

Determination of an Application for an Environmental Permit under the Environmental Permitting (England & Wales) Regulations 2010

Consultation on our decision document recording our decision-making process

The Permit Number is: **EPR/FP3533ZX**
The Applicants are: **Mr Kinsey Hern, Mrs Patricia Hern,
Mr Anthony Hern**
The Installation is located at: **Frogmore Poultry Unit
Frogmore Farm
Naunton Road
Upton Snodsbury
Worcestershire
WR7 4PD**

Application consultation commenced on: **01/08/2014**
Application consultation ended on: **30/09/2014**

Draft decision consultation commenced on: **04/03/2016**
Draft decision consultation ended on: **18/04/2016**

Environment Agency permitting decisions

What this document is about

This is a decision document, which accompanies a 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.

We have made our final decision only after carefully taking into account any relevant matter raised in the responses we received.

Preliminary information and use of terms

We gave the application the reference number EPR/FP3533ZX/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/FP3533ZX. We refer to the proposed permit as “the **Permit**” in this document.

The Application was duly made on 30 June 2014.

The Applicants are Mr Kinsey Hern, Mrs Patricia Hern, Mr Anthony Hern (trading as F C Jones & Co.). We refer to Mr Kinsey Hern, Mrs Patricia Hern, Mr Anthony Hern (trading as F C Jones & Co.) as “the **Applicants**” in this document. Where we are talking about what would happen after the Permit is granted, we call Mr Kinsey Hern, Mrs Patricia Hern, Mr Anthony Hern (trading as F C Jones & Co.) “the **Operator**”. Whilst the application is made in the name of 3 individuals, they will be operating the installation together as one business unit. Therefore they are regarded as a single Operator and when we use that term we are referring to the 3 individuals collectively.

The Applicants proposed facility is located at Frogmore Poultry Unit, Frogmore Farm, Naunton Road, Upton Snodsbury, Worcestershire, WR7 4PD. We refer to this as “the **Installation**” in this document.

Glossary of acronyms used in this document

(Please note that this glossary is standard for our decision documents and therefore not all these acronyms are necessarily used in this document.)

APHA	Animal and Plant Health Agency
AW	Ancient Woodland
BAT	Best Available Technique(s)
BREF	BAT Reference Note
DAA	Directly associated activity – Additional activities necessary to be carried out to allow the principal activity to be carried out
DD	Decision document
EMS	Environmental Management System
EPR	Environmental Permitting (England and Wales) Regulations 2010 (SI 2010 No. 675) as amended
FSA	Food Standards Agency
HPA	Health Protection Agency
IED	Industrial Emissions Directive (2010/75/EU)
LPG	Liquefied Petroleum Gas

LWS	Local Wildlife Site
NMP	Noise Management Plan
OMP	Odour Management Plan
PCT	Primary Care Trust
PHE	Public Health England
PPS	Public Participation Statement
PO	Pre-operational Condition
RGN	Regulatory Guidance Notes
SAC	Special Areas of Conservation
SGN	Sector guidance note
SHPI(s)	Site(s) of High Public Interest
SPA	Special Protection Areas
SSBRA	Site Specific Bioaerosol Risk Assessment
SSSI(s)	Site(s) of Special Scientific Interest
SuDS Report	Sustainable drainage system report. Report

Structure of this document

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4. Key issues
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Annex 1: Consultation process

Annex 2: Minded to issue consultation process

1 Our decision & legal framework

We have granted a Permit to the Applicants. This will allow it 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 2010 as amended. The Environmental Permitting regime is a legal vehicle which delivers most of the relevant legal requirements for activities falling within its scope. In particular, the regulated facility is:

- an Installation and an intensive poultry farm as described by the Industrial Emissions Directive (IED); and
- subject to aspects of other relevant legislation which also have to be addressed.

The Environmental Permitting (England and Wales) (Amendment) Regulations 2013 were made on the 20 February and came into force on 27 February. These Regulations transpose the requirements of the Industrial Emissions Directive (IED).

This permit implements the requirements of the EU Directive on Industrial Emissions.

We explain how we have addressed specific statutory requirements more fully in the rest 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 Environmental Permitting Regulations and other relevant legislation. This document does not therefore include an explanation for these standard conditions. Where they are included in the Permit, we have considered the Application and accepted the details are sufficient and satisfactory to make the standard condition appropriate. This document does, however, provide an explanation of our use of “bespoke” or Installation-specific conditions, or where our Permit template provides two or more options.

2 How we reached our decision

2.1 Receipt of Application

The Application was received 6 May 2014; however we required further information from the Operator in order for us to consider the Application duly made. This information was requested on 9 June 2014. The Applicants submitted additional information in response to the request which was deemed sufficient to enable us to duly make the Application.

The Application was duly made on 30 June 2014. This means we considered it was in the correct form and contained sufficient information for us to begin our determination; but not that it necessarily contained all the information we would need to complete that determination.

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 the following requests for information:

Description	Date	Comments
Application received EPR/FP3533ZX/A001	Duly made 30/06/14	Application for an intensive farming poultry Installation permit.
Schedule 5 notice issued 05/09/14	Information received 14/09/14	Clarifications sought on odour management, noise management, and site drainage and flooding.
Request for further information issued 29/10/14	Information received 27/11/14 11/12/14 17/12/14	Clarifications sought on odour management, poultry growth cycle, noise management, noise modelling and site layout plan.
Request for further information issued 26/01/15	Information received 23/02/15 02/03/15 06/03/15 08/03/15 20/04/15 29/04/15 04/05/15	Clarifications sought on odour management, poultry growth cycle, noise management and noise modelling.
Request for further information issued 13/07/15	Information received 24/07/15 01/09/15	Clarifications sought on odour management, poultry growth cycle and noise management.

A copy of the information notices and the relevant 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 EPR, 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, which 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, 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 both the Redditch & Alcester Standard and Worcester Evening News.

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 offices, Riversmeet House, Newtown Industrial Estate, Tewkesbury, Gloucestershire GL20 8JG. 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 the webpage.

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

- Wychavon District Council (Planning department)
- Worcester Regulatory Services (Environmental Health department)
- Director of Public Health – Worcestershire County Council
- Health and Safety Executive (HSE)
- Public Health England (PHE)
- Food Standards Agency (FSA)

These are bodies whose expertise, democratic accountability and/or local knowledge make it appropriate for us to seek their views directly. Note 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 4.2 for further details of our assessment, which discusses the potential impacts of ammonia from the Installation on the designated Habitats sites.

In addition to our advertising the Application, written comments were also accepted by the Environment Agency beyond the formal consultation period. Further details along with a summary of consultation comments and our response to the representations we received can be found in Annex 1. We have taken all relevant representations into consideration in reaching our determination.

In accordance with the Environment Agency's Public Participation Statement and RGN 6 High Profile Sites, we also consulted on the draft permit and decision document for this application. Copies of all consultation responses have been placed on the Environment Agency public register.

The Application was advertised on the Environment Agency website from 04 March 2016 – 18 April 2016 and in the Redditch & Alcester Standard on 04 March 2016 and also in the Worcester Evening News on the 04 March 2016. Copies of the Application were placed on our public register at the Environment Agency offices, Riversmeet House, Newtown Industrial Estate, Tewkesbury, Gloucestershire GL20 8JG. Additionally, we also published this Application on our web pages on GOV.UK

and made available electronic copies of the Application on the webpage. Further details can be found in Annex 2 of this document.

3 The Installation

3.1 Description of the Installation and related issues

3.1.1 The permitted activities

The Installation is subject to the Environmental Permitting (England and Wales) Regulations 2010 as amended (EPR) because it carries out an activity listed in Part 2 of Schedule 1 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 definition of “poultry” includes:

“...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.”

3.1.2 The Site

1. Frogmore Poultry Unit is situated approximately 1000 metres south east of the village of Upton Snodsbury, and approximately 700 metres north east of the village of Cowsden, Worcestershire. The Installation is approximately centred on National Grid Reference SO 95621 53857.
2. There are a number of residential properties within and beyond a 400m radius from the Installation boundary. The closest residential property (identified as Moorend Farm) is located approximately 350m from the northern boundary of the Installation at SO 95342 54224. This is the only receptor within 400m of the Installation boundary.
3. There is one relevant Habitat Directive site, ‘Lyppard Grange Ponds’ designated as a Special Area of Conservation within 10km of the Installation. There are also nine nature conservation sites ‘Trench Wood’, ‘Rabbit Wood’, ‘Dormston Church Meadow’, ‘Grafton Wood’, ‘Baynhall Meadow’, ‘Portway Farm Meadows’, ‘Yellow House Meadow’, ‘Salt Meadow Earl’s Common’, and ‘Naunton Court Meadows’, all designated as Sites of Special Scientific Interest (SSSI) located within 5 kilometres of the Installation. There are also twelve designated Local Wildlife Sites (LWS) and one designated Ancient Woodland, located within 2 kilometres of the Installation.

The Applicants submitted a plan which we consider satisfactory, showing the site of the Installation and its extent. A plan is included in Schedule 7 to the Permit, and the Operator is required to carry out the permitted activities within the site boundary.

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

Further information on the site is addressed below at 3.3.

3.1.3 What the Installation does & proposed site design

The Applicants have described the facility as an Intensive Poultry Farm.

The Installation will comprise of four poultry houses, numbered 1 to 4, which operate a fan ventilated fully littered floor system for broilers.

The four poultry houses will provide a combined capacity for 250,000 bird places. The houses will be stocked with day-old chicks, which will be grown until they reach slaughter weight (approximately 38 days), with thinning taking place at approximately day 33 of the growth cycle. There is likely to be an average of 7.75 cycles each year. At the end of every crop cycle, the litter will be removed from all four poultry houses and spread on land owned by third parties. The houses will then be pressure washed, disinfected and dried out prior to the cycle beginning again. Water from the wash out of the poultry houses will be channelled to two underground collection tanks, to await export off site, and then spread on land owned by third parties. Litter removal from each house will be completed within 24 hours following destocking. Litter removal per house is scheduled to take approximately 4 hours. One house will be de-littered at a time before commencing the next house. Two houses will be washed per day; therefore washing operations will be completed within 2 days. For further information, please refer to section 4.4.2 of this document – Odour Management Plan & associated documents.

All poultry houses will be ventilated by roof fans with an emission point higher than 5.5 metres above ground level and an efflux speed greater than 12 metres per second. All houses will also have gable end fans; these will be operated infrequently and used to maintain a consistent temperature, typically in the summer months.

The poultry houses will be designed and built in accordance with BAT. The housing will be insulated and have a damp proof course. The housing will be fully insulated with a U-Value of approximately 0.4 W/m²/°C.

There will also be eight biomass boilers on site to provide heating for the poultry houses. These are located in two banks of four at the following grid references SO 95639 53816 and SO 95655 53839. Boiler Ash will be sent offsite to landfill.

Areas outside of the houses are to be laid to concrete and grassland. All the buildings will have a link to below ground dirty water catchment tanks (two in total) which are located to the west of poultry house 1 and east of poultry house 4, each with a maximum storage capacity of 20,000 litres – dirty wash-down water from the houses will drain to these tanks. Tankers will come to site and remove waste water. Under normal circumstances run off from roofs discharges via French drains which run alongside each of the buildings from front to back of the site to a purpose built swale on site.

There are point source emissions to air, water and land. Details of these can be found in the permit.

The key features of the Installation can be summarised in the table below.

Operational features	Description		
Broiler rearing	250,000 day old chicks reared for 38 days on site		
Ventilation	60 high velocity roof fans (12m/s); and 40 Gable end fans (operated intermittently during the summer)		
Litter management	No litter will be stored on site. Litter collected at the end of each cycle and transferred off site.		
Waste water management	Waste water will be directed to underground storage tanks. Tanks are emptied and wash water disposed off site after each clean out.		
Carcass management	Carcasses will be removed daily and stored in sealed vermin proof containers on site. Collected from site 3 – 5 times a week by a licensed collection agent under the National Fallen Stock Scheme and disposed in accordance to Animal By Products Regulations.		
Water management	<p>There will be a grassed soakaway situated at the northern end of the poultry houses, below where the gable-end fans are situated. Houses will have no guttering. Rainwater run-off from the poultry buildings will be collected by means of French drains, which are laid under stone filled trenches acting as a soakaway, with a piped connection to the on-site swale, for periods of heavy rainfall.</p> <p>The swale will be constructed to treat the rainwater run-off from the shed roofs. The slow movement of water along the swale, aided by grass and check dams, will encourage deposition of the solids washed off the roof and helps to remove nutrients such as phosphorus before it enters the ditch running along the northern boundary of the farm – the outlet from the swale to the ditch will be approximately located at the following grid reference: 395727,254037. This will then drain to Piddle and Whitsun Brook.</p> <p>Suitable treatment can include swales as approved in S3.1 EPR 6.09 ‘How to comply with your environmental permit for intensive farming’, version 2.</p>		
Storage and use of raw material	Description	Maximum amount stored	Annual throughput
	Disinfectants	1000ltr	6000ltr
	Rodenticides / Insecticides	5ltr	5ltr

	Veterinary medicines	500000 doses	4.4 million doses
	Wood shavings	25 tonnes	150 tonnes
	Diesel	1,300 litres	800ltr
	LPG	16000ltr	30000ltr
	Woodchip	100 tonnes	1200 tonnes

We have reviewed the techniques used by the Operator and compared these with all relevant guidance.

The Operator has confirmed that all Installation facilities and operating techniques will be in compliance with our sector guidance EPR 6.09.

The Operator has proposed the following techniques:

- Feed will be carefully selected with reference to bird’s growth curve. Phosphorous and protein levels are altered over the growing cycle.
- All poultry buildings will be well insulated for optimum animal health.
- High velocity roof fans 12m/s will be used to promote dilution and dispersion of ammonia and odour.
- Nipple drinkers will be used to reduce wastage of water and maintain dry litter.
- The agricultural fuel oil storage will be appropriately banded.
- Any chemical storage on site will be capable of retaining spillages, resistant to fire, frost free and secure.
- Spent foot dips and disinfectants will be emptied into dirty water tanks
- Litter will be spread on land but none owned by the Operator.
- Dirty water from all four poultry houses will be contained within two below ground storage tanks. Procedures are in place to minimise risk of overfilling and cleanout will stop. All dirty water will be taken off site.
- Roof water and yard water will be collected and routed to a swale which will be constructed to treat the run-off. This water will then be discharged to a ditch, which leads to Piddle Brook.
- Carcasses will be removed from the buildings daily and stored in sealed vermin proof containers and collected from the site 3-5 times per week by a licensed collection agent under the National Fallen Stock Scheme and disposed in accordance to Animal By Products Regulations.

3.2 The site and its protection

3.2.1 Site setting, layout and history

The site is approximately 300 metres long and 225 metres wide. It is in a rural location with both residential and commercial properties and working farms in the surrounding area.

The majority of the site is currently located outside flood zones 2 and 3 risk areas. However, a portion of the east of the site (approximately 75 metres in width) is

located within a flood zone 2. A small section at the very north east of the site sits within a flood zone 3. There are no buildings that will sit within flood zone 2 or 3.

It is situated on a Secondary A Aquifer designation (superficial) and a mixture of Secondary A and Secondary B Aquifer designation (bedrock). The soil type is a mixture of Evesham 2 (deep clay – slowly permeable calcareous clayey soils) and Bishampton 2 (deep loam – deep fine loamy and fine loamy over clayey soils with slowly permeable subsoils and slight seasonal), but the soil type is principally Bishampton 2. There is no evidence of existing contamination on the site at present. The site is not in a groundwater source protection zone.

3.2.2 Closure and decommissioning

Having considered the information submitted in the Application, we are satisfied that the appropriate measures will be in place for the closure and decommissioning of the Installation. The permit will also contain condition 1.1.1 which states that the Operator will manage and operate the activities in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the Operator as a result of complaints.

Pre-operational condition PO1 requires the Operator to have an Environmental Management System in place before the Installation is operational, and this will include a site closure plan. This written environmental management system must be approved by the Environment Agency prior to the commencement of operations.

At the definitive cessation of activities, the Operator will be bound by the permit conditions unless the permit is surrendered. To do so, they will have to make an application and satisfy us that the necessary measures have been taken to avoid a risk of pollution from the permitted activities and to return the site to a satisfactory state having regard to the state it is in prior to activities commencing.

3.3 Operation of the Installation – general issues

3.3.1 Administrative issues

The Applicants are the sole Operators of the Installation.

We are satisfied that the Applicants are the persons who will have control over the operation of the Installation after the granting of the Permit - The decision was taken in accordance with Regulatory Guidance Note (RGN) 1 Understanding the meaning of Operator; and that the Applicants will be able to operate the Installation so as to comply with the conditions included in the Permit.

We are satisfied that the Operator will be competent, namely that they are able and willing to comply with the conditions of the permit.

The National Enforcement Database has been checked whether there are any relevant convictions and if so, whether they have been declared. No relevant convictions were found.

There is no known reason to consider that the Operator will not be financially able to comply with the permit conditions.

3.3.2 Management

The Applicants have stated in the Application that they will implement an Environmental Management System (EMS). Under condition 1.1.1 of the permit, a written management system is required to be implemented. Although there is no known reason to consider that the Operator will not have a suitable management system the permit includes a pre-operational condition (PO1) providing that a written environmental management system must be submitted to the Environment Agency and must be deemed to be satisfactory by us prior to the site commencing permitted operations.

We are satisfied that appropriate management systems and management structures will be in place at the Installation, and that sufficient resources are available to the Operator to ensure compliance with all the Permit conditions.

3.3.3 Site security

Having considered the information submitted in the Application, we are satisfied that appropriate infrastructure and procedures will be in place to ensure that the site remains secure.

