.

We sent copies of the Application to the following bodies, which includes those with whom we have “Working Together Agreements”:

- Cornwall Council (Environmental Health)
- Public Health England (PHE)
- Director of Public Health, Cornwall Council
- Health and Safety Executive (HSE)

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

Under our Working Together Agreement with Natural England, we only inform Natural England of the results of our assessment of the impact from the Installation on designated habitats sites. Please see section 4.1 for further details of our assessment, which discusses the potential impacts of ammonia from the Installation on designated habitats sites.



## **3 The Installation –description and related issues**

### **3.1 The permitted activities**

The Installation is subject to the Permitting Regulations because it carries out an activity listed in Part 2 of Schedule 1 of those regulations, namely:

- Section 6.9, Part A(1)(i) – Rearing of poultry intensively in an installation with more than 40,000 places for poultry

The IED defines “poultry” by reference to Directive 90/539/EEC on animal health, which defines that term as:

“fowl, turkeys, guinea fowl, ducks, geese, quails, pigeons, pheasants and partridges reared or kept in captivity for breeding, the production of meat or eggs for consumption, or re-stocking supplies of game.”

The Applicant intends to intensively rear up to 112,000 chickens (fowl) at the Installation, so falls within the activity mentioned above.

### **3.2 The site location and surroundings**

Pengwedna Poultry Farm is situated approximately 335 metres west of the village of Nancegollan, Helston, Cornwall from the installation boundary to the nearest property in the village. The installation is approximately centred on National Grid Reference SW 62814 31980.

The Applicant submitted a plan showing the site of the Installation and its extent. We consider this plan is satisfactory. It is included in Schedule 7 to the Permit, and the Operator is required to carry out the permitted activities within the Installation boundary.

We have undertaken screening to identify potentially sensitive receptors in the area surrounding the Installation. This identified the following.

- there are more than 50 residential properties within 400m of the Installation boundary, the nearest five properties being adjacent to the boundary, three of which have the ranging area surrounding the property (two are associated with the installation); and
- there is one Special Areas of Conservation (SAC) within 5km of the Installation boundary; and
- there are four Sites of Special Scientific Interest (SSSI) within 5km of the Installation boundary and
- there are three other nature conservation sites within 2km, which are all Local Wildlife Sites (LWS).

As explained below, we have taken into consideration the potential environmental impact of the activity on all sensitive receptors, including residential, commercial and nature conservation sites.

### **3.3 What the Installation does and proposed site design**

Pengwedna Poultry Farm is situated approximately 335 metres west of the village of Nancegollan in Helston, Cornwall. The installation is approximately centred on National Grid Reference SW 62814 31980.

The installation is operated by Richland Foods Limited and comprises four poultry houses, numbered one to four, which operate a multi-tier aviary system for free range laying hens. The four poultry houses provide a combined capacity for 112,000 bird places. Free range laying hens are brought onto the farm at

approximately 16 weeks old and remain for approximately 56 weeks, and are therefore depopulated at approximately 72 weeks of age, after the laying cycle has finished. Following depopulation, the houses are cleaned out and left empty over a period of approximately 4 weeks before the next cycle commences.

All four poultry houses are ventilated by roof fans with an emission point higher than 5.5 metres above ground level and an efflux speed greater than 11 metres per second, with roof vent inlets.

A quantity of manure is removed by belts from the poultry houses twice weekly, loaded on to trailers and exported off site, with the remaining litter on the floor removed during clean out at the end of the cycle. At the end of the cycle the houses are depopulated, washed and disinfected ready for the next cycle. Water from the wash out of poultry houses is channelled to underground collection tanks close to the houses to await export off site, and is subsequently sent to a water treatment facility. All manure is exported from the installation and sent for composting, with contingency arrangements in place to either send it to an anaerobic digester plant when required or spread on land owned by the operator or third parties. The areas adjacent to sides of the houses with pop holes have a layer of woodchip/bark spread to collect any droppings in the area, and this is inspected daily to determine whether areas need replacing or replenishing. The area is fully cleared and replaced with fresh woodchip/bark every three months, with the waste bark loaded onto trailers and exported off site to the composting facility. Poultry house roof water and water draining from the yard areas (excluding periods of washout when water from the yard drains to the underground collection tanks) drain to nearby stone-filled below ground trenches constructed to act as soakaways. The ranging areas are grassed, which act as soakaways, and also have trees and shrubs planted which aid in surface water management. At times of excessive rainfall, the run-off from the ranging areas is minimised by the strategic landscaping and tree and shrub planting, and a containment bund constructed along the installation's northern and western boundaries.

The land around the site is predominantly agricultural, consisting of arable, grassland and other farming enterprises. The site is at an altitude of between 85 – 100 m and the land slopes down towards the valley formed by the River Hayle to the west-northwest. Associated feed is stored on the installation in enclosed, purpose-built feed bins. Mortalities are collected daily and stored in a locked freezer on site prior to disposal and then removed by a licensed individual twice a month, in accordance with Animal By-Products Regulations.

There are point source emissions from the Installation to air, water and land. Details of how we have addressed these can be found in the Permit and elsewhere in this document.

The key features of the Installation are summarised in table 2 below.

<b>Table 2 Key features of the Installation</b>	
<b>Operational features</b>	<b>Description</b>
Layer hen rearing	112,000 free range layer hens are brought onto the farm at approximately 16 weeks old, remain for approximately 56 weeks, and are depopulated at approximately 72 weeks of age, after the laying cycle has finished.
Poultry house ventilation	High velocity roof fans (at a height of at least 5.5m and an efflux velocity of at least 11m/s).
Litter/manure management	A quantity of manure is removed by belts from the poultry houses twice weekly, with the remaining litter on the floor removed during clean out at the end of the cycle. All manure is exported from the installation and sent for composting, with contingency arrangements in place to either send it to an anaerobic digester plant when required or spread it on land owned by third parties or the Operator. The areas adjacent to sides of the houses with pop holes have a layer of woodchip/bark spread to collect any droppings in the area, and this is inspected daily to determine whether areas need replacing or replenishing. The area is fully cleared and replaced with fresh woodchip/bark every three months, with the waste bark loaded onto trailers and exported off site to the composting facility.
Waste water management	Waste water is directed to underground collection tanks close to the poultry houses to await export off site to a water treatment facility.
Carcass management	Mortalities are collected daily and stored in a locked freezer on site prior to disposal and then removed by a licensed individual twice a month, in accordance with Animal By-Products Regulations.

Site drainage	Roof water from the poultry houses and yard surface water (excluding periods of washout when water from the yard drains to the underground tanks) drain to nearby stone-filled below ground trenches located close to the poultry houses which act as soakaways. During clean out operations a diverter valve is used to channel yard surface water to the wash water collection tanks for exporting off site to a water treatment facility. The ranging areas are grassed, which act as soakaways, and also have trees and shrubs planted which aid in surface water management. At times of excessive rainfall, the run-off from the ranging areas is minimised by strategic landscaping and tree planting, and a containment bund constructed along the installation's northern and western boundaries.		
Storage and use of raw material	Description	Maximum amount stored	Annual throughput
	Biocides (including disinfectants)	50 litres	250 litres
	Pesticides (including rodenticides/insecticides)	None stored	100kg rodenticide 50 litres insecticide
	Veterinary medicines	None stored	As required, in consultation with veterinary specialist.
	Bedding (straw/shavings)	None stored, used as soon as delivered	12.5 tonnes
	Diesel	None stored, except for standby generator tank	Variable
	Woodchip/bark	None stored	8300 m <sup>3</sup>

The Application has been assessed in line with our guidance: EPR 6.09 Sector Guidance Note – How to comply with your environmental permit for intensive farming (EPR 6.09) (version 2) which is available via the following link:

[www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/297084/geho0110brsb-e-e.pdf](http://www.gov.uk/government/uploads/system/uploads/attachment_data/file/297084/geho0110brsb-e-e.pdf)

and the new Best Available Techniques Reference Document (BREF) for the Intensive Rearing of Poultry or Pigs (IRPP), which was published on 21 February 2017. There is a separate Best Available Techniques (BAT) Conclusions document which sets out the standards that permitted farms have to meet.

The BAT Conclusions document is available via the following link:

<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32017D0302&from=EN>

The techniques proposed by the Applicant meet the requirements set out in the 6.09 guidance and BAT conclusions document and are considered to be the best available techniques for a layer unit of this size. It is a requirement of the Permit that the poultry unit is operated in line with this guidance and the new BAT conclusions document.

The Applicant has confirmed that the operation of the farm will be in accordance with the relevant sections of our sector guidance note EPR 6.09 and the new Best Available Techniques Reference Document (BREF) for the Intensive Rearing of Poultry or Pigs (IRPP),

## 4. Key issues of the decision

The key issues arising during this determination were as follows:

- 4.1 The possible impact of **ammonia** on sensitive local ecological receptors
- 4.2 The possible impact of **ammonia** on human receptors
- 4.3 The possible associated loss of amenity linked to **odour** emissions arising from the Installation
- 4.4 The possible associated loss of amenity linked to **noise** emissions arising from the Installation
- 4.5 The possible impact of **dust / bioaerosols** on human receptors
- 4.6 The possible impact of **site drainage** on groundwater and surface water
- 4.7 The possible impact of **pests**
- 4.8 The possible impact of nitrogen deposition in a Nitrate Vulnerable Zone (NVZ)
- 4.9 Changes arising as a result of the New Intensive Rearing of Poultry or Pigs BAT Conclusions document

We therefore describe how we determined these issues in some detail in this document below.

### 4.1 Ammonia Emissions – Ecological Receptors

Given the nature of the proposed activity, there is the potential for atmospheric ammonia to be released into the environment and impact nearby sensitive habitats and species. For this reason we have carried out an assessment of the risk.

Ammonia emissions from farms may lead to both direct and indirect effects on vegetation. Nitrogen deposition can lead to acidification of the ecosystem or act as a fertiliser, leading to nutrient enrichment and subsequent changes in the structure of the habitat.

The Conservation of Habitats and Species Regulations 2010 (which implements the Habitats and Birds Directives) provides protection in law for Special Areas of Conservation (SACs) and Special Protection Areas (SPAs). Government policy is that Ramsar sites are also treated in the same way as SACs and SPAs. Before granting the Permit we must determine whether the Installation would be likely to have a significant effect on a SAC, SPA or Ramsar site. If it would, we may only grant the Permit after carrying out an appropriate assessment and ascertaining that the Installation will not adversely affect the integrity of a SAC, SPA or Ramsar site or else that an exception applies.

The Wildlife and Countryside Act 1981 provides protection in law for SSSIs. Before granting the Permit we must determine whether the Installation is likely to damage any of the flora, fauna or geological or physiographical features by reason of which a SSSI is designated. If it is, we may only grant the Permit after notifying Natural England, waiting 28 days, and taking any advice we receive from them into account.

The above legislation, as well as other legislation such as the Environment Act 1995 and the Natural Environment and Rural Communities Act 2006, provides additional protection for flora and fauna whether or not existing in specifically designated conservation sites. We set out below how we have assessed the Application in view of this legislation.

To determine whether the Installation is likely to have a significant effect on a SAC, SPA or Ramsar site, and whether it is likely to damage any of the relevant features of a SSSI, we consider the impact of the

Installation in combination with other sources of potential impacts. This is done by considering the Installation's process contribution (PC) and the background levels.

When assessing the Installation's likely impact to flora and fauna more generally (including within other sites such as National Nature Reserves (NNRs), Local Nature Reserves (LNRs), Local Wildlife Sites (LWSs) and Ancient Woodlands) we look at the impact from the Installation alone in order to determine whether it would cause significant pollution. This is a proportionate approach, in line with the levels of protection offered by the conservation legislation to protect these other sites (which are generally more numerous than SACs, SPAs, Ramsar sites or SSSIs). It also allows us to strike a balance with other legal duties we are subject to, such as 'to have regard to the desirability of promoting economic growth', by ensuring that we do not unnecessarily restrict development.

Critical levels and loads<sup>1</sup> are set to protect the most vulnerable habitat types.

Critical levels are defined as "*concentrations of pollutants in the atmosphere above which direct adverse effects on receptors, such as human beings, plants, ecosystems or materials, may occur according to present knowledge*". (Source: [https://www.icpmapping.org/Definitions\\_and\\_abbreviations](https://www.icpmapping.org/Definitions_and_abbreviations))

Critical Loads are defined as: "*a quantitative estimate of exposure to one or more pollutants below which significant harmful effects on specified sensitive elements of the environment do not occur according to present knowledge*" (Source: [https://www.icpmapping.org/Definitions\\_and\\_abbreviations](https://www.icpmapping.org/Definitions_and_abbreviations))

The **critical load** relates to the quantity of pollutant **deposited** from air to the ground, whereas the **critical level** is the gaseous **concentration** of a pollutant in the air.

Thresholds change in accordance with the levels of protection afforded by the legislation. Therefore the thresholds for SAC, SPA and SSSI features are more stringent than those for other nature conservation sites. For these other sites we consider that the Installation would not cause significant pollution if the PC is less than the relevant critical level (CLE) or critical load (CLO), provided that the Applicant will be using BAT to control emissions.

The screening assessment has considered any SACs, SPAs, Ramsar sites and SSSIs within 5km of the Installation boundary and any other nature conservation sites (including NNRs, LNRs, Ancient Woodlands and LWSs), within 2km of the Installation boundary. There is one SAC, four SSSIs and three other nature conservation sites which are all LWSs located within these screening distances.

We have used the Environment Agency's Ammonia Screening Tool, version 4.5 (AST v4.5) to assess the predicted impact of the Installation at those sites identified within the above distance criteria.

We have applied a two stage screening criteria to the ammonia screening tool results, as follows:

Stage 1 - Where the ammonia screening tool predicts that emissions of ammonia or ammonia deposition (nutrient nitrogen or acid) will be <Y% (for Y%, see Table 3 below) of the relevant CLE or CLO, the Installation does not require an ammonia assessment (it is 'screened out').

Stage 2 - Further modelling is required (the Installation is not 'screened out') where:

- emissions of ammonia or ammonia deposition (nutrient nitrogen or acid) are in excess of Z% (for Z%, see Table 3 below) of the relevant CLe (ammonia) or CLo (nutrient nitrogen or acid) at any particular designated site; or
- there is the potential for an in-combination effect with existing farms at a SAC, SPA, Ramsar site and/or SSSI if emissions are >Y% of the CLE or CLO; or

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<sup>1</sup> Critical loads and levels have been used by the United Nations Economic Commission for Europe (UNECE) to set targets for reductions in acid rain and the effects of nitrogen on sensitive ecosystems. The system used to work out critical loads has been agreed by the UNECE and is used by individual countries to calculate appropriate standards. Critical levels for key pollutants, such as ammonia, are proposed by a UNECE working group of international experts on the effects of air pollutants on ecosystems. Critical loads and levels provide the best available scientific information on the effects of pollutants on ecosystems.

- the Installation is already permitted and the original permit required an Improvement Condition to reduce ammonia emissions; or
- the Installation is within 250m of a nature conservation site.

<b>Designation</b>	<b>Y%</b>	<b>Z%</b>
SAC, SPA, Ramsar site	4	20
SSSI	20	50
NNR, LNR, LWS, Ancient Woodland	100	100

The nature conservation site assessment takes into account the United Nations Economic Commission for Europe (UNECE) CLe for ammonia, which have been applied as follows:

- sites with sensitive Lichen or Bryophyte interest and habitats for which sensitive lichens and bryophytes are an integral part:  $1\mu\text{g}/\text{m}^3$ ; and
- other vegetation:  $3\mu\text{g}/\text{m}^3$ .

The assessment also considers the deposition of ammonia resulting in nutrient enrichment (and acidification) against relevant CLo. However, where a CLe of  $1\mu\text{g}/\text{m}^3$  is assigned, we believe the CLe is protective enough for deposition impacts and so no deposition assessments are necessary in this instance. Where a CLe of  $3\mu\text{g}/\text{m}^3$  is applied, deposition is considered as part of the assessment.

A 4% trigger threshold has been designated<sup>2</sup> for assessment of SACs, SPAs and Ramsar sites such that:

- if the Process Contribution (PC) is below 4% of the relevant CLe or CLo then the Installation is not considered likely to have a significant effect on these sites and can be permitted with no further assessment; and
- if this threshold is exceeded, the Installation is considered likely to have a significant effect and an appropriate assessment (in consultation with Natural England) is required. An overlapping in combination assessment will also be completed where existing farms are identified within 5km of the SAC, SPA or Ramsar site.

A 20% trigger threshold is applied for assessment of SSSIs such that:

- if the process contribution (PC) is below 20% of the relevant critical level (CLe) or critical load (CLO) then the Installation is not considered likely to damage any of the relevant features of a SSSI and can be permitted with no further assessment; and
- if this threshold is exceeded the Installation is considered likely to damage any of the relevant features of a SSSI and further assessment (in consultation with Natural England) is required. An in combination assessment will also be completed to establish the combined PC for all existing farms identified within 5 km of the SSSI.

## **Ammonia assessment – SAC**

Following the methods described above, screening using the ammonia screening tool version 4.5 determined that the process contribution of ammonia emissions from the application site was over the 4%

<sup>2</sup> The Air Quality Technical Advisory Group (AQTAG) agreed the thresholds in 2007, this was in consultation with Natural England and, at the time, the Countryside Council for Wales (now Natural Resources Wales) as both bodies are represented on the AQTAG group. Thresholds are expressed as a percentage of the relevant critical level or load and are based on: best available evidence of impacts at the time, professional judgement, and consideration that farms were already contributing to existing background levels. All thresholds are based on the best available evidence. We will review thresholds if/when new evidence becomes available.

significance threshold at Tregonning Hill SAC, at 4.6%. As such, it is not possible to conclude no adverse effect alone at this stage. Where the process contribution falls between 4% and 20%, Environment Agency guidance indicates that an in combination assessment should be undertaken.

There are no other intensive farm installations acting in combination with this application. At 4.6% the PC is predicted to be less than 20% of the critical level significance threshold. It is therefore possible to conclude no adverse effect to the site from the installation and no further assessment is required.

Additionally, although not required, detailed modelling was also provided by the applicant (reference 'A Report on the Modelling of the Dispersion and Deposition of Ammonia from the Proposed Free Range Egg Laying Chicken Houses at Pengwedna, near Nancegollan in Cornwall', AS Modelling & Data Ltd, dated 02/09/17). This determined that the PC on Tregonning Hill SAC for ammonia is under the 4% significance threshold at 2.5% and can be screened out as having no likely significant effect. See the results below.

Detailed modelling provided by the applicant has been audited by the Environment Agency and we have confidence that we can agree with the report conclusions that support the screening conclusion of no adverse effect to the SAC from the installation.

<b>Name of SAC</b>	<b>Critical level ammonia µg/m<sup>3</sup></b>	<b>Predicted PC µg/m<sup>3</sup></b>	<b>PC % of Critical level</b>
Tregonning Hill SAC	1*	0.025	2.5

\* Critical level value taken from Air Pollution Information System (APIS) website ([www.apis.ac.uk](http://www.apis.ac.uk)) on 05/06/18. Where a critical level of 1 µg/m<sup>3</sup> is used, and the process contribution is assessed to be less than the 4% insignificance threshold in this circumstance it is not necessary to further consider nitrogen deposition or acid deposition critical load values.

### **Ammonia assessment – SSSI**

Following the screening process described above, our initial screening indicated that emissions from the Installation will only have a potential impact on SSSIs with a precautionary critical level of 1µg/m<sup>3</sup> if they are within 1,259m of the emission source.

Beyond 1,259m the PC is less than 0.2µg/m<sup>3</sup> (i.e. less than 20% of the precautionary 1µg/m<sup>3</sup> critical level) and therefore beyond this distance no further assessment is required.

In this case all the SSSIs are more than 1,259m from emission sources at the Installation (see table 5 below). Therefore the Installation is not considered likely to damage any of the relevant features of the SSSIs and 'screens out' of any further assessment.

Where the precautionary level of 1µg/m<sup>3</sup> is used, and the process contribution is assessed to be less than 20% the site automatically screens out as insignificant and no further assessment of critical load is necessary. In this case the 1µg/m<sup>3</sup> level used has not been confirmed by Natural England, but it is precautionary. It is therefore possible to conclude no likely damage to these sites.

<b>Name of SSSI</b>	<b>Distance from emissions sources (m)</b>
Tremearne Par SSSI	5,471*
Great Wheal Fortune SSSI	3,062
Tregonning Hill SSSI	3,336
West Cornwall Bryophytes SSSI	2,428

\* This site is included at >5km because the screening is based on an approximate centre point of the emissions and includes a buffer distance calculated from this centre point to the furthest point of the boundary to ensure all nature conservation sites within the threshold distance from the installation boundary have been included in the assessment.

## **Ammonia assessment - LWS**

Following the methods described above, our initial screening indicated that emissions from the Installation will only have a potential impact on other nature conservation sites (such as National Nature Reserves (NNRs), Local Nature Reserves (LNRs), Local Wildlife Sites (LWSs) or Ancient Woodlands) with a precautionary critical level of  $1\mu\text{g}/\text{m}^3$  if they are within 432m of the emission source.

Beyond 432m the PC is less than  $1\mu\text{g}/\text{m}^3$  (i.e. less than 100% of the precautionary  $1\mu\text{g}/\text{m}^3$  critical level) and therefore beyond this distance no further assessment is required.

In this case all the other nature conservation sites are much more than 432m from emission sources at the Installation (see table 6 below). Therefore the Installation is not considered likely to damage any of the relevant features of the other nature conservation sites and 'screens out' of any further assessment.

Where the precautionary level of  $1\mu\text{g}/\text{m}^3$  is used, and the process contribution is assessed to be less than 100% the site automatically screens out as insignificant and no further assessment of critical load is necessary. In this case the  $1\mu\text{g}/\text{m}^3$  level used has not been confirmed by Natural England, but it is precautionary. It is therefore possible to conclude no likely damage to these sites.

<b>Name of LWS</b>	<b>Distance from emissions sources (m)</b>
Clowance House & Park LWS	1,844
Polcrebo Downs LWS	2,148*
Carnmeal Downs LWS	2,275*

\* This site is included at >2km because the screening is based on an approximate centre point of the emissions and includes a buffer distance calculated from this centre point to the furthest point of the boundary to ensure all nature conservation sites within the threshold distance from the installation boundary have been included in the assessment

No further assessment is necessary



## 4.2 Ammonia Emissions – Human Receptors

The Health Protection Agency (now Public Health England) has stated (Position Statement, Intensive Farming 2006) that it is unlikely that ammonia emissions from a well-run and regulated farm would be sufficient to cause ill health.

Whilst the potential adverse effects of ammonia include respiratory irritation and may also give rise to odour complaints, levels of ammonia in ambient air will decrease rapidly with distance from a source.

The Applicant's measures to minimise emissions from the Installation, which will minimise ammonia emissions, are included in its Environmental Risk Assessment Odour Management Plan and Dust Management Plan. We have assessed these measures and have determined they represent best available techniques for this activity. Measures include operating ventilation systems to achieve optimum humidity levels for the stage of production in all weather and seasonal conditions. Furthermore, condition 3.2 of the Permit applies to substances not controlled by emissions limits, also known as fugitive emissions. The Operator will be required to manage its activities so that they do not cause pollution.

In addition, we have considered ammonia levels for human health.

There are two human health Environmental Assessment Levels (EALs) for ammonia as outlined in our website guidance at the link: <https://www.gov.uk/guidance/air-emissions-risk-assessment-for-your-environmental-permit#environmental-standards-for-air-emissions>. These are a long term (LT) EAL of 180µg/m<sup>3</sup> and a short term (ST) EAL of 2500µg/m<sup>3</sup>.

The Applicant did not submit a quantitative assessment of the potential impact on human health from ammonia. However, the Environment Agency has carried out an assessment using conservative assumptions with regards to ammonia. The Environment Agency conclude that it is highly unlikely that the emissions will exceed the annual and daily limit values of 180 µg/m<sup>3</sup> and 2500 µg/m<sup>3</sup> respectively.

The Environment Agency assessment shows that at nearby receptor locations the impact is unlikely to be over the screening out as insignificant criteria of 1% LT (18 µg/m<sup>3</sup>) and 10% ST (250 µg/m<sup>3</sup>)

We have carefully assessed the impacts and taken advice from PHE, who are the authority in matters relating to public health. The consultation response from PHE can be found within Annex 1 of this document.

We conclude that ammonia from the Installation is unlikely to have a significant health impact on human receptors, given the conditions imposed by the Permit.

## 4.3 Odour

### 4.3.1 Risk Assessment

Intensive farming is by its nature a potentially odorous activity and complaints concerning this type of site are not unknown. This is recognised in our 'How to Comply with your Environmental Permit for Intensive Farming' EPR 6.09 guidance ([www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/297084/geho0110brsb-e-e.pdf](http://www.gov.uk/government/uploads/system/uploads/attachment_data/file/297084/geho0110brsb-e-e.pdf)), which acknowledges that there is likely to be odour from outside of the installation boundary, and that the appropriate measures for this sector prevent and where that is not possible minimise these odour emissions.

The Environment Agency's overarching approach for all installations is to ensure adequate controls are in place for sites with the potential to cause odour pollution beyond the Installation boundary. This is achieved via the requirement for the operator to have and comply with an approved odour management plan (OMP). This OMP must be approved by the Environment Agency in line with odour condition 3.3 (see below). Such an OMP covers both point source and fugitive potential odorous emissions from an installation and is based on the foundation of a bespoke risk assessment for each particular installation as discussed below.

Condition 3.3 of the Permit reads as follows:

*Emissions from the activities shall be free from odour at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved odour management plan, to prevent or where that is not practicable to minimise the odour.*

Under section 3.3 of the guidance, an OMP must be approved as part of the permitting process if sensitive receptors (in this instance excluding properties associated with the Installation) are within 400m of the installation boundary. It is appropriate to require an OMP when such sensitive receptors have been identified within 400m of the installation to prevent, or where that is not practicable, to minimise the risk of pollution from odour emissions. In this instance there are more than 50 sensitive receptors within 400 metres of the Installation boundary, therefore an OMP has been submitted, and further details are provided in section 4.3.2 below.

The Applicant's H1 risk assessment for odour provided with the Application lists key potential risks and likelihood of odour pollution beyond the Installation boundary, along with the measures taken to manage the risk. The activities, or foreseeable problems with activities, that have been identified as having the potential to generate odour are as follows:

- the selection and manufacture of feed;
- feed delivery and storage;
- problems with ventilation systems (inadequate air movement leading to high humidity and wet litter);
- poor litter management (including wet litter, insufficient or poor quality litter, drinking systems spillage and disease outbreak leading to wet litter);
- carcass disposal (inadequate storage or disposal of carcasses); and
- house clean out operations.

The Applicant has also included additional information on time limits for clean out operations in their response to the 3<sup>rd</sup> Schedule 5 Notice (received 27/07/18) to minimise the risk of odour pollution.

#### **4.3.2 Odour Management Plan**

The Installation is located within 400m of more than 50 sensitive receptors, with the closest listed below (please note, distances stated are only an approximation from the Installation boundary to the assumed boundary of the properties):

- Pengwedna, located on the boundary and surrounded by ranging area
- Higher Pengwedna Cottage, located on the boundary and surrounded by ranging area
- Pryors Cottage, located on the boundary and surrounded by ranging area
- Kus Skewes Farmhouse, adjacent to the northern boundary
- White Horse Cottage, adjacent to the southern boundary
- Bartlet's Farm, approximately 90m to the north east
- Kus-Skewes Farm, approximately 160m to the north east

The Operator has provided a revised OMP (reference 02b–Richland–OMP-Dec18, received 03/12/18) in response to the additional information requested 14/11/18. This revised OMP has been assessed against the requirements of 'How to Comply with your Environmental Permit for Intensive Farming' EPR 6.09 (version 2), Appendix 4 guidance 'Odour Management at Intensive Livestock Installations', our Top Tips Guidance and the Poultry Industry Good Practice Checklist (August 2013) as well as the site specific circumstances at the Installation and the OMP is in compliance with the criteria as specified in the relevant IRPP BAT conclusions document (BAT 12). We consider that the OMP is acceptable because it complies with the above guidance and The Applicant has included measures that will ensure compliance with the relevant IRPP BAT conclusion (BAT 13). Details of odour control measures, contingency measures and complaint procedures are described below.

The Operator is required to manage activities at the Installation in accordance with condition 3.3.1 of the Permit and its OMP. The OMP includes odour control measures, in particular, procedural controls such as for:

- manufacture and selection of compound feed;
- feed delivery and storage;
- ventilation techniques;
- litter conditions and management;
- carcass disposal and storage;
- management of drinking systems;
- destocking of livestock;
- poultry house clean out (litter removal);
- wash down and disinfection;
- dirty water management; and
- woodchip/bark

The OMP includes a section for on farm monitoring and continual improvement, which includes a commitment to periodic monitoring of odour emissions to European (EN) standards in order to determine odour concentration, and daily checks to detect abnormally high housekeeping odours and effects from any disease. It also includes monitoring for offsite odour, in response to any assessment by the Operator and/or as a result of complaints.

The OMP also includes contingency measures to minimise odour pollution during abnormal operations such as disease outbreak or extreme weather conditions preventing normal actions being undertaken including additional carcass storage being brought on site, additional sealed trailers for manure storage, Animal and Plant Health Agency (APHA) advice sought regarding isolating birds or keeping them within poultry housing, and a 24 hour maintenance contract will be in place for manure belt removal system failure.

The OMP also provides a suitable procedure in the event that complaints are made to the Operator, and includes a complaints form template. The OMP is required to be reviewed at least every 4 years and/or after the Environment Agency has notified the Operator that it has substantiated a complaint received.

The Environment Agency has reviewed the OMP and considers it complies with the requirements of our H4 odour management guidance note. We agree with the scope and suitability of 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.

The Operator's compliance with the Permit and its OMP will prevent and where that is not practicable minimise the emission of odour. It is not considered that there will be any significant odour pollution at sensitive receptors beyond the Installation boundary.

### **4.3.3 Odour Modelling**

Odour modelling for the intensive farming sector has high uncertainties associated with it. These uncertainties increase when considering receptors near to an Installation. This is due to a number of reasons including variability of odour concentrations being high for this sector. This, along with the uncertainties inherent in any modelling, makes predictions made by the model unreliable for making permit determination decisions.

Our current stance is that intensive farming units which are sites of high public interest (SHPI) and which are subject to complaints should be required to produce a high risk odour management plan (OMP), which is a more robust, detailed OMP to provide extra controls, including, but not limited to, enhanced contingency plans, to minimise any significant odour pollution at sensitive receptors beyond the installation boundary. For this application a robust OMP has been produced, so we have not audited the odour modelling submitted with the application and have not relied upon it.

#### 4.3.4 Conclusion

We have included our standard odour condition 3.3.1 in the Permit, which requires that emissions from the activities shall be free from odour at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the Operator has used appropriate measures, including, but not limited to, those specified in any approved odour management plan (which is captured through condition 2.3 and Table S1.2 of the Permit), to prevent or where that is not practicable to minimise the odour.

The Applicant will be required to operate the Installation in line with the operating techniques set out in the Application supporting documents (as listed in permit table S1.2), and the OMP. Once the operation of the Installation commences, there is a requirement to review and record (as soon as practicable after a substantiated complaint) whether changes to the OMP should be made and make any appropriate changes to the OMP identified by the review.

We are satisfied that the manner in which operations are carried out on the Installation will minimise the risk of odour pollution, and that we have sufficient controls within the permit conditions to enable further measures to be implemented should these be required.

### 4.4 Noise

#### 4.4.1 Risk Assessment

Intensive farming by its nature involves activities that have the potential to cause noise pollution. This is recognised in our 'How to Comply with your Environmental Permit for Intensive Farming' EPR 6.09 guidance.

Condition 3.4 of the Permit reads as follows:

*Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan, to prevent or where that is not practicable to minimise the noise and vibration.*

The Applicant's H1 risk assessment for noise and vibration provided with the Application lists the following key potential noise sources and the measures taken to manage the risk from them:

- large vehicles travelling to and from the site
- large vehicles on site for delivery of feed or transporting birds
- equipment used to clean houses
- removal of litter and waste water
- small vehicles travelling to and from site
- feed transfer from lorry to storage
- operation of ventilation systems (fans)
- alarm system and standby generator
- chickens
- personnel
- building work and repairs

In all cases the applicant assessed the likelihood of noise pollution beyond the Installation boundary as unlikely and the overall risk as not significant.

Under section 3.4 our 'How to Comply with your Environmental Permit for Intensive Farming' EPR 6.09 guidance a noise management plan (NMP) must be approved as part of the permitting determination, if there are sensitive receptors within 400m of the Installation boundary.

There are sensitive receptors within 400 metres of the Installation boundary. Therefore, the Operator has provided a noise management plan (NMP) as part of the Application supporting documentation, and further details are provided in section 4.4.2 below.

We have assessed the NMP and the H1 risk assessment for noise and conclude that the Applicant has followed the risk identification and mitigation guidance set out in EPR 6.09 Appendix 5 'Noise management at intensive livestock installations'. We have also audited the applicant's modelled noise impact assessment (see 4.4.3) including carrying out our own analysis of sensitivity of the results to variation of critical input parameters. We are satisfied that all sources and receptors have been identified, and that the proposed mitigation measures will minimise the risk of noise pollution / nuisance.

#### **4.4.2 Noise Management Plan**

An NMP should contain appropriate measures to prevent, or where that is not practicable to minimise the risk of pollution from noise emissions. Noise pollution from the Installation is one of the concerns for members of the public who have raised objections to this proposal.

Operations with the most potential to cause noise nuisance have been assessed and control measures put in place, as described in the revised NMP (reference 02c– Sept 18 received 04/09/18), for all the activities with greatest potential to generate noise, including:

- vehicles accessing and manoeuvring around site (specifically HGVs);
- machinery used on site (specifically moving birds and clean out operations);
- ventilation systems and manure removal belts;
- feed deliveries and transfer of feed to storage;
- removal of litter and waste water;
- chickens;
- alarm system and standby generator; and
- building work and repairs

Please note: the Applicant has only considered vehicle movements accessing the site and within the Installation boundary, which is consistent with our information requirements. Noise emitted from vehicles travelling on the local road network is outside our remit.

The NMP also contains a commitment to recording and investigation of any noise complaints received in direct relation to the installation. Complaints received directly from the public will be notified to the Environment Agency.

The NMP will be reviewed at least every 4 years and/or after an Environment Agency substantiated complaint is received,.

There is the potential for noise from the Installation beyond the Installation boundary. The risk of noise beyond the Installation boundary has been assessed by the applicant as unlikely to cause a nuisance, in part because the majority of the noise sources are located in the centre of the installation on and around the poultry houses.

The NMP identifies more than 50 properties within 400m of the installation boundary not occupied or owned by people connected with the Pengwedna farm (although the stated distances are from the nearest poultry houses).

However, a more detailed noise impact modelling report was also commissioned and submitted with the application to support the applicant's conclusions (see 4.4.3 below).

#### **4.4.3 Noise Modelling**

The applicant submitted a noise impact assessment conducted by Soundguard Acoustics Ltd (BS4142:2014 Sound impact assessment of proposed free range egg laying unit at land at Pengwedna, Nancegollan, Helston TR13 0BA 90600/1 March 2017) as part of the application. The survey only modelled the noise impact from 56 proposed ventilation ridge and gable end fans for comparison with the

measured existing background noise. We requested the inclusion of additional potential noise sources in a Schedule 5 notice dated 06/10/17, to which a response was received on 20/10/17 including a revised noise impact assessment (Report reference 90600/90692/0/3 October 2017).

The applicant considered the following noise sources:

<b>Table 7 Identification of Noise Sources</b>	
<b>Source</b>	<b>Assessment Conclusion</b>
56 Roof mounted extract fans	Potentially not insignificant – <b>included in model</b> Fans discharge upward so noise data perpendicular to flow was used in the modelling. Ventilation aims to achieve a constant temperature so the modelling assumes: 100% operational time as worst case for daytime operation. 50% operational time as typical for daytime operation. 25% operational time as worst case for night time operation.
Vehicle movements	Negligible – <b>not included in model</b> Assessment was based on measurements of feed lorry movements at another site and Pengwedna distance to receptors.
Arrival and Removal of birds	Negligible – <b>not included in model</b> Assessment based on measurements of typical forklift movements at another site, frequency of operation and Pengwedna distance to receptors.
Bulk Feed Delivery	Potentially not insignificant – <b>included in model</b> Assessment was based on measurements of feed lorry discharge at another site and Pengwedna distance to receptors.
Manure belt collection systems	Negligible – <b>not included in model</b> Assessment based on measurements of manure belt operation at another site and Pengwedna distance to receptors.
Power washing and disinfection	Negligible – <b>not included in model</b> Assessment based on manufacturer's data, estimated attenuation of building walls, frequency of operation and Pengwedna distance to receptors.

The consideration of noise from chickens in the risk assessment and Noise Management Plan only covers the arrival and removal of birds to and from the houses. As explained above this has not been included as a noise source in the applicant's noise modelling. However, we have included destocking and vehicle movements in our audit of the applicant's modelling (see Table 8 below).

We have audited poultry cases previously which included an estimation of bird noise from houses (see e.g. IPPC SRG 6.02 Guidance) and we consider from our regulatory experience that noise from birds in the houses is unlikely to be a significant noise source and in this case is unlikely to be perceivable at receptors. Therefore it is acceptable for noise from chickens in houses not to have been included in the applicant's modelling.

Noise from chickens on the ranges is a diffuse source that cannot easily be modelled and is not controlled by point source emission limits. The expected numbers outside the houses, dispersion and frequency of crowding at any particular point mean that the ranging chickens are unlikely to have an adverse impact at receptors. However, their noise is subject to the general permit noise control condition 3.4.1

*Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan to prevent or where that is not practicable to minimise the noise and vibration.*

We have completed an audit of the Applicant's revised noise assessment report and a summary of our audit is below.

The applicant set up their calculations and model with a number of parameters that we do not necessarily agree are representative or conservative. We have therefore modelled and checked the sensitivity to the following assumptions:

<b>Table 8 Noise Modelling Audit Sensitivity Checking</b>	
<b>Application Parameter Value</b>	<b>Sensitivity Check</b>
Ground absorption factor 1.0 (representing open grassland)	We tested 0.8 to reflect potential changes in the surrounding agricultural land use
Building absorption factor used in screening of noise from the delivery lorry is unclear	We tested a conservative value of 0.1
Bulk feed deliveries 3 per week lasting 30 minutes at either of 2 delivery points	We tested simultaneous deliveries at the 2 identified points
HGV movements approaching and on site as 2 minutes in any one hour	We tested 4 HGV movements per hour throughout the daytime along the access route on the site.
HGV sound pressure level of 80dB(A) at 2m (from measure data)	We tested a representative source sound power level of 101 dB(A) at 2.5m height (typical for engine exhaust)
Topography generally flat	We tested the terrain using Environment Agency Light Imaging, Detection and Ranging (LIDAR) data
Receptor height of 2m daytime and 4m night-time (representing typical locations in day and night)	We tested 2m and 4m daytime and night-time to cover all eventualities.
Extra check not specifically addressed in application	Destocking scenario: Evening before 11pm, 8 HGV movements per hour. Fans 100%. No bulk feed activity.

As a result of the sensitivity analysis and a conservative approach to the modelling parameters we generally predict sound levels higher than the consultant for all scenarios. Taking this conservative approach for the worst-case conditions our initial BS4142 impact estimate indicates the potential for adverse impacts both during the day and night.

However, in line with BS4142 guidance, after considering the context of the potential impacts of the initial estimate we conclude that operations are not likely to lead to adverse impacts, due to the following factors in this case:

- The fans are one of the dominant sources when operational and for the daytime a worst case 100% use was modelled . However, for this system design and UK ambient temperatures the applicant feels, and we agree, the modelled 50% use will be more typical.
- The other dominant source is the bulk feed delivery. However, this operation is infrequent and the partial sound levels indicate that the noise is unlikely to be perceptible above the residual day-time levels.

- The background sound and 'worst case' rating levels are both considered to be low in the daytime and night-time and therefore absolute levels are also relevant to determine the significance of impacts.
- The daytime sound levels are unlikely to result in any perceptible increase in the equivalent continuous existing ambient levels, i.e. there is likely to be negligible change in the absolute levels.
- Both the 'worst case' day-time and night-time absolute sound levels are likely to be below the WHO night noise guideline of  $L_{\text{night, outside}}$  40 dB which is equivalent to the lowest observed adverse effect level (LOAEL) for night noise.  
This includes during the twice yearly destocking.

In summary, although we do not wholly agree with the consultant's numerical predictions, given the context of the free range egg laying houses, the existing background noise sources and our conservative sensitivity modelling checks, we consider that the proposal is unlikely to have an 'adverse' impact and that the impacts are acceptable.

#### 4.4.4 Conclusions

We have included our standard noise and vibration condition 3.4.1 in the Permit, which requires that emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the Installation, as perceived by an authorised officer of the Environment Agency, unless the Operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan (which is captured through condition 2.3 and Table S1.2 of the Permit), to prevent or where that is not practicable to minimise the noise and vibration.

The Applicant will be required to operate the Installation in line with the operating techniques set out in the Application supporting documents and the NMP. Once the operation of the Installation commences, there is a requirement to review the NMP either following an Environment Agency substantiated complaint, or every 4 years, whichever is sooner. The review will record whether changes to the NMP should be made and make any appropriate changes to the NMP identified by the review.

We are satisfied that, using Best Available Techniques, the specific operational and mitigation measures included in the report, the modelling and the Noise Management Plan incorporated into the permit as Operational Techniques, will prevent, or where that is not practicable minimise, pollution from noise and vibration.

#### 4.5 Dust and Bioaerosols

The use of Best Available Techniques and good practice will ensure minimisation of emissions. There are measures included within the Permit (the 'Fugitive Emissions' conditions) to provide protection. Condition 3.2.1 'Emissions of substances not controlled by an emission limit' is included in the Permit. This is used in conjunction with condition 3.2.2 which states that in the event of fugitive emissions causing pollution following commissioning of the Installation, the Operator is required to undertake a review of site activities, provide an emissions management plan and to undertake any mitigation recommended as part of that report, once agreed in writing with the Environment Agency.

In addition conditions 1.1.1 and 2.3 within the Permit provide additional protection. Condition 1.1.1 is a general management condition stating that the operator shall manage operate the activities in accordance with a written management system that identifies and minimises risks of pollution, so far as is reasonably practicable, including those risks arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints; and using sufficient competent persons and resources. Condition 2.3 'Operating Techniques' states that 'activities shall, subject to the conditions of the permit, be operated using the techniques and in a manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing...', and this ties the Operator specifically to the specific details submitted in support of the Application.

The nearest sensitive receptors, Pengwedna and Higher Pengwedna Cottage are surrounded by the ranging areas and adjacent to the installation boundary, approximately 135m to the south west of poultry house 3, with Pryors Cottage also surrounded by the ranging areas, adjacent to the installation boundary and approximately 198m to the east of poultry house 1.



Guidance on our website concludes that applicants need to produce and submit a dust and bioaerosol management plan with their applications only if there are relevant receptors within 100 metres of their farm, e.g. the farmhouse or farm worker's houses. Details can be found via the link below:  
[www.gov.uk/guidance/intensive-farming-risk-assessment-for-your-environmental-permit#air-emissions-dust-and-bioaerosols](http://www.gov.uk/guidance/intensive-farming-risk-assessment-for-your-environmental-permit#air-emissions-dust-and-bioaerosols).

As there are receptors within 100m of the Installation boundary, the Applicant was required to submit a dust and bioaerosol management plan in the designated format, referred to as the Dust Management Plan (revised version referenced 02d Revised DMP – Sept 18, received 14/09/18).