There will be no boundary fence, but all fuel stores, poultry houses and all store rooms are to be kept locked and secure preventing any unauthorised access. The housing design and management will be in accordance with Environment Agency SGN EPR 6.09 'How to Comply with your environmental permit for intensive farming'.

3.3.4 Accident management

The Applicants have submitted an Emergency Plan. Having considered the Plan and other information submitted in the Application, we are satisfied that appropriate measures will be in place to ensure that accidents that may cause pollution are prevented but that, if they should occur, their consequences are minimised. Notwithstanding this, the Emergency Plan will form part of the Environmental Management System and must be approved by us prior to permitting activities commencing as required by a pre-operational condition (PO1).

4. Key issues of the decision

The key issues arising during this determination were as follows:

- The possible impact of **combustion gases** from biomass boilers
- The possible impact of **ammonia** on sensitive local **habitat receptors**
- The possible impact of **ammonia** on **human receptors**
- The possible associated loss of amenity linked to **odour** emissions arising from the Installation
- The possible associated loss of amenity linked to **noise** emissions arising from the Installation
- Other Considerations – **Site Drainage / Groundwater & Soil monitoring & Dust**

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

4.1 Biomass boiler

We have considered the impact of combustion gases from the biomass boilers on the environment and human health.

The site will include 8 biomass boilers with a net rated thermal input of 1848 kW combined. Each biomass has a net rated thermal input of 231kW.

In line with the Environment Agency's document "Air Quality and Modelling Unit C1127a Biomass firing boilers for intensive poultry rearing", an assessment has been undertaken to consider the proposed addition of the biomass boilers.

This guidance explains that the Environment Agency has previously assessed the pollution risks from small biomass boilers and has concluded that air emissions are not likely to pose a significant risk to the environment or human health providing certain conditions are met. Therefore a quantitative assessment of air emissions will not be required for poultry sites where:

- the fuel will be derived from virgin timber, clean non virgin timber, straw or miscanthus and;
- the biomass boiler appliance and its Installation meets the technical criteria to be eligible for the Renewable Heat Incentive, and;
- the aggregate boiler net rated input is less than or equal to 4 MWth, and no individual boiler has a net thermal input greater than 1 MWth, and;
- the stack height must be a minimum of 5 metres above the ground (where there are buildings within 25 metres the stack height must be greater than 1 metre above the roof level of buildings within 25 metres) and;
- there are no sensitive receptors within 50 metres of the emission points.

As the above conditions will be met, we are satisfied that the proposed biomass boilers are unlikely to pose a significant risk to the environment or human health without the need for further assessment.

4.2 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.

Conservation sites are protected in law by legislation. The Habitats Directive provides the highest level of protection for SACs and Special Protection Areas (SPAs), domestic legislation provides a lower but important level of protection for SSSIs. Finally the Environment Act provides more generalised protection for flora and fauna rather than for specifically named conservation designations. It is under the Environment Act that we assess other nature conservation sites (such as local wildlife sites and ancient woodland) which prevents us from permitting something that will result in significant pollution; and which offers levels of protection proportionate with other European and national legislation. However, it should not be assumed that because levels of protection are less stringent for these other sites that they are not of considerable importance. Local sites link and support EU and national nature conservation sites together and hence help to maintain the UK's biodiversity resilience.

For SACs, SPAs, Ramsars and SSSIs we consider the process contribution (PC) and the background levels in making an assessment of impact. In assessing these other sites under the Environment Act 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 Natura 2000 or SSSIs) whilst ensuring that we do not restrict development.

Critical levels and loads¹ are set to protect the most vulnerable habitat types. 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.

Therefore we would generally conclude that the Installation is not causing significant pollution at these other sites if the PC is less than the relevant critical level (CL_e) or critical load (CL_o), provided that the Applicants are using BAT to control emissions.

¹ 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 screening assessment has considered any Special Areas of Conservation (SAC), Special Protection Areas (SPA) and Ramsar sites within 10km; any Sites of Special Scientific Interest (SSSI) within 5km and also other nature conservation sites, including National Nature Reserves (NNR), Local Nature Reserves (LNR), ancient woodlands and local wildlife sites (LWS), within 2km of the farm.

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

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

Where the ammonia screening tool predicts that emissions of ammonia or ammonia deposition (nutrient nitrogen or acid) will be <Y% (see Table 1 below) of the relevant CLe or CLo, the proposal screens out of the requirement for an ammonia assessment.

Further modelling is required where:

- emissions of ammonia or ammonia deposition (nutrient nitrogen or acid) are in excess of Z% of the relevant CLe (ammonia) or CLo (nutrient nitrogen or acid) at any particular designated site;
- there is the potential for an in-combination effect with existing farms at a SAC, SPA, Ramsar and/or SSSI if emissions are > Y% of the CLe or CLo;
- the original permit for the Installation required an Improvement Condition to reduce ammonia emissions;
- the proposal is within 250m of a nature conservation site.

Table 1 Screening thresholds

Designation	Y%	Z%
SAC, SPA, Ramsar	4	20
SSSI	20	50
NNR, LNR, LWS, ancient woodland	50	100

The nature conservation site assessment takes into account the United Nations Economic Commission for Europe (UNECE) CLes 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: 1µg/m³
- Other vegetation: 3µg/m³

The assessment also considers the deposition of ammonia resulting in nutrient enrichment (and acidification) against relevant CLoS. 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.

To summarise there is 1 Special Area of Conservation (SAC) site located within 10km of the Installation. There are 9 Sites of Special Scientific Interest (SSSIs) located within 5 kilometres of the Installation. There are also 13 other nature conservation sites consisting of Local Wildlife Sites (LWS), Ancient Woodlands (AW) within 2km of the Installation.

4.2.1 Ammonia Assessment – SAC / SPA / Ramsar sites

The following trigger thresholds have been designated² for assessment of European sites including Ramsar sites.

- If the Process Contribution (PC) is below 4% of the relevant CLe or CLo then the farm can be permitted with no further assessment.
- Where this threshold is exceeded an assessment alone and in combination is required.
- An overlapping in combination assessment will be completed where existing farms are identified within 10km of the Application.

Screening using AST4.5 has determined that the Process Contribution (PC) on the SAC for ammonia from the Application site is under the 4% significance threshold and can be screened out as having no likely significant effect. See results below.

Table 2 – Ammonia Emissions

Site	Critical Level Ammonia $\mu\text{g}/\text{m}^3$	Predicted Process Contribution $\mu\text{g}/\text{m}^3$	% of Critical Level
Lyppard Grange Ponds SAC	1	0.011	1.1%

A precautionary CLe of $1\mu\text{g}/\text{m}^3$ has been assigned to this site (which can be considered a ‘worst case scenario’ approach). Where a CLe of $1\mu\text{g}/\text{m}^3$ is used, and the process contribution is assessed to be less than the 4% insignificance threshold, it is not necessary to further consider nitrogen deposition or acidification within the assessment.

An Appendix 11 has been completed and sent to Natural England, for information only.

² 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.

We are satisfied that no further assessment is necessary and that there is no unacceptable risk of pollution.

4.2.2 Ammonia Assessment – SSSIs

The following trigger thresholds have been applied for assessment of SSSIs. If the Process Contribution (PC) is below 20% of the relevant CLe or CLo then the farm can be permitted with no further assessment. Where this threshold is exceeded an in-combination assessment and/or detailed modelling may be required.

Screening using AST4.5 indicates that SSSIs located beyond a distance of 1169m from the Installation will have a PC of ammonia of < 20% for a CLe of 1µg/m³, and therefore beyond this distance the PC is insignificant. In this case all sites within 5km of the Installation except one (Naunton Court Meadows SSSI) are beyond 1169m, and are listed in table 2 below, which also details the associated PCs at each SSSI.

Where a precautionary CLe of 1µg/m³ is assigned, and the process contribution is assessed to be less than the 20% insignificance threshold it is not necessary to further consider nitrogen deposition or acidification within the assessment.

Table 3 – Distance of SSSIs from Installation boundary and associated process contribution (PC)

Name of SSSI	Distance from Frogmore Poultry Unit (m)	PC as % of Critical level
Trench Wood	5038	2.2%
Rabbit Wood	3740	3.4%
Dormston Church Meadow	4710	2.4%
Grafton Wood	2293	7.2%
Baynhall Meadow	2510	6.3%
Portway Farm Meadows	3129	4.5%
Yellow House Meadow	1454	14.4%
Salt Meadow Earl's common	5231	2.1%

Naunton Court Meadows SSSI is situated 1146m from the site and does not screen out at a precautionary CLe of 1µg/m³. The Air Pollution Information System (APIS) confirms that Naunton Court Meadows SSSI has a CLe of 3µg/m³. Therefore we have considered ammonia emissions (Table 4) using a CLe of 3µg/m³, and nitrogen

deposition (Table 5) and acid deposition (Table 6) using CLo as defined in APIS (April 2015 and re-checked February 2016 and August 2016):

Table 4 Ammonia Emissions

Name of SSSI	Ammonia CLe ($\mu\text{g}/\text{m}^3$)	PC ($\mu\text{g}/\text{m}^3$)	PC as % of Critical level
Naunton Court Meadows	3 $\mu\text{g}/\text{m}^3$	0.206	6.9%

Table 5 – Nitrogen deposition

Site	Critical Load kg N/ha/yr	PC Kg N/ha/yr	PC % Critical Load
Naunton Court Meadows	20*	1.070	5.4

*CLO values taken from the Air Pollution Information System (APIS) website (www.apis.ac.uk) – February 2016

Table 6 – Acid deposition

Site	Critical Load keq/ha/yr	PC Kg N/ha/yr	PC % Critical Load
Naunton Court Meadows	1.63*	0.076	4.7

*CLO values taken from the Air Pollution Information System (APIS) website (www.apis.ac.uk) – February 2016

All PCs for ammonia, nitrogen deposition and acid deposition are well below the 20% threshold at which pollution could occur. We are satisfied that no significant pollution will occur at these nature conservation sites, therefore no further assessment is required.

4.2.3 Ammonia assessment – Local Wildlife Sites / Ancient Woodland

There are 13 Local Wildlife Sites (LWS) / Ancient Woodland (AW) within 2 km of Frogmore Poultry Farm. The following trigger thresholds have been applied for the assessment of these sites.

1. If PC is < 100% of relevant Critical Level or Load, then the farm can be permitted (H1 or AST4.5 screening assessment)
2. If detailed modelling is required (i.e. it doesn't screen out at stage 1) and this further modelling shows PC <100%, then the farm can be permitted.

For the following sites this farm has been screened out at Stage 1, as set out above, using results of the AST 4.5.

Screening using AST 4.5 has indicated that emissions from Frogmore Poultry Farm will only have a potential impact on sites with a CLe of 1 $\mu\text{g}/\text{m}^3$ if they are within 404m of the emission source. Screening indicates that beyond this distance, the Installation will have a PC of ammonia of < 100% for a CLe of 1 $\mu\text{g}/\text{m}^3$ and therefore the PC will not cause significant pollution. In this case all sites except one (Piddle

and Whitsun Brooks LWS) are beyond 404m, and are listed in table 7 below, which also details the associated PCs at each site.

TABLE 7 – distance of LWS and AW from source/Installation

Site	Distance from Frogmore Poultry Unit (m)	PC as a % of Critical level
Bow Wood LWS	2024	8.7%
North Piddle Meadows LWS	1082	22.5%
Bow Wood AW	2024	8.7%
Naunton Court Orchard LWS	1590	12.6%
Old House Farm Meadow LWS	1577	12.7%
New House Farm Meadow LWS	936	28%
Bankside and Moathouse Meadows LWS	1376	15.6%
Grove Farm Meadows LWS	1339	16.3%
Tolley's Pasture LWS	1930	9.4%
Bow, Shell, Swan and Seeley Brooks LWS	2304	7.2%
Naunton Court Estate: Piddle Brook Meadow LWS	1242	18.2%
Humblebee Hall Meadow LWS	1156	20.3%

The PCs at the above sites are all well below what we would consider to be the threshold at which pollution could occur. We are satisfied no significant pollution will occur at these nature conservation sites, therefore no further assessment is required.

Piddle and Whitsun Brooks LWS is within 250m of the Installation which would normally trigger the need for detailed ammonia modelling if appropriate, due to the uncertainties associated with predictions of ammonia near to the source. However this LWS is predominately designated for its aquatic interest, we are satisfied that impacts to this nature conservation site are likely to be low.

The primary feature of Piddle and Whitsun Brooks LWS is open flowing water and a European Eel migratory route, with no record of lower plants being present along the bank sides of the watercourse at the maximum point of impact (NGR 395788, 254047) (Easimap, August 2016).

Given the nature of the habitat, the low risk of acidification and the likely dominance of other (diffuse, aquatic) sources of nitrogen – the application of a CLe of atmospheric ammonia is not considered appropriate in this instance. We do not consider that ammonia will cause any significant pollution in this instance. There is no pathway for impacts from the hazards posed by the activity on the European eel migratory route.

Conclusion

In accordance with our guidance (84_07 Assessing the impact of ammonia releases from new and expanding intensive farms on nature conservation sites), we have not formally consulted Natural England on the Application with regards to this ammonia assessment as it meets scenario 1.

An Appendix 11 (Habitats Regulation Assessment) form detailing the impacts of the proposals on the relevant SAC was completed on 04/03/2016 and sent to Natural England for information only purposes. An Appendix 4 (CROW) form detailing the impacts of the proposals on the relevant SSSIs was completed on 04/03/2016 for audit purposes only.

4.3 Ammonia – Human Health Impact Assessment

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 Operators' 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. Measures include operating ventilation systems to achieve appropriate conditions controlling litter and air quality to minimise emissions. Ventilation is also optimised to the age and weight of the animals to ensure only necessary rates of ventilation. Site equipment and infrastructure are monitored and maintained regularly. These measures are stated operating techniques in a variety of documents provided by the Applicants and captured through condition 2.3 and Table S1.2 of the environmental permit. Furthermore, condition 3.2 of the environmental permit applies to substances not controlled by emissions limits, also known as fugitive emissions. The Operator will be required to manage their activities so that they shall not cause pollution.

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

There are two human health Environmental Assessment Levels (EALs) as outlined in H1 Annex F – Air Emissions. These are a long term EAL of 180ug/m³ and a short term EAL of 2500ug/m³. The applicant did not submit a quantitative assessment of the potential impact on human health from ammonia. However, we carried out our own assessment using the Applicant's odour dispersion modelling. We replaced the odour emission inputs with predicted ammonia emission concentrations. The emission concentrations were based on the following assumptions:

- The 250,000 birds will be evenly split between the four sheds.
- Using an ammonia emission factor of 0.034 for Fan ventilated, fully littered floor, non-leaking drinkers.
- Considering the risk at the nearest receptor to the proposed site, which is approximately 300m away at grid reference 395341,254226

We also included worst case assumptions that assumed emissions would be continuous from the gable ended fans, when in reality this will only occur when the temperature is greater than 30°C. This is discussed in the Applicants technical standards document. The assessment predicted the likely impact at the nearest

receptor to the proposed site, which is approximately 300m away at grid reference 395341,254226.

Our assessment concluded that the short-term and long-term impacts from ammonia are unlikely to exceed the respective Environmental Assessment Levels (EALs) for the protection of human health. 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.

4.4 ODOUR

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 (http://www.gov.uk/government/uploads/system/uploads/attachment_data/file/297084/geho0110brsb-e-e.pdf).

Condition 3.3 of the environmental 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 Odour Management Plan is required to be approved as part of the permitting process, if as is the case here, sensitive receptors (sensitive receptors in this instance excludes properties associated with the farm) 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.

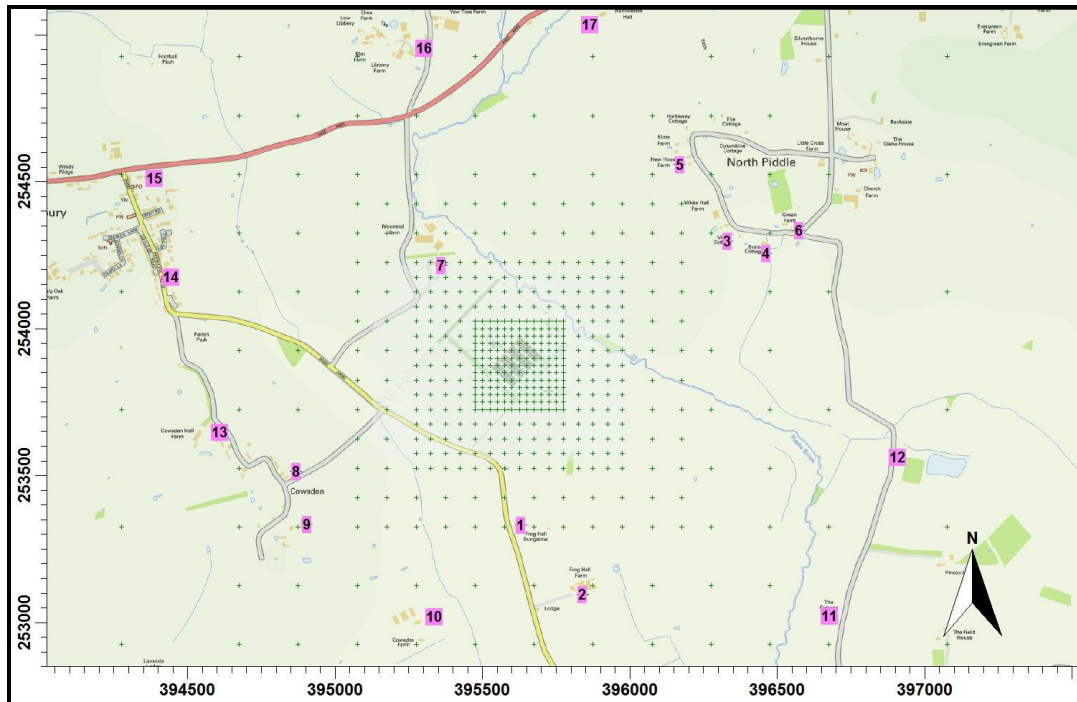
The H1 risk assessment for the Installation provided with the Application lists key potential risks of odour pollution beyond the Installation boundary. These activities are as follows: Poultry rearing; depopulation; de-littering; cleaning operations.

4.4.1 Odour Modelling

An odour modelling report "A Dispersion Modelling Study of the Impact of Odour from the Proposed Poultry Unit at Frogmore Farm, Naunton Road, Upton Snodsbury in Worcestershire, 19th June 2014" was submitted with the Application (and carried out on behalf of the Applicants by AS Modelling and Data Ltd) and was audited by our air quality experts when determining the risk of potential odour impacts from the farm.

The Applicants have included a number of discrete receptors in their odour assessment contained within a discrete receptor (ASP) file used by the ADMS software. We have checked the location of the grid reference points and confirm that they are consistent with a location of the receptors. Seventeen discrete receptors have been defined at a selection of nearby residences and commercial properties. The receptors are defined at 1.5 m above ground level within ADMS and their positions may be seen in Figure 1 of the odour modelling report where they are marked by enumerated pink rectangles.

Figure 1: Discrete receptors and poultry building positions



The Applicants predicted the 98th percentile of the hourly average odour concentrations and compared their results with a benchmark in H4³ of 3ou_E/m³ for moderately offensive odours. We agree this is appropriate for processes involving “intensive livestock rearing”.

The Applicants presented the highest 98th percentile hourly average odour concentrations across all meteorological years for no calms, with calms and with terrain. At all off-site residential receptors the Applicants predict the impact will be below the indicative criterion of a 3 ou_E/m³ odour benchmark.

The results of the modelling indicate that, should the proposed development of the poultry unit at Frogmore Farm proceed, the 98th percentile hourly mean odour concentration at nearby residences would be below the Environment Agency’s benchmark for moderately offensive odours, a 98th percentile hourly mean of 3.0 ou_E/m³ over a one year period.

³https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/296737/gho0411btqm-e-e.pdf

Clarification was sought from the Applicants with regards to a number of issues relating to the poultry growth cycle. The Applicants have confirmed the following:

1. Birds will be housed at day old and de-populated in two phases.
2. 30% (approximately 75,000 birds) of birds will be taken at approximately 33 days of age – a process known as thinning.
3. The remaining birds depleted at approximately 38 days of age (approximately 175,000 birds).
4. The poultry houses will be empty for approximately 7 days between each cycle, which will give approximately 7.75 cycles per annum.
5. Litter removal is scheduled to take approximately four hours per house, with one house de-littered at a time. All houses will be de-littered within 48 hours of bird depletion. Two houses will be washed down per day.

The modelling report has assumed de-stocking occurs on day 38 with mucking out/de-littering on day 39. This is consistent with the details provided.

Conclusion

Our Air Quality Modelling and Assessment Unit (AQMAU) carried out our own check modelling using air dispersion modelling software ADMS 5. We have also carried out appropriate sensitivity checks.

Although we do not necessarily agree with the absolute numerical predictions given in the report submitted by the Applicants, we are satisfied that the predicted odour concentration will not exceed the odour benchmark of 30UE/m³.

Sensitivity analysis and worst case scenario assessment

We conducted check modelling and sensitivity analysis of the Applicants modelling using a higher emission rate, to represent a worst case scenario. We used the maximum Hayes *et al.* emission factor and multiplied this by the fraction of the growing period (ADAS, An assessment of the odour impact of the existing and proposed poultry units at Willow Wood Farm, East Kirkby, Lincolnshire, 11th May 2009). A comparison of the rates derived from the above are more conservative than those provided by the Applicants. This is the odour being emitted from the stacks. This does not affect the Applicants conclusions. Based on maximum emission rates we are satisfied that there will not be an exceedance of the odour benchmark of 30UE/m³ at any residential receptors.

Our sensitivity runs have also assumed a 40 day growth cycle, with each additional day after the day 38 to be emitted at the maximum emission rate. In summary, even if the de-littering takes longer than 24 hours, destocking occurs after day 38 or the standing period⁴ is shorter, we are satisfied that there is unlikely to be exceedances of the 98th percentile odour benchmark at all sensitive off-site receptors although we do not necessarily agree with the Applicants absolute numerical predictions.

The Odour Management Plan (OMP) is discussed below. This is an overarching document designed to detail the operating techniques to ensure appropriate

⁴ this is the period between when the livestock have been removed and the poultry houses have been mucked out and when the next batch is housed.

methods are in place to minimise the risk of unacceptable odour pollution beyond the Installation boundary. The permit requires compliance with the measures set out in the OMP. (The OMP is a stated operating technique captured through condition 2.3 and Table S1.2 of the environmental permit). Condition 3.3 of the permit requires the Operator to take all appropriate measures, including but not limited to the approved OMP.

4.4.2 Odour Management Plan & associated documents

The site is located within 400m of sensitive receptors and an Odour Management Plan (OMP) was submitted with the Application. The OMP has been reviewed to ensure it is suitably robust to ensure appropriate measures for odour control are in place to respond to public concerns linked to odour. The initial OMP, submitted with the Application, was considered not to be sufficiently detailed or clear to address these concerns. Therefore, a Schedule 5 notice was issued on 05/09/2014, with follow up questions issued on 29/10/2014, 26/01/2015 and 13/07/2015. This revised plan (Frogmore Odour Management Plan) is considered acceptable having been assessed against the requirements of IPPC SRG 6.02 (Farming): Odour Management at Intensive Livestock Installations, our “Top Tips” guidance to the farming sector, the Poultry Industry Checklist plus our overarching H4 odour guidance, and with regard to the site specific circumstances at the Installation. It includes odour control measures (in particular, procedural controls such as housekeeping, poultry diet and food mixing and limited operational times, and physical control measures) and a detailed complaint handling procedure. The Operator is required to manage activities at the Installation in accordance with this Odour Management Plan as specified in Schedule 1, Table S1.2 of the Permit.

The OMP and associated documents cover a number of key issues:-

- Broiler production/flock management
- Manufacture and selection of feed
- Litter management
- Shed structure
- Heating
- Ventilation and heating systems/Dust
- Used litter/house clean out
- Carcass disposal
- Feed delivery and storage
- Fugitive emissions
- Dirty water management & washing operations
- Waste production/storage
- Materials/storage
- Abnormal operations

The OMP also provides a suitable procedure in the event that complaints are made to the Operator.

The following summarises some of the key aspects of the control measures within the Applicants OMP to minimise risk of odour pollution beyond the installation boundary.

Broiler Production/Flock management

During the growth cycle there will be twice daily olfactory checks, which will coincide with the twice daily stock inspections. These olfactory checks entail perimeter walks around the Installation boundary; the checks will increase in frequency during the final two weeks of the crop cycle and during the process of littering out, olfactory checks will take place four times per day during this period. Any abnormalities will be appropriately recorded and investigated.

Birds will be fed a minimum of three diets during their growth, with gradually reducing levels of protein and phosphorous as bird age increases. This reduction is in accordance with SGN EPR 6.09 'How to comply with your environmental permit for intensive farming'. This phased approach results in less ammonia being produced by the birds.

A veterinarian will provide 24 hour cover and be contacted if appropriate. In the event of any bird health issues, litter will be covered with fresh top up bedding to minimise increased odour until bird health has recovered. Any abnormal events will be documented, dated and signed, with any corrective actions noted. The appropriate plans will be reviewed annually or following an abnormal incident or complaint.

The Applicants OMP provides that in the event of a complaint being received – visiting the area from where the complaint has been received from. Furthermore, they will contact the Area officer and the local Parish Council to establish a meeting in order for concerns to be discussed and addressed.

If elevated odour levels are detected litter deterioration is likely to be the immediate cause, the OMP provides that, the area will be spread with clean bedding material in the short term in order to alleviate the problem, with the underlying cause investigated and actions implemented, as appropriate.

Ventilation and heating systems / Dust

The poultry shed ventilation system will provide the pathway between the primary odour source (the sheds) and sensitive receptors (neighbours, etc).

The Applicants have proposed use of high velocity roof extraction fans with an efflux velocity of 12m/s and release height greater than 5.5m, to aid dispersion. The ventilation system will be checked prior to cycle commencement by a qualified electrician who will provide 24hr breakdown cover. Both ventilation and the heating will have sophisticated alarm systems. Any fan which fails during its required operation will trigger an alarm notifying the Operator immediately of any malfunction and enabling corrective actions to be implemented e.g. Contacting electrician for breakdown repair/replacement. Temperature will be monitored within the houses (recorded daily) with alarm settings. As well as having a breakdown contract, the

Applicants have stated that they will ensure that this contact will also be able to provide emergency mobile generators which can be coupled into reinstate power supply within 4 hours. In the event of total failure, including of the generators, additional help to ventilate the houses will be sought within 30 minutes. All house doors will be opened and all vents will also be opened. These will be fitted with batteries, acting independently of mains power supply. The Applicants have stated that due to possible animal welfare issues, ventilation will be restored within 12 hours.

Gable end fans will only be operated during hot weather to aid cooling, typically operated when temperature reaches 30°C inside the poultry houses with birds aged 30 days or more.

Used litter / House clean out

Litter removal for each house will be scheduled to take approximately 4 hours. All houses will be de littered within 48 hours of bird depletion. One house will be de-littered at a time before commencing to the next house. This will allow the cleaning, disinfection, and setting up for the next crop. The litter will then be transferred into trailers positioned under the covered apron close to the doors. The trailers will be sheeted before leaving the fill position.

As litter will be directly loaded onto trailers this will prevent 'double handling' that would cause the litter to be disturbed more than once when the doors are open, resulting in additional and unnecessary odour emissions.

The minimum ventilation rate will be in operation during litter removal to comply with appropriate health and safety standards.

There will be no storage of used poultry litter on site at any time. Any litter will be spread under the control of separate farming business with written agreement. This will be spread in strict accordance with a Manure Management Plan.

Once the litter is removed, Department of the Environment Food and Rural Affairs (DEFRA) approved chemicals will be used to pressure wash and disinfect the buildings, upon which they will be left to dry out prior to the next cycle beginning. Two houses will be washed each day; therefore washing operations will be completed within 2 days.

These timings have been formally stated within the Odour Management Plan.

Abnormal operations

Overall, abnormal operations are covered within the OMP with general actions covered within associated contingency and emergency plan documents, which are referenced within the OMP.

Water consumption will be monitored daily ensuring early detection. If any wet areas are detected, the area will be blanket covered with top up bedding material to prevent increased odour.

The Emergency Plan has strategies that will be in place for dealing with a power failure, including a total failure which disrupts the ventilation system. Other areas identified within the emergency plan include food failure, water failure, disease, fuel and chemical accidents, foul water and feed spills.

A veterinarian will provide 24 hour cover and be contacted if appropriate. Litter will be covered with fresh top up bedding to minimise increased odour until bird health has recovered. Any abnormal events will be documented, dated and signed, with any corrective actions noted. The appropriate plans will be reviewed annually or following an abnormal incident or complaint.

Reporting an odour complaint

Odour complaints made to the Operator, which may be an indicator of high ammonia levels, should be recorded and reported to the Environment Agency. The Environment Agency will keep the position under review as part of its ongoing regulation of the site.

The Environment Agency is able to receive complaints through the incident hotline, by letter and directly through to the office. Our recommended method is via the incident hotline for efficiency (we advise that complainants should not 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 odour complaint.

The Environment Agency monitors the Operator's complaints records as part of compliance and routine incident response commitments.

OMP Conclusions

We, the Environment Agency, have reviewed and approved the Odour Management Plan and consider 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.

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 their approved odour management plan (which is captured through condition 2.3 and Table S1.2 of the environmental permit), to prevent or where that is not practicable to minimise the odour.

The Applicants will be required to operate this Installation in line with the operating techniques set out in the OMP. Once the operation of the farm commences, there is

a requirement to review and record (as soon as practicable after a complaint) whether changes to the plan should be made and make any appropriate changes to the plan identified by the review. In this case, the Applicants have committed to review their OMP annually.

4.5 NOISE

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. Under section 3.4 of this guidance a Noise Management Plan (NMP) is required to be approved as part of the permitting determination, if as is the case here, sensitive receptors are within 400 m of the Installation boundary. 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.

Condition 3.4 of the environmental 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 H1 risk assessment for the Installation provided with the Application lists key potential risks of noise pollution beyond the Installation boundary. These are as follows: Ventilation fans; feed/fuel deliveries; alarm systems; bird catching; clean out operations; standby generator. These issues and associated factors will be addressed below.

4.5.1 Noise modelling

Noise modelling report "Noise Impact Assessment for Proposed Poultry Unit Development at Frogmore Farm Upton Snodsbury Worcestershire 2 December 2014" and additional information titled "Responses to EA Queries: Noise Impact Assessment for Proposed Poultry Unit Development at Frogmore Farm Upton Snodsbury Worcestershire 18 February 2015" were submitted during the determination of the permit application (and carried out on behalf of the Applicants by 'Noise and Vibration Consultants Ltd') and was considered when determining the risk of potential noise impacts from the farm.

The Applicants report assesses noise impacts at receptors using scenarios based on BS4142:2014², BS8233:2014 and World Health Organisation (WHO) guidance. Their report only considers impacts based on BS4142 and in relation to operational noise only and not construction noise from the site. This is appropriate for the purposes of permit determination as the Environment Agency regulator remit extends solely to the risk of pollution from the permitted activities.

During normal operations, the main noise sources onsite included in the Applicants assessment are: roof fans, gable end fans and biomass boilers. The Applicants also separately modelled a number of intermittent sources, including: loading feed hoppers; catching; litter loading; cleaning of houses and heating gas deliveries.

The noise modelling submitted (2 December 2014) by the Applicants concludes the following:

The results of the assessment have shown that the impact of any site-generated noise is insignificant. This assumes that the following measures are included in the design:

1. Roof mounted fans do not exceed a sound power level of 71dB(A) [46dB LAeq at 7m].
2. Gable end fans installed do not exceed a sound power level of 86dB(A) [61dB LAeq at 7m] and fans to be located at the northwest end of the poultry buildings and fitted with an acoustic baffle extension to the building.
3. Mobile plant fitted with broadband noise reverse alarms.
4. Cleaning, gas heat delivery and litter loading would be undertaken during daytime periods.
5. Feed delivery should be limited between the hours of 07:00 – 23:00 (this being subject to the situation where animal welfare emergency feed is required). Feed low level warnings to be via non audible alarm basis (e.g. text message to Operator from control system).

Conclusion

We have carried out an audit of the assessment and our Noise experts carried out checks using noise modelling software CadnaA (version 4.4). This included appropriate sensitivity analysis.

We carried out a BS4142 assessment and it shows as a worst case a likelihood of greater than significant adverse impact⁵ at receptor position 1 (approximately 410m to the south of the site) during both the day time and evening during intermittent sources 'loading feed bins' and 'catching'. The feed bins are the greatest contributing source. Feed bin loading occurs approximately 4 times a week for a duration of approximately 20-30 minutes. However, it is important to note that as BS4142 assessments and modelled predictions are based on hourly intervals, impacts are overestimated.

Whilst the feed bin loading source may occur infrequently and for a short duration, rather than on a continuous basis, we carefully considered whether appropriate mitigation is proposed to ensure impacts are not experienced during feed bin loading. The Applicants have stated in their addendum submission (dated 18 February 2015) that to reduce the impact from the feed hopper loading the activity should take place wherever possible during day time hours. Based on the submitted

⁵(> +10dB - A difference of around +10dB or more is likely to be an indication of an adverse impact, depending on the context.

assessment we expect that this should mean before 18:00 and no later. A commitment from the Applicants to keep these activities to day time would reduce the likelihood of impacts. This is addressed in the Applicants NMP and is therefore enforceable through the permit.

Within the noise modelling it is indicated that bird catching occurs once every 5-6 weeks, but this isn't accurate and bird catching will take place twice during the cycle, not once. As a worst case approach, impacts were assessed against background levels measured during the night time, and as such, this information would not change our conclusions. As the activity only takes place twice approximately every 6 weeks, significant adverse impacts are considered unlikely.

In summary, we are satisfied with the conclusion that unacceptable noise impacts would be unlikely during normal operations.

We consider that noise mitigation measures are necessary – particularly for the feed bin loading - and these are contained in the noise management plan discussed below.

4.5.2 Noise Management Plan

The NMP is an overarching document designed to detail the operating techniques to ensure appropriate methods are in place to prevent or where that is not practicable, to minimise the risk of unacceptable noise pollution beyond the Installation boundary. The permit requires compliance with the measures set out in the NMP. (The NMP is a stated operating technique and captured through condition 2.3 and Table S1.2 of the environmental permit)

The site is located within 400m of sensitive receptors and a Noise Management Plan was submitted with the Application for approval as part of the permit determination. The NMP has been reviewed to ensure it is suitably robust with appropriate measures for noise control to respond to public concerns linked to noise. The initial NMP, submitted with the Application was considered not sufficiently detailed or clear to address these concerns. Therefore, a Schedule 5 notice was issued on 05/09/2015, with follow up questions issued on 29/10/2014, 26/01/2015 and 13/07/2015, resulting in a revised NMP being submitted. This plan (Noise Management Plan – Frogmore Poultry Unit) is considered acceptable having regard to the site specific circumstances at the Installation. The Operator is required to manage activities at the Installation in accordance with this Noise Management Plan as specified in Schedule 1, Table S1.2 of the Permit.