In the guidance mentioned above it states that particulate concentrations fall off rapidly with distance from the emitting source. This fact, together with the proposed good management of the Installation such as keeping areas clean from build-up of dust, and other measures in place to reduce dust and risk of spillages (e.g. litter and feed management/delivery procedures) all reduce the potential for emissions impacting the nearest receptors. The Applicant has confirmed the following measures in their dust and bioaerosol management plan to reduce dust, which will inherently reduce bioaerosols:

- No milling or mixing of feed takes place at the farm
- Feed delivery systems are sealed
- Ventilation systems are designed and operated to achieve optimum internal environmental conditions, and fans run at greater rates to enable better dispersion of air and dust
- Bedding is dust extracted virgin wood shavings or chopped straw which is quality checked and either blown into the houses in enclosed pipes or wrapped and unpacked within the houses
- Dust build-up around extraction fans and in gravelled/concreted areas is routinely swept up
- During destocking of livestock, ventilation is controlled to minimise release of increased levels of dust and machinery movements kept to a minimum
- During clean out (litter removal) all internal areas are blown down using high pressure air lances before litter is removed so areas of trapped dust are minimised, and fans operated to aid dispersion of dust
- During washdown and disinfection of poultry houses, pre-soaking of the buildings is carried out to minimise fine particle releases from high pressure lances and fan assisted sprayers
- Dust extracted woodchip/bark is used outside the pop holes and replaced every 3 months or earlier if necessary, and loaded on to sheeted waste trailers

We are satisfied that the measures outlined in the Dust Management Plan and Application will minimise the potential for dust and bioaerosol emissions from the Installation, and that we have sufficient controls within the permit conditions to enable further measures to be implemented should these be required

## 4.6 Site Drainage

### 4.6.1 Description and risk assessment

An assessment of the site drainage, including the risk to groundwater and surface water from potential pollutants from the Installation, has been undertaken.

The Operator is required to comply with its management systems by condition 1.1 of the Permit. Further, it is required to comply with measures as detailed in section 3.2, EPR 6.09 'How to comply with your environmental permit for intensive farming', version 2 and specifically the section entitled 'Appropriate measures for preventing and minimising fugitive emissions, Management of drainage systems and run-off'. This states:

*'roof water from systems with high efflux velocity roof fans (i.e. above 5m s<sup>-1</sup>) does not require interception and treatment provided roofs remain clean with no visible signs of dust.'*

Roof water from the poultry houses is considered to be clean, as the ventilation is by means of high velocity roof extraction fans, with an efflux velocity of at least 11 m/s. In addition, the measures proposed by the Applicant in its management systems include regular building inspections, site maintenance and

procedures to keep the buildings clean and prevent the build-up of dust on site, and visual checks made for leakage, corrosion and structural damage.

Roof water from all four houses drains via guttering to trenches acting as soakaways located close to the poultry houses. Soakaways are considered as sufficient interception and treatment for potentially lightly contaminated water (although in this instance the roof water is considered to be clean, as described above). Water from the yard areas drains to nearby infiltration trenches acting as soakaways (excluding periods of washout when water from the yard is directed to the underground tanks).

The Permit will ensure (via the management condition, 1.1) that the Operator keeps these areas clean to minimise potential pollution.

During clean out of the poultry houses where the concreted yard may become contaminated, diverter valves are manually operated to switch the drainage from the yard area to channel it to an underground dirty water collection tank to ensure no polluted water enters the clean water drainage system. The collection tank will be built to conform to specifications in EPR6.09 'How to comply with your environmental permit for intensive farming', and specifically to meet the requirements of The Water Resources (Control of Pollution) (Silage, Slurry and Agricultural Fuel Oil) (England) Regulations 2010 (as amended 2013). All wash water inside the poultry houses goes straight in to the dirty water drainage system and on to the dirty water collection tanks. Areas where the manure is removed twice weekly by belt from the houses and loaded on to trailers are impermeable and kerbed, with drainage going to the underground water collection tanks. The dirty water is removed from the collection tank by means of a vacuum tanker and exported off site to a water treatment facility.

Assessments of the potential for pollution to ground and surface water from the ranging areas is considered separately in section 4.6.2 below.

Other sources of potential pollution from fugitive emissions have been assessed, such as dust from feed silos and transfer. Measures to prevent or minimise emissions are considered to be satisfactory. Potential pollutants such as chemicals stored on site, fuel storage and carcass storage have sufficient measures in place for containment, as assessed against the requirements of S3.2 of EPR 6.09 'How to Comply with your environmental permit for intensive farming', version 2. With the exception of the fuel tank for the standby generator, no fuel is stored on site. Purpose-made footbaths with lids provided will be managed so as to prevent overflow, and sited on impermeable surfaces on the concrete aprons and at the personnel entrance to the building. Spent disinfectants from the footbaths will be disposed of with the dirty water. Wheel washing will be via a knapsack spray and undertaken on the impermeable surface (concrete apron) at house 1, with any spent disinfectant contained within the yard area, washed down and directed to the dirty water collection tanks.

In addition, permit conditions 3.2.1 and 3.2.2 within condition 3.2 'Emissions of substances not controlled by emission limits' state the following:

- 3.1.1 *Emissions of substances not controlled by emission limits shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved emissions management plan, have been taken to prevent or where that is not practicable, to minimise, those emissions.*
- 3.1.2 *The operator shall:*
- (a) *if notified by the Environment Agency that the activities are giving rise to pollution, submit to the Environment Agency for approval within the period specified, an emissions management plan which identifies and minimises the risks of pollution from emissions of substances not controlled by emission limits; and*
  - (b) *implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.*

The measures in place in the Operator's management systems are considered sufficient to ensure that any contaminated water will be contained, and potentially lightly contaminated water has sufficient mitigation in place. The Permit requires that the Operator complies with its written management system

at all times. Consequently, we are satisfied that no pollution of groundwater or surface water from buildings and yards should occur as a result of operations at the Installation.

#### 4.6.2 Groundwater

There is the potential for the contamination of groundwater and local water supplies fed by groundwater, from poultry droppings in the ranging areas. However the activity of grazing livestock in agricultural fields does not in itself require a Permit, and is considered sufficiently low risk to not warrant a specific Policy Statement within our Groundwater Protection Policy.

We have assessed the Applicant's revised Site Condition Report (SCR) (referenced '004 Revised Site Condition Report', dated August 2017, received on 03/09/17 in response to the 2<sup>nd</sup> not duly made request for further information) and requested additional information where necessary.

There was no information within the SCR to describe the hydrogeological regime or how the groundwater body beneath the installation (including the ranging areas) may interact with nearby private groundwater supplies. Further information was requested (via the 2<sup>nd</sup> Schedule 5 Notice sent 19/01/18), requiring the applicant to conduct a water features survey. In response (received 07/02/18), the Applicant supplied a map and covering email which identified the location of nearby private water supplies and whether the feature was a well or a borehole. Having provided a map showing the presence of private water supplies, the applicant also incorporated 50m buffer zones around these features where birds from the poultry unit will be fenced off from and prevented from ranging. This complies with our Groundwater Protection Policy Statements on Landspreading (H6 in 'EA's approach to groundwater protection' – gov.uk), which is a comparable activity and is sufficient to demonstrate that the operator is following good practice.

We had also requested that the applicant's water features survey include the 'use and construction' details of features – this was not provided. These construction details may have identified that some of the drinking water sources received additional natural protection from a clay layer at ground surface and/or collection of groundwater from depth. However, a 50 metre buffer zone is the typical protection afforded to shallow private water supplies from rural sources of pollution such as landspreading, livestock housing and storage of organic manures. It is therefore considered sufficient protection for the proposed lower risk activity of grazing livestock/poultry ranging.

In light of the above, we have concluded that further hydrogeological risk assessment is not necessary provided that the 50m buffer zone is adhered to. In addition to referencing the applicant's buffer zone proposal in the operational techniques table S1.2, the permit includes condition 2.2.1 which states:

*2.2.1 The activities shall not extend beyond the site, being the land shown edged in green on the site plan at schedule 7 to this permit.*

and the 50m buffer zone is reflected in the installation boundary plan in Schedule 7 of the permit,

#### 4.6.3 Risk of runoff affecting surface waters

The land at Pengwedna is considered by the Environment Agency to be at risk of enhanced muddy runoff. Although the land is inherently freely draining it is at risk of soil compaction which causes unnatural runoff on slopes. There have been surface water flooding incidents reported at the site due to historical land use including use for horticulture which is likely to have been caused by soil compaction. Muddy runoff is also likely to have caused sediment pollution of nearby watercourses in the past.

Grassland is at risk of compaction in ranging areas, particularly around farm buildings where grass is pecked and soil trodden which can form bare and crusted soil where there are large numbers of birds. This compacted area can extend into the ranging areas depending on the weather, numbers of birds, flock management and use of vehicles. There is a risk that, during heavy rainfall, water may not soak into these areas leading to runoff, localised flooding and contamination of the nearby watercourses.

If the range areas become compacted, the Applicant has proposed to temporarily fence off these areas to allow recovery and restoration of the land by soil loosening and reseedling. In addition, birds will tend to congregate around the pop holes of the houses and the Applicant has proposed woodchip/bark to be

spread in this area up to a distance of 3.6m from the sides of the houses with pop holes. This will reduce potential for soil damage and compaction close to the houses.

We have included a pre-operational condition which will include measures to ensure grassland will be established in the range areas by removing historical compaction by subsoiling, and grass will be seeded in a timely fashion to avoid creating a compacted seedbed.

Run-off from the new buildings and associated impermeable surfaces will drain to trenches running nearby to the poultry houses which act as soakaways. Trees will be planted near, but not adjacent to, these trenches and in the event of excessive rainfall any overflow from the trenches will drain towards the areas of landscaping and tree planting.

In addition, there will be planting of 20% of the ranges to trees and shrubs. These areas will be managed to maintain soil structure and to ensure they act as soakaway zones as well as providing landscape screening and shelter for ranging hens. Pre-operational condition PO1 requires the approval by the Environment Agency of details of planting of trees and shrubs to ensure, where appropriate, this will be carried out along potential pathways of runoff, so that these areas act as soakaway strips.

To further contain any run-off from the ranging areas, the Applicant will construct a containment bund along the site's northern and western boundaries to prevent any overland (exceedance) flows reaching neighbouring properties. The bund provision is, in part, to address an existing issue with overland flow from the fields. It also ensures that the site has further mitigation during very heavy rainfall.

The Applicant is required to follow Defra's *'Protecting our Water, Soil and Air, A Code of Good Agricultural Practice for farmers, growers and land managers'*:

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/268691/pb13558-cogap-131223.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/268691/pb13558-cogap-131223.pdf)

Poultry are classed as livestock by legislation, and so the operator must adhere to and comply with the ["Farming Rules for Water"](#). This means that the operator must put in measures to reduce the risk of diffuse pollution (i.e. by preventing and dealing with runoff).

Two pre-operational conditions have been included in the permit to ensure that the mitigation measures proposed (trees and shrub planting, bund, preparation and maintenance of soil condition) have been implemented prior to commencement of operations. The first (PO1) specifically allows the Environment Agency to approve the final proposals to ensure they are considered sufficient, and the second (PO2) is for the Operator to provide evidence of the approved soil preparation, planting and bund prior to operation.

#### **4.6.4 Groundwater and soil monitoring**

IED requires that new permits contain appropriate measures relating to protection of soil, groundwater and groundwater monitoring. The Environment Agency's H5 Guidance states that it is only necessary (i.e. an appropriate measure) for the Operator to take samples of soil or groundwater and measure levels of contamination where there is evidence that there is, or could be, existing contamination and:

- the environmental risk assessment has identified that the same contaminants are a particular hazard; or
- the environmental risk assessment has identified that the same contaminants are a hazard and the risk assessment has identified a possible pathway to land or groundwater.

H5 Guidance further states that it is not essential for the Operator to take samples of soil or groundwater and measure levels of contamination where:

- the environmental risk assessment identifies no hazards to land or groundwater; or
- the environmental risk assessment identifies only limited hazards to land and groundwater and there is no reason to believe that there could be historic contamination by those substances that present the hazard; or

- the environmental risk assessment identifies hazards to land and groundwater but there is evidence that there is no historic contamination by those substances that pose the hazard.

The site condition report (SCR) for the Installation (revised version dated August 2017, received 03/09/17 in support of the Application) demonstrates that the land has solely been used for agricultural purposes and the likelihood of historic contamination is low.

Therefore, we accept that the Applicant need not provide baseline reference data for the soil and groundwater at the site at this stage.

#### 4.6.5 Conclusion

We conclude that the information provided with the Application (detailed in sections 4.6.1, 4.6.2 and 4.6.3 above) indicates that the potential risk to groundwaters and surface waters from the Installation is not significant. In addition, for the reasons given in sections 4.6.1, 4.6.2 and 4.6.3, we are satisfied that the site complies with best practice and that no pollution of private water supplies or surface water should occur as a result of operations at the Installation. We are satisfied that, the measures in place are BAT (where relevant); the manner in which operations are carried out on the Installation will result in no significant pollution; and that we have sufficient controls within the permit conditions to enable further measures to be implemented should these be required.

#### 4.7 Pests

The Applicant's proposed measures to prevent or minimise the presence of pests on site are as follows:

- good management of the Installation
- areas will be kept clean
- bait points will be provided at regular intervals and replaced monthly to control rats
- fly tape will be used to control flies and replaced as and when necessary
- measures in place to reduce dust and risk of spillages such as manure and feed
- majority of litter is removed twice weekly and exported from the installation;
- no litter will be stored on site (in abnormal circumstances where manure cannot be removed it will be stored in sealed trailers in designated areas with impermeable bases and the area kept clean);
- carcasses will be collected daily and stored in a locked freezer on site prior to disposal and then removed by a licensed individual twice a month, in accordance with Animal By-Products Regulations

In addition, the Operator has stated that if pests become a problem, veterinary advice will be taken immediately and, based on their advice and recommendations, appropriate action will be taken.

Fly problems in the poultry industry are mainly associated with deep pit litter systems allowing the flies to breed in damp conditions, whereas this is not considered to be a deep pit litter system as the measures in place are to frequently remove manure and keep remaining litter dry and friable which will prevent this.

Condition 3.6 of the Permit also ensures that pests are adequately dealt with at the Installation. It reads as follows:

*3.6.1 The activities shall not give rise to the presence of pests which are likely to cause pollution, hazard or annoyance outside the boundary of the site. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved pests management plan, have been taken to prevent or where that is not practicable, to minimise the presence of pests on the site.*

*3.6.2 The operator shall:*

- (a) if notified by the Environment Agency, submit to the Environment Agency for approval within the period specified, a pests management plan which identifies and minimises risks of pollution, hazard or annoyance from pests;*

- (b) *implement the pests management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.*

The Applicant was not required to submit a Pest Management Plan with the Application, and we consider the presence of pests on the Installation to be a low risk therefore did not request one, however permit condition 3.6 (detailed above) requires the Operator to provide one should we require this.

The Environment Agency is therefore satisfied that sufficient measures are in place to prevent or minimise the presence of pests on site.

## 4.8 Nitrogen deposition in a Nitrate Vulnerable Zone (NVZ)

The Nitrate Pollution Prevention Regulations 2015 (as amended) Part 3 regulation 7(1) states, in a nitrate vulnerable zone, 'The occupier of a holding must ensure that, in any calendar year, the total amount of nitrogen in livestock manure applied to the holding, whether directly by an animal or by spreading, does not exceed 170kg multiplied by the area of the holding in hectares.'

The proposed installation falls within groundwater NVZ G22 Hayle.

The greater field limit of 250kg per hectare (regulation 8) does not apply as this case does not involve spreading of organic manure, only direct deposition by livestock on the ranges.

Similarly a grassland derogation is not relevant as although poultry are livestock they are not grazing livestock.

Our guidance to the regulations 'Using nitrogen fertilisers in nitrate vulnerable zones' (<https://www.gov.uk/guidance/using-nitrogen-fertilisers-in-nitrate-vulnerable-zones>) explains that standard values must be used to work out how much nitrogen is produced by the livestock. The standard value (from blank completion data table 32) to be used for free range laying hen places is shown in the table below:

Table 9 Extract from livestock nitrogen production standard values guidance		
Poultry	Occupancy %	Total Nitrogen produced (kg/year) <sup>Note a</sup>
1000 laying hen places, free range (note b), 17 weeks and over	97	530

### Notes

(a) *N produced in excreta is per 1,000 poultry places (except ostriches) and includes an allowance for N losses from livestock housing and manure storage.*

(b) *When calculating storage requirements, you should make an allowance for the proportion of time that birds are not housed. Commonly, free range laying hens are housed for 80% to 90% of the time. Figures given assume 80% of excreta are deposited in buildings.*

The 530kgN/year value is in agreement with the 1.5gN/day figure for Chicken used for producing eggs for human consumption (from 17 weeks – not caged) in Schedule 1 of the regulations.

A Schedule 5 Notice requesting information pertaining to the Nitrate Pollution Prevention Regulations was issued on 19/01/18 to determine if the nitrate deposition limit on the ranging areas for the manure deposited from the chickens will exceed the limit of 170 kg N/ha/yr. The Applicant responded on 07/02/18. Further information was requested on 13/04/18 and supplied on 03/05/18.

In the initial application a site area of 63 hectares was used for 112,000 chickens. Assuming a worst case of housing for only 80% of the time this leads to an nitrogen deposition rate averaged across the holding of  $(100-80)/100 \times 112000/1000 \times 530/63 = 188.4$  kg N/ha/yr, in excess of the 170kg limit.

However, in the Schedule 5 notice responses the applicant has provided further detail around several factors in the calculation:

a)

The total size of the holding excludes surface waters, any hardstanding (areas for parking vehicles), buildings, roads or any woodland (unless that woodland is used for grazing).

The applicant revised their installation area to 59.8 ha to exclude non-ranging areas. Although we do not agree exactly with this estimate we also note that the proposed setback from boreholes and water features does not have to be subtracted from the total holding area.

b)

The regulations apply to values averaged over a holding. This is defined as meaning all the land located within a nitrate vulnerable zone and its associated buildings which are at the disposal of the occupier and which are used for the growing of crops in soil or rearing of livestock for agricultural purposes.

The applicant has submitted details of a separate block of grassland just north of Sithney which is cut for hay/silage each year. This totals 10.1ha and is partially within the S694 Cober Surface water NVZ. They have confirmed the land is owned and farmed as a single operation by the owner of the proposed installation at Pengwedna and so falls under the same staffing and management.

c)

The applicant has proposed laying an area of bark/woodchip 3.6m wide on the ranging areas outside the popholes of each poultry house, where the greatest concentration of chickens is expected. This will be collected for off-site disposal every three months, or sooner if necessary, and replaced with fresh material. This will protect the ground from damage but will also collect excreta. Bark/woodchip will be delivered on a 'just-in-time' basis and immediately spread. Waste bark/woodchip will be loaded onto sealed trailers and immediately taken off site to a composting facility.

This mitigation measure effectively increases the assumed time spent in houses from the worst case 80%.

We have concluded that a combination of these measures in a), b) and c will ensure that the nitrogen deposition rate averaged across the total holding can be kept below 170kg/ha/yr as required by the Nitrate Pollution Prevention Regulations. Although this allows some areas of the holding to have a nitrogen deposition rate greater than the average value we have concluded that the pollution risk to groundwater and surface water from the installation is not significant (see 4.6.5).

## **4.9 New Intensive Rearing of Poultry or Pigs BAT Conclusions document**

The new Best Available Techniques Reference Document (BREF) for the Intensive Rearing of Poultry or Pigs (IRPP) was published on 21 February 2017. There is now a separate BAT Conclusions document which sets out the standards that permitted farms have to meet.

The BAT Conclusions document is available via the following link:

<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32017D0302&from=EN>

Now that BAT Conclusions are published for IRPP, all new installation farming permits covered by IED issued after the 21 February 2017 must be compliant in full from the first day of operation.

The conclusions include BAT Associated Emission Levels (AELs) for ammonia emissions which will apply to the majority of permits, as well as BAT AELs for nitrogen and phosphorus excretion.

### **4.9.1 New BAT Conclusions review**

There are 34 BAT Conclusion measures in total within the BAT conclusion document dated 21 February 2017. We are satisfied that the Applicant will comply with all measures relevant to them.

Table 10 sets out a more specific review of the measures the Applicant will be required to apply to ensure compliance with the above key BAT measures.

<b>Table 10 Measures to ensure compliance with BAT Conclusions</b>	
<b>BAT measure</b>	<b>Applicant compliance measure</b>
BAT 3 Nutritional management - Nitrogen excretion	The Applicant will be required to demonstrate they achieve levels of Nitrogen excretion below the required BAT-AEL of 0.8 kg N/animal place/year by calculation or verified by manure analysis for total nitrogen content.  Table S3.3 of the Permit concerning process monitoring requires the Operator to undertake relevant monitoring that complies with these BAT Conclusions.
BAT 4 Nutritional management - Phosphorus excretion	The Applicant will be required to demonstrate they achieve levels of Phosphorus excretion below the required BAT-AEL of 0.45 kg P <sub>2</sub> O <sub>5</sub> animal place/year by calculation or verified by manure analysis for total phosphorus content.  Table S3.3 of the Permit concerning process monitoring requires the Operator to undertake relevant monitoring that complies with these BAT Conclusions.
BAT 24 Monitoring of emissions and process parameters - Total nitrogen and phosphorus excretion	Table S3.3 Process monitoring requires the Operator to undertake relevant monitoring that complies with these BAT Conclusions
BAT 25 Monitoring of emissions and process parameters - Ammonia emissions	Table S3.3 Process monitoring requires the Operator to undertake relevant monitoring that complies with these BAT conclusions
BAT 26 Monitoring of emissions and process parameters - Odour emissions	The approved OMP includes the following details for on Farm Monitoring and Continual Improvement: <ul style="list-style-type: none"> <li>• Periodic monitoring of odour emissions to air will be undertaken to EN standards (e.g. use of dynamic olfactometry according to EN 13725) in order to determine odour concentration</li> <li>• Daily checks to detect abnormally high housekeeping odours</li> <li>• Daily checks to detect the effects from any disease</li> <li>• Monitoring of high offsite odour (self-assessed or complaints)</li> </ul>
BAT 27 Monitoring of emissions and process parameters - Dust emissions	Table S3.3 of the Permit on process monitoring requires the Operator to undertake relevant monitoring that complies with these BAT Conclusions.  The Applicant will report the dust emissions to the Environment Agency annually by calculation using the standard dust emissions factor for layer hens.



<b>Table 10 Measures to ensure compliance with BAT Conclusions</b>	
<b>BAT measure</b>	<b>Applicant compliance measure</b>
BAT 31 Ammonia emissions from poultry houses <ul style="list-style-type: none"> <li>- Laying hens</li> </ul>	<p>BAT AEL to be complied with is 0.02 – 0.13 kg NH<sub>3</sub>/animal place/year.</p> <p>The Applicant will meet this as the emission factor for free range laying hens in an aviary housing system is 0.08 kg NH<sub>3</sub>/animal place/year.</p> <p>The Installation does not include an air abatement treatment facility, however the standard emission factor already complies with the BAT AEL.</p>

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## 5. Other considerations

During the determination of the Application we have also taken the points below into consideration.

### 5.1 Operator competence

We must not grant a permit to an applicant where we consider they will not operate the installation or will not do so in accordance with a permit. In determining whether this may be the case, we consider whether an applicant: can demonstrate technical competence, has suitable management systems, has any relevant convictions and is financially competent, as stated in Defra Core Guidance and our online guidance 'What a competent operator is' in section 'Legal operator and competence requirements: environmental permits' on [www.gov.uk](http://www.gov.uk).

Operation of an intensive farming installation does not require compliance with an approved scheme to demonstrate technical competence (as would be the case for example for a waste operation). Instead an operator demonstrates technical competence by way of their management system that staff training and development requirements are met, along with provision for keeping up-to-date with technical and legislative changes. In this case we are satisfied with the Applicant's management systems. Permit condition 1.1 also ensures that these management systems are followed so that the Operator remains 'competent' throughout the life of the Permit.

An applicant's compliance record includes a review of relevant convictions and can take into account any known breaches of other regulatory regimes. The provisions of the Rehabilitation of Offenders Act 1974 require convictions of individuals to be considered spent after a prescribed period and we treat corporate operators in the same way. In this case no relevant convictions were identified for the Applicant.

Financial competence is initially based on whether an applicant has any current or past insolvency and bankruptcy proceedings. We are not aware of any such proceedings against this Applicant.

The operator competence checks have therefore been carried out in line with our guidance and we are satisfied that the Operator meets the requirements.

The Operator is required to operate the Installation in accordance with an Environmental Management System (EMS) under condition 1.1 of the Permit. The Operator commits to the operating techniques as described in the Application and as incorporated into the Permit in condition 2.3.1 and associated Table S1.2. Any deviation from either of these would be a breach of the Permit, and action would be taken in accordance with our enforcement and sanctions statement and guidance.

We are also satisfied that the Applicant will have control over the operation of the Installation after the grant of the Permit. The decision was taken in accordance with guidance on our website 'Legal operator and competence requirements; environmental permits' at the link: <https://www.gov.uk/guidance/legal-operator-and-competence-requirements-environmental-permits>.

### 5.2 Other legal requirements

In this section we explain how we have addressed other relevant legal requirements, to the extent that we have not addressed them elsewhere in this document.

#### 5.2.1 Schedules 1 and 7 to the Permitting Regulations – IED

We address the requirements of the IED in the body of this document above.

One requirement not addressed above is that contained in Article 5(3) IED. This requires that "In the case of a new installation or a substantial change where Article 4 of Directive 85/337/EC (now Directive 2011/92/EU) (the EIA Directive) applies, any relevant information obtained or conclusion arrived at pursuant to articles 5, 6 and 7 of that Directive shall be examined and used for the purposes of granting the permit."

- Article 5 of the EIA Directive relates to the obligation on developers to supply the information set out in Annex IV of that Directive when making an application for development consent.
- Article 6(1) requires Member States to ensure that the authorities likely to be concerned by a development by reason of their specific environmental responsibilities are consulted on the Environmental Statement and the request for development consent.
- Articles 6(2)-6(6) make provision for public consultation on applications for development consent.
- Article 7 relates to projects with transboundary effects and consequential obligations to consult with affected Member States.

The grant or refusal of development consent is a matter for the relevant local planning authority. The Environment Agency's obligation is therefore only to examine and use any relevant information obtained or conclusion arrived at by the local planning authorities pursuant to those EIA Directive Articles.

In this case the Applicant made an application for planning permission which was refused. The Environment Agency has taken into account information provided through the Application concerning potential risks to the environment posed by the Installation. The measures imposed by the Permit ensure that those risks are mitigated such that the Installation does not risk an unacceptable level of pollution.

In determining the Application we have considered the following documents: -

- The Environmental Statement jhw/1169/00117, plus appendices, submitted with the planning application (which also formed part of the Environmental Permit Application).
- The decision, and accompanying report, of Cornwall Council to refuse planning permission on 22 February 2018 for reasons of unacceptable visual impact and the absence of sufficiently detailed information that the proposed development will adversely affect personal water supplies
- The response of the Environment Agency to the local planning authority in its role as consultee to the planning process.

We have reviewed the reasons given for the refusal of planning permission and specifically whether this conclusion is based on information given in the Environmental Statement.

We are satisfied that the visual and landscape impact is entirely a matter of planning policy and not relevant to our determination. The pollution control and planning regimes are intended to be complementary and should avoid duplication.

In the matter of the effect on personal water supplies, from our consideration of all the documents above, the Environment Agency considers that no additional or different conditions are necessary.

## **5.2.2 Schedule 22 to the Permitting Regulations – Water Framework and Groundwater Directives**

To the extent that it might lead to a discharge of pollutants to groundwater (a "groundwater activity" under the EPR 2016), the Permit is subject to the requirements of Schedule 22, which delivers the requirements of EU Directives relating to pollution of groundwater. The Permit will require the taking of all necessary measures to prevent the input of any hazardous substances to groundwater, and to limit the input of non-hazardous pollutants into groundwater so as to ensure such pollutants do not cause pollution, and satisfies the requirements of Schedule 22.

The Permit also requires material storage areas to be designed and maintained to a high standard to prevent accidental releases.

## **5.2.3 Directive 2003/35/EC – The Public Participation Directive**

Regulation 59 of the Permitting Regulations requires the Environment Agency to prepare and publish a statement of its policies for complying with its public participation duties. We have published our public participation statement.

This Application has been consulted upon in line with this statement. This satisfies the requirements of the Public Participation Directive. Our draft decision in this case has been reached following a programme of extended public consultation, both on the original Application and later, separately, on the Permit and a draft decision document.

## **5.2.4 Environment Act 1995**

### **(i) Section 4 (Pursuit of Sustainable Development)**

We are required to contribute towards achieving sustainable development, as considered appropriate by Ministers and set out in guidance issued to us. The Secretary of State for Environment, Food and Rural Affairs has issued The Environment Agency's Objectives and Contribution to Sustainable Development: Statutory Guidance (December 2002). This document:

*provides guidance to the Agency on such matters as the formulation of approaches that the Agency should take to its work, decisions about priorities for the Agency and the allocation of resources. It is not directly applicable to individual regulatory decisions of the Agency*

In respect of regulation of industrial pollution through the Permitting Regulations, the Guidance refers in particular to the objective of setting permit conditions "in a consistent and proportionate fashion based on Best Available Techniques and taking into account all relevant matters...". The Environment Agency considers that it has pursued the objectives set out in the Government's guidance, where relevant, and that there are no additional conditions that should be included in this Permit to take account of the Section 4 duty.

### **(ii) Section 5 (Preventing or Minimising Effects of Pollution of the Environment)**

We are satisfied that our pollution control powers have been exercised for the purpose of preventing or minimising, remedying or mitigating the effects of pollution.

### **(iii) Section 6(1) (Conservation Duties with Regard to Water)**

We have a duty to the extent we consider it desirable generally to promote the conservation and enhancement of the natural beauty and amenity of inland and coastal waters and the land associated with such waters, and the conservation of flora and fauna which are dependent on an aquatic environment.

We consider that no additional or different conditions are appropriate for this Permit to fulfil these duties.

### **(iv) Section 6(6) (Fisheries)**

We have a duty to maintain, improve and develop fisheries of salmon, trout, eels, lampreys, smelt and freshwater fish.

We consider that no additional or different conditions are appropriate for this Permit to fulfil these duties.

### **(v) Section 7 (Pursuit of Conservation Objectives)**

This places a duty on us, when considering any proposal relating to our functions, to have regard amongst other things to any effect which the proposals would have on sites of archaeological, architectural, or historic interest; the economic and social well-being of local communities in rural areas; and to take into account any effect which the proposals would have on the natural beauty or amenity of any rural area.

We considered whether we should impose any additional or different requirements in terms of our duty to have regard to the various conservation objectives set out in Section 7, but concluded that we should not.

### **(vi) Section 39 (Costs and Benefits)**

We have a duty to take into account the likely costs and benefits of our decision ('costs' being defined as including costs to the environment as well as any person). This duty, however, does not affect our obligation to discharge any duties imposed upon us in other legislative provisions.

In so far as relevant we consider that the costs that the Permit may impose on the Applicant are reasonable and proportionate in terms of the benefits it provides.

#### **(vii) Section 81 (National Air Quality Strategy)**

We have had regard to the National Air Quality Strategy and consider that our decision complies with the Strategy, and that no additional or different conditions are appropriate for this Permit.

### **5.2.5 Human Rights Act 1998**

We have considered potential interference with rights addressed by the European Convention on Human Rights in reaching our decision and consider that our decision is compatible with our duties under the Human Rights Act 1998. In particular, we have considered the right to life (Article 2), the right to a fair trial (Article 6), the right to respect for private and family life (Article 8) and the right to protection of property (Article 1, First Protocol). We do not believe that Convention rights are engaged in relation to this determination.

### **5.2.6 Countryside and Rights of Way Act 2000**

Section 85 of this Act imposes a duty on Environment Agency to have regard to the purpose of conserving and enhancing the natural beauty of the area of outstanding natural beauty (AONB). There is no AONB which could be affected by the Installation.

### **5.2.7 Wildlife and Countryside Act 1981**

Under section 28G of the Wildlife and Countryside Act 1981 the Environment Agency has a duty to take reasonable steps to further the conservation and enhancement of the flora, fauna or geological or physiographical features by reason of which a site is of special scientific interest. Under section 28I the Environment Agency has a duty to consult Natural England in relation to any permit that is likely to damage SSSIs.

We assessed the Application and concluded that the Installation will not damage the special features of any SSSI. This assessment is summarised in greater detail in section 4.1 of this document.

### **5.2.8 Natural Environment and Rural Communities Act 2006**

Section 40 of this Act requires us to have regard, so far as is consistent with the proper exercise of our functions, to the purpose of conserving biodiversity. We have done so and consider that no different or additional conditions in the Permit are required.

### **5.2.9 Deregulation Act 2015**

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 grant the Permit.

Paragraph 1.3 of the guidance says:

*"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."*

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.

We consider the requirements and standards we have set in the Permit are reasonable and necessary to avoid a risk of an unacceptable level of pollution. This ensures that environmental impacts from the Installation will not adversely affect the growth of local businesses. It 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.

### **5.2.10 Conservation of Habitats and Species Regulations 2010**

We have assessed the Application in accordance with guidance agreed jointly with Natural England and concluded that there will be no likely significant effect on any SAC, SPA or Ramsar site.

In accordance with our operational instructions we did not consult Natural England, but sent them a Habitats Regulations Assessment (HRA) for information.

The habitat assessment is summarised in greater detail in section 4.1 of this document. A copy of the HRA can be found on the public register.

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# Annex 1: Consultation, web publicising and newspaper advertising responses

## **Advertising and Consultation on the Application**

The Application has been advertised and consulted upon in accordance with the Environment Agency's Public Participation Statement. The way in which this has been carried out along with the results of our consultation and how we have taken consultation responses into account in reaching our draft decision is summarised in this Annex. Copies of all consultation responses have been placed on the Environment Agency public register.

The Application was advertised on the Environment Agency website from 4 October 2017 – 1 November 2017 and in the Western Morning News newspaper on 4 October 2017 and also the Falmouth & Penryn Packet newspaper 4 October 2017. Copies of the Application were placed on our public register at the Environment Agency's offices at Sir John Moore House, Victoria Square, Bodmin PL31 1EB. Additionally, we also published this Application on our web pages on GOV.UK and made available electronic copies of the Application on the webpage. We also held a public 'drop in' session in Nancegollan on 18 October 2017 to explain the public consultation process.

The following statutory and non-statutory bodies were consulted:

- Cornwall Council (Environmental Health)
- Public Health England (PHE)
- Director of Public Health, Cornwall Council
- Health and Safety Executive (HSE)

### **1) Consultation Responses from Statutory and Non-Statutory Bodies**

Response received from
Public Health England (PHE) (received 19/10/2017 and 30/07/2018)
Brief summary of issues raised
<p>1. The proposal is to construct four buildings to accommodate up to 112 000 free range egg laying hens. The site is located in a rural area, there are two properties within 250 m of the site, and a further two properties within 400 m of the site. The installation has the potential to cause pollution such as fugitive emissions (ammonia, bioaerosols and particulates) and pollution to ground and surface water in the form of leachate and spillages. Furthermore, the potential exists to cause nuisance in respect of odour and noise. PHE would expect operational and environmental permit conditions to minimise fugitive emissions from the installation.</p> <p>We note that the operator has an odour management plan. We would expect the operator to have robust plans in place to deal appropriately with any odour complaints. The human nose is very sensitive to odours and often detects odorous chemicals at low concentrations in air which pose no toxicological risk to health. However it is acknowledged that chronic environmental odours can be unpleasant and affect wellbeing, hence it is very important that all odour producing activities on site are well managed and regulated.</p> <p>It is assumed by Public Health England that the site will comply in all respects with the Environmental Permitting (England and Wales) Regulations 2016. Compliance with the legislation, together with good management, should ensure that site will present a low risk to local human receptors.</p> <p>2. A number of concerns were raised by members of the public during the public consultation phase relating to antibiotic resistance, and effect on human health from living in close proximity to an intensive farm. A number of scientific papers were provided by members of the public to support their responses: Smit <i>et al</i> "Increased risks of pneumonia in residents living near poultry farms: does the upper respiratory tract microbiota play a role?" 2017 <i>Pneumonia</i> 9(3); Borlee <i>et al</i> "Air pollution from livestock farms is associated with airway obstruction in neighbouring residents" 2017 <i>American Journal of Respiratory and Critical Care Medicine</i> 196(9) 1152-1161; Singer <i>et al</i> "Potential impacts of antibiotic use in poultry production" 2006 <i>Avian Disease</i> 50(2) 161-172.</p>

We did consult PHE again and asked them whether or not this information and the reported findings altered their original consultation response. They state that they would not base their advice on individual pieces of research, as it is important to consider the evidence base as a whole. They go on to state that in relation to intensive farming and bioaerosols, a recent systematic review describes the evidence base which demonstrates that published studies have so far detected inconsistent results with studies reporting no effect, mixed effects, harmful effects and protective effects. Their response made clear that these articles do not alter the advice previously provided. The full PHE response is available on the public register.

**Summary of actions taken or show how this has been covered**

1. To prevent significant emissions from the site the Applicant has proposed appropriate measures to manage fugitive emissions, including ammonia, bioaerosols and particulates and to prevent pollution to ground and surface water. These measures include the use of appropriate ventilation systems and high velocity roof fans, appropriate housing design and management, containment of feedstuff and management of poultry litter and dirty wash water. We are satisfied that these measures will mitigate emissions to prevent a significant impact from the site. Please see Section 4.2, Section 4.5 and Section 4.6 for further details of our assessment with regards to fugitive emissions of ammonia and dust from poultry litter and feed and measures in place to prevent pollution of groundwater and surface water.

As discussed in section 4.3 and Section 4.4 of this document, the Environment Agency is satisfied following a review of the information provided by the Applicant, and the conditions present within the permit, that emissions of odour and noise from the Installation will not cause significant pollution to the environment or harm to human health.

The Odour Management Plan and Noise Management Plan provide suitable procedures in the event that complaints are made to the Operator.

We differ from PHE and the applicant in our measurement of the number and proximity of properties to the site but we have taken this into account in our assessment of impact.

2. No action required.

**Response received from**

Cornwall Council – Neighbourhoods and Public Protection (Environmental Health) (received 30/10/2017)

**Brief summary of issues raised**

The application site is currently arable there is *[sic]* an application PA17/04129 to erect agricultural buildings for the use of free range poultry farm. Environmental Protection does not have any records indicating that there are or have been any noise or other amenity issues at the site, *[note: poultry farm is not in existence at this time]*. There are also no ongoing (Environmental Health) enforcement actions in relation to the application site.

Residents have informed the council of the presence of private water abstraction points on land surrounding the application site, a search of council records within 1km has identified 4 records; however it is worth noting that unless supplies are registered with the council the location or presence cannot be confirmed.

Environmental Protection note that the applicant has indicated that 12% of chicken faeces will be outside on the free ranging land. There is no mention of any management controls regards *[sic]* this manure or its potential to impact through infiltration or surface runoff (application boundary immediately adjacent to neighbouring land) on ground waters either through bacterial loading or nitrification or how this may impact on any adjacent private water supplies.

**Summary of actions taken or show how this has been covered**

The Applicant has proposed a woodchip area extending to approximately 3.6m outside the pop holes



of the poultry houses. Any manure deposited on this bark area will be removed every three months when the bark is removed. Fresh bark is then laid down to replace the removed bark. The bark removed will be exported to a composting facility. In addition these areas will be inspected daily to determine whether areas need replacing or replenishing sooner. Therefore a proportion of excreta deposited outside of the poultry houses will be collected, limiting the impact of run-off.

A (2<sup>nd</sup>) Schedule 5 Notice requesting information on the presence of local boreholes in a water features survey was issued on 19/01/18. The Applicant responded on 07/02/18 and has provided a water features survey. The Applicant supplied a map and covering email which identifies the location and whether the feature is a well or a borehole. Having provided a map showing the presence of private water supplies, the Applicant has also incorporated 50m buffer zones around these features where birds from the poultry unit will be prevented from ranging by fencing. This complies with our Groundwater Protection Policy Statements on Landspreading (H6 in 'EA's approach to groundwater protection' – gov.uk), which is a comparable activity and is sufficient to demonstrate that the operator is following good practice.

In addition, the planting in the ranges of trees and shrubs will maintain soil structure to create soakaway zones as well as providing landscape screening and shelter for ranging hens. These can also be planted in shallow depressions to create 'wet woodlands' to further reduce physical runoff.

As a final measure to further reduce any runoff from the ranging areas of the site, part of the proposed surface water management strategy is to construct a containment bund along the site's northern and western boundaries to minimise any overland (exceedance) flows reaching neighbouring properties. Further prevention of run off from the ranging areas is by grass sward and tree/shrub planting. The land management plan for this site is to plough the entire land area to remove any hard spots created by the past 20 years of vegetable growing and then plant with grass. Decompaction will improve filtration and as a result reduce the risk of run-off. Furthermore, future crop (grass) should be managed to avoid compaction, which will aid soil structure, absorb nitrates and act as filter strips.

We have decided to incorporate two pre-operational conditions into the permit to require further information as to the precise nature of these plans once they are finalised. The pre-operational condition reads as follows:

PO1. Not later than one month prior to commencement of planting of trees and shrubs and construction of bunds in the ranging areas, the Operator shall submit to the Environment Agency a written report with final design details for the planting and construction and measures in place to ensure on-going maintenance of the ranging areas, and obtain the Environment Agency's written approval to it.

This report shall include, but not be limited to:

- a) Final design layout and details of the planting of trees and shrubs
- b) Final design details of bunds and locations
- c) Procedural measures for preparing soils for planting and in grassland ranging areas
- d) Procedural measures in place to ensure areas are maintained to achieve optimum performance
- e) Timescales for implementation

PO2. Not later than one month prior to commencement of operations, the Operator shall submit to the Environment Agency visual evidence of the soil preparation, planting and bunds in the ranging areas, and obtain the Environment Agency's written confirmation that the measures approved under PO1 have been implemented.

The Operator will not be able to proceed with their plans until their plans have been approved by the Environment Agency and implemented.

An assessment on the impact from this site on groundwater, local water supplies and local surface waters has been carried out as part of the permitting process, see section 4.6.2 and 4.6.3. We are satisfied that the appropriate measures will be in place to minimise the impact on surface water and ground water and with the conditions present within the Permit, that emissions from the Installation will not have a significant impact on groundwater, local water supplies or local surface waters.

Response received from
Cornwall Council Public Health (received 01/11/2017)
Brief summary of issues raised
Cornwall Council Public Health team would welcome comments from Environmental Health and the Environment Agency on the impact of the proposed developments on private water supply sourced from bore holes in the vicinity of the farm.
Summary of actions taken or show how this has been covered
As stated above, a Schedule 5 Notice requesting information on the presence of local boreholes was issued on 19/01/18. The Applicant responded on 07/02/18 and has provided a water features survey. The Applicant supplied a map and covering email which identifies the location and whether the feature is a well or a borehole. Having provided a map showing the presence of private water supplies, the Applicant has also incorporated 50m buffer zones around these features where birds from the poultry unit will be fenced off from and prevented from ranging. These areas will not be part of the permitted installation area. This complies with our Groundwater Protection Policy Statements on Landspreading (H6 in 'EA's approach to groundwater protection' – gov.uk), which is a comparable activity and is sufficient to demonstrate that the operator is following good practice. An assessment on the impact from this site on groundwater, local water supplies and local surface waters has been carried out as part of the permitting process, see sections 4.6.2 and 4.6.3.

The Health & Safety Executive was also consulted but no response was received.

## **2) Consultation Responses from Members of the Public**

The consultation responses received were wide ranging and a number of the issues raised were outside the Environment Agency's remit in reaching its permitting decisions. Specifically questions were raised which fall within the jurisdiction of the planning system, both on the development of planning policy and the grant of planning permission.

Guidance on the interaction between planning and pollution control is given in the National Planning Policy Framework. It says that the planning and pollution control systems are separate but complementary. We are only able to take into account those issues which fall within the scope of our regulatory powers.