The NMP and associated documents covers a number of key areas:-

- Ventilation fans
- Feed deliveries
- Feeding systems
- Fuel deliveries
- Alarm systems
- Bird catching
- Clean out operations
- Maintenance/Repair

- Set up/Placement
- Standby generator
- Biomass woodchip

The NMP also provides a suitable procedure in the event that complaints are made to the Operator.

The following summarises some of the key aspects of the control measures within Applicants NMP to minimise risk of noise pollution beyond the installation boundary.

Ventilation fans and operations

Noise associated with the operation of the ventilation system will be managed as follows:

- Noise from the ventilation fans will be assessed during twice daily inspections (07:00 – 10:00 and 16:00 – 18:00).
- Large capacity roof mounted fans will be used, reducing the number of fans required.
- Fans will be operated on an intermittent programme.
- Acoustic baffles will be situated at the north western end of the poultry houses to ensure that the when the gable end fans are in operation, the level of noise is attenuated.
- There will be regular end of cycle maintenance by a qualified electrician to ensure that all systems are operating appropriately.
- The ventilation fans will be alarmed to ensure correct operation at all times, and if there are any malfunctions, that they will be detected quickly.
- Any noisy or malfunctioning fans will be isolated and electrician notified.

Feed deliveries & feeding systems.

Delivery lorries will be fitted with silencers. Furthermore, these feed lorries will be of a large capacity, which will reduce the number of deliveries. The site including the road surfacing will be appropriately maintained. All silos will be positioned at the furthest locations possible from the closest receptors. In response to work carried out to ascertain the potential impacts of feed deliveries and feed bin loading, the Applicants have committed to time restrictions between 08:00 – 18:00 which are enforceable through the permit. This is as result of the work carried out assessing the Applicants noise modelling data.

The feed systems will be fully alarmed to prevent the augers running empty and daily inspections of the bin stocks will also carried out to prevent augers running empty. This will take place between 07:00 – 10:00 and 16:00 – 18:00. Furthermore, the internal feeders will be checked twice daily to ensure correct operation. This will take place between 07:00 – 10:00 and 16:00 – 18:00. This should ensure that the feeding systems are appropriately maintained limiting the possibility of the generation of noise pollution. A qualified electrician will carry out regular end of cycle maintenance.

Bird catching

Bird catching will take place over 2 days for each cycle approximately with 1 day during thinning and 1 day at the end of the cycle. Noise that may arise as a result of thinning and final depletion of poultry houses will be managed by ensuring that all catching operations will take place under a covered yard area situated away from the closest receptors. The catch teams employed will be fully trained and advised to keep noise to a minimum. Crates will be placed carefully on a concrete yard prior to house entry. Lorries will be appropriately scheduled to minimise the duration of the catch. Lorries will be parked as close as possible to the doors to reduce forklift travel and thus increase the efficiency of bird removal from the site. Screen curtains will also be fitted to the lorries.

NMP Conclusions

We recognise that without mitigation there is a risk of pollution for noise. However, we are satisfied that the NMP as revised, contains appropriate measures to prevent or where that is not practicable to minimise the risk of noise pollution beyond the Installation boundary.

We have included our standard noise condition 3.4.1 in the permit, which requires that emissions from the activities shall be free from noise 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 their approved noise management plan (which is captured through condition 2.3 and Table S1.2 of the environmental permit), to prevent or where that is not practicable to minimise noise and vibration.

The Applicants will be required to operate this Installation in full compliance with this NMP. Once the operation of the Installation commences there is a requirement to review and record (as soon as practicable after a complaint) whether changes to the plan should be made and make any appropriate changes to the plan identified by the review.

4.6 Other Considerations

4.6.1 Site drainage / threat to groundwater / surface water run-off / discharge of pollutants to Piddle Brook

We have considered the nature of the site drainage and the risk of pollutants entering Piddle Brook Local Wildlife Site. Furthermore, we have also considered how the borehole (as identified on the site plan), and more generally, groundwater will be protected from fuel supplies, chemicals and other potential pollutants kept on site.

The site is not within a Source Protection Zone and we do not consider that there will be any significant pollution of the environment or harm to human health.

It is important that methods are in place to prevent, the potential for pollution from the pesticides and veterinary medicines stored on site. Furthermore, there will be agricultural fuel oil storage facilities on site. S3.2 of EPR 6.09 'How to comply with

your environmental permit for intensive farming, Version 2' states that agricultural fuel oil, pesticides and veterinary medicines should be contained in an area capable of retaining any spillage. Agricultural fuel oil storage facilities must be bunded, regardless of size or age. Bunds should be impermeable and resistant to the stored materials; have no outlet and drain to a blind collection point; have pipework routed within bunded areas with no penetration of contained surfaces; be designed to catch leaks from tanks or fittings; have a capacity greater than 110% of the largest tank or 25% of the total tankage, whichever is larger; be looked at regularly and any contents removed after checking for contamination; be fitted with a high level probe and an alarm, where not frequently inspected; have tanker connection points within the bund where possible (otherwise adequate containment should be provided at the connection point); be regularly inspected for their condition. The Applicants have confirmed that they will bund the agricultural fuel oil storage facilities to meet the requirements of the Water Resources (Control of Pollution) (Silage, Slurry and Agricultural Fuel Oil) Regulations 2010 (SSAFO Regulations) and comply with the requirements of S3.2 of EPR 6.09 'How to Comply with your environmental permit for intensive farming', version 2. The Applicants have also confirmed that any chemical storage on site will be capable of retaining spillage, resistant to fire, frost free and secure. There is no drainage from this type of storage. This is fully in accordance with the appropriate measures in S3.2 of EPR 6.09 'How to Comply with your environmental permit for intensive farming', version 2.

All of these measures are stated operating techniques in a variety of documents which have been provided in support of this application and captured through condition 2.3 and Table S1.2 of the environmental permit. Furthermore, condition 3.2 of the environmental permit applies to substances not controlled by emissions limits, also known as fugitive emissions. The Operator has to manage their activities, including the storage of potentially polluting substances, so that these shall not cause pollution.

Methods for managing the contents of the footbaths and the disposal of spent disinfectants (used in the cleaning out of the poultry sheds) were also considered. The Applicants have confirmed that footbaths will be covered to prevent the ingress of water and not overfilled to prevent spillage. Spent foot dips and disinfectants will be emptied into dirty water tanks, which complies with the requirements of S3.2 of EPR 6.09 'How to Comply with your environmental permit for intensive farming', version 2.

The Applicants have proposed the collection of the condensate from heat exchangers in accordance with the Environment Agency's Position Statement titled 'Heat exchangers and condensate management September 2011'. This entails collecting the condensate in the same manner as wash water from the poultry housing at the end of the crop cycle, which will be collected in wash water tanks. The heat exchangers will be installed to help conserve energy.

The Applicants have also addressed fuel spills and chemical spills within their emergency plan document, as well as wash-down procedures.

The odour management plan and the routine maintenance schedule state that the dirty water tanks will be monitored during the wash down of the poultry sheds to maintain an appropriate freeboard.

During normal operation (excluding times of clean out) roof water is discharged to a swale which has an overflow outlet drain to a ditch which ultimately outlets to Piddle Brook. As per our guidance reference SGN EPR 6.09 'How to Comply with your environmental permit for intensive farming', it is acceptable for drainage from Installations to drain to surface waters (following interception) such as a swale.

High velocity roof fans will be in place with an efflux velocity of 12m/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 S3.2 of EPR 6.09 'How to Comply with your environmental permit for intensive farming', version 2 makes clear, when there are high velocity roof fans in situ, roof water does not normally require interception and treatment provided roofs remain clean. However, the Applicants have stated that despite this guidance, interception will be installed, as referred to above.

In this instance, the rainwater run-off from the roofs will be collected by french drains along each sides of the four poultry houses laid under stone filled trenches acting as soakaway with piped connections away from the site and routed to a swale. The swale will be constructed to treat the rainwater runoff. The slow movement of water along the swale, aided by grass and check dams, encourages deposition of the solids washed off the roof and helps to remove nutrients such as phosphorus before it enters the ditch, which ultimately drains to Piddle Brook. There are also grassed soakaways to the north of each poultry house. The yard area is completely covered, therefore there is no rainwater from the yard; all drains in the covered yard will be directed straight to dirty water tanks, so no diverter valves or bungs will be used. Water from the wash out of the poultry houses is channelled to two 20,000 litres collection tanks, to await export off site. These wash water tanks will be built to conform to specifications in SGN EPR 6.09 'How to Comply with you environmental permit for intensive farming, Version 2'. Run off from covered yard roof is directed to clean water system.

We have carefully considered the information provided and are satisfied the measures which will be required through permit conditions are appropriate to ensure that activities from the Installation will not pose an unacceptable risk to ground or surface water.

4.6.2 Groundwater and soil monitoring

As a result of the requirements of the Industrial Emissions Directive, all permits are now required to contain a condition relating to protection of soil, groundwater and groundwater monitoring. The Environment Agency's H5 Site Condition Report Guidance states **that it is only necessary 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
- Where 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
- Where 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 Frogmore Poultry Unit (dated 30/04/2014) demonstrates that there are no hazards or likely pathway for pollutants to land or groundwater and no historic contamination on site that may present a hazard from the same contaminants. Therefore, on the basis of the risk assessment presented in the SCR, we accept that the Operator does not need to provide base line reference data for the soil and groundwater at the site at this stage.

4.6.3 Dust

The Applicants have proposed a number of measures to ensure that the risk of pollution from dust is prevented or where that is not practicable, it is kept to a minimum:

Feed storage will be in dedicated sealed vermin proof silos, with collision protection being provided by the appropriate siting of the silos and/or physical barriers. Exhausts from silos will then have dust containment measures in the form of water traps or filters.

The Applicants have stated that there will be no on-site milling or mixing of feed. Feed delivery systems will be sealed to minimise atmospheric dust, with any spillage present, being swept up immediately.

The condition of the feed bins will be checked frequently so that any damage or leaks can be identified. The routine inspection and maintenance schedule states that the feed delivery systems will be checked daily during the crop cycle.

The feed management procedures in place should ensure that particulate emissions will be prevented or minimised.

Ventilation systems will also be operated to achieve optimum humidity levels for the stage of production in all weather and seasonal conditions. Effective management of the litter and air quality within the poultry buildings will help control dust.

Furthermore, the Applicants have confirmed in the technical standards document that the housing design and management will be in accordance with EPR 6.09 'How to comply with your environmental permit for intensive farming'. The Applicants have stated the following: All proposed buildings will be constructed to BAT. The housing will be fully insulated with a U-Value of approximately $0.4\text{W/m}^2/\text{°C}$ to reduce condensation and heat loss. Litter will be kept loose, dry and friable. The quality will be regularly inspected to ensure it does not become excessively wet or dry. Steps as described in EPR 6.09 'How to comply with your environmental permit for intensive farming' will be taken to rectify any changes to the quality of the litter.

The appropriate design and construction of poultry buildings should ensure that dust escape will be kept to a minimum.

The permit includes our generic condition (Condition 3.2) to control emissions of substances not controlled by emission limits, also known as fugitive emissions. This includes dust. The Operator has to manage their activities so that these emissions shall not cause pollution.

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 1 August 2014 – 30 September 2014 and in the Redditch & Alcester Standard on 1 August 2014 and also in the Worcester Evening News on the 1 August 2014. Copies of the Application were placed on our public register at the Environment Agency offices, Riversmeet House, Newtown Industrial Estate, Tewkesbury, Gloucestershire GL20 8JG. Additionally, we also published this Application on our web pages on GOV.UK and made available electronic copies of the Application on the webpage.

The following statutory and non-statutory bodies were consulted:

- Wychavon District Council (Planning department)
- Worcester Regulatory Services (Environmental Health department)
- Health and Safety Executive (HSE)
- Public Health England (PHE)
- Director of Public Health, Worcestershire County Council
- Food Standards Agency (FSA)

1) Consultation Responses from Statutory and Non-Statutory Bodies

Response received from
Local Planning Authority (Wychavon District Council) – Received 24 July 2014
Brief summary of issues raised
The local planning authority highlighted the following issues: 1. The Proximity to medium/high flood risk areas – zones 2 & 3. 2. The potential Impact upon diversity – Naunton Court Meadows Site of Special Scientific Interest (SSSI). 3. The sites proximity to residential properties.
Summary of actions taken or show how this has been covered
1. 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. The Applicants have confirmed they will be submitting a comprehensive SUDS report to the local planning authority upon submission of a planning application.

The buildings are proposed to sit outside both flood zones 2 and 3 risk areas. However, the permit includes a requirement that the Operator must submit a Management System for our review and approval prior to permitted operations commencing on site. To be approved this will require an Emergency Plan/Accident Management Plan, which will have a flood plan as part of this. This means that unless we are satisfied that there are suitable measures in place to deal with the risk of pollution from any flooding they will not be able to operate the Installation.

2. An assessment on the impact from this site on habitat sites was carried out as part of the permitting process. We consider that the Installation will have no likely significant effect on the habitats identified within the relevant screening distances of the Installation. A thorough explanation of our assessment can be found in section 4.2 (Ammonia emissions – ecological receptors) of the Key issues part of this document.

3. We have considered the proximity to residential properties in our assessment of the Application (Please see the Key issues section of this document). We are satisfied that emissions from the Installation will not pose an unacceptable risk of pollution to the environment or harm to human health. The proposed Installation will be regulated by the permit conditions that control all permitted onsite activities and compliance with these conditions will be enforced by our local area environment management officers.

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 <https://www.gov.uk/government/publications/environment-agency-enforcement-and-sanctions-statement>.

Response received from

Public Health England (PHE) – Received 7 August 2014 & 2 March 2015

Brief summary of issues raised

PHE have stated that any Environmental Permit should contain conditions to ensure that the following potential emissions do not impact upon public health:
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- | |
|---|
| <ol style="list-style-type: none"> 1. Odour 2. Fugitive emissions of ammonia and dust to air from feed and litter |
|---|

<p>PHE concluded their consultation response by stating the following: Based solely on the information contained in the Application provided, PHE has no significant concerns regarding risk to health of the local population from this proposed activity, providing that the Applicants takes all appropriate measures to prevent or control pollution, in accordance with the relevant sector technical guidance or industry best practice.</p>
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3. A number of concerns were raised by members of the public during the

public consultation phase relating to Campylobacter, and in particular, a journal article in the American Journal of Public Health (Volume 103, Issue 12, December 2013) titled: Impact of Rurality, Broiler Operations, and Community Socioeconomic Factors on the Risk of Campylobacteriosis in Maryland).

We did consult PHE again and asked them whether or not the article and its findings altered their original consultation response. Their response concluded that although the study raised interesting questions (the authors fairly acknowledge that it is not appropriate to conclude causation from this type of study), the article would not alter the view of PHE as outlined in the Position Statement on Intensive Farming; that with appropriate controls poultry units are unlikely to cause serious or lasting ill health in local communities. The full PHE response is available on the public register.

Summary of actions taken or show how this has been covered

1. As discussed in section 4.4 of the Key Issues part of this document, the Environment Agency is satisfied following a review of the information provided by the Applicants, and the conditions present within the permit, that emissions of odour from the Installation will not pose an unacceptable risk of pollution to the environment or harm to human health.

2. To prevent significant emissions from the site the Operator has proposed appropriate measures to manage dust and ammonia emissions. This includes the use of appropriate ventilation systems and high velocity roof fans, appropriate housing design and management, appropriate 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. Please see section 4.4 and section 4.6 for further details of our assessment with regards to fugitive emissions of ammonia and dust from poultry litter and feed.

3. No action required.

Response received from

Worcester Regulatory Services (Environmental Health Department) -
Received 22 July 2014

Brief summary of issues raised

1. Biomass boilers – confirmation of fuel to be used and will the activity fall within the Waste Incineration Directive (WID).

2. Noise – Concerns have been raised about the lack of a quantitative noise assessment and the noise generated from, for example the ventilation fans and biomass boilers.

3. Odour – No concerns raised.

4. Concerns have been raised about the cumulative effect of two poultry sites in close proximity to one another. There is currently planning approval for 2

units similar to this Application in close proximity to this site. There is concern about the cumulative effect of the 2 sites as their respective impacts have independently been assessed but not in conjunction with one another.

Summary of actions taken or show how this has been covered

1. The biomass boiler will use non waste fuel; therefore the requirements of WID do not apply. The fuels permitted are biomass chips or pellets comprising virgin timber, straw, miscanthus; or a combination of these.

2. 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. A range of mitigation measures have also been proposed including time restricting deliveries of fuel and feed, for example, and the incorporation of acoustic baffles at the north west end of the poultry houses, to attenuate sound from the gable end fans, when they are used. See section 4.5 for further details.

3. No action required.

4. Our assessments of pollution from the proposed Frogmore Poultry Unit took into consideration the existing background conditions. We are however unable to consider the potential impact from proposed activities that have not yet made an application for an environmental permit. If or when an application is made in the future for the poultry units referenced in the response, the impact of emissions from the Frogmore Poultry Unit will be considered in the assessment of the potential pollution impact from that proposal.

Response received from

Food Standards Agency (FSA) – Received 09 December 2014

Brief summary of issues raised

We received the following response from the FSA: “Please be advised that the Food Standards Agency does not consider the application for expansion of the existing poultry unit to represent a food safety concern.”

Summary of actions taken or show how this has been covered

No action required.

Response received from

Health and Safety Executive (HSE) – Received 09 December 2014

Brief summary of issues raised

We received the following response from the HSE: “I can confirm that HSE has no comments to make on this permit application.”

Summary of actions taken or show how this has been covered

No action required.

Response received from

Director/Head of Public Health, Worcestershire County Council – Received 11 December 2014
Brief summary of issues raised
We received the following response from Worcestershire County Council: “We would not wish to add to the input from PHE.”
Summary of actions taken or show how this has been covered
No action required.

2) Consultation Responses from Members of the Public and Community Organisations / County / Parish / District Councillors

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 County / Parish / District Councillors

Response received from
Naunton Beauchamp Parish Council – Dated 30 September 2014
Brief summary of issues raised
<ol style="list-style-type: none"> 1. Concerns have been raised about the effects of flooding of Piddle Brook. 2. Concern has been raised about the effects of the Installation on Piddle Brook LWS. 3. Concerns have been raised that odour (from the raising of the poultry and increased levels during clean out and storage of waste) will have a deleterious effect on the village and that ammonia will have a negative effect on animals and plants. 4. Concerns have been raised about the effect on residents with respiratory problems from ammonia emissions. 5. Concerns have been raised that Piddle Brook will be regularly contaminated by run off from the site and the site itself may even be under water, along with access roads. 6. Concerns have been raised about the movement of heavy vehicles throughout both the day and night and the associated noise and light pollution will cause disturbance.

Summary of actions taken or show how this has been covered

1. 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. The Applicants have confirmed they will be submitting a comprehensive SUDS report to the local planning authority upon submission of a planning application.

The buildings are proposed to sit outside both flood zones 2 and 3 risk areas. However, the permit includes a requirement that the Operator must submit a Management System for our review and approval prior to permitted operations commencing on site. To be approved this will require an Emergency Plan/Accident Management Plan, which will have a flood plan as part of this. This means that unless we are satisfied that there are suitable measures in place to deal with the risk of pollution from any flooding they will not be able to operate the Installation.

2. An assessment on the impact from this site on habitat sites was carried out as part of the permitting process. We consider that the proposed activities are unlikely to pose a risk of pollution to habitats. A thorough explanation of our assessment can be found in section 4.2 (Ammonia emissions – ecological receptors) of the Key issues part of this document.

3. As discussed in section 4.4 of the Key Issues part of this document, the Environment Agency is satisfied following a review of the information provided by the Applicants, and the conditions present within the permit, that odour emissions from the Installation will not have a significant impact on the health or amenity of local residents.

4. As part of the consultation process, Public Health England (PHE) and the Director of Public Health for Worcestershire County Council were consulted. Their consultation response and our responses to those can be found in Annex 1, Section 1. Furthermore, we also carried out an assessment ourselves on the impact of ammonia emissions on human health. Details of this can be found in section 4.3 (Ammonia emissions – Human Impact Assessment) of the key issues part of this document. We have concluded that the risks from ammonia emissions on human health or the environment from the site are unlikely to be significant.

5. We are satisfied based on the information provided in the Application that there will be no significant impact on water quality in Piddle Brook. Only roof water will be discharged to a swale which drains to a ditch, leading to Piddle and Whitsun Brook. See section 4.6 of the key issues part of this document, where assessments of site drainage and pollution prevention measures are discussed in greater detail.

6. Off site traffic is a matter for the local authority. The planning authority considers matters such as visual impact (light disturbance), traffic and access issues, which do not form part of our environmental decision making process.

Noise that occurs from the installation has been addressed in Key Issues section 4.5. In summary, 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. These will be enforceable through the permit.

Response received from

Wychavon District Councillor / County Councillor – Upton Snodsbury Division – 5 October 2014

Brief summary of issues raised

1. Concern has been raised about the cumulative impact of these intensive farming activities, which together, would have major environmental consequences.

Summary of actions taken or show how this has been covered

1. Our assessments of pollution from the proposed Frogmore Poultry Unit took into consideration the existing background conditions. We are however unable to consider the potential impact from proposed activities that have not yet made an application for an environmental permit. If or when an application is made in the future for other intensive farming activities, the impact from the Frogmore Poultry Unit will be considered in the assessment of the pollution impact from that proposal.

The local planning authority is responsible for determining land use through the planning application process. The Environment Agency considers the in-combination effects for other nearby EPR intensive farms if the predicted ammonia emissions from the Installation for nature conservation sites exceed relevant thresholds. Emissions from this Installation do not exceed the relevant thresholds. A thorough explanation of our assessment can be found in section 4.2 (Ammonia emissions – ecological receptors) of the Key issues part of this document.

Response received from

Wychavon District Councillor – 13 October 2014

Brief summary of issues raised

1. A question has been raised as to whether or not we attach any conditions to a permit grant and if so, are they enforceable and by whom?

2. Concern has been raised that without appropriate conditions the potential for pollution to the surrounding locality and disruption to residents is a huge concern.

3. Concern has been raised about the impact of the Installation on Piddle Brook LWS, local SSSI's and associated wildlife.

Summary of actions taken or show how this has been covered

1. The proposed Installation will be regulated by the permit conditions that control all relevant onsite activities and compliance with these conditions will be enforced by our local area environment management officers. There is also a pre-operational condition in the permit that the Operator will have to complete before the commencement of operations.

Any breach in permit conditions is an offence. In the event that the Operator fails to comply with any permit condition then we would take appropriate enforcement action in line with our Enforcement and Sanctions guidance which can be viewed at

<https://www.gov.uk/government/publications/environment-agency-enforcement-and-sanctions-statement>

2. The Environment Agency is satisfied following a review of the information provided by the Applicants, and the conditions present within the permit, that emissions from the Installation are unlikely to have a significant impact on the environment or human health.

3. An assessment of the impact from this site on habitat sites was carried out as part of the permitting process. We consider that the emissions from the installation will have no likely significant effect on the habitats identified within the relevant screening distances of the Installation. A thorough explanation of our assessment can be found in section 4.2 (Ammonia emissions – ecological receptors) of the Key issues part of this document.

Response received from

Wychavon District Councillor – 16 October 2015

Brief summary of issues raised

A Wychavon District Councillor has raised the following main two concerns in their consultation response:

1. Concern has been raised about the deleterious effects of ammonia (and nitrogen deposition) on nearby sites of high biodiversity interest, including Local Wildlife Sites and Sites of Special Scientific Interest.
2. Concern that the combined effects of the two applications (There is currently planning approval for 2 poultry units similar to Frogmore Poultry Unit in close proximity to this site) are properly considered.

Summary of actions taken or show how this has been covered

1. An assessment on the impact of emissions from this site on habitat sites was carried out as part of the permitting process. We consider that the Application will have no likely significant effect on the habitats identified within the relevant screening distances of the Installation. A thorough explanation of our assessment can be found in section 4.2 (Ammonia emissions – ecological receptors) of the Key issues part of this document.

2. Our assessments of the potential pollution from the proposed Frogmore Poultry Unit took into consideration the existing background conditions. We are however unable to consider the potential impact from proposed activities

that have not yet made an application for an environmental permit. If or when an application is made in the future for other intensive farming activities, the impact from the Frogmore Poultry Unit will be considered in the assessment of the pollution impact from that proposal.

The density of farms within a given area is not within the remit of the Environmental Permit. The local planning authority is responsible for determining land use through the planning application process. The Environment Agency considers the in-combination effects for other nearby EPR intensive farms if the predicted ammonia emissions from the Installation for nature conservation sites exceed relevant thresholds. Emissions from this Installation do not exceed the relevant thresholds. A thorough explanation of our assessment can be found in section 4.2 (Ammonia emissions – ecological receptors) of the Key issues part of this document.

Response received from

Upton Snodsbury Parish Council – dated 30 September 2014

Brief summary of issues raised

Upton Snodsbury Parish Council have raised the following main two concerns in their consultation response:

1. Concerns have been raised as to the cumulative impact on the local area of a number of developments in the parish.
2. Concern that these applications cannot be viewed as expansions to local farming communities, but that poultry rearing in this form is an industrial process and therefore this particular location cannot be considered as suitable.

Summary of actions taken or show how this has been covered

1. Our assessments of pollution from the proposed Frogmore Poultry Unit took into consideration the existing background conditions. We are however unable to consider the potential impact from proposed activities that have not yet made an application for an environmental permit. If or when an application is made in the future for other intensive farming activities, the impact from the Frogmore Poultry Unit will be considered in the assessment of the pollution impact from that proposal.

The local planning authority is responsible for determining land use through the planning application process. The Environment Agency considers the in-combination effects for other nearby EPR intensive farms if the predicted ammonia emissions from the Installation for nature conservation sites exceed relevant thresholds. Emissions from this Installation do not exceed the relevant thresholds. A thorough explanation of our assessment can be found in section 4.2 (Ammonia emissions – ecological receptors) of the Key issues part of this document.

2. These are relevant considerations for the grant of planning permission, but do not form part of the Environmental Permit decision making process.

b) Representations from Community and Other Organisations

Representations were received from Wychavon Parishes Action Group (WPAG) and Worcestershire Wildlife Trust.

Response received from

Worcestershire Wildlife Trust – 30 September 2014

Brief summary of issues raised

Worcestershire Wildlife Trust have raised the following three main concerns in their consultation response:

1. Concern has been raised about the deleterious effects of ammonia on nearby ecological receptors, particularly Piddle Brook; and request that we subsequently monitors emissions.
2. Concern has been raised about the risk of pollution to Piddle Brook as a result of either an accident or during litter clearance.
3. Concern has been raised about the site drainage, which leads to Piddle Brook and that surface water run-off may be contaminated by ammonia rich deposition from the unit and waste from the clearance process.

Summary of actions taken or show how this has been covered

1. An assessment on the impact from this site on habitat sites was carried out as part of the permitting process. We consider that the Application will have no likely significant effect on the habitats identified within the relevant screening distances of the Installation. For this reason monitoring of ammonia levels in the water course is not considered necessary. A thorough explanation of our assessment can be found in section 4.2 (Ammonia emissions – ecological receptors) of the Key issues part of this document.
2. The Operator has submitted an emergency plan which contains details of the measures that will be in place to minimise the risk of pollution as a result of accidents on site. We have assessed the plan and are satisfied that the measures proposed are in line with Environment Agency SGN EPR 6.09 ‘How to Comply with your environmental permit for intensive farming’ and are BAT. We are also satisfied that measures proposed to control litter on site are BAT. The Environment Agency is satisfied following a review of the information provided by the Applicants, and the conditions present within the permit, that the Installation will not have a significant impact on water quality in Piddle and Whitsun Brook.
3. We are satisfied based on the information provided in the Application that there will be no significant adverse impact on water quality in Piddle and Whitsun Brook. An assessment of surface water run-off and pollution prevention measures has taken place in section 4.6 of the Key Issues part of this document.

Response received from

Wychavon Parishes Action Group (WPAG) – dated 2 October 2014

Brief summary of issues raised

Wychavon Parishes Action Group (WPAG) have identified the following areas of concern:

1. Concern has been raised about validity of the Applicants odour assessment, In particular assumptions made about:

- Duration of de littering;
- Thinning/de population

2. Concern raised about whether thinning of birds has been considered in the odour modelling, noise and nuisance assessments.

3. Concern raised about how the Applicants will deal with noise and odour complaints.

4. Concern raised about potential nuisance caused by cleaning operations.

5. Concern has been raised about validity of the Applicants noise assessment, In particular assumptions made about:

- Noise due to depopulation;
- HGV/forklift and other vehicle movements
- Noise levels early in the morning and at night.

6. Clarification required about the Environment Agency's definition of significant noise and odour pollution.

7. Clarification of how the Environment Agency determines the impacts of noise when no quantitative baseline noise information has been submitted.

8. Concern has been raised about Environmental Pollution arising from the activities of the site and its effect on local habitats such as Sites of Special Scientific Interest (SSSI). In particular impacts from ammonia, campylobacter and other detrimental emissions.

9. Concern has been raised about whether all the local SSSIs have been taken into account.

10. Concern has been raised about the risk to groundwater (including water supplies) and surface water courses (including Piddle Brook); from potential spills of fuel, chemicals and pesticides.

11. Concern has been raised about the impact on wildlife, including Otters that have been identified at Piddle brook and the effect of light pollution on the Bechstein Bat.

12. Concern has been raised about impact on local residents and wildlife from light pollution.

13. Cumulative effect of more than one poultry farm in the locality.

14. Concern raised about risk around waste disposal, with particular attention to fallen stock.

15. Best Available Techniques and its meaning in relation to minimising odour, noise and dust.

16. Concern raised about the impact on Public Health from the activities of the Installation. In particular from campylobacter, dust and stress.

17. Flooding – Concerns have been raised as to the absence of any significant information with regards to flooding. This includes the absence of a sustainable urban drainage system (SUDS) or finished building levels.

18. Sustainability – concern that as a major development, it will consume significant energy and water resources. Question has been raised as to whether the Environment Agency requires that minimum levels of sustainable energy are employed as a partial offset to the negative impacts of the development.

19. Manure – Concerns have been raised about the storage of poultry manure and manure run-off. Including the role of the Environment Agency in controlling manure beyond the site boundary.

Summary of actions taken or show how this has been covered

1. As discussed in section 4.4 of the Key Issues part of this document, the Environment Agency is satisfied following a review of the information provided by the Applicants including their odour management plan, and the conditions present within the permit, that odour from the Installation does not pose an unacceptable risk of pollution. As discussed in section 4.4 of the Key Issues part of this document, even if the de-littering takes longer than 24 hours, destocking occurs after day 38 or the standing period (this is considered the period between when the livestock have been removed and the poultry houses have been mucked out and when the next batch are housed) is shorter, the Applicants conclusions are unlikely to be affected. Although the Applicant appears to have applied thinning (Figure 2 of the odour modelling report reflects the varying emissions file used in the model. This shows that there is a reduction in emissions at day 29. Although thinning is not mentioned within the odour modelling report, this reduction in emissions does suggest thinning) to their assessment, we ran sensitivity checks assuming that there is no de-stocking and this does not affect the Applicant's conclusions. Our sensitivity runs have also assumed a 40 day growth cycle, with each additional day after the day 38 to be emitted at the maximum emission rate in line with our guidance and a standing periods of 7-10 days. The literature we use in generating alternative emission rates, do not suggest a significant spike

during de-stocking. However, our checks using alternative cycles are conservative overall with respect to the submitted data. The fraction of the emission rate from growing and clearing, does not suggest emissions would be greater than fully stocked fully grown birds. We are satisfied following a review of the information provided by the Applicants, and the conditions present within the permit, that odour from the Installation will not have a significant impact on the health or amenity of local residents.

2. Details of our assessment of noise and odour (and the topic of thinning) can be found in the Key Issues section 4.4 and section 4.5, respectively and in our response immediately above. We are satisfied following a review of the information provided by the Applicants, and the conditions present within the permit, that odour from the Installation will not have a significant impact on the health or amenity of local residents.

3. The Odour Management Plan and Noise Management Plan provide suitable procedures in the event that complaints are made to the Operator. Furthermore, the OMP provides that if an odour complaint is received, as well as notifying the Environment Agency Area Officer and recording the complaint, the Operator will visit the area where the complaint has been received from. The Operator will engage through the Area Officer and Parish Council to set up meetings to discuss concerns, with these meetings minuted along with any actions proposed. Relevant management plans will be reviewed and revised, if required, incorporating any actions submitted to the Environment Agency Area Officer for approval.

4. Cleaning operations have been considered as part of our assessment. We are satisfied following a review of the information provided by the Applicants, and the conditions present within the permit, that cleaning operations will not have a significant impact on the health or amenity of local residents.

5. A quantitative noise assessment was provided during permit determination. As discussed in section 4.5 of the Key Issues part of this document, based on information in the Application, the noise 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 noise and vibration beyond the installation boundary and that activities will not give rise to significant pollution of the environment or harm to human health. A range of mitigation measures have also been proposed including time restricting deliveries of fuel and feed, for example, the use of appropriate techniques during bird catching, and the incorporation of acoustic baffles at the north west end of the poultry houses to attenuate sound from the gable end fans, when they are infrequently used.

6. Whilst the term "pollution" is defined in EPR there is no definition for the term "significant" which will bear its ordinary meaning. Whether an impact is considered significant will be a judgement based on all the circumstances.

7. During the determination of the Application a quantitative noise assessment was provided by the Applicants. This was considered as part of the

determination. The assessment was examined by the Environment Agency's Noise experts. Our analysis of the Applicants submission is discussed in section 4.5 of the Key Issues part of this document. In summary, we agree with the conclusion that significant impacts would be unlikely during normal operations. We consider that noise mitigation measures are necessary, particularly for the feed bin loading, and these are contained in the noise management plan and enforceable through the permit as discussed earlier in this document.

8. An assessment on the impact from this site on habitat sites has been carried out. We are satisfied that the permitted activities are unlikely to have a significant effect on the habitats identified within the relevant screening distances of the Installation. A thorough explanation of our assessment can be found in section 4.2 (Ammonia emissions – ecological receptors) of the Key issues part of this document. Campylobacter is addressed elsewhere in this document – Please see Public Health England's consultation response in Annex 1, Section 1 (consultation responses from statutory and non-statutory bodies).

9. An assessment on the impact from this site on habitat sites was carried out as part of the permitting process. In total, 9 SSSIs were considered in our assessment. We are satisfied that the permitted activities are unlikely to have a significant effect on the habitats identified within the relevant screening distances of the Installation. A thorough explanation of our assessment can be found in section 4.2 (Ammonia emissions – ecological receptors) of the Key issues part of this document.

10. We have considered the nature of the site drainage and the potential risk of polluting matter entering Piddle and Whitsun Brook Local Wildlife Site. Methods will be in place to prevent, or where that is not practicable, minimise, the potential for diffuse pollution. The Environment Agency is satisfied following a review of the information provided by the Applicants, and the conditions present within the permit, that activities from the Installation will not have a detrimental impact on ground or surface water. Further information can be found in section 4.6 (Other considerations) of the Key Issues part of this document.