### **a) Representations from Individual Members of the Public**

Over 70 responses were received from individual members of the public. These raised many of the same issues as previously addressed. Only those issues additional to those already considered are listed below:

Brief summary of issue raised	Summary of actions taken or show how this has been covered
<p><b><u>Odour</u></b></p> <p>1. Concerns have been raised over the control of odour when the doors are opened and birds are being removed, when the cleaning process begins and that the pollution will be at its worst during the three week clean out cycles.</p> <p>2. Concern that if birds are kept indoors for prolonged periods (i.e. if at risk of infection from wild birds), then odour emissions could be worse.</p> <p>3. No computer modelling has been carried out to allow for the cleaning out of the sheds and manure being loaded onto vehicles.</p> <p>4. The applicant is wrong to state that there is no threat of odour pollution as this is just based on a computer modelling exercise.</p> <p>5. Concern that 112,000 birds will create huge quantities of droppings on the land leading to odour pollution.</p> <p>6. Pryors Cottage is surrounded on all 4 sides by the ranging area of house 1. 32,000 hens will be able to range very close to this property and odour pollution will therefore be a problem.</p> <p>7. Concern that the physical and mental health of children and adults will be compromised from having to stay indoors as a result of odour pollution coming from the ventilation systems.</p>	<p>1 and 2. As discussed in section 4.3 of this document, the Environment Agency is satisfied following a review of the information provided by the Applicant, and the conditions present within the Permit, that emissions of odour from the Installation will not cause significant pollution to the environment or harm to human health. The assessment completed has taken in to account cleaning out operations and if the birds need to be kept indoors for a prolonged period.</p> <p>3. Odour modelling for the intensive farming sector has high uncertainties associated with it. These uncertainties increase when considering receptors nearby to the site. This is due to a number of factors including the peak to mean ratio for odour concentrations being high for this sector, making assessment against benchmark values more difficult. These modelling uncertainties make predictions made by the model unreliable for permitting decisions. Therefore, intensive farming units which are sites of high public interest (SHPI) are required to produce a more robust and detailed odour management plan (OMP). For details of the OMP please see section 4.3 of this document.</p> <p>4. Odour modelling has been carried out by the Applicant for this application. However, we consider that the high uncertainties associated with odour modelling at intensive farms mean this is not a suitable basis for permitting decisions. Regardless of what the applicant says, we have assessed the proposals and are satisfied that there will be no significant pollution to the environment or harm to human health. The Applicant has submitted a risk assessment and an odour management plan, which we accept. Please see Section 4.3 for a detailed discussion on our assessment of the odour risk and specifically Section 4.3.3 for our comments on the odour modelling submitted.</p> <p>5. We have considered the odour pollution potential from the ranging areas and the Environment Agency is satisfied following a review of the application, and the conditions present within the Permit, that emissions of odour from the Installation will not cause significant pollution to the environment or harm to human health.</p> <p>6. We have considered the nearest and most sensitive receptors, including Pryors Cottage. We are satisfied that these receptors will not be affected significantly by the activities of the Installation. Details of our assessment can be found in Section 4.3 of this document.</p> <p>7. As discussed in section 4.3 of this document, the Environment Agency is satisfied following a review of the information provided by the Applicant, and the conditions present within the Permit, that emissions of odour from the Installation will not cause significant pollution to the environment or harm to human health. Public Health England were consulted as part of our consultation exercise and concluded that compliance with the legislation, together with good management, should ensure that site will present a low risk to local human receptors.</p> <p>8. It is not expected that diffuse odour from droppings in the ranging areas will cause significant odour pollution therefore it will not be necessary to remove manure from the ranging areas. In addition the Applicant has proposed a woodchip area extending to approximately 3.6m outside of the pop holes of the poultry houses. Any manure</p>

Brief summary of issue raised	Summary of actions taken or show how this has been covered
<p>8. Concern that the manure in the fields has not been identified as a medium to high risk odour source. As there are no management procedures to remove manure from the fields/ranging areas, these droppings will a significant source of odour.</p> <p>9. Concerns that the OMP relates to odour management within the buildings, and their principal method to mitigating the problem is to expel odour via roof fans with no scrubbing or filtering systems; this will cause any odour, dust, antigens, bacteria and ammonia to be transferred into the environment in an uncontrolled manner. Particular concerns raised that at the very times that the system is being used at a high rate – the summer – is the time when people living in the vicinity will have their windows open and be enjoying their gardens.</p>	<p>deposited on this bark area will be removed every three months when the bark is removed. Fresh bark is then laid down to replace the removed bark. The bark removed will be exported to a composting facility. In addition these areas will be inspected daily to determine whether areas need replacing or replenishing sooner. Therefore a proportion of excreta deposited outside of the poultry houses will be collected. Furthermore, we consider that free ranging hens will spend approximately 80-90% of their time inside (footnote to Table 32 Nitrogen and excreta production by poultry places linked from <a href="https://www.gov.uk/guidance/using-nitrogen-fertilisers-in-nitrate-vulnerable-zones">https://www.gov.uk/guidance/using-nitrogen-fertilisers-in-nitrate-vulnerable-zones</a>).</p> <p>9. As discussed in section 4.3 of this document, the Environment Agency is satisfied following a review of the information provided by the Applicant, including their odour management plan, and the conditions present within the permit, that odour from the Installation does not cause significant pollution. The Operator has not proposed to include additional abatement measures such as scrubbers to remove matter such as particulates and dust, and our assessment concludes that this position is acceptable. We are satisfied that the appropriate measures will be taken to minimise the production and emissions of dust / bioaerosols / particulates to the local area and that there will be no significant impact on health. As such, we do not consider it is appropriate or necessary for abatement measures such as scrubbers to be utilised. That being said, emissions of dust are regulated through the environmental permit by condition 3.2.1. In the unlikely event of dust causing pollution the Operator is required to undertake a review of site activities, provide an emissions management plan and undertake any mitigation recommended as part of that report, once approved in writing by the Environment Agency – this is required under condition 3.2.2.</p>
<p><b>Noise</b></p> <p>1. Concern raised about the noise generated from Pengelly bio-digester, despite the application for this site saying there would be no noise impact.</p> <p>2. Concern raised about noise pollution from the ventilation fans.</p> <p>3. The noise identified in the NMP from on-site traffic, fans, loading and the chickens themselves will be significant to surrounding properties and contradicts the application, which states that there will be no significant</p>	<p>1. The Environment Agency cannot take into account the activities of another site, operated by a different company, and carrying out activities different to that presented in this particular application, when determining whether or not to grant an environmental permit to Richland Foods Limited for an intensive poultry site (unless it contributes significantly to the background noise at the sensitive receptors).</p> <p>2, 3, 4, 5 and 6. A quantitative noise assessment was provided during permit determination. 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 noise and vibration and to prevent pollution from noise and vibration outside the site and that activities will not give rise to significant pollution or harm to human health. We have assessed the plans as proposed in the application. A range of mitigation measures have also been proposed and these can be found within the noise management plan. We have undertaken a detailed audit of the Applicant's assessment and have made a number of observations to which we have undertaken our own sensitivity check. Although we do not necessarily agree with the absolute modelled predictions we are satisfied that the Applicant's conclusions can be used for</p>

<b>Brief summary of issue raised</b>	<b>Summary of actions taken or show how this has been covered</b>
<p>environmental effect.</p> <p>4. Concern that the agent has stated that there will be less noise and tractor movements if this development goes ahead compared to the current situation, where is asparagus is grown. This is disputed as currently the workers start early and are finished by 5pm, whereas the chicken farm will be operational 24 hours a day, 7 days a week – including catching the birds in the early hours and the effort required to move the birds from the ranging areas to the houses each night.</p> <p>5. Concern about the noise impact from a range of sources: Vehicle activity, feed delivery into silos, articulated lorries, the collection of 300,000 eggs 3 times a week, delivery of new birds, removal of birds, 56 extractor fans, removal of up to 90 tonnes of excrement a week.</p> <p>6. Concern raised about noise pollution from the hens.</p> <p>7. Concern raised that there doesn't seem to be any information about the noise predicted from different stages of the proposed development.</p>	<p>the basis of permit determination. Our modelling checks show that operational and mitigation measures included in the report, and the Noise Management Plan will ensure the impact at receptor locations will be low. The on-site operations are unlikely to have an adverse impact. See Section 4.4 of this document for further details of our assessment.</p> <p>Noise from chickens has not been considered within the consultant's model as a noise source. With reference to poultry cases audited previously within our Air Quality Modelling and Assessment Unit, which included bird noise as a source derived from sound levels referenced in IPPC SRG 6.02 guidance (Technical Guidance Note IPPC SRG 6.02 (Farming) – Noise management for Intensive Livestock Installation, Environment Agency, 2002), noise from the birds are unlikely to be a significant noise source in comparison to the noise generated from the fans. Therefore, it is acceptable for noise from chickens not to have been included within the Applicant's modelling.</p> <p>7. It isn't clear as to what is meant by the noise predicted from different stages of the development. It is assumed that 'different stages of development' refers to the pre-operational state of the site, including the construction phase of the development. This cannot be taken into account during the determination of an Application for a permit to operate. This may come under any local planning permission. Guidance on the interaction between planning and pollution control is given in the National Planning Policy Framework. It says that the planning and pollution control systems are separate but complementary. We are only able to take into account those issues which fall within the scope of our regulatory powers. A discussion of our assessment of noise from the operations of the time can be read immediately above and in greater detail in Section 4.4 of this document.</p>
<p><b><u>Effect of the activities of the Installation on sufferers with existing chronic conditions</u></b></p> <p>Concerns have been raised as to the impact of the Installation from emissions of dust and other pollutants, on people with cystic fibrosis, asthma and other respiratory conditions such as COPD, allergic alveolitis and</p>	<p>The Health Protection Agency (now Public Health England (PHE)) has stated (Position Statement, Intensive Farming 2006) that it is unlikely that ammonia emissions from a well-run and regulated farm would be sufficient to cause ill health.</p> <p>Whilst the potential adverse effects of ammonia include respiratory irritation and may also give rise to odour complaints, levels of ammonia in ambient air will decrease rapidly with distance from a source.</p> <p>The Operator's measures to manage particulate emissions, which will minimise ammonia emissions from the site, are included in their Odour Management Plan. We have assessed these measures and have determined they represent best available techniques for this activity. The</p>

<b>Brief summary of issue raised</b>	<b>Summary of actions taken or show how this has been covered</b>
<p>organic dust toxic syndrome, particularly the impact on frail and elderly residents and children.</p>	<p>proposed ventilation will produce dry and friable litter, which will help to reduce dust and ammonia emissions and therefore improve air quality. Ventilation is also optimised to the age and weight of the animals to ensure only necessary rates of ventilation are used. Site equipment and infrastructure are monitored and maintained regularly. These measures are stated operating techniques in a variety of documents provided by the Applicant and captured through condition 2.3 and Table S1.2 of the Permit. Furthermore, condition 3.2 of the Permit applies to substances not controlled by emission limits, also known as fugitive emissions. The Operator will be required to manage their activities so that they shall not cause pollution.</p> <p>Furthermore, as part of the consultation process, PHE and the Director of Public Health for Cornwall County Council were consulted. Their consultation responses and our responses to those can be found in Annex 1, Section 1 of this document.</p> <p>We are satisfied that there will be no significant pollution of the environment or harm to human health from emissions.</p>
<p><b><u>Effect on human health from flies</u></b></p> <p>Concern raised that Nancegollan and the surrounding area will become infested with flies, which could give rise to the risk of infections; Flies are reported to carry over 60 different disease species and travel up to 2 miles.</p>	<p>Based on the information in the Application we are satisfied that appropriate measures will be in place to prevent and/or minimise pests including flies. Section 4.7 of this document records in detail the measures proposed to prevent or minimise the presence of pests on site.</p> <p>The containment measures for feed are in line with section 3.2 of EPR 6.09 'How to Comply with your environmental permit for intensive farming', version 2. This should ensure that pests are kept to a minimum.</p> <p>The Applicants have also proposed appropriate measures for carcass management. Fallen stock during the production cycle will be collected and recorded daily and will be placed into a locked freezer. The carcasses will be collected regularly by a licensed renderer under the National Fallen Stock Scheme. Records of dates, quantities and destination of the fallen stock will be held on site. This should ensure that pests are less likely to be attracted.</p> <p>Poultry manure will not normally be stored on site at any time and therefore this will help to ensure that pests are prevented or controlled. Contingency plans are in place for when it may be necessary to store manure on site. For further details, see Section 4.3.2 of this document.</p> <p>Furthermore, there is also a generic pest condition within the permit: Condition 3.6. This states that the activities shall not give rise to the presence of pests which are likely to cause pollution, hazard or annoyance outside the boundary of the site. Furthermore, condition 3.6.2 states that the Operator shall if notified by the Agency, submit to the Environment Agency for approval within the period specified, a pests management plan which identifies and minimises risks of pollution, hazard or annoyance from pests. This management plan should be implemented from the date of approval, unless otherwise agreed in writing by the Environment Agency.</p> <p>The site will be inspected to ensure compliance will be dealt with in accordance with our published enforcement and prosecution policy.</p>

<b>Brief summary of issue raised</b>	<b>Summary of actions taken or show how this has been covered</b>
<p><b><u>Effect on human health from odour pollution</u></b></p> <p>Concern raised of the impact on health from odour pollution.</p>	<p>As discussed in Section 4.3 of this document, the Environment Agency is satisfied following a review of the information provided by the Applicant, and the conditions present within the permit, that emissions of odour from the Installation will not cause significant pollution to the environment or harm to human health.</p>
<p><b><u>Effect on the health of users of the local sports field and outside spaces</u></b></p> <p>Concern raised about the impact this site could have on the users of the local sports field and children's play area due to the lack of clean air and the impact on local schools for the same reason.</p>	<p>As discussed in this document we are satisfied that there will be no significant pollution of the environment or harm human health from emissions such as dust, odour, noise and ammonia. We have also consulted with PHE and the Director of Public Health on the Application and they have not raised any concerns (see Annex 1 section 1 above). PHE have stated that compliance with legislation, together with good management, should ensure that site will present a low risk to local human receptors.</p>
<p><b><u>Effect on human health from dust and bioaerosols</u></b></p> <p>Concerns have been raised about the exposure to dust and bioaerosols during various stages of the poultry cycle, principally the litter removal stage, and cleaning after depopulation. Reference is made to a document titled "Exposure to dust and bioaerosols in poultry farming" from the HSE, which states that 'microorganisms that may form part of poultry dust could cause respiratory allergies including asthma and chronic bronchitis' and 'bacterial endotoxins, parts of the cells walls of bacteria, can trigger flu-like symptoms if inhaled'.</p>	<p>As discussed in Section 4.5 of this document, the Environment Agency is satisfied, following a review of information provided by the Applicant, that the proposals for managing and mitigating dust are BAT, which will inherently reduce bioaerosols, and therefore emissions of dust and bioaerosols are unlikely to be significant. This includes the use of appropriate ventilation systems and high velocity roof fans, housing design and management, containment of feedstuff and management of poultry litter and dirty wash water. We are satisfied that these measures will appropriately mitigate emissions to prevent a significant impact from the site.</p> <p>The referenced document is mostly concerned with the health of workers in poultry houses, which does not form part of the decision of whether to grant an environmental permit. With regards to concerns about the possible effects on the health of local residents, impacts on health from emissions from the Installation have been assessed as part of the Permit determination, in particular see Section 4.2 (Ammonia – Human Health Impact Assessment) and Section 4.5 (Dust and Bioaerosols) of this document. The Environment Agency is satisfied, following a review of the information provided by the Applicant and the conditions present within the Permit, that emissions from the Installation will not have a significant impact on the health of local residents.</p> <p>The Operator is required to comply in all respects with the Permit, all relevant domestic and European legislation, and use Best Available Techniques (BAT).</p> <p>The Health and Safety Executive (HSE) were consulted but they provided no response. We have also consulted with PHE and the Director of Public Health on the Application and they have not raised any concerns (see Annex 1 section 1 above).</p>
<p><b><u>Effect on human health from salmonella, campylobacter, MRSA, E. coli, botulism,</u></b></p>	<p>We have consulted Public Health England (PHE) and the Director of Public Health (Cornwall County Council) on the Application in line with our guidance – their comments can be seen in Annex 1, Section 1, above. PHE and the Director of Public Health have not raised any</p>

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<p><b><u>clostridium, corynebacterium, listeria, staphylococcus, streptococcus and other pathogens/airborne bacteria such as avian flu</u></b></p> <p>Concerns have been raised regarding the greater risk of emissions and/or effluents damaging the health of those who live in the area (particularly with the prevailing south westerly winds carrying pollution towards populated areas) from exposure to airborne dust contaminated with pathogens such as salmonella, campylobacter, MRSA and E. coli, causing asthma and chronic bronchitis. The area has a high proportion of elderly retired people with existing medical conditions such as COPD (chronic obstructive pulmonary disease) who could be greatly affected by such emissions.</p>	<p>concerns with regards to the pathogens referred to and possible transmission to humans. As discussed in this document we are satisfied that there will not be significant pollution of the environment or harm to human health.</p> <p>The principal regulator for animal health is the Animal and Plant Health Agency (APHA), whose main purpose is to safeguard animal and plant health for the benefit of people, the environment and the economy. Therefore they have primary responsibility for ensuring the farming industry has measures in place to prevent disease outbreaks or deal effectively with any disease outbreaks on site.</p>
<p><b><u>Effect on human health from increased traffic movements</u></b></p> <p>Concern has been raised that there will be a risk to health from vehicles associated with the development.</p>	<p>The local planning authority is responsible for determining land use through the planning application process, this includes transport. Consideration of increased traffic movements beyond the Installation boundary is outside the scope of our determination of the Application.</p>
<p><b><u>Effect on human health of antibiotic resistance and drugs given to the poultry</u></b></p> <p>1. Studies have shown that residents local to intensive farms are more at risk from antibiotic resistance.</p> <p>2. Concern has been raised that the environment is likely to be contaminated by drugs that are given to the chickens; a risk that these drugs bio-accumulate in the environment, posing a risk</p>	<p>1 &amp; 2. The use or overuse of antibiotics in poultry farms in itself is not a matter for control by the Environmental Permit.</p> <p>Further, we consulted Public Health England (PHE) and the Director of Public Health (Cornwall County Council) - when the application was duly made - on the Application in line with our guidance. Public Health England and the Director of Public Health did not raise any concerns with regard to drug resistant bacteria in the local population or the bioaccumulation of drugs in the environment.</p> <p>One public comment referenced a scientific paper “Potential impacts of antibiotic use in Poultry Production” (Singer <i>et al.</i> 2006) reviewing the relevant research up to 2006. Although this identified potential pathways from poultry to wildlife and human food it also concluded that the range of factors that can affect antibiotic resistance other than antibiotic use makes assessing a cause and effect relationship difficult.. We are satisfied that the proposed operational measures will ensure the risk of</p>



<b>Brief summary of issue raised</b>	<b>Summary of actions taken or show how this has been covered</b>
to wildlife and the local human population.	pollution of the environment or harm to human health is not likely to be significant. We consulted with PHE again to determine whether this information changed their original consultation response. Their response made clear that this article does not alter the advice previously provided.
<p><b><u>Effect on human health of the spreading of slurry</u></b></p> <p>Concern has been raised about the health of those living in close proximity to the site from the spreading of slurry</p>	There will be no spreading of slurry as a result of the operations of the Installation. Dirty wash water (which in this context is considered to be slurry) will be exported from the holding and sent to an appropriate waste water treatment site.
<p><b><u>Effect on human health from metals</u></b></p> <p>Concern has been raised about by-products of this development including arsenic, iron, copper, zinc and manganese, and the effect this will have on human health.</p>	As discussed in this document we are satisfied that the risk of pollution of the environment or harm to human health is not likely to be significant. We have also consulted with PHE and the Director of Public Health on the Application and they have not raised any concerns (see Annex 1 section 1 above). PHE have stated that compliance with legislation, together with good management, should ensure that the site will present a low risk to local human receptors.
<p><b><u>Effect on human health from mites</u></b></p> <p>Concern has been raised that large flocks of birds attract mites (Including the red mite, northern fowl mite and tropical fowl mite) and that these can cause asthma; furthermore, the treatments available to eradicate the mites are only partially effective and include Sulphur and Diatomaceous Earth. These are damaging to the atmosphere and the general environment.</p>	<p>We have consulted Public Health England (PHE) and the Director of Public Health (Cornwall County Council) on the Application in line with our guidance – their comments can be seen in Annex 1, Section 1, above. PHE and the Director of Public Health have not raised any concerns with regards to the mites and them causing asthma. As discussed in this document we are satisfied that the risk of pollution of the environment or harm human health from the activities of the site are not likely to be significant. The Applicant has stated that they will not store veterinary medicines on site, nor will they store pesticides (including rodenticides and insecticides) on site. Biocides (including disinfectants) will be stored on site. Potential pollutants such as chemicals, which are stored on site, have sufficient measures in place for containment, as assessed against the requirements of section 3.2 of EPR 6.09 ‘How to Comply with your environmental permit for intensive farming’, version 2 – The Applicant has confirmed that chemical storage on site will be capable of retaining spillage, resistant to fire, frost-free and secure.</p> <p>The principal regulator for animal health is the Animal and Plant Health Agency (APHA), whose main purpose is to safeguard animal and plant health for the benefit of people, the environment and the economy. Therefore they have primary responsibility for ensuring the farming industry has measures in place to deal effectively with any disease outbreaks on site.</p>
<p><b><u>Effect on human health from night-time activities</u></b></p> <p>Concern that activities as a result of the presence of the Installation will result in sleep deprivation,</p>	The risk of pollution posed by noise emissions from the site has been assessed as part of this determination. Based upon the information in the Application, the noise management plan and the conditions of the Permit we are satisfied that the appropriate measures will be in place to prevent or where that is not practicable to minimise noise and vibration and to prevent pollution from noise and vibration outside the Installation. Our assessment of noise is discussed in section 4.4 of this document.