11. Emissions from the operation of this type of facility (atmospheric ammonia) are highly unlikely to impact on otters. Habitat loss and direct discharges into Piddle and Whitsun Brook would be the most likely potential hazards to directly impact such species. There are no discharges from the proposal direct to the LWS and the location/footprint of the proposal is a matter for the local planning authority. Our records show one record for the species in an area approximately 2km away from the site. There is no hydrological link between the site and the location of the record. Operating hours for the proposal and subsequent impacts from light pollution are a matter for the planning authority. It does not form part of the Environmental Permit decision making process.

12. The impact from light would be considered by the relevant planning

authority. It does not form part of the Environmental Permit decision making process.

13. Our assessments of the risk of pollution from the proposed Frogmore Poultry Unit took into consideration the existing background pollution levels, which includes emissions from existing poultry units. We are however unable to consider the potential impacts from proposed activities that have not yet made an application for an environmental permit.

14. 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 present an unacceptable risk of pollution. Please see section 4.4.2 of the key issues part of this document for more information.

15. Best Available Techniques are delivered and defined through the appropriate legislation and guidance. The appropriate sector guidance for intensive farming is EPA 6.09 'How to Comply with your environmental permit for intensive farming, version 2'. We would expect the Operator to comply with the techniques laid out within this document. The Applicants have made clear that they will comply with the sector guidance for a range of factors including but not limited to broiler production, feed storage, fuel and chemical storage, dirty water storage and the management of drainage systems and run-off, the handling of the contents of the footbaths, disposal of spent disinfectants and the operation of heat exchangers. All of these measures are stated operating techniques in a variety of provided documents (including the Operator's OMP and technical standards document) and captured through condition 2.3 and Table S1.2 of the environmental permit.

16. As part of the consultation process, Public Health England (PHE) and the Director of Public Health for Worcestershire County Council were consulted. Their consultation responses and our responses to those can be found in Annex 1, Section 1. Furthermore, we also carried out an assessment ourselves on the impact of ammonia emissions on human health. Details of this can be found in section 4.3 (Ammonia emissions – Human Impact Assessment) of the key issues part of this document. We are satisfied that there is unlikely to be any significant risk to human health from the proposals.

17. 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. The Applicants have confirmed they will be submitting a comprehensive SUDS report to the local planning authority upon submission of a planning application.

The buildings are proposed to sit outside both flood zones 2 and 3 risk areas. However, the permit includes a requirement that the Operator must submit a Management System for our review and approval prior to permitted operations commencing on site. To be approved this will require an Emergency Plan/Accident Management Plan, which will have a flood plan as

part of this. This means that unless we are satisfied that there are suitable measures in place to deal with the risk of pollution from any flooding they will not be able to operate the Installation.

18. Based on the information in the Application we are satisfied that proposals for raw material (including water) and energy use are appropriate. The environmental permit will have conditions for energy efficiency and the efficient use of raw materials. Please see conditions 1.2 and 1.3 of the environmental permit.

19. Poultry manure management is discussed elsewhere within this document. Please see section 4.4.2 of the Key Issues part of this document for more information. In summary, the Applicants have confirmed that there will be no storage or spreading of poultry manure within the Installation boundary at any time. If manure is exported from the site then we cease to have any powers over it concerning odour under the permit. Odour nuisance arising from land spreading would be dealt with by the Local Authority Environmental Health Department who may exercise their statutory nuisance powers where necessary.

c) Representations from Individual Members of the Public

Over 60 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><u>Effect on human health from Salmonella and E-Coli</u></p> <p>Concerns have been raised as to the prevalence of Salmonella and e-coli.</p>	<p>We have consulted Public Health England (PHE) and the Director of Public Health (Worcestershire 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 regards to Salmonella and e-coli.</p>
<p><u>Effect on human health from antibiotics</u></p> <p>Concerns have been raised about antibiotics being released into the environment leading to health issues.</p>	<p>We have consulted Public Health England (PHE) and the Director of Public Health (Worcestershire 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 regards to antibiotics. Veterinary medicines will be securely stored as laid out in S3.2 EPR 6.09 'How to comply with your environmental permit for intensive farming', version 2.</p>
<p><u>Effect on human health from bird</u></p>	<p>We have consulted Public Health England</p>

<p><u>flu transmission</u></p> <p>Concerns have been raised with regards to bird flu and its transmission to humans.</p>	<p>(PHE) and the Director of Public Health (Worcestershire 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 regards to bird flu and transmission to humans. The primary regulator for animal health is the Animal and Plant Health Agency (APHA), whose primary purpose is to help safeguard animal health and welfare and public health. Therefore they are primarily responsible for ensuring the farming industry has measures in place to effectively deal with any disease outbreaks on site.</p>
<p><u>Effect on human health from night-time activities</u></p> <p>Concern that activities as a result of the presence of the Installation will result in sleep deprivation, particularly with regards to activities that take place during the night.</p>	<p>The risk of pollution posed by noise emissions from the site have 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 site. Our assessment of Noise is discussed in section 4.5 of this document.</p>
<p><u>Effect on human health from HGV movements</u></p> <p>Concerns that Heavy Goods Vehicles (HGVs) will pose a risk to human health.</p>	<p>The local planning authority is responsible for determining land use through the planning Application process, this includes transport. Consideration of increased traffic congestion does not form part of the Environmental Permit determination.</p>
<p><u>Effect on human health from dust/particulate emissions</u></p> <p>Concerns that the emissions of dust/particulate matter that emanate from these sites are harmful to humans.</p>	<p>As discussed in Section 4.6, the Environment Agency are satisfied following a review of information provided by the Applicants that the proposals for managing and mitigating dust are BAT and as a result emissions of dust are not likely to be significant. Therefore the risk to human health from dust is also not likely to be significant.</p> <p>The permit includes our generic condition to control emissions of substances not controlled by emission limits. This includes dust. The Operator has to manage their activities so that these emissions shall not cause significant pollution.</p>

<p><u>Effect of the activities of the Installation on local school children.</u></p> <p>Concerns that the presence of the Installation will have a detrimental impact on the children of local schools in Flyford Flavell and Upton Snodsbury, particularly with regards to dust, odour and traffic flow.</p>	<p>As discussed in this document we are satisfied that the risk or pollution of the environment and harm to human health from dust, odour, noise and ammonia are unlikely to be significant. We have also consulted with PHE on the Application and they have not raised any concerns (see Annex 1 section 1 above). With regards to the impact of traffic outside the Installation boundary, this is a relevant consideration for the grant of planning permission, but does not form part of the environmental permit decision.</p>
<p><u>Effect of the activities of the Installation on sufferers with existing chronic conditions</u></p> <p>Concerns have been raised as to the impact of the Installation of people with asthma, cystic fibrosis, and other respiratory conditions.</p>	<p>As discussed in this document we are satisfied that the risk of pollution of the environment or harm human health from emissions of dust, odour, noise and ammonia are not likely to be significant. We have also consulted with PHE on the Application and they have not raised any concerns (see Annex 1 section 1 above).</p>
<p><u>Light Pollution</u></p> <p>Concerns of the impact of light pollution on local residents.</p>	<p>The impact from light would be considered by the relevant planning authority. It does not form part of the Environmental Permit decision making process.</p>
<p><u>Traffic</u></p> <p>Concern has been raised on the increased levels of traffic movement due to the presence of the Installation, particularly the increase in HGV movements.</p>	<p>Off-site traffic is a relevant consideration for the grant of planning permission, but does not form part of the Environmental Permit decision making process except where there are established high background levels contributing to poor air quality and the increased level of emission from traffic might be significant in these limited circumstances but that is not the case here.</p> <p>Consideration of increased traffic congestion does not form part of the Environmental Permit decision, but is considered in the planning process.</p> <p>On site noise including that generated by traffic has been considered elsewhere in the decision document (Key Issues, section 4.5). In summary, the Environment Agency is satisfied following a review of the information provided by the Applicants, and the conditions present within the permit, that noise emissions from the Installation will not have a</p>

	significant impact on the surrounding locality or disruption to local residents.
<p><u>Modelling Methodology</u></p> <p>Concern has been raised as to the validity of the Applicants odour modelling methodology. For example, an assumption has been made that odour “amounts” have been taken at day 1, day 16 and day 32 of the cycle and readings at the end of the cycle have been omitted.</p>	<p>Environment Agency air quality specialists have audited the Applicants odour modelling assessment and agree with the conclusion of the assessment.</p> <p>Day 1, 16 and 32 relates to the day that the growth cycle start in line with the meteorological data, which runs from Midnight 1st Jan to the following midnight Jan the 1st midnight. The Applicants have considered the varying days as it is unlikely that the growth cycle for each consecutive year will be in line with the first day of the year. However, it is unlikely, in this assessment, that starting the growth cycle on any day would result in it effecting our conclusions. Day 32 has no significant relevance to the growth cycle.</p> <p>The Applicants have modelled for a growth cycle of 38 days, when destocking takes place, with mucking out to take place on day 39. Our sensitivity checks have assumed a 40 day growth cycle, with each additional day after the day 38 to be emitted at the maximum emission rate.</p> <p>Although we do not necessarily agree with the absolute numerical predictions given in the odour modelling report, we agree that the predicted odour concentration will not exceed the odour benchmark of 30UE/m³. Our detailed checks confirm that the Applicants conclusions can be used with respect to odour impacts from the proposed poultry units can be used in the determination of the permit. That is, there is unlikely to be exceedences of the 98th percentile odour benchmark at all sensitive off-site receptors (as identified in the Odour modelling report “A Dispersion Modelling Study of the Impact of Odour from the Proposed Poultry Unit at Frogmore Farm, Naunton Road, Upton Snodsbury in Worcestershire, 19th June 2014”) based on the emission rates provided in the report.</p>
<p><u>In-combination assessments</u></p> <p>Questions and concerns have been</p>	<p>Our assessments of pollution from the proposed Frogmore Poultry Unit took into consider the existing background conditions.</p>

<p>posed to the Agency by members of the public, during our consultation process, with regards to considering both the Application from Mr Kinsey Hern, Mrs Patricia Hern, Mr Anthony Hern and a proposal from a different Operator (Farmpoint Ltd), whose location is proposed to be two fields away, in combination with each other.</p> <p>Concern has also been raised about the number of existing of poultry within the local area, including a large poultry unit at Throckmorton (which houses 598,500 broiler chickens), approximately 3.6km from the proposed Installation at Upton Snodsbury. The cumulative effect of emissions from several farms within the same locality has been raised as a major concern.</p> <p>Concern has also been raised at the lack of twin tracking from the Applicant(s) – That is, F C Jones & Co and Farmpoint not submitting environmental permit applications at the same time, or Applicants' not running parallel planning applications and environmental permit applications.</p>	<p>We are however unable to consider the potential impact from proposed activities that have not yet made an application for an environmental permit. If or when an environmental permit application is made in the future for the Farmpoint Ltd proposal, the impact from the Frogmore Poultry Unit will be considered in the assessment of the pollution impact from that proposal.</p> <p>The density of farms within a given area is not within the remit of the Environmental Permit. The local planning authority is responsible for determining land use through the planning application process. The Environment Agency considers the in-combination effects for other nearby EPR intensive farms if the predicted ammonia emissions from the Installation for nature conservation sites exceed relevant thresholds. Emissions from this Installation do not exceed the relevant thresholds. (Please see 'Ammonia Emissions – Ecological Receptors' section of key issues for more information)</p> <p>We are unable to instruct Operators' when to submit an environmental permit application, nor are we able to insist that Applicant's submit an environmental permit application and planning application in tandem. This does not form part of the Environmental Permit decision making process.</p>
<p><u>Poultry Manure/Litter</u></p> <p>Concerns have been raised with regards to the storage and spreading of poultry manure/litter both on-site and in the surrounding areas.</p> <p>Concerns have been raised as to who is responsible for managing and controlling this waste, and policing it.</p>	<p>Field storage of manure and land spreading outside of the Installation boundary are outside the remit of the Environmental Permit and are therefore not part of our assessment. The surrounding land where manure may be stored and spread is not part of the Installation.</p> <p>If manure is exported from the site then we cease to have any powers over it concerning odour. Odour nuisance arising from land spreading would be dealt with by the Local Authority Environmental Health Department who may exercise their statutory nuisance powers where necessary.</p> <p>Conditions have been included in the permit for slurry spreading and manure management. Condition 2.3.5 states that the Operator shall take appropriate measures in</p>

	<p>off-site disposal or recovery of solid manure or slurry to prevent, or where this is not practicable to minimise pollution. Condition 2.3.6 states that where waste is produced by the activities is sent to a relevant waste operation, that operation is provided with the following information, prior to the receipt of the waste: nature of the process producing the waste; composition of the waste; the handling requirements of the waste, the hazardous property associated with the waste (if applicable); the waste code of the waste.</p> <p>The Applicants have confirmed that there will be no storage or spreading of poultry manure, slurry or wash water on site at any time. Notwithstanding this, the permit does not allow spreading of waste on site. For this to occur, they would require a variation application to be submitted to the Agency which we would consider in the normal way.</p>
<p><u>The site location is within a Nitrate Vulnerable Zone (NVZ)</u></p> <p>Concerns expressed about the storage and disposal of manure and the problems that this will cause, especially as the area is within a NVZ.</p> <p>Questions have been asked as to whether or not we have evidence of contracts being in place that guarantees access to land to allow spreading of poultry manure.</p> <p>Question raised as to whether or not the Environment Agency has taken measurements to determine a baseline of nitrate content in local water courses.</p>	<p>Field storage of manure and land spreading outside of the Installation boundary are outside the remit of the Environmental Permit and are therefore not part of our assessment. The surrounding land where manure may be stored and spread is not part of the Installation.</p> <p>If manure is exported from the site then we cease to have any powers over it concerning odour. Odour nuisance arising from land spreading would be dealt with by the Local Authority Environmental Health Department who may exercise their statutory nuisance powers where necessary.</p> <p>The Applicants have confirmed that there will be no storage or spreading of poultry manure, slurry or wash water on site at any time.</p> <p>Questions with regards to contracts being place to allow the Operator to spread poultry manure are not an issue under the Agency's remit. It does not form part of the Environmental Permit decision making process.</p> <p>Taking baseline measurements to determine nitrate content of local watercourses is outside the remit of the permit determination. In any case, we are satisfied that the risk of significant pollution from emissions of surface</p>

	water is not likely.
<p><u>Flood Risk</u></p> <p>Concern has been raised about flooding in the locality.</p>	<p>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. The Applicants have confirmed they will be submitting a comprehensive SUDS report to the local planning authority upon submission of a planning application.</p> <p>The buildings are proposed to sit outside both flood zones 2 and 3 risk areas. However, the permit includes a requirement that the Operator must submit a Management System for our review and approval prior to permitted operations commencing on site. To be approved this will require an Emergency Plan/Accident Management Plan, which will have a flood plan as part of this. This means that unless we are satisfied that there are suitable measures in place to deal with the risk of pollution from any flooding they will not be able to operate the Installation.</p>
<p><u>Animal Welfare & Animal Health</u></p> <p>Concern has been raised with regards to animal welfare, the nature of intensive farming and whether it is ethical for animals to be reared in such a manner.</p> <p>Concern about the transmission of disease between birds living in close proximity and the effects this may have on the health of the bird population.</p>	<p>Animal welfare is not an issue under the Agency's remit. It does not form part of the Environmental Permit decision making process. The 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> <p>The primary regulator for animal health is the Animal and Plant Health Agency (APHA), whose primary purpose is to help safeguard animal health and welfare and public health. Therefore they are primarily responsible for ensuring the farming industry has measures in place to effectively deal with any disease outbreaks on site.</p> <p>Despite this, procedures and contingencies for managing disease outbreak have been addressed. The Applicants have stated that a bespoke health plan will be in place when operations begin.</p>

<p><u>Dust</u></p> <p>General concerns have been raised about dust that could emanate from the site as a result of the activities.</p>	<p>As discussed in Section 4.6, the Environment Agency are satisfied following a review of information provided by the Applicants that the proposals for managing and mitigating dust are BAT and therefore emissions of dust are unlikely to be significant.</p>
<p><u>General environmental concerns</u></p> <p>Concerns have been raised over a negative effect on local flora and fauna. This includes: otters, kingfishers, butterflies, lichens, foxes, grass snakes, rabbits, great crested newts, badgers, bats, voles, traditional hay meadows (National vegetation type MG5) and rich areas of grassland.</p>	<p>An assessment on the impact from this proposal on nature conservation sites carried out as part of the permitting process. 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. Further detail can be found in section 4.2 (Ammonia emissions – ecological receptors) of the key issues part of this document.</p>
<p><u>Pests</u></p> <p>Concerns have been raised about the impact of pests (including flies and rats) on the surrounding area as a result of the presence of the Installation.</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.</p> <p>During the determination of the permit the Applicants were asked to confirm that they will ensure that methods are implemented to prevent, or where that is not practicable minimise, the potential for diffuse pollution from the containment of foodstuffs and that foodstuff storage vessels are protected from collision damage. The Applicants confirmed that feed storage will be in dedicated sealed vermin proof silos, with collision protection being provided by the appropriate positioning of the silos and/or physical barriers. Exhausts from silos will have dust containment measures in the form of water traps or filters.</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 Applicants have also proposed appropriate measures for carcass management. Fallen stock during the production cycle will be collected and recorded daily with any abnormalities</p>