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<p>particularly with regards to activities that take place during the night.</p>	
<p><b><u>Other responses relating to effects on human health</u></b></p> <p>1. Concern that the development will be in contravention of the Cornwall Local Plan 2.101, which will lead to poor air quality and a risk to human health.</p> <p>2. A study by Utrecht University (Professor Smit) states that within 1.15km of a 'mega farm' there is high incidence of lung disease and pneumonia; the study showed that neighbouring residents' lung function was reduced during weeks with higher levels of farm-related ammonia air pollution. Residents who appeared to be most affected by farm pollution were those who had chronic obstructive pulmonary diseases.</p> <p>3. The poultry industry is renowned for causing asthma and breathing difficulties – 16% of workers in the industry suffer from the effects produced by chicken dust.</p> <p>4. Concern has been raised about the risk from Histoplasmosis (an infectious respiratory disease caused by a fungus), a disease associated particularly with poultry.</p> <p>5. Concern that various studies have found that people living near chicken farms have developed headaches, skin sores, memory loss, stomach cramps and mood swings.</p> <p>6. Concerns have been</p>	<p>1. Cornwall Local Plan 2.101 refers specifically to planning decisions. The Cornwall Local Plan provides an overarching planning policy framework for Cornwall and as such does not form part of our determination of the Application. It may, however, be a relevant consideration for the granting of planning permission. However, we have concluded that the operation will not cause significant pollution of the environment or harm to human health.</p> <p>2. The study found increased abundance of Streptococcus pneumonia in the upper airways of patients living within 1km of poultry farms and it is speculated that this change in microbiota may be a consequence of elevated exposure to particulate matter or endotoxin but provide caveats that the sample size was small so that the results are sensitive to outliers. Furthermore, the study did not include healthy controls, and therefore it is not clear whether the shift in microbiota is a cause or effect of disease. Moreover, the density of farms in the study referred to, and their proximity to neighbours is not representative of the proposal and situation as laid out in this application. The study does not alter our view – as expressed in this document - that the risk of pollution of the environment or harm human health from the activities of the site are not likely to be significant. PHE stated in their original consultation response (received 19/10/2017) that compliance with legislation, together with good management, should ensure that the site will present a low risk to local human receptors.</p> <p>In response to comments raised by the public on these issues, and the providing of scientific papers previously referred to (Smit <i>et al.</i> 2006 and Borlee <i>et al.</i> 2017) we consulted with PHE again to determine whether this information changed their original consultation response. They state that they would not base their advice on individual pieces of research, as it is important to consider the evidence base as a whole. They go on to state that in relation to intensive farming and bioaerosols, a recent systematic review describes the evidence base which demonstrates that published studies have so far detected inconsistent results with studies reporting no effect, mixed effects, harmful effects and protective effects. Their response made clear that these articles do not alter the advice previously provided.</p> <p>3. The health and wellbeing of employees is covered under separate legislation and does not form part of the decision of whether to grant an environmental permit.</p> <p>4, 5 &amp; 6. We have consulted Public Health England (PHE) and the Director of Public Health (Cornwall County Council) on the Application in line with our guidance – their comments can be seen in Annex 1, Section 1, above. PHE and the Director of Public Health have not raised any concerns with regards to Histoplasmosis or headaches, skin sores, memory loss, stomach cramps or mood swings. PHE have stated that compliance with legislation, together with good management, should ensure that site will present a low risk to local human receptors. As discussed in this document we are satisfied that the risk of pollution of the environment or harm to human health from the activities of the site are not likely to be significant.</p>

<b>Brief summary of issue raised</b>	<b>Summary of actions taken or show how this has been covered</b>
<p>raised that there are no measure that can be put in place to mitigate against the health risks if this development goes ahead.</p> <p>7. The risk of airborne pathogens is clearly implied in proposal by the use of dozens of extractor fans, which will deposit polluted air on Nancegollan.</p> <p>8. Concern has been raised that the treatment of people affected by this development will put a strain on the NHS.</p> <p>9. Concern has been raised about the risk from zoonotic diseases – reported that on 06/12/16 DEFRA decreed that all poultry must be kept inside away from wild birds, which lasted for 12 months. It is deemed impossible to adhere to this for a site where there are 112,000 birds.</p>	<p>7. The use of extractor fans does not imply this. High velocity roof fans will be in place with an efflux velocity of 11m/s, which will aid in the dispersion of dust and ammonia making it less likely that this will accumulate on the roofs. It is recognised that high velocity roof extraction fans help to disperse ammonia emissions and can significantly reduce the concentration of ammonia and the levels of nitrogen deposition close to the farm. As discussed in this document we are satisfied that the risk of pollution of the environment or harm human health from the activities of the site are not likely to be significant.</p> <p>8. Whilst not able to comment on matters relating to the budget of the NHS as discussed in this document we are satisfied that there will not be significant pollution of the environment or harm human health from the activities of the site so that there will not be any impact on the NHS.</p> <p>9. Contingency plans will be in place if there were to be a situation where poultry must be kept inside. Whilst birds are free to roam in the ranging areas during the day, they are brought back inside each and every evening, where there is adequate room to accommodate all the birds. Therefore it is normal practice to return flocks to poultry buildings when needed. We have consulted Public Health England (PHE) and the Director of Public Health (Cornwall County Council) on the Application in line with our guidance – their comments can be seen in Annex 1, Section 1, above. PHE and the Director of Public Health have not raised any concerns with regards to zoonotic diseases. We are satisfied that the risk of pollution of the environment or harm human health from the activities of the site are not likely to be significant.</p>
<p><b><u>Carcass management</u></b></p> <p>Concern has been raised on the procedure for the handling, storage and removal of dead birds including that dead birds would be difficult to spot in the ranging areas and any rotting carcasses that are not picked up can produce botulism, which is fatal to sheep, cattle and horses.</p>	<p>Based on the information in the Application we are satisfied that appropriate measures will be in place to manage waste (including fallen stock) so as not to result in significant pollution.</p> <p>The Applicant has confirmed that any fallen stock both within the houses and on the ranges will be collected and recorded daily. These will be stored in a locked freezer on site prior to disposal and then removed by a licensed individual twice a month – these will be disposed of in accordance with the Animal By-Products Regulations (as per the requirements of S3.2 of EPR 6.09 ‘How to Comply with your environmental permit for intensive farming’, version 2).</p> <p>The aforementioned operating techniques are captured within the Odour Management Plan (OMP) and Technical Standards provided with the application. The OMP and Technical Standards are stated operating techniques, which the Applicant must comply with by virtue of Table S1.2 and condition 2.3 of the Permit.</p>
<p><b><u>Dust/bioaerosols</u></b></p> <p>1. The 56 industrial fans will extract polluted air/dust from the buildings and deposit it on the villages of Nancegollan and</p>	<p>1, 2 and 3. As discussed in Section 4.5 of this document, and above in the section titled ‘effect on human health for dust and bioaerosols’, the Environment Agency is satisfied, following a review of information provided by the Applicant, that the proposals for managing and mitigating dust are BAT and therefore emissions of dust are unlikely to be significant.</p>

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<p>Crowtown; furthermore, Sithney Junior School is 1.6-1.8km away.</p> <p>2. Chicken dust is such a significant risk that workers at such sites have to wear full protective equipment.</p> <p>3. Concern has been raised about the risk of PM10s emanating from the site.</p> <p>4. The Dutch Government has ordered mega farms to reduce emissions of dust by 50% over the next 10 years.</p>	<p>As discussed in Section 4.5 of this document, the Environment Agency is satisfied, following a review of information provided by the Applicant, that the proposals for managing and mitigating dust are BAT. For example, the Operator will use high velocity roof mounted fans which effectively disperse emissions into the atmosphere reducing their concentration and impact, and is considered to be BAT under EPR6.09.</p> <p>The potential for particles to cause health effects is related to their size. Dust emitted from intensive farming may include fine particles with an aerodynamic diameter of less than or equal to 10 µm (termed PM 10 ). By controlling dust you inherently control particulate matter, including PM10s. The intensive farming sector Best Available Techniques (BAT) Reference Document, BREF (<a href="http://eippcb.jrc.ec.europa.eu/reference/BREF/IRPP/JRC107189_IRPP_Bref_2017_published.pdf">http://eippcb.jrc.ec.europa.eu/reference/BREF/IRPP/JRC107189_IRPP_Bref_2017_published.pdf</a>), does not require us to set particulate matter (PM) limits. In addition to this, the impact assessed is considered acceptable so we do not consider it necessary to set site specific emission limit values for particulates. Furthermore, Sithney School is south east of the proposed development, whereas the prevailing wind direction is from the south west, and therefore the school is not downwind of the proposed site.</p> <p>As a result we do not consider that emissions of dust are likely to be significant and nor, therefore, that the risk to human health from dust is likely to be significant.</p> <p>The health and wellbeing of employees is covered under separate legislation and does not form part of the decision of whether to grant an environmental permit.</p> <p>The Permit includes condition 3.2 to control emissions of substances not controlled by emission limits. This includes dust. The Operator has to manage its activities so that these emissions shall not cause significant pollution. Moreover, condition 3.2.2 requires the Operator – if notified by the Environment Agency that the activities are giving rise to pollution – to produce an emissions management plan.</p> <p>4. The reduction of emissions of dust from Dutch farms is a matter for the Dutch government. However, we have assessed the impact from dust and we are satisfied that there will not be significant harm to the environment or to human health.</p>
<p><b><u>Management of ranging areas</u></b></p> <p>1. There is no plan to mitigate against the droppings of the birds in the ranging areas and the associated problems of odour, pollution and pests.</p> <p>2. The ranging areas surround Pryors Cottage on all sides and this situation is unacceptable, and although unlikely that birds will range close to Pryors Cottage, in the absence of consistently</p>	<p>1. The Applicant has proposed a bark/woodchip area for approximately 3.6m outside the pop holes of the poultry houses. Any manure deposited on this bark area will be removed every three months when the bark is removed. Fresh bark is then laid down to replace the removed bark. The bark removed will be exported to the a composting facility. In addition these areas will be inspected daily to determine whether areas need replacing or replenishing sooner. Therefore a proportion of excreta deposited outside of the poultry houses will be collected.</p> <p>Although manure is not spread to land in this case, it will be deposited by birds within the range and manure collected from the poultry houses will be exported for composting (please see section titled 'Waste disposal / land spreading / manure storage / spreading'), it is important to note that the spreading of manure is normal farming practice. As the Code of Good Agricultural Practice (CoGAP) states, the most economic and environmentally friendly way of dealing with livestock manures</p>

<b>Brief summary of issue raised</b>	<b>Summary of actions taken or show how this has been covered</b>
<p>applicable scientific principles, a precautionary approach must be adopted, which means assumption of the worst-case scenario.</p> <p>3. Concern has been raised that the electric fence at the north of the site will be placed in a wetland area, and will interfere with a traditional wildlife corridor; calls for this area to have an exclusion zone, as the lake that feeds it does.</p> <p>4. The heights of the buildings will interfere with traditional wildlife corridors.</p> <p>5. There is a proposed 100m exclusion zone around the lake at the north of the site, but it is not 100m from the bank all around, and therefore should be extended.</p>	<p>(slurry and solid manure) and dirty water will usually be to apply them to agricultural land at appropriate rates for the benefit of soil and the crop. The spreading of this wash water and poultry litter to land is a normal process.</p> <p>In Nitrate Vulnerable Zones (NVZ), Operators must comply with the rules that restrict the quantity of livestock manure and organic manures that can be applied and times of the year when certain types may not be applied, and set minimum storage requirements for some livestock manures – for details of how the deposition of manure in this case abides by the NVZ requirements, please see section titled ‘Nitrate Vulnerable Zone’ immediately below and Section 4.8 of this document.</p> <p>2. The Environment Agency is responsible for ensuring that its legislative obligations are met and that the activities at the Installation do not have an unacceptable impact on the environment or human health. The precautionary principle is usually applied when there are good reasons for believing that harmful effects may occur and the risk cannot be assessed on the scientific evidence available. There is sufficient scientific evidence to conclude the proposals are acceptable so the use of the precautionary principle is not appropriate. We are satisfied that the risk of pollution of the environment or harm to human health from emissions are not likely to be significant, and this includes at Pryors Cottage.</p> <p>3 and 4. The area referenced is not within a designated habitat. The Environment Act provides generalised protection for flora and fauna not covered by specific conservation designations.</p> <p>However, the Reduction and Prevention of Agricultural Diffuse Pollution (England) Regulations 2018 require that livestock are prevented from compacting soil by trampling it (poaching) within 5m of an inland freshwater.</p> <p>The Environment Agency does not consider that the buildings will have a negative impact on wildlife.</p> <p>5. It is not a requirement for a 100m exclusion zone to be in place and therefore it is a matter for the Operator as to whether they implement a 100m exclusion zone here. However, the Applicant has now confirmed that there will be a 50m exclusion zone in place – this is reflected in the boundaries of the ranging areas on the site plan, which can be seen in Schedule 7 of the permit.</p>
<p><b><u>Nitrate Vulnerable Zone (NVZ)</u></b></p> <p>1. The area is within an NVZ and this site will see large amounts of nitrogen produced, which will exceed limits and pollute the surrounding land.</p> <p>2. Concerns have been raised that the operation will create nitrogen levels that exceed limits. Nitrate</p>	<p>1 &amp; 2. A Schedule 5 Notice requesting information pertaining to the Nitrate Pollution Prevention Regulations was issued on 19/01/2018 to determine if the nitrate deposition limit on the ranging areas for the manure deposited from the chickens will exceed the limit of 170 kg N/ha/pa. The Applicant responded on 07/02/2018. Further information was requested on 27/03/2018 and 13/04/2018 and supplied on 03/05/2018. See Section 4.8 (Nitrogen deposition) above. We are satisfied that the NVZ will be adequately protected.</p> <p>The Environment Agency enforces the NVZ rules. Its officers make risk-based assessments of which farms to inspect. Furthermore, the Rural Payments Agency inspects a proportion of farmers who claim single farm payment under the cross-compliance rules.</p>

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<p>Vulnerable Zones (NVZs) - Guidance for Farmers - The livestock manure N farm limit (Leaflet 5 - PB12736e): You must ensure that, in any year beginning 1 January, the total amount of nitrogen in livestock manure that is applied to your farm, whether directly by grazing animals or by spreading, does not exceed 170kg multiplied by the area of the farm. So, 63 hectares multiplied by 170kgs = 10710kgs max permitted. Defra quote a figure of 530kgs of nitrogen from 1000 hens per year. 530 x 112,000 = 59360kgs, even at 20% ranging (11,872) is still greater than the max loading.</p>	
<p><b><u>Waste disposal / Land spreading / manure storage / spreading</u></b></p> <p>1. Concerns that reference to manure disposal and storage has been vague and varied.</p> <p>2. Where off-site will the waste be sent? It is stated in the application that the operator will transport it 56 tonnes produced weekly (although it is claimed that it could be as much as 90 tonnes) to the Green Waste Company in St Erth/Hayle for composting – concern raised that there would not be enough green waste to mix with manure to produce compost. If the ratio of green waste to manure is 10-1, that would be impossible to achieve as it would require 900 tonnes of green waste per week to mix with the 90 tonnes a week produced by Pengwedna Poultry farm; an alternative solution is to a local anaerobic digester at</p>	<p>1 and 2. A (2<sup>nd</sup>) Schedule 5 Notice requesting information pertaining to amongst other items the destination of poultry manure was issued on 19/01/18. Details have been provided of multiple destination sources for the manure. The Applicant responded on 07/02/18 stating that the manure will be exported to the Green Waste Company at Splattenriddon, Hayle for composting. If this route is for whatever reason unavailable then the response states that there is an anaerobic digestion route available as a fall back provision, and a third contingency for spreading on land owned by the operator or third parties.</p> <p>Manure will be removed twice weekly from the site (response to Schedule 5 request for further information, received 04/05/18). There will be no manure field heaps. The muck conveyors from the buildings will fill trailers directly with no intermediate steps, these trailers are then covered and sealed. This process will only take place if there is sufficient trailer capacity on site. The trailers will stand on a concrete impermeable base within the yard area with kerbing and dirty water drainage to the same collection tanks used during the clean out process. This area will remain clean with any possible spillages cleared immediately. We are satisfied that the proposals for manure storage and disposal are clear.</p> <p>The issue of whether or not there would be enough green waste to mix with manure at a different permitted facility is not a matter for consideration when determining whether or not to grant an environmental permit to the Applicant. The permit will regulate what happens on site and manure which leaves the site will be subject to other regulatory controls.</p> <p>3. A Schedule 5 Notice requesting information pertaining to amongst other items the destination of poultry manure was issued on 19/01/18. The Applicant responded on 07/02/18 stating that if there were Avian Influenza restrictions sealed trailers will be parked on a hard standing surface. The Applicant has confirmed the company has sufficient trailers</p>

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<p>Silverwell, through Hayle – however, this facility has a restriction to how much waste it can accept.</p> <p>3. Concern has been raised that if there was an avian flu outbreak there appears to be no contingency plan in place to handle a potential build-up of manure if it cannot be transported off-site. Where is this manure going to be stored?</p> <p>4. Concern that during the transfer of manure off-site to be processed, faeces will be dropped from the trailer polluting the road and surrounding environment.</p> <p>5. Concern that the export of waste offsite will extend the environmental impact to other regions where the waste treatment sites are.</p> <p>6. It is stated that chickens drop 4 ounces of excreta per day, which equates to 89 tonnes per week. If birds are outside for 50% of the time, then that would be 45 tonnes deposited within the ranging areas per week. If this is not going to be collected and isn't absorbed into the ground, what will happen to it?</p> <p>7. Concern that 112,000 hens will produce pollutants including Nitrogen in excess of Defra guidelines. Latest groundwater tests from the area show increased nitrate levels linked to fertiliser application over recent years.</p> <p>8. It is stated that the phosphorus created from 128,000 [sic] birds in the</p>	<p>to store manure on site for 2 weeks, and the ability to retain manure in the poultry houses for 1 week. The Applicant has confirmed that if there were to be restrictions in place, such as an Avian Influenza outbreak, they would seek permission to export the litter from the site for treatment. If this wasn't permitted, then permission would be sought to store the manure on the hardstanding of the site and cover with impermeable plastic sheeting.</p> <p>The Operator is required to notify the Animal and Plant Health Agency of an outbreak of serious disease, and implement procedures as agreed with them, and in conjunction with the Environment Agency if necessary.</p> <p>4. The consideration of the handling of manure off site is not part of the environmental permit decision. The regulation of road transport is matter for the traffic commissioners. Notwithstanding this, the Applicant has confirmed that all trailers will be securely covered, limiting the possibility of manure contaminating the roads and surrounding environment.</p> <p>5. Field storage of manure and land spreading outside of the Installation boundary, or the treatment of waste at treatment sites are not matters that may be controlled by the Permit and are therefore not part of our assessment. Nevertheless the Operator has responsibilities to ensure that it is dealt with appropriately. Condition 2.3.5 of the Permit states that the Operator shall take appropriate measures in disposal or recovery of solid manure or slurry to prevent, or where this is not practicable to minimise pollution. Please refer to sections 'Slurry spreading and manure management planning - on-site activity' and 'Slurry spreading and manure management planning – off-site activity' of EPR 6.09 'How to comply with your environmental permit for intensive farming', version 2.</p> <p>6. Our guidance based on experience assumes that for poultry only 10-20% of excreta will be deposited outside the buildings. The Applicant has proposed a woodchip area extending to approximately 3.6m outside the pop holes of the poultry houses. Any manure deposited on this bark area will be removed every three months when the bark is removed. Fresh bark is then laid down to replace the removed bark. The bark removed will be exported to a composting facility. In addition these areas will be inspected daily to determine whether areas need replacing or replenishing sooner. Therefore a proportion of excreta deposited outside of the poultry houses will be collected. The remainder will be gradually absorbed into the range and this has been assessed against the Nitrate Pollution Prevention Regulations 2015.</p> <p>7 and 8. Please see section titled 'Nitrate Vulnerable Zone' immediately above this and Section 4.8 of this document for a detailed discussion on the NVZ regulations and whether the activities taking place at the Installation will result in the deposition of Nitrogen above the relevant guidelines.</p> <p>It is unclear as to where the numbers in point 8 have come from. However, BAT Conclusions 3 and 4 (<a href="https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2017.043.01.0231.01.ENG&amp;toc=OJ:L:2017:043:FULL">https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2017.043.01.0231.01.ENG&amp;toc=OJ:L:2017:043:FULL</a>) require the Operator to adopt a nutritional strategy to reduce the levels of N and P excretion and demonstrate they are meeting the BAT associated excretion levels given in table 1.1 and table 1.2 of the BAT conclusions document. The Applicant has confirmed they have checked the relevant levels and can comply with them. They will</p>

<b>Brief summary of issue raised</b>	<b>Summary of actions taken or show how this has been covered</b>
<p>litter would be equivalent to a town of 30,000 people would create annually.</p> <p>9. Concerns have been raised that there are urea and ammonia compounds released from manure that are very caustic. This manure also carries parasites, bacteria, and viruses that cause diseases in the animals and the people handling them. Ammonia and SO<sub>2</sub> will lead to greater rates of nitrogen deposit in the soils, which can have a serious effect on the quality of terrestrial habitats, aquatic ecosystems and cause acid rain.</p> <p>10. The manure management plan is unsuitable.</p>	<p>also be required to calculate or analyse manure and/or slurry to estimate N and P excretion and report this to the Environment Agency annually.</p> <p>9. Please see section titled 'NVZ' immediately above this for a detailed discussion on the NVZ regulations and whether the activities taking place at the Installation will result in the deposition of Nitrogen above the relevant guidelines. The method proposed for the storage of manure and the export from site is normal farming practice and is discussed above. We have also consulted with PHE and the Director of Public Health on the Application and they have not raised any concerns (see Annex 1 section 1 above). PHE have stated that compliance with legislation, together with good management, should ensure that site will present a low risk to local sensitive receptors.</p> <p>10. The methods for manure management have been examined and details of the proposals and our conclusions can be read above. The submission of a standalone manure management plan with the Application is not a requirement in order to be granted an environmental permit, although the Operator will be required to have one as they have a contingency option of spreading manure on their own land if necessary.</p>
<p><b><u>Storage/spreading of wash water</u></b></p> <p>1. Concerns that if due to weather conditions wash water cannot be land spread, it will have to be taken to a local treatment plant, and this possibility hasn't been assessed.</p> <p>2. Concerns raised about the spreading of wash water.</p> <p>3. Have the implications of storing wash water and the associated problems of odour, flies and pollution of waterways, been assessed?</p>	<p>1 and 2. The dirty wash water will be exported from the holding for treatment at an appropriate waste water treatment site. Dirty wash water will not be spread to land.</p> <p>3. Wash water will be stored in below ground dirty water catchment tanks which will be located to the front of the houses. Dirty water will be directed to these via internal drainage points located within each of the buildings with all external waters being picked up via a series of open drains on the concrete apron and at changeover points. These wash water tanks will be built to conform to specifications in SGN EPR 6.09 'How to Comply with your environmental permit for intensive farming, Version 2'; specifically they will meet the requirements of the Control of Pollution (Silage, Slurry and Agricultural Fuel Oil) Regulations). There will be no discharges of wash water to waterways. The containment of this water in the manner proposed should ensure that the potential for attraction of pests will be minimal and there will be no significant pollution due to odour.</p>
<p><b><u>Pests</u></b></p> <p>1. Concerns have been raised about the impact of pests (including flies and rats) on the surrounding area from the Installation.</p> <p>2. Concerns have been raised that vermin will be</p>	<p>1, 2, 3, 4 and 5. Based on the information in the Application we are satisfied that appropriate measures will be in place to prevent and/or minimise pests. Section 4.7 of this document sets out our conclusions regarding the management of pests in greater detail.</p> <p>The Applicant has made clear what methods they intend to implement to prevent, or where that is not practicable minimise, the potential for diffuse pollution from the containment of foodstuffs. The Applicant has</p>