	<p>investigated according to a bespoke health plan. Carcasses will be placed into plastic sealed bags, stored in sealed, shaded and vermin proof containers away from sensitive receptors. The carcasses will be collected frequently (3-5 times per week) by a licensed collection agent under the National Fallen Stock Scheme. Records of dates, quantities and destination of the fallen stock will be held on site. This will help ensure that vermin are less likely to be attracted.</p> <p>Poultry manure will not be stored on site at any time and therefore this will help to ensure that pests are prevented or controlled.</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>
<p><u>Carcass management</u></p> <p>Concern has been raised on the procedure for the handling, storage and removal of dead birds. For example, concerns were raised that dead birds would be disposed of in the surrounding fields.</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 Applicants have confirmed that any fallen stock will be collected and recorded daily. These will be collected regularly by a licensed collection agent under the National Fallen Stock Scheme (S3.2 of EPR 6.09 'How to Comply with your environmental permit for intensive farming', version 2). The carcasses will be collected 3-5 times per week.</p>

	<p>The Odour Management Plan states that carcasses will be placed into plastic sealed bags, stored in sealed, shaded and vermin proof containers away from sensitive receptors.</p> <p>This is in accordance with S3.2 of EPR 6.09 'How to Comply with your environmental permit for intensive farming', version 2.</p> <p>The Odour Management Plan is a stated operating technique, captured through Table S1.2 and condition 2.3 of the environmental permit.</p>
<p><u>Location / Land Use</u></p> <p>Concern has been raised that this site is not a suitable location as it is a Greenfield site (with good quality arable land) and there are more appropriate sites (such as Brownfield sites) that are available locally and nationally.</p> <p>Representations have been made that poultry rearing in this form is an industrial process and therefore not suitable for this particular location. Concerns have also been raised of the visual impact of the Installation.</p>	<p>Location is not an issue under the Environment Agency's remit. 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>This is a matter for consideration during the planning process and does not form part of the Environmental Permit decision.</p>
<p><u>No economic benefit to the area</u></p> <p>Concerns have been raised that there will be no local economic benefit derived from the presence of the Installation.</p>	<p>Considerations of whether or not the Installation will provide an economic benefit to the area does not form part of the Environmental Permit decision.</p>
<p><u>Expansion of the site</u></p> <p>Concerns have been raised that due to the economics of the poultry industry, the current proposal will have to grow in size considerably to make it economically 'interesting' or viable.</p>	<p>This is speculation and is not a relevant consideration at this stage. If the Operator wished to expand in future they would need to submit a variation application to the Environment Agency for consideration.</p>
<p><u>Impact on business</u></p>	<p>Whether or not the Installation will have a</p>

<p>Concerns have been raised that local businesses will suffer as a result of the Installation, particularly those that are reliant on tourism.</p>	<p>negative economic impact on local business does not form part of the Environmental Permit decision.</p>
<p><u>Operator competence</u></p> <p>The Applicants fitness to hold an environmental permit has been called into question as they have been in breach of planning at one of their other sites.</p>	<p>A breach of planning permission is a matter for the local planning authority. Breaches of planning permission are not an issue under the Environment Agency's remit.</p> <p>We are satisfied that the Applicants are technically competent and will have appropriate management systems in place to operate the facility in an appropriate manner.</p>
<p><u>Human rights</u></p> <p>Impact of the proposals on human rights.</p>	<p>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.</p>
<p><u>Residence of owners</u></p> <p>Concerns that the Applicants do not reside locally and will not have the appropriate oversight of the Installation.</p>	<p>We are satisfied that the Applicants are technically competent and will have appropriate management systems in place to operate the facility in compliance with the conditions of the Environment Permit.</p>
<p><u>Unhappiness at EA processes / decision making</u></p> <p>Concerns have been raised about our decision making process and that the Agency is 'toothless tiger'; concerns that the whole application process is a 'tick-box exercise'; reminders that it is our job to protect the environment and as such, the proposal should be rejected.</p> <p>Also concern that the determination</p>	<p>We regularly prosecute and take enforcement action and also refuse permit applications. 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> <p>The application has been determined in accordance with our normal procedures and is not the decision of a single individual.</p>

<p>of an environmental permit consists of one inspector visiting the site and deciding whether or not to approve a development.</p>	
<p><u>Compliance of permit conditions</u></p> <p>Concern has been raised as to how the site is policed to check compliance and what will happen if the environmental permit is breached (and if they will be held liable if human health is impacted).</p> <p>Further concerns about the difficulty in attributing wrongdoing when there is the possibility of having poultry units within close proximity to each other, and that this therefore could lead to Operator's running their sites in any way they see fit, with no possible sanctions of bad management, or accidental transgression of the rules.</p>	<p>Compliance with the Environmental 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>The permit makes it clear that in the event that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the Operator must inform the Environment Agency and take measures necessary to prevent further possible incidents or accidents. If any permit condition is breached, the Operator must immediately inform the Environment Agency and take measures necessary to ensure compliance is restored in the shortest possible time. In the event of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the Operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored. It is not unusual to have more than one regulated facility in close proximity. Our investigative powers and experience allow us to ensure that all such sites are still regulated effectively.</p>
<p><u>Use of raw materials</u></p> <p>Concern that all raw materials needed for production (including chickens, feed, water and power supplies) will be required to be imported and that the product and associated waste will require exportation from the site. Concern about the impact of the use of these raw materials will have on the environment, especially due to there being a push to reduce our carbon footprint.</p>	<p>Based on the information in the Application we are satisfied that proposals for raw material (including water) and energy use are appropriate. The environmental permit will have conditions for energy efficiency and the efficient use of raw materials. Please see conditions 1.2 and 1.3 of the environmental permit.</p> <p>We are also satisfied that appropriate measures are in place to prevent and or minimise fugitive emissions, this includes fugitive emissions of raw materials. We require the Applicants to name the quantities</p>

<p>Questions have also been raised asking how the Environment Agency will assess any impact from the use of raw materials and will this data be tested and available for further analysis.</p>	<p>and names of all of the raw materials. In addition we assess the risk of pollution from storage and use of the raw materials. In the case of an intensive farm installation such as this we assess the environmental risk of storage and use of the relevant raw materials as low and therefore do not require testing and reporting requirements linked to the raw materials.</p>
<p><u>Climate Change</u></p> <p>Questions raised as to whether or not our assessments allow for the likely future negative impact of climate change, particularly with regards to rain intensity and flood risk, and the effect that this will have, as a consequence.</p>	<p>We are satisfied with the current arrangements. 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.</p>
<p><u>Extent of local opposition</u></p> <p>High level of local opposition, and this should be taken into account in the determination of the permit Application.</p>	<p>The extent of local opposition to a permit is not a relevant consideration in the Environmental Permit decision making process although we do carefully consider all representations made. The 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 and human health.</p>
<p><u>Financial status</u></p> <p>The financial status of the Operator has been questioned and will they be able to Operator the Installation to the standards required.</p>	<p>Consideration of financial status of the Operator is a consideration in the Environmental Permit decision making process. The Applicants do not have any current or past bankruptcy or insolvency proceedings against them. We have no reason to consider that they would not have the financial capability to comply with a permit. The Defra core guidance on the Environmental Permitting Regulations advises that we should only consider financial solvency explicitly where we have reason to doubt the financial viability of the activity.</p>
<p><u>Visual Impact</u></p> <p>Concern raised about the visual impact of the proposed Installation.</p>	<p>This is an issue for the planning authority, and consideration of this does not form part of the Environmental Permit decision.</p>

Annex 2: Minded to Issue Consultation responses

In accordance with the Environment Agency's Public Participation Statement and RGN 6 High Profile Sites, we have consulted on the draft permit and decision document for this application. Copies of all consultation responses have been placed on the Environment Agency public register.

The Application was advertised on the Environment Agency website from 04 March 2016 – 18 April 2016 and in the Redditch & Alcester Standard on 04 March 2016 and also in the Worcester Evening News on the 04 March 2016. Copies of the Application were placed on our public register at the Environment Agency offices, Riversmeet House, Newtown Industrial Estate, Tewkesbury, Gloucestershire GL20 8JG. Additionally, we also published this Application on our web pages on GOV.UK and made available electronic copies of the Application on the webpage.

A total of **16** additional responses were received from individual members of the public and Wychavon Parishes Action Group. We also received responses from Public Health England, the Health and Safety Executive, and Worcester Regulatory Services (Environmental Health Department). A number of the issues raised in these responses were the same or very similar to those raised during the public consultation stage for the initial application. Where this is the case, the Environment Agency response provided in Annex 1 has not necessarily been repeated and reference should therefore be made to Annex 1 in addition to any response below. These included:

- Visual impact
- Off-site traffic / congestion
- Light pollution
- Threat of air / water pollution
- Human health impacts from the development
- Dust emissions
- Noise pollution
- Odour pollution
- Pests
- Biomass boilers and their emissions
- Carcass handling and removal
- Relationship between the planning process and the permitting process
- The 'industrial' nature of the process and it not being conducive to a rural/Greenfield area
- Threats to habitats, including Piddle and Whitsun Brook Local Wildlife Site and associated flora and fauna.
- The construction and integrity of dirty water tanks
- The cumulative effect of two adjacent poultry sites
- The primary residence of the Applicant's
- Flooding / Accident management
- Climate change
- The extent of local opposition
- Impact on the local economy/local businesses

Consideration of these issues and the actions we have taken to address them are detailed in the tables in Annex 1 above.

Further comments relating to the content of our draft permit and draft decision document or any new information relevant to our decision (and how we have considered them) have been listed below, together with the responses from statutory consultees.

Response received from
Public Health England (PHE) – Received 06/04/2016
Brief summary of issues raised
<p>A summary of PHE’s consultation response is as follows:</p> <p>“We recommend that any Environmental Permit issued for this site should contain conditions to ensure that the following potential emissions do not impact upon public health: odour, fugitive emissions of ammonia and dust to air from feed and litter.</p> <p>Based solely on the information contained in the application provided, PHE has no significant concerns regarding risk to health of the local population from this proposed activity, providing that the applicant takes all appropriate measures to prevent or control pollution, in accordance with the relevant sector technical guidance or industry best practice.”</p>
Summary of actions taken or show how this has been covered
<p>As discussed in section 4.4 of the Key Issues part of this document, the Environment Agency is satisfied following a review of the information provided by the Applicants, and the conditions present within the permit, that emissions of odour from the Installation will not pose an unacceptable risk of pollution to the environment or harm to human health.</p> <p>To prevent significant pollution of the environment or harm to human health from emissions from the site the Operator has proposed appropriate measures to manage dust and ammonia emissions. This includes the use of appropriate ventilation systems and high velocity roof fans, appropriate housing design and management, appropriate containment of feedstuff and management of poultry litter and dirty wash water. We are satisfied that these measures, which the permit requires the Operator to take, will appropriately mitigate emissions to prevent a significant impact from the site. Please see section 4.4 and section 4.6 for further details of our assessment with regards to fugitive emissions of ammonia and dust from poultry litter and feed.</p>

Response received from
Health and Safety Executive (HSE) – Received 06/04/2016
Brief summary of issues raised
<p>The HSE responded with the following:</p> <p>I have no comments to make on this permit.</p>

Summary of actions taken or show how this has been covered
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No action required.

Response received from

Worcester Regulatory Services (Environmental Health Department) - Received 29/03/2016
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Brief summary of issues raised

Worcester Regulatory Services stated the following in summary:
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I have reviewed the permit application documentation kindly forwarded and have no adverse comments to make.

Summary of actions taken or show how this has been covered
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No action required.

The Food Standards Agency (FSA), the Director of Public Health, Worcestershire County Council and Wychavon District Council Planning department were also consulted, however, no consultation responses were received.

Further comments were raised following the consultation on a number of issues. As stated above, some of the comments were the same as previously raised so neither the issue nor the responses have been repeated here (see Annex 1). Additional concerns were raised about some of these issues, and we provide further responses below for clarification.

North Piddle / Naunton Beauchamp

Concern has been raised that there has been little or no mention of North Piddle and/or Naunton Beauchamp and a property approximately 660m from the Installation boundary, identified as Vine Cottage, which is located in North Piddle, and the impact upon these places from, for example, odour and particulate emissions.

We have considered the nearest and most sensitive receptors. We are satisfied that because the closest receptors will not be affected by the activities of the Installation, the receptors that are further away such as Vine Cottage, therefore also will not be affected. Notwithstanding this, Vine Cottage and other properties in North Piddle as well as other properties in the area, have been captured within the Applicants odour modelling submission. Although we do not necessarily agree with the absolute numerical predictions given in the report submitted by the Applicants, we are satisfied that the predicted odour concentration is unlikely to exceed the odour benchmark of 30µE/m³ at any off-site receptors. Details of our assessment of odour can be found in section 4.4 of the Key Issues. The subject of dust and particulates is also discussed elsewhere in this document – please see sections 4.6.3 and the information immediately below. The Environment Agency is satisfied following a review of the information provided by the Applicants, and the conditions present within the permit, that emissions from the Installation are unlikely to pose an unacceptable risk of pollution.

Particulates / Dust / Bio-Aerosols / BAT / Impacts of Biomass Boilers

Further concerns have been raised about the impact of particulates / dust / bioaerosols (particularly downwind of the site), what is considered to be BAT, and the mitigation measures which will be in place. Questions were also asked about the use of biomass boilers (and whether feed-in tariffs have been considered), and possible increases in ventilation as a result of their use, causing the potential to expel more particulates from the buildings than has traditionally been modelled (This is claimed partly due to biomass boilers themselves and any associated increases to ventilation required due to hotter temperatures within the sheds from such heating). Questions have also been raised surrounding the actual heating and air movements and whether these are in line with the assumptions of the models that have been used.

Concerns have been raised as to why particulates were not considered within Section 5, Key Issues. Emissions of 'dust' (for which particulates is considered) are considered within section 4.6.3 of the Key Issues section, however, we have explained some of the issues in greater detail below.

When assessing emissions of ammonia or odour from sheds, we assume that all vents on all sheds are operating at maximum capacity at all times. Maximum ventilation and release capacity is therefore taken into account, which is a conservative assumption. Please see sections 4.3 and 4.4 of this document for further information.

Biomass boilers providing heat for the sheds, is not directly related to increased ventilation rates. Biomass boilers provide heating typically through indirect water-air-heat exchangers and underfloor heating. Heat is ultimately transferred to water, which is then circulated to distribute the heat. Indirect heating provides a drier / less oxygen depleted environment than the use of traditional Liquefied Petroleum Gas (LPG) heaters, thus reducing the need for additional ventilation. Delivering heat via this method should ensure that no products of combustion are found within the poultry houses, which means that there is less water, carbon dioxide, and carbon monoxide within the houses which needs to be ventilated from the building. This results in a more stable internal environment.

It is unlikely that the Operator would wish to run the houses hotter than required as is postulated in the consultation response. The Operator will be required to minimise emissions and ensure operations are run efficiently (by permit conditions as shown below). Failure to do so would be a breach of the permit and incur increased costs via excessive fuel use, increased maintenance costs and risks to the health of the birds.

- *Condition 1.2 >The operator shall: a) take appropriate measures to ensure that energy is used efficiently in the activities; b) review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and c) take any further appropriate measures identified by a review.*

- *Condition 1.3 >The operator shall: a) take appropriate measures to ensure that raw materials and water are used efficiently in the activities; b) maintain records of raw materials and water used in the activities; c) review and record at least every four years whether there are suitable alternative materials that could reduce environmental impact or opportunities to improve the efficiency of raw material and water use; and d) take any further appropriate measures identified by a review.*

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. Condition 3.2.2 reads:

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 specified, an emissions management plan which identifies and minimises the risks of pollution from emissions of substances not controlled by emissions limits; and b) implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

We have considered heating and air movements as part of our assessment and conclude that the information and conclusions provided by the applicant are sufficient and accurate.

The EA has not analysed the impact of feed-in tariffs for biomass boilers as part of this permit determination as it has not been proposed within the application provided by the applicant, and the requirement to implement / analyse feed-in tariffs is not within our regulatory remit. We are satisfied that the proposed biomass boilers are unlikely to pose an unacceptable risk of pollution and that our assessment is accurate. We have carried out an assessment in line with the Environment Agency's guidance. Please see section 4.1 of the Key Issues section for further detail.

The intensive farming sector BAT reference document, BRef, 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.

Emissions from regulated intensive farming constitute only a small proportion of UK total emissions.

Under the Environment Act (1995) we are, however, required to 'have regard' for the objectives of the Air Quality Strategy for England, Scotland, Wales and Northern Ireland (2007) in our regulatory activities. The Strategy lists national objectives for PM that must be considered by local authorities under Local Air Quality Management to protect human health. Our commitment is that no installation we regulate will cause or contribute significantly to a breach of a national objective.

We consider that the use of BAT and good practice will ensure dust minimisation, including bioaerosols and particulate matter and that the installation will not cause or contribute significantly to a breach of any national objective.

The best available evidence is that bioaerosol emissions from intensive farming sites return to background levels at a distance less than that of the nearest sensitive receptor to this site. Background levels are not considered to have a significant impact on human health.

Moreover, 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.

The poultry houses will be designed and built in accordance with BAT under EPR6.09 – further information of the housing design can be found in section 3.1.3 & 4.6.3 of this document. The appropriate design and construction of poultry buildings together with measures required to be taken under the permit have been carefully considered. We are satisfied that emissions will be minimised and will not pose an unacceptable risk of pollution.

The litter within the building will also be maintained at an appropriate level of moisture, not too wet that run off is generated, but not too dry that excess dust and particulates are produced. This is considered to be BAT under EPR6.09.

The Operator will be required to keep areas clean and dust free. There will be regular inspections and a cleaning regime to remove dust.

The site will adhere to detailed biosecurity procedures to prevent disease occurring in the birds. These procedures are based around maintaining a clean, dust free site. The Operator is required to notify Animal Health of an outbreak of serious disease, and implement procedures as agreed with them, and in conjunction with the Environment Agency if necessary.

In addition, the permit provides that feed will not be milled or mixed on site and that appropriate feed management procedures will be implemented. The feedstuff will be contained within purpose built silos, which are protected by collision barriers, which is considered BAT under EPR6.09.