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<p>attracted by the bulk storage of chicken feed and chicken waste products.</p> <p>3. Concerns were raised that flies, rodents and other pests will adversely affect the lives of people living in the vicinity as evidenced in published research papers.</p> <p>4. One environmental study is quoted, stating that there are 83 times the number of flies within ½ mile radius of the large chicken farms they studied [sic].</p> <p>5. Concerns raised about the threat of an invasion of flies from the storage of feedstuff.</p> <p>6. Concern that flies will only be able to be controlled through the application of large volumes of pesticides, which could leach into groundwater.</p> <p>7. Concern that there is no plan in place for how the flies and rats from the ranging areas will be controlled.</p> <p>8. It is not believed that the mitigation measure of fly tape proposed by the applicant is adequate as although this may work on a small scale, it is not practical on an industrial scale. Furthermore, it is unclear as to what the actions to be taken are that are referred to in the application, which states 'appropriate actions will be taken to prevent and control flies, should a nuisance arise'.</p>	<p>confirmed that feed storage will be in enclosed purpose-built bins with a dust collection facility mounted on the exhaust vent; they will also be located alongside the control rooms to minimise the risk of damage from collision.</p> <p>The containment measures for feed are in line with S3.2 of EPR 6.09 'How to Comply with your environmental permit for intensive farming', version 2. This should help ensure that vermin is kept to a minimum.</p> <p>The Applicant has also proposed appropriate measures for carcass management. This will help ensure that vermin are less likely to be attracted. Further details can be found in the 'carcass management' section of 'representations from individual members of the public' above, and in Section 4.7 (Pests) of this document.</p> <p>Collected poultry manure will not normally be stored on site at any time and therefore this will help to ensure that pests are prevented or controlled. Contingency plans are in place for when it may be necessary to store manure on site, in sealed trailers. For further details, see Section 4.3 (Odour) of this document.</p> <p>Furthermore, there is also a generic pest condition within the permit: Condition 3.6. This states that the activities shall not give rise to the presence of pests which are likely to cause pollution, hazard or annoyance outside the boundary of the site. Additionally, condition 3.6.2 states that the Operator shall if notified by the Agency, submit to the Environment Agency for approval within the period specified, a pests management plan which identifies and minimises risks of pollution, hazard or annoyance from pests. This management plan should be implemented from the date of approval, unless otherwise agreed in writing by the Environment Agency.</p> <p>The Operator is also required to comply in all respects with the requirements of the Permit, all relevant domestic and European legislation, and use Best Available Techniques (BAT). In the event that the Operator fails to comply with any Permit condition then we would consider appropriate enforcement action in line with our Enforcement and Sanctions Guidance which can be viewed at <a href="https://www.gov.uk/government/publications/environment-agency-enforcement-and-sanctions-policy/environment-agency-enforcement-and-sanctions-policy">https://www.gov.uk/government/publications/environment-agency-enforcement-and-sanctions-policy/environment-agency-enforcement-and-sanctions-policy</a></p> <p>6. The Applicant has stated that they will not store pesticides (including rodenticides and insecticides) on site. They will only be brought on site as and when they are required. Their use is normal farming practice and it is likely that when used, they will be applied in the poultry buildings. Any run off generated from this process will be directed towards the dirty water tanks on site. The risk to groundwater from the use of pesticides is not considered to be significant.</p> <p>7 &amp; 8. We do not anticipate there to be a pests problems originating from either the houses or the ranges, That being said, there is a generic pest condition within the permit: Condition 3.6. This states that the activities shall not give rise to the presence of pests which are likely to cause pollution, hazard or annoyance outside the boundary of the site. Additionally, condition 3.6.2 states that the Operator shall if notified by the Agency, submit to the Environment Agency for approval within the period specified, a pests management plan which identifies and</p>

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	<p>minimises risks of pollution, hazard or annoyance from pests. This management plan should be implemented from the date of approval, unless otherwise agreed in writing by the Environment Agency.</p> <p>Furthermore, the Applicant has confirmed that if pests were to become a problem, they would seek veterinary advice immediately, and take action based on the advice and recommendations received.</p>
<p><b><u>Impact on wildlife and/or habitats</u></b></p> <p>1. General concerns have been raised about the impact this development will have on a range of species that use this land for breeding, migratory stopovers, feeding, etc.</p> <p>2. Concern has been raised that this development will be a threat to the Hayle Estuary (linked to Nancegollan by the River Hayle), where as many as 18,000 birds are resident in winter.</p> <p>3. Concerns have been raised that the development will have a negative impact on deciduous woodland (found in the valley bottom), which contain mosses, lichens and fungi, which are susceptible to ammonia poisoning.</p> <p>4. A SSSI downstream of the site that is designated for West Cornwall Bryophytes will be at risk from this development. Ammonia from the farm can lead to acidification and damage to the vegetation; it can also accumulate in the soil and become toxic to plants. Liverwort thrives in this area and Tregonning Hill is one of the only places in Britain the Western Rustwort can be found.</p> <p>5. Nitrous oxide, Hydrogen sulphide and other airborne particles from intensive farms can damage the environment.</p>	<p>1, 2, 3, 4, We have concluded that the Application will not have a negative impact upon any local, national or European protected nature conservation sites within the relevant screening distances of the Installation. The other areas referenced are not within a designated habitat, such as a Local Wildlife Site (LWS), or a Site of Special Scientific Interest (SSSI). The Environment Act provides generalised protection for flora and fauna not covered by specific conservation designations. The higher any specific designation the more protection a site is afforded but we do not issue a permit that will result in significant pollution either inside or outside designated areas. We do not consider that the proposed installation will cause significant pollution at any location.</p> <p>An assessment on the impact from this proposal on nature conservation sites from ammonia emissions has been carried out as part of the permitting process. Further detail about the impact of ammonia emissions can be found in section 4.2 (Ammonia emissions – ecological receptors) of the key issues part of this document.</p> <p>5. The main environmental impact of nitrous oxide is as a potent greenhouse gas that can also deplete stratospheric ozone. The main impact of hydrogen sulphide is odour, in the workplace and neighbouring areas. In both cases formation of the gas is decreased by the control of feed composition, use of aviary style over caged housing and the reduction in the opportunity for unintended anaerobic decomposition by frequent belt removal of manure in houses and minimisation of waterlogging of soil on ranges. We do not consider that the proposed installation will cause significant pollution.</p> <p>6. It is unclear as to the nature of the concerns raised with regards to the threat to Cornish hedges. The Permit will regulate emissions such that there will be no significant pollution from the Installation. We therefore do not consider that emissions from the Installation could affect the Cornish hedges</p> <p>7. A Phase 1 Habitat Survey is not a requirement from an environmental permit standpoint. It may be something that is required when seeking planning permission. We are satisfied that we had sufficient information to assess the impacts of the proposal.</p> <p>8. There are no discharges from the Installation direct into the River Hayle. Drainage from animal housing and water from cleaning out is considered to be slurry and is directed towards the dirty water tanks on site. The concrete aprons of the site have kerbing and contaminated water from these areas is directed towards the dirty water tanks. Procedures are in place to ensure that these areas are kept clean. Mitigation measures have been proposed to maintain permeability of surface of the ranges including grassland management techniques, minimising capping of the surface, resting of land, and planting of a large number of trees and shrubs.</p>

<b>Brief summary of issue raised</b>	<b>Summary of actions taken or show how this has been covered</b>
<p>6. Concern has been raised about the threat to Cornish hedges from this development.</p> <p>7. Concern has been raised that a Phase 1 Habitat Survey did not cover the entire site.</p> <p>8. Concern that a unique population of brown trout, which have become tolerant to heavy metals due to past mining in the area, are going to be exposed to nitrates washed into the River Hayle as a result of site operations.</p> <p>9. There are no contamination preventative measures in place to protect the lake at the bottom of the site, which is a refuge for many species.</p> <p>10. Concern has been raised by a consultee about the effect of the development on their horse, which suffers from COPD.</p>	<p>As a further measure to mitigate against surface runoff leaving the installation the applicant has proposed construction of containment bunds along the site's northern and western boundaries.</p> <p>We have decided to incorporate two pre-operational conditions - which are referred to above - into the permit to require further information as to the precise nature of these plans once they are finalised.</p> <p>The Operator will not be able to proceed with their plans until their plans have been approved by the Environment Agency.</p> <p>9. There are no point source discharges from the proposal direct to the lake. However, mitigation measures are in place as described immediately above, which should ensure that the lake isn't negatively affected from this Installation. The Applicant has also confirmed that there will be a 50m exclusion zone in place around this lake, which will help to ensure that it is protected – this exclusion zone is reflected in the site plan, which can be seen in Schedule 7 of the permit. In addition to the conditions of the permit, further detail of the rules in place for farmers and land managers to prevent water pollution can be found here: <a href="https://www.gov.uk/guidance/rules-for-farmers-and-land-managers-to-prevent-water-pollution">https://www.gov.uk/guidance/rules-for-farmers-and-land-managers-to-prevent-water-pollution</a> The Reduction and Prevention of Agricultural Diffuse Pollution (England) Regulations 2018 <a href="http://www.legislation.gov.uk/ukxi/2018/151/made">http://www.legislation.gov.uk/ukxi/2018/151/made</a></p> <p>10. Emissions to air, land and water from the proposed development have been assessed against all known sensitive receptors. We consider that the Application will have no likely significant effect. Furthermore, the Permit will regulate emissions such that there will be no significant levels of pollution from the Installation.</p>
<p><b><u>Pollution of surface water, groundwater and boreholes</u></b></p> <p>1. Concerns have been raised about contamination of rivers (Particularly the River Hayle), boreholes (including those used by a local care home), groundwater and wells.</p> <p>2. Concerns have been raised that there is no proposed monitoring of groundwater. Questions have also been raised as to who will be responsible for monitoring of the water supplies, and who will pay for it.</p> <p>3. Concerns have been raised that the water required by the farm may put pressures on local water resources and affect</p>	<p>1 &amp; 2. We are satisfied that the measures incorporated in the permit will prevent pollution of surface water and groundwater including that in borehole and wells. The Applicant has proposed a woodchip area for approximately 3.6m outside the pop holes of the poultry houses. Any manure deposited on this bark area will be removed every three months when the bark is removed. Fresh bark is then laid down to replace the removed bark. The bark removed will be exported to a composting facility. In addition these areas will be inspected daily to determine whether areas need replacing or replenishing sooner. Therefore a proportion of excreta deposited outside of the poultry houses will be collected, limiting the impact of run-off.</p> <p>A Schedule 5 Notice requesting information on the presence of local boreholes was issued on 19/01/18. The Applicant responded on 07/02/18 and has provided a water features survey. The Applicant supplied a map and covering email which identifies the location and whether the feature is a well or a borehole. Having provided a map showing the presence of private water supplies, the Applicant has also incorporated 50m buffer zones around these features where birds from the poultry unit will prevented from ranging by fencing. This complies with our Groundwater Protection Policy Statements on Landspreading (H6 in 'EA's approach to groundwater protection' – gov.uk), which is a comparable activity and is sufficient to demonstrate that the operator is following good practice.</p>

Brief summary of issue raised	Summary of actions taken or show how this has been covered
<p>the quantity of water available to other boreholes in the area.</p> <p>4. Concerns have been raised that run-off from the site will be contaminated with anti-parasitic treatment, anti-salmonella treatment (such as Fibrinil) and antibiotics, which are used to maintain bird health.</p> <p>5. Pathogens such as cryptosporidium can spread from manure to water supplies and can remain viable in the environment for a sustained period of time.</p>	<p>The roof water from the 4 poultry houses is considered to be clean (high velocity roof fans on buildings for ventilation) and will drain via guttering to trenches located close to the houses, acting as a soakaways. These are constructed to be of sufficient size to contain drainage from the areas surrounding the houses, and there are no outlets to surface water. Fuel storage is bunded. Footbaths will be maintained so they do not overflow. Storage of chemicals such as pesticides and veterinary medicines will be capable of retaining spillage, resistant to fire, frost-free.</p> <p>In addition, the planting in the ranges of trees and shrubs will maintain soil structure to create soakaway zones as well as providing landscape screening and shelter for ranging hens. These can also be planted in shallow depressions to create 'wet woodlands' to further reduce physical runoff.</p> <p>As a final measure to further reduce any runoff from the ranging areas of the site, part of the proposed surface water management strategy is to construct a containment bund along the site's northern and western boundaries to minimise any overland (exceedance) flows reaching neighbouring properties. Further prevention of run off from the ranging areas is by grass sward and tree/shrub planting. The land management plan for this site is to plough the entire land area to remove any hard spots created by the past 20 years of vegetable growing and then plant with grass. Decompaction will improve filtration and as a result reduce the risk of run-off. Furthermore, future crop (grass) which will aid soil structure, absorb nitrates and act as filter strips.</p> <p>An assessment on the impact from this site on boreholes, groundwater and neighbouring watercourses has been carried out as part of the permitting process. We are satisfied that the appropriate measures will be in place to minimise the impact on surface water and ground water. We consider that the Application will not give rise to significant pollution of the environment or harm to human health. For this reason monitoring of Nitrogen levels is not considered necessary or appropriate.</p> <p>Please see Section 4.6 of this document for a detailed explanation of the site drainage of the site. Further detail of the rules in place for farmers and land managers to prevent water pollution can be found here:  <a href="https://www.gov.uk/guidance/rules-for-farmers-and-land-managers-to-prevent-water-pollution">https://www.gov.uk/guidance/rules-for-farmers-and-land-managers-to-prevent-water-pollution</a></p> <p>3. A Schedule 5 Notice requesting information as to where the water will be supplied from for use in the operations of the Installation such as poultry drinking water and wash down of houses was issued on 19/01/18. The Applicant responded on 07/02/18 confirming that water will come from existing mains water supply and not a borehole and therefore it this will not affect the quantity of water available to members of the local community.</p> <p>4 and 5. Please see above for a detailed description of containment of run-off. We have also consulted Public Health England (PHE) and the Director of Public Health (Cornwall County Council) on the Application in line with our guidance. Public Health England and the Director of Public Health have not raised any concerns with regard to cryptosporidium or drug resistant bacteria in the local population, anti-parasitic treatment, or the bioaccumulation of drugs in the environment.</p>

Brief summary of issue raised	Summary of actions taken or show how this has been covered
<p><b><u>Site drainage / surface water run-off / flooding</u></b></p> <p>1. Concern that the existing flooding of the area will be exacerbated by the development.</p> <p>2. Concern that because the manure will not be collected from the fields, the flood water will contain N &amp; P from the chicken droppings.</p> <p>3. The applicant's solution of bunds, furrows and ridges to prevent or mitigate against surface water run-off from the fields is not viable. However, a submission by the agent to the planning authority on 19 October contradicts this plan as it states: The agreed proposal for managing drainage and surface water does not require any ridge and furrow style schemes and therefore drainage would not bring about any landscape or visual effects.</p> <p>4. The soil of the ranging area is susceptible to compaction, a problem exacerbated by chickens compacting the surface, intensifying run-off.</p> <p>5. The assessment of the soil at the site in the Environmental Statement and permit application only rests on a desktop study, with only 3 infiltration tests carried out, which were at the locations of the three largest houses. This is inadequate to properly assess rain-water absorption on the site across the proposed ranges. Furthermore, there is no information provided as to who carried out the tests, nor their training or experience.</p>	<p>1. The site of this development is within a Flood Zone 1, which means that land and property have a low probability of fluvial flooding. However, surface water run-off/flooding from the fields is a known fact.</p> <p>Notwithstanding this, the suitability of a site for a proposed use is a matter for the Local Planning Authority. Local Planning Authorities consult with those organisations whose opinions they consider appropriate to inform their decisions. In any particular case that may include the Environment Agency with regard to flood risk. A flood risk assessment (FRA) is a requirement where a site is greater than 1 hectare in size and sits within a Flood Zone 1 and it would be expected that this would be a part of any planning application.</p> <p>With regards to surface water flooding, surface water (including Sustainable Drainage System (SuDS) is dealt with by the Lead Local Flood Authority (LLFA). Overall given the low risk of fluvial flooding to the site, and the scale and nature of the proposed development, we would expect the LLFA to lead on and approve the detailed surface water drainage design. Flood risk from surface water is managed by Cornwall Council whose responsibilities extend to surface water, groundwater, and ordinary watercourses (smaller rivers, streams and ditches). Whilst the EA and local authority each have their responsibilities these are complementary rather than contradictory.</p> <p>Details of surface water management proposed in this application, both from water originating from the buildings, and from the ranging areas (including proposed improvements to the existing situation) is discussed in detail in the section above titled 'Pollution of surface water, groundwater and boreholes' and in Section 4.6 of this document.</p> <p>2. Procedures for handling manure are discussed elsewhere in this document – In particular, please see sections titled 'Management of ranging areas', 'Waste disposal / land spreading / manure storage / spreading' and 'Pollution of surface water, groundwater and boreholes' of Annex 1..</p> <p>3 and 4. Whilst the site is a potential risk of causing surface water runoff if land becomes compacted, with good range/grazing management the risks of run-off to surface waters should be minimised. Maintaining a good grass sward will do much to prevent run-off. If any areas do become poached good management would be to fence them off until the sward has recovered and also to reseed the area if necessary.</p> <p>A Schedule 5 Notice requesting information of measures to prevent potentially contaminated run-off from migrating beyond the Installation boundary was issued on 19/01/18. The Applicant responded on 07/02/18 confirming that they do not intend to adopt a ridge system. For details of plans in place to mitigate against run-off please see section titled 'Pollution of surface water, groundwater and boreholes' and Section 4.6 (Site Drainage) of this document.</p> <p>5 &amp; 6. Sampling and testing as a means to determining the precise nature of soil permeability and therefore drainage characteristics is not required for an Environmental Permit. We are satisfied with the measures in this case and do not consider any more information is required.</p> <p>We are satisfied that the plans in place, as discussed elsewhere in this</p>

<b>Brief summary of issue raised</b>	<b>Summary of actions taken or show how this has been covered</b>
<p>6. There has been no sampling and testing of soils from the site to accurately classify the soils and assist with determining the drainage characteristics.</p> <p>7. Concern raised that no details were provided as to the proposed bund</p>	<p>document, are adequate to mitigate against the risk of contaminated run-off migrating beyond the Installation boundary.</p> <p>We have decided to incorporate two pre-operational conditions - which are referred to above - into the permit to require further information as to the precise nature of these plans once they are finalised.</p> <p>The Operator will not be able to proceed with their plans until their plans have been approved by the Environment Agency.</p> <p>7. The Applicant has proposed to plant trees and shrubs, create bunds, and to employ a range of other land management techniques, in order to alleviate the risk of surface water run-off. As explained in the main body of this document we have decided to incorporate two pre-operational conditions into the permit to require further information as to the precise nature of these plans once they are finalised.</p>
<p><b><u>Traffic</u></b></p> <p>1. Concern has been raised on the increased levels of traffic movement on rural roads which are unsuitable and that the applicant has underestimated the number of traffic movements</p> <p>2. It has been raised that the increased traffic does not accord with the “Cornwall Rural Highways Best Practice” (a supporting document to the 20 year Local Transport Plan) and these needs should be safeguarded by the Environment Agency.</p> <p>3. Concerns have been raised about noise, odour and dust from traffic associated with the site and how this poses a risk to public safety.</p>	<p>1, 2 and 3. Offsite traffic movements are outside of our remit for the determination of the Application. They may, however, be a relevant consideration for the granting of planning permission.</p> <p>On-site noise, including that generated by traffic is relevant to our determination and has been considered elsewhere in this document (Key Issues, section 4.4). In summary, the Environment Agency is satisfied, following a review of the information provided by the Applicant, and the conditions present within the Permit, that appropriate measures are in place to minimise the risk that noise emissions (including on-site vehicle movements) from the Installation will significantly impact on the surrounding locality or cause disruption to local residents.</p> <p>Further, we have consulted Public Health England (PHE) and the Director of Public Health (Norfolk County Council) on the Application in line with our guidance. Public Health England and the Director of Public Health have not raised any concerns</p> <p>The Environment Agency is satisfied that on-site traffic will not give rise to significant pollution of the environment or harm to human health.</p>
<p><b><u>Operator competence</u></b></p> <p>Concern has been raised that Richland Foods do not have assets to cover the costs of a clean-up operation.</p>	<p>Operator competence is addressed in section 5.1 of this document.</p> <p>DEFRA Environmental Permitting Core Guidance section 9.2.2 on financial competence  <a href="https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/211852/pb13897-ep-core-guidance-130220.pdf">https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/211852/pb13897-ep-core-guidance-130220.pdf</a>  states for this class of regulated facility, regulators should only consider financial solvency explicitly in cases they have reason to doubt the financial viability of the activity.  We are not aware of any reason why the operator would not be</p>