The above operating techniques can be found within the Operators technical standards document, which is listed in Table S1.2 of the environmental permit, and enforceable through condition 2.3 (Operating techniques) of the permit.

The Operator has not proposed to include additional abatement measures such as scrubbers to remove particulates, 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 including at downwind locations such as North Piddle. As such, we do not consider it is appropriate or necessary for abatement measures such as scrubbers to be utilised, or for the monitoring of emissions to take place. 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.

Campylobacter / Thinning of the birds:

Further concerns have been raised that by removing a proportion of birds during the cycle (known as thinning), this increases the incidence of campylobacter, and this has associated impacts on food standards and human health. Questions have also been asked as to whether we will consult with Public Health England (PHE) and the Food Standards Agency (FSA) again.

We do not believe it to be necessary to consult again with PHE or the FSA. The Environment Agency has consulted with Public Health England (PHE) three times, once when the application was duly made, once during the determination of the permit (to specifically raise the issue of campylobacter after a particular concern was raised by members of the public during the initial consultation phase), and finally at the minded-to consultation phase. The Food Standards Agency (FSA) were consulted twice, once when the application was duly made, and again at the minded-to consultation phase, as was the local Director of Public Health. At no point have these bodies raised any concerns or objections related to either the thinning process or campylobacter. PHE's conclusion to their latest consultation response is as follows:

Based solely on the information contained in the application provided, PHE has no significant concerns regarding risk to health of the local population from this proposed activity, providing that the applicant takes all appropriate measures to prevent or control pollution, in accordance with the relevant sector technical guidance or industry best practice.

Moreover, the Environment Agency only regulates emissions from the Installation and the impact of those emissions, and the concern raised does not relate to an emission as defined in the Environmental Permitting Regulations, and is therefore not something we can take into account. Campylobacter affects people by food poisoning; such issues fall outside the remit of the EA.

Odour / Noise Conditions / "Minimisation of pollution" / Concerns at the adequacy of some permit conditions to protect the environment and human health

There have been a number of questions relating to odour pollution and noise pollution (principally conditions 3.3.1 and 3.4.1 of the environmental permit) and what the Environment Agency considers 'minimised' to mean (what level of odour and noise is accepted as being sufficiently minimised?), and what 'minimised' means when used in other permit conditions – 1.4.1 ("The operator shall take appropriate measures to ensure that: (a) the waste hierarchy referred to in Article 4 of the Waste Framework Directive is applied to the generation of waste by the activities; (b) any waste generated by the activities is treated in accordance with the waste hierarchy referred to in Article 4 of the Waste Framework Directive; and (c) where disposal is necessary, this is undertaken in a manner which minimises its impact on the environment") and 2.3.5 ("The operator shall take appropriate measures in off-site

disposal or recovery of solid manure or slurry to prevent, or where this is not practicable, to minimise pollution”).

Conditions 1.4.1, 3.3.1 and 3.4.1 are standard permit conditions that appear in all Intensive Farming permits. Condition 2.3.5 is a standard permit condition that appears in all Intensive Farming permits where manure or slurry is exported off site to be recovered or disposed of.

The term “Minimise” is not defined in any applicable legislation; it carries its ordinary meaning. Operators are required to take all appropriate measures to minimise the risk of pollution which we have determined as relevant during the permitting process. The measures required to prevent or minimise any potential impact need to be reasonable, in accordance with good practice and balanced by the costs and benefits. As a minimum, we expect any standards of industry good practice to be met along with any recommendations in our guidance.

Noise and odour should be prevented and where that is not practicable it should be minimised and should not cause either significant pollution or harm to human health. We have assessed the pollution control measures described in the application and we are satisfied that that the control measures are BAT for this installation and the operations are unlikely to cause significant pollution. The OMP/NMP are dynamic operating documents and our compliance team can require the Operator to review their OMP/NMP and apply additional measures, if there ever were odour/noise pollution linked to the installation, at receptors beyond the installation boundary.

Clarification on the restriction of operating times at the Installation due to noise pollution and associated technology to reduce noise pollution

The Noise Management Plan (NMP) has a number of restrictions within it. The Applicants will be required to operate this Installation in full compliance with the measures in the NMP. The environmental permit does not directly impose restrictions on the operating times at the Installation outside of this, for example, the timings of the thinning process. These matters may be addressed by the local planning authority. However, we are satisfied that the activities carried out in accordance with the permit will not pose an unacceptable risk of pollution. Questions have been raised about the use of broadband noise reverse alarms (as mentioned in the Application) and their effectiveness in reducing noise and whether or not ‘mobile plant’ includes HGVs. Broadband noise reverse alarms are directional, instantly locatable and therefore are generally safer, more effective and quieter than the traditional, shrill ‘beep beep’ alarms. We would also consider HGVs to be considered as mobile plant machinery. However, as stated above we are satisfied that there will not be significant noise pollution from the activities on site.

As discussed in section 4.5 of the Key Issues part of this document, based on the information in the Application, the noise 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 noise and vibration beyond the installation boundary and that activities are unlikely to give rise to significant pollution.

The storage and spreading / handling of manure and / or water to land beyond the installation boundary (Including in NVZ areas) / and characteristics of this manure / litter / water / unhappiness at permit conditions

Various concerns have been raised about the spreading of poultry wash water and poultry litter (and what this material may contain) outside of the Installation boundary and whether or not the wash water / litter is ever tested or sampled. Questions have also been raised about the applicability of condition 2.3.6 which provides

The operator shall ensure that where waste produced by the activities is sent to a relevant waste operation, that operation is provided with the following information, prior to receipt of the waste: a) the nature of the process producing the waste; b) the composition of the waste; c) the handling requirements of the waste; d) the hazardous property associated with the waste, if applicable; and e) the waste code of the waste.

As previously stated, field storage of manure and land spreading outside of the Installation boundary is outside the remit of the Environmental Permit and are therefore not part of our assessment. The surrounding land where manure may be stored and spread is not part of the Installation.

If manure is exported from the site then we cease to have any powers over it concerning odour unless it is waste. Odour nuisance arising from land spreading of non-waste material would be dealt with by the Local Authority Environmental Health Department who may exercise their statutory nuisance powers where necessary.

The Applicants have confirmed that there will be no storage or spreading of poultry manure, slurry or wash water on site at any time.

Questions with regards to contracts being in place to allow the Operator to spread poultry manure are not an issue under the Agency's remit. It does not form part of the Environmental Permit decision making process. There is no requirement in the environmental permit for the Operator to test poultry manure/litter or water before its removal from the Installation.

Despite the above, we have explained issues around these particular subject matters in more detail here.

As the Code of Good Agricultural Practice (CoGAP) states, the most economic and environmentally friendly way of dealing with livestock manures (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.

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.

If an Operator wishes to spread this material to land, they must have a manure management plan in place. This is required when manure, slurry or wash water from the Installations is spread on Operator's own land. Wash water is included if solid matter content is 1% or greater.

When combined with a nutrient management plan, a manure management plan will help an Operator reduce the need for artificial fertilisers and reduce the risk of pollution.

A manure management plan would normally comprise a map of the land to be spread with areas of different risks for spreading identified usually in colours. By considering slope, soil type and the position of surface waters and water supplies, it is possible to identify fields or parts of fields where livestock manures and dirty water should never be spread. These non-spreading areas should be marked on a farm map (in red). It is also expected that such plans identify where livestock manures and dirty water should not be spread under certain conditions or where application rates should be restricted. These very high risk areas (orange) and high-risk areas (yellow) should be marked on the farm map. The remaining areas should be marked as lower risk (green). Furthermore, on the map any areas in Nitrate Vulnerable Zones affected by the closed (non-spreading) periods should be marked. The plan may also contain commitments to handle different materials in different ways. For example, liquids to be injected into the soil to increase the nutrient efficiency or solid poultry manure to be surface applied and soil incorporated within 24 hours to increase availability of nutrients and to manage the risk of odour complaints etc.

With regards to the characterisation of the poultry manure and dirty water collected on site and whether it is considered waste it is important to understand the following. Waste is any substance or object which the holder discards, or intends to or is required to discard. Wastes produced from agricultural and horticultural premises, often referred to as "agricultural wastes", are controlled to protect the environment and public health. The disposal of animal carcasses is controlled by Animal By-Products legislation. There is no definitive list of agricultural waste but examples are vehicle and machinery waste, non-packaging plastics, plastic packaging, animal health products, building waste, cardboard and paper, metal, wood, glass, rubber, ash, and some hazardous wastes such as unused agro-chemical concentrates, oils, brake fluids, antifreeze, asbestos, lead-acid batteries, and fluorescent light tubes. Condition 2.3.6 is a standard permit condition that is present in all Intensive Farming permits and is applicable in this context.

Livestock manures are not waste if they are used to fertilise soil for agricultural or ecological benefit on agricultural land, whether on the farm where they are produced, or on another farm.

Further relevant information can be found here:

<https://www.gov.uk/guidance/managing-nutrients-and-fertilisers>

<https://www.gov.uk/guidance/storing-organic-manures-in-nitrate-vulnerable-zones>

<https://www.gov.uk/guidance/using-nitrogen-fertilisers-in-nitrate-vulnerable-zones>

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.

Human rights

In the minded to decision document we explained that we had considered human rights:

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.

A consultation response has asked that we provide an explanation behind the final sentence. Our decision to grant the application is based on our determination that the proposed activities, subject to the conditions of the permit, will not cause significant pollution of the environment or harm to human health. We therefore do not feel that the rights as protected by the human rights legislation will be impacted.

Climate change

There are questions regarding whether the Environment Agency in our models have taken into account recent changes in climate or is there still a reliance on longer term data that effectively diminishes the importance of rainfall since 2006, as is claimed in the consultation response, and how this fits in with managing polluted water generated from the site.

Methods under which the Environment Agency hold jurisdictional interests (under this subject area) for the location applied are:-

a) As part of the development of the site – we provide comments to the planning authority as part of their consultation process, and

b) The impacts from operations of the Installation – either i) a direct discharge of effluents from the process and / or ii) the management of rainfall prior to its safe return into the water environment.

Development – not within the remit of this decision

Our consultation to the planning authority falls independently to the determination of this application. However we have provided some further information below on this subject.

Any representations relating to this aspect should be made to the planning authority.

Impacts from Operation - within the remit of this decision

i) Direct Discharge

There are no proposed discharges of 'dirty' or polluted water from this site to water or land and the environmental permit does not allow this.

Water from the wash out of the poultry houses is channelled to two 20,000 litres collection tanks, to await export off site. These wash water tanks will be built to conform to specifications in SGN EPR 6.09 'How to Comply with you environmental permit for intensive farming, Version 2'.

ii) Management of Rainfall

Rainwater run-off from the roofs and areas adjacent to the poultry houses will be collected by french drains along each sides of the four poultry houses laid under stone filled trenches acting as soakaway with piped connections away from the site and routed to a swale.

- *The swale will be constructed to treat the rainwater runoff as part of the sites' sustainable drainage system (SUDS). This will allow for the slow movement of water along the swale, aided by grass and check dams, encouraging the deposition of solids washed off the roof and helping to remove nutrients such as phosphorus before entering the ditch, which ultimately drains to Piddle Brook. Grassed soakaways are also present to the north of each poultry house.*

The yard area is completely covered, therefore there is no rainwater from the yard; all drains in the covered yard will be directed straight to dirty water tanks.

As shown above, the only discharge from the Installation to ground / water will be that originating from rainfall collected from building roofs and areas adjacent to the poultry houses. Further information can be found in section 4.6.1 of the Key Issues part of this document. For our purposes we are satisfied that our assessment is based on appropriate data and accurately assesses the likely impact of the proposed operations, and that issues relating to the operation of the site that we regulate are adequately addressed in the permit. The permitting regime is a dynamic one and we can take action in future should this be necessary to address changing circumstances.

Further consideration of the sustainable drainage system (SUDS) will be considered as part of the planning process and whether this is suitable land use in this location.

Information on flooding risks is included directly below.

Flooding Risks / Data

There is concern that there are discrepancies between the flooding data (i.e. the buildings of the proposed development sit outside flood zones 2 and 3) that the EA has and the experiences of the local community of flooding in this area. Furthermore, there is also concern of the possibility of access issues to the site if the area around the main road (adjacent to the field where this Installation is proposed to sit) becomes flooded and if this was to occur, how would the Operator run the site

properly and be in compliance with their permit. There was also concern that responsibilities for flood issues were split between the EA and the local authority.

The Environment Agency makes best use of the information it has. Based on our 'indicative' Flood Map for Planning (Rivers and Sea) the majority of the site (including the building locations) falls within Flood Zone 1 ('low risk' from fluvial flooding). The Flood Zone 3 on our Flood map for Planning in this location is based on JFLOW Hydraulic Modelling Software. The Flood Zone 2 extent includes an historic flood outline (based on the July 2007 event). Whilst JFLOW is a national, generalised mapping technique, it is reliable, particularly as in this area it is based on good Light Detection and Ranging (LiDAR) data.

Overall we do not have any reason to question the Flood Map at this location, which is based on the best data available at the current time; it is a good representation of the flood risk based on the current data we hold.

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. The Applicants have confirmed they will be submitting a comprehensive sustainable drainage system (SUDS) report to the local planning authority upon submission of a planning application. It is expected that this would form part of a wider Flood Risk Assessment (FRA), which would be submitted with a planning application.

It is possible that flooding reported is from surface water flooding rather than fluvial. With regards to surface water flooding, surface water (including 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. Flooding from surface water is caused when rainfall cannot soak away because the ground is fully saturated or drainage systems are full. Flood risk from surface water is managed by Worcestershire County Council (some responsibilities may be delegated to the district councils) – their 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 complimentary rather than contradictory.

The permit includes a requirement that the Operator must submit a Management System for our review and approval prior to permitted operations commencing on site. To be approved this will require an Emergency Plan/Accident Management Plan, which will have a flood plan as part of this, and we would expect it to deal with such factors as access issues (whether that be for feed delivery, poultry litter removal, etc.) and any other issues that are likely to be pertinent given a credible flooding incident. This means that unless we are satisfied that there are suitable measures in place to deal with the risk of pollution from any flooding either fluvial or surface water they will not be able to operate the Installation.

The EA decision making process & inadequate justifications of our conclusions

Concerns have been raised that very little detail has been provided as to how the Environment Agency has reached its conclusions, and that more information should be provided to justify our conclusions, and to what extent the information used to reach these conclusions are open to scrutiny.

The decision document explains how we have considered the Applicant's Application, and why we have included the specific conditions in the permit we are issuing to the Applicant. It is our record of our decision-making process, to show how we have taken into account all relevant factors in reaching our position. It explains 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. The Environment Agency has complied with all of its consultation and public participation duties.

The Environment Agency has also complied with its duty under regulation 46 of the Environmental Permitting (England and Wales) Regulations 2010 in respect of information that is placed on the public register.

Further concerns of the impacts of the development on flora and fauna including consideration of habitats that do not fall within a nationally or locally designated sites and effective monitoring of the Installation

Concerns have been raised about the 5 species rich grassland LWS to the north east (and therefore down-wind for much of the time due to prevailing SW winds) of the proposed Installation and would be exposed to potentially significant emissions. Furthermore, there is concern that grassland species will be equally affected by emissions regardless of whether they fall within nationally or locally designated sites and this should be considered. There is also assurances sought that the monitoring of the site and its environs is implemented as robustly as possible so that the effects of the proposal can be properly considered and further mitigation steps taken if they are required.

We have considered the impacts of emissions and the Local Wildlife Site's that sit to the north east of the proposed site – see section 4.2.3.

Screening using AST 4.5 has indicated that emissions from Frogmore Poultry Farm will only have a potential impact on sites with a CLe of $1 \mu\text{g}/\text{m}^3$ if they are within 404m of the emission source. Screening indicates that beyond this distance, the Installation will have a PC of ammonia of $< 100\%$ for a CLe of $1 \mu\text{g}/\text{m}^3$ and we do not consider the PC will cause significant pollution. In this case all sites (including the '5 species rich grassland LWS to the north east' referred to in the above consultation response), except one (Piddle and Whitsun Brooks LWS) are beyond 404m. This LWS is within 250m of the Installation which would normally trigger the need for detailed ammonia modelling if appropriate, due to the uncertainties associated with predictions of ammonia near to the source. However this LWS is predominately designated for its aquatic interest, we are satisfied that impacts to this nature conservation site are likely to be low.

The primary feature of Piddle and Whitsun Brooks LWS is open flowing water and a European Eel migratory route, with no record of lower plants being present along the bank sides of the watercourse at the maximum point of impact (NGR 395788, 254047) (Easimap, August 2016).

Given the nature of the habitat, the low risk of acidification and the likely dominance of other (diffuse, aquatic) sources of nitrogen – the application of a CLe of atmospheric ammonia is not considered appropriate in this instance. We do not consider that ammonia will cause any significant pollution in this instance. There is no pathway for impacts from the hazards posed by the activity on the European eel migratory route.

We consider that the Installation will have no likely significant effect on the habitats identified within the relevant screening distances of the Installation. A thorough explanation of our assessment can be found in section 4.2 (Ammonia emissions – ecological receptors) of the Key issues part of this document.

We use a consistent and risk based approach to screening the activities that we regulate or undertake ourselves to fulfil our statutory duties to protect and enhance the environment for wildlife. Our screening process involves making a balanced judgement about the environmental risks associated with each type of activity, against the sensitivity of the wildlife interest present in that location and based on best available evidence.

Implementing this ensures that we comply with legislation, ministerial direction and our own guidance in a nationally consistent manner, properly consider all habitats and species of importance to the conservation of biological diversity in England and Wales and take adequate steps to avoid environmental damage or, where this is not possible, seek mitigation or compensation for impacts.

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.

Compliance with the Environmental 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.