Brief summary of issue raised	Summary of actions taken or show how this has been covered
	financially competent in this case.
<p><b><u>Monitoring</u></b></p> <p>Concerns have been raised as to who will monitor noise, air quality and odour and how is this carried out and whether the Environment Agency has the resources to check it?</p>	<p>An assessment of the Application has been undertaken, including ammonia, odour, noise, and dust and bioaerosols, the associated odour, noise and dust and bioaerosol management plans, submitted in support of the Application.</p> <p>As discussed in sections 4.1 – 4.5 of this document, based on the information in the Application, the odour management plan, noise management plan, dust and bioaerosol management plan and the Permit conditions, we are satisfied that the appropriate measures will be in place to prevent or where that is not practicable to minimise ammonia, odour, noise and vibration, and dust and bioaerosols beyond the Installation boundary and that activities are unlikely to give rise to significant pollution. Therefore, although we do have resources to conduct monitoring if required, we do not consider regular monitoring by the Environment Agency to be necessary.</p> <p>The Installation will be inspected by the Environment Agency to ensure compliance. Compliance with the Permit will be monitored by the Environment Agency’s local Environment Management team. This can include both announced and unannounced visits and the frequency of inspection increases if we consider that is necessary. The Operator is required to comply with the Permit conditions. Any breach in Permit conditions is an offence and would be subject to appropriate enforcement action in accordance with the Environment Agency’s Enforcement and Sanctions Guidance</p> <p>Compliance Assessment Reports are produced following routine Environment Agency inspections which are put on the public register.</p> <p>All information that the Environment Agency obtains as a result of our own monitoring, information obtained as a result of monitoring required under a permit condition or as a result of a notice served under regulation 61 of the Permitting Regulations in relation to monitoring, must be put on our public register.</p>
<p><b><u>Site Location</u></b></p> <p>1. Concerns have been raised about the scale of the poultry unit being an industrial development which is unsuitable for this particular location (a greenfield site), which is a rural area encompassing sites of ‘outstanding natural beauty’; an area visible from Tregonning Hill SAC.</p> <p>2. This particular location is too many food miles from distribution centres and is therefore in the wrong place.</p> <p>3. As this is the wrong</p>	<p>1, 2, 3, 4 and 5. Scale, visual impact, location and land use is a matter for consideration during the planning process. Location is relevant for permitting but only in so far as its potential to have an adverse impact on sensitive receptors. The environmental impact has been assessed and it is not considered that it will give rise to significant pollution of the environment or harm to human health.</p> <p>Section 85 of the Countryside and Rights of Way Act 2000 imposes a duty on Environment Agency to have regard to the purpose of conserving and enhancing the natural beauty of areas of outstanding natural beauty (AONB). The nearest AONB is greater than 4km from the site. There is no AONB which could be affected by the Installation. There will be no likely significant effect on the SAC nor will emissions adversely impact on the UNESCO site.</p>

<b>Brief summary of issue raised</b>	<b>Summary of actions taken or show how this has been covered</b>
<p>location the EA will be inundated with complaints from the local community if the development goes ahead.</p> <p>4. The Installation should be sighted well away from any domestic dwelling.</p> <p>5. The site is surrounded on three sides by Cornwall and West Devon mining landscape, which is a Unesco World Heritage Site</p>	
<p><b><u>Impact on tourism / local businesses</u></b></p> <p>Concerns have been raised that the area is attractive to vast numbers of tourists and for recreational activities and that this is at risk, due emissions deterring visitors to the area, if this development was to go ahead</p>	<p>Consideration of the impact of the Installation in relation to the tourism and leisure activities is primarily a matter for the local planning authority. However, we have had regard to it in our determination of the Application. The Permit will regulate emissions such that there will be no unacceptable levels of pollution from the Installation. We therefore do not consider that emissions from the Installation could affect tourism and leisure activities.</p>
<p><b><u>Visual amenity</u></b></p> <p>Concern raised about the visual impact of the proposed Installation and that the landscape and visual impact assessment (LVIA) produced is not credible.</p>	<p>This is primarily a matter for planning, we have assessed the impact of emissions from the activity which is what we regulate and we have determined that the Installation will not cause significant pollution to the environment or harm to human health.</p>
<p><b><u>Animal welfare</u></b></p> <p>Concerns raised about animal welfare.</p>	<p>Animal welfare is not an issue under the Environment Agency's remit. It does not form part of the Permit decision making process. The Environment Agency is responsible for ensuring that the activities at the Installation do not have an unacceptable impact on the environment or human health.</p> <p>The principal regulator for animal health is the Animal and Plant Health Agency (APHA), whose main purpose is to safeguard animal and plant health for the benefit of people, the environment and the economy.</p>
<p><b><u>Future expansion plans</u></b></p> <p>There was concern that</p>	<p>If the Operator wishes to expand the site in future, including any increase in the number of birds, then they would need to submit a variation application to the Environment Agency for consideration. If they</p>



<b>Brief summary of issue raised</b>	<b>Summary of actions taken or show how this has been covered</b>
<p>additional activities may be undertaken in future including the inclusion of anaerobic digestion.</p>	<p>wished to construct an anaerobic digester, they would need to submit a variation application to the Environment Agency for consideration. Any application received will be determined in accordance with the Environment Agency's duties and guidance applicable at the time.</p>
<p><b><u>Light pollution</u></b></p> <p>Concerns of the impact of light pollution on local residents and on foraging bats, and on Bodmin Moor (and on this part of Cornwall) which has been granted status as an International Dark Sky Reserve.</p>	<p>Light emissions from the site are primarily an issue for the planning process.</p> <p>However, the Environment Agency requested that the Applicant submit details of how they intend to minimise light pollution from the Installation (Schedule 5 Notice, Request for Further Information dated 19/01/18), and this was received on 08/02/18.</p> <p>It has been stated that the external lighting will represent the bare minimum required to allow farming operations to be carried out in a safe manner. This also has the purpose of not disturbing sleeping hens, which can cause misshaped eggs.</p> <p>Low energy lighting is proposed at each end of the buildings, which will light 20 feet from the doors, and have the function of helping in the placing and catching of birds. These will be triggered from the inside of the buildings and thus will not be triggered by wildlife.</p> <p>Low energy lighting is proposed for Health and Safety reasons to light up areas for arriving farm workers, suppliers, and so on, and vehicles around the feed bin areas to help in the feed delivery and unloading process.</p> <p>Additional lighting will also be provided around the egg loading bay and personnel access door for shed access and transportation of eggs.</p> <p>We are satisfied that the risk of pollution of the environment (including foraging bats) or harm to human health from light generated from the Installation is not likely to be significant.</p>
<p><b><u>Industrial scale/size of the development</u></b></p> <p>Concerns have been raised about the industrial nature and the size of the development.</p>	<p>Scale, location and type of development is a matter for consideration during the planning process and does not form part of the Permit decision.</p> <p>The Environment Agency is responsible for ensuring that the activities at the Installation do not have an unacceptable impact on the environment or human health.</p> <p>We are satisfied that the risk of activities at the Installation will not have an unacceptable impact on the environment or health of local residents.</p>
<p><b><u>Effect on house prices</u></b></p> <p>Concerns have been raised that the value of existing properties and land would be affected.</p>	<p>Depreciation of property prices and/or land is not an issue under the Environment Agency's remit. The Environment Agency is responsible for ensuring that its legislative obligations are met and that the activities at the installation do not have an unacceptable impact on the environment or human health.</p>

Brief summary of issue raised	Summary of actions taken or show how this has been covered
<p><b><u>No economic benefit to the area</u></b></p> <p>Concerns have been raised that there will be no local economic benefit overall, jobs in the region will be lost.</p>	<p>The Environment Agency is primarily concerned with the impact of emissions from the activity but has regard to the effects of the Installation on economic and social well-being of the local community and the desirability of promoting economic growth. The economic benefit to the area will also be a consideration for planning. We have considered our duty to have regard to the desirability of promoting economic growth and further detail of this can be read in section 5.2.9 of this document.</p>
<p><b><u>The Environment Agency's handling of the application and decision making process</u></b></p> <ol style="list-style-type: none"> <li>1. Concerns have been raised about the EA decision making process.</li> <li>2. The precautionary principle should be applied as there is no proof that there will be no harm to the environment if the development goes ahead.</li> <li>3. Reference is made to an East Devon District Council decision to refuse planning permission for free range chicken houses, and the consultee cannot 'see what more evidence is needed to refuse the permit'.</li> <li>4. Concerns have been raised about the quality of the application and whether the EA has the resources to scrutinise the application and ensure that its contents are correct.</li> <li>5. There are calls for the permitting team to undertake a site visit to understand the case.</li> <li>6. It has been stated that 20 years ago a proposal for a simple dribble bar dirty water system 500 yards south of the proposed site with an output of 200-300 gallons per day on 80 acres was submitted. This</li> </ol>	<ol style="list-style-type: none"> <li>1. We are confident that our decision-making process has been fair, transparent and in accordance with relevant legal duties, including duties relating to environmental protection. We have sought the public's views on the Application as set out in section 2.2 of this document.</li> </ol> <p>We have carefully considered the information provided, including further information that we have sought. We have carried out the appropriate assessments and are satisfied that the Permit provides the appropriate level of protection to the environment and human health.</p> <ol style="list-style-type: none"> <li>2. The precautionary principle applies only where there is more than a purely hypothetical risk of harm. Absence of complete certainty does not by itself trigger the principle or require us to investigate matters further. Where the principle is engaged, we will, where appropriate, seek relevant external advice, and take that into account in making our decisions. That does not automatically lead us to prohibit activities, but rather to consider what action would be proportionate in the circumstances, taking into account the level of risk and the cost of satisfactorily addressing that risk.</li> <li>3. Each application must be considered on its own merits. Decisions taken by a planning authority are a matter for them.</li> </ol> <p>The Application has been determined in accordance with our normal procedures. We consider in reaching our decision we have taken into account all relevant considerations and legal requirements and that the Permit will ensure that a high level of protection for the environment and human health is provided.</p> <ol style="list-style-type: none"> <li>4. The Application has been determined in accordance with our normal procedures and has been examined closely; as stated in point 2, the Environment Agency has requested further information from the Applicant where it was deemed necessary. We have carried out the appropriate assessments and are satisfied that the Permit provides the appropriate level of protection to the environment and human health.</li> <li>5. At the time of the public drop-in (on 18/10/17) during the initial consultation of the application a permitting officer did visit the proposed location. The permitting team do also work extremely closely with local Area Officers to discover the site-specific issues that are present. Furthermore, a number of officers were at the public meeting and heard first-hand the concerns of the local community, and each and every representation submitted to the Agency as part of the consultation exercise has been considered.</li> <li>6. Each application must be considered on its own merits. The impact on the River Hayle and the wider environment from the operations of this</li> </ol>

Brief summary of issue raised	Summary of actions taken or show how this has been covered
<p>was refused by the Environment Agency at the time as it could potentially pollute the river Hayle, in comparison the proposed scheme is a massive pollution disaster waiting to happen.</p> <p>7. The Environment Agency will be inundated by complaints if this site is permitted.</p>	<p>development have been considered. Section 4.6 of this document considers impacts from site drainage. The measures required to be in place by the Permit will ensure that any contaminated water will be contained, and potentially lightly contaminated water has sufficient mitigation in place therefore no pollution of groundwater or surface water should occur as a result of operations at the Installation.</p> <p>7. The Environment Agency is able to receive complaints through the incident hotline (telephone number 0800 80 70 60), or by letter. Our recommended method is via the incident hotline for efficiency (we advise that complainants <u>should not</u> use e-mail to report an incident, as this could delay our response). The Environment Agency commits to responding to incidents. We try to respond where we can (provided the complaints are not isolated anonymous complaints), and undertake proactive monitoring if it is deemed necessary in order to substantiate the nature, origin and extent of the complaint.</p>
<p><b><u>Lack of information/detail in the application and/or scepticism of the applicant's plans</u></b></p> <p>1. Concerns have been raised that the applicant's proposals to prevent run-off are inadequate, including the lack of design measures to collect run-off from the buildings and the ranging areas. The measures that are proposed, such as the flood retention bunds/the ridge and furrow scheme, are inadequate as no research has been carried out to ascertain the true surface water run-off from the fields, nor has there been any evidence forthcoming that bunds of this nature would work.</p> <p>2. Concerns have been raised that the flood risk assessment (FRA) is not fit for purpose due to a number of reasons.</p> <p>3. Concerns have been raised that there is no mention of baseline (pre development) inorganic and microbiological monitoring and subsequent regular monitoring post development of the local</p>	<p>1 and 2. Details of surface water management, both from water originating from the buildings, and from the ranging areas is discussed in detail in the sections titled 'Pollution of surface water, groundwater and boreholes' and 'Site drainage / surface water run-off / flooding' above, and in Section 4.6 (Site Drainage) of this document.</p> <p>A flood risk assessment is not required to be submitted for an environmental permit.</p> <p>We are satisfied that the appropriate measures will be in place to minimise the impact and consider that the Application will have no likely significant effect.</p> <p>Notwithstanding the above, we have decided to incorporate two pre-operational conditions - which are referred to above - into the permit to require further information as to the precise nature of these plans once they are finalised.</p> <p>The Operator will not be able to proceed with their plans until their plans have been approved by the Environment Agency.</p> <p>3. The Operator has not submitted any baseline inorganic or microbiological monitoring nor have they proposed monitoring related to this post development. It is not a requirement to provide such information or propose such monitoring and our assessment concludes that this position is acceptable. The pollution potential from manure on free-range poultry ranges is usually limited as the majority of manure is collected within the poultry houses. The birds will not have 24 hour access to the ranging areas and typically will only spend 10-20% of their time outside, although this will vary. Manure that is deposited outside on the range will be reasonably well dispersed. We are satisfied that the appropriate measures will be taken to minimise emissions of potential pollutants to the local watercourses and there will be no significant impact. As such, we do not consider it is appropriate for baseline monitoring to be provided, nor post development monitoring to take place. There are no point source emissions to water proposed. Further detail of the rules in place for farmers and land managers to prevent water pollution can be found here: <a href="https://www.gov.uk/guidance/rules-for-farmers-and-land-managers-to-prevent-water-pollution">https://www.gov.uk/guidance/rules-for-farmers-and-land-managers-to-prevent-water-pollution</a></p>

<b>Brief summary of issue raised</b>	<b>Summary of actions taken or show how this has been covered</b>
<p>watercourse to provide evidence of PPG5 conformance.</p> <p>4. Concerns that there are no details regarding the separation of flocks within the 3 largest buildings, which ensure that any breakdown or accident only affects one flock, and it aids in the prevention of the spread of disease.</p> <p>5. Concerns have been raised of the jigsaw nature of the ranges, which are not fit for purpose (including the relationship between buildings 3 and 4 to their designated range areas); with such a pinched relationship between house and range, it will cause problems in ground conditions, which will have an environmental consequence that will be significant and escalating, further exacerbated by the fact that the land will not be rotated or rested.</p> <p>6. Concern has been raised that the applicant has not been accurate in the amount of vehicle movements in the report created by Acorus.</p> <p>7. Concern that the installation boundary was not clearly defined</p>	<p>That being said, emissions of substances not controlled by emission limits are regulated through the environmental permit by condition 3.2.1. In the unlikely event of emissions causing pollution the Operator is required to undertake a review of site activities, provide an emissions management plan and undertake any mitigation recommended as part of that report, once approved in writing by the Environment Agency – this is required under condition 3.2.2.</p> <p>4. It is not a requirement of the environmental permit to separate the flocks within the building and it is not an assessment that takes place. We don't feel that this is an action necessary to protect the environment. The principal regulator for animal health is the Animal and Plant Health Agency (APHA), whose main purpose is to safeguard animal and plant health for the benefit of people, the environment and the economy. Therefore they have primary responsibility for ensuring the farming industry has measures in place to deal effectively with any disease outbreaks on site.</p> <p>5. A Schedule 5 Notice requesting information pertaining to amongst other items the resting and rotation of land was issued on 19/01/18. The Applicant responded on 07/02/18 stating that the bark area in front of the pop holes will aid in alleviating pressure on land. Furthermore, it is proposed that to prevent poaching of the land, temporary areas will be fenced off as and when it is deemed necessary, in order to allow the pasture to recover. Moreover, it is proposed to plant trees and shrubs in the ranges, which is hoped will encourage the hens to move throughout the ranges, for shelter and shade, therefore reducing heavy loading in certain areas, alleviating problems in ground conditions.</p> <p>6. It is unclear as to which report is being referred to here, but we assume it relates to the noise assessment. As stated above in the noise section of Appendix 2, we have undertaken a detailed audit of the Applicant's assessment and have made a number of observations to which we have undertaken our own sensitivity checks. The noise modelling submitted to the Agency excluded vehicle movements, however, we rectified this and have tested sensitivity to 4 HGV movements every hour throughout the daytime which is extremely conservative compared to what would normally be expected. The on-site operations are unlikely to have an adverse impact. See Section 4.4 (Noise) of this document for further details of our assessment.</p> <p>7. An agreed Installation boundary has been established and this can be seen on the site plan in Schedule 7 of the permit.</p>
<p><b><u>Residence of the applicant</u></b></p> <p>Concern has been raised that the beneficiaries of this scheme do not reside locally and are therefore not at risk from the development.</p>	<p>We are satisfied that the Applicant is technically competent and will have appropriate management systems in place to operate the facility in compliance with the conditions of the Environment Permit. There is no requirement of the Applicant to reside locally and consideration of this has not been given in the determination of the application.</p>
<p><b><u>Climate change and damage to the ozone</u></b></p>	<p>1. We have considered the potential future effects of climate change but are satisfied that the current arrangements at the Installation are</p>

<b>Brief summary of issue raised</b>	<b>Summary of actions taken or show how this has been covered</b>
<p><b><u>layer</u></b></p> <p>1. Concern has been raised that climate change will cause more extreme weather in the future with excessive rainfall, leading flooding in the area to be made worse.</p> <p>2. Concern has been raised about the potential impact of thermal treatment of waste products.</p>	<p>appropriate. If it ever became necessary, we have the power to vary the Permit to require additional measures to prevent pollution of the environment or harm to human health as a consequence of future weather patterns as caused by climate change.</p> <p>2. It is unclear as to what thermal treatment is being referred to here. No thermal treatment of waste products is proposed and is not permitted by the environmental permit. If this refers to treatment of waste which is exported from the site to another permitted facility, the treatment of this waste at another site does not fall within the remit of this application.</p>
<p><b><u>Compliance of permit conditions</u></b></p> <p>Concern has been raised as to how the site is policed to check compliance and what will happen if the Permit is breached.</p>	<p>Compliance with the Permit will be monitored by the Environment Agency's local Environment Management team. Any breach in Permit conditions is an offence and would be subject to appropriate enforcement action in accordance with the Environment Agency Enforcement and Sanctions Guidance.</p>
<p><b><u>Extent of local opposition</u></b></p> <p>There is a high level of local opposition (including two local parish councils rejecting the planning application), and this should be taken into account in the determination of the Application.</p>	<p>We have to make our decision based on the environmental and health impacts of any proposal. We carefully considered all representations made on this basis and the Permit contains conditions to ensure that the activities at the Installation do not have an unacceptable impact on the local environment or human health.</p>
<p><b><u>General environmental concerns</u></b></p> <p>Concerns have been raised over a negative effect on local flora and fauna.</p>	<p>An assessment on the potential impacts from the Installation on nature conservation sites was carried out as part of our determination of the Application. Section 4.1 of this document sets out our conclusions from this assessment in more detail.</p>
<p><b><u>Presence of Naval Air Station &amp; MOD compensation</u></b></p> <p>Concern has been raised that helicopters from the Royal Navy Station at Culdrose fly over the site on a weekly basis and the</p>	<p>The Environment Agency does not consider there to be any risk to aircraft flying over the Installation from the chickens in the ranging areas.</p> <p>Any effect of aircraft on causing chickens not to lay eggs, and any possible compensation due to the Operator of Pengwedna Poultry Farm as a result, is a matter of speculation at this time, and would be a matter between the Ministry of Defence and the Operator. It is not a topic that is considered as part of the Environmental Permit decision making</p>

<b>Brief summary of issue raised</b>	<b>Summary of actions taken or show how this has been covered</b>
<p>chickens could present a bird strike risk when they are in the ranges. Furthermore, the MOD has paid out large sums of money in compensation, for example, to a chicken farmer in Yorkshire, as their chickens were not laying eggs after being scared by helicopters.</p>	<p>process.</p>
<p><b><u>Number of intensive farms and number of eggs</u></b> Comments were received that there was no need for the development due to the number of current poultry farms in the UK.</p>	<p>Need may be a matter for planning but the Environment Agency can only assess whether the environmental impacts of what is proposed are acceptable.</p>
<p><b><u>Change of wind direction</u></b> Concern has been raised that if there were to be any change in the prevailing wind direction, the development will affect the inhabitants of Chynhale, Prospidnick, Crowtown, Plover Fields and Sithney Community Primary School.</p>	<p>The impacts of the site on local communities has been considered and we have concluded that the activities at the Installation do not have an unacceptable impact on the local environment or human health whichever direction the wind is from.</p>
<p><b><u>Cornwall Local Plan</u></b> Concern raised that the proposals were in conflict with the Cornwall Local Plan.</p>	<p>The policies within the Cornwall Local Plan relate to applications for planning permission and not to our determination of the Application.</p>
<p><b><u>Proximity to dwellings</u></b> Concern has been raised of how close the ranging areas (and therefore the chickens) are to local dwellings, such as Pryors Cottage, Whitehorse Cottage and Bartlets Farm. The General Permitted Development Order 1995 excludes agricultural permitted development rights for the erection of livestock buildings within 400m of the curtilage of a dwelling.</p>	<p>The legislation (full title: The Town and Country Planning (General Permitted Development) Order 1995) referenced is a trigger for when you must ask for permission to erect a building, not that a building cannot be erected within 400m of the curtilage of a dwelling under any circumstances.</p>

<b>Brief summary of issue raised</b>	<b>Summary of actions taken or show how this has been covered</b>
<p><b><u>Refusal of similar proposals</u></b></p> <p>It has been stated that similar developments, often smaller in scale, have been refused by planning authorities.</p>	<p>Each application must be considered on its own merits. Decisions taken by a planning authority are a matter for them.</p> <p>We are minded to grant the Permit for the Installation operated by the Applicant. We consider 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 for the environment and human health is provided.</p>
<p><b><u>Archaeology</u></b></p> <p>There are concerns that important archaeology of the valley will be destroyed if the 'ridge and furrow' system is implemented to help reduce flooding.</p>	<p>The Environment Agency requested that the Applicant submit clarification as to whether or not they intend to employ a furrow system at this location (2<sup>nd</sup> Schedule 5 Notice, Request for Further Information dated 19/01/18), and this was received on 08/02/18. It was confirmed that such a system will not be implemented and a grass sward, with tree and shrub planting will be employed to mitigate against surface water run-off.</p>
<p><b><u>Human rights</u></b></p> <p>People have a human right to access clean air and clean water and this development puts that at risk.</p>	<p>We have considered the any potential interference with rights addressed by the European Convention on Human Rights, and this can be read in further detail in section 5.2.5 of this document. We do not believe that Convention rights are engaged in relation to this determination.</p>

